# Planning Commission
# MEETING AGENDA

Tuesday, June 24, 2025 - 1:00 PM
Council Chambers, Easton Town Office
14 S Harrison Street

**1. Call to Order**

**2. Approval of Minutes**

**a.** Approval of the draft Decision Summary from the May 15, 2025 meeting.

**3. Old Business**

**a.**

| | |
|---|---|
| **Application Number:** | 2024 - 1148 |
| **Applicant:** | 128 S. West Street LLC |
| **Location:** | 128 S. West Street<br>Tax Map 0104, Grid 00EA, Parcel 1190 |
| **Zoning District:** | CB |
| **Request:** | Request to allow the use of a portable on-demand storage container (POD) to remain at 128 S. West Street on a long term basis. This request was previously approved by the Commission at their April 18, 2024 meeting for a one-year period. |

**b.**

| | |
|---|---|
| **Application Number:** | 2025 - 1447 |
| **Applicant:** | Lowe's Home Centers, Inc. |
| **Location:** | 501 Glebe Road<br>Tax Map 0101, Grid 0000, Parcel 0265, Lot 4A |
| **Zoning District:** | PUD |
| **Request:** | Request to amend a previously approved Display Plan for a permanent outside storage location within the designated parking facility. This request was tabled by the Commission at their April 21, 2022 meeting, pending the submission of additional elevations for the screening barrier. |

**c.** **Application Number:** 2025 - 1370

**Applicant:** Easton Crossing, LLC
**Location:** 505 Brookletts Avenue (Easton Crossing)
Tax Map 0104, Grid 00EA, Parcels 1823, 1826 & 1833
**Zoning District:** BC with a PRD Overlay
**Request:** Request to amend a previously approved sketch site plan for a mixed-use development and the approval for building #409. On February 20, 2025 the Planning Commission granted sketch site plan approval for buildings #411, #505, #507 and #509 subject to the condition that the Applicant return for approval of building # 409.

**d.**
**Applicant:** Lane Engineering, LLC
**File No.:** 2024 - 1129
**Location:** 7872 Ocean Gateway
Tax Map 0105, Grid 0000, Parcel 2990
**Zoning District:** CG
**Nature of Request:** Request to amend a previously approved sketch site plan. The Applicant is proposing to reduce the size of the retail building to 14,136 square feet, and the addition of a restaurant component to the multi-tenant retail space. On March 21, 2024, the Commission granted sketch site plan approval for the redevelopment of a two-story medical clinic, and a one-story retail store.

**4. New Business**

**a.**
**Application Number:** 2025 - 1468
**Applicant:** Roto-Rooter Plumbing & Water Cleanup c/o Steve Riedel
**Location:** 322 Hopkins Place
Tax Map 0104, Grid 0000, Parcel 1294, Lot 12
**Zoning District:** R-7A
**Request:** Request to allow the use of a portable on-demand storage container (POD) to remain at 322 Hopkins Place on a long term basis.

b. **Application Number:** 2025 - 1454
**Applicant:** Rauch Inc.
**Location:** 52 S. Washington Street (Foundation of Hope)
Tax Map 0104, Grid 0000, Parcel 1463
**Zoning District:** CB
**Request:** Sketch Site Plan approval for the construction of a 5,400 square foot commercial training building with other facility improvements including the construction of an off-street parking area with seven (7) spaces. On October 28, 2024 the Town of Easton Historic District granted a Certificate of Appropriateness for the proposed development.

c. **Application Number:** 2025 - 1456
**Applicant:** Lane Engineering LLC
**Location:** 9684, 9778, 9783, 9687 Technology Drive & 29001, 29004 I-Way Court
Tax Map 0025, Grid 0004, Parcels 0090 & 0092, Lots 1-4, 9, 10
**Zoning District:** PUD
**Request:** PUD recommendation to the Town Council and Subdivision Sketch Plat approval for the development of 365 residential units and two (2) commercial buildings with associated stormwater management facilities and other facility improvements.

5. **Discussion Item**

6. **Adjournment**

**Town of Easton Planning Commission**
**Draft Decision Summary**
Thursday, May 15, 2025 at 1:00 p.m.
Town Hall Chamber 2
14 S. Harrison Street, Easton, Maryland

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**Archived video of the meeting is available at:**
**Town of Easton Agendas and Minutes (eastonmd.gov)**

**Attendance:**

Commission Members:
Philip Toussaint, Chairperson
Michael Ports, Vice Chairperson
Tom Klein
William Ryall

Staff:
Miguel Salinas, Planning and Zoning Director
Lynn B. Thomas AICP, Town Planner
Joseph Mayer, Plan Reviewer
Sharon Van Emburgh, *Esq*. Town Attorney
Rick Van Emburgh, Town Engineer

**Absent**:

Commission Members:
Victoria McAndrews
Laurie Forster, Alternate

Staff:
Nicholas Johnson AICP, Planner
Samantha Smith, Administrative Specialist

1. **Call to Order** — Chairperson Toussaint called the meeting to order at 1:00 pm.

2. **Decision Summary Review** —

**Commissioner Ryall moved to approve the April 17, 2025 Decision Summary. Commissioner Klein seconded the motion.**

| Vote | 3 - 0 - 1 -1 |
|---|---|
| FOR: | 3 - Toussaint, Klein, Ryall |
| AGAINST: | 0 |
| ABSTAIN: | 1 - Ports |
| ABSENT: | 1 - McAndrews |

**3. Old Business —** None

**4. New Business**

**a. File No.: 2025 - 1447**
**Applicant: Lowe's Home Centers, Inc. (Store #1982)**
**Location:** 501 Glebe Road, Easton, MD 21601
Tax Map 0101, Grid 0000, Parcel 0265, Lot 4A
**Zoning:** PUD
**Request**: The Applicant is requesting an amendment to a previously approved Display Plan for the proposed location of the Seasonal Temporary Long-Term Storage area and screening barrier. The Applicant is proposing the addition of 16 parking spaces to the previously approved storage location, and an additional 39 spaces to be utilized for Seasonal Temporary Long-Term Storage between March 1st thru July 1st. The Applicant is also seeking a Parking Waiver from Section 28-1001.3.C of the Zoning Ordinance for four (4) customer parking spaces from the 460 minimum vehicle space requirement.

**Background:** On April 18, 2019, the Planning Commission granted approval for the use of 27 parking spaces for temporary outside storage effective from April 18, 2019 to July 31, 2019. At their February 20, 2020 meeting, the Commission approved a temporary request for seasonal display with the condition of providing screening for the Ruby Tuesday restaurant and Easton Parkway. The Applicant was required to return to the July 16, 2020 meeting to identify a permanent location for the temporary seasonal storage and screening. This request was subsequently granted by the Commission on October 15, 2020 for a period of three (3) years subject to the condition that the Applicant submits a detailed Site Plan depicting the location of landscaping and/or screening buffers. The Outdoor Sales and Display Plan was approved by staff on February 16, 2021. On April 21, 2022, the Display Plan amendment request was first seen by the Commission in which the Commission voted to table the application pending the submission of additional elevations for the screening barrier.

Staff recommends the following conditions:

1. Provide adequate details with elevations and profiles of the proposed plant species and fencing along the entire perimeter of the Seasonal/Long-Term Temporary Storage area.

2. Coordinate with the Building Inspection Division and Code Enforcement Office for any outstanding issues.

**Staff Presentation:**
Joseph Mayer, Plan Reviewer
Lynn Thomas, Town Planner

Miguel Salinas, Director of Planning and Zoning

**Applicant Presentation**:
Todd Bartok, Lowe's Home Centers, LLC
Kyle Hacker, Store Manager Lowe's Store #1982

**Public Comment —** None
**Public Comment Written —** None

**Chairperson Toussaint moved to table the amendment and parking waiver request with the following recommendations:**

1. **The Applicant shall provide adequate details with elevations and profiles of the proposed plant species and fencing along the entire perimeter of the Seasonal/Long-Term Temporary Storage area.**

2. **The Applicant shall coordinate with the Building Inspection Division and Code Enforcement office for any outstanding issues.**

3. **The Applicant shall evaluate the site distance and visibility triangle at the intersection along the drive aisle adjacent to Ruby Tuesday.**

**Vice Chairperson Ports seconded the motion.**

| Vote | 4 - 0 - 1 |
|---|---|
| FOR: | 4 - Toussaint, Ports, Klein, Ryall |
| AGAINST: | 0 |
| ABSTAIN: | 0 |
| ABSENT: | 1 - McAndrews |

**b. 2024 Annual Report** — Mr. Lynn Thomas presented the draft 2024 Easton Planning Commission Annual Report as required by the State Land Use Article. The Commission is required to formally approve the Report for submission to the Maryland Department of Planning, with a copy to be filed with the Town Council. This information is used by the State to assess the overall growth and development throughout the given year; particularly the amount of growth that is throughout the Priority Funding Areas of Maryland (the Town of Easton is presently within a Priority Funding Area). Mr. Thomas summarized that 22 residential permits were issued in the previous calendar year, accounting for a total of 75 units. Mr. Thomas clarified that one permit covered multiple units at the Elliott Road Apartment project. Mr. Thomas also reported on additional growth-related changes that were approved in 2024 including the Chesapeake Bay Critical Area Growth Allocation, and other planning improvements implemented in 2024 including the Comprehensive Plan Update process, and the East End Small Area Plan.

**Staff Presentation:**
Joseph Mayer, Plan Reviewer
Lynn Thomas, Town Planner
Miguel Salinas, Director of Planning and Zoning

**Public Comment —** None
**Public Comment Written —** None

**Chairperson Toussaint moved to approve the annual report. Commissioner Ryall seconded the motion.**

| Vote | 4 - 0 - 1 |
|---|---|
| FOR: | 4 - Toussaint, Ports, Klein, Ryall |
| AGAINST: | 0 |
| ABSTAIN: | 0 |
| ABSENT: | 1 - McAndrews |

**5. Discussion Items:**

**a.** Sketch Plat modification for the Cooke's Hope subdivision (Phase VII) — Mr. Ryan Showalter Esq. was present on behalf of the Cooke's Hope Homeowners Association (CHHA) to seek the Commission's feedback on the consistency of two minor modifications to the sketch subdivision plat and improvement plan of Phase VII of the Cooke's Hope subdivision. On October 11, 2002, the Sketch Site Plan for the PUD was approved for the development of 67 single-family detached lots. In April 2022, the Commission approved an amendment to the subdivision plan, permitting the relocation of six (6) lots along the North side of Lang Street and Leigh Lane ("Pond Lots"). This approval was contingent upon the developer's commitment to address concerns regarding the development of Phase VII.

In order to address these concerns, the developer and CHHA have supported two adjustments to the sketch plat including: the relocation of the six Pond Lots to be integrated within the general block and street layout, and the substitution of a developer monetary contribution in lieu of the proposed walking trail segment presented on the sketch plat of Phase VII. Mr. Showalter presented the conceptual illustration as described, and requested that the Commission find these modifications as a non material amendment to be consistent with the sketch plat.

**Public Comment —** None
**Public Comment Written —** None

**The Commission determined that the proposed modifications constitute as a non-material amendment to the sketch plat, and that the two modifications are generally consistent with the illustrative concept of the improvement plan.**

**b.** Recommendation to the Town Council for Potential Revisions to the Zoning and Subdivision Text Amendments - Seafood Processing — At their meeting on September 19, 2024, the Commission formally recommended to the Town Council (Council) an amendment to the Zoning Code that defines "Seafood Processing" and its associated impacts. On December 2, 2024, the Council enacted Ordinance 835, which established Seafood Processing as a distinct use in the Table of Permissible Uses, and added a definition with applicable supplemental standards to address the impacts of this use.

The Council recently received testimony from a representative of a seafood processor located on Maryland Avenue, who contended that the conditions of Ordinance 835 were impractical to fulfill, and proposed revised language to achieve a practical resolution. Mr. Zachary A. Smith *Esq*. was present on behalf of Mitch Hughes and Chesapeake Brand Seafood in order to seek a favorable recommendation from the Commission for Ordinance 842, which proposes an amendment to the supplemental standards of the Seafood Processing Use. Mr. Smith reviewed the proposed amendment for legally existing seafood processing uses in Subsection c in Article X of the Supplemental Standards. This revised language mandates the installation of an odor control system, certified by a Professional Engineer or a Certified Industrial Hygienist, to effectively mitigate odor emissions. The Commission discussed enforcement, and establishing an objective standard for odor detectability. Mr. Bob Rauch provided testimony regarding odor detectability, and the inherent impossibility of complete odor reduction. Mr. Phil Rekitzke, of Chemsearch FE provided testimony regarding ongoing odor abatement measures and a potential remediation process. Mr. Rekitzke described a common odor control technology called chemical scrubbing, that uses chemical reactions to neutralize or absorb odorous compounds from a gas stream. The Commission further discussed an appropriate measure for odor control certification.

The Commission expressed its disfavor towards the proposed amendment, indicating that the language is excessively vague, and conveying a preference for addressing odor detectability at the enforcement level. The Commission also suggested that this matter would be more appropriately considered and implemented by the Council.

**Staff Presentation:**
Lynn Thomas, Town Planner
Miguel Salinas, Director of Planning and Zoning
Sharon Van Emburgh, *Esq*. Town Attorney
Rick Van Emburgh, Town Engineer

**Public Comment**:
Peter Maloney, 301 S. Aurora Street

Jeannie Riccio, Talbot Watermans Association
Glenn Klakring, 225 S. Aurora Street
Tom Hutchison, 104 Cambridge Landing, Cambridge
Paul Scuderi, 207 E. Earle Avenue
Doug Kerr, 211 E. Earle Avenue
Shawn Nuthall, 310 S. Aurora Street
Jennifer Williams, 404 Wheatley Drive
Donna Marie Bramble, 29069 Cherry Hill Lane
Nick Hargrove, Tilghman Island Seafood
Joe Osprey, Bay Hundred Seafood Inc.
Marie Nuthall, 310 S. Aurora Street
Billy Hughes

**Public Comment Written:**
Kristina and Mike Henry, 306 S. Hanson Street
Philip Bernot, 303 S. Aurora Street
Bill Thompson 7630 Tred Avon Circle
Carla Howell, 311 S. Aurora Street
Alex Haschen, 304 E. Earle Avenue
Missy Corley, 211 Stewart Street
Mary Christine McNamara, 227 S. Aurora Street
Emily Stone, 417 S. Aurora Street
Carolyn Johnson

**Vice Chairperson Ports moved to forward a recommendation to the Town Council against the proposed amendment in Subsection c, with a recommendation to incorporate an enforceable standard in Subsection b. Commissioner Ryall seconded the motion.**

| Vote | 4 - 0 - 1 |
|---|---|
| FOR: | 4 - Toussaint, Ports, Klein, Ryall |
| AGAINST: | 0 |
| ABSTAIN: | 0 |
| ABSENT: | 1 - McAndrews |

**c.** Planned Redevelopment Overlay District (PRD) revisions — Earlier this year, the Town Council (Council) indicated a desire to have a greater role in the development review and approval process. Pursuant to that request, the Commission has been asked to consider potential changes to the Planned Redevelopment Overlay District (PRD) provisions. Mr. Lynn Thomas provided an summarization of the Council's workshop held on March 3, 2025 which provided options for the revision to the PR District such as imposing limits on what type of relief can be requested (anything beyond the threshold could only be considered pursuant to a PUD application with a Council Hearing and action) or to rescind the PR Overlay altogether. The Commission explored additional mechanisms to extend the Council's oversight with the suggestion of a

monthly/quarterly joint workshop.

**d.** Scheduling of the June 2025 Planning Commission meeting — The Thursday, June 19, 2025 Planning Commission meeting has been canceled, and is rescheduled for Tuesday, June 24, 2025.

The Commission scheduled a special workshop for Tuesday, June 17, 2025 at 1:00 pm for the purpose of reviewing three (3) new Draft Chapters of the Plan including: Economic Development, Transportation, and Implementation.

The Commission also scheduled a special workshop for Thursday, July 10, 2025 at 10:00 am. The Commission is working toward the creation of an initial Draft version of the Plan, which will be made available for public review and comment. The Commission will ultimately conduct a Public Hearing on a proposed new Plan, with at least 60 days public notice of the Hearing.

6. **Adjournment** — Chairperson Toussaint moved to adjourn. Vice Chairperson Ports seconded the motion. The meeting was adjourned at 4:43 p.m.

TOWN OF EASTON
PLANNING & ZONING
14 S Harrison Street, Easton MD 21601

**Date of Meeting**: June 24, 2025

# # 3a

**PLANNING COMMISSION**
**SUPPLEMENTAL ITEM**

| | |
|---|---|
| **SUBJECT**: | **128 S. West Street - Extended request for the use of a portable on demand storage (POD) unit to remain on-site for a long term temporary basis.** |
| **ELECTION WARD**: | Ward 4 |
| **CRITICAL ACTION DATE**: | At the pleasure of the Commission |
| **STAFF CONTACTS**: | Joseph Mayer, Plan Reviewer<br>Miguel Salinas, Director of Planning and Zoning |
| **DOCUMENT CREATED ON:** | June 9, 2025 |

**PURPOSE**: The applicant is seeking an extension to the April 18, 2024 approval to allow the existing 8' x 20' portable on demand storage (POD) unit to remain on-site for a long term temporary basis.

**RECOMMENDATIONS**:

**Planning Commission**: On April 18, 2024, the Town of Easton Planning Commission reviewed an application to request approval for the long term use of a portable on demand storage container (POD) at 128 S. West Street. The Commission voted 4-1 to approve the request for one (1) year.

**Staff**: Staff supports a Planning Commission approval with a condition (see below).

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**UPDATE**: On May 12, 2025, the applicant received Historic District Commission approval for an extension of the Certificate of Appropriateness of a proposed addition and renovations to a dwelling and associated structure for 128 S. West Street, a contributing structure in the Historic District.

**ISSUES**: There are no outstanding issues.

**ZONING ANALYSIS:**

***28-1007.4.A MISCELLANEOUS USE***
***5. Portable On-Demand Storage (PODS)***

***a. May not remain on-site for more than thirty (30) days.***

***b. Shall meet applicable setbacks.***

***c. The thirty (30) day time limit may be extended for an additional thirty (30) day period by the Town Planner, upon request of the applicant, for good cause. PODS utilized as part of a longer term temporary use or construction project may be considered and approved by the Planning and Zoning Commission in the course of the necessary approvals for said project.***

**Analysis-** Per the Section of the Zoning Code cited above, the Commission is charged with reviewing and approving the duration of temporary use for the POD, if it is desired to remain for more than 60 days. The existing POD is well within the building setbacks. Any relocation of the POD on-site to accommodate construction is applicable, provided the POD is within the building setbacks. In order to facilitate the staging of supplies, the long term use is necessary to coincide with the progress of the construction site.

**RECOMMENDED CONDITION:**

Staff recommends the Planning Commission approve the request with the following condition:

- Establish a time limit to remain through June 24, 2026 and prior to the one year limit, the applicant may return to the Planning Commission seeking a renewal of the temporary use.

**DRAFT MOTIONS**:

1. I move that the Planning Commission approve the request subject to staff's Conditions of Approval.

OR

2. I move that the Planning Commission table the application to the July 17th Commission meeting for further discussion.

OR

3. I move an alternate motion.

**ATTACHMENTS**:

1. 2024.04.11 TOE Staff Report 128 S West Street, paper copy & PDF
2. 2024.04.18 PC Outcome Letter - 128 S. West Street, paper copy & PDF
3. 2025.05.30 PC Concept, Use & Design Application, paper copy & PDF
4. 2024.03.12 Site Plan 128 S. West Street, paper copy & PDF
5. 128 S. West Street - 2025.06.06 Subject Property Notice, paper copy & PDF
6. 2025-06-10 ReviewLetter-2-(128 S West St), paper copy & PDF
7. PC 400' Notice Letter 2025.06.09, paper copy & PDF

TOWN OF
# EASTON
ENGINEERING DEPARTMENT

**DATE:** **June 13, 2025**

**TO:** **Noah Matten - Applicant**

**CC:** **Rick Van Emburgh – Town Engineer**

**FROM:** **Sierra Clem - Engineering Department**

**SUBJECT:** **128 S West Street - PODS**

Our Office has reviewed the second request for a POD at the subject location. The subject request is for a POD to be located at 128 S West Street for an unknown amount of time. The POD is shown to be located entirely on the property. This does not have impacts to Town ROW or permanently impact existing drainage. Our office does not have any comments on this request.

Please contact our office if you have any questions.

P.O. Box 520, Easton, Maryland 21601
410-820-8822
Engineering@EastonMD.gov - www.EastonMD.gov

# TOWN OF EASTON

**Planning & Zoning Department**
P.O. Box 520
Easton, Maryland 21601

April 25, 2024

Noah Matten
128 S. West Street LLC
128 S. West Street
Easton, Maryland 21601

**Re:** **Application 2024 - 1148**
128 S. West Street
Tax Map 104, Grid 0EA, Parcel 1990
Easton, Maryland 21601

Dear Mr. Matten:

At their regularly scheduled meeting on April 18, 2024, the Town of Easton Planning Commission reviewed the above application to request approval for the long term use of a portable on demand storage container (POD) at 128 S. West Street.

The Commission voted 4-1 to approve the request for one (1) year of use.

Any person aggrieved by this decision may, within thirty (30) days of the Planning Commission's decision, file an appeal with the Town Planner and with the Board of Zoning Appeals specifying the grounds thereof. Should you have questions concerning the above finding, please contact this office at 410-822-1943.

Sincerely,

Samantha N. Smith

**Samantha N. Smith,** Administrative Specialist
Planning & Zoning Department
410-822-1943 ssmith@eastonMD.gov

TOWN OF EASTON
PLANNING & ZONING
14 S Harrison Street, Easton MD 21601

**Date of Hearing**: April 18, 2024

# # 4a

**PLANNING COMMISSION**
**PUBLIC HEARING**
**STAFF REPORT**

| | |
|---|---|
| **SUBJECT**: | **128 S. West Street - Request for the use of a portable on demand storage (POD) unit to remain on-site for a long term temporary basis.** |
| **ELECTION WARD**: | Ward 4 |
| **CRITICAL ACTION DATE**: | At the pleasure of the Commission |
| **STAFF CONTACTS**: | Joseph Mayer, Plan Reviewer<br>Miguel Salinas, Director of Planning and Zoning |
| **APPLICANT**: | 128 S. West Street, LLC % Noah Matten |
| **DOCUMENT CREATED ON:** | April 9, 2024 |

**PURPOSE**: The applicant is seeking approval to allow the existing 8' x 20' portable on demand storage (POD) unit to remain on-site for a long term temporary basis.

**RECOMMENDATION:** Staff supports a Planning Commission approval with a condition (see below).

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| **APPLICATION INFORMATION**: | |
|---|---|
| **APPLICANT:**<br>128 S. West Street, LLC: Noah Matten | **REPRESENTATIVE:**<br>128 S. West Street, LLC: Noah Matten |

**PARCELS/ACREAGE:**

| Parcel Information | Acreage |
|---|---|
| Map 104, Grid 00EA, Parcel 1990, Lot 2 | 0.046 |

| | |
|---|---|
| **ACCEPTANCE DATE:**<br>April 1, 2024 | **LOCATION:**<br>128 South West Street, Lot 2 |
| **EXISTING ZONING**<br>CB, PRD & PUD Infill | **EXISTING LAND USE:**<br>Vacant |
| **HISTORIC DISTRICT:**<br>Applicable | **FUTURE LAND USE MAP:**<br>Commercial |

**CONTEXT**:
Location/Site Access – The subject property is located on the east side of South West Street.

Existing Conditions – The subject property is currently a vacant lot.

Surrounding Properties
- 20 Vine Street – CB
- S. Washington Street - R-7A
- 101 Biery Street - R-7A
- S. West Street – CB
- 121 S. West Street – CB
- 124 S. West Street - CB
- 125 S. West Street – CB

***Figure 1**: Vicinity Map*




**PROPOSAL**: The applicant is requesting an existing 8'x 20' portable on demand storage (POD) to remain on-site for a long term temporary basis; possible twenty-four (24) months or until the issuance of an occupancy permit.

**BACKGROUND**: On January 11, 2021, the applicant received Historic District Commission Certificate of Appropriateness for the proposed addition and renovations of a dwelling and associated structure for 128 S. West Street, a contributing structure in the Historic District. On February 18, 2021, the Town of Easton Planning Commission reviewed a minor subdivision plat for 128 S. West Street submitted as a Discussion Item. The commission voted 5-0 to show support of the concept as presented with the setbacks as shown on the submission at the appropriate location. The vote was not a binding approval. On May 20, 2021, the Town of Easton Planning Commission reviewed the minor subdivision plat for approval. The commission voted 4-0 to approve the application as submitted. The minor subdivision plat, KMD 89-145 was recorded on September 13, 2021. On January 11, 2022, the applicant received a Historic District Commission Certificate of Appropriateness for the relocation of a shed for 128 S. West Street. On February 20, 2024, the applicant obtained a Zoning Certificate for Temporary Use of a portable on demand storage (POD) to remain on-site for a 30 day time limit. The use was extended on March 12, 2024 for an additional 30 day time period until the pending Planning

Commission review at their April 18, 2024 meeting for the use of the POD longer than sixty days.

**OUTSTANDING ISSUES**: None

**ZONING ANALYSIS:**

***28-1007.4.A MISCELLANEOUS USE***
***5. Portable On-Demand Storage (PODS)***

***a. May not remain on-site for more than thirty (30) days.***

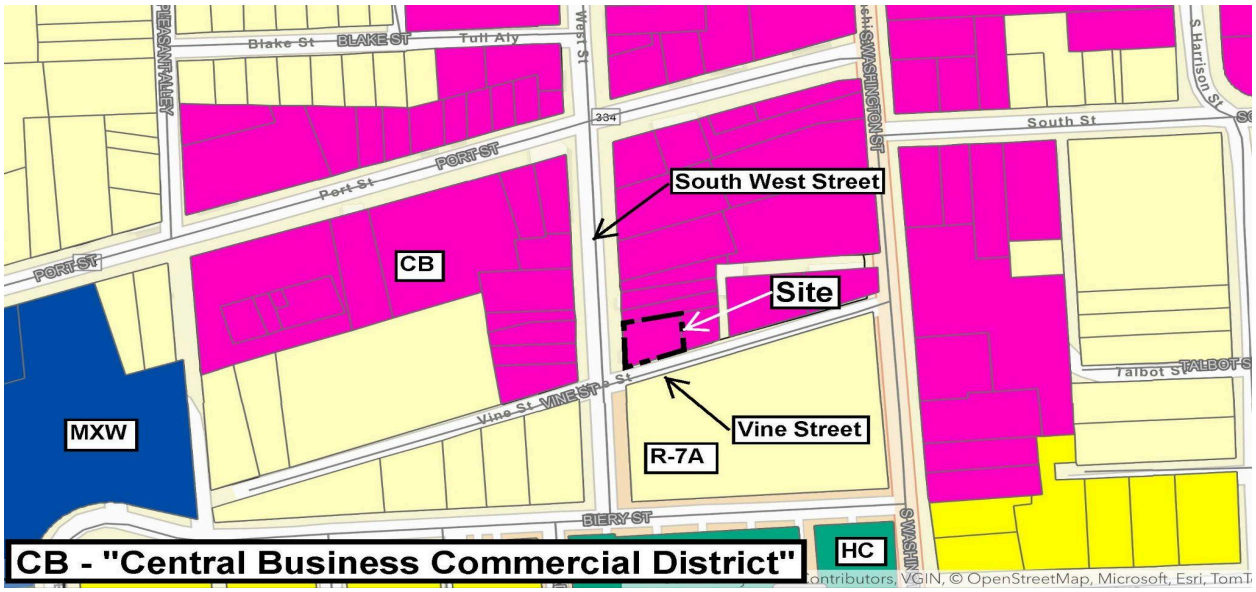
***b. Shall meet applicable setbacks.***

***c. The thirty (30) day time limit may be extended for an additional thirty (30) day period by the Town Planner, upon request of the applicant, for good cause. PODS utilized as part of a longer term temporary use or construction project may be considered and approved by the Planning and Zoning Commission in the course of the necessary approvals for said project.***

**Analysis-** Per the Section of the Zoning Code cited above, the Commission is charged with reviewing and approving the duration of temporary use for the POD, if it is desired to remain for more than 60 days. The existing POD is well within the building setbacks. Any relocation of the POD on-site to accommodate construction is applicable, provided the POD is within the building setbacks. In order to facilitate the staging of supplies, the long term use is necessary to coincide with the progress of the construction site.

**POLICY ANALYSIS:**

***Figure 2: Zoning Map***




**RECOMMENDED CONDITION:**

Staff recommends the Planning Commission approve the request with the following condition:

- Establish a time limit to remain through April 18, 2026.

**DRAFT MOTIONS**:

1. I move that the Planning Commission approve the request subject to staff's Conditions of Approval.

OR

2. I move that the Planning Commission table the application to the May 16th Commission meeting for further discussion.

OR

3. I move an alternate motion.

**ATTACHMENTS**:

1. 2024.04.04 - 128 S. West Street - April 400' Notice Letter & Sign Posting, paper copy & PDF
2. 2024.04.04 - 128 S. West Street - PC Concept, Use & Design Application, paper copy & PDF
3. 2024.04.04 - 128 S. West Street - Site Plan,  paper copy & PDF
4. 2024.04.04 - 128 S. West Street - Zoning Certificate Applications, paper copy & PDF
5. 2024.04.05 - ReviewLetter-Department of Engineering, paper copy & PDF

RECEIVED
MAY 30 2025
TOWN OF EASTON

**Town of Easton**
Engineering, Planning and Zoning
14 South Harrison Street, Easton, MD 21601

# Planning Commission Concept, Use, and Design Application

| Site Information | | | | | |
|---|---|---|---|---|---|
| Structure's Floor Area | 0 | | | Structure's Square Feet | 0 |
| Area of Disturbance | 0 | | | Number of Dwelling Units | 0 |
| Property Size | | Acres | .10 | Square Feet | |
| Address | 128 s west st lot 2 | | | | |
| Tax Map | | Grid | | Parcel | | Lot | |
| Zoning District | bc | Historic District | Y ☒ N ☐ | PRD | Y ☒ N ☐ |
| Other Information | | | | | |
| Existing Use | residental | | | | |

| Owner | |
|---|---|
| Name | 128 s west st llc |
| Mailing Address | 128 s west st llc |
| Telephone No. | Email |

| Applicant / Agent | |
|---|---|
| Name | 128 s west st llc |
| Mailing Address | 128 s west st llc |
| Telephone No. | Email |

| General Information: |
|---|
| re approval of existing exiting zoning as permit are still being reviewed |
| |
| |
| |

***Any modifications during review shall warrant an updated application.***
***I do hereby solemnly declare and affirm that the information provided by this application and the documents attached hereto accurately represent the conditions of the request and that submission of an incomplete application will be returned for correction prior to processing.***

| | |
|---|---|
| Signature of Applicant or Agent | |
| Date | 5/30/25 |
| Printed Name of Applicant or Agent | 128 s west st llc |

*For Office Use Only*

| | | |
|---|---|---|
| Planned Commission Meeting Date | 06/24/2025 | |
| Review Fee Amount | - | **2024 -1148** |
| Review Fee Paid Date | 03/12/2024 | |
| ESDR Y / N Date | - | |

*Revised 02-2019*

NORTH
LIBER 1203, FOLIO 711

## GENERAL NOTES:

1. PROPERTY OWNERS: 128 S WEST STREET, LLC
305 NORTH STREET
EASTON, MD 21601

2. PROPERTY SUBDIVIDERS: 128 S WEST STREET, LLC
305 NORTH STREET
EASTON, MD 21601

3. PROPERTY ADDRESS: 128 SOUTH WEST STREET
EASTON, MD 21601

4. PROFESSIONAL LAND SURVEYOR: KEITH W. ANDREWS AT
ANDREWS LAND SURVEYING, LLC
8133 ELLIOTT ROAD, SUITE 240
EASTON, MARYLAND 21601

5. TOTAL AREA TO BE SUBDIVIDED: 4,404 SQ. FT. / 0.1011 ACRES ±

6. WATER SUPPLY: TOWN OF EASTON

7. SEWAGE DISPOSAL: TOWN OF EASTON

8. ZONING: PRD – PLANNED REDEVELOPMENT DISTRICT
SETBACKS: TO BE DETERMINED

9. DEED REFERENCE: LIBER 2771, FOLIO 497

10. THE PROPERTY SHOWN HEREON IS LOCATED ENTIRELY OUTSIDE OF THE CHESAPEAKE BAY CRITICAL AREA.

11. ALL FLOODPLAIN INFORMATION NOTED ON THIS PLAT REFLECTS THE STATUS PER THE FEMA FIRM MAP THAT IS EFFECTIVE AT THE TIME THIS PLAT IS RECORDED. FLOODPLAIN STATUS IS SUBJECT TO CHANGE AS FEMA MAPS ARE UPDATED.

TAX PARCEL 1990 AS SHOWN HEREON IS IN FLOOD ZONE "X" PER THE FLOOD INSURANCE RATE MAP COMMUNITY PANEL 24041C0189D FOR TALBOT COUNTY, MARYLAND, DATED JULY 20, 2016.

FLOODPLAIN LEGEND
AE – 1% ANNUAL CHANCE OF FLOODPLAIN
SHADED X – 0.2% ANNUAL CHANCE FLOODPLAIN
OTHER X – AREA OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN

ALL STREETS AND STREET WIDENINGS, PARKS AND OTHER LANDS INTENDED FOR PUBLIC USE ARE RESERVED BY THE OWNER FOR FUTURE CONVEYANCE TO THE TOWN OF EASTON.

ALL EASEMENTS SHOWN ARE HEREBY DEDICATED FOR PUBLIC USE.

A UTILITIES DISTRIBUTION RIGHT-OF-WAY AND EASEMENT IS HEREBY DEDICATED TO THE TOWN OF EASTON IN AND OVER STRIPS OF LAND TEN (10) FEET IN WIDTH ALONG THOSE BOUNDARY LINES CONTIGUOUS TO ANY STREET OR ALLEY AND FIVE (5) FEET IN WIDTH ON EACH SIDE OF SIDE LOT LINES.

THE PLANNING AND ZONING COMMISSION MAY WAIVE OR TERMINATE, UPON RESUBDIVISION, SUCH UTILITY EASEMENT WHICH HAS NOT BEEN ACCEPTED BY USE THEREOF, UPON RECEIVING APPROVAL FROM THE TOWN ENGINEER.

LAND SHOWN UPON THIS PLAT MAY CONTAIN NON-TIDAL WETLANDS REGULATED UNDER COMAR 08.05.04; THE FEDERAL WATER POLLUTION ACT SECTION 404; OR THE RIVERS HARBOR ACT SECTION 10. DEVELOPMENT AND CONSTRUCTION WITHIN WETLANDS ARE SUBJECT TO FEDERAL AND STATE REGULATIONS AND MAY BE PROHIBITED OR RESTRICTED BY SUCH REGULATIONS.

THE EXISTING 2-STORY BRICK DWELLING LOCATED ON LOT 1 IS SERVED BY PUBLIC WATER AND PUBLIC SEWER.

## TALBOT COUNTY HEALTH DEPARTMENT

THIS MINOR SUBDIVISION PLAT IS APPROVED BY THE TALBOT COUNTY HEALTH DEPARTMENT. LOT 1 AND LOT 2 OF TAX PARCEL 1990 AS SHOWN HEREON ARE APPROVED FOR COMMUNITY WATER SUPPLY AND COMMUNITY SEWERAGE AND THEIR USE IS IN ACCORDANCE WITH THE TALBOT COUNTY COMPREHENSIVE WATER AND SEWER PLAN AND MARYLAND DEPARTMENT OF ENVIRONMENT REGULATION 28.04.03.

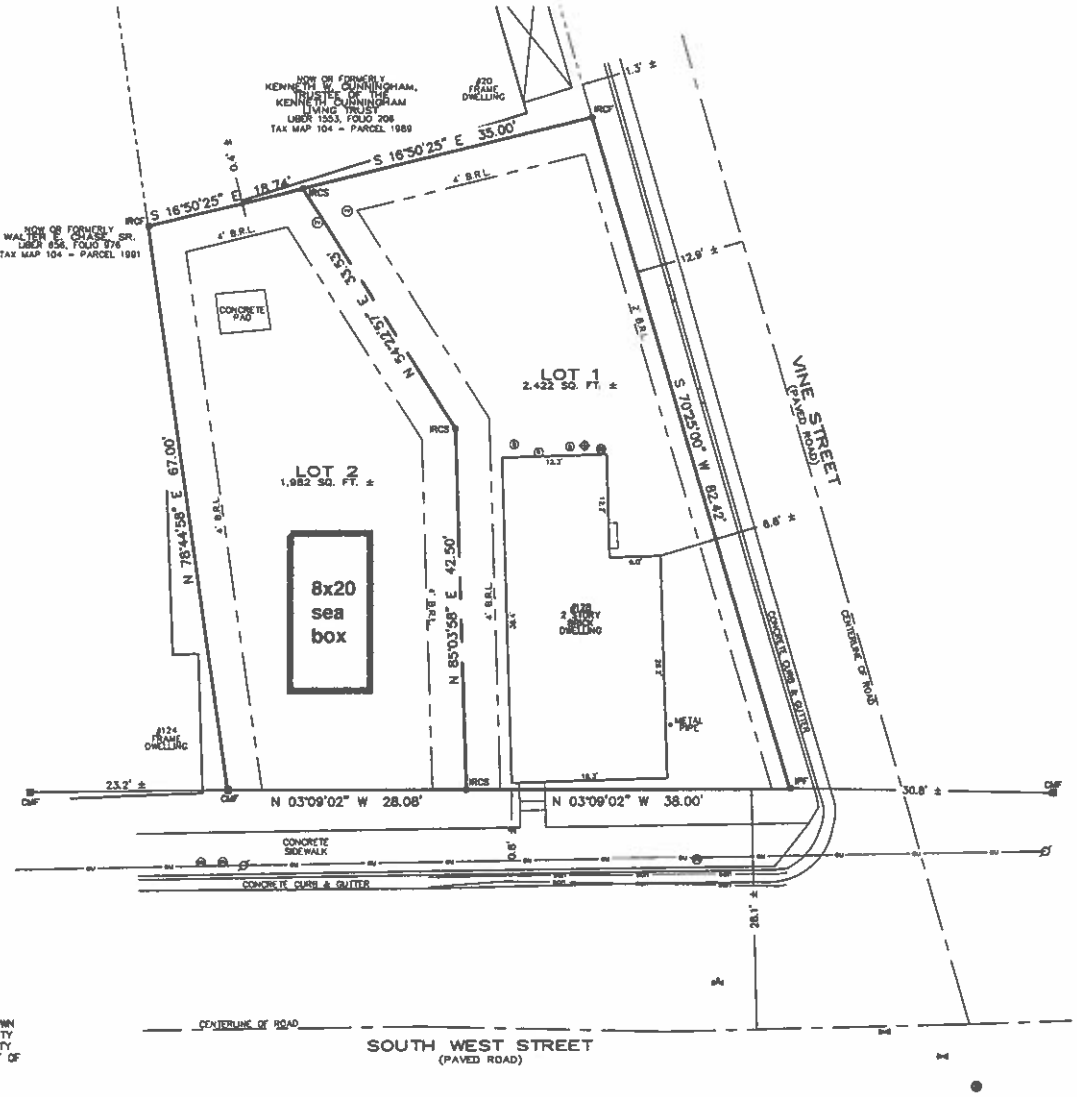
TALBOT COUNTY APPROVING AUTHORITY DATE

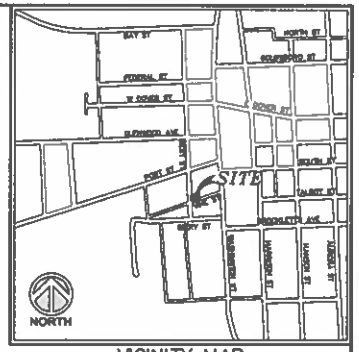
## SURVEYOR'S CERTIFICATE

I, KEITH W. ANDREWS, HEREBY CERTIFY THAT THE FINAL PLAT SHOWN HEREON IS CORRECT, THAT IT IS A SUBDIVISION OF THE LAND CONVEYED BY MOUNT SINAI HOLY CHURCH OF AMERICA, INC., A PENNSYLVANIA CORPORATION, TO 128 S WEST STREET, LLC, A MARYLAND LIMITED LIABILITY COMPANY, BY DEED DATED NOVEMBER 10, 2020 AND RECORDED AMONG THE LAND RECORDS OF TALBOT COUNTY, MARYLAND IN LIBER 2771, FOLIO 497 AND THAT THE REQUIREMENTS OF THE TOWN OF EASTON SUBDIVISION REQUIREMENTS IN SO FAR AS THEY MAY CONCERN THE MAKING OF THIS PLAT AND THE SETTING OF MONUMENTS AND MARKERS HAVE BEEN COMPLIED WITH.

04-12-2021

KEITH W. ANDREWS DATE
REGISTERED PROFESSIONAL LAND SURVEYOR No. 21644 (EXPIRES 12-22-2021)
8133 ELLIOTT ROAD, SUITE 240
EASTON, MARYLAND 21601




VICINITY MAP
1" = 1,000' ±

## LEGEND

| | |
|---|---|
| IRON ROD & CAP FOUND | IRCF |
| IRON ROD & CAP SET | IRCS |
| IRON PIPE FOUND | IPF |
| CONCRETE MONUMENT FOUND | CMF |
| WATER METER | |
| WATER VALVE | |
| SEPTIC MANHOLE | |
| SEPTIC CLEAN OUT | |
| GAS PIPE | |
| GAS VALVE | |
| SATELITE DISH | |
| PVC PIPE | |
| BUILDING RESTRICTION LINE | B.R.L. |
| EXISTING PROPERTY LINE | |
| PROPERTY LINE HEREBY ESTABLISHED | |
| ADJOINER PROPERTY | |
| UNDERGROUND SANITARY SEWER | |
| OVERHEAD UTILITY | |

## OWNER CERTIFICATION

128 S WEST STREET, LCC, OWNER OF THE PROPERTY SHOWN AND DESCRIBED HEREON, HEREBY ADOPT THIS PLAN OF SUBDIVISION.

PUBLIC WATER AND PUBLIC SEWER WILL BE AVAILABLE TO ALL LOTS OFFERED FOR SALE.

128 S WEST STREET, LLC

NOAH MATTEN, MANAGING MEMBER DATE

THE OWNERS HAVE SWORN TO AND SUBSCRIBED BEFORE ME THIS ___ DAY OF _____ 20__.

NOTARY

## APPROVED

THE TOWN PLANNER DATE

CHAIRMAN OF PLANNING AND ZONING COMMISSION DATE

0' 10' 20' 30'
SCALE: 1" = 10'

SHEET 1 OF 1

| REVISIONS | | | |
|---|---|---|---|
| NO. | DATE | DESCRIPTION | BY |
| 1 | 5-25-21 | addressed comments from health department & planning and zoning | KMR |

JOB NUMBER 2103.107

STATE OF MARYLAND
KEITH W. ANDREWS
No. 21644
PROFESSIONAL LAND SURVEYOR

ANDREWS LAND SURVEYING
8133 Elliott Road, Suite 240
Easton, Maryland 21601
Office: 410-820-5112
AndrewsLandSurveyingMD.com Email: kwa1976@goeaston.net

MINOR SUBDIVISION
ON THE LAND OF
128 S WEST, LLC
128 SOUTH WEST STREET
EASTON, MARYLAND 21601
TAX MAP 104 – PARCEL 1990
FIRST ELECTION DISTRICT, TALBOT COUNTY

# TOWN OF EASTON

14 South Harrison Street
Easton, Maryland 21601

June 9, 2025

Dear Resident,

The Easton Planning Commission (Commission) will hold a public meeting on **Tuesday, June 24, 2025 at 1:00 p.m**. in the Easton Town Council Chambers located on the second floor of 14 South Harrison Street. The Town of Easton Zoning Ordinance requires that owners of property located within 400 feet of a parcel on which certain types of applications are pending be given notice of upcoming meetings or hearings. If you are a tenant in or an owner of a multi-unit building, please distribute or post this notice in a visible location for all other tenants or owners to view. If you are a tenant of a rental property, please notify the property owner that this notice letter has been distributed to their property. Notice has also been sent to the Star Democrat, a sign has been posted at the subject property and the hearing agenda has been posted on the Town of Easton website: http://eastonmd.gov/.

This letter is sent to inform you that application 2024 - 1148 has been filed on behalf of 128 S. West Street LLC (Owner/Applicant) to request conceptual approval to allow the temporary use of a Portable On Demand Storage (PODS) structure to remain long term (more than 60 days) on the property located at 128 S. West Street, also known as Tax Map 0104, Grid 00EA, Parcel 1990. This request was previously approved by the Commission at their April 18, 2024 meeting for a one-year period.

Copies of the proposed application are on file and available for public review in the Town's Planning Office at 14 South Harrison Street between the hours of 8:30 a.m. and 4:00 p.m., Monday through Friday. **In addition, digital copies will be available for review one week prior to the scheduled meeting via the Town's website at** https://www.eastonmd.gov/129/Agendas-Minutes. If you have any questions regarding this application, please contact the Planning Office at (410) 822-1943 or via email at ssmith@eastonMD.gov.

Samantha N. Smith

Samantha N. Smith, Administrative Specialist
Planning & Zoning Department
410-822-1943 ssmith@eastonMD.gov




***Subject property posting pursuant to Section 28-901.2.H.2 of the Town of Easton Zoning Code - June 6, 2025***

**TOWN OF EASTON**
**PLANNING & ZONING**
**14 S Harrison Street, Easton MD 21601**

**Date of Meeting**: June 24, 2025

# # 3b

**PLANNING COMMISSION**
**SUPPLEMENTAL ITEM**

**SUBJECT**: **501 Glebe Road - Lowe's**

**ELECTION WARD**: Ward 1

**CRITICAL ACTION DATE**: At the pleasure of the Commission

**STAFF CONTACTS**: Joseph Mayer, Plan Reviewer
Miguel Salinas, Director of Planning and Zoning

**DOCUMENT CREATED ON:** June 12, 2025

**PURPOSE**: Lowe's Home Centers Inc. (Applicant), is seeking approval to amend the existing approved permanent storage location by adding sixteen (16) additional spaces to the existing seventeen (17) parking spaces permitted for outdoor storage and display. The Applicant is also requesting thirty-three (33) spaces for Seasonal Temporary Long-Term Storage. There are 528 existing parking spaces. The minimum vehicle spaces required is 460 and the maximum is 689. There are 462 vehicle spaces available for customer parking during the seasonal event between March 1st thru July 1st. Therefore, the proposed parking spaces are within the minimum and maximum requirements and a Parking Waiver is not required. The applicant is also requesting approval for the location of the Seasonal Temporary Long-Term Storage area and its necessary screening barrier.

**RECOMMENDATION**:

**Planning Commission**:

The Commission, at their April 21, 2022 meeting, reviewed the request from the Lowe's Home Centers Inc. (Applicant) for approval to amend the existing permanent storage location by adding sixteen (16) additional spaces. In addition, the Applicant requested a Parking Waiver for an additional 39 spaces for Seasonal Temporary Long-Term Storage. At the conclusion of the meeting, the Commission voted (4-0) to request the applicant return to the next available meeting and provide details for the screening barrier with elevations and profiles.

The Commission, at their May 15, 2025 meeting, reviewed the Lowe's Home Centers Inc. (Applicant) request for approval to amend the existing approved permanent storage location with the addition of sixteen (16) additional spaces, and a parking waiver of four (4) spaces from

Section 28-1001.3 C of the Zoning Code for an additional 39 spaces for Seasonal/Long-Term Storage. At the conclusion of the meeting, the Commission voted (4-0) to table the amendment and parking waiver requests with the following recommendations: (1) the Applicant shall provide adequate details with elevations and profiles of the proposed plant species and fencing along the entire perimeter of the Seasonal/Long-Term Temporary Storage area, (2) the Applicant shall coordinate with the Building Inspection Division and Code Enforcement office for any outstanding issues, and (3) the Applicant shall evaluate the site distance and visibility triangle at the intersection along the drive aisle adjacent to Ruby Tuesday.

**Staff**: Staff recommends the Planning Commission table the proposed requests subject to staff's recommended conditions (see below).

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**UPDATE**:

On June 11, 2025, Lowe's Home Centers Inc. submitted a revised Outdoor Sales & Display Plan with supporting documents; plan views, and an existing and proposed view corridor of screening. Staff notes that adjacent to the storage area on the Southwest side is an existing Stormwater Management Bio-Retention Area with updated proposed plant species, which will provide additional screening within the parking lot. The applicant has provided sight distances at the intersection along the drive aisle adjacent to Ruby Tuesday.

**ISSUES**:

The applicant will need to coordinate with the Town's Engineering Department for site distance and visibility triangles at the intersection along the drive aisle adjacent to Ruby Tuesday.

***28-1001.3 C: Parking Waiver***

*In determining whether or not it is appropriate to allow such deviations, the applicant shall have the burden of supplying evidence that such a change is warranted. This evidence shall include the applicant's experience with the same use in other jurisdictions, alternate standards (and an assessment of their adequacy) for the same use in other communities, or a suggested standard by a nationally recognized authority in parking (e.g. The Institute of Transportation Engineers, the American Planning Association, etc.).*

**Analysis -** Lowe's Home Centers Inc. has requested to decrease the parking spaces in the Seasonal/Long-Term Temporary Storage area from 39 to 33. Currently, there are 528 existing parking spaces. Regulations require a minimum of 460 and a maximum of 689 parking spaces. During the seasonal event from March 1st to July 1st, 462 customer parking spaces are available. Consequently, the proposed adjusted parking numbers fall within the acceptable minimum and maximum ranges, making a Parking Waiver unnecessary.

**RECOMMENDED CONDITION:**
Staff recommends the Planning Commission table the Applicant's request with the following conditions:

- Relocate the proposed storage area as requested by the Town's Engineering Department. Coordinate with the Engineering Department regarding all site distance and visibility triangles related to the storage area. A revised Site Plan reflecting these changes will be required for staff review and approval.
- Coordinate with the Building Inspection Division and Code Enforcement Office for any outstanding issues.

**DRAFT MOTIONS**:

1. I move that the Planning Commission approve the Applicant's request subject to staff's Condition of Approval.

OR

2. I move that the Planning Commission forward the application to the July 17th Commission meeting for further discussion.

OR

3. I move an alternate motion.

**ATTACHMENTS**:
1. 2025.05.15 TOE P&Z Staff Report 501 Glebe Road - Lowes, paper copy & PDF
2. 2025.06.05 Easton MD - Concept Landscape, paper copy & PDF
3. 2025.06.05 Easton, paper copy & PDF
4. 2025.06.12 - 1. LANDSCAPE,OUTDOOR SALES AND DISPLAY PLAN - LOWES, paper copy & PDF
5. 2025.06.12 - 2. ENLARGED LANDSCAPE, OUTDOOR SALES AND DISPLAY PLAN-LOWES, paper copy & PDF
6. 2025.06.12 - 3. VIEW CORRIDORS - Lowes, paper copy & PDF
7. 2025-06-10 ReviewLetter-(Lowes), paper copy & PDF

TOWN OF
# EASTON
ENGINEERING DEPARTMENT

**DATE:** **June 13th, 2025**

**TO:** **Laura Grissinger - Applicant**

**CC:** **Rick Van Emburgh – Town Engineer**

**FROM:** **Sierra Clem - Engineering Department**

**SUBJECT:** **Lowes - Permanent Storage**

Our Office has reviewed the request for permanent outdoor storage to be located at Lowe's.

The Engineering Department reviews improvements to Town Right-Of-Way and any improvements that affect Stormwater Management. This application does not impact either of these, but I am concerned with visibility in and around the internal public parking areas and aisles.

My recommendation is to relocate the Storage Area to a location that does not obstruct visibility in the parking area.

P.O. Box 520, Easton, Maryland 21601
410-820-8822
Engineering@EastonMD.gov - www.EastonMD.gov

TOWN OF EASTON
PLANNING & ZONING
14 S Harrison Street, Easton MD 21601

**Date of Meeting**: May 15, 2025

# # 4a

**PLANNING COMMISSION**
**SUPPLEMENTAL ITEM**

| | |
|---|---|
| **SUBJECT**: | **501 Glebe Road - Lowe's** |
| **ELECTION WARD**: | Ward 1 |
| **CRITICAL ACTION DATE**: | At the pleasure of the Commission |
| **STAFF CONTACTS**: | Joseph Mayer, Plan Reviewer<br>Miguel Salinas, Director of Planning and Zoning |
| **DOCUMENT CREATED ON:** | May 5, 2025 |

**PURPOSE**: Lowe's Home Centers Inc. (Applicant), is seeking approval to amend the existing approved permanent storage location by adding sixteen (16) additional spaces to the existing seventeen (17) parking spaces permitted for outdoor storage and display. The Applicant is also requesting thirty-nine (39) spaces for Seasonal Temporary Long-Term Storage. There are 528 existing parking spaces. The minimum vehicle spaces required is 460 and the maximum is 689.There are 456 vehicle spaces available for customer parking during the seasonal event between March 1st thru July 1st. Therefore, a Parking Waiver for four (4) parking spaces has been submitted for the Commission's approval. The applicant is also requesting approval for the location of the Seasonal Temporary Long-Term Storage area and its necessary screening barrier.

**RECOMMENDATION**:

**Planning Commission**: The Commission, at their April 21, 2022 meeting, reviewed the Lowe's Home Centers Inc. (Applicant) request for approval to amend the existing approved permanent storage location by adding sixteen (16) additional spaces. In addition, the Applicant requested a Parking Waiver for an additional 39 spaces for Seasonal Temporary Long-Term Storage. At the conclusion of the meeting, the Commission voted (4-0) to request the applicant return to the next available meeting and provide details for the screening barrier with elevations and profiles.

**Staff**: Staff recommends the Planning Commission table the proposed requests subject to staff's recommended conditions (see below).

**UPDATE**:

On April 18, 2019, Lowe's Home Centers Inc. (Applicant), requested the use of 27 existing parking spaces for temporary outside storage on the parking lot adjacent to Glebe Road, adjacent to Ruby Tuesday property. Per Zoning Ordinance No.487, there are currently 528 off-street parking spaces, 17 of which are designated by the Site Plan for outdoor storage and display. There's an Exhibit "A", item #2, "Outside Display Exhibit"' prepared by Bohler Engineering, P.C., dated March 31, 2005.The Planning Commission approved a temporary storage request (4-0 vote) for 27 parking spaces. This authorization, effective from April 18, 2019, to July 31, 2019, permits the storage of mulch and pallets up to seven feet tall within the designated areas.

On February 20, 2020, the Applicant requested approval from the Town of Easton Planning Commission for temporary seasonal display of mulch and bagged goods. The Commission voted 5-0, approving the temporary request for seasonal display with the condition of providing screening for the Ruby Tuesday restaurant and the Easton Parkway. The location and screening was to be reviewed and approved at staff level. The applicant was required to return to the July 16, 2020 meeting to identify a permanent location for the temporary seasonal storage and screening for future years.

On October 15, 2020, the Applicant returned to the Town of Easton's Planning Commission to identify a permanent location for the temporary seasonal storage and screening for future years. The Commission voted 5-0, approving the amount of parking spaces and its location for temporary use for outside storage for seasonal items to remain for a period of three years. With the condition that the applicant submits a detailed Site Plan, for Staff level review, depicting the location of landscape and/or screening buffers.

On February 16, 2021, the Outdoor Sales & Display Plan was approved.

On March 23, 2022, the Applicant, submitted an application to the Easton Staff Development Review Committee.

On April 21, 2022, the Applicant requested approval to amend the existing approved permanent storage location by adding sixteen (16) additional spaces. In addition, they requested a Parking Waiver for an additional 39 spaces for Seasonal Temporary Long-Term Storage. The Commission voted 4-0, requesting the applicant return to the next available meeting and provide details for the screening barrier with elevations and profiles.

On September 26, 2023, the Planning and Zoning Department inspected all landscaping on site and found numerous planting deficiencies, dead or missing. The Applicant was reminded on December 18, 2023 to return to the Planning Commission and provide details for screening barriers with elevations and profiles.

In Spring 2024, the Applicant completed the replacement of missing or damaged plant species.

On February 27, 2025, the Planning and Zoning Department inspected the Seasonal Temporary Long-Term Storage area. Lowe's Home Centers Inc. had started the outside storage of mulch. On

March 3, 2025 the Applicant was given the option to remove all items from the parking facility by March 31st or submit an application to the Planning Commission for the April 17, 2025 meeting.

**ISSUES**: The approval for Seasonal Temporary Long-Term Storage concluded on October 15, 2023. Consequently, the Applicant was obligated to seek Planning Commission approval for several modifications: the addition of sixteen (16) parking spaces in the permanent outdoor storage and display area, the incorporation of the Seasonal Temporary Long-Term Storage area (including its required screening), and a request for a waiver of four (4) parking spaces.

The applicant's March 26, 2022 waiver request for parking detailed four (4) items Lowe's Home Centers Inc. would complete: 1) the landscaping and replacement of missing plants and shrubs, 2) obtain a proposal for professional installation of fencing to provide permanent screening of the seasonal long-term storage from the view of motor vehicles traveling along Rt. 322 Easton Parkway, 3) provide a natural screen in lieu of fencing, and 4) allow the Planning and Zoning Commission to decide which screen best suits the needs of the Town of Easton. The Planning Commission requested the applicant on April 21, 2022 to return to the next available meeting and provide details for the screening barrier with elevations and profiles.

On May 5, 2025, Lowe's Home Centers Inc. submitted a revised Outdoor Sales & Display Plan and Land Scape Details for installation. To determine a suitable screening barrier, the Planning Commission requires the applicant to submit specific information (elevations and profiles) regarding proposed plantings and fencing in all directions of the Seasonal Temporary Long-Term Storage area.

***28-1001.3 C: Parking Waiver***

*In determining whether or not it is appropriate to allow such deviations, the applicant shall have the burden of supplying evidence that such a change is warranted. This evidence shall include the applicant's experience with the same use in other jurisdictions, alternate standards (and an assessment of their adequacy) for the same use in other communities, or a suggested standard by a nationally recognized authority in parking (e.g. The Institute of Transportation Engineers, the American Planning Association, etc.).*

**Analysis -** Lowe's Home Centers Inc. (Applicant) bears the burden of proving to the Commission that it is appropriate to allow a deviation from the zoning ordinance's parking requirements. The applicant proposes to use existing parking spaces for Seasonal/Long-Term Temporary Storage. There's no increase to the site's paving. However, the existing building has a gross floor area of 137,863 sf. Per Section 28 – 1001.3 Parking Requirements, the site is categorized as a Standalone Retail Store. The minimum vehicle spaces required is 460 and the maximum is 689. There's a total of 528 vehicle spaces provided. Currently, 33 parking spaces are designated for outdoor storage and display. Please note, per Ordinance No. 487, only 17 parking spaces are permitted for outdoor storage and display. The additional 39 proposed parking spaces are for Seasonal/Long-Term Temporary Storage use of storage within the parking lot. That leaves 456 vehicle spaces available for customer parking during the seasonal event between March 1st

thru July 1st. Therefore, a Parking Waiver for four (4) parking spaces has been submitted for the Commission's approval.

Staff notes that the Applicant's request for a waiver of four (4) should not impose unnecessary parking congestion or burden on the Town and nearby residents. The Applicant is confident that the increased outdoor storage display and proposed Seasonal/Long-Term Temporary Storage will not impact the current parking that's provided. Staff supports the waiver request provided that the Applicant addresses all outstanding issues.

**RECOMMENDED CONDITION:**
Staff recommends the Planning Commission table the Applicant's request and provide the following items necessary to return to the June 19th Planning Commission meeting:

- Provide adequate details with elevations and profiles of the proposed plant species and fencing along the entire perimeter of the Seasonal/Long-Term Temporary Storage area.
- Coordinate with the Building Inspection Division and Code Enforcement Office for any outstanding issues.

**DRAFT MOTIONS**:

1. I move that the Planning Commission table the project and the Applicant provide the items required by the staff.

OR

2. I move that the Planning Commission forward the application to the June 19th Commission meeting for further discussion.

OR

3. I move an alternate motion.

**ATTACHMENTS**:
1. 2019.04.08 TOE Staff Report - Lowes, paper copy & PDF
2. 2019.04.18 PC Outcome Letter Lowe's, paper copy & PDF
3. 2020.02.20 PC Outcome Letter Lowe's, paper copy & PDF
4. 2020.02.20 TOE Staff Report - Lowes, paper copy & PDF
5. 2020.10.15 PC Outcome Letter Lowe's, paper copy & PDF
6. 2020.10.15 Staff Report - Lowes, paper copy & PDF
7. 2021.02.16 Approved Site Plan Lowes, paper copy & PDF
8. 2022.03.24 ESDR Determination Letter, paper copy & PDF
9. 2022.04.11 Staff Report - Lowes, paper copy & PDF
10. 2022.04.21 PC Outcome Letter Lowe's, paper copy & PDF
11. 2022.04.21 Supplemental Waiver Request Application, paper copy & PDF
12. 2023.12.18 TOE P&Z Review 501 Glebe Road - Lowe's, paper copy & PDF

13. 2025.03.03 Town of Easton Mail - Lowe_s, paper copy & PDF
14. 2025.05.05 LANDSCAPE DETAILS, paper copy & PDF
15. 2025.05.05 LANDSCAPE. OUTDOOR SALES & DISPLAY PLAN, paper copy & PDF

LEGEND

MISSING OR DEAD PLANT MATERIAL TO BE REPLACED

## TREES LIST

| TREES | QUANTITY | SCIENTIFIC NAME | COMMON NAME | SIZE REQUIREMENTS | SPACING |
|---|---|---|---|---|---|
| | 35 | THUJA OCCIDENTALIS | AMERICAN ARBORVITAE | H/2" CAL. (25 GAL) 6'HT. | AS SHOWN |
| | | | | | |
| | | | | | |

## EXISTING PLANTINGS THAT NEED TO BE REMOVED - ×

| | QUANTITY | SCIENTIFIC NAME | COMMON NAME | SIZE REQUIREMENTS | SPACING |
|---|---|---|---|---|---|
| TREES | 2 | GLEDITSIA TRIACONTHOS VAR. INERMIS 'SHADEMASTER' | SHADEMASTER HONEYLOCUST | 2-1/2"-3" CAL. B'HT, B&B | AS SHOWN |
| | 19 | QUERCUS RUBRA | RED OAK | 2-1/2"-3" CAL. B'HT, B&B | AS SHOWN |
| | 8 | ZELKOVA SERRATA 'GREEN VASE' | GREEN VASE ZELKOVA | 2-1/2"-3" CAL. B'HT, B&B | AS SHOWN |
| | 31 | QUERCUS PHELLOS | WILLOW OAK | 2-1/2"-3" CAL. B'HT, B&B | AS SHOWN |
| | 1 | CERCIS CANADENSIS | EASTERN REDBUD | 2-1/2"-3" CAL. B'HT, B&B | AS SHOWN |
| | 6 | LAGERSTROEMIA INDICA | COMMON CRAPEMYRTLE | 8'-10" HT, B&B | AS SHOWN |
| | 11 | CORNUS KOUSA | KOUSA DOGWOOD | 8'-10" HT, B&B | AS SHOWN |
| | 10 | PICEA ABIES | NORWAY SPRUCE | 6'-7" HT, B&B | AS SHOWN |
| | 4 | THUJA OCCIDENTALIS 'EMERALD' | EMERALD GREEN ARBORVITAE | 5'-6' HT, B&B | AS SHOWN |
| | 11 | ILES X 'NELLIE R. STEVENS' | NELLIE STEVENS HOLLY | 8' MIN. HT, FULL B&B | 8' O.C. |
| | 11 | JUNIPERUS CHINENSIS 'HETZI COLUMNARIS' | HETZI COLUMNAR JUNIPER | 8' MIN. HT, FULL B&B | 8' O.C. |
| SHRUBS | 31 | EUONYMUS FORTUNEI 'EMERALD-N-GOLD' | VERIEGATED WINTERCREEPER | 15"-18" TALL #3 CAN | AS SHOWN |
| | 101 | SPIREA X BUMALDA 'ANTHONY WATERER' | ANTHONY WATERER SPIREA | 18"-24" TALL #3 CAN | AS SHOWN |
| | 114 | ILEX X MESSERVEA 'BLUE GIRL' | BLUE GIRL HOLLY | 24"-30" TALL #5 CAN | AS SHOWN |
| | 28 | JUNIPERUS CONFERTA 'BLUE PACIFIC' | BLUE PACIFIC SHORE JUNIPER | 15"-18" SPREAD #3 CAN | AS SHOWN |
| | 70 | TAXUS MEDIA 'HICKSII | KICKS YEW | 30"-36" B+B | AS SHOWN |
| | 8 | VIBURNUM X RHYTIDOPHYLLUM | LEATHERLEAF VIBURNUM | 3'-4' B+B | AS SHOWN |

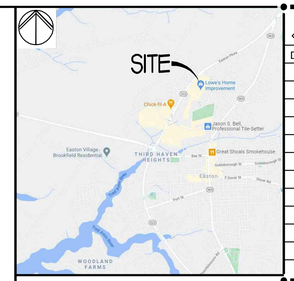
ALWAYS CALL BEFORE YOU DIG




EVERY DIGGING JOB REQUIRES A CALL — EVEN SMALL HOLES DO. PAY CLOSE ENG THESE MARKINGS. IF YOU HIT AN UNDERGROUND UTILITY LINE WHILE DIGGING, YOU CAN HARM YOURSELF OR THOSE AROUND YOU, DISRUPT SERVICE TO AN ENTIRE NEIGHBORHOOD AND POTENTIALLY BE RESPONSIBLE FOR FINES AND REPAIR COSTS.

DIAL 811 BEFORE YOU DIG

SMART DIGGING MEANS CALLING 811 BEFORE EACH JOB, WHETHER YOU ARE A HOMEOWNER OR A PROFESSIONAL EXCAVATOR. ONE CALL TO 811 GETS YOUR UNDERGROUND UTILITY LINES MARKED FOR FREE.




VICINITY MAP
(NOT TO SCALE)

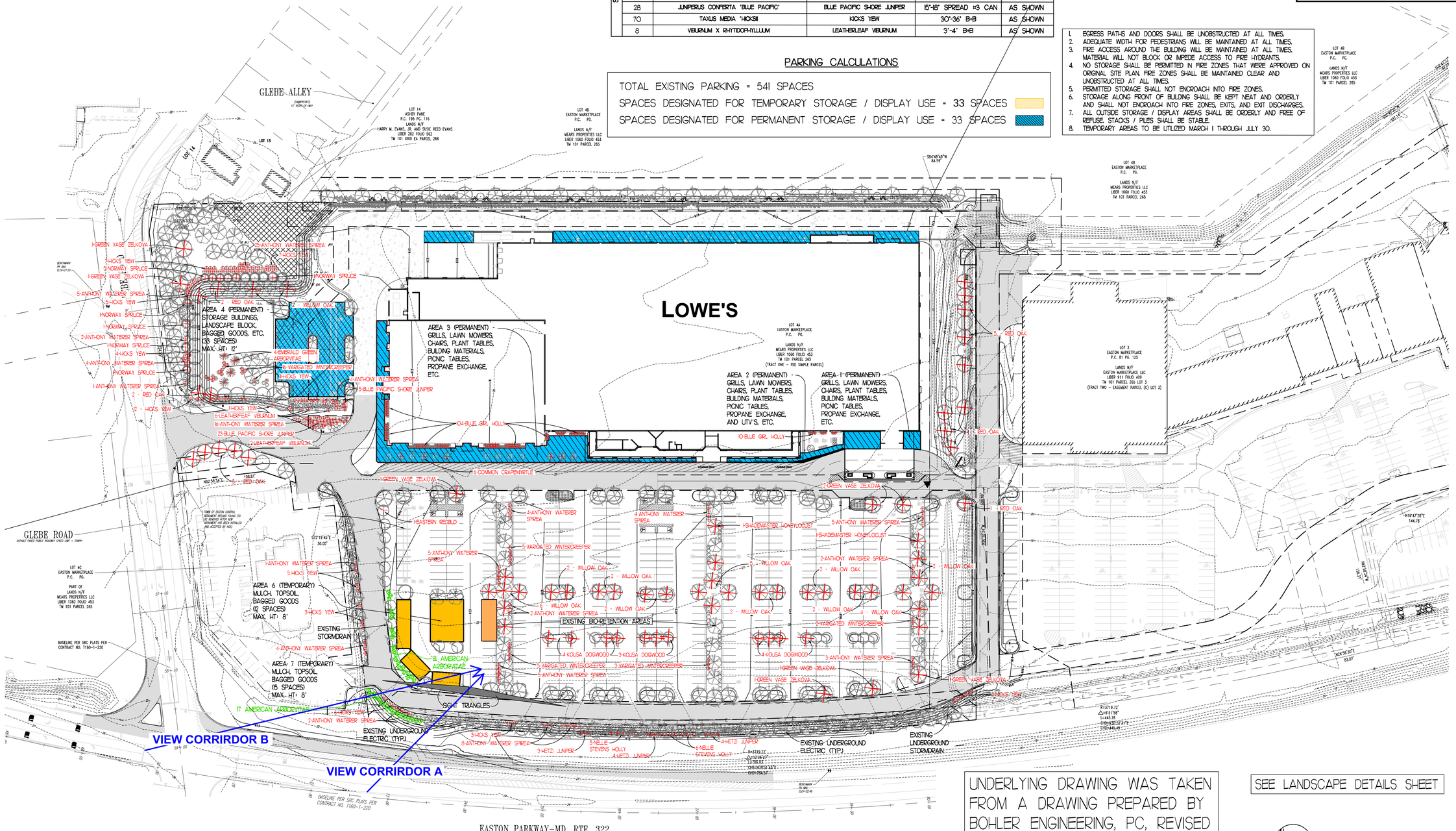
## PARKING CALCULATIONS

TOTAL EXISTING PARKING = 541 SPACES

SPACES DESIGNATED FOR TEMPORARY STORAGE / DISPLAY USE = 33 SPACES

SPACES DESIGNATED FOR PERMANENT STORAGE / DISPLAY USE = 33 SPACES

1. EGRESS PATHS AND DOORS SHALL BE UNOBSTRUCTED AT ALL TIMES.
2. ADEQUATE WIDTH FOR PEDESTRIANS WILL BE MAINTAINED AT ALL TIMES.
3. FIRE ACCESS AROUND THE BUILDING WILL BE MAINTAINED AT ALL TIMES. MATERIAL WILL NOT BLOCK OR IMPEDE ACCESS TO FIRE HYDRANTS.
4. NO STORAGE SHALL BE PERMITTED IN FIRE ZONES THAT WERE APPROVED ON ORIGINAL SITE PLAN. FIRE ZONES SHALL BE MAINTAINED CLEAR AND UNOBSTRUCTED AT ALL TIMES.
5. PERMITTED STORAGE SHALL NOT ENCROACH INTO FIRE ZONES.
6. STORAGE ALONG FRONT OF BUILDING SHALL BE KEPT NEAT AND ORDERLY AND SHALL NOT ENCROACH INTO FIRE ZONES, EXITS, AND EXIT DISCHARGES.
7. ALL OUTSIDE STORAGE / DISPLAY AREAS SHALL BE ORDERLY AND FREE OF REFUSE. STACKS / PILES SHALL BE STABLE.
8. TEMPORARY AREAS TO BE UTILIZED MARCH 1 THROUGH JULY 30.




UNDERLYING DRAWING WAS TAKEN FROM A DRAWING PREPARED BY BOHLER ENGINEERING, PC, REVISED 7/5/06, SIGNED BY A.J. VOLANTH.

SEE LANDSCAPE DETAILS SHEET

SCALE 1" = 60'

## REVISIONS

◇ PRE-BID SET ISSUE DATE △ POST BID SET ISSUE DATE

| DATE | | DESCRIPTION |
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PRELIMINARY - NOT FOR CONSTRUCTION


LOWE'S HOME CENTERS, LLC

1605 CURTIS BRIDGE RD.
N. WILKESBORO, NC 28697

336.658.4000 (V) 336.658.3257 (F)



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LOWE'S

LANDSCAPE, OUTDOOR SALES & DISPLAY PLAN

LOWES OF: EASTON, MARYLAND

TALBOT COUNTY, MARYLAND

DRAWN BY: CRD | CHECKED BY: BTS

| | |
|---|---|
| ORIGINAL ISSUE DATE: | 06/10/2025 |
| PERMIT SET ISSUE DATE: | |
| CONSTRUCTION SET ISSUE DATE: | |
| DRAWING NUMBER: | 1 |

LEGEND

MISSING OR DEAD PLANT MATERIAL TO BE REPLACED

TREES LIST

| TREES | QUANTITY | SCIENTIFIC NAME | COMMON NAME | SIZE REQUIREMENTS | SPACING |
|---|---|---|---|---|---|
| | 35 | THUJA OCCCIDENTALIS | AMERICAN ARBORVITAE | H/2" CAL. (25 GAL) 6'HT. | 5' O.C. |
| | | | | | |
| | | | | | |

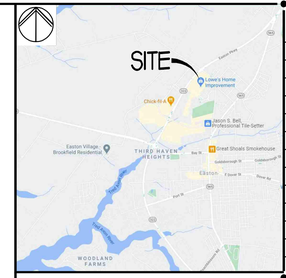
PARKING CALCULATIONS

TOTAL EXISTING PARKING = 541 SPACES

SPACES DESIGNATED FOR TEMPORARY STORAGE / DISPLAY USE = 33 SPACES

SPACES DESIGNATED FOR PERMANENT STORAGE / DISPLAY USE = 33 SPACES




VICINITY MAP
(NOT TO SCALE)

REVISIONS

PRE-BID SET ISSUE DATE — POST BID SET ISSUE DATE

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LOWE'S

ENLARGED LANDSCAPE, OUTDOOR SALES AND DISPLAY

LOWES OF: EASTON, MARYLAND

TALBOT COUNTY, MARYLAND

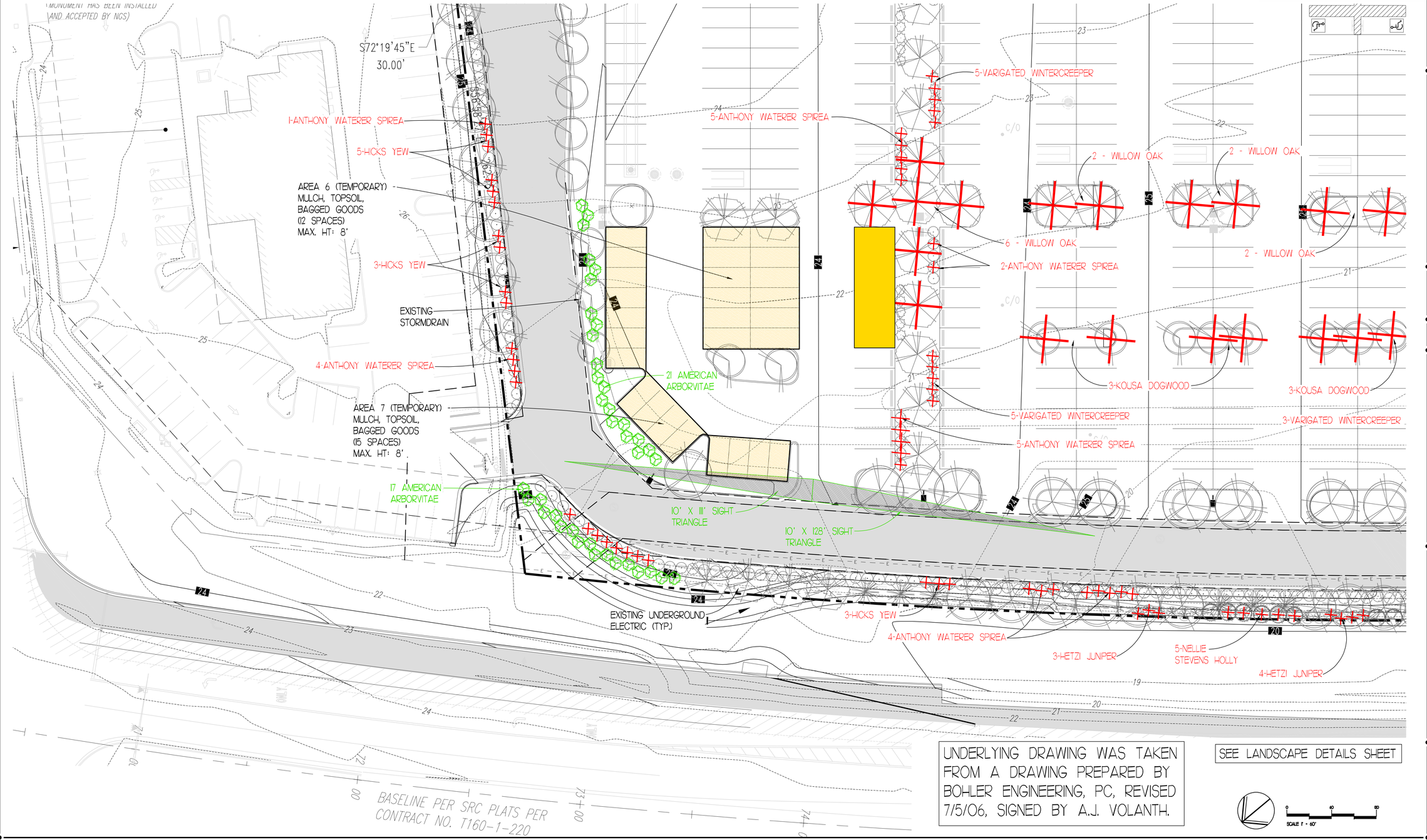
DRAWN BY: CRD | CHECKED BY: BTS

ORIGINAL ISSUE DATE: 06/10/2025

PERMIT SET ISSUE DATE:

CONSTRUCTION SET ISSUE DATE:

DRAWING NUMBER: 2

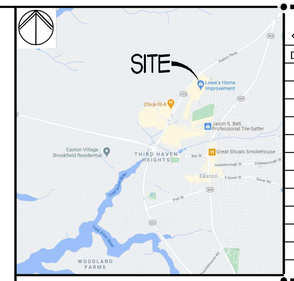



UNDERLYING DRAWING WAS TAKEN FROM A DRAWING PREPARED BY BOHLER ENGINEERING, PC, REVISED 7/5/06, SIGNED BY A.J. VOLANTH.


SEE LANDSCAPE DETAILS SHEET


SCALE 1" = 60'




VICINITY MAP
(NOT TO SCALE)

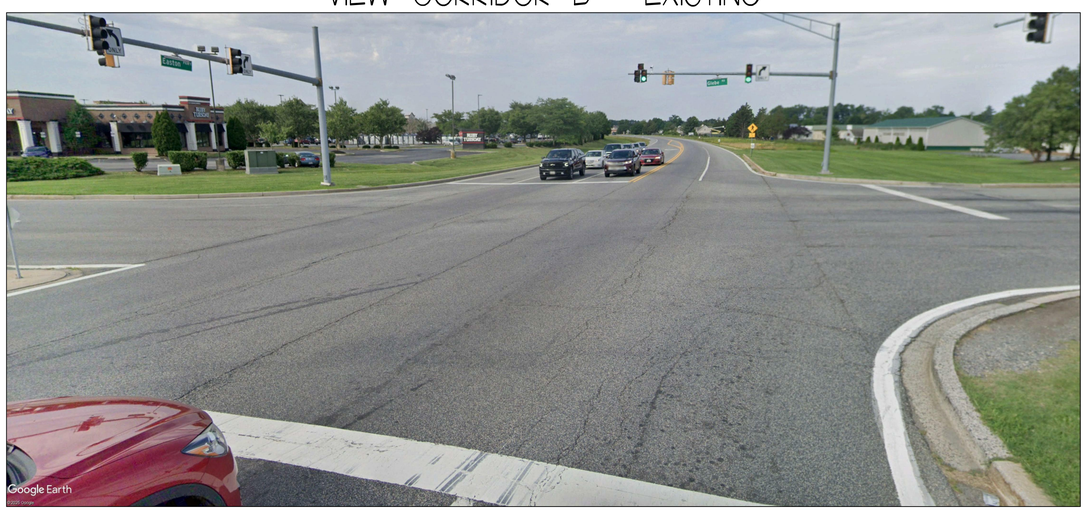
## VIEW CORRIDOR A - EXISTING



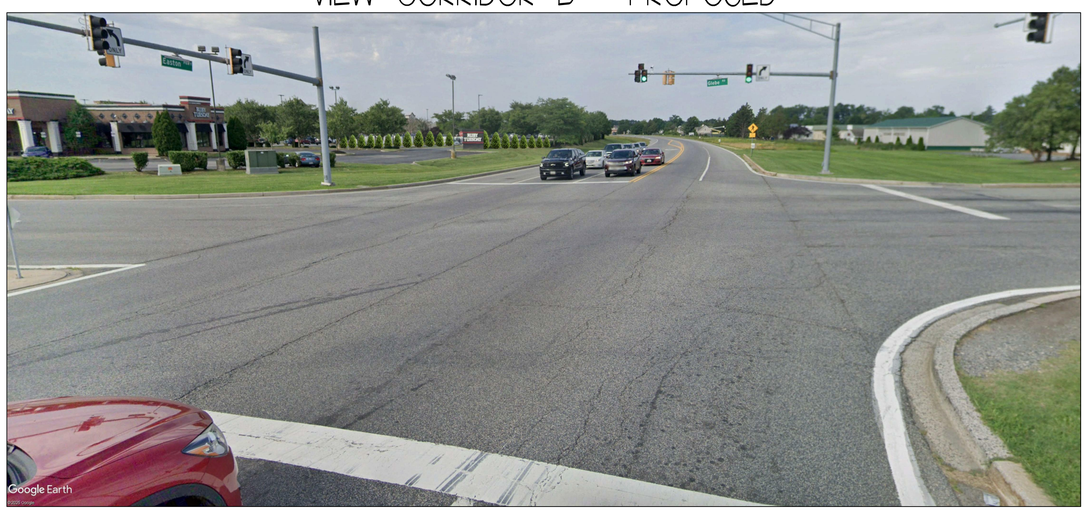

## VIEW CORRIDOR A - PROPOSED




## VIEW CORRIDOR B - EXISTING




## VIEW CORRIDOR B - PROPOSED




REVISIONS
◇ PRE-BID SET ISSUE DATE
△ POST BID SET ISSUE DATE

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**LOWE'S HOME CENTERS, LLC**

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336.658.4000 (V) 336.658.3257 (F)

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LOWE'S

VIEW CORRIDORS

LOWES OF:
EASTON, MARYLAND
**TALBOT COUNTY, MARYLAND**

DRAWN BY: CRD | CHECKED BY: BTS

ORIGINAL
ISSUE DATE: 06/10/2025

PERMIT SET
ISSUE DATE:

CONSTRUCTION SET
ISSUE DATE:

DRAWING NUMBER:

3


LOWE'S
RUBY TUESDAY
Google Earth
© 2025 Google

# TOWN OF EASTON

14 South Harrison Street
Easton, Maryland 21601

June 9, 2025

Dear Resident,

The Easton Planning Commission (Commission) will hold a public meeting on **Tuesday, June 24, 2025 at 1:00 p.m**. in the Easton Town Council Chambers located on the second floor of 14 South Harrison Street. The Town of Easton Zoning Ordinance requires that owners of property located within 400 feet of a parcel on which certain types of applications are pending be given notice of upcoming meetings or hearings. If you are a tenant in or an owner of a multi-unit building, please distribute or post this notice in a visible location for all other tenants or owners to view. If you are a tenant of a rental property, please notify the property owner that this notice letter has been distributed to their property. Notice has also been sent to the Star Democrat, a sign has been posted at the subject property and the hearing agenda has been posted on the Town of Easton website: http://eastonmd.gov/.

This letter is sent to inform you that application 2025 - 1447 has been filed on behalf of Lowe's Home Centers, Inc. (Applicant/Owner) to request an amendment to a previously approved Display Plan for a permanent outside storage location within the designated parking facility. On October 15, 2020, the Commission granted approval for the use of 41 parking spaces to be used as temporary storage through a period of three (3) years (October 15, 2023). The Applicant is now seeking to amend the existing approved permanent storage location with the addition of 16 spaces, and a Parking Waiver for an additional 39 spaces for Seasonal Temporary Long-Term Storage. The property is located at 501 Glebe Road, also known as Tax Map 0101, Grid 0000, Parcel 0265, Lot 4A.

Copies of the proposed application are on file and available for public review in the Town's Planning Office at 14 South Harrison Street between the hours of 8:30 a.m. and 4:00 p.m., Monday through Friday. **In addition, digital copies will be available for review one week prior to the scheduled meeting via the Town's website at** https://www.eastonmd.gov/129/Agendas-Minutes. If you have any questions regarding this application, please contact the Planning Office at (410) 822-1943 or via email at ssmith@eastonMD.gov.

Samantha N. Smith

Samantha N. Smith, Administrative Specialist
Planning & Zoning Department
410-822-1943 ssmith@eastonMD.gov




***Subject property posting pursuant to Section 28-901.2.H.2 of the Town of Easton Zoning Code - June 6, 2025***

TOWN OF EASTON
PLANNING & ZONING
14 S Harrison Street, Easton MD 21601

**Date of Meeting**: June 24, 2025

# # 3c

**PLANNING COMMISSION**
**SUPPLEMENTAL ITEM**

| | |
|---|---|
| **SUBJECT**: | **Revised Sketch Site Plan Review for 505 Brookletts Avenue** |
| **ELECTION WARD**: | Ward 4 |
| **CRITICAL ACTION DATE**: | At the pleasure of the Commission |
| **STAFF CONTACTS**: | Joseph Mayer, Plan Reviewer<br>Miguel Salinas, Director of Planning and Zoning |
| **DOCUMENT CREATED ON:** | June 2, 2025 |

**PURPOSE**: The applicant is seeking architectural and sketch site plan approval from the Planning Commission for the revised layout and architectural alterations. Building #409 has been reduced to four (4) stories and fewer apartments. Building #411 has been elongated to accommodate the loss of units. Revised site improvements include the reduction of parking to match the lower unit count.

**RECOMMENDATION**:

**Planning Commission**: The Commission, at their February 20, 2025 meeting, moved (4-1) to approve the sketch site plan and waiver request subject to conditions, with one condition that requires the applicant to return to the Commission for sketch site plan approval.

**Staff**: Should the Planning Commission (Commission) approve the sketch site plan, staff recommends approval with conditions (see below).

**UPDATE**:

On February 20, 2025, the Town of Easton Planning Commission (Commission) reviewed the application to request sketch site plan approval for the construction of mixed commercial and residential buildings, and additional landscape and buffering waivers from Section 28-1014.6.B.1(c), Section 28-1014.6.E.2(d), Section 28-1014.7.E.3(a) & (b) and Section 28-1014.7.E.5(a),(b) & (c) of the Town of Easton Zoning Code.

The Commission voted 4 - 1 to approve the sketch site plan and waiver requests for Building #411, Building #505 , Building # 507 and Building #509 subject to the following conditions:

1.The Applicant shall return to receive sketch site plan approval for Building #409. The Commission has requested a site design with components that incorporate bird strike mitigation features.

2.The Applicant shall address all remaining Easton Staff Development Review (ESDR) comments.

3. The Applicant shall obtain approval from the Maryland Department of Transportation, Office of Rail & Intermodal Freight prior to Development Site Plan approval. The following conditions below are relevant to the railroad corridor:

a.The Town of Easton has the ability to make improvements to the railroad corridor for trail development, but any final design for improvements on the corridor property are subject to MTA engineering review under the MDOT trail use agreement.

i. The Applicant shall avoid the installation of permanent surface structures on the corridor*
ii. Features should be confined to one property or the other, and the Applicant shall not place any physical features or structures which sit on the property line itself, i.e., a sidewalk which is partially on each property. The use of surfaces and lines for sidewalks specifically could be used to achieve this purpose, as long as it's clear which segments are on which parcel.

b.The installation of utility crossings of the corridor require a property agreement with the MTA and will be subject to the terms of that agreement**

c.The use of the overhead gantry on the site requires the assignment of the existing property agreement to the Applicant under terms provided by MTA, the creation of a new agreement, or the removal of the structure.

* "Permanent" meaning structures which would cause practical issues to surrounding infrastructure if they were to be removed to facilitate the return of railroad operations, i.e., utility access, buildings, or emergency access to buildings. ** To be determined between MDOT and the Town whether the utility agreements will be with the town, or the Applicant.

On June 2, 2025, Easton Crossing, LLC submitted the revised sketch site plan. Proposed building #409 is a four-story building with a mixed use of commercial/residential. All commercial use is on the ground floor. There's also thirty-eight (38) dwelling units with 6 one-bedroom apartments, 26 two-bedroom apartments and 6 three-bedroom apartments. Building #411 is a proposed four-story building that's a mixed use of commercial/residential space. The entire ground floor consists of 13,059 square foot commercial retail space. There's also thirty-four (34) dwelling units with 5 one-bedroom apartments, 24 two-bedroom apartments and 5 three-bedroom apartments.

**OUTSTANDING ISSUES**:

The Overall Site Concept Plan referencing Building # 409 and #411needs the total gross floor area (GFA) to be listed on the site plan with the total square footage for the commercial/residential space. The applicant also needs to check the total number of dwelling units and verify the overall total units proposed.

Building #409 was previously situated in a location that offered better buffering from the neighboring community. Though the size of the proposed Building #409 has been reduced to four stories, this could pose a concern due to its proximity to the existing neighborhoods, particularly the historic Hill community. While the site currently contains sizable vacant structures, the Commission may wish to assess if sufficient buffering exists between the new building and neighboring residences. The applicant should explain how it meets the compatibility with the adjacent/nearby neighborhood.

**RECOMMENDED CONDITIONS:**

Should the Planning Commission approve the site plan, staff recommends the following conditions:

The applicant is to address the outstanding issues and all remaining Development Site Plan review comments. Satisfy any review comments from the Engineering Department in regards to the alterations of the site layout affecting the stormwater management facilities.

Please obtain approval from the Maryland Department of Transportation, Office of Rail & Intermodal Freight prior to Development Site Plan approval. The following conditions below are relevant to the railroad corridor:

1. Presently, TOE has the ability to make improvements to the railroad corridor for trail development, but any final design for improvements on the corridor property are subject to MTA engineering review under the MDOT trail use agreement.
    i. The applicant avoid the installation of permanent surface structures on the corridor*
    ii. Features should be confined to one property or the other, and the applicant shall not place any physical features or structures which sit on the property

line itself, IE, a sidewalk which is partially on each property. The use of surfaces and lines for sidewalks specifically could be used to achieve this purpose, as long as its clear which segments are on which parcel.

2. The installation of utility crossings of the corridor require a property agreement with the MTA and will be subject to the terms of that agreement**
3. The use of the overhead gantry on the site requires the assignment of the existing property agreement to the applicant under terms provided by MTA, the creation of a new agreement, or the removal of the structure.

* "Permanent" meaning structures which would cause practical issues to surrounding infrastructure if they were to be removed to facilitate the return of railroad operations, IE utility access, buildings, or emergency access to buildings.
** To be determined between MDOT and the Town whether the utility agreements will be with the town, or the applicant.

**DRAFT MOTIONS**:

1. I move that the Planning Commission approve the sketch site plan subject to staff's Condition of Approval.

OR

2. I move that the Planning Commission forward the application to the July 17th Commission meeting for further discussion.

OR

3. I move an alternate motion.

**ATTACHMENTS**:
1. 2025.06.02 PC Application - Easton Crossing, paper copy & PDF
2. 2025.06.02 Renderings and Plans - Easton Crossing, paper copy & PDF
3. 2025-02-20 Staff Report 505 Brookletts Avenue, paper copy & PDF
4. June 2025 SWM Report - Easton Crossing (Revised Layout), paper copy & PDF
5. PC 400' Notice Letter - 505 Brookletts Avenue (E, paper copy & PDF
6. 505 Brookletts Avenue - 2025.06.06 Subject Property Notice, paper copy & PDF
7. 2025.06.24 TOE PC Packet - 505 Brooklett's Avenue (Easton Crossing), paper copy & PDF

TOWN OF
# EASTON
ENGINEERING DEPARTMENT

**DATE:** **June 20, 2025**

**TO:** **Brian Fitzgerald - Rauch**

**CC:** **Sierra Clem - Engineering Department**

**FROM:** **Rick Van Emburgh – Town Engineer**

**SUBJECT:** **Easton Crossing**
**Revised Sketch Site Plan &**
**Revised Sketch Stormwater Management Plan**

Our Office has reviewed the revised Application for the Subject project received on 6/03/2025.

The revised **Sketch Site Plan and Sketch Stormwater Management Plan should be revised to address the following:**

1. Provide Visibility Triangles at each entrance. It appears the North Entrance may be too close to the adjacent property line. *(This was comment #5 in our January 22, 2025 Review Letter).*

2. A Stormdrain Easement may be required for the portion of stormdrain crossing Rails To Trails ROW. The edges of the easement should be delineated with a marker or some other method for future maintenance. *(This was comment #6 in our January 22, 2025 Review Letter. The Response Letter indicates "A legal agreement is under negotiation." Obtaining this Easement is necessary for Final Approval of the stormwater management design.)*

3. **SHEET G-100 - ESD SUMMARY CHART** - Provide the ESD Target and Actual for each of the 2 Study Points.

Please address the comments above and submit a revised Sketch Site Plan and Sketch Stormwater Management Plan.

**TRAFFIC IMPACT ANALYSIS**

The increase in traffic from the existing use to the proposed use is significant (summary below). However, the Lenhart Traffic Impact Study and Letter dated January 27, 2025 indicates "the December traffic study found that the majority of the intersections and movements would operate at a Level of Service "A" or "B" with only two movements operating at a Level of Service "C". Since all intersections function at a Level of Service "D" or better, the results are acceptable.

AM Peak
Existing - 44
Proposed - 164
Increase - 124 (273%)

PM Peak
Existing - 48
Proposed - 200
Increase - 152 (317%)

END OF DOCUMENT

EASTON UTILITIES

Life. Made better.™

# Easton Utilities Commission

Plan Review Comments

**Date:** 06/06/25
**To:** Sierra Clem, Nancy Pinkney
**From:** Kia Gibbs on behalf of Aaron Goller, PE
**Address:** 409 - 505 Brookletts Ave
**Project Name:** Easton Crossing
**Phase:** Sketch Site Plan
**SUBM:** Amendment to Approved Plans
**Status:** **APPROVED AS NOTED**

Easton Utilities Commission has reviewed the above referenced plans and determined the plans are **"Approved As Noted".**

An **"Approved As Noted"** status means plans do not require resubmission to Easton Utilities. We ask that you implement the notes provided prior to Easton Utilities signing off on your plans. Notes are provided on the attached mark-up summary sheets.

Please contact Kia Gibbs, Engineering Administrative Support at kgibbs@eucmail.com should you have

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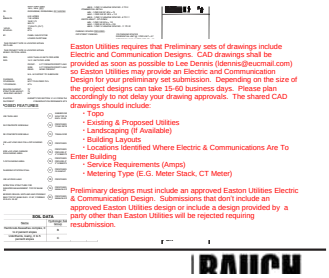
## Electric (1)




**Subject:** Electric
**Page Label:** 3
**Date:** 6/4/2025 9:31:35 AM

Easton Utilities requires that Preliminary sets of drawings include Electric and Communication Designs. CAD drawings shall be provided as soon as possible to Lee Dennis (ldennis@eucmail.com) so Easton Utilities may provide an Electric and Communication Design for your preliminary set submission. Depending on the size of the project designs can take 15-60 business days. Please plan accordingly to not delay your drawing approvals. The shared CAD drawings should include:

- ・Topo
- ・Existing & Proposed Utilities
- ・Landscaping (If Available)
- ・Building Layouts
- ・Locations Identified Where Electric & Communications Are To Enter Building
- ・Service Requirements (Amps)
- ・Metering Type (E.G. Meter Stack, CT Meter)

Preliminary designs must include an approved Easton Utilities Electric & Communication Design. Submissions that don't include an approved Easton Utilities design or include a design provided by a party other than Easton Utilities will be rejected requiring resubmission.

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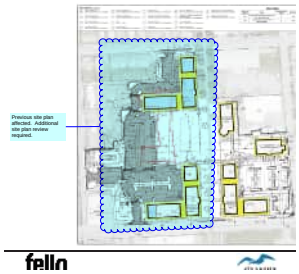
## Engineer (1)




**Subject:** Engineer
**Page Label:** 2
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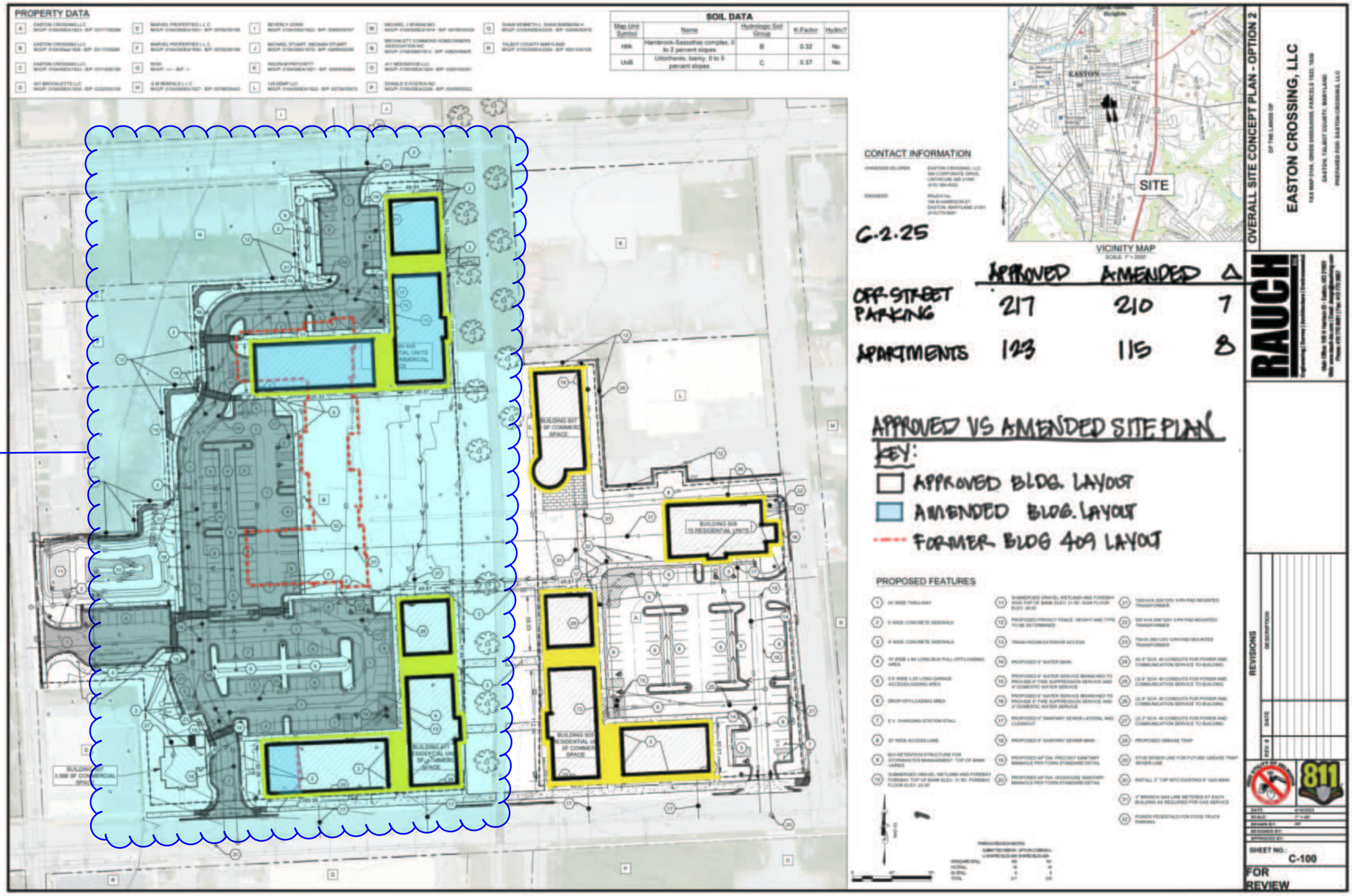
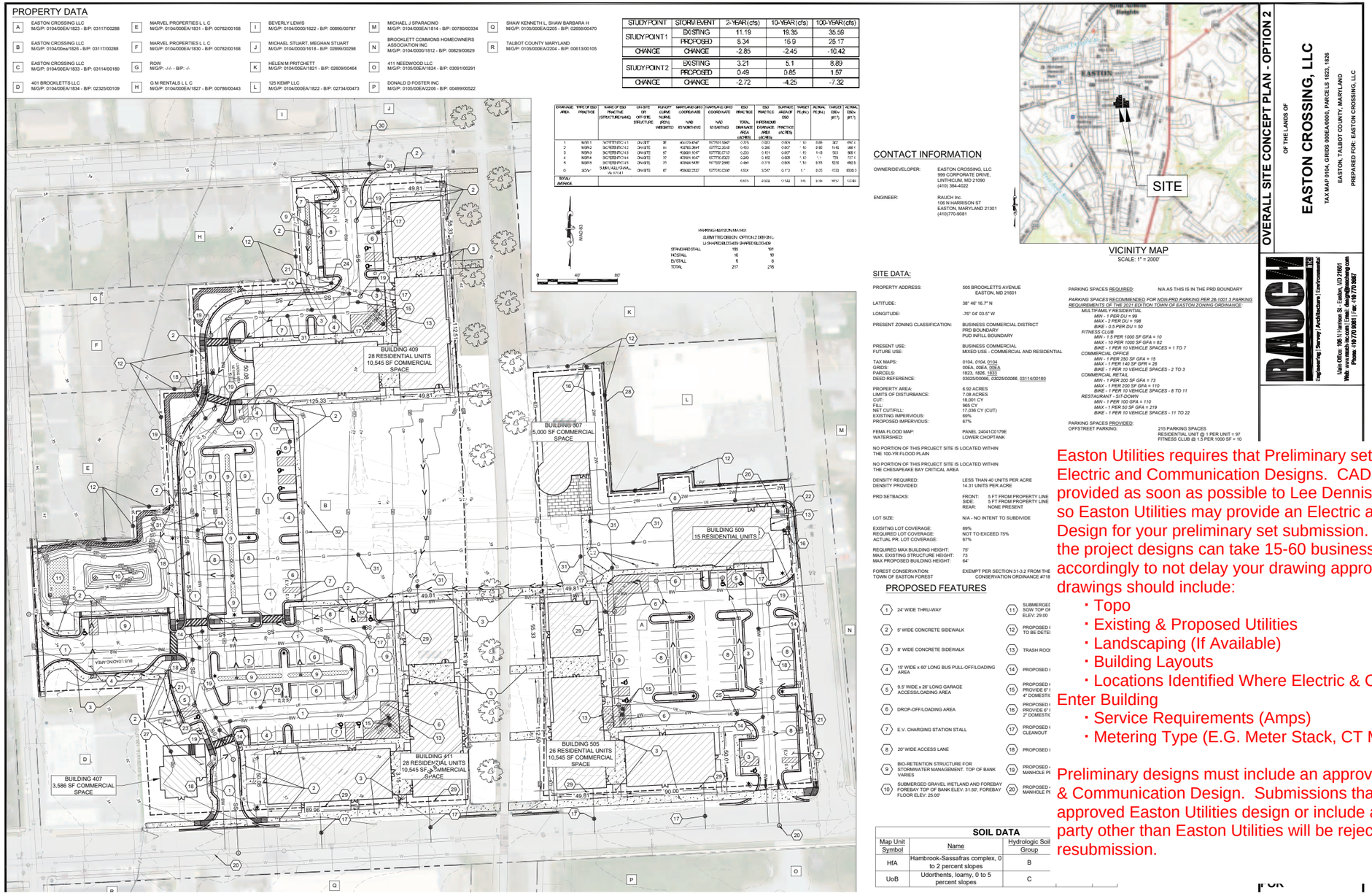
Previous site plan affected. Additional site plan review required.

Previous site plan affected. Additional site plan review required.






| STUDY POINT | STORM EVENT | 2-YEAR (cfs) | 10-YEAR (cfs) | 100-YEAR (cfs) |
|---|---|---|---|---|
| STUDY POINT 1 | EXISTING | 11.19 | 19.35 | 35.56 |
| | PROPOSED | 8.34 | 16.9 | 25.17 |
| | CHANGE | -2.85 | -2.45 | -10.42 |
| STUDY POINT 2 | EXISTING | 3.21 | 5.1 | 8.89 |
| | PROPOSED | 0.49 | 0.85 | 1.57 |
| | CHANGE | -2.72 | -4.25 | -7.32 |

## CONTACT INFORMATION

OWNER/DEVELOPER: EASTON CROSSING, LLC
999 CORPORATE DRIVE,
LINTHICUM, MD 21090
(410) 384-4022

ENGINEER: RAUCH Inc.
106 N HARRISON ST
EASTON, MARYLAND 21301
(410)770-8001

## SITE DATA:

PROPERTY ADDRESS: 505 BROOKLETTS AVENUE EASTON, MD 21601

LATITUDE: 38° 46' 16.7" N

LONGITUDE: -76° 04' 03.5" W

PRESENT ZONING CLASSIFICATION: BUSINESS COMMERCIAL DISTRICT
PRD BOUNDARY
PUD INFILL BOUNDARY

PRESENT USE: BUSINESS COMMERCIAL
FUTURE USE: MIXED USE - COMMERCIAL AND RESIDENTIAL

TAX MAPS: 0104, 0104, 0104
GRIDS: 00EA, 00EA, 00EA
PARCELS: 1823, 1826, 1833
DEED REFERENCE: 03025/00066, 03025/00066, 03114/00180

PROPERTY AREA: 6.92 ACRES
LIMITS OF DISTURBANCE: 7.08 ACRES
CUT: 18,001 CY
FILL: 965 CY
NET CUT/FILL: 17,036 CY (CUT)
EXISTING IMPERVIOUS: 69%
PROPOSED IMPERVIOUS: 67%

FEMA FLOOD MAP: PANEL 24041C0179E
WATERSHED: LOWER CHOPTANK

NO PORTION OF THIS PROJECT SITE IS LOCATED WITHIN THE 100-YR FLOOD PLAIN

NO PORTION OF THIS PROJECT SITE IS LOCATED WITHIN THE CHESAPEAKE BAY CRITICAL AREA

DENSITY REQUIRED: LESS THAN 40 UNITS PER ACRE
DENSITY PROVIDED: 14.31 UNITS PER ACRE

PRD SETBACKS: FRONT: 5 FT FROM PROPERTY LINE
SIDE: 5 FT FROM PROPERTY LINE
REAR: NONE PRESENT

LOT SIZE: N/A - NO INTENT TO SUBDIVIDE

EXISTING LOT COVERAGE: 69%
REQUIRED LOT COVERAGE: NOT TO EXCEED 75%
ACTUAL PR. LOT COVERAGE: 67%

REQUIRED MAX BUILDING HEIGHT: 75'
MAX. EXISTING STRUCTURE HEIGHT: 73
MAX PROPOSED BUILDING HEIGHT: 64'

FOREST CONSERVATION: EXEMPT PER SECTION 31-3.2 FROM THE TOWN OF EASTON FOREST CONSERVATION ORDINANCE #718

PARKING SPACES REQUIRED: N/A AS THIS IS IN THE PRD BOUNDARY

*PARKING SPACES RECOMMENDED FOR NON-PRD PARKING PER 28-1001.3 PARKING REQUIREMENTS OF THE 2021 EDITION TOWN OF EASTON ZONING ORDINANCE*

*MULTIFAMILY RESIDENTIAL*
*MIN - 1 PER DU = 99*
*MAX - 2 PER DU = 198*
*BIKE - 0.5 PER DU = 50*

*FITNESS CLUB*
*MIN - 1.5 PER 1000 SF GFA = 10*
*MAX - 10 PER 1000 SF GFA = 62*
*BIKE - 1 PER 10 VEHICLE SPACES = 1 TO 7*

*COMMERCIAL OFFICE*
*MIN - 1 PER 250 SF GFA = 15*
*MAX - 1 PER 140 SF GFR = 26*
*BIKE - 1 PER 10 VEHICLE SPACES - 2 TO 3*

*COMMERCIAL RETAIL*
*MIN - 1 PER 200 SF GFA = 73*
*MAX - 1 PER 200 SF GFA = 110*
*BIKE - 1 PER 10 VEHICLE SPACES - 8 TO 11*

*RESTAURANT - SIT-DOWN*
*MIN - 1 PER 100 GFA = 110*
*MAX - 1 PER 50 SF GFA = 219*
*BIKE - 1 PER 10 VEHICLE SPACES - 11 TO 22*

PARKING SPACES PROVIDED:
OFFSTREET PARKING: 215 PARKING SPACES
RESIDENTIAL UNIT @ 1 PER UNIT = 97
FITNESS CLUB @ 1.5 PER 1000 SF = 10

## PROPOSED FEATURES

1. 24' WIDE THRU-WAY
2. 5' WIDE CONCRETE SIDEWALK
3. 8' WIDE CONCRETE SIDEWALK
4. 15' WIDE x 60' LONG BUS PULL-OFF/LOADING AREA
5. 9.5' WIDE x 26' LONG GARAGE ACCESS/LOADING AREA
6. DROP-OFF/LOADING AREA
7. E.V. CHARGING STATION STALL
8. 20' WIDE ACCESS LANE
9. BIO-RETENTION STRUCTURE FOR STORMWATER MANAGEMENT. TOP OF BANK VARIES
10. SUBMERGED GRAVEL WETLAND AND FOREBAY FOREBAY TOP OF BANK ELEV: 31.50', FOREBAY FLOOR ELEV: 25.00'
11. SUBMERGED SGW TOP OF ELEV: 29.00
12. PROPOSED TO BE DETE
13. TRASH ROO
14. PROPOSED
15. PROPOSED PROVIDE 6" I 4" DOMESTI
16. PROPOSED PROVIDE 6" I 2" DOMESTI
17. PROPOSED CLEANOUT
18. PROPOSED
19. PROPOSED MANHOLE PI
20. PROPOSED MANHOLE PI

| SOIL DATA | | |
|---|---|---|
| Map Unit Symbol | Name | Hydrologic Soil Group |
| HfA | Hambrook-Sassafras complex, 0 to 2 percent slopes | B |
| UoB | Udorthents, loamy, 0 to 5 percent slopes | C |

Easton Utilities requires that Preliminary sets of drawings include Electric and Communication Designs. CAD drawings shall be provided as soon as possible to Lee Dennis (ldennis@eucmail.com) so Easton Utilities may provide an Electric and Communication Design for your preliminary set submission. Depending on the size of the project designs can take 15-60 business days. Please plan accordingly to not delay your drawing approvals. The shared CAD drawings should include:

- Topo
- Existing & Proposed Utilities
- Landscaping (If Available)
- Building Layouts
- Locations Identified Where Electric & Communications Are To Enter Building
- Service Requirements (Amps)
- Metering Type (E.G. Meter Stack, CT Meter)

Preliminary designs must include an approved Easton Utilities Electric & Communication Design. Submissions that don't include an approved Easton Utilities design or include a design provided by a party other than Easton Utilities will be rejected requiring resubmission.

TOWN OF EASTON
PLANNING & ZONING
14 S Harrison Street, Easton MD 21601

**Date of Hearing**: February 20, 2025

# # 4b

**PLANNING COMMISSION**
**PUBLIC HEARING**
**STAFF REPORT**

**SUBJECT**: **Sketch Site Plan Review for 505 Brookletts Avenue**

**ELECTION WARD**: Ward 4

**CRITICAL ACTION DATE**: At the pleasure of the Commission

**STAFF CONTACTS**: Joseph Mayer, Plan Reviewer
Miguel Salinas, Director of Planning and Zoning

**APPLICANT**: Easton Crossing, LLC % Gavin Daniels

**DOCUMENT CREATED ON:** February 3, 2025

**PURPOSE**: Easton Crossing, LLC (Applicant), is seeking sketch site plan approval for the construction of mixed commercial and residential buildings consisting of 123 multi-family units with associated parking, stormwater management and landscaping. Associated site improvements include the demolition of existing abandoned silos, storage buildings and a gravel road on the property. In addition, the applicant is seeking a landscape and buffering waiver from Chapter 28-1014.6.B.1(c), Chapter 28-1014.6.E.2(d), Chapter 28-1014.7.E.3(a) & (b) and Chapter 28-1014.7.E.5(a),(b) & (c) of the Zoning Code.

**RECOMMENDATION:** Should the Planning Commission (Commission) approve the sketch site plan, staff recommends approval with conditions (see below).

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| **APPLICATION INFORMATION**: | |
|---|---|
| **APPLICANT:**<br>Easton Crossing, LLC % Gavin Daniels | **REPRESENTATIVE:**<br>Rauch Inc.: Brian Fitzgerald, Casey Rauch, Chris Schoenster |

**PARCELS/ACREAGE:**

| Parcel Information | Acreage |
|---|---|
| Map 104, Grid 00EA, Parcels 1823,1826 & 1833 | 6.92 |

| | |
|---|---|
| **ACCEPTANCE DATE:**<br>January 27, 2025 | **LOCATION:**<br>505 Brookletts Avenue |
| **EXISTING ZONING**<br>BC<br>PUD Infill Boundary<br>PR Boundary | **EXISTING LAND USE:**<br>Commercial |
| **HISTORIC DISTRICT:**<br>Not Applicable | **FUTURE LAND USE MAP:**<br>Redevelopment Area |

**CONTEXT**:

Location/Site Access – The subject property is located between Brookletts Avenue and South Street. The site's entrance will be accessed via Brookletts Avenue, Kemp Lane, South Higgins Street and South Street.

Existing Conditions – The subject property is vacant and can generally be described as approximately 6.92 acres consisting of abandoned silos and storage buildings.

Surrounding Properties

- Parcel 2206, 400 & 402 Brookletts Avenue - BC
- Parcel 1812, 312, 313, 507 & 510 Brookletts Avenue - R-7A
- 38 & 41 Kelly Gibson Street - R-7A
- 125 Kemp Lane - BC
- 410 South Street - R-7A
- 500 & 503 South Street - BC
- 104 & 116 South Higgins Street - R-7A
- 113 South Park Street - R-7A
- 300 Talbot Street - CG
- 308 Talbot Street - R-7A

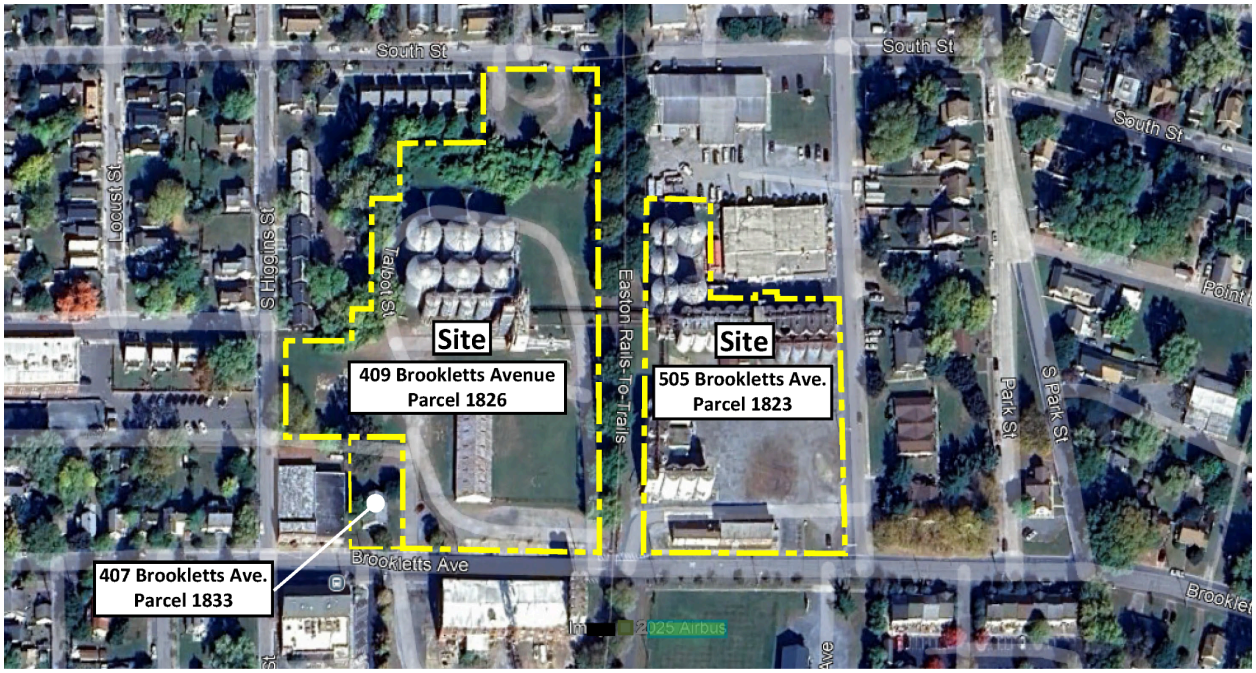



***Figure 1**: Vicinity Map*

**PROPOSAL**: The applicant is proposing to construct two (2) 4-story mixed commercial and residential buildings, one (1) 2-story building for restaurant-sit down use, one (1) 5-story mixed commercial and residential building, one (1) 5-story multifamily residential building along with associated parking, stormwater management and landscaping. The existing two-story building #407 will be utilized as an office and has 3,586 square feet (SF) of gross floor area (GFA).

- Proposed building #409 is a five-story building with a mixed use of commercial/residential space with 96,206 square feet (SF) of gross floor area (GFA). All commercial use is on the ground floor with 1,871 square foot commercial retail space and a 6,107 square foot fitness club. There's also fifty-six (56) dwelling units with 22 one-bedroom apartments, 28 two-bedroom apartments and 6 three-bedroom apartments.
- Building #411 is a proposed four-story building that's a mixed use of commercial/residential space with 47,920 square feet (SF) of gross floor area (GFA). The entire ground floor consists of 10,018 square foot commercial retail space. There's also twenty-six (26) dwelling units with 26 two-bedroom apartments.
- Building #505 is a proposed four-story building consisting of a mixed use of commercial/residential space with 47,920 square feet (SF) of gross floor area (GFA). The entire ground floor consists of 10,018 square foot commercial retail space. The building has twenty-six (26) dwelling units that are two-bedroom apartments.
- Building #509 is a five-story building that proposes 23,513 square feet (SF) of gross floor area (GFA). This multi-family building has a total of fifteen (15) dwellings with 4 one-bedroom apartments, 8 two-bedroom apartments and 3 three-bedroom apartments.

- Building #507 is a 10,936 square foot two-story building for restaurant-sit down use.

The overall multifamily use within the development consists of twenty-nine (29) affordable apartments and ninety-four (94) market rate apartments. The site is the former Purdue Agri-Business and is zoned Business Commercial (BC). The maximum density allowed on the property, based on the Planned Redevelopment Overlay District, is 40 dwelling units per acre which equals a maximum density of 276.8 dwelling units based on the property's size (6.92 acres). The total proposed density is 17.90 dwelling units per acre.

The applicant is also seeking a landscape and buffer waiver from Chapter 28-1014.6.B.1(c), Chapter 28-1014.6.E.2(d), Chapter 28-1014.7.E.3(a) & (b) and Chapter 28-1014.7.E.5(a),(b) & (c) of the Zoning Code. The application proposes the installation of trees and shrubs within the park area along Brookletts Avenue and a modified bufferyard along Kemp Lane in lieu of a shrub hedge. Building facade plantings for buildings #411 and #505 are reduced to bring the streetscape closer to the edge of pavement along Brookletts Avenue with planting beds.The applicant intends to utilize the Bufferyard "C" option calling for a reduction of the required width along South Street and Kemp Lane. In addition, the applicant requested a plant quantity reduction within the buffer along Kemp Lane. Bufferyard "E" along South Street and Kemp Lane will be modified to a reduced width requirement and the plant quantity will be less along Kemp Lane. The property line from Kemp Lane to the "Rails-to-Trails" path system will have a decorative screen fence without plantings. The property line on Parcel 1826 and Parcel 1823 from the "Rails-to-Trails" path system will have a reduced buffer width and plant quantity. Shrubs will be placed inside verses outside of the decorative screened fencing.

**BACKGROUND**: The applicant submitted an application to the Easton Staff Development Review Committee (ESDR) on January 22, 2025 (please see attached ESDR Determination Letter).

**OUTSTANDING ISSUES:**

The applicant needs to address the overall scale and consistency of the five-story Building #409 and its parking facility by providing alternate designs in relationship to the existing neighborhoods.

**ZONING ANALYSIS:**

**A. Purpose**

***Section 28-501.A (Town Code).***

> ***The purpose of the Planned Redevelopment Overlay District (PR) is to provide a mechanism for the redevelopment, rehabilitation, and general improvement of certain older areas within the Town of Easton that have fallen into a somewhat neglected or dilapidated state or have***

***simply been used for a purpose that no longer serves the health, safety or general welfare of the neighborhood. PR applications may be submitted only if the project is located within the Planned Redevelopment Overlay District. However, this mechanism is optional and shall not be required of all projects located within this zone. Projects not being developed in accordance with PR District standards shall be developed in accordance with the development standards of the underlying base zoning district.***

***The nature, size, scale or intensity of a proposed use may cause a particular site not to be suitable for a specific PR proposal. Therefore, there is no general presumption that an application for such a use at a particular location is valid, inures to the general benefit of the Town, is compatible with surrounding uses, or is in compliance with the Town's Comprehensive Plan. Instead, each application will be evaluated according to its particular location and the degree to which the developer is willing or able to propose a development plan which ameliorates possible adverse impacts and furthers the goals and objectives of this Section and the Ordinance generally***

**Analysis -** The current process of the Town of Easton Zoning Ordinance is for the Planning and Zoning Commission to review the material submitted as described in § 28-501.C of the Town Code and shall represent the initial step in the PR review process. Successful applications shall subsequently follow the appropriate steps for the type of project submitted and the applicant shall prepare and submit for a development and a final site plan in accordance with the site plan requirements specified in § 28 – 901.3.B and C of the Town Code and the requirements of the Town of Easton Subdivision Regulations, if applicable.

## B. Off-Street Parking

### *28-1001.3 Parking Requirements*

| | Use/Activity | Minimum Vehicle Spaces | Maximum Vehicle Spaces | Minimum Bicycle Spaces | Notes |
|---|---|---|---|---|---|
| | Residential Buildings | | | | |
| 4 | Multifamily | 1 per du | 2 per du | 0.5 per du | |
| | Commercial Buildings | | | | |
| 15 | Office or Bank without Drive-Thru | 1 per 250 sf GFA | 1 per 140 sf GFA | 1 per 10 vehicle spaces | |
| 16 | Standalone Retail Store | 1 per 300 sf GFA | 1 per 200 sf GFA | 1 per 10 vehicle spaces | |
| 29 | Restaurant, Sit-Down | 1 space per 100 sf GFA | 1 space per 50 sf GFA | 1 per 10 vehicle spaces | |
| | Public Assembly Structures | | | | |
| 46 | Fitness, recreational sports, gym, or athletic club | 1.5 per 1,000 sf GFA | 10 per 1,000 sf GFA | 1 per 10 vehicle spaces | |

**Total Site Parking Required (when not proposed as a PR application):**

| | |
|---|---|
| **Multifamily**: | 1 Space per dwelling unit required-Minimum |
| | 123 units x 1 = 123 spaces required-Minimum |
| | 2 Spaces per dwelling unit required-Maximum |
| | 123 units x 2 = 246 spaces required-Maximum |
| Bicycle Spaces: | 0.5 per dwelling unit required |
| | 123 units x 0.5 = 62 required bicycle spaces |
| **Office**: | 1 Space /250 SF GFA-Minimum |
| | 3,586/250 = 15 spaces required-Minimum |
| | 1 Space /140 SF GFA-Maximum |
| | 3,586/140 = 26 spaces required-Maximum |
| Bicycle Spaces: | 1 per 10 vehicle spaces required |
| | 15 spaces/10 = 2 bicycle space-Minimum |
| | 26 spaces/10 = 3 bicycle space-Maximum |
| **Shopping Center**: | 1 Space per 300 SF GFA-Minimum |
| | 21,907/300 = 73 spaces required-Minimum |
| | 1 Space per 200 SF GFA-Maximum |
| | 21,907/200 = 110 spaces required-Maximum |
| Bicycle Spaces: | 1 per 10 vehicle spaces required |
| | 73 spaces/10 = 8 bicycle spaces-Minimum |
| | 110 spaces/10 = 11 bicycle spaces-Maximum |
| **Restaurant, sit down**: | 1 Space per 100 SF GFA-Minimum |
| | 10,936/100 = 109 spaces required-Minimum |
| | 1 Space per 50 SF GFA-Maximum |
| | 10,936/50 = 218 spaces required-Maximum |
| Bicycle Spaces: | 1 per 10 vehicle spaces required |
| | 110 spaces/10 = 11 bicycle spaces-Minimum |
| | 219 spaces/10 = 22 bicycle spaces-Maximum |
| **Fitness Club**: | 1.5 Spaces per 1000 SF GFA-Minimum |
| | 6,107/1000x1.5 = 10 spaces required-Minimum |
| | 10 Spaces per 1000 SF GFA-Maximum |
| | 6,107/1000x10 = 62 spaces required-Maximum |
| Bicycle Spaces: | 1 per 10 vehicle spaces required |
| | 11 spaces/10 = 1 bicycle spaces-Minimum |
| | 72 spaces/10 = 7 bicycle spaces-Maximum |

Total Minimum required parking spaces (non PRD application) = 331
Total Maximum required parking spaces (non PRD application) = 663

**Total parking spaces provided: 313 (**217 off-street parking spaces and 96 on-street parking)

Total Minimum required bicycle spaces (non PRD application) = 84
Total Maximum required bicycle spaces (non PRD application) = 105
**Total bicycle spaces provided: 72**

**Analysis-** There are no minimum off-street parking spaces required within the PR Overlay Zoning District, although the adequacy of parking may be a consideration of site plan review. The Applicant is proposing 217 off-street parking spaces and 96 on-street parking spaces along South Street, Brookletts Avenue, South Higgins Street and Kemp Lane. The overall proposed parking spaces are 0.05% under the minimum required parking spaces for projects not developed under the PR Overlay Zoning District.

Note that if the fitness club is intended for residents only, the parking requirement can be removed from the calculations.

The Applicant believes the proposed parking is adequate to support the daily operation of the site. Easton Crossing, LLC submitted a Parking Exhibit demonstrating that they can provide parking spaces within the minimum requirements established in § 28-1001.3.A of the Town Code by the use of off-street and on-street parking spaces. The Applicant's Traffic Impact Study prepared by Lenhart Traffic Consulting, Inc. concluded that the proposed redevelopment meets the adequacy requirements of the Town of Easton and has minimal impact on the surrounding road network. Lenhart Traffic Consulting, Inc.recommended that the proposed development be approved. Though the Traffic Impact Study defines their response to adequacy, it's worth noting that 30.6% of the proposed parking spaces will be on-street parking within the adjacent neighborhoods.

### C. Business Commercial District Development Standards

Section 28-501.B.6, Development Standards under the Planned Redevelopment Overlay District states that for new infill projects, the setback, lot size, lot coverage, height, and yard requirements shall be established for each individual project by the Planning Commission. In establishing these requirements, the Commission considers such factors as the intensity of the project and the existing character of the neighborhood. Table 1 below provides the applicant's proposed dimensional standards.

**Table 1. Development Standards**

| BC Zoning District | Standard | Proposed (Planned Redevelopment Overlay) |
|---|---|---|
| Setbacks | Front = 40 feet<br>Side = 10 feet<br>Rear – 30 feet | Front = 5 feet<br>Side = 5 feet<br>Rear – N/A |
| Lot Size (min.) | 40,000 square feet | 301,435 square feet |
| Lot Frontage (min.) | 100 feet | 159, 150, 244, 278 & 310 feet |

| | | |
|---|---|---|
| Building Envelope (min.) | 30 feet x 80 feet | 295 x 615 feet (P.1826) & 270 x 300 feet (P.1823) |
| Lot Coverage (max.) | 50% (Lot Area) | 71% |
| Height (max.) | 35 feet | 64 feet +/- |

***§ 308.2 of the Zoning Ordinance states that development within the Business Commercial District shall also meet these additional requirements:***

- ***There shall be no open storage on any lot or open areas, nor shall any products be displayed in open areas. All outside storage shall be adequately screened and landscaped in accordance with provisions of Section 28 – 1014 of this Ordinance.***
- ***All on-site lighting unless approved otherwise by the Planning and Zoning Commission shall be low cut-off shielded luminaries at 18' height and light shall not shine off-site at levels greater than 1-foot candle.***
- ***All off-street loading and unloading areas shall be screened from view by permanent decorative screens or natural planting, either of which shall be a minimum of eight (8) feet in height, in accordance with the provisions of Section 28 – 1014 of this Ordinance***
- ***All areas not devoted to buildings or parking areas shall be landscaped and maintained in a suitable manner, in accordance with the provisions of Section 28 – 1014 of this Ordinance.***

**Analysis -** The site falls under the BC - Business Commercial District Area and meets the § 28-308.2 Development Standards.

**D. DEVELOPMENT STANDARDS**

***Section 28-501.B.***
***Development within the Planned Redevelopment Overlay District shall meet the following requirements:***

***(1) The area proposed for a planned redevelopment shall be in one (1) ownership, or, if in several ownerships, the proposal shall be filed jointly by all the owners of the property included in the development plan.***

**Analysis -** The Property is owned by a single entity.

***(2) The site shall be of a configuration suitable for the development proposed.***

**Analysis -** The Property abuts single-family homes to the north, east and west and commercial properties to the northeast and south. The Rails to Trails bifurcates the project between parcels 1823 and 1826. The proposed layout and site design provides a functional commercial and residential community. The configuration does enhance the street view along Brookletts Avenue while complementing the existing Brookletts Building adjacent to the site across the street.

Though the interior design does not incorporate the town's existing grid system, there's a connection between South Street and Brookletts Avenue. There is also access through the property from Higgins Street to and through Rails to Trails. In addition, extending Talbot Street east through the property would require either an offset intersection at Higgins and Talbot Streets, or eliminating one or two homes on the east side of Higgins. Extending Kelley Gibbons Street to the south through the property would require the reopening of the existing Kelley Gibbons. Staff notes that the total block perimeter of the project site generally bounded by South Street to the north, Brooklets Avenue to the south, Higgins Street to the west, and Rails to Trails to the east (which can be considered to act as a public right of way for travel, is approximately 2,100 feet. This total perimeter length is slightly above staff's recommendation of a maximum 1,800 linear feet for the purpose of walkability within the block, connectivity, and street vibrancy.

The overall scale of proposed Building #409 may be a concern when being close to the existing neighborhoods, such as the adjacent historic Hill community. Although the site has existing, vacated structures of a considerable height, the Commission may want to consider whether there is adequate buffering from the building to the adjacent homes.

***(3) Public water and sewerage shall be available.***

**Analysis -** There's adequate existing water and sewer services to serve the proposed Project. The Applicant will provide the utility extensions that are necessary to connect the Project to Town services and will work with Easton Utilities to ensure that all permits and approvals are granted.

***(4) The site shall be located adjacent to adequate transportation facilities capable of serving existing traffic and that are expected to be generated by the proposed development.***

**Analysis -** Project will be accessed from Brookletts Avenue, South Higgins Street, South Street and Kemp Lane.

***(5) The overall residential density of a Planned Redevelopment project shall not exceed forty (40) units per gross residential acre. For the purposes of this subsection, the gross residential area shall include all land within the area intended to be used for residences, residential parking space, and reservation for community recreation and education facilities. Any land mapped as floodway by the Federal Emergency Management Agency, and non-residential uses shall be excluded in computing the gross area. The Planning and Zoning Commission may require a lower density if review of the proposed development indicates that the maximum allowable density is excessive for the surrounding area.***

**Analysis -** The Applicant is proposing 123 total units, which is 154 units or 44.4% under the maximum density of 277 units permitted on the Property under the Planned Redevelopment Overlay District.

***(6) For new infill development projects, the setback, lot size, lot coverage, height, and yard requirements shall be established for each individual project by the Planning and Zoning Commission. In establishing these requirements, the Planning and Zoning Commission shall consider such factors as the proposed intensity of the project and the existing character of the neighborhood.***

**Analysis -** As stated above, the Planning Commission can apply, in its discretion, bulk standards such as setbacks and maximum height on a project-by-project basis.

***(7) Off-street parking is not required for projects proposed in the Planned Redevelopment Overlay District, although adequacy of parking may be a consideration of site plan review.***

**Analysis -** The Code does not require any parking for the Project; the Applicant is proposing a total of 313 parking spaces to serve the Project. There are 217 designated parking spaces on the property and 96 existing on-street parking spaces along Brookletts Avenue, South Higgins Street, South Street and Kemp Lane. The Traffic Impact Study prepared by Lenhart Traffic Consulting, Inc. concluded that the proposed redevelopment meets the adequacy requirements of the Town of Easton and has minimal impact on the surrounding road network. It is recommended that the proposed development is approved. Lenhart Traffic Consulting, Inc. also stated that the Traffic Impact Study shows all intersections continuing to operate at good levels of service. Further, as discussed within the memorandum dated January 29, 2025 by Lenhart Traffic Consulting, Inc., the proposed use will result in an increase in trips generated by this property. However, the elimination of large truck traffic at this location will make the neighborhood safer and the proposal is more in line with the current character of the neighborhood (recognizing that the land adjacent to the Rails to Trails were once predominantly industrial related to the former railroad line) and nearby trip generating characteristics. The Traffic Impact Study determined the adequacy of the parking. However, it is important to note that almost a third of the proposed parking spaces (30.6%) will be located on the street in the surrounding neighborhoods.

***(8) Sidewalks shall be constructed along any public right-of-way (except for alleys) adjacent to the site along the entire frontage(s) of the property. To the extent practicable, walkways shall be constructed on the site to tie building entrances and/or pedestrian pathway systems into existing or proposed public sidewalk systems.***

**Analysis -** The Project design addresses this requirement by proposing sidewalks along the property frontage of Brookletts Avenue, South Higgins Street, South Street and Kemp Lane. Sidewalks on the Property are proposed to ensure ease of access to roadways, commercial and residential buildings, parks/open space, and the Rails to Trails project.

## E. Forest Conservation

***Easton Forest Conservation Ordinance #718, Article III, § 31-3.2 Exemptions***

***O. An activity on a previously developed area covered by impervious surface and located in the priority funding area.***

**Analysis -** The site is within the priority funding area and is an existing developed area covered by impervious surface; abandoned silos, storage buildings, gravel road and utilities. The overall site area is 6.92 acres with 123 proposed multifamily units, 31,800 square feet (SF) shopping center, and a 10,000 square foot (SF) restaurant with associated parking, stormwater management and landscaping. Required Forest Conservation would be 1.038 acres or 45,215 square feet. The intent of the project is to maximize density within the infill area and provide adequate facilities to accommodate the site. The applicant has provided a landscape plan with one hundred and seven (107) +/- deciduous-shade/canopy trees and twenty-one (21) +/- understory trees that is greater than the required forest conservation area. Based on the existing conditions and priority funding area, the staff determined that the project is exempt under *Ordinance #718, Article III, § 31-3.2 Exemption, "O", an activity on a previously developed area covered by impervious surface and located in the priority funding area.*

## F. Traffic Impact Analysis

The Traffic Impact Analysis (TIA) was submitted by the applicant on December 4, 2024. The documents prepared by Lenhart Traffic Consulting, Inc. described that access is via multiple driveways that provide access to the various buildings within the development. It should be noted that the Easton Rails-To-Trails shared use path cuts through the middle of the site.

This TIA has been prepared in accordance with the scoping correspondence submitted to the Town of Easton. The Highway Capacity Manual (HCM) and Critical Lane Volume (CLV) methodologies were utilized to evaluate the study intersections per Town of Easton requirements. Study intersections included:

- East Dover Street & South Higgins Street.
- Dover Road & Kemp Lane.
- South Washington Street & Brookletts Avenue.
- Brookletts Avenue & South Higgins Street.
- Brookletts Avenue & Tred Avon Avenue.
- South Higgins & Site Access.
- Brookletts Avenue & Site Access.
- Brookletts Avenue & Site Access.
- Kemp Lane & Site Access.

A 1.5% growth rate was confirmed for use in the scoping coordination for this report. However, in order to account for any additional traffic at the study intersections due to approved but unbuilt developments, a more conservative 2% growth rate was applied to the study intersections for three years. Background developments were included based on input from the Town of Easton and include Silo Square and 350 N Washington. The trip generation and assignment for the background developments is included in Appendix C.

The site is proposed to be developed with 123 multifamily apartments and a 3,000 square foot fast casual restaurant. Trip generation rates were obtained from the ITE Trip Generation Manual, 11th Edition. This results in a total proposed development of 123 multifamily units, 29,090 square feet of retail space, and the 10,000 square foot restaurant.

**Projected Level of Service**

The total peak hour traffic volumes were evaluated using the CLV and HCM methodologies. The results of the CLV analyses are shown on Exhibit 9 of the Traffic Impact Study (TIS) and indicate that all intersections operate at LOS A under total conditions. The results of the HCM analyses are shown on Exhibit 10 of the TIS and indicate that each study intersection operates with LOS A, and each stop-controlled approach operates with LOS C or better. The results of the CLV and HCM analyses show that the proposed redevelopment will have negligible impact on the operation of the study intersections. The trip assignment on Exhibits 7a-7d of the TIS shows how much vehicular traffic the proposed redevelopment will add on each roadway and intersection in the study area.

As shown, the maximum increase in vehicular traffic at any of the study intersections is 92 vehicles, which occurs at Study Intersection 2 during the Saturday peak hour. For context, 92 additional vehicles per hour averages to approximately 1.5 additional vehicles every minute during the peak hour. The majority of the other intersections are anticipated to see an increase of ~ 45-65 vehicles which averages to approximately .75 – 1 additional vehicle every minute during the peak hours.

Based on the results of the level of service analyses shown on Exhibits 9 and 10, and the minimal increases in traffic volume expected with the redevelopment of the site, the proposed redevelopment will have minimal impact on the surrounding roadway and will not degrade the level of service at the study intersections. The traffic from the proposed development is consistent with the design of the local roads and the proposed use is not expected to generate heavy vehicle trips. In comparison, the existing use included multiple grain storage silos or similar uses and generated heavy trucks that are oversized compared to the design vehicle of the local roadways within the Town of Easton. The widths of the existing roadways combined with the presence of parked vehicles on one or both sides of the roadway resulted in significant difficulty for these heavy vehicles to maneuver.

**Pedestrian Consideration and Rails-to-Trails Connection**

There are sidewalk improvements along the site frontage and internal to the site that will provide connections to the Trail. These sidewalk improvements will improve connections to the Trail for all users within the proposed site and provide an improved path to the Trail for users from other locations within the Town of Easton.

**Results of Analyses**

This Traffic Impact Analysis (TIA) has been prepared for the proposed The Arc –Easton Crossing development. The subject site is located in Easton, Maryland, and is proposed to be accessed via multiple driveways that provide access to the various buildings within the development. It should be noted that the Easton Rails-To-Trails shared use path cuts through the middle of the site. A concept plan is provided in Appendix A of the report. Exhibit 1 shows the location of the site. The site is proposed to be developed with the following:

- Building 409 – 56 multifamily units and 9,892 sq. ft. of retail space
- Building 411 - 26 multifamily units and 9,599 sq. ft. of retail space
- Building 505 - 26 multifamily units and 9,599 sq. ft. of retail space
- Building 509 - 15 multifamily units Building 507 – 10,000 sq. ft. restaurant

This results in a total proposed development of 123 multifamily units, 29,090 square feet of retail space, and the 10,000 square foot restaurant. Based on the analyses contained in this report:

- All study intersections operate at LOS A under existing, background, and total conditions using the CLV methodology.
- All study intersections operate at LOS A and each stop-controlled approach operates with LOS C or better under existing, background, and total conditions using the HCM methodology.
- As demonstrated, the proposed redevelopment does not degrade the level of service at the study intersections, and therefore meets the Town of Easton requirements.
- The proposed redevelopment will not significantly increase traffic volume on any road segment or intersection within the study area and will reduce the number of heavy vehicles on the local roadways compared to the existing use on the site.
- The proposed development will improve access to the Easton Rails-to-Trails path which will benefit both the residents of the proposed site as well as users from the Town of Easton.

In the conclusion of the findings contained in the report, it is recommended by Lenhart Traffic Consulting, Inc. that the proposed redevelopment meets the adequacy requirements of the Town of Easton and has minimal impact on the surrounding road network. It is recommended that the proposed development is approved.

On January 29, 2025, Lenhart Traffic Consulting, Inc. provided a supplemental analysis to compare the trips generated by this proposal to the trips generated by the pre-existing uses.

*The property was previously used as a grain storage facility with multiple silos. According to SDAT, the site also contains a 5,888 sq ft warehouse and two office buildings totaling 8,382 sq ft (1,728 sq ft and 6,654 sq ft). It should be noted that there are 11 larger grain silos along with numerous smaller silos. These silos are not included in the square footage of the buildings and would have additional trip generation characteristics that are separate from the office and warehouse buildings. ITE Trip Generation Manual does not have trip generation data for grain silos therefore we are not able to account for trips associated with those pre-existing structures. However, it is reasonable to assume that the trips generated by these structures are 100% larger trucks.*

*According to news articles written in The Star, in June 2022 when nearby grain storage facilities were closing, many heavy trucks had difficulty bringing grain to the site due to roads that were not designed to accommodate large trucks. This is predominantly a residential neighborhood therefore the elimination of the heavy truck traffic and replacement of those trips with a mixed use residential and commercial uses is in more alignment with the existing neighborhood and traffic impacts.*

*The property is proposed to be redeveloped with 123 dwelling units plus 39,090 square feet of commercial space. The attached Exhibit 1 provides a trip generation comparison of the proposed versus the pre-existing uses. The exhibit would indicate that the proposed use will generate an increase of 120 AM peak hour trips (45 in and 75 out) and an increase of 152 trips (100 in and 52 out) as compared to the previous grain silo uses. However, this does not account for trips that would have been generated by the grain silo structures as noted above. It is also important to note that the previous use generated substantial truck traffic which has a greater impact on the roads than regular automobiles that would be generated by the proposed use.*

Lenhart Traffic Consulting, Inc. concluded that the Traffic Impact Study shows all intersections continuing to operate at good levels of service. Further, as discussed above, the proposed use will result in an increase in trips generated by this property, however, the elimination of large truck traffic at this location will make the neighborhood safer and the proposal is more in line with the character of the neighborhood and nearby trip generating characteristics.

**POLICY ANALYSIS:**

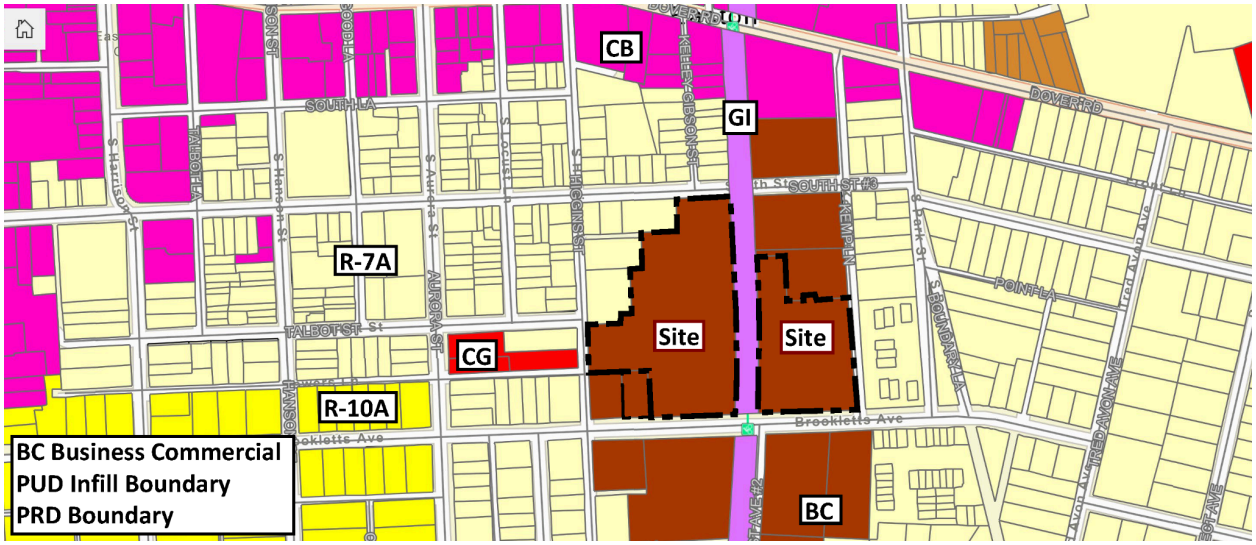



*Figure 2: Zoning Map*

***Section 28-901.2.G of the Town Code states that the submission of a site plan for a proposed use or development activity shall not be approved unless it meets the factors below:***

***1. The site plan meets the design principles and standards and required improvements set forth in this Ordinance, the Town Comprehensive Plan, the Town of Easton Subdivision Regulations, and other ordinances, regulations, and policies established by the Town of Easton.***

**Analysis -**

**Town of Easton 2010 Comprehensive Plan Design Principles (Principle #1) Integrated uses are desirable-** Applicant's response: *The project consists of residential, open space, stormwater management, and parks. This project will have a total of 120 dwelling units addressing the need for housing as stated in the comprehensive plan to increase the number and types of housing available in the area.*

***Staff notes that this is an appropriate location for a walkable residential complex. In addition, the proposed development is under the PR Overlay Zoning District, which includes properties adjacent to Rails-to-Trails to provide a mechanism for the redevelopment, rehabilitation, and general improvement of certain older areas within the Town of Easton, including properties that have fallen into a somewhat neglected or dilapidated state.***

**(Principle #2) Natural features should determine design** – Applicant's response: *The site is developed to maintain existing natural contours and drainage paths. There are few natural*

*features on the existing site as the original site was mostly impervious including grain tanks. More green/open space is incorporated into the proposed site plan.*

***Staff notes that there are no compelling natural features on site.***

**(Principle #3) Automobiles should not determine design –** Applicant's response: *Automobiles were not the priority focus for the design but sufficient parking is provided, which includes ample landscaping and green space.*

***The Applicant's proposed Project includes 313 parking spaces, despite parking not being a code requirement. The parking will consist of 217 designated spaces on the property and 96 existing on-street spaces. A Traffic Impact Study by Lenhart Traffic Consulting, Inc. concluded that the redevelopment meets Town of Easton adequacy requirements and will have minimal impact on the surrounding road network. The Study also showed all intersections continuing to operate at good levels of service. As the January 29, 2025 memorandum by Lenhart Traffic Consulting, Inc. noted, while the proposed use will increase trip generation, the elimination of large truck traffic will improve neighborhood safety and bring the area more in line with the character of the neighborhood and its existing traffic patterns. Based on these findings, Lenhart Traffic Consulting, Inc. recommended approval of the proposed development. The Traffic Impact Study determined the adequacy of the parking. However, it is important to note that almost a third of the proposed parking spaces (30.6%) will be located on the street in the surrounding neighborhoods.***

**(Principle #4) Ample Open Space should be provided within & around neighborhoods** – Applicant's response: *This project provides open park areas and green spaces throughout the parcel. The site also connects pedestrians to the rails to trails path.*

**(Principle #5) Architecture should respect Easton's Historical Development –** Applicant's response: *This project is not within the Historic District but the architecture is motivated by the original grain tanks from the existing site.*

**(Principle #6) Signs should inform but not dominate –** Applicant's response: *There will be minimal signage on this property. Each unit will have a street/building number that will indicate the unit and address for the public and fire/rescue services. Free standing signs at each entrance will not dominate the road frontage.*

***Staff notes that any proposed monument sign will require a Signage Application to be submitted prior to installation. Signs should inform but not dominate the area.***

**(Principle #7) Neighborhoods should contain a diversity of housing types –** *Applicant's response: This project has several different structure styles which differ in the number of stories and residential and commercial units. This offers a diversity of price ranges for the homes in the project. The structure design styles are in addition to the clients overall residential portfolio in*

*and around the town of Easton. The client's portfolio has a diverse housing type within the town of Easton.*

***Staff notes that the multi-family complex offers a diverse housing type. The plan supports a diversity of housing types to enable people from a broad spectrum of economic levels to live within the same neighborhood.***

**(Principle #8) Residential neighborhoods should be interesting places –** *Applicant's response: The project embraces the existing agriculture business that originated the parcel. incorporating the agriculture business within the motivation of the residential architecture, the park gazebo, and the connection to the rails to trails. Paths make this a very interesting project and place.*

**(Principle #9) Neighborhoods should connect –** *Applicant's response: Pedestrians can traverse between South Street and Brookletts Avenue as well as South Higgins Street and Kemp Lane. Connection points for pedestrians to rails to trails are also provided.*

***The Comprehensive Plan notes that older historic areas in Easton have a wide variety of lot sizes, configurations, and housing types, unlike the more uniform subdivisions built in the last 30 years. The plan also emphasizes that connected neighborhoods are a key feature of older Easton areas and should be replicated in new developments for several reasons:***

- ***Multiple travel options***
- ***Increased community and social interaction***
- ***Safer streets and lower vehicular speeds***
- ***More sustainable, compact, vibrant, mixed-use neighborhoods where residents can walk or bike to shops and services***

***The Comprehensive Plan's Community Character chapter, related to the role of infill development in Easton's growth strategy, states that infill development can accommodate growth without annexing land. Infill and redevelopment means:***

- ***decreased demand for new, undeveloped greenfields***
- ***mobility for those who do not or cannot drive***
- ***it's less expensive to provide services to infill sites versus greenfield sites***
- ***An increased supply of smaller‐sized housing units can offer more affordable and lower maintenance housing choices for smaller households***
- ***new opportunities and improved quality of life for in‐Town residents,***
- ***savings on energy and the environment,***
- ***development that is consistent with State Smart Growth Policies***

***The plan specifies that any infill or redevelopment project must consider compatibility and neighborhood impact. It offers points for consideration to address these issues, including ensuring housing types are compatible with existing ones, employing suitable traffic calming measures, and maintaining a continuous pedestrian network.***

***2. The site plan avoids or minimizes adverse impacts upon features (whether on-site or off-site) of historical, cultural or ecological significance.***

**Analysis -** The site is not within the Historic District or Critical Area. This project would provide a commercial/residential complex with associated parking, stormwater management facilities and landscaping.

***3. The proposed use or development activity will not substantially increase traffic hazards due to traffic generated by the proposed use, the location of curb cuts or the layout of internal traffic circulation.***

**Analysis -** The traffic study states that the proposed use and activity will not increase traffic hazards in the surrounding area. Though the code does not require any parking for the Project, the Applicant has provided a Parking Exhibit proposing a total of 313 parking spaces to serve the Project. There are 217 designated parking spaces on the property and 96 existing on-street parking spaces along Brookletts Avenue, South Higgins Street, South Street and Kemp Lane. 30.67% of the proposed parking is existing on-street parking. The Traffic Impact Study prepared by Lenhart Traffic Consulting, Inc. concluded that the proposed redevelopment meets the adequacy requirements of the Town of Easton and has minimal impact on the surrounding road network. It is recommended that the proposed development is approved.

Lenhart Traffic Consulting, Inc. also stated that the Traffic Impact Study shows all intersections continuing to operate at good levels of service. Further, as discussed within the memorandum dated January 29, 2025 byLenhart Traffic Consulting, Inc., the proposed use will result in an increase in trips generated by this property. However, the elimination of large truck traffic at this location will make the neighborhood safer and the proposal is more in line with the character of the neighborhood and nearby trip generating characteristics.

***4. The site plan and the proposed use or uses do not cause any adverse impact upon the health or safety of persons residing or working in the area surrounding the site or upon the character of the neighborhood surrounding the site; and***

**Analysis -** There would be no adverse impacts. The existing property is located within a Business Commercial zoned district. The proposed development would provide a commercial/residential complex with associated parking, stormwater management facilities and landscaping.

**5.** ***The site plan improves the water quality of the Chesapeake Bay or its tributaries.***

**Analysis -** The proposed site would meet required design practices for stormwater management.

**G. Supplemental Waiver Request: Landscaping & Buffering**

***28-1014.6.B.1(c) LANDSCAPE IMPROVEMENTS***

*All parking lots shall be landscaped with an evergreen shrub hedge which will grow to a minimum forty-two inch (42") height within five (5) years along all sides excluding the building or facility access side(s). Shrubs shall be spaced to form a continuous hedge within five (5) years. Required Bufferyards may replace all or part of this requirement when the applicant can demonstrate that effective screening will be achieved.*

***28-1014.6.E.2(d) LANDSCAPE IMPROVEMENTS***

*Building Facade Plantings- the landscape improvement plan shall incorporate tree, shrub, groundcover and accent plantings around entrance points, along the entrance face(s) of building(s) and/or within the adjacent pedestrian paving areas.* ***See Figure 10-8.*** *These landscape planting areas (excluding turf) shall be comprised as follows:*

*i. one (1) tree per 50' of front building facade or portion thereof*

*ii. landscape beds containing understory trees, shrubs, groundcovers that cover 25% of the front building facade. Minimum bed dimension shall be five feet (5'). A building with a sixty foot front facade would meet these requirements with two trees located in two shrub beds 7.5' by 5' on either side of the entrance door. Required shade/canopy trees can be located within these beds where the bed size equals or exceeds 64 sq. ft. Plant type and form shall reflect the adjacent building form and mass. Large or tall buildings shall incorporate larger plantings and more trees.*

***28 – 1014.7.E.3(a -c)1-3 BUFFERYARD STANDARDS***

*Bufferyard 'C' (for all residentially zoned lots or land use applications to buffer all other streets equaling or exceeding Town of Easton "Residential Collector Designation) This bufferyard is not required along the street where the primary lot frontage is designated.*

*a. 20' width*
*b. Plant unit:*
*1 shade/canopy tree, 2 evergreen trees & 5 large shrubs*
*Note: when this bufferyard is located between a parking lot and street r/w, delete the shrub requiremet.*
*c. Options:*
*1. Substitute 1 evergreen tree for 5 shrubs*

***28 – 1014.7.E.5(c)1-3 BUFFERYARD STANDARDS***

*Bufferyard 'E' (along non-street, exterior property lines adjoining more or less intense zoning or land use) The Planning and Zoning Commission may require additional buffering above the minimum standards listed below when the proposed or adjoining land uses are substantially incompatible.*

*a. 10' width*
*b. Plant unit: 1 shade/canopy and 3 evergreen trees*
*c. Option:*

1. *2 shade/canopy trees and 8 large evergreen shrubs*
2. *4 evergreen trees*
3. *wall/fence with 3 large evergreen shrubs*

**Analysis -** The applicant has requested a landscape and buffering waiver from Chapter 28-1014.6.B.1(c), Chapter 28-1014.6.E.2(d), Chapter 28-1014.7.E.3(a) & (b) and Chapter 28-1014.7.E.5(a),(b) & (c) of the Zoning Code. The application proposes the installation of trees and shrubs within the park area along Brookletts Avenue and a modified bufferyard along Kemp Lane in lieu of a shrub hedge. Building facade plantings for building #411 and #505 are reduced to bring the street scape closer to the edge of pavement along Brookletts Avenue with planting beds.The applicant intends to utilize the Bufferyard "C" option calling for a reduction of the required width along South Street and Kemp Lane. In addition, the applicant requested a plant quantity reduction within the buffer along Kemp Lane. Bufferyard "E" along South Street and Kemp Lane will be modified to a reduced width requirement and the plant quantity will be less along Kemp Lane. The property line from Kemp Lane to the "Rails-to-Trails" path system will have a decorative screen fence without plantings. The property line on Parcel 1826 and Parcel 1823 from the "Rails-to-Trails" path system will have a reduced buffer width and plant quantity. Shrubs will be placed inside verses outside of the decorative screened fencing.

The staff supports the waiver request of the modified shrub hedge, reduced building facade plantings, and the adjusted Bufferyards "C" and "E". The modified design accents the open space and establishes a more predominant streetscape along Brookletts Avenue, capturing the spirit and intent of the required plantings. It also highlights the "Rails-to-Trails" amenity and promotes connectivity between neighborhoods and subdivisions.

**RECOMMENDED CONDITIONS:**

Staff recommends the Planning Commission approve the request with the following conditions:

The applicant is to address all remaining ESDR review comments.

Please obtain approval from the Maryland Department of Transportation, Office of Rail & Intermodal Freight prior to Development Site Plan approval. The following conditions below are relevant to the railroad corridor:

1. Presently, TOE has the ability to make improvements to the railroad corridor for trail development, but any final design for improvements on the corridor property are subject to MTA engineering review under the MDOT trail use agreement.
    i. The applicant avoid the installation of permanent surface structures on the corridor*
    ii. Features should be confined to one property or the other, and the applicant shall not place any physical features or structures which sit on the property line itself, IE, a sidewalk which is partially on each property. The use of surfaces and lines for sidewalks specifically could be used to achieve this purpose, as long as its clear which segments are on which parcel.
2. The installation of utility crossings of the corridor require a property agreement

with the MTA and will be subject to the terms of that agreement**

3. The use of the overhead gantry on the site requires the assignment of the existing property agreement to the applicant under terms provided by MTA, the creation of a new agreement, or the removal of the structure.

* "Permanent" meaning structures which would cause practical issues to surrounding infrastructure if they were to be removed to facilitate the return of railroad operations, IE utility access, buildings, or emergency access to buildings.
** To be determined between MDOT and the Town whether the utility agreements will be with the town, or the applicant.

**DRAFT MOTIONS**:

1. I move that the Planning Commission approve the request subject to staff's Conditions of Approval.

OR

2. I move that the Planning Commission forward the application to the March 20th Commission meeting for further discussion.

OR

3. I move an alternate motion.

**ATTACHMENTS**:
1. 2025.01.02 ESDR Application, paper copy & PDF
2. 2025.01.21 Public Comment_M.Schlesinger, paper copy & PDF
3. 2025.01.22 ESDR Determination Letter 505 Brookletts Avenue, paper copy & PDF
4. 2025.01.27 Architectural & Landscaping, paper copy & PDF
5. 2025.01.27 Planning Commission Concept Use and Design, paper copy & PDF
6. 2025.01.27 Prelim Construction Plans, paper copy & PDF
7. 2025.01.27 Prelim Plant List, paper copy & PDF
8. 2025.01.27 SWM Report - Existing Vs. Developed, PDF
9. 2025.01.27 Traffic Impact Study, PDF
10. 2025.01.27 Trip Generation Statement, paper copy & PDF
11. 2025.01.27 Waiver Request signed, paper copy & PDF
12. 2025.01.28 Parking Exhibit, paper copy & PDF
13. 2025.01.29 Easton Commons Trip Comparison, paper copy & PDF
14. 2025.02.13 Public Comment - Easton Crossing Project, paper copy & PDF
15. EASTON CROSSING - CONCEPT ANIMATION - 2025-01-27 -- REVISION 1.mp4
16. PC 400' Notice Letter - 505 Brookletts Avenue (Easton Crossing), paper copy & PDF
17. 505 Brookletts Avenue- Subject Property Notice 2025.02.05, paper copy & PDF

**Town of Easton**
Engineering, Planning and Zoning
14 South Harrison Street, Easton, MD 21601

RECEIVED
JUN 0 2 2025
TOWN OF EASTON

# Planning Commission Concept, Use, and Design Application

## Site Information

| | | | |
|---|---|---|---|
| Structure's Floor Area | 69,618 | Structure's Square Feet | 243,480 |
| Area of Disturbance | 7.08 AC | Number of Dwelling Units | 115* |
| Property Size | Acres 6.92 | Square Feet | |
| Address | 505 Brookletts Avenue, Easton, MD 21601 | | |
| Tax Map | 0104 Grid 000EA | Parcel 1823, 1826, 1833 | Lot |
| Zoning District | BC | Historic District Y ☐ N ☒ | PRD Y ☒ N ☐ |
| Other Information | | | |
| Existing Use | Commercial/Industrial | | |

## Owner

| | | | |
|---|---|---|---|
| Name | Easton Crossing, LLC | | |
| Mailing Address | 999 Corporate Drive, Linthicum, MD 21090 | | |
| Telephone No. | 410-384-4022 | Email | gdaniels@ccdmaryland.org |

## Applicant / Agent

| | | | |
|---|---|---|---|
| Name | Same as above | | |
| Mailing Address | | | |
| Telephone No. | | Email | |

## General Information:

* Amended number of dwelling units. This is an amendment to the approved Easton Crossing Site Development plan. Building 409 Brookletts Ave. has been altered to 4 stories and fewer apartments. Buidling 411 Brookletts Ave. has been elongated to accommodate loss of units. Parking has been reduced to match the current lower unit count.

***Any modifications during review shall warrant an updated application.***
***I do hereby solemnly declare and affirm that the information provided by this application and the documents attached hereto accurately represent the conditions of the request and that submission of an incomplete application will be returned for correction prior to processing.***

Gavin Daniels
2025.06.02 10:32:53-04'00'

Signature of Applicant or Agent

Date

Printed Name of Applicant or Agent: Gavin Daniels

*For Office Use Only*

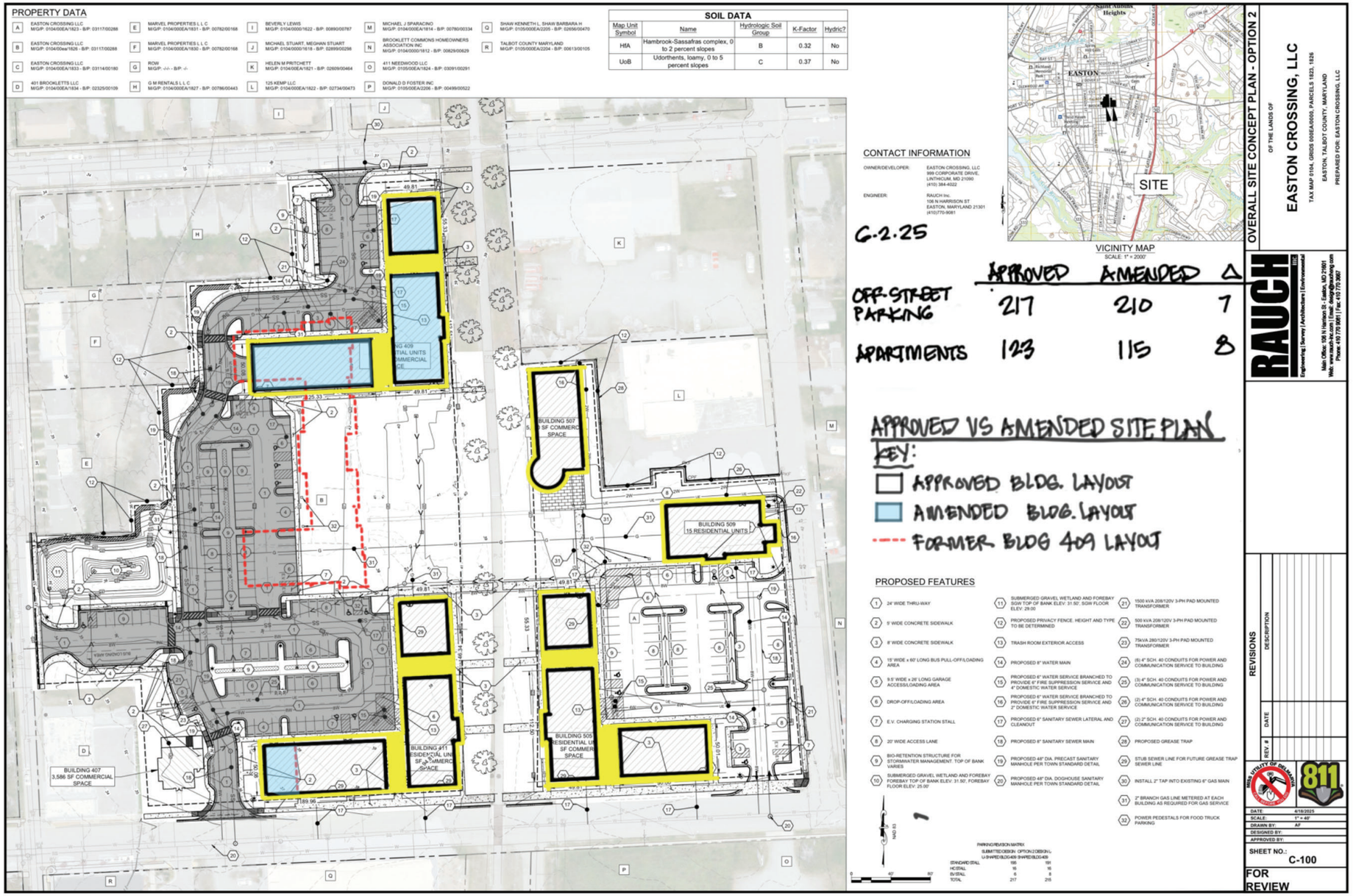
| | |
|---|---|
| Planned Commission Meeting Date | 06/24/2025 |
| Review Fee Amount | - |
| Review Fee Paid Date | 02/17/2025 |
| ESDR Y / N Date | 01/22/2025 |

2025 - 1370

*Revised 02-2019*




EASTON PLANNING COMMISSION
JUNE 2, 2025




fello. COMMUNITIES

EASTON Crossing

EASTON CROSSING
EASTON, MD

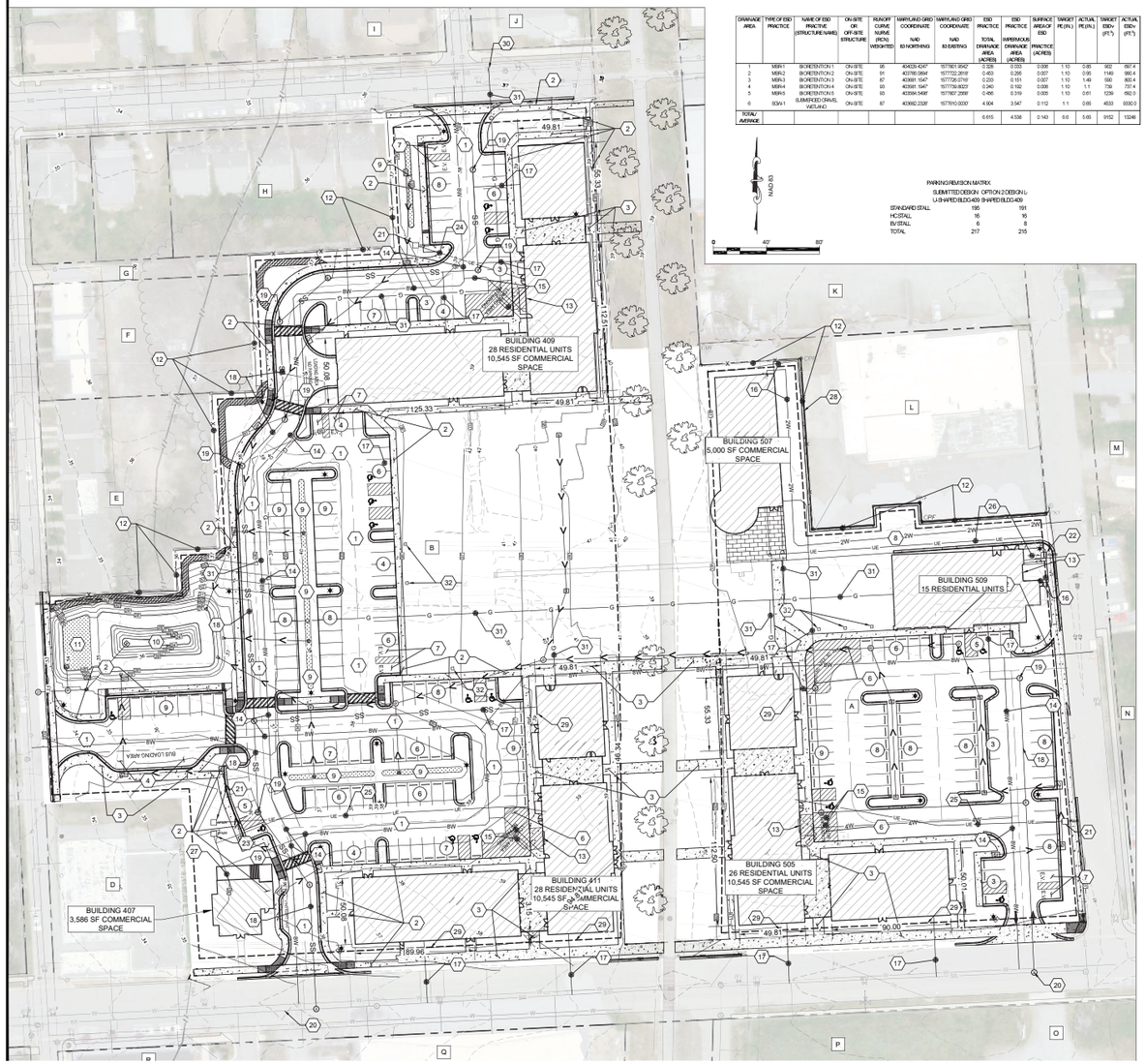
RAUCH inc.
Engineering | Survey | Architecture | Environmental

## PROPERTY DATA

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| A | EASTON CROSSING LLC<br>M/G/P: 0104/00EA/1823 - B/P: 03117/00288 | E | MARVEL PROPERTIES L L C<br>M/G/P: 0104/00EA/1831 - B/P: 00782/00168 | I | BEVERLY LEWIS<br>M/G/P: 0104/0000/1622 - B/P: 00890/00787 | M | MICHAEL J SPARACINO<br>M/G/P: 0104/00EA/1814 - B/P: 00780/00334 |
| B | EASTON CROSSING LLC<br>M/G/P: 0104/00ea/1826 - B/P: 03117/00288 | F | MARVEL PROPERTIES L L C<br>M/G/P: 0104/00EA/1830 - B/P: 00782/00168 | J | MICHAEL STUART, MEGHAN STUART<br>M/G/P: 0104/0000/1618 - B/P: 02899/00298 | N | BROOKLETT COMMONS HOMEOWNERS ASSOCIATION INC<br>M/G/P: 0104/0000/1812 - B/P: 00829/00629 |
| C | EASTON CROSSING LLC<br>M/G/P: 0104/00EA/1833 - B/P: 03114/00180 | G | ROW<br>M/G/P: -/-/- - B/P: -/- | K | HELEN M PRITCHETT<br>M/G/P: 0104/00EA/1821 - B/P: 02609/00464 | O | 411 NEEDWOOD LLC<br>M/G/P: 0105/00EA/1824 - B/P: 03091/00291 |
| D | 401 BROOKLETTS LLC<br>M/G/P: 0104/00EA/1834 - B/P: 02325/00109 | H | G M RENTALS L L C<br>M/G/P: 0104/00EA/1827 - B/P: 00786/00443 | L | 125 KEMP LLC<br>M/G/P: 0104/00EA/1822 - B/P: 02734/00473 | P | DONALD D FOSTER INC<br>M/G/P: 0105/00EA/2206 - B/P: 00499/00522 |
| | | | | | | Q | SHAW KENNETH L, SHAW BARBARA H<br>M/G/P: 0105/000EA/2205 - B/P: 02656/00470 |
| | | | | | | R | TALBOT COUNTY MARYLAND<br>M/G/P: 0105/000EA/2204 - B/P: 00613/00105 |

| STUDY POINT | STORM EVENT | 2-YEAR (cfs) | 10-YEAR (cfs) | 100-YEAR (cfs) |
|---|---|---|---|---|
| STUDY POINT 1 | EXISTING | 11.19 | 19.35 | 35.59 |
| | PROPOSED | 8.34 | 16.9 | 25.17 |
| | CHANGE | -2.85 | -2.45 | -10.42 |
| STUDY POINT 2 | EXISTING | 3.21 | 5.1 | 8.89 |
| | PROPOSED | 0.49 | 0.85 | 1.57 |
| | CHANGE | -2.72 | -4.25 | -7.32 |

| DRAINAGE AREA | TYPE OF ESD PRACTICE | NAME OF ESD PRACTICE (STRUCTURE NAME) | ON-SITE OR OFF-SITE STRUCTURE | RUNOFF CURVE NUMBE (RCN) WEIGHTED | MARYLAND GRID COORDINATE<br>NAD 83 EASTING | MARYLAND GRID COORDINATE<br>NAD 83 NORTHING | ESD PRACTICE<br>TOTAL DRAINAGE AREA (ACRES) | ESD PRACTICE<br>IMPERVIOUS DRAINAGE AREA (ACRES) | SURFACE AREA OF ESD PRACTICE (ACRES) | TARGET RE (IN.) | ACTUAL RE (IN.) | TARGET ESDv (FT.³) | ACTUAL ESDv (FT.³) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | MSR-1 | BIORETENTION-1 | ON-SITE | 95 | 404026.4247 | 1577801.9542 | 0.328 | 0.033 | 0.006 | 1.10 | 0.95 | 922 | 587.4 |
| 2 | MSR-2 | BIORETENTION-2 | ON-SITE | 91 | 403795.0864 | 1577722.2618 | 0.403 | 0.295 | 0.007 | 1.10 | 0.95 | 1149 | 990.4 |
| 3 | MSR-3 | BIORETENTION-3 | ON-SITE | 87 | 403691.1547 | 1577726.0749 | 0.233 | 0.151 | 0.007 | 1.10 | 1.49 | 590 | 800.4 |
| 4 | MSR-4 | BIORETENTION-4 | ON-SITE | 93 | 403581.1947 | 1577739.8223 | 0.240 | 0.192 | 0.006 | 1.10 | 1.1 | 739 | 737.4 |
| 5 | MSR-5 | BIORETENTION-5 | ON-SITE | 93 | 403564.5496 | 1577807.2998 | 0.466 | 0.319 | 0.005 | 1.10 | 0.61 | 1239 | 562.0 |
| 6 | BSW-1 | SUBMERGED GRAVEL WETLAND | ON-SITE | 87 | 403662.2328 | 1577810.9330 | 4.904 | 3.547 | 0.112 | 1.1 | 0.65 | 4633 | 6930.0 |
| TOTAL/ AVERAGE | | | | | | | 6.615 | 4.538 | 0.143 | 6.6 | 5.65 | 9152 | 13248 |




NAD 83

0 40' 80'

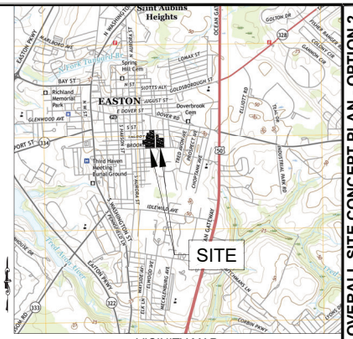
PARKING REVISION MATRIX

| | SUBMITTED DESIGN | OPTION 2 DESIGN (L-U-SHAPED BLDG 409 SHIFTED BLDG 409) |
|---|---|---|
| STANDARD STALL | 195 | 191 |
| HC STALL | 16 | 16 |
| EV STALL | 6 | 8 |
| TOTAL | 217 | 215 |

## CONTACT INFORMATION

OWNER/DEVELOPER: EASTON CROSSING, LLC
999 CORPORATE DRIVE,
LINTHICUM, MD 21090
(410) 384-4022

ENGINEER: RAUCH Inc.
106 N HARRISON ST
EASTON, MARYLAND 21301
(410)770-8081




VICINITY MAP
SCALE: 1" = 2000'

## SITE DATA:

PROPERTY ADDRESS: 505 BROOKLETTS AVENUE EASTON, MD 21601

LATITUDE: 38° 46' 16.7" N

LONGITUDE: -76° 04' 03.5" W

PRESENT ZONING CLASSIFICATION: BUSINESS COMMERCIAL DISTRICT
PRD BOUNDARY
PUD INFILL BOUNDARY

PRESENT USE: BUSINESS COMMERCIAL
FUTURE USE: MIXED USE - COMMERCIAL AND RESIDENTIAL

TAX MAPS: 0104, 0104, 0104
GRIDS: 00EA, 00EA, 00EA
PARCELS: 1823, 1826, 1833
DEED REFERENCE: 03025/00066, 03025/00066, 03114/00180

PROPERTY AREA: 6.92 ACRES
LIMITS OF DISTURBANCE: 7.08 ACRES
CUT: 18,001 CY
FILL: 965 CY
NET CUT/FILL: 17,036 CY (CUT)
EXISTING IMPERVIOUS: 69%
PROPOSED IMPERVIOUS: 67%

FEMA FLOOD MAP: PANEL 24041C0179E
WATERSHED: LOWER CHOPTANK

NO PORTION OF THIS PROJECT SITE IS LOCATED WITHIN THE 100-YR FLOOD PLAIN

NO PORTION OF THIS PROJECT SITE IS LOCATED WITHIN THE CHESAPEAKE BAY CRITICAL AREA

DENSITY REQUIRED: LESS THAN 40 UNITS PER ACRE
DENSITY PROVIDED: 14.31 UNITS PER ACRE

PRD SETBACKS: FRONT: 5 FT FROM PROPERTY LINE
SIDE: 5 FT FROM PROPERTY LINE
REAR: NONE PRESENT

LOT SIZE: N/A - NO INTENT TO SUBDIVIDE

EXISTING LOT COVERAGE: 69%
REQUIRED LOT COVERAGE: NOT TO EXCEED 75%
ACTUAL PR. LOT COVERAGE: 67%

REQUIRED MAX BUILDING HEIGHT: 75'
MAX. EXISTING STRUCTURE HEIGHT: 73
MAX PROPOSED BUILDING HEIGHT: 64'

FOREST CONSERVATION: EXEMPT PER SECTION 31-3.2 FROM THE
TOWN OF EASTON FOREST CONSERVATION ORDINANCE #718

PARKING SPACES REQUIRED: N/A AS THIS IS IN THE PRD BOUNDARY

*PARKING SPACES RECOMMENDED FOR NON-PRD PARKING PER 28-1001.3 PARKING REQUIREMENTS OF THE 2021 EDITION TOWN OF EASTON ZONING ORDINANCE*

*MULTIFAMILY RESIDENTIAL*
*MIN - 1 PER DU = 99*
*MAX - 2 PER DU = 198*
*BIKE - 0.5 PER DU = 50*
*FITNESS CLUB*
*MIN - 1.5 PER 1000 SF GFA = 10*
*MAX - 10 PER 1000 SF GFA = 62*
*BIKE - 1 PER 10 VEHICLE SPACES = 1 TO 7*
*COMMERCIAL OFFICE*
*MIN - 1 PER 250 SF GFA = 15*
*MAX - 1 PER 140 SF GFR = 26*
*BIKE - 1 PER 10 VEHICLE SPACES - 2 TO 3*
*COMMERCIAL RETAIL*
*MIN - 1 PER 200 SF GFA = 73*
*MAX - 1 PER 200 SF GFA = 110*
*BIKE - 1 PER 10 VEHICLE SPACES - 8 TO 11*
*RESTAURANT - SIT-DOWN*
*MIN - 1 PER 100 GFA = 110*
*MAX - 1 PER 50 SF GFA = 219*
*BIKE - 1 PER 10 VEHICLE SPACES - 11 TO 22*

PARKING SPACES PROVIDED:
OFFSTREET PARKING: 215 PARKING SPACES
RESIDENTIAL UNIT @ 1 PER UNIT = 97
FITNESS CLUB @ 1.5 PER 1000 SF = 10
COMMERCIAL OFFICE @ 1 PER 360 SF = 10
COMMERCIAL RETAIL @ 1 PER 410 SF = 78
RESTAURANT @ 1 PER MINIMUM 250 SF = 20
INCLUDES 8 EV CHARGING STATION
INCLUDES 16 ADA SPACES WITH AISLE

SURVEY DATUM
HORIZONTAL: NAD83
VERTICAL: NAVD88
DATE OF SURVEY: 10/10/2024

NOTE: ALL ON-SITE LIGHTING UNLESS APPROVED OTHERWISE BY PLANNING AND ZONING COMMISSION SHALL BE LOW CUT-OFF SHIELDED LUMINARIES AT 18' HEIGHT AND LIGHT SHALL NOT SHINE OFF-SITE AT LEVEL GREATER THAN 1-FOOT CANDLE.

## PROPOSED FEATURES

1. 24' WIDE THRU-WAY
2. 5' WIDE CONCRETE SIDEWALK
3. 8' WIDE CONCRETE SIDEWALK
4. 15' WIDE x 60' LONG BUS PULL-OFF/LOADING AREA
5. 9.5' WIDE x 26' LONG GARAGE ACCESS/LOADING AREA
6. DROP-OFF/LOADING AREA
7. E.V. CHARGING STATION STALL
8. 20' WIDE ACCESS LANE
9. BIO-RETENTION STRUCTURE FOR STORMWATER MANAGEMENT. TOP OF BANK VARIES
10. SUBMERGED GRAVEL WETLAND AND FOREBAY FOREBAY TOP OF BANK ELEV: 31.50', FOREBAY FLOOR ELEV: 25.00'
11. SUBMERGED GRAVEL WETLAND AND FOREBAY SGW TOP OF BANK ELEV: 31.50', SGW FLOOR ELEV: 29.00
12. PROPOSED PRIVACY FENCE. HEIGHT AND TYPE TO BE DETERMINED
13. TRASH ROOM EXTERIOR ACCESS
14. PROPOSED 8" WATER MAIN
15. PROPOSED 6" WATER SERVICE BRANCHED TO PROVIDE 6" FIRE SUPPRESSION SERVICE AND 4" DOMESTIC WATER SERVICE
16. PROPOSED 6" WATER SERVICE BRANCHED TO PROVIDE 6" FIRE SUPPRESSION SERVICE AND 2" DOMESTIC WATER SERVICE
17. PROPOSED 6" SANITARY SEWER LATERAL AND CLEANOUT
18. PROPOSED 8" SANITARY SEWER MAIN
19. PROPOSED 48" DIA. PRECAST SANITARY MANHOLE PER TOWN STANDARD DETAIL
20. PROPOSED 48" DIA. DOGHOUSE SANITARY MANHOLE PER TOWN STANDARD DETAIL
21. 1500 kVA 208/120V 3-PH PAD MOUNTED TRANSFORMER
22. 500 kVA 208/120V 3-PH PAD MOUNTED TRANSFORMER
23. 75kVA 280/120V 3-PH PAD MOUNTED TRANSFORMER
24. (6) 4" SCH. 40 CONDUITS FOR POWER AND COMMUNICATION SERVICE TO BUILDING
25. (3) 4" SCH. 40 CONDUITS FOR POWER AND COMMUNICATION SERVICE TO BUILDING
26. (2) 4" SCH. 40 CONDUITS FOR POWER AND COMMUNICATION SERVICE TO BUILDING
27. (2) 2" SCH. 40 CONDUITS FOR POWER AND COMMUNICATION SERVICE TO BUILDING
28. PROPOSED GREASE TRAP
29. STUB SEWER LINE FOR FUTURE GREASE TRAP SEWER LINE
30. INSTALL 2" TAP INTO EXISTING 6" GAS MAIN
31. 2" BRANCH GAS LINE METERED AT EACH BUILDING AS REQUIRED FOR GAS SERVICE
32. POWER PEDESTALS FOR FOOD TRUCK PARKING

## SOIL DATA

| Map Unit Symbol | Name | Hydrologic Soil Group | K-Factor | Hydric? |
|---|---|---|---|---|
| HfA | Hambrook-Sassafras complex, 0 to 2 percent slopes | B | 0.32 | No |
| UoB | Udorthents, loamy, 0 to 5 percent slopes | C | 0.37 | No |

OVERALL SITE CONCEPT PLAN - OPTION 2
OF THE LANDS OF
EASTON CROSSING, LLC
TAX MAP 0104, GRIDS 00EA/00EB, PARCELS 1823, 1826
EASTON, TALBOT COUNTY, MARYLAND
PREPARED FOR: EASTON CROSSING, LLC

RAUCH inc.
Engineering | Survey | Architecture | Environmental
Main Office: 106 N Harrison St. - Easton, MD 21601
Web: www.rauchinc.com - Email: info@rauchinc.com
Phone: 410 770 8081 | Fax: 410 770 8887

REVISIONS

| REV. # | DATE | DESCRIPTION |
|---|---|---|

MISS UTILITY OF DELMARVA 811

| | |
|---|---|
| DATE: | 6/2/2025 |
| SCALE: | 1" = 40' |
| DRAWN BY: | AF |
| DESIGNED BY: | |
| APPROVED BY: | |
| SHEET NO.: | C-100 |

FOR




# EASTON CROSSING - SOUTH

fello. COMMUNITIES

EASTON Crossing

EASTON CROSSING
EASTON, MD

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EASTON CROSSING - NORTH




fello. COMMUNITIES

EASTON Crossing

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EASTON, MD

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409/411 RAILS TO TRAILS

fello. COMMUNITIES

EASTON Crossing

EASTON CROSSING
EASTON, MD

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Engineering | Survey | Architecture | Environmental



409 RAILS TO TRAILS

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Engineering | Survey | Architecture | Environmental



409 RAILS TO TRAILS

fello. COMMUNITIES

EASTON Crossing

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# 409 - 1ST FLOOR

fello. COMMUNITIES

EASTON Crossing

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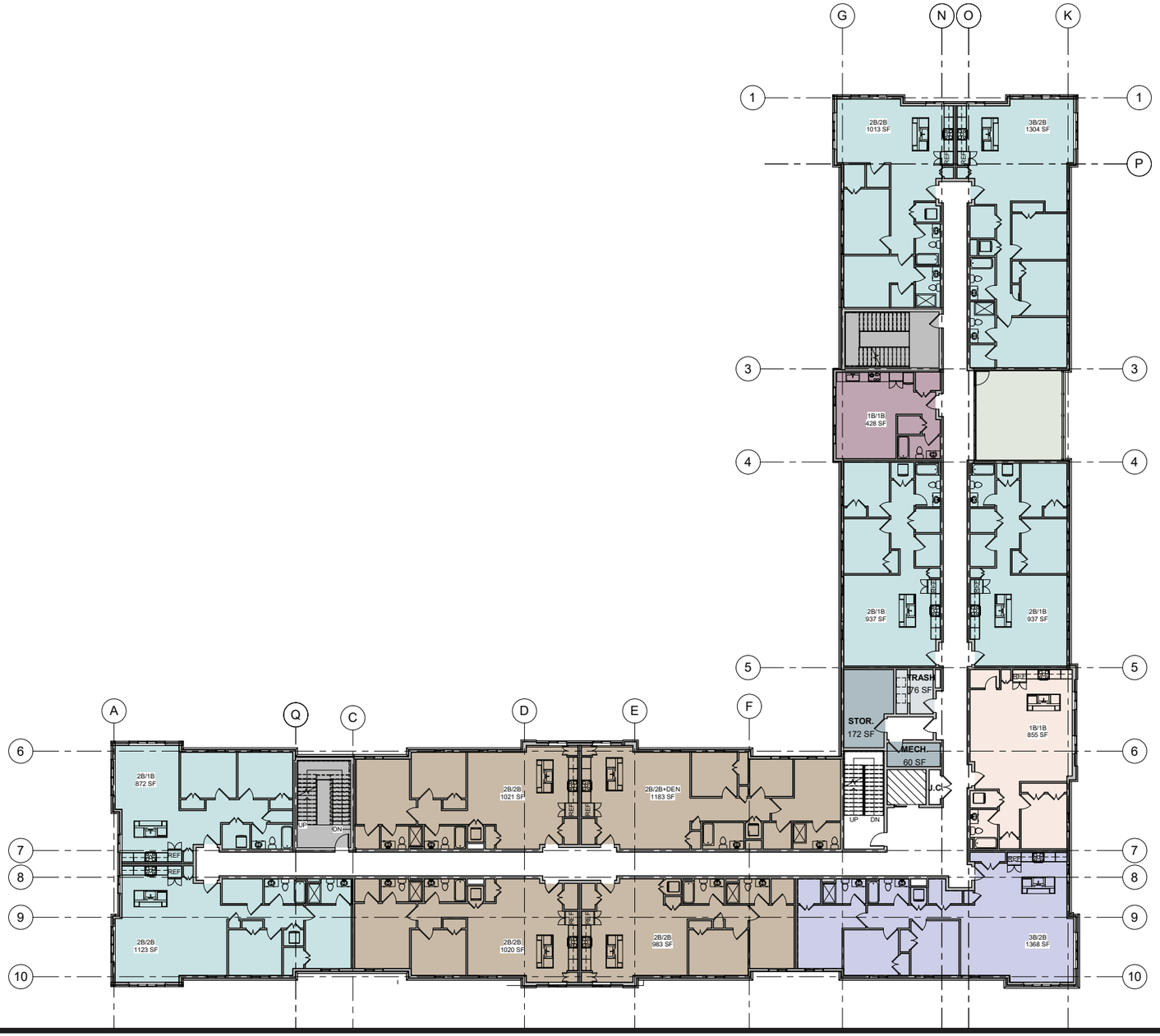
EASTON, MD

RAUCH inc.
Engineering | Survey | Architecture | Environmental



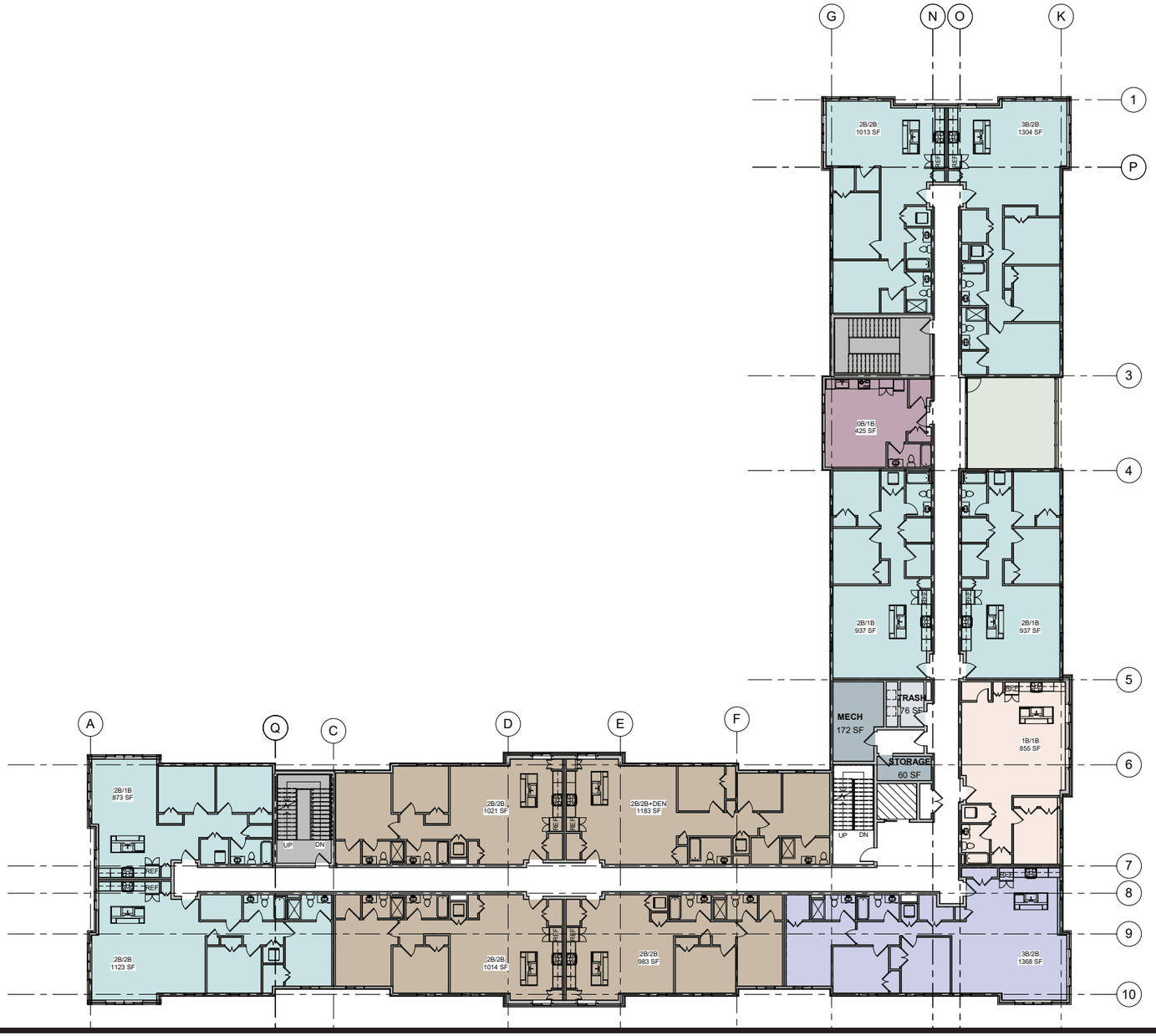

# 409 - 2ND FLOOR

fello. COMMUNITIES

EASTON Crossing

EASTON CROSSING
EASTON, MD

RAUCH inc.
Engineering | Survey | Architecture | Environmental



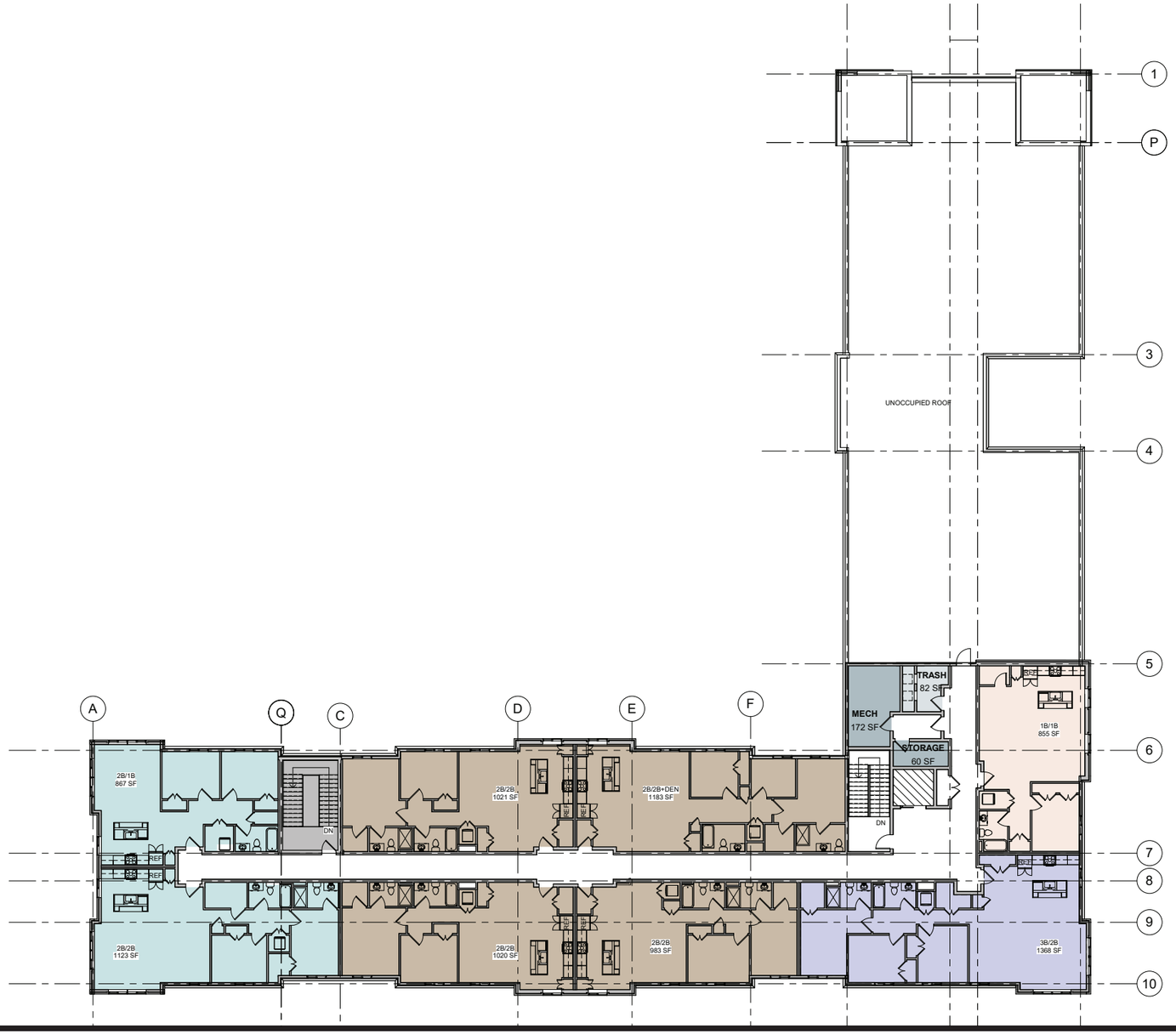

# 409 - 3RD FLOOR

fello. COMMUNITIES

EASTON Crossing

EASTON CROSSING
EASTON, MD

RAUCH inc.
Engineering | Survey | Architecture | Environmental




# 409 - 4TH FLOOR

fello. COMMUNITIES

EASTON Crossing

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EASTON, MD

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# 409 - NORTH ELEVATION







# 409 - WEST ELEVATION

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# 409 - SOUTH/EAST ELEVATION




# 411 - 1ST FLOOR

fello. COMMUNITIES

EASTON Crossing

EASTON CROSSING
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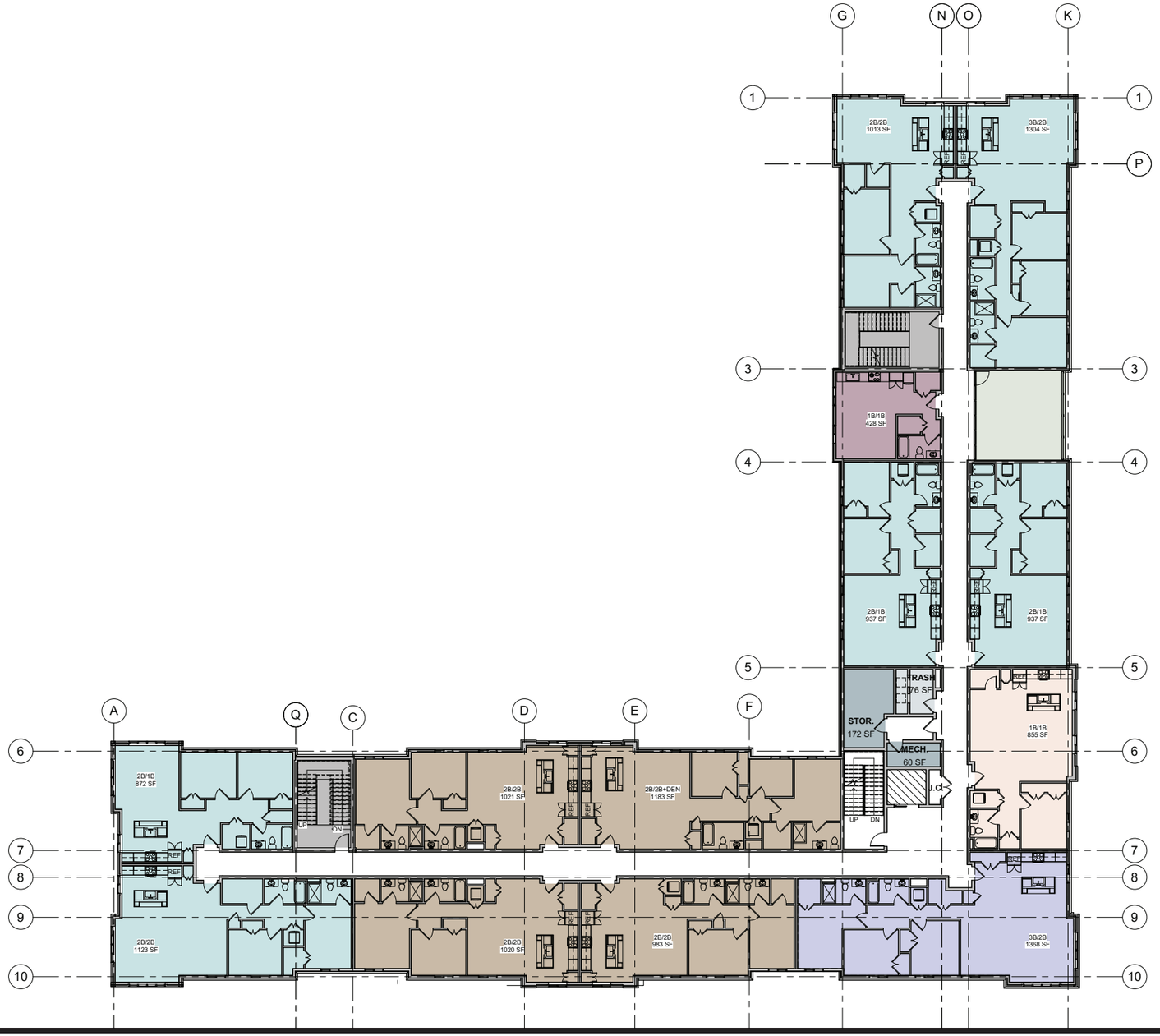


# 411 - 2ND FLOOR

fello. COMMUNITIES

EASTON Crossing

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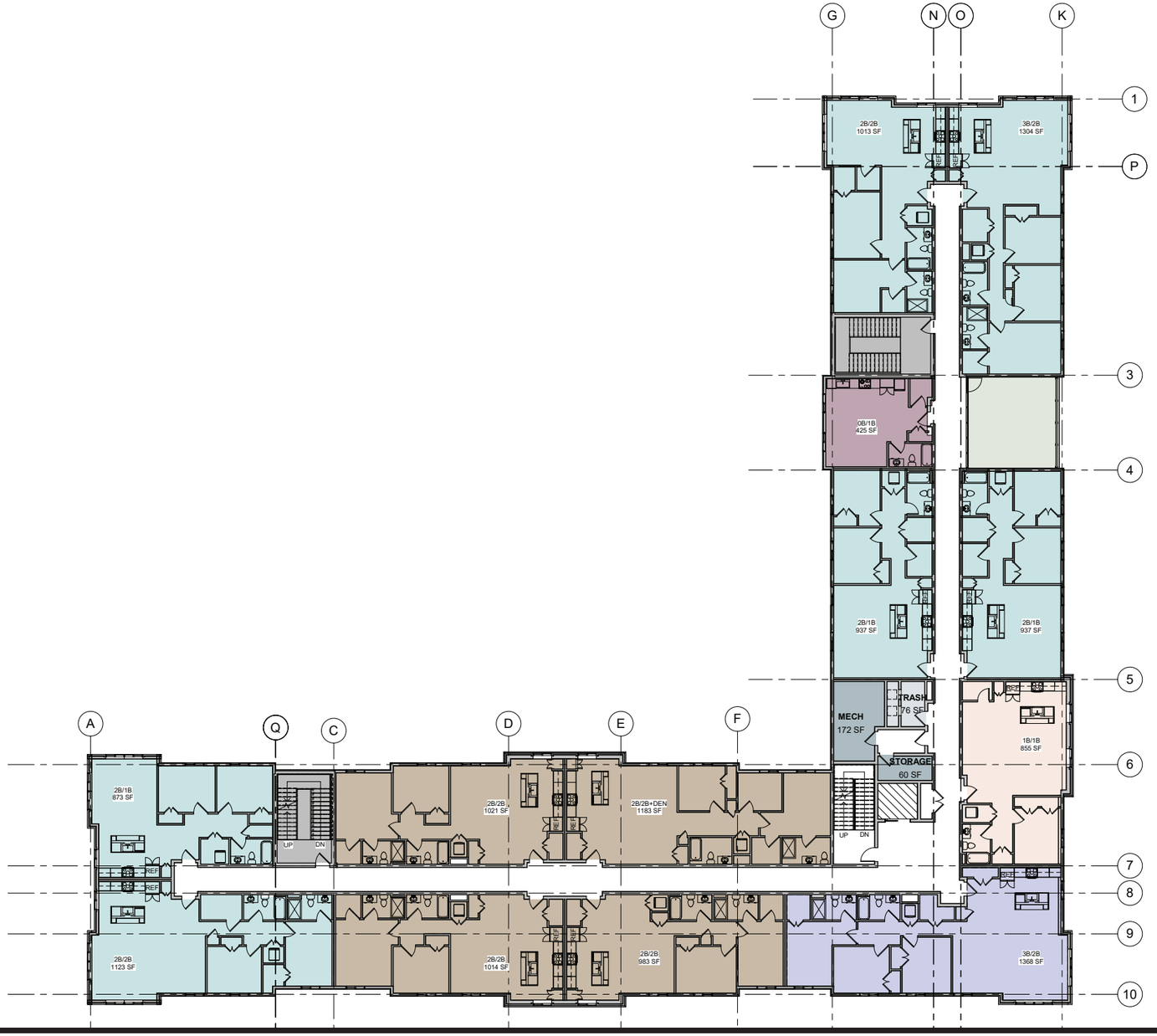


# 411 - 3RD FLOOR

fello. COMMUNITIES

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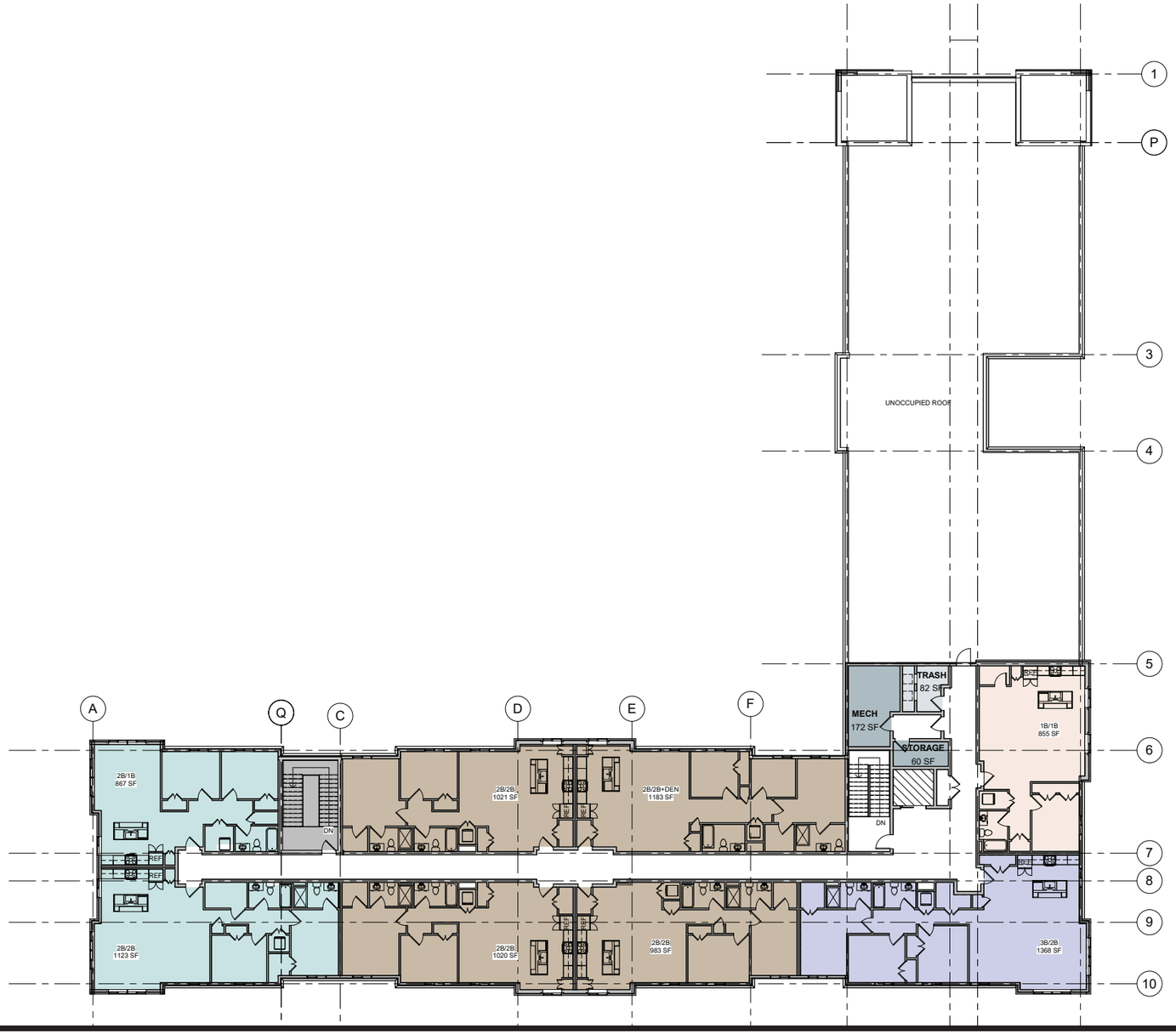


# 411 - 4TH FLOOR

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# 411 - NORTH ELEVATION

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EASTON Crossing

EASTON CROSSING
EASTON, MD

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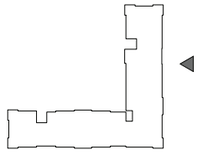
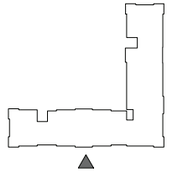
# 411 - WEST ELEVATION





# 411 - SOUTH/EAST ELEVATION

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EASTON, MD

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Engineering | Survey | Architecture | Environmental

RAUCH inc.
engineering design & development services

# STORMWATER MANAGEMENT ANALYSIS

FOR

# *EASTON CROSSING*

## *(REVISED LAYOUT)*

PREPARED FOR

**CHESAPEAKE NEIGHBORS, LLC**

**PREPARED BY**
**RAUCH, INC**
**106 N. HARRISON STREET**
**EASTON, MD 21601**

**2nd of June 2025**




PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENCED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.

06/02/2025

ROBERT D. RAUCH, LICENCE NO. 11024 DATE
EXPIRATION DATE 7/24/2026

**106 N. Harrison Street - Easton, MD 21601**
**office: 410.770.9081 | fax: 410.770.3667**
**email: design@raucheng.com | web: www.raucheng.com**

# Stormwater Management Narrative

RAUCH inc.
engineering design & development services

# STORMWATER MANAGEMENT ANALYSIS – NARRATIVE

## EXISTING CONDITIONS

The project site under analysis is located in the town of Easton, Maryland, in Talbot County. It is bordered by Brookletts Avenue, South Street, South Higgins Street, and Kemp Lane, and is bisected by the Easton Rails-to-Trails.

The site's existing conditions vary between its two sections. The western portion includes ten silos, truck scales, and two buildings, while the eastern portion contains twenty-seven silos and two buildings. The soil composition is predominantly poorly drained HSG C, with the western section situated on better-draining HSG B soil.

Water drainage patterns differ between the two portions. The western section drains via a combination of sheet flow and shallow concentrated flow, eventually reaching South Higgins Street. There, the water enters the street gutter as channeled flow and continues to Study Point 1, a curb inlet on South Higgins Street. The eastern section drains southward along the Easton Rails-to-Trails, flowing toward Brookletts Avenue and ultimately reaching Study Point 2, another curb inlet.

## PROPOSED CONDITIONS

Easton Crossing involves the construction of 10 mixed used buildings, a center meadow with a gazebo, 220 parking spaces (including ADA-compliant spaces), driving aisles, four Bioretention areas, and stormwater management facilities.

The proposed impervious will be treated for quality management by four Bioretention areas and a submerged gravel wetland with a forebay. The ponding in the bioretention areas, forebay and submerged gravel wetland will also be used as quantity management.

Proposed conditions during the 2-, 10-, and 100-year storm events have been analyzed and show postconstruction peak flows are less than preconstruction peak flows at the Study Point.

The maps included with this report detail all drainage areas with times of concentration.

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**email: design@raucheng.com | web: www.raucheng.com**

## WATER QUALITY – ESDv/WQv

The summary of the calculations is shown below:

| DRAINAGE AREA | TYPE OF ESD PRACTICE | NAME OF ESD PRACTIVE (STRUCTURE NAME) | ON-SITE OR OFF-SITE STRUCTURE | RUNOFF CURVE NURVE (RCN) WEIGHTED | MARYLAND GRID COORDINATE NAD 83 NORTHING | MARYLAND GRID COORDINATE NAD 83 EASTING | ESD PRACTICE TOTAL DRAINAGE AREA (ACRES) | ESD PRACTICE IMPERVIOUS DRAINAGE AREA (ACRES) | SURFACE AREA OF ESD PRACTICE (ACRES) | TARGET PE (IN.) | ACTUAL PE (IN.) | TARGET ESDv ($FT.^3$) | ACTUAL ESDv ($FT.^3$) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | MBR-1 | BIORETENTION 1 | ON-SITE | 95 | 404029.4247' | 1577801.9542' | 0.328 | 0.033 | 0.006 | 1.10 | 0.85 | 902 | 697.4 |
| 2 | MBR-2 | BIORETENTION 2 | ON-SITE | 91 | 403766.0894' | 1577722.2618' | 0.453 | 0.295 | 0.007 | 1.10 | 0.95 | 1149 | 990.4 |
| 3 | MBR-3 | BIORETENTION 3 | ON-SITE | 87 | 403681.1547' | 1577726.0716' | 0.233 | 0.151 | 0.007 | 1.10 | 1.49 | 590 | 800.4 |
| 4 | MBR-4 | BIORETENTION 4 | ON-SITE | 93 | 403581.1947' | 1577739.8023' | 0.240 | 0.192 | 0.006 | 1.10 | 1.1 | 739 | 737.4 |
| 5 | MBR-5 | BIORETENTION 5 | ON-SITE | 93 | 403584.5496' | 1577807.2568' | 0.456 | 0.319 | 0.005 | 1.10 | 0.61 | 1239 | 692.0 |
| 6 | SGW-1 | SUBMERGED GRAVEL WETLAND | ON-SITE | 87 | 403682.2326' | 1577610.0030' | 4.904 | 3.547 | 0.112 | 1.1 | 0.65 | 4533 | 9330.0 |
| TOTAL/ AVERAGE | | | | | | | 6.615 | 4.538 | 0.143 | 6.6 | 5.65 | 9152 | 13248 |

### STORMWATER QUALITY NOTES:

The above quality stormwater management practices meet the Environmental Site Design Volume required for the site.

## WATER QUANTITY

Volume control is provided within the submerged gravel wetland, bioretention areas, and by managing/maintaining existing times of concentrations within existing and reshaped drainage areas.
The eastern portion of the site drains entirely into a forebay via a series of yard and curb inlets. From there, the flow moves to the submerged gravel wetland. The western portion of the site includes four micro-bioretention areas, which also discharge into the submerged gravel wetland. Finally, the flow is directed into the town's storm pipe system, ultimately reaching the study point on South Higgins Street.

Below is a summary of the proposed peak runoffs flows from the 2, 10, and 100-year storms compared to existing peak runoff flows from the same events.

| STUDY POINT | STORM EVENT | 2-YEAR (cfs) | 10-YEAR (cfs) | 100-YEAR (cfs) |
|---|---|---|---|---|
| STUDY POINT 1 | EXISTING | 11.19 | 19.35 | 35.59 |
| | PROPOSED | 8.34 | 16.9 | 25.17 |
| CHANGE | CHANGE | -2.85 | -2.45 | -10.42 |
| STUDY POINT 2 | EXISTING | 3.21 | 5.1 | 8.89 |
| | PROPOSED | 0.49 | 0.85 | 1.57 |
| CHANGE | CHANGE | -2.72 | -4.25 | -7.32 |

## NATURAL AREA PRESERVATION

The stormwater management facilities for this project have been designed to preserve natural areas such as existing treelines as best as possible.

## CONCLUSION

This report shows that all requirements of the MDE stormwater design manual have been met for this site and natural areas have been preserved in meeting these guidelines.

# ESD Calculations

## Maryland ESD Calculations and 10% Phosphorus Removal

**Last Update:** 1/6/2019 Rauch Inc.

| | |
|---|---|
| **Project Name:** | **Easton Crossing** |
| **Date:** | **2-Jun-25** |

data input cells

calculation cells

### Step 1: Complete ESD Implementation Checklist

| *Check all of the Following ESD Practices That Were Implemented at Site* | *Yes - No - N/A* |
|---|---|
| Environmental Mapping Was Conducted at Site Prior to Layout | *YES* |
| Natural Areas Were Conserved (e.g., forests, wetlands, steep slopes, floodplains) | *YES* |
| Stream, Wetland and Shoreline Buffers Were Reserved | *YES* |
| Disturbance of Permeable Soils Was Minimized | *YES* |
| Natural Flow Paths Were Maintained Across the Site | *YES* |
| Building Layout Was Fingerprinted to Reduce Clearing and Grading at Site | *YES* |
| Site Grading Promoted Sheetflow From Impervious Areas to Pervious Ones | *YES* |
| Site Design Was Evaluated to Reduce Creation of Needless Impervious Cover | *YES* |
| Site Design Was Evaluated to Maximize Disconnection of Impervious Cover | *YES* |
| Site Design Was Evaluated to Identify Potential Hotspot Generating Area for Stormwater Treatment | *YES* |
| Erosion and Sediment Control Practices and Post Construction Stormwater Management Practices Were Integrated into a Comprehensive Plan | *YES* |
| Tree PlantingWas Used at the Site to Convert Turf Areas into Forest | *YES* |

### Step 2: Calculate Site Imperviousness and Water Quality Volume, WQv (for redevelopment)

New development/redevelopment category is based on the the TOTAL SITE AREA whereas the ESD and WQ volume are based on the LOD AREA. The term "SITE" is defined as A single tract, lot, parcel of land or combination of tracts, lots parcels of land that are in one ownership or are contiguous and in diverse ownership where develoment is to be performed as part of a unit, subdivision or project. See page 5.117 in the design handbook. This means that a project may be classed as redevelopment even if the LOD is less than 40% impervious

| | |
|---|---|
| Total SITE Area, A (acres or sq-ft) | *314968* |
| Existing SITE Impervious Area (acres or sq-ft) | *216569* |
| SITE percent impervious | 69% |
| **Development Category (for ESD)** | **Redevelopment** |

| | |
|---|---|
| LOD Area, A (acres) | 7.23 |
| Existing LOD Impervious Surface Area (acres) | 4.97 |
| Proposed LOD Impervious Surface Area (acres) | 5.04 |
| Rainfall Depth, P (in) | 1.0 |
| Existing LOD Imperviousness, $I_{pre}$ | 69% |
| Proposed LOD Imperviousness, $I_{post}$ | 70% |

*Water Quality Calculation for Redevelopment Only*

| | |
|---|---|
| Required Treatment Area (acres) | 2.486 |
| Runoff Coefficient, Rv | 0.95 |
| **Water Quality Volume, WQv (cf)** | **8,573** |

### Step 3: Calculate Phosphorous Removal Requirement, RR for Critical Area Sites

| | |
|---|---|
| **Development Category (for 10%)** | **Redevelopment** |

*New Development*

| | |
|---|---|
| Average Annual Predevelopment Load, Lpre (lbs P / yr) | 3.62 |

*Redevelopment:*

| | |
|---|---|
| Predevelopment Runoff Coefficient, $Rv_{pre}$ | 0.67 |
| Phosphorous Mean Concentration, C (mg/L) | 0.3 |
| Average Annual Predevelopment Load, $L_{pre}$ (lbs P / yr) | 11.84 |
| Post-Development Runoff Coefficient, $Rv_{post}$ | 0.68 |
| Average Annual Post-Development Load, $L_{post}$ (lbs P / yr) | 11.98 |
| **Removal Requirement, RR (lbs P / yr)** | **1.33** |

### Step 4: Calculate Environmental Site Design (ESD) Rainfall Target, $P_E$

| | | | |
|---|---|---|---|
| % Soil Type A | 0% | RCN Soil Type A | 79.80 |
| % Soil Type B | 94% | RCN Soil Type B | 86.86 |
| % Soil Type C | 6% | RCN Soil Type C | 90.93 |
| % Soil Type D | 0% | RCN Soil Type D | 92.93 |

| | | | |
|---|---|---|---|
| Target Pre-Developed Condition, $RCN_{woods}$ | 55.87861 | Post-Developed Condition, RCN | 87.10 |

| | |
|---|---|
| Soil Type A ESD Rainfall Target, $P_E$ (in) | 0.00 |
| Soil Type B ESD Rainfall Target, $P_E$ (in) | 2.60 |
| Soil Type C ESD Rainfall Target, $P_E$ (in) | 2.20 |
| Soil Type D ESD Rainfall Target, $P_E$ (in) | 0.00 |
| | 1yr |
| Maximum $P_E$ (in) | 2.7 |

| Runnoff depths for H and H analysis | | |
|---|---|---|
| 2yr | 10yr | 100yr |
| *3.4* | *5.3* | *7.6* |

| | |
|---|---|
| **Site ESD Rainfall Target, $P_E$ (in)** | 2.58 |
| ESD Runoff Depth, $Q_E$ (in) | 2.45 |
| **ESD Runoff Volume, ESDv (cf)** | **579** |
| **Site Rainfall Target, $P_E$ (in)** | **1.10** |
| **Total Treatment Volume (cf)** | **9,152** |

**Step 6: Select Micro-Scale Practices to Treat the ESD Rainfall Target**

| *Micro-Scale Practices* | $P_E$ Credit Description | Contributing Drainage Area (sf) | Direct ESDv Received by Practice (cf) | WQv or ESDv from Up-Gradient Practices (cf) | WQv or ESDv credit (cf) | Runoff Volume Remaining (cf) |
|---|---|---|---|---|---|---|
| Submerged Gravel Wetlands | ESDv credit is based on design storage volume | 230,241 | 33,828 | 42270 | 9,330 | 66,768 |
| Micro-Bioretention 1 | ESDv credit is based on design storage volume | 74,503 | 11,337 | 11337 | 3,917 | 7,420 |

| Baseline Phosphorous Removal Efficiency | Average Adjusted Removal Efficiency Rate | P Load to Practice (lbs/yr) | Load Reduction (lbs/yr) | Remaining Load (lbs/yr) |
|---|---|---|---|---|
| 59% | 38% | 19.01 | 7.30 | 11.70 |
| 74% | 72% | 2.83 | 2.05 | 0.78 |

**Step 7: Check for ESDv to MEP compliance and Revise Site If Necessary**

| | |
|---|---|
| Drainage Area Treated (sf) | 304,744 |

| | |
|---|---|
| **WQv or ESDv Treated (cf) using ESD practices** | 13,248 |
| **$P_E$ achieved (inches)** | 1.59 |

| | |
|---|---|
| **Entire ESDv Treated Through ESD Practices?** | **YES** |
| **ESDv Remaining? (cf)** | **0** |
| **If ESDV is not fully treated, is ESD to MEP achieved?** | **NO** |

| | |
|---|---|
| **Redevelopment WQv Requirements Met Through ESD Practices?** | **YES** |
| **WQv Remaining? (cf)** | **0** |

| | |
|---|---|
| Total Load Reduction (lbs P / year) | 9.36 |
| **Total Load Reduction Remaining (lbs P / yr)** | **0.00** |

*New Development Water Quality Volume Requirements*

| | |
|---|---|
| Required Treatment Area (acres) | 0.07 |
| Runoff Coefficient, Rv | 0.95 |
| **Water Quality Volume, WQv (cf)** | **0** |

| | |
|---|---|
| **New Development WQv Requirements Met Through ESD Practices?** | **N/A** |
| **WQv Remaining? (cf)** | **0** |

**Step 8: Determine Reduced RCN and Volume Management Requirements Based Upon $P_E$ Achieved**

| | |
|---|---|
| Reduced RCN for Type A Soils | N/A |
| Reduced RCN for Type B Soils | N/A |
| Reduced RCN for Type C Soils | N/A |
| Reduced RCN for Type D Soils | N/A |

| | |
|---|---|
| Composite Reduced RCN CN* 1 yr | **N/A** |

| | |
|---|---|
| $Q_E$ (in) for Reduced RCN | N/A |
| V ($ft^3$) for Reduced RCN | N/A |

| | |
|---|---|
| **Volume Management Required (cf)** | **0** |

| | |
|---|---|
| **Volume Required for structural practices (cf)** | **0** |

| | |
|---|---|
| Target Reduced RCN $_{woods}$ 1 yr | 55.88 |

| | |
|---|---|
| $Q_E$ (in) for pre developed RCN | 0.14 |
| V ($ft^3$) for pre developed RCN | 1290 |

| | Composite reduced runoff curve number for H and H analysis (TR-55) | | |
|---|---|---|---|
| | S | Ia | Pe achived x Rv |
| | 1.48 | 0.30 | 1.51 |
| Return period | 2 yr | 10 yr | 100 yr |
| Qr | 2.10 | 3.86 | 6.07 |
| Qr-(Pe achieved x Rv) | 0.59 | 2.35 | 4.56 |
| CN* | **62.47** | **71.04** | **73.92** |

**Step 9: Select Structural Practices to Meet Volume Management Requirements**

| *Structural Practices* | Contributing Drainage Area (sf) | % Impervious Cover | Direct ESDv Received by Practice (cf) | ESDv from Upstream Practices (cf) | Treatment Volume (cf) |
|---|---|---|---|---|---|
| Stormwater Ponds (Level 1) | 0 | 0% | 0 | 0 | 0 |
| Stormwater Ponds (Level 2) | 0 | 0% | 0 | 0 | 0 |
| Stormwater Wetlands (Level 1) | 0 | 0% | 0 | 0 | 0 |
| Stormwater Wetlands (Level 2) | 0 | 0% | 0 | 0 | 0 |
| Stormwater Filtering Systems (Level 1) | 0 | 0% | 0 | 0 | 0 |
| Stormwater Filtering Systems (Level 2) | 0 | 0% | 0 | 0 | 0 |
| Stormwater Infiltration (Level 1) | 0 | 0% | 0 | 0 | 0 |
| Stormwater Infiltration (Level 2) | 0 | 0% | 0 | 0 | 0 |

| | |
|---|---|
| Total structural CPv or WQv provided | 0 |
| **WQv Requirement Met through structural practices?** | **YES** |
| **WQv Remaining (cf)** | **0** |
| **CPv Requirement Met through structural practices?** | **YES** |
| **CPv Remaining (cf)** | **0** |

*Critical Area Credits*

| Phosphorous Removal Efficiency | Adjusted Phosphorus Removal Efficiency | P Load to Practice (lbs/yr) | Load Reduction (lbs/yr) | Remaining Load (lbs/yr) |
|---|---|---|---|---|
| 50% | 0% | 0.00 | 0.00 | 0.00 |
| 75% | 0% | 0.00 | 0.00 | 0.00 |
| 50% | 0% | 0.00 | 0.00 | 0.00 |
| 75% | 0% | 0.00 | 0.00 | 0.00 |
| 60% | 0% | 0.00 | 0.00 | 0.00 |
| 65% | 0% | 0.00 | 0.00 | 0.00 |
| 60% | 0% | 0.00 | 0.00 | 0.00 |
| 90% | 0% | 0.00 | 0.00 | 0.00 |

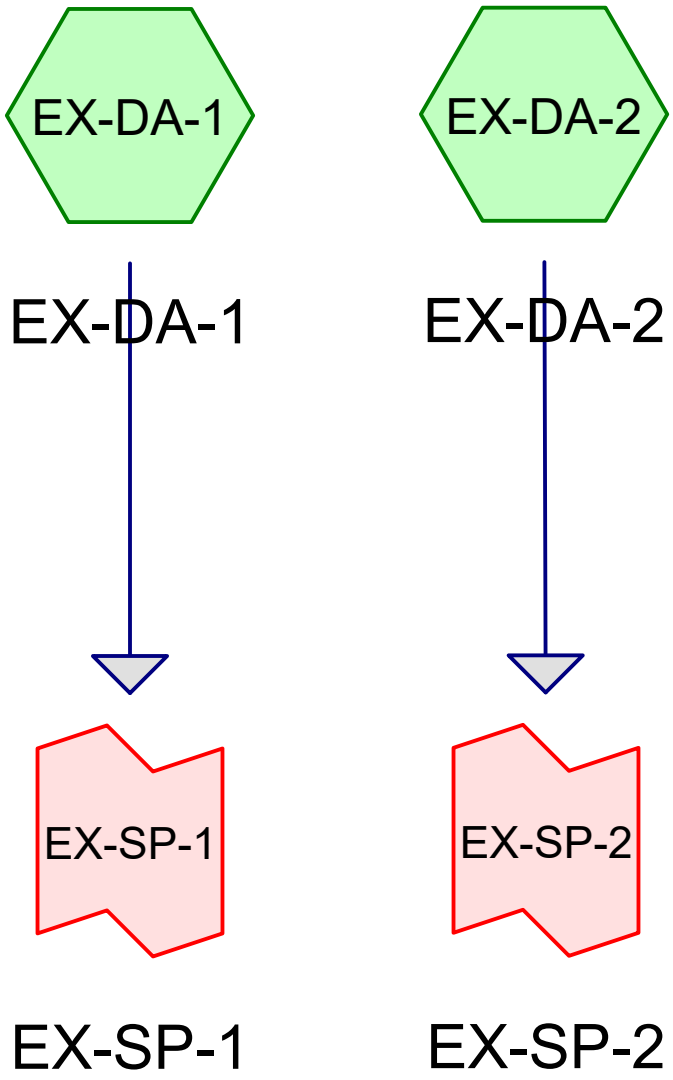
| | |
|---|---|
| Total Load Reduction (lbs P / year) | 9.36 |
| **Total Load Reduction Remaining (lbs P / yr)** | **0.00** |

| *Micro-Scale Practices* | Contributing Drainage Area (sf) | % Impervious Cover<br>RV | To fully treat sub area<br>PE required<br>WQV required | Max available WQv or ESDv from CDA (cf) | Area of upstream catchment (sf) | WQv or ESDv from Up-Gradient Practices (cf) | Total catchment area<br>Total ESDv to practice | Practice Specific Parameter(s) | | | | Bed area % of direct catchement area | WQV or ESDv provided (cf) | Runoff Volume Remaining (cf) | Down-Gradient Practice and Row | SOIL TYPE | Baseline Phosphorous Removal Efficiency | Adjusted Removal Rate | P Load to Practice (lbs/yr) | Load Reduction (lbs/yr) | Remaining Load (lbs/yr) | Watershed-inches treated (PE Provided) | Annual Rainfall Treated (%) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Bed Surface Area (sf) | Top of Ponding Surface Area (sf) | Ponding Depth (ft) | Media Depth (ft) | | | | | | | | | | | | |
| Micro-Bioretention 1 | 14,274 | 71%<br>0.689 | 1.10<br>902 | 2,213 | 0 | 0 | 14,274<br>2213 | 257 | 691 | 1 | 2.17 | 1.8% | 697 | 1,516 | Submerged Gravel Wetlands<br>1 | A/B | 75% | 71.21% | 0.55 | 0.39 | 0.16 | 0.85 | 78.39% |
| Micro-Bioretention 2 | 19,745 | 65%<br>0.635 | 1.10<br>1149 | 2,821 | 0 | 0 | 19,745<br>2821 | 321 | 851 | 1 | 3.15 | 1.6% | 990 | 1,831 | Submerged Gravel Wetlands<br>1 | A/B | 75% | 73.75% | 0.70 | 0.52 | 0.18 | 0.95 | 81.19% |
| Micro-Bioretention 3 | 10,129 | 65%<br>0.635 | 1.10<br>590 | 1,447 | 0 | 0 | 10,129<br>1447 | 285 | 761 | 1 | 2.43 | 2.8% | 800 | 647 | Submerged Gravel Wetlands<br>1 | A/B | 75% | 84.39% | 0.36 | 0.31 | 0.06 | 1.49 | 92.90% |
| Micro-Bioretention 4 | 10,473 | 80%<br>0.77 | 1.10<br>739 | 1,814 | 0 | 0 | 10,473<br>1814 | 255 | 685 | 1 | 2.62 | 2.4% | 737 | 1,077 | Submerged Gravel Wetlands<br>1 | A/B | 75% | 77.17% | 0.45 | 0.35 | 0.10 | 1.10 | 84.96% |
| Micro-Bioretention 5 | 19,882 | 70%<br>0.68 | 1.10<br>1239 | 3,042 | 0 | 0 | 19,882<br>3042 | 239 | 645 | 1 | 2.62 | 1.2% | 692 | 2,349 | Submerged Gravel Wetlands<br>1 | A/B | 75% | 63.59% | 0.76 | 0.48 | 0.28 | 0.61 | 70.01% |
| Total | 74,503 | | | 11,337 | | 0 | | | | | | | 3,917 | 7,420 | | | 74% | 72.43% | 2.83 | 2.05 | 0.78 | 0.93 | 80.78% |

| *Micro-Scale Practices* | Contributing Drainage Area (sf) | % Impervious Cover ---------- RV | To fully treat sub area ------ - PE required - ------ WQV required | Max available WQv or ESDv from CDA (cf) | Area of upstream catchment (sf) | WQv or ESDv from Up-Gradient Practices (cf) | Total catchment area - ----- Total ESDv to practice | Practice Specific Parameter(s) | | | | WQV or ESDv provided (cf) | Runoff Volume Remaining (cf) | Down-Gradient Practice and Row | SOIL TYPE | Baseline Phosphorous Removal Efficiency | Adjusted Removal Rate | P Load to Practice (lbs/yr) | Load Reduction (lbs/yr) | Remaining Load (lbs/yr) | Watershed-inches treated (PE Provided) | Annual Rainfall Treated (%) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 67% | 1.10 | | | | 304,744 | Bed Surface Area (sf) | Top of Ponding Surface Area (sf) | Ponding Depth (ft) | Media Depth (ft) | | | Submerged Gravel Wetlands | | | | | | | | |
| Forebay | 230,241 | 0.653 | 13782 | 33,828 | 74503 | 7420 | 41248 | 3,662 | 4,869 | 1.5 | | 6,398 | 34,850 | 2 | C/D | 60% | 43.68% | 10.30 | 4.50 | 5.80 | 0.42 | 60.12% |
| | | | 1.00 | | | | 304,744 | Bed Surface Area (sf) | Top of Ponding Surface Area (sf) | Ponding Depth (ft) | Media Depth (ft) | | | | | | | | | | | |
| Submerged Gravel Wetlands | | 0.05 | 0 | 0 | 304744 | 34850 | 34850 | 804 | 1,392 | 1.5 | 4 | 2,932 | 31,918 | | C/D | 60% | 32.22% | 8.70 | 2.80 | 5.90 | 0.23 | 44.33% |
| Total | 230,241 | | | 33,828 | | 42,270 | | | | | | 9,330 | 66,768 | | | 59% | 38.43% | 19.01 | 7.30 | 11.70 | 0.33 | 54.05% |

# Analysis of Existing Conditions

# EXISTING




Subcat Reach Pond Link

**Routing Diagram for Arc - Easton Crossing - Existing vs Proposed**
Prepared by Rauch Inc, Printed 4/22/2025
HydroCAD® 10.20-3h s/n 02413 © 2024 HydroCAD Software Solutions LLC

Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points x 2
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

**Subcatchment EX-DA-1: EX-DA-1** Runoff Area=213,631 sf 56.44% Impervious Runoff Depth=2.29"
Flow Length=1,205' Tc=13.0 min CN=90 Runoff=11.19 cfs 0.936 af

**Subcatchment EX-DA-2: EX-DA-2** Runoff Area=101,338 sf 94.73% Impervious Runoff Depth=2.99"
Flow Length=589' Tc=54.4 min CN=97 Runoff=3.21 cfs 0.579 af

**Link EX-SP-1: EX-SP-1** Inflow=11.19 cfs 0.936 af
Primary=11.19 cfs 0.936 af

**Link EX-SP-2: EX-SP-2** Inflow=3.21 cfs 0.579 af
Primary=3.21 cfs 0.579 af

**Total Runoff Area = 7.231 ac Runoff Volume = 1.514 af Average Runoff Depth = 2.51"**
**31.24% Pervious = 2.259 ac 68.76% Impervious = 4.972 ac**

## Summary for Subcatchment EX-DA-1: EX-DA-1

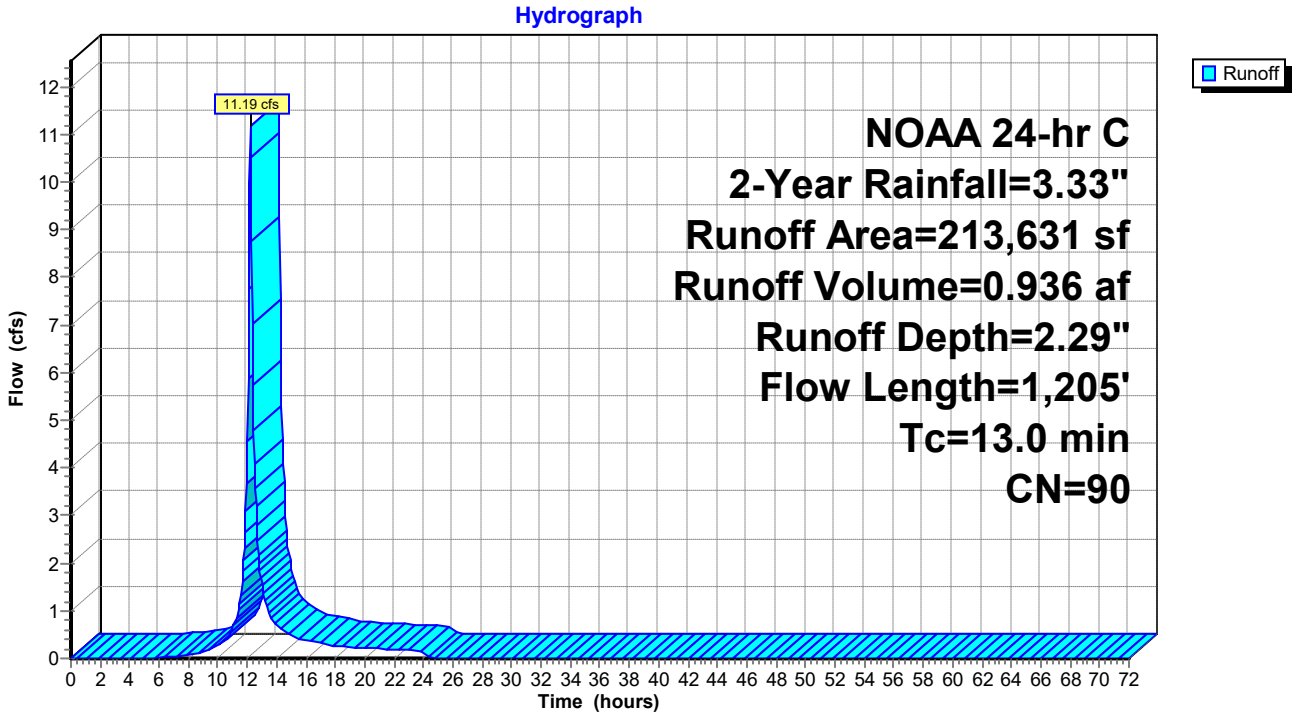
Runoff = 11.19 cfs @ 12.21 hrs, Volume= 0.936 af, Depth= 2.29"
Routed to Link EX-SP-1 : EX-SP-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C 2-Year Rainfall=3.33"

| Area (sf) | CN | Description |
|---|---|---|
| 90,997 | 79 | <50% Grass cover, Poor, HSG B |
| 104,185 | 98 | Paved parking, HSG B |
| 2,064 | 86 | <50% Grass cover, Poor, HSG C |
| 16,385 | 98 | Paved parking, HSG C |
| 213,631 | 90 | Weighted Average |
| 93,061 | | 43.56% Pervious Area |
| 120,570 | | 56.44% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 1.6 | 82 | 0.0346 | 0.87 | | **Sheet Flow, GRAVELED SHEET FLOW**<br>n= 0.025 P2= 3.33" |
| 3.8 | 18 | 0.0066 | 0.08 | | **Sheet Flow, GRASSED SHEET FLOW**<br>Grass: Short n= 0.150 P2= 3.33" |
| 4.1 | 419 | 0.0111 | 1.70 | | **Shallow Concentrated Flow, GRASSED SHALLOW CONCENTRAT**<br>Unpaved Kv= 16.1 fps |
| 0.6 | 80 | 0.0137 | 2.38 | | **Shallow Concentrated Flow, GRAVELED SCF**<br>Paved Kv= 20.3 fps |
| 0.1 | 6 | 0.0014 | 0.76 | | **Shallow Concentrated Flow, CONCRETED SCF**<br>Paved Kv= 20.3 fps |
| 2.2 | 233 | 0.0092 | 1.73 | 0.17 | **Channel Flow, CONCRETED CHANNEL FLOW**<br>Area= 0.1 sf Perim= 1.6' r= 0.06'<br>n= 0.013 Concrete, trowel finish |
| 0.0 | 13 | 0.0150 | 6.57 | 5.16 | **Pipe Channel, PIPED FLOW**<br>12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25'<br>n= 0.011 Concrete pipe, straight & clean |
| 0.6 | 354 | 0.0051 | 9.40 | 82.01 | **Pipe Channel, PIPED FLOW**<br>40.0" Round Area= 8.7 sf Perim= 10.5' r= 0.83'<br>n= 0.010 PVC, smooth interior |
| 13.0 | 1,205 | Total | | | |

## Subcatchment EX-DA-1: EX-DA-1



## Summary for Subcatchment EX-DA-2: EX-DA-2

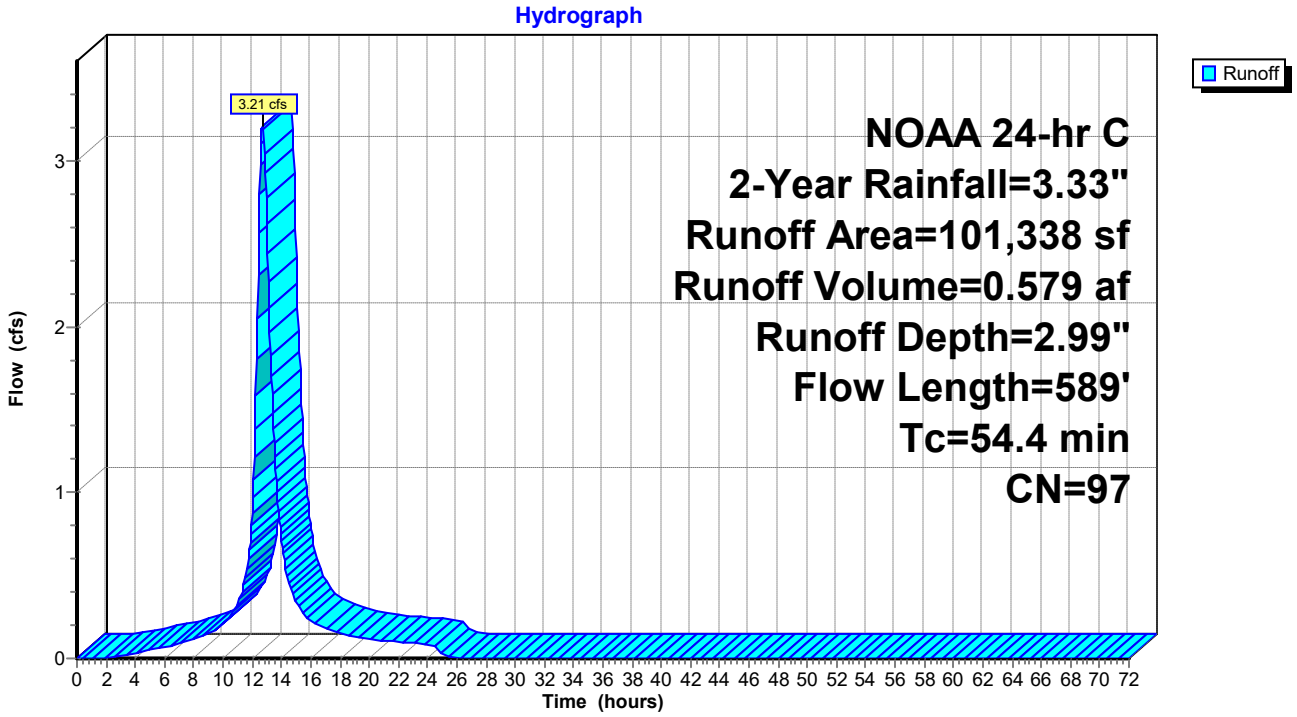
Runoff = 3.21 cfs @ 12.71 hrs, Volume= 0.579 af, Depth= 2.99"
Routed to Link EX-SP-2 : EX-SP-2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C 2-Year Rainfall=3.33"

| Area (sf) | CN | Description |
|---|---|---|
| 5,339 | 79 | <50% Grass cover, Poor, HSG B |
| 95,999 | 98 | Paved parking, HSG C |
| 101,338 | 97 | Weighted Average |
| 5,339 | | 5.27% Pervious Area |
| 95,999 | | 94.73% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 0.6 | 45 | 0.0221 | 1.24 | | **Sheet Flow, CONCRETED SHEET FLOW**<br>Smooth surfaces n= 0.011 P2= 3.33" |
| 5.0 | 55 | 0.0303 | 0.18 | | **Sheet Flow, GRASSED SHEET FLOW**<br>Grass: Short n= 0.150 P2= 3.33" |
| 48.3 | 435 | 0.0001 | 0.15 | | **Shallow Concentrated Flow, GRASSED SHALLOW CONCENTRAT**<br>Grassed Waterway Kv= 15.0 fps |
| 0.1 | 8 | 0.0075 | 1.76 | | **Shallow Concentrated Flow, CONCRETED SHALLOW CONCENTR**<br>Paved Kv= 20.3 fps |
| 0.4 | 46 | 0.0144 | 2.16 | 0.22 | **Channel Flow, CONCRETED CHANNELED FLOW**<br>Area= 0.1 sf Perim= 1.6' r= 0.06'<br>n= 0.013 Concrete, trowel finish |
| 54.4 | 589 | Total | | | |

## Subcatchment EX-DA-2: EX-DA-2

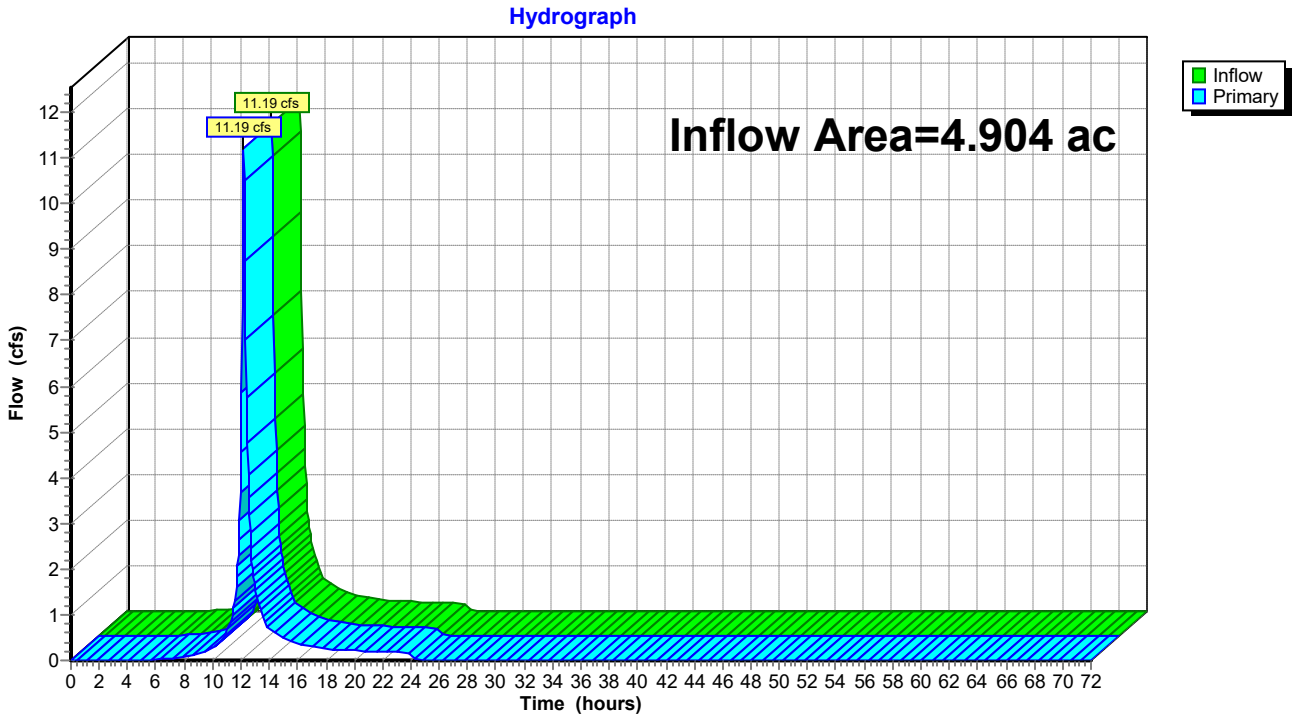


## Summary for Link EX-SP-1: EX-SP-1

Inflow Area = 4.904 ac, 56.44% Impervious, Inflow Depth = 2.29" for 2-Year event
Inflow = 11.19 cfs @ 12.21 hrs, Volume= 0.936 af
Primary = 11.19 cfs @ 12.21 hrs, Volume= 0.936 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

## Link EX-SP-1: EX-SP-1

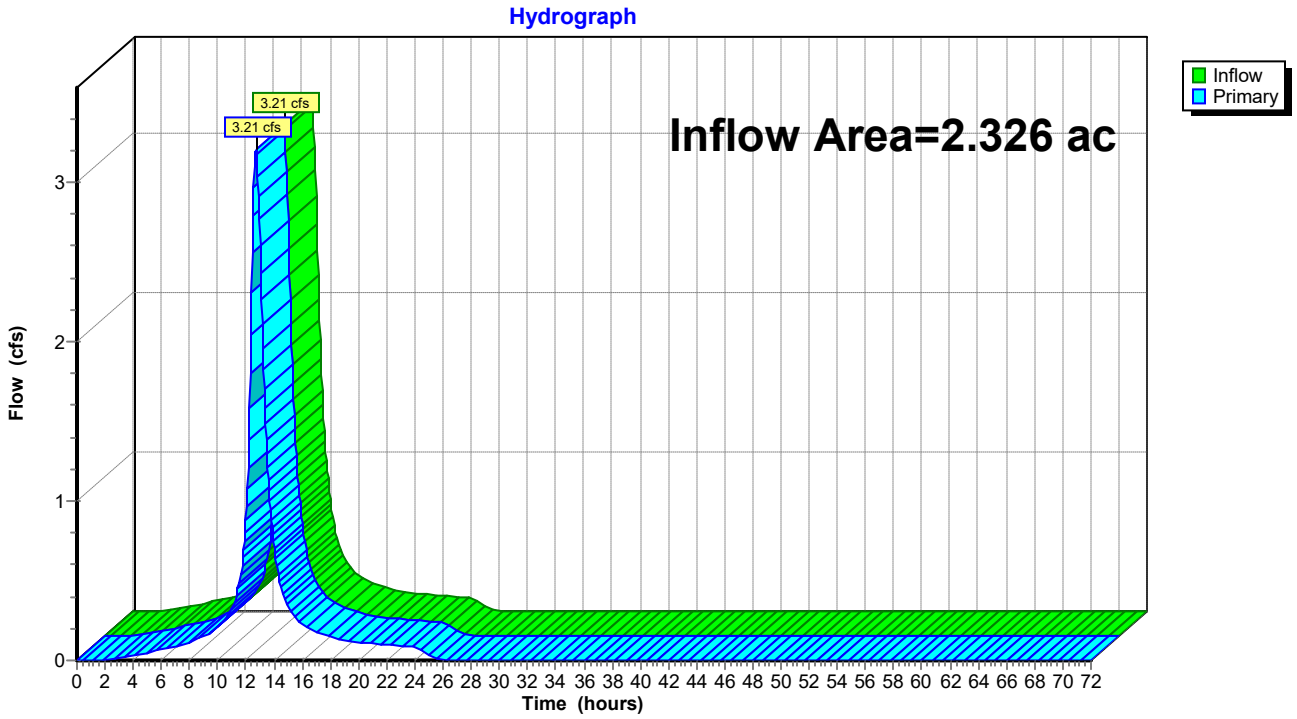


## Summary for Link EX-SP-2: EX-SP-2

Inflow Area = 2.326 ac, 94.73% Impervious, Inflow Depth = 2.99" for 2-Year event
Inflow = 3.21 cfs @ 12.71 hrs, Volume= 0.579 af
Primary = 3.21 cfs @ 12.71 hrs, Volume= 0.579 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

## Link EX-SP-2: EX-SP-2



Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points x 2
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

**Subcatchment EX-DA-1: EX-DA-1** Runoff Area=213,631 sf 56.44% Impervious Runoff Depth=4.07"
Flow Length=1,205' Tc=13.0 min CN=90 Runoff=19.35 cfs 1.663 af

**Subcatchment EX-DA-2: EX-DA-2** Runoff Area=101,338 sf 94.73% Impervious Runoff Depth=4.85"
Flow Length=589' Tc=54.4 min CN=97 Runoff=5.10 cfs 0.940 af

**Link EX-SP-1: EX-SP-1** Inflow=19.35 cfs 1.663 af
Primary=19.35 cfs 1.663 af

**Link EX-SP-2: EX-SP-2** Inflow=5.10 cfs 0.940 af
Primary=5.10 cfs 0.940 af

**Total Runoff Area = 7.231 ac Runoff Volume = 2.603 af Average Runoff Depth = 4.32"**
**31.24% Pervious = 2.259 ac 68.76% Impervious = 4.972 ac**

## Summary for Subcatchment EX-DA-1: EX-DA-1

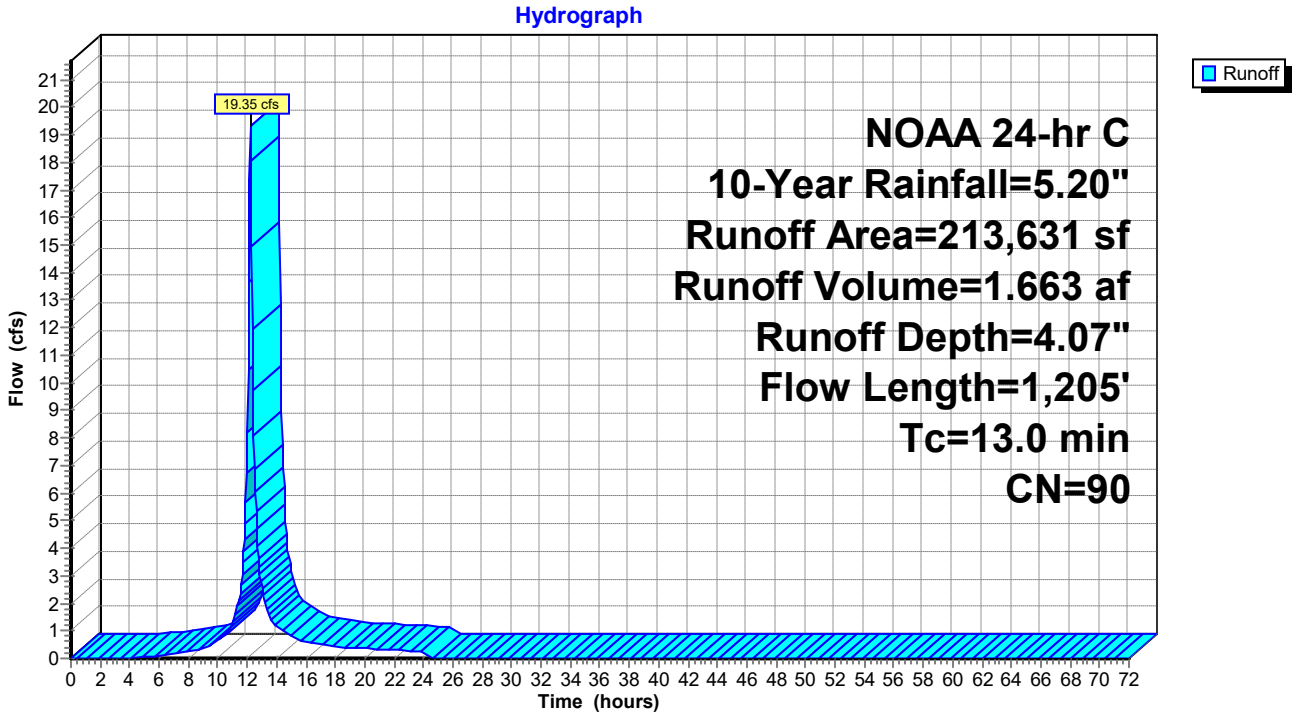
Runoff = 19.35 cfs @ 12.21 hrs, Volume= 1.663 af, Depth= 4.07"
Routed to Link EX-SP-1 : EX-SP-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C 10-Year Rainfall=5.20"

| Area (sf) | CN | Description |
|---|---|---|
| 90,997 | 79 | <50% Grass cover, Poor, HSG B |
| 104,185 | 98 | Paved parking, HSG B |
| 2,064 | 86 | <50% Grass cover, Poor, HSG C |
| 16,385 | 98 | Paved parking, HSG C |
| 213,631 | 90 | Weighted Average |
| 93,061 | | 43.56% Pervious Area |
| 120,570 | | 56.44% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 1.6 | 82 | 0.0346 | 0.87 | | **Sheet Flow, GRAVELED SHEET FLOW**<br>n= 0.025 P2= 3.33" |
| 3.8 | 18 | 0.0066 | 0.08 | | **Sheet Flow, GRASSED SHEET FLOW**<br>Grass: Short n= 0.150 P2= 3.33" |
| 4.1 | 419 | 0.0111 | 1.70 | | **Shallow Concentrated Flow, GRASSED SHALLOW CONCENTRAT**<br>Unpaved Kv= 16.1 fps |
| 0.6 | 80 | 0.0137 | 2.38 | | **Shallow Concentrated Flow, GRAVELED SCF**<br>Paved Kv= 20.3 fps |
| 0.1 | 6 | 0.0014 | 0.76 | | **Shallow Concentrated Flow, CONCRETED SCF**<br>Paved Kv= 20.3 fps |
| 2.2 | 233 | 0.0092 | 1.73 | 0.17 | **Channel Flow, CONCRETED CHANNEL FLOW**<br>Area= 0.1 sf Perim= 1.6' r= 0.06'<br>n= 0.013 Concrete, trowel finish |
| 0.0 | 13 | 0.0150 | 6.57 | 5.16 | **Pipe Channel, PIPED FLOW**<br>12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25'<br>n= 0.011 Concrete pipe, straight & clean |
| 0.6 | 354 | 0.0051 | 9.40 | 82.01 | **Pipe Channel, PIPED FLOW**<br>40.0" Round Area= 8.7 sf Perim= 10.5' r= 0.83'<br>n= 0.010 PVC, smooth interior |
| 13.0 | 1,205 | Total | | | |

## Subcatchment EX-DA-1: EX-DA-1



## Summary for Subcatchment EX-DA-2: EX-DA-2

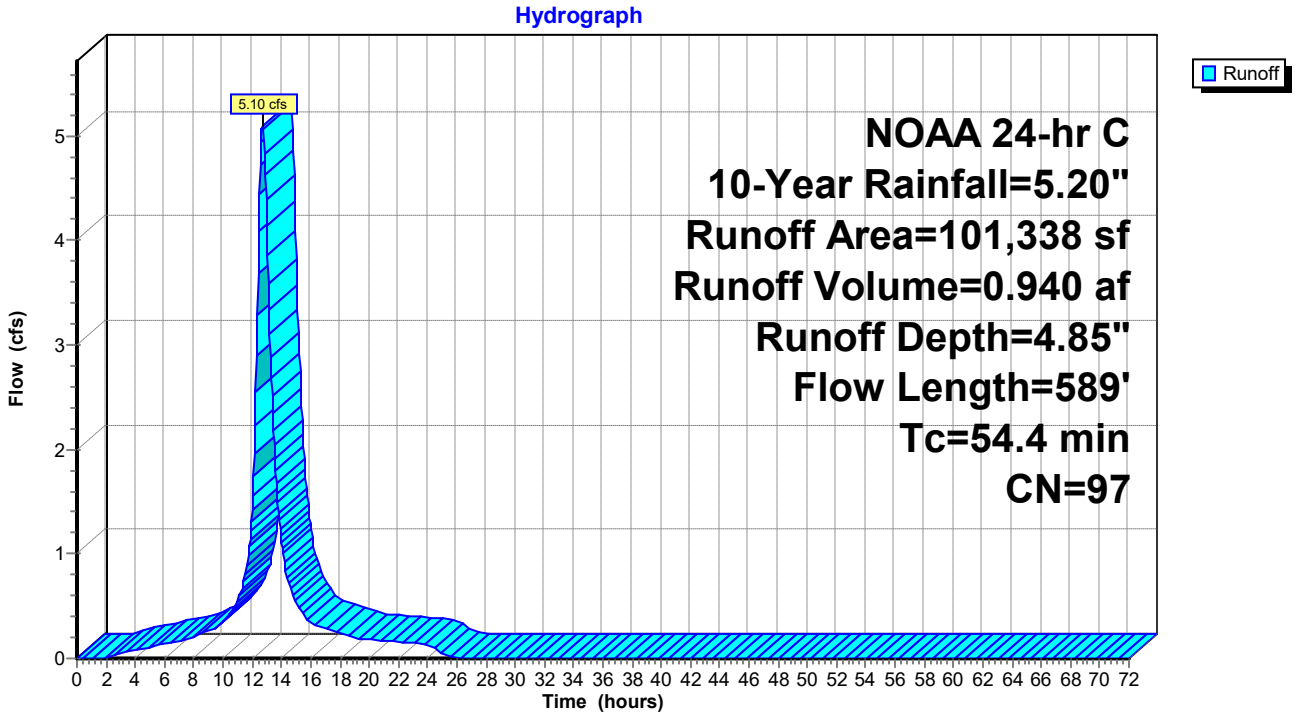
Runoff = 5.10 cfs @ 12.71 hrs, Volume= 0.940 af, Depth= 4.85"
Routed to Link EX-SP-2 : EX-SP-2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C 10-Year Rainfall=5.20"

| Area (sf) | CN | Description |
|---|---|---|
| 5,339 | 79 | <50% Grass cover, Poor, HSG B |
| 95,999 | 98 | Paved parking, HSG C |
| 101,338 | 97 | Weighted Average |
| 5,339 | | 5.27% Pervious Area |
| 95,999 | | 94.73% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 0.6 | 45 | 0.0221 | 1.24 | | **Sheet Flow, CONCRETED SHEET FLOW**<br>Smooth surfaces n= 0.011 P2= 3.33" |
| 5.0 | 55 | 0.0303 | 0.18 | | **Sheet Flow, GRASSED SHEET FLOW**<br>Grass: Short n= 0.150 P2= 3.33" |
| 48.3 | 435 | 0.0001 | 0.15 | | **Shallow Concentrated Flow, GRASSED SHALLOW CONCENTRAT**<br>Grassed Waterway Kv= 15.0 fps |
| 0.1 | 8 | 0.0075 | 1.76 | | **Shallow Concentrated Flow, CONCRETED SHALLOW CONCENTR**<br>Paved Kv= 20.3 fps |
| 0.4 | 46 | 0.0144 | 2.16 | 0.22 | **Channel Flow, CONCRETED CHANNELED FLOW**<br>Area= 0.1 sf Perim= 1.6' r= 0.06'<br>n= 0.013 Concrete, trowel finish |
| 54.4 | 589 | Total | | | |

## Subcatchment EX-DA-2: EX-DA-2

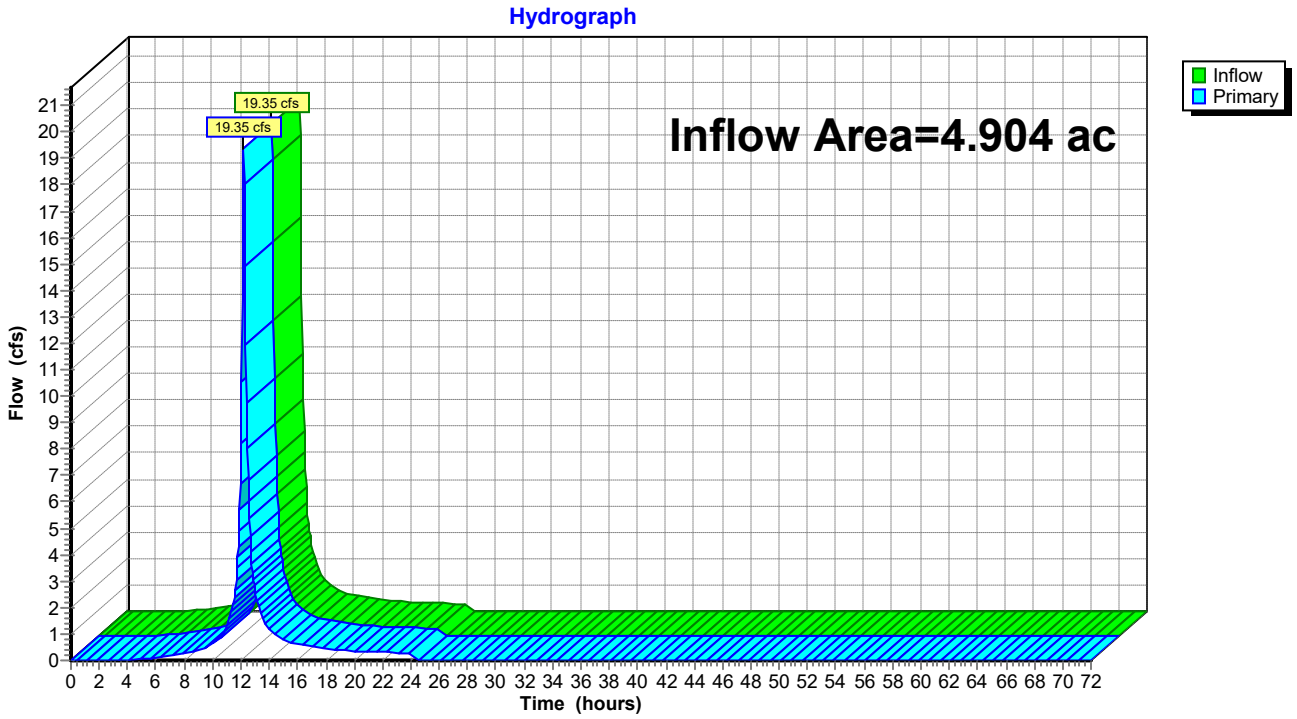


## Summary for Link EX-SP-1: EX-SP-1

Inflow Area = 4.904 ac, 56.44% Impervious, Inflow Depth = 4.07" for 10-Year event
Inflow = 19.35 cfs @ 12.21 hrs, Volume= 1.663 af
Primary = 19.35 cfs @ 12.21 hrs, Volume= 1.663 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

## Link EX-SP-1: EX-SP-1

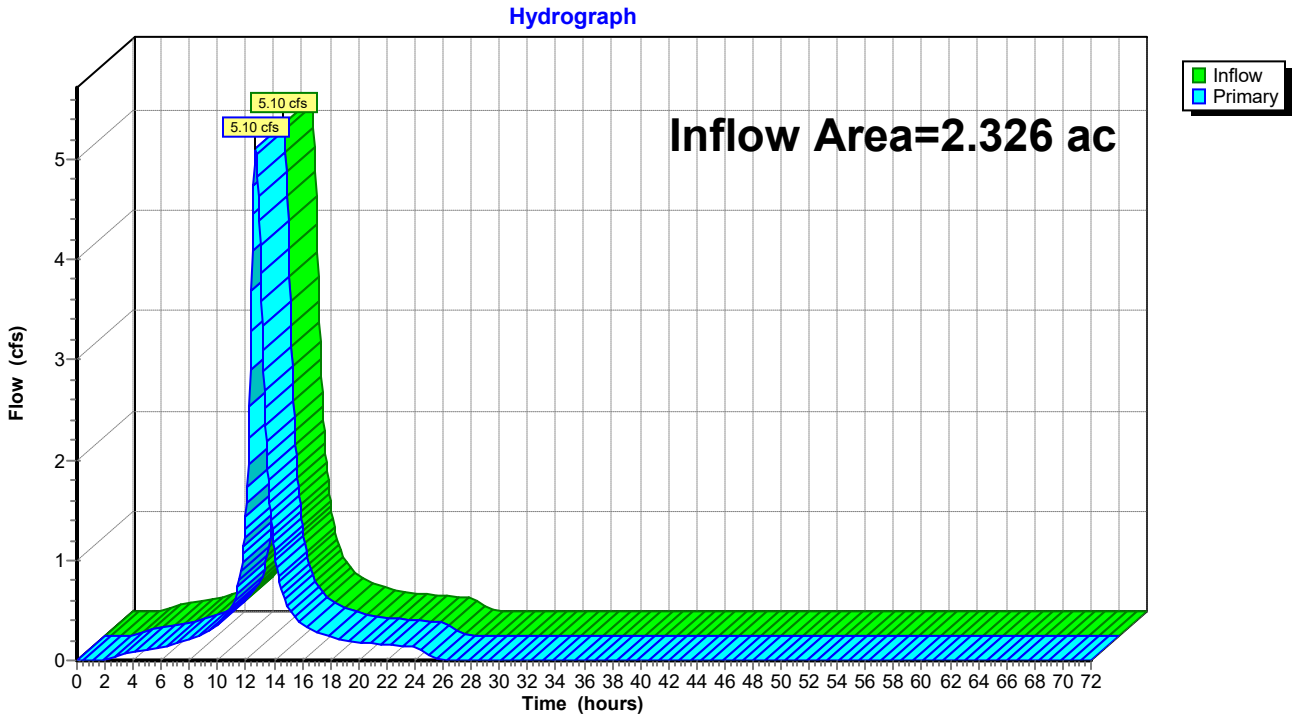


## Summary for Link EX-SP-2: EX-SP-2

Inflow Area = 2.326 ac, 94.73% Impervious, Inflow Depth = 4.85" for 10-Year event
Inflow = 5.10 cfs @ 12.71 hrs, Volume= 0.940 af
Primary = 5.10 cfs @ 12.71 hrs, Volume= 0.940 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

### Link EX-SP-2: EX-SP-2



Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points x 2
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

**Subcatchment EX-DA-1: EX-DA-1** Runoff Area=213,631 sf 56.44% Impervious Runoff Depth=7.77"
Flow Length=1,205' Tc=13.0 min CN=90 Runoff=35.59 cfs 3.176 af

**Subcatchment EX-DA-2: EX-DA-2** Runoff Area=101,338 sf 94.73% Impervious Runoff Depth=8.62"
Flow Length=589' Tc=54.4 min CN=97 Runoff=8.89 cfs 1.671 af

**Link EX-SP-1: EX-SP-1** Inflow=35.59 cfs 3.176 af
Primary=35.59 cfs 3.176 af

**Link EX-SP-2: EX-SP-2** Inflow=8.89 cfs 1.671 af
Primary=8.89 cfs 1.671 af

**Total Runoff Area = 7.231 ac Runoff Volume = 4.847 af Average Runoff Depth = 8.04"**
**31.24% Pervious = 2.259 ac 68.76% Impervious = 4.972 ac**

## Summary for Subcatchment EX-DA-1: EX-DA-1

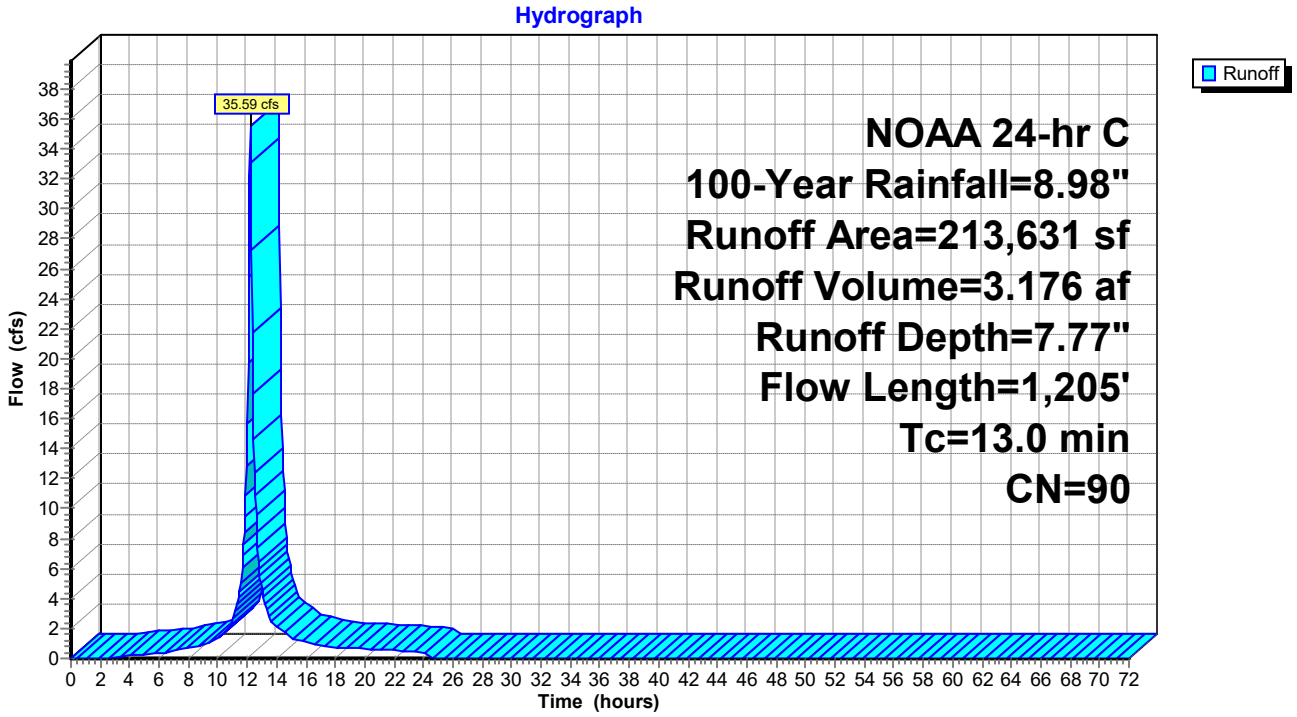
Runoff = 35.59 cfs @ 12.20 hrs, Volume= 3.176 af, Depth= 7.77"
Routed to Link EX-SP-1 : EX-SP-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C 100-Year Rainfall=8.98"

| Area (sf) | CN | Description |
|---|---|---|
| 90,997 | 79 | <50% Grass cover, Poor, HSG B |
| 104,185 | 98 | Paved parking, HSG B |
| 2,064 | 86 | <50% Grass cover, Poor, HSG C |
| 16,385 | 98 | Paved parking, HSG C |
| 213,631 | 90 | Weighted Average |
| 93,061 | | 43.56% Pervious Area |
| 120,570 | | 56.44% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 1.6 | 82 | 0.0346 | 0.87 | | **Sheet Flow, GRAVELED SHEET FLOW**<br>n= 0.025 P2= 3.33" |
| 3.8 | 18 | 0.0066 | 0.08 | | **Sheet Flow, GRASSED SHEET FLOW**<br>Grass: Short n= 0.150 P2= 3.33" |
| 4.1 | 419 | 0.0111 | 1.70 | | **Shallow Concentrated Flow, GRASSED SHALLOW CONCENTRAT**<br>Unpaved Kv= 16.1 fps |
| 0.6 | 80 | 0.0137 | 2.38 | | **Shallow Concentrated Flow, GRAVELED SCF**<br>Paved Kv= 20.3 fps |
| 0.1 | 6 | 0.0014 | 0.76 | | **Shallow Concentrated Flow, CONCRETED SCF**<br>Paved Kv= 20.3 fps |
| 2.2 | 233 | 0.0092 | 1.73 | 0.17 | **Channel Flow, CONCRETED CHANNEL FLOW**<br>Area= 0.1 sf Perim= 1.6' r= 0.06'<br>n= 0.013 Concrete, trowel finish |
| 0.0 | 13 | 0.0150 | 6.57 | 5.16 | **Pipe Channel, PIPED FLOW**<br>12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25'<br>n= 0.011 Concrete pipe, straight & clean |
| 0.6 | 354 | 0.0051 | 9.40 | 82.01 | **Pipe Channel, PIPED FLOW**<br>40.0" Round Area= 8.7 sf Perim= 10.5' r= 0.83'<br>n= 0.010 PVC, smooth interior |
| 13.0 | 1,205 | Total | | | |

## Subcatchment EX-DA-1: EX-DA-1



## Summary for Subcatchment EX-DA-2: EX-DA-2

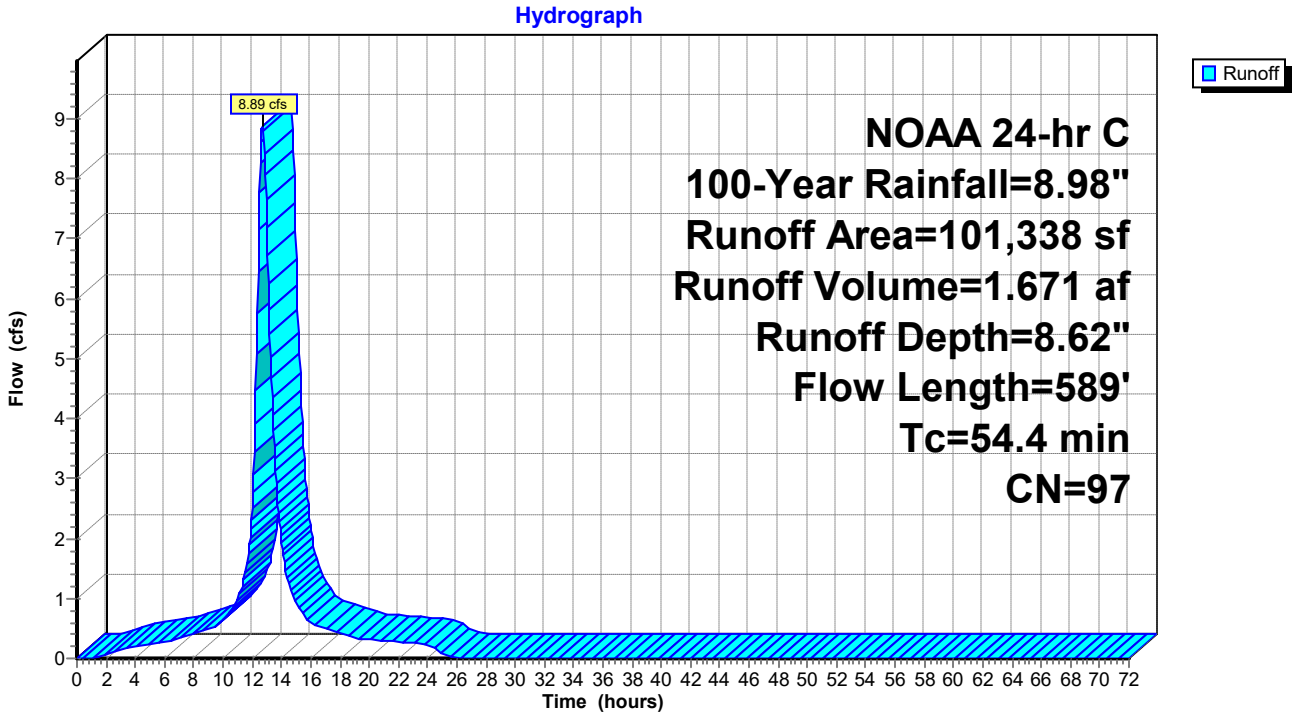
Runoff = 8.89 cfs @ 12.71 hrs, Volume= 1.671 af, Depth= 8.62"
Routed to Link EX-SP-2 : EX-SP-2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C 100-Year Rainfall=8.98"

| Area (sf) | CN | Description |
|---|---|---|
| 5,339 | 79 | <50% Grass cover, Poor, HSG B |
| 95,999 | 98 | Paved parking, HSG C |
| 101,338 | 97 | Weighted Average |
| 5,339 | | 5.27% Pervious Area |
| 95,999 | | 94.73% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 0.6 | 45 | 0.0221 | 1.24 | | **Sheet Flow, CONCRETED SHEET FLOW**<br>Smooth surfaces n= 0.011 P2= 3.33" |
| 5.0 | 55 | 0.0303 | 0.18 | | **Sheet Flow, GRASSED SHEET FLOW**<br>Grass: Short n= 0.150 P2= 3.33" |
| 48.3 | 435 | 0.0001 | 0.15 | | **Shallow Concentrated Flow, GRASSED SHALLOW CONCENTRAT**<br>Grassed Waterway Kv= 15.0 fps |
| 0.1 | 8 | 0.0075 | 1.76 | | **Shallow Concentrated Flow, CONCRETED SHALLOW CONCENTR**<br>Paved Kv= 20.3 fps |
| 0.4 | 46 | 0.0144 | 2.16 | 0.22 | **Channel Flow, CONCRETED CHANNELED FLOW**<br>Area= 0.1 sf Perim= 1.6' r= 0.06'<br>n= 0.013 Concrete, trowel finish |
| 54.4 | 589 | Total | | | |

## Subcatchment EX-DA-2: EX-DA-2

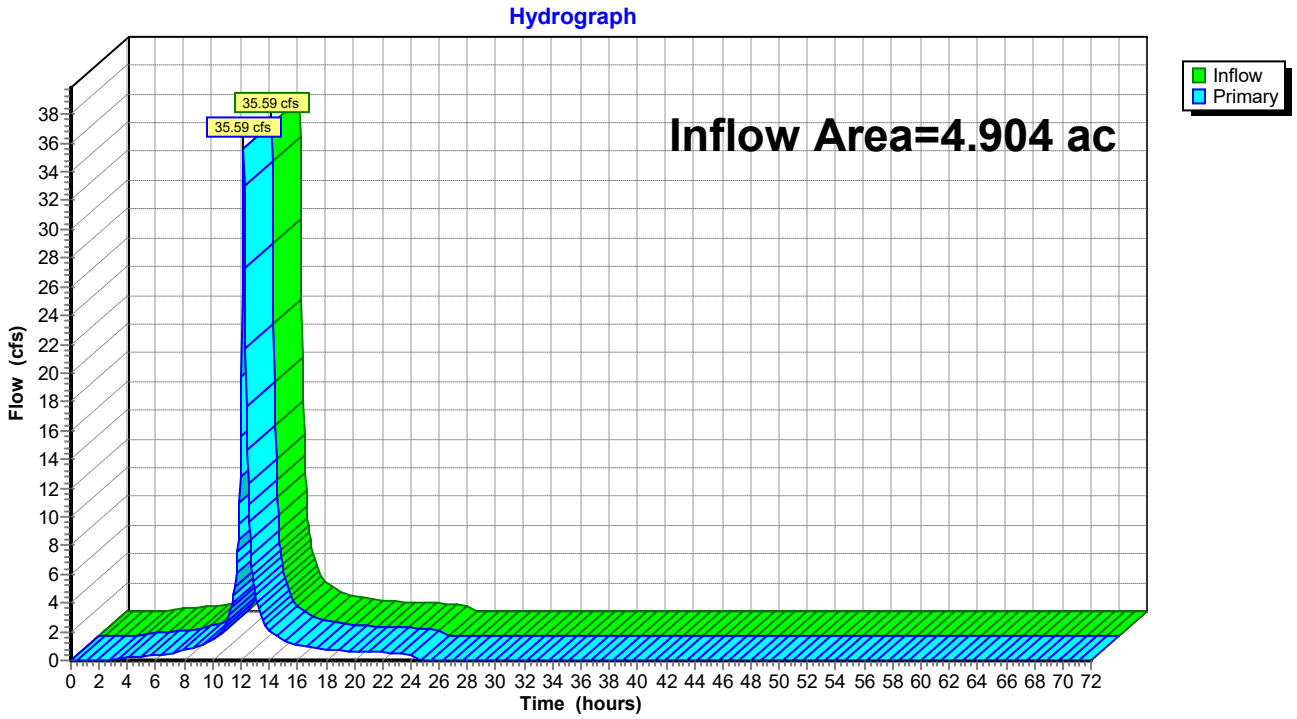


## Summary for Link EX-SP-1: EX-SP-1

Inflow Area = 4.904 ac, 56.44% Impervious, Inflow Depth = 7.77" for 100-Year event
Inflow = 35.59 cfs @ 12.20 hrs, Volume= 3.176 af
Primary = 35.59 cfs @ 12.20 hrs, Volume= 3.176 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

## Link EX-SP-1: EX-SP-1

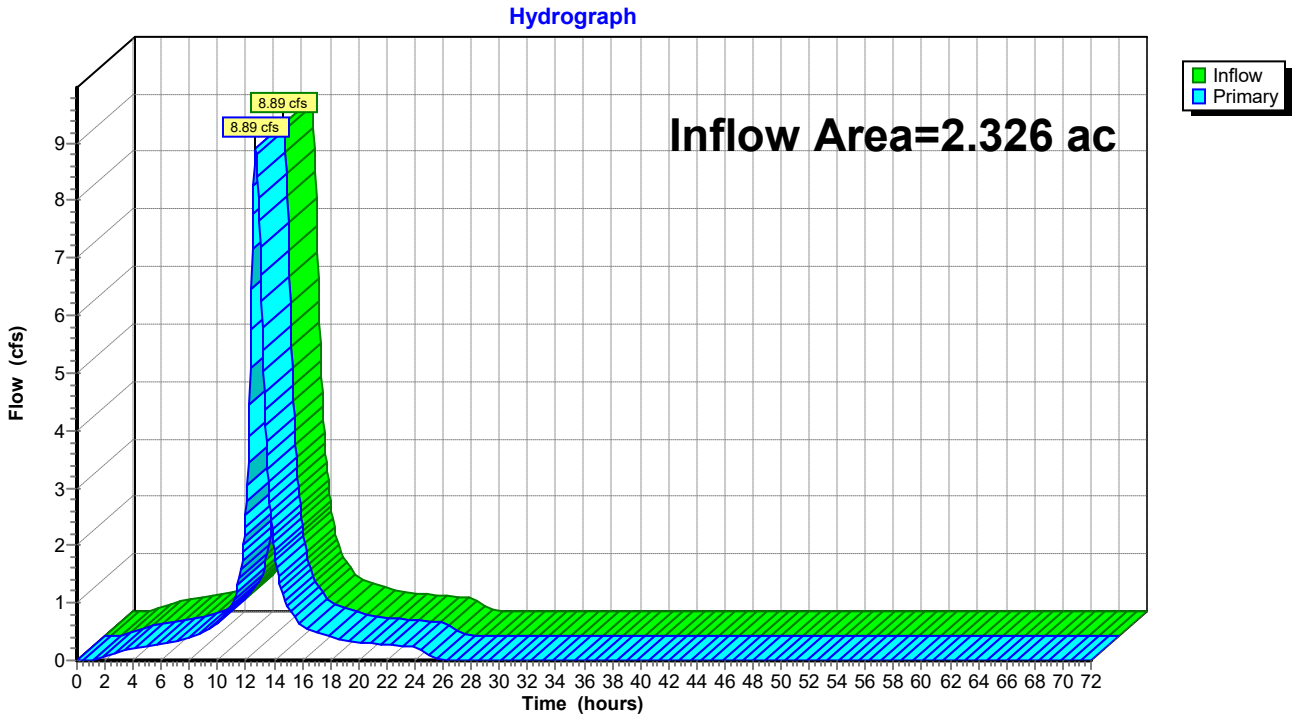


## Summary for Link EX-SP-2: EX-SP-2

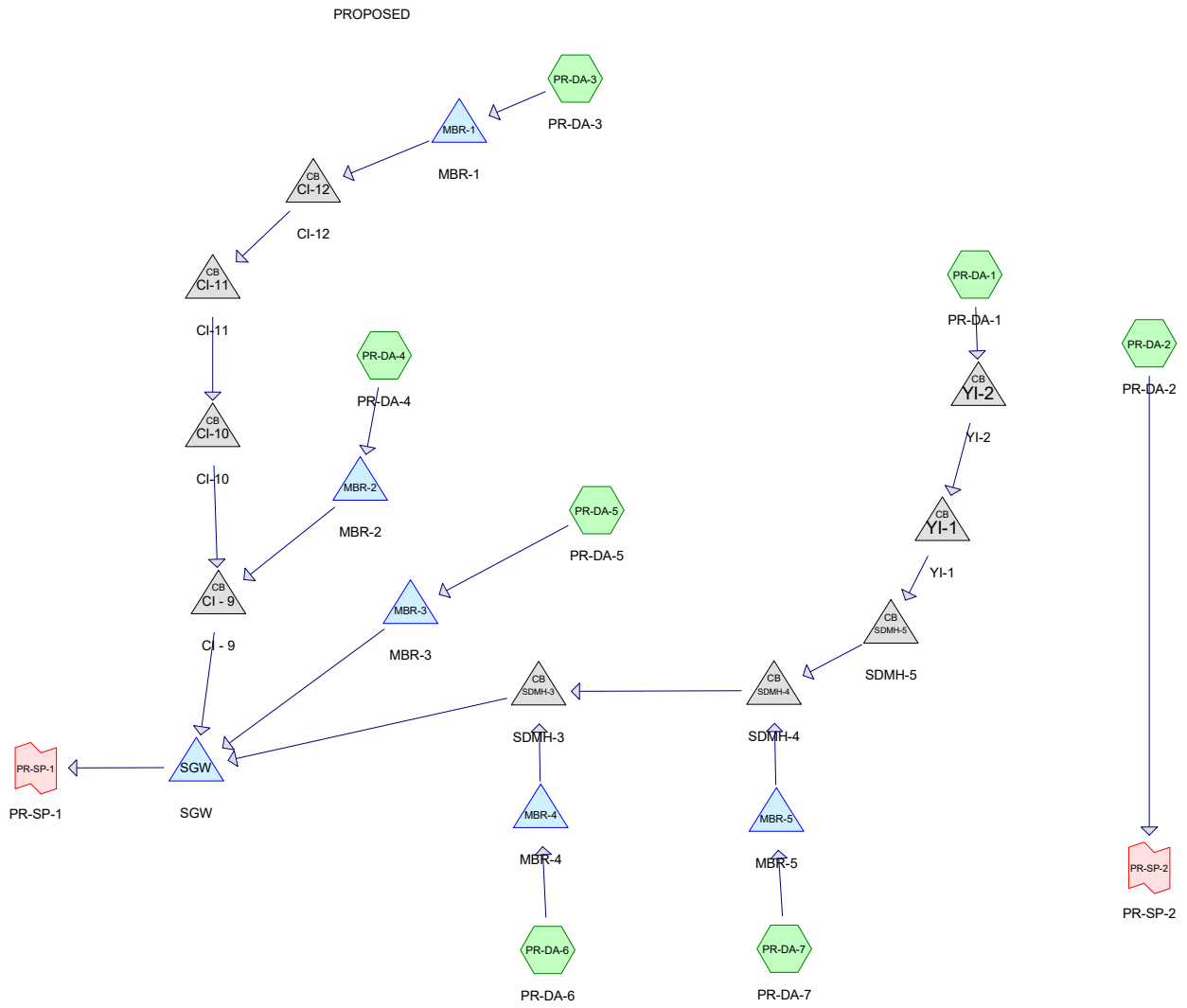
Inflow Area = 2.326 ac, 94.73% Impervious, Inflow Depth = 8.62" for 100-Year event
Inflow = 8.89 cfs @ 12.71 hrs, Volume= 1.671 af
Primary = 8.89 cfs @ 12.71 hrs, Volume= 1.671 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

## Link EX-SP-2: EX-SP-2



# Analysis of Proposed Conditions


PROPOSED
PR-DA-3
PR-DA-3
MBR-1
MBR-1
CB
CI-12
CI-12
CB
CI-11
CI-11
PR-DA-4
PR-DA-4
CB
CI-10
CI-10
MBR-2
MBR-2
PR-DA-5
PR-DA-5
CB
CI - 9
CI - 9
MBR-3
MBR-3
PR-SP-1
PR-SP-1
SGW
SGW
CB
SDMH-3
SDMH-3
MBR-4
MBR-4
PR-DA-6
PR-DA-6
CB
SDMH-4
SDMH-4
MBR-5
MBR-5
PR-DA-7
PR-DA-7
CB
SDMH-5
SDMH-5
CB
YI-1
YI-1
CB
YI-2
YI-2
PR-DA-1
PR-DA-1
PR-DA-2
PR-DA-2
PR-SP-2
PR-SP-2
Subcat
Reach
Pond
Link
Routing Diagram for Arc - Easton Crossing - New Layout - Existing vs Proposed
Prepared by Rauch Inc, Printed 6/2/2025
HydroCAD® 10.20-3h s/n 02413 © 2024 HydroCAD Software Solutions LLC

Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points x 2
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

**Subcatchment PR-DA-1: PR-DA-1** Runoff Area=230,241 sf 67.12% Impervious Runoff Depth=1.95"
Flow Length=114' Tc=17.0 min CN=86 Runoff=9.32 cfs 0.858 af

**Subcatchment PR-DA-2: PR-DA-2** Runoff Area=7,525 sf 75.24% Impervious Runoff Depth=2.20"
Flow Length=258' Tc=5.1 min CN=89 Runoff=0.49 cfs 0.032 af

**Subcatchment PR-DA-3: PR-DA-3** Runoff Area=14,274 sf 71.00% Impervious Runoff Depth=2.03"
Flow Length=81' Tc=10.7 min CN=87 Runoff=0.72 cfs 0.055 af

**Subcatchment PR-DA-4: PR-DA-4** Runoff Area=19,745 sf 65.00% Impervious Runoff Depth=1.87"
Flow Length=101' Tc=11.2 min CN=85 Runoff=0.91 cfs 0.071 af

**Subcatchment PR-DA-5: PR-DA-5** Runoff Area=10,129 sf 65.00% Impervious Runoff Depth=1.87"
Flow Length=101' Tc=11.2 min CN=85 Runoff=0.46 cfs 0.036 af

**Subcatchment PR-DA-6: PR-DA-6** Runoff Area=10,473 sf 80.00% Impervious Runoff Depth=2.38"
Flow Length=45' Tc=3.7 min CN=91 Runoff=0.77 cfs 0.048 af

**Subcatchment PR-DA-7: PR-DA-7** Runoff Area=19,882 sf 70.00% Impervious Runoff Depth=2.03"
Flow Length=107' Tc=4.2 min CN=87 Runoff=1.25 cfs 0.077 af

**Pond CI - 9: CI - 9** Peak Elev=32.57' Inflow=1.43 cfs 0.125 af
12.0" Round Culvert n=0.012 L=58.8' S=0.0051 '/' Outflow=1.43 cfs 0.125 af

**Pond CI-10: CI-10** Peak Elev=32.57' Inflow=0.67 cfs 0.054 af
12.0" Round Culvert n=0.012 L=75.2' S=0.0049 '/' Outflow=0.67 cfs 0.054 af

**Pond CI-11: CI-11** Peak Elev=32.67' Inflow=0.67 cfs 0.054 af
12.0" Round Culvert n=0.012 L=76.0' S=0.0050 '/' Outflow=0.67 cfs 0.054 af

**Pond CI-12: CI-12** Peak Elev=32.91' Inflow=0.67 cfs 0.054 af
12.0" Round Culvert n=0.012 L=56.6' S=0.0051 '/' Outflow=0.67 cfs 0.054 af

**Pond MBR-1: MBR-1** Peak Elev=33.40' Storage=129 cf Inflow=0.72 cfs 0.055 af
Outflow=0.67 cfs 0.054 af

**Pond MBR-2: MBR-2** Peak Elev=32.94' Storage=144 cf Inflow=0.91 cfs 0.071 af
Outflow=0.77 cfs 0.071 af

**Pond MBR-3: MBR-3** Peak Elev=32.57' Storage=85 cf Inflow=0.46 cfs 0.036 af
Outflow=0.45 cfs 0.036 af

**Pond MBR-4: MBR-4** Peak Elev=33.13' Storage=96 cf Inflow=0.77 cfs 0.048 af
Outflow=0.67 cfs 0.047 af

**Pond MBR-5: MBR-5** Peak Elev=34.80' Storage=267 cf Inflow=1.25 cfs 0.077 af
Outflow=1.00 cfs 0.076 af

**Pond SDMH-3: SDMH-3** Peak Elev=33.24' Inflow=10.02 cfs 0.981 af
Outflow=10.02 cfs 0.981 af

**Pond SDMH-4: SDMH-4** Peak Elev=33.93' Inflow=9.89 cfs 0.934 af
24.0" Round Culvert n=0.012 L=60.3' S=0.0211 '/' Outflow=9.89 cfs 0.934 af

**Pond SDMH-5: SDMH-5** Peak Elev=36.01' Inflow=9.32 cfs 0.858 af
24.0" Round Culvert n=0.012 L=112.2' S=0.0196 '/' Outflow=9.32 cfs 0.858 af

**Pond SGW: SGW** Peak Elev=32.52' Storage=9,730 cf Inflow=11.82 cfs 1.142 af
Outflow=8.34 cfs 1.142 af

**Pond YI-1: YI-1** Peak Elev=45.69' Inflow=9.32 cfs 0.858 af
12.0" Round Culvert n=0.012 L=109.4' S=0.0050 '/' Outflow=9.32 cfs 0.858 af

**Pond YI-2: YI-2** Peak Elev=55.64' Inflow=9.32 cfs 0.858 af
12.0" Round Culvert n=0.012 L=114.7' S=0.0051 '/' Outflow=9.32 cfs 0.858 af

**Link PR-SP-1: PR-SP-1** Inflow=8.34 cfs 1.142 af
Primary=8.34 cfs 1.142 af

**Link PR-SP-2: PR-SP-2** Inflow=0.49 cfs 0.032 af
Primary=0.49 cfs 0.032 af

**Total Runoff Area = 7.169 ac Runoff Volume = 1.177 af Average Runoff Depth = 1.97"**
**32.10% Pervious = 2.301 ac 67.90% Impervious = 4.868 ac**

## Summary for Subcatchment PR-DA-1: PR-DA-1

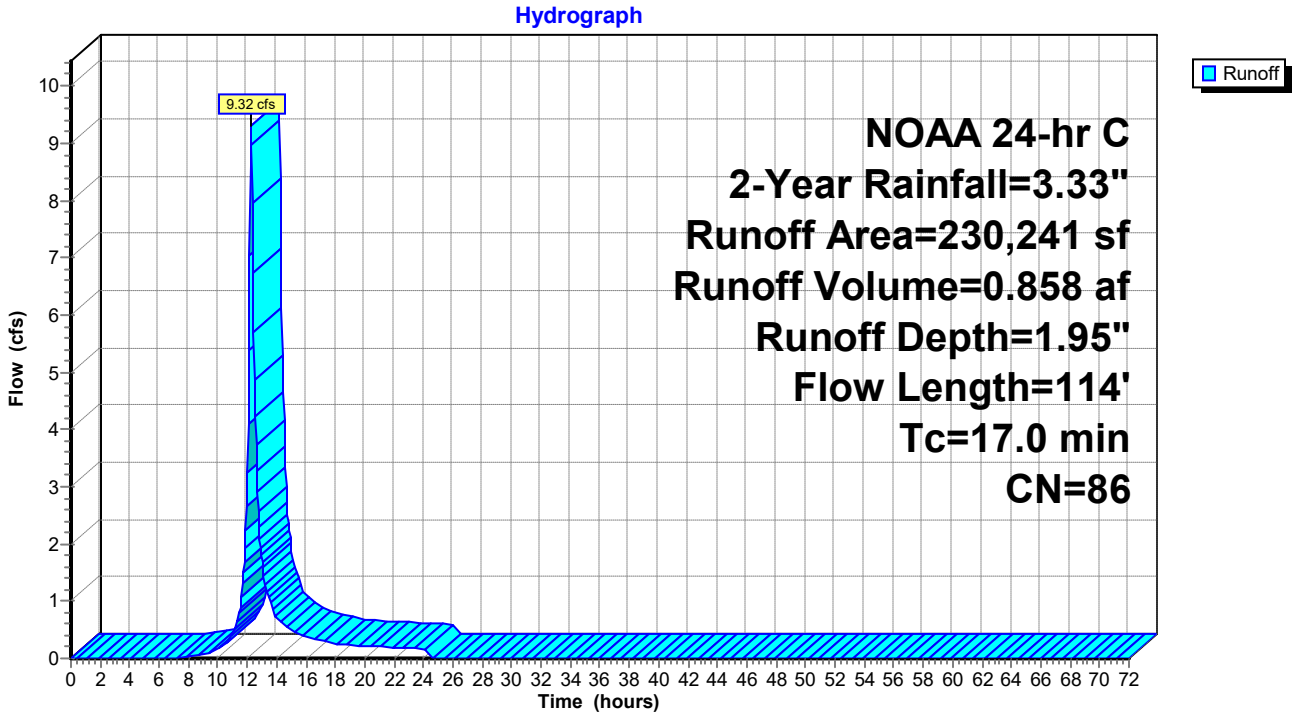
Runoff = 9.32 cfs @ 12.26 hrs, Volume= 0.858 af, Depth= 1.95"
Routed to Pond YI-2 : YI-2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C 2-Year Rainfall=3.33"

| Area (sf) | CN | Description |
|---|---|---|
| 65,361 | 61 | >75% Grass cover, Good, HSG B |
| 146,431 | 98 | Unconnected pavement, HSG B |
| 10,353 | 74 | >75% Grass cover, Good, HSG C |
| 8,096 | 98 | Unconnected pavement, HSG C |
| 230,241 | 86 | Weighted Average |
| 75,714 | | 32.88% Pervious Area |
| 154,527 | | 67.12% Impervious Area |
| 154,527 | | 100.00% Unconnected |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 2.8 | 10 | 0.0110 | 0.06 | | **Sheet Flow, Grassed Sheet Flow**<br>Grass: Dense n= 0.240 P2= 3.33" |
| 0.1 | 5 | 0.0110 | 0.61 | | **Sheet Flow, Concreted Sheet Flow**<br>Smooth surfaces n= 0.011 P2= 3.33" |
| 13.7 | 85 | 0.0153 | 0.10 | | **Sheet Flow, Grassed Sheet Flow**<br>Grass: Dense n= 0.240 P2= 3.33" |
| 0.4 | 14 | 0.0015 | 0.58 | | **Shallow Concentrated Flow, Grassed SCF**<br>Grassed Waterway Kv= 15.0 fps |
| 17.0 | 114 | Total | | | |

## Subcatchment PR-DA-1: PR-DA-1



## Summary for Subcatchment PR-DA-2: PR-DA-2

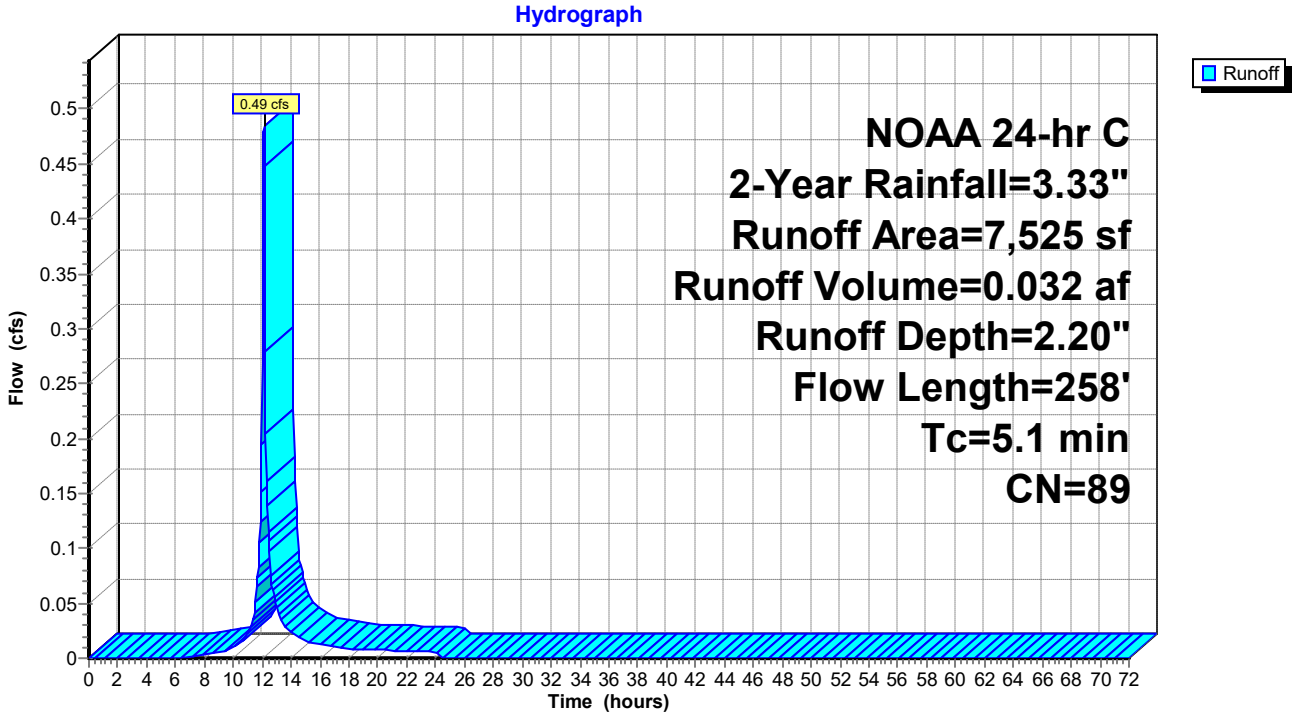
Runoff = 0.49 cfs @ 12.12 hrs, Volume= 0.032 af, Depth= 2.20"
Routed to Link PR-SP-2 : PR-SP-2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C 2-Year Rainfall=3.33"

| Area (sf) | CN | Description |
|---|---|---|
| 1,863 | 61 | >75% Grass cover, Good, HSG B |
| 5,662 | 98 | Unconnected pavement, HSG B |
| 7,525 | 89 | Weighted Average |
| 1,863 | | 24.76% Pervious Area |
| 5,662 | | 75.24% Impervious Area |
| 5,662 | | 100.00% Unconnected |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 0.2 | 13 | 0.0375 | 1.20 | | **Sheet Flow, Concreted Sheet Flow** Smooth surfaces n= 0.011 P2= 3.33" |
| 4.9 | 245 | 0.0021 | 0.82 | 0.08 | **Channel Flow, Concreted Channeled Flow** Area= 0.1 sf Perim= 1.6' r= 0.06' n= 0.013 Concrete, trowel finish |
| 5.1 | 258 | Total | | | |

## Subcatchment PR-DA-2: PR-DA-2



## Summary for Subcatchment PR-DA-3: PR-DA-3

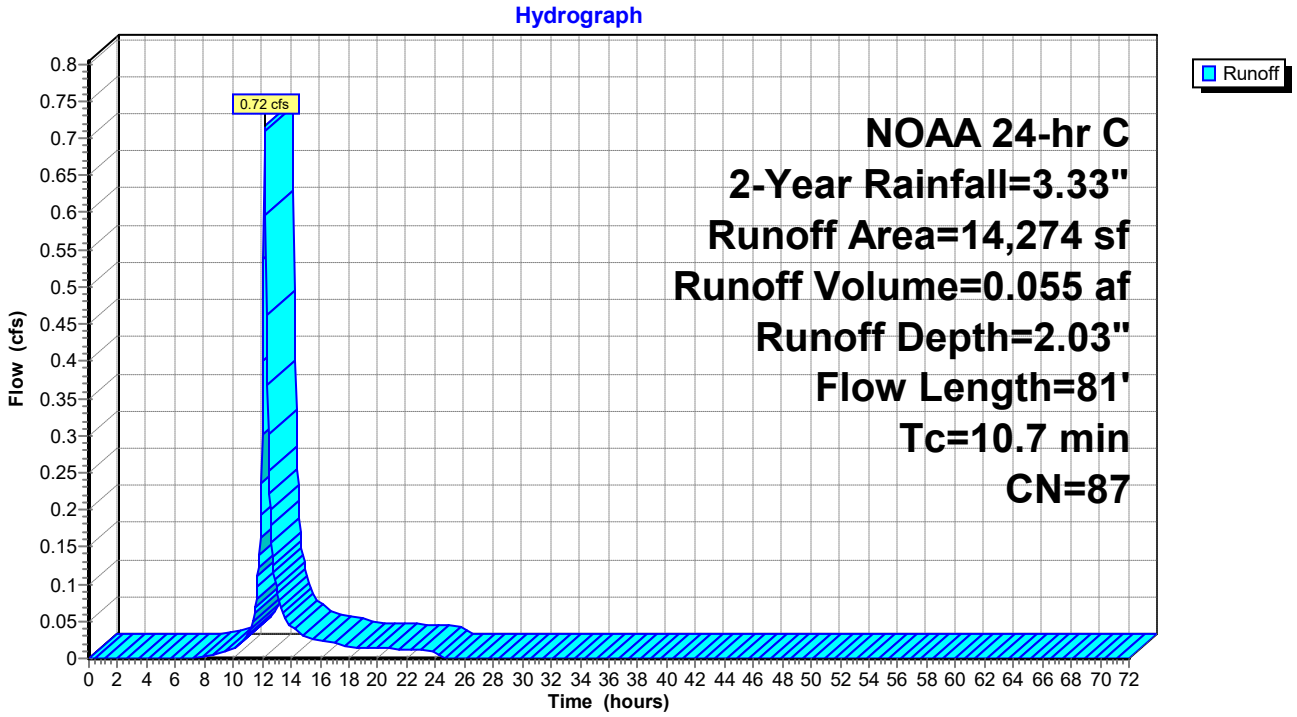
Runoff = 0.72 cfs @ 12.18 hrs, Volume= 0.055 af, Depth= 2.03"
Routed to Pond MBR-1 : MBR-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C 2-Year Rainfall=3.33"

| Area (sf) | CN | Description |
|---|---|---|
| 4,139 | 61 | >75% Grass cover, Good, HSG B |
| 10,135 | 98 | Unconnected pavement, HSG B |
| 14,274 | 87 | Weighted Average |
| 4,139 | | 29.00% Pervious Area |
| 10,135 | | 71.00% Impervious Area |
| 10,135 | | 100.00% Unconnected |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 1.3 | 5 | 0.0200 | 0.07 | | **Sheet Flow, grassed sheet flow** Grass: Dense n= 0.240 P2= 3.33" |
| 0.1 | 5 | 0.0200 | 0.77 | | **Sheet Flow, concrete** Smooth surfaces n= 0.011 P2= 3.33" |
| 4.0 | 18 | 0.0150 | 0.08 | | **Sheet Flow, grass** Grass: Dense n= 0.240 P2= 3.33" |
| 0.5 | 30 | 0.0150 | 0.98 | | **Sheet Flow, paved** Smooth surfaces n= 0.011 P2= 3.33" |
| 4.8 | 23 | 0.0150 | 0.08 | | **Sheet Flow, grass** Grass: Dense n= 0.240 P2= 3.33" |
| 10.7 | 81 | Total | | | |

## Subcatchment PR-DA-3: PR-DA-3



## Summary for Subcatchment PR-DA-4: PR-DA-4

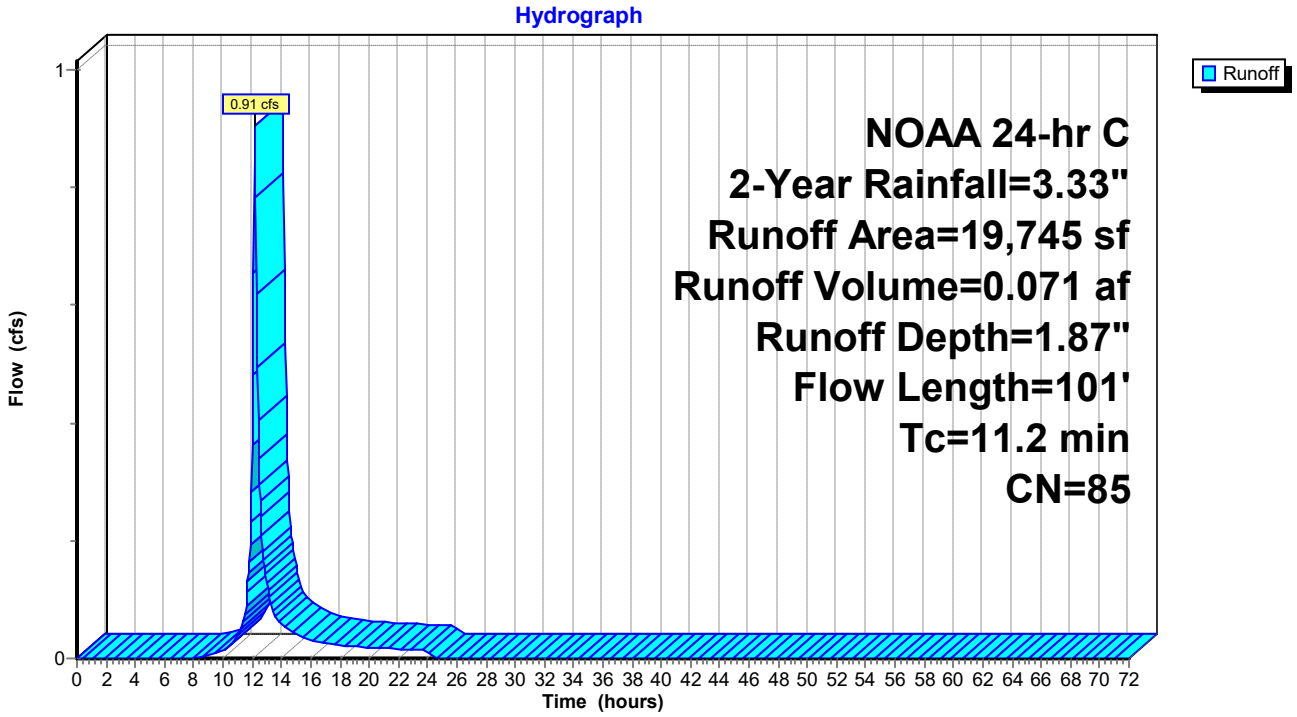
Runoff = 0.91 cfs @ 12.19 hrs, Volume= 0.071 af, Depth= 1.87"
Routed to Pond MBR-2 : MBR-2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C 2-Year Rainfall=3.33"

| Area (sf) | CN | Description |
|---|---|---|
| 6,911 | 61 | >75% Grass cover, Good, HSG B |
| 12,834 | 98 | Unconnected pavement, HSG B |
| 19,745 | 85 | Weighted Average |
| 6,911 | | 35.00% Pervious Area |
| 12,834 | | 65.00% Impervious Area |
| 12,834 | | 100.00% Unconnected |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 5.2 | 29 | 0.0200 | 0.09 | | **Sheet Flow, grassed** Grass: Dense n= 0.240 P2= 3.33" |
| 0.1 | 5 | 0.0100 | 0.58 | | **Sheet Flow, concrete** Smooth surfaces n= 0.011 P2= 3.33" |
| 4.7 | 18 | 0.0100 | 0.06 | | **Sheet Flow, grass** Grass: Dense n= 0.240 P2= 3.33" |
| 0.7 | 43 | 0.0150 | 1.06 | | **Sheet Flow, paved** Smooth surfaces n= 0.011 P2= 3.33" |
| 0.5 | 6 | 0.3300 | 0.21 | | **Sheet Flow, grass** Grass: Dense n= 0.240 P2= 3.33" |
| 11.2 | 101 | Total | | | |

## Subcatchment PR-DA-4: PR-DA-4



## Summary for Subcatchment PR-DA-5: PR-DA-5

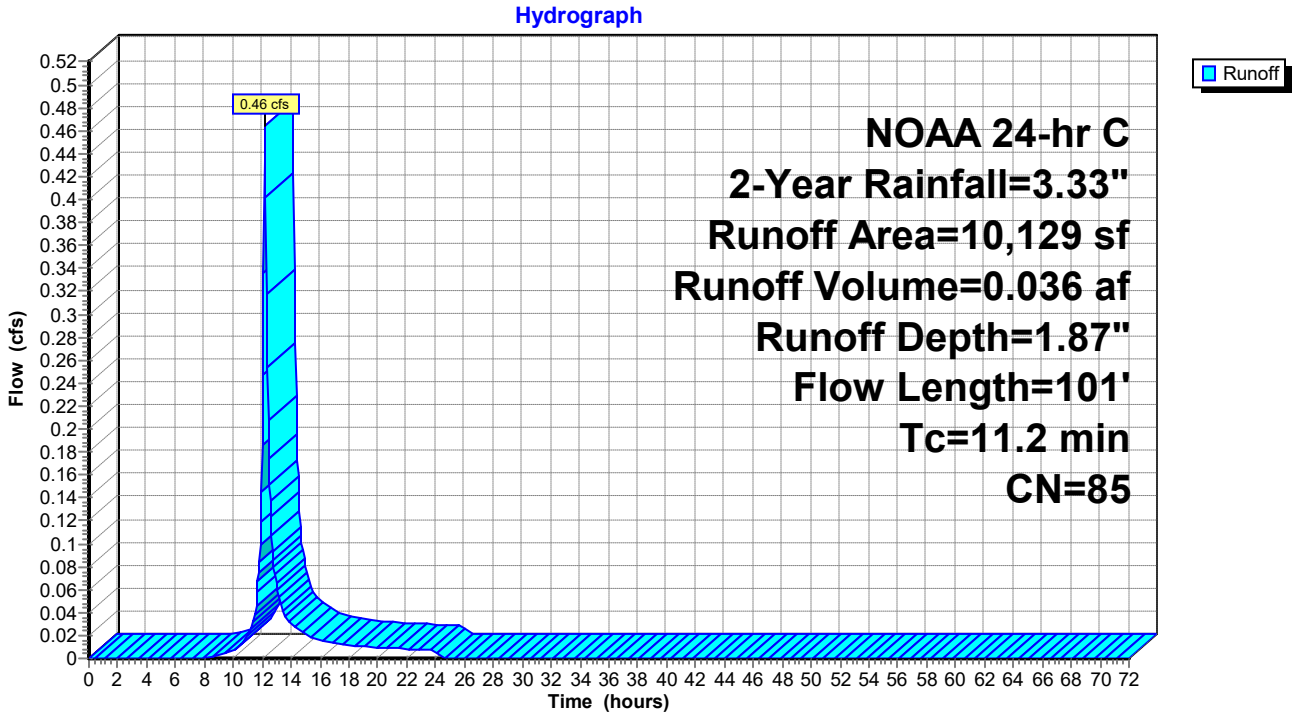
Runoff = 0.46 cfs @ 12.19 hrs, Volume= 0.036 af, Depth= 1.87"
Routed to Pond MBR-3 : MBR-3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C 2-Year Rainfall=3.33"

| Area (sf) | CN | Description |
|---|---|---|
| 3,545 | 61 | >75% Grass cover, Good, HSG B |
| 6,584 | 98 | Unconnected pavement, HSG B |
| 10,129 | 85 | Weighted Average |
| 3,545 | | 35.00% Pervious Area |
| 6,584 | | 65.00% Impervious Area |
| 6,584 | | 100.00% Unconnected |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 5.2 | 29 | 0.0200 | 0.09 | | **Sheet Flow, GRASS** Grass: Dense n= 0.240 P2= 3.33" |
| 0.1 | 5 | 0.0100 | 0.58 | | **Sheet Flow, Concrete** Smooth surfaces n= 0.011 P2= 3.33" |
| 4.7 | 18 | 0.0100 | 0.06 | | **Sheet Flow, Grass** Grass: Dense n= 0.240 P2= 3.33" |
| 0.7 | 43 | 0.0150 | 1.06 | | **Sheet Flow, Paved** Smooth surfaces n= 0.011 P2= 3.33" |
| 0.5 | 6 | 0.3300 | 0.21 | | **Sheet Flow, Grassed** Grass: Dense n= 0.240 P2= 3.33" |
| 11.2 | 101 | Total | | | |

## Subcatchment PR-DA-5: PR-DA-5



## Summary for Subcatchment PR-DA-6: PR-DA-6

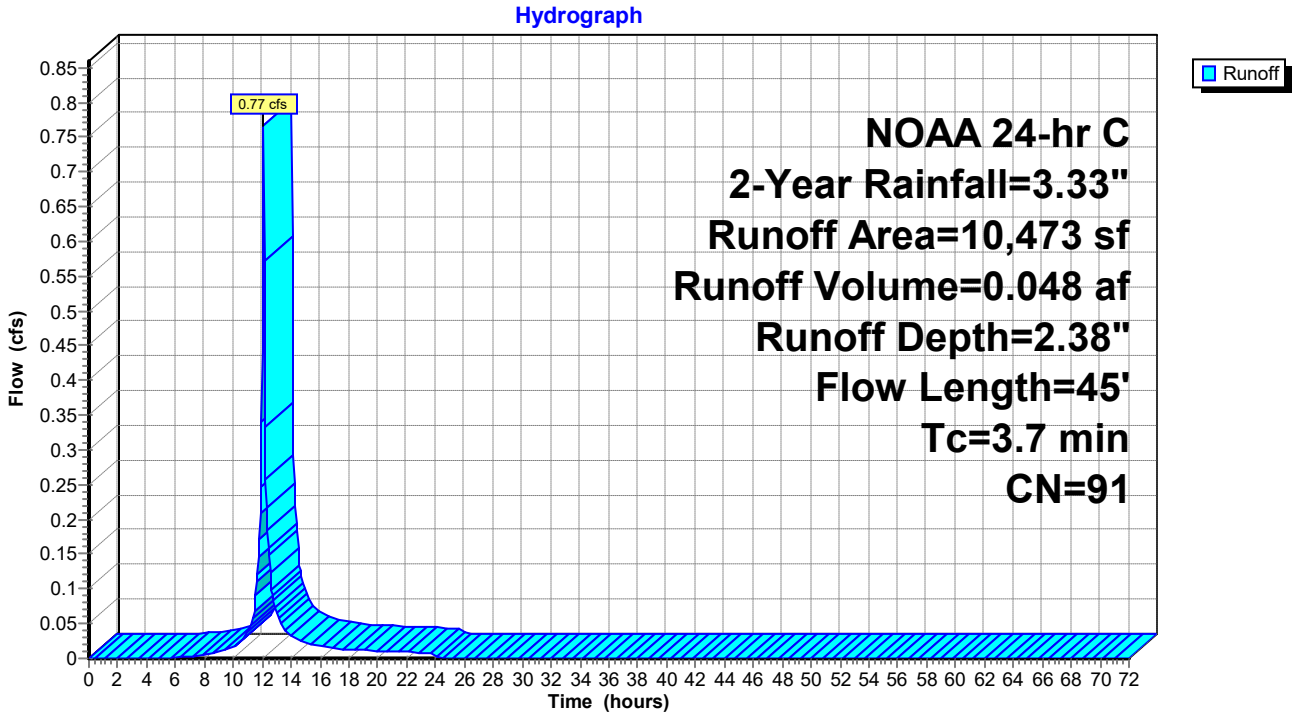
Runoff = 0.77 cfs @ 12.10 hrs, Volume= 0.048 af, Depth= 2.38"
Routed to Pond MBR-4 : MBR-4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C 2-Year Rainfall=3.33"

| Area (sf) | CN | Description |
|---|---|---|
| 2,095 | 61 | >75% Grass cover, Good, HSG B |
| 8,378 | 98 | Unconnected pavement, HSG B |
| 10,473 | 91 | Weighted Average |
| 2,095 | | 20.00% Pervious Area |
| 8,378 | | 80.00% Impervious Area |
| 8,378 | | 100.00% Unconnected |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 1.4 | 5 | 0.0150 | 0.06 | | **Sheet Flow, grassed** Grass: Dense n= 0.240 P2= 3.33" |
| 0.1 | 5 | 0.0090 | 0.56 | | **Sheet Flow, Concrete** Smooth surfaces n= 0.011 P2= 3.33" |
| 1.4 | 5 | 0.0150 | 0.06 | | **Sheet Flow, grassed** Grass: Dense n= 0.240 P2= 3.33" |
| 0.3 | 24 | 0.0287 | 1.22 | | **Sheet Flow, Paved** Smooth surfaces n= 0.011 P2= 3.33" |
| 0.5 | 6 | 0.3300 | 0.21 | | **Sheet Flow, Grassed** Grass: Dense n= 0.240 P2= 3.33" |
| 3.7 | 45 | Total | | | |

## Subcatchment PR-DA-6: PR-DA-6



## Summary for Subcatchment PR-DA-7: PR-DA-7

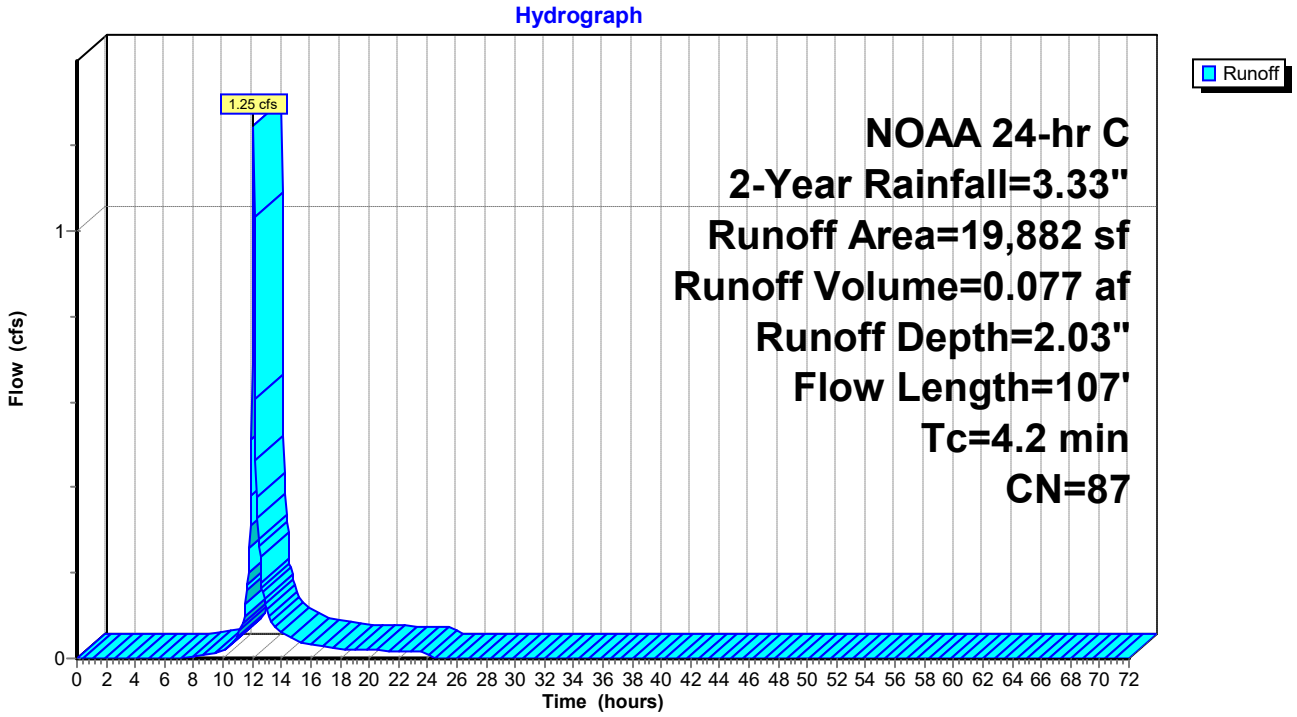
Runoff = 1.25 cfs @ 12.10 hrs, Volume= 0.077 af, Depth= 2.03"
Routed to Pond MBR-5 : MBR-5

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C 2-Year Rainfall=3.33"

| Area (sf) | CN | Description |
|---|---|---|
| 5,965 | 61 | >75% Grass cover, Good, HSG B |
| 13,917 | 98 | Unconnected pavement, HSG B |
| 19,882 | 87 | Weighted Average |
| 5,965 | | 30.00% Pervious Area |
| 13,917 | | 70.00% Impervious Area |
| 13,917 | | 100.00% Unconnected |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 3.1 | 10 | 0.0090 | 0.05 | | **Sheet Flow, Grassed**<br>Grass: Dense n= 0.240 P2= 3.33" |
| 0.2 | 6 | 0.0090 | 0.58 | | **Sheet Flow, Concrete**<br>Smooth surfaces n= 0.011 P2= 3.33" |
| 0.7 | 64 | 0.0296 | 1.50 | | **Sheet Flow, Paved**<br>Smooth surfaces n= 0.011 P2= 3.33" |
| 0.2 | 27 | 0.0200 | 2.55 | 0.25 | **Channel Flow, Concrete channel**<br>Area= 0.1 sf Perim= 1.6' r= 0.06'<br>n= 0.013 Concrete, trowel finish |
| 4.2 | 107 | Total | | | |

## Subcatchment PR-DA-7: PR-DA-7



## Summary for Pond CI - 9: CI - 9

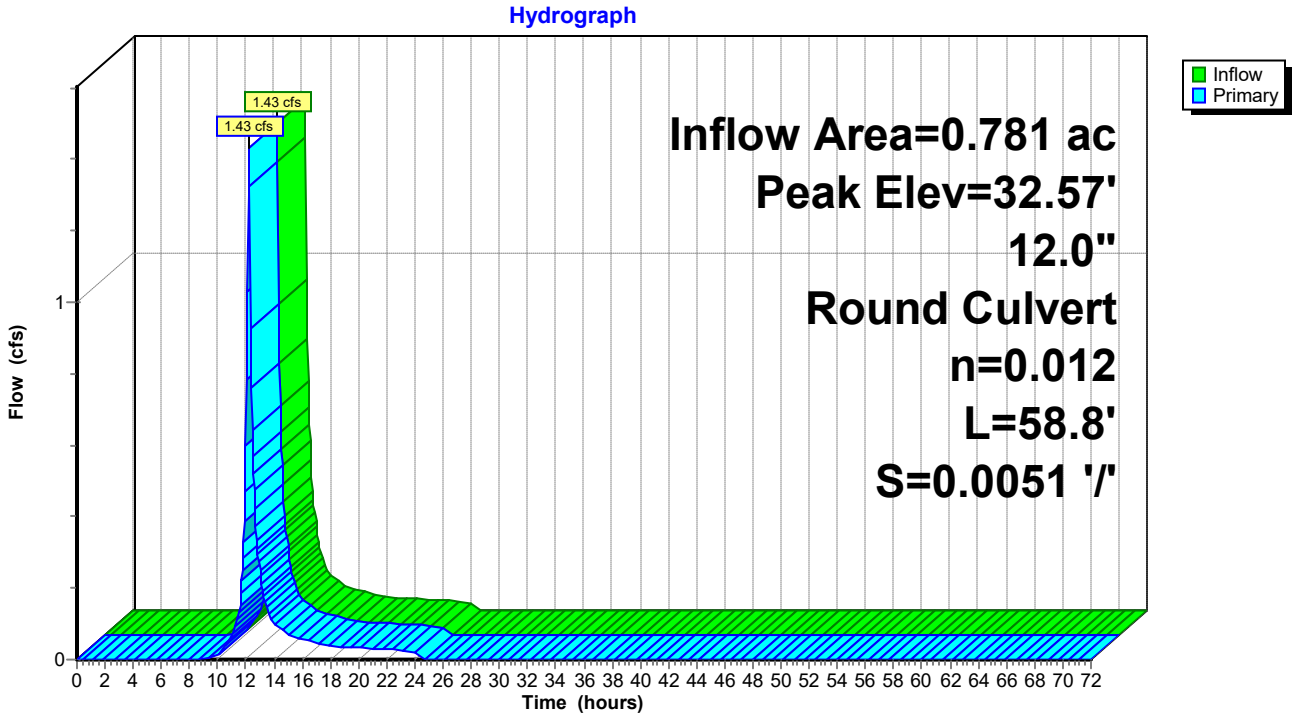
Inflow Area = 0.781 ac, 67.52% Impervious, Inflow Depth = 1.91" for 2-Year event
Inflow = 1.43 cfs @ 12.22 hrs, Volume= 0.125 af
Outflow = 1.43 cfs @ 12.22 hrs, Volume= 0.125 af, Atten= 0%, Lag= 0.0 min
Primary = 1.43 cfs @ 12.22 hrs, Volume= 0.125 af
Routed to Pond SGW : SGW

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 32.57' @ 12.37 hrs
Flood Elev= 35.91'

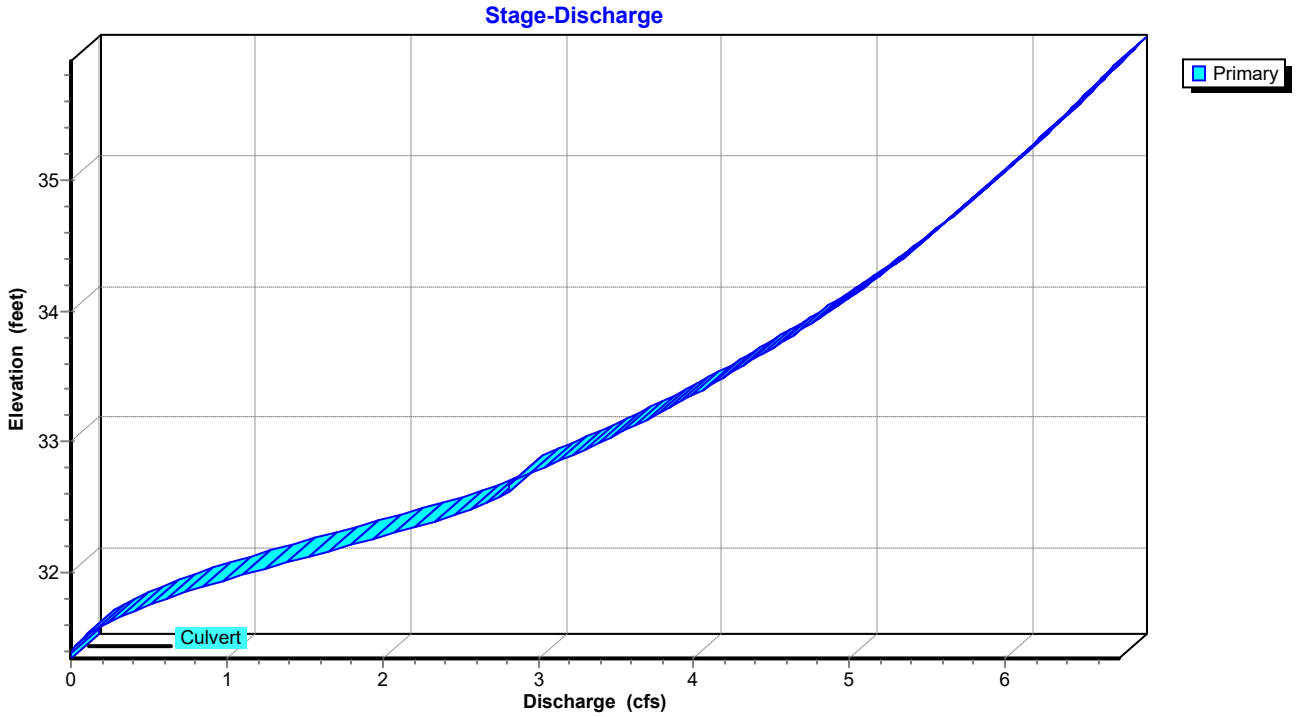
| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 31.34' | **12.0" Round Culvert**<br>L= 58.8' Box, 0° wingwalls, square crown edge, Ke= 0.700<br>Inlet / Outlet Invert= 31.34' / 31.04' S= 0.0051 '/' Cc= 0.900<br>n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf |

**Primary OutFlow** Max=1.44 cfs @ 12.22 hrs HW=32.35' TW=32.12' (Dynamic Tailwater)
**1=Culvert** (Outlet Controls 1.44 cfs @ 2.26 fps)

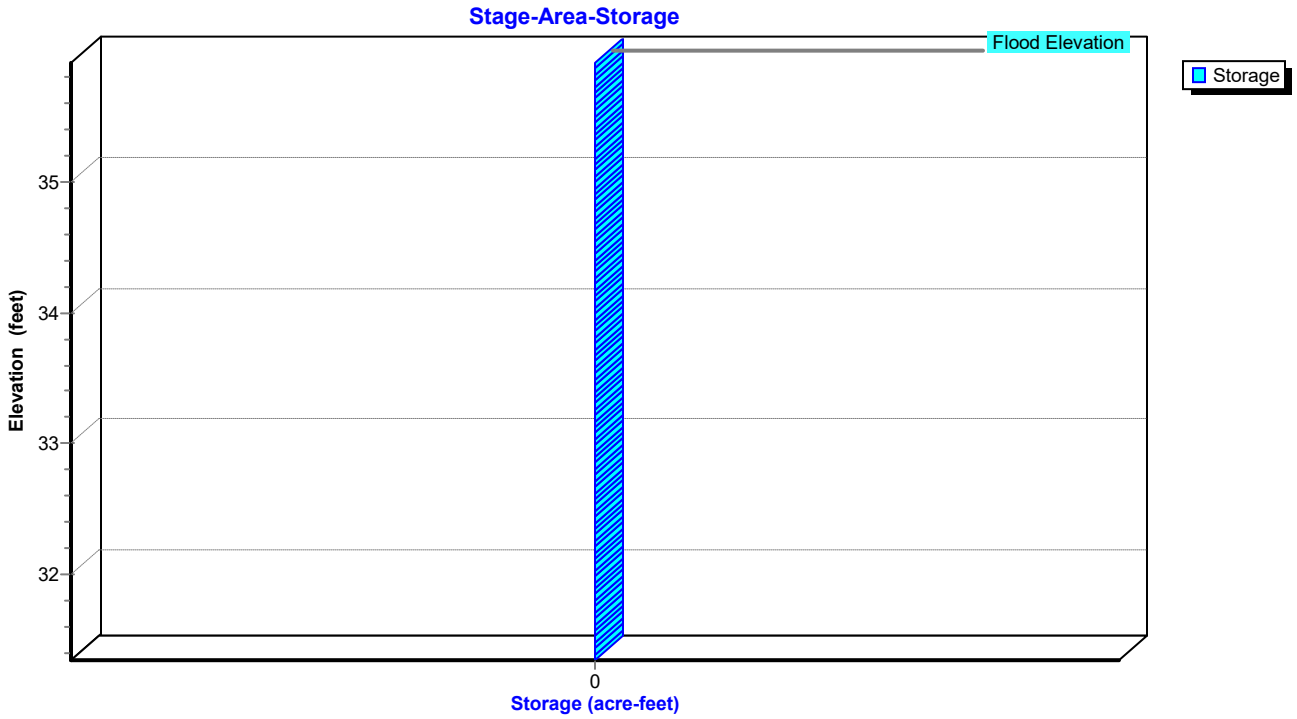
### Pond CI - 9: CI - 9



## Pond CI - 9: CI - 9




## Pond CI - 9: CI - 9



## Summary for Pond CI-10: CI-10

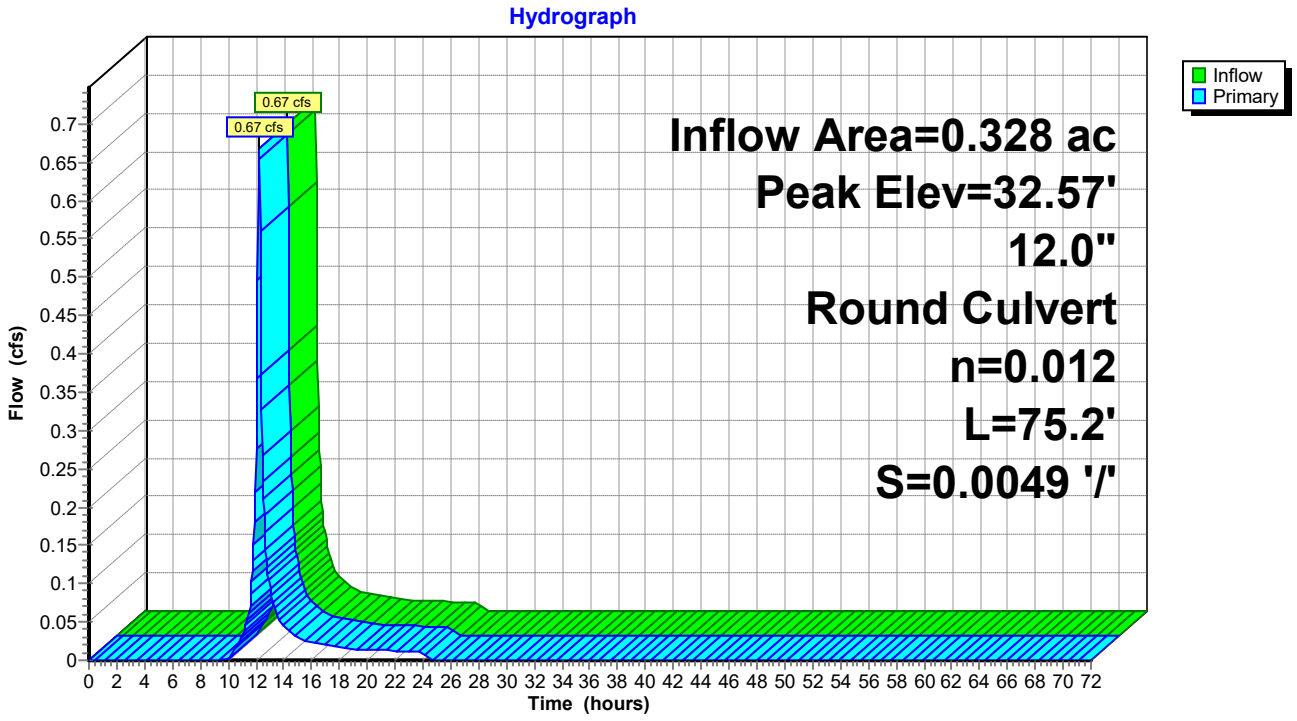
Inflow Area = 0.328 ac, 71.00% Impervious, Inflow Depth = 1.98" for 2-Year event
Inflow = 0.67 cfs @ 12.21 hrs, Volume= 0.054 af
Outflow = 0.67 cfs @ 12.21 hrs, Volume= 0.054 af, Atten= 0%, Lag= 0.0 min
Primary = 0.67 cfs @ 12.21 hrs, Volume= 0.054 af
Routed to Pond CI - 9 : CI - 9

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 32.57' @ 12.43 hrs

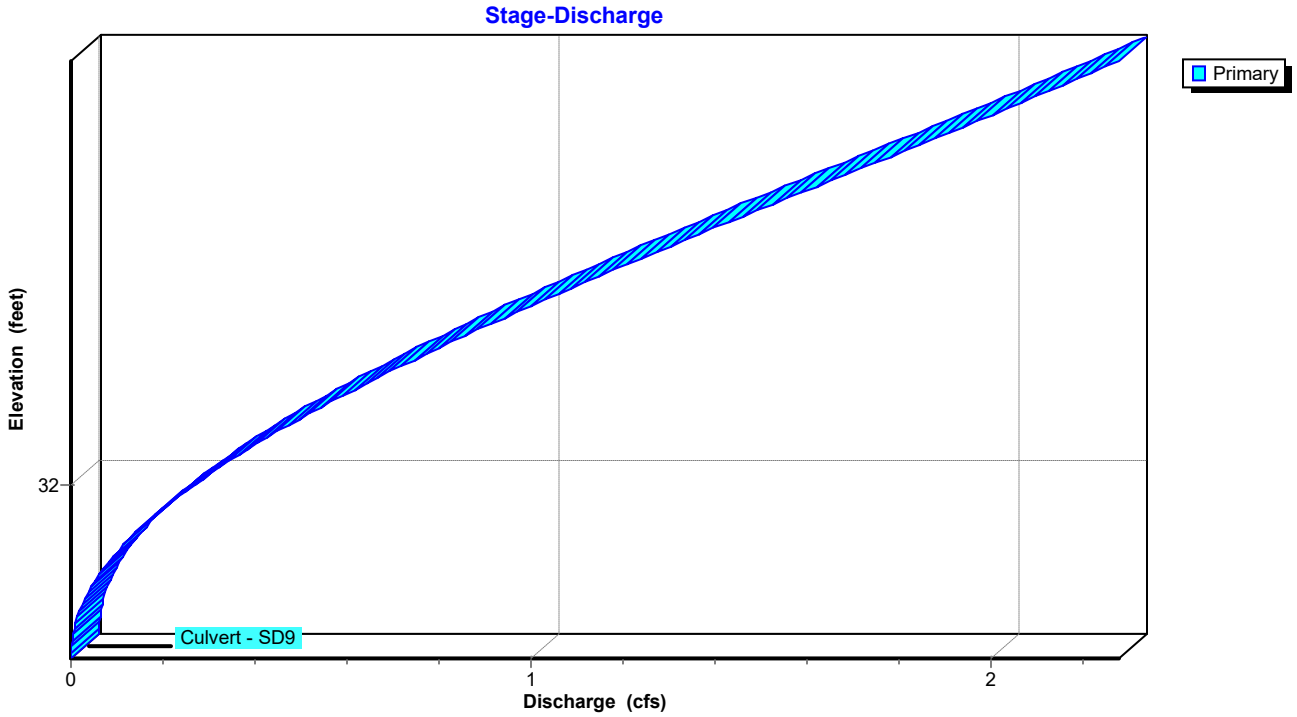
| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 31.71' | **12.0" Round Culvert - SD9**<br>L= 75.2' Box, headwall w/3 square edges, Ke= 0.500<br>Inlet / Outlet Invert= 31.71' / 31.34' S= 0.0049 '/' Cc= 0.900<br>n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf |

**Primary OutFlow** Max=0.34 cfs @ 12.21 hrs HW=32.37' TW=32.33' (Dynamic Tailwater)
**1=Culvert - SD9** (Outlet Controls 0.34 cfs @ 0.87 fps)

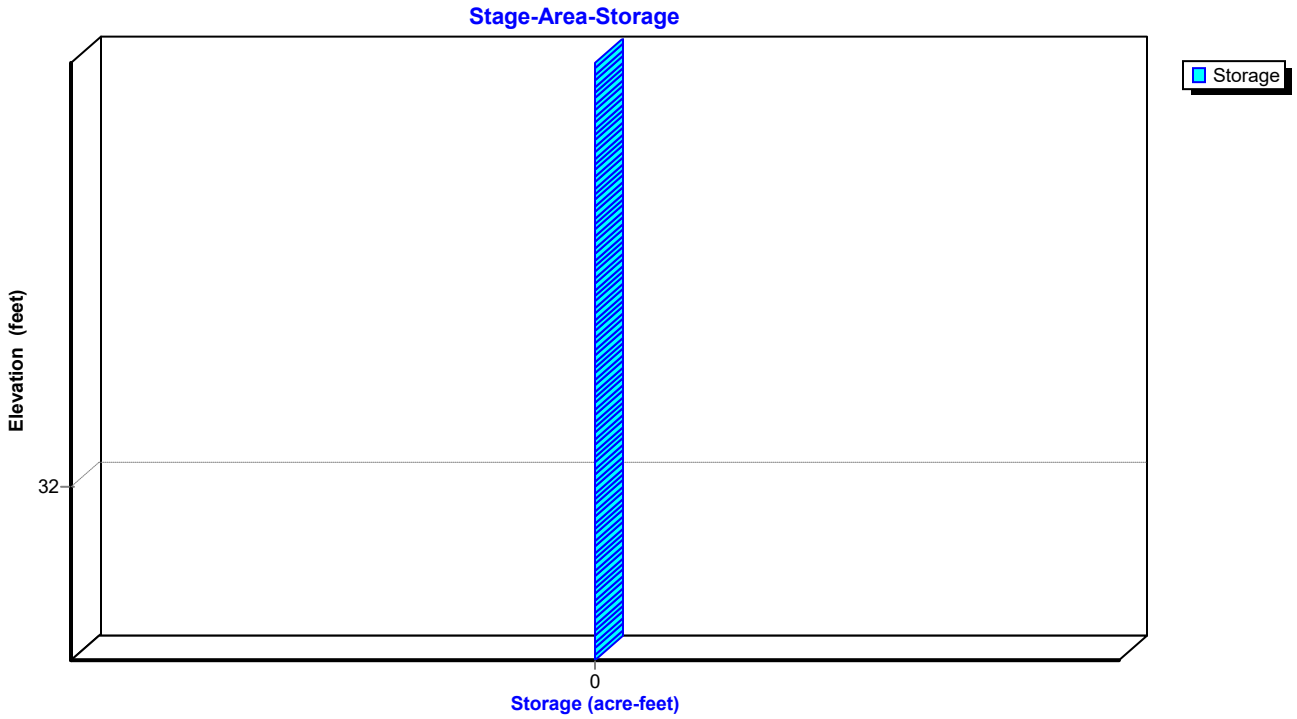
### Pond CI-10: CI-10



## Pond CI-10: CI-10




## Pond CI-10: CI-10



## Summary for Pond CI-11: CI-11

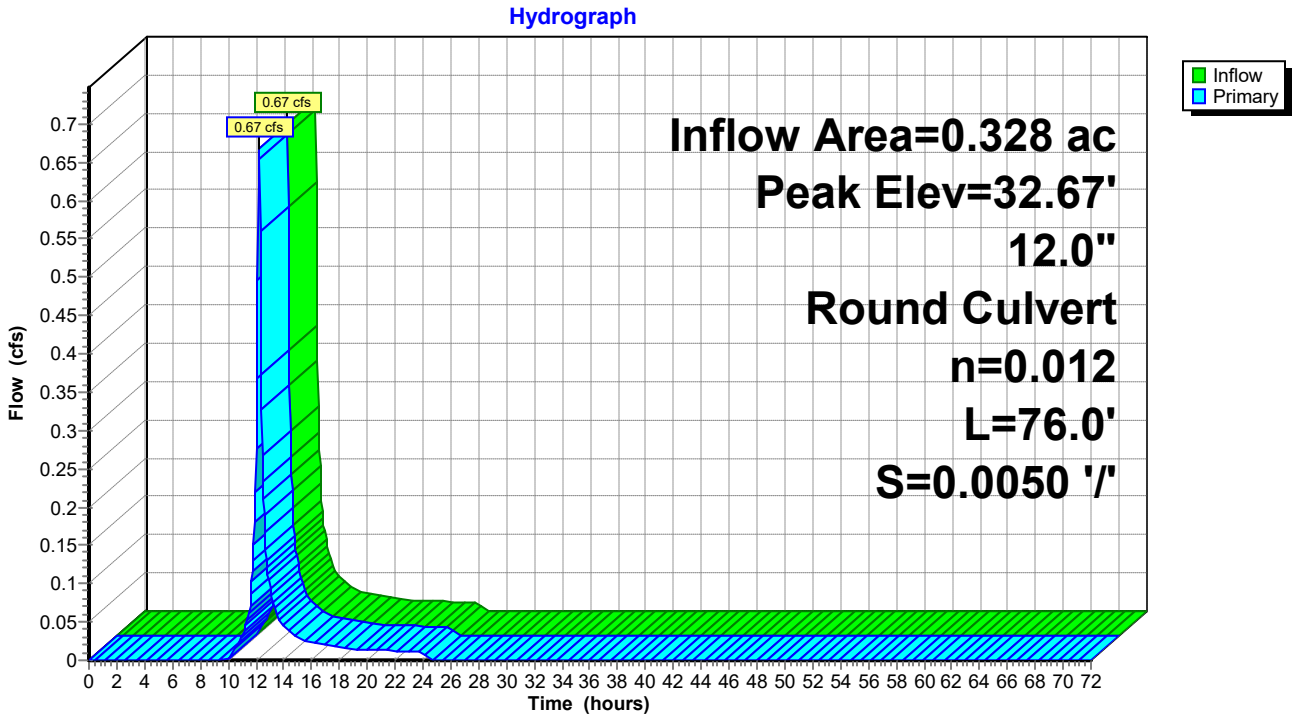
Inflow Area = 0.328 ac, 71.00% Impervious, Inflow Depth = 1.98" for 2-Year event
Inflow = 0.67 cfs @ 12.21 hrs, Volume= 0.054 af
Outflow = 0.67 cfs @ 12.21 hrs, Volume= 0.054 af, Atten= 0%, Lag= 0.0 min
Primary = 0.67 cfs @ 12.21 hrs, Volume= 0.054 af
Routed to Pond CI-10 : CI-10

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 32.67' @ 12.29 hrs

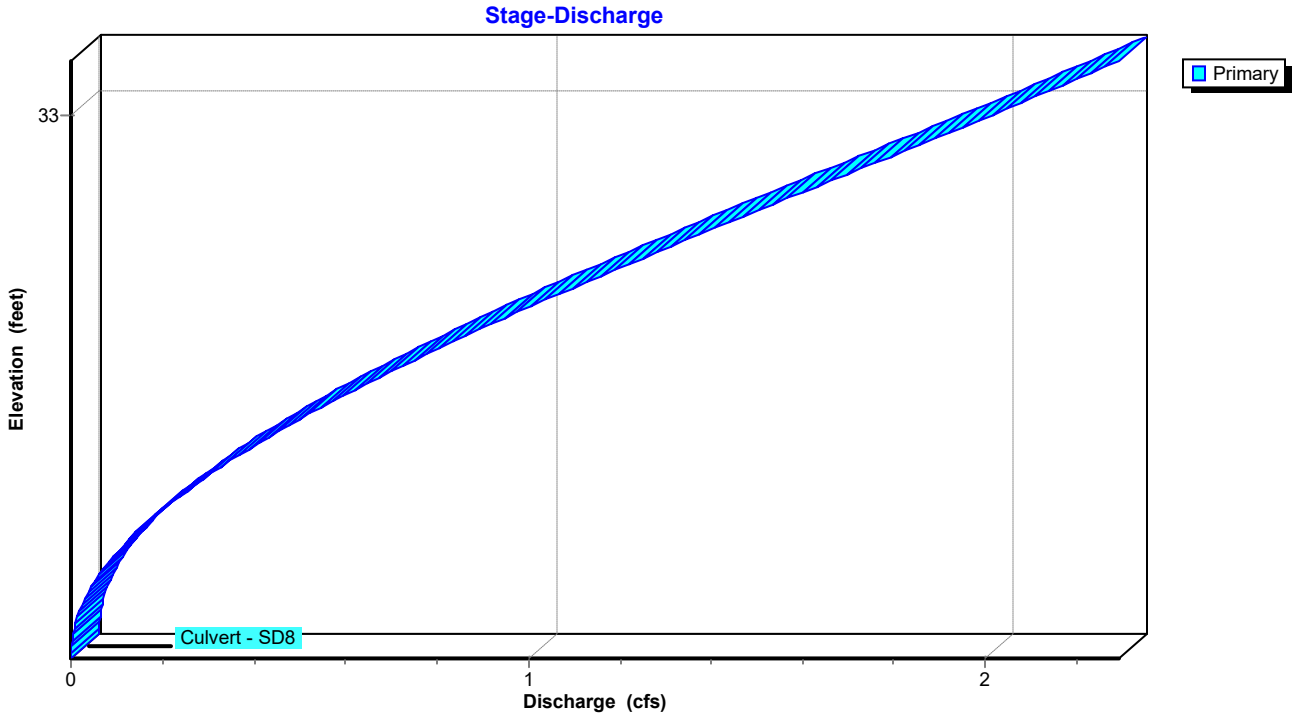
| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 32.09' | **12.0" Round Culvert - SD8**<br>L= 76.0' Box, headwall w/3 square edges, Ke= 0.500<br>Inlet / Outlet Invert= 32.09' / 31.71' S= 0.0050 '/' Cc= 0.900<br>n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf |

**Primary OutFlow** Max=0.65 cfs @ 12.21 hrs HW=32.64' TW=32.37' (Dynamic Tailwater)
**1=Culvert - SD8** (Outlet Controls 0.65 cfs @ 2.12 fps)

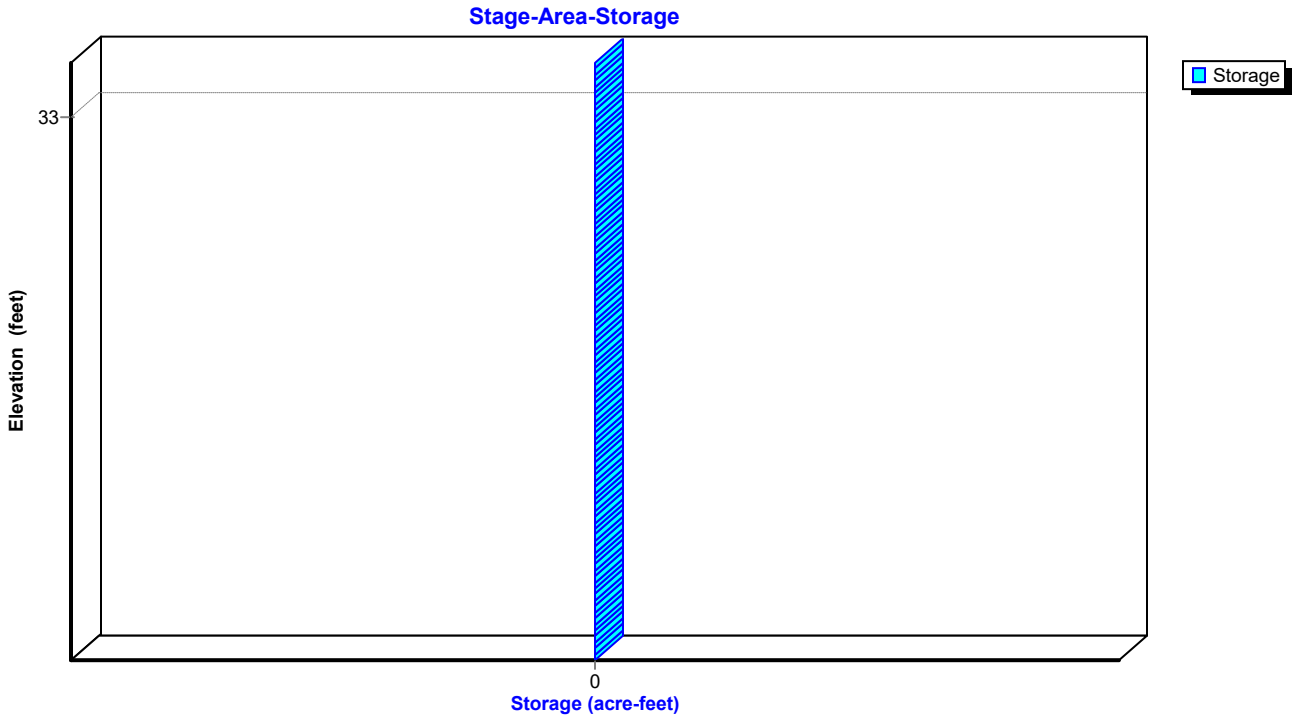
## Pond CI-11: CI-11



## Pond CI-11: CI-11




## Pond CI-11: CI-11



## Summary for Pond CI-12: CI-12

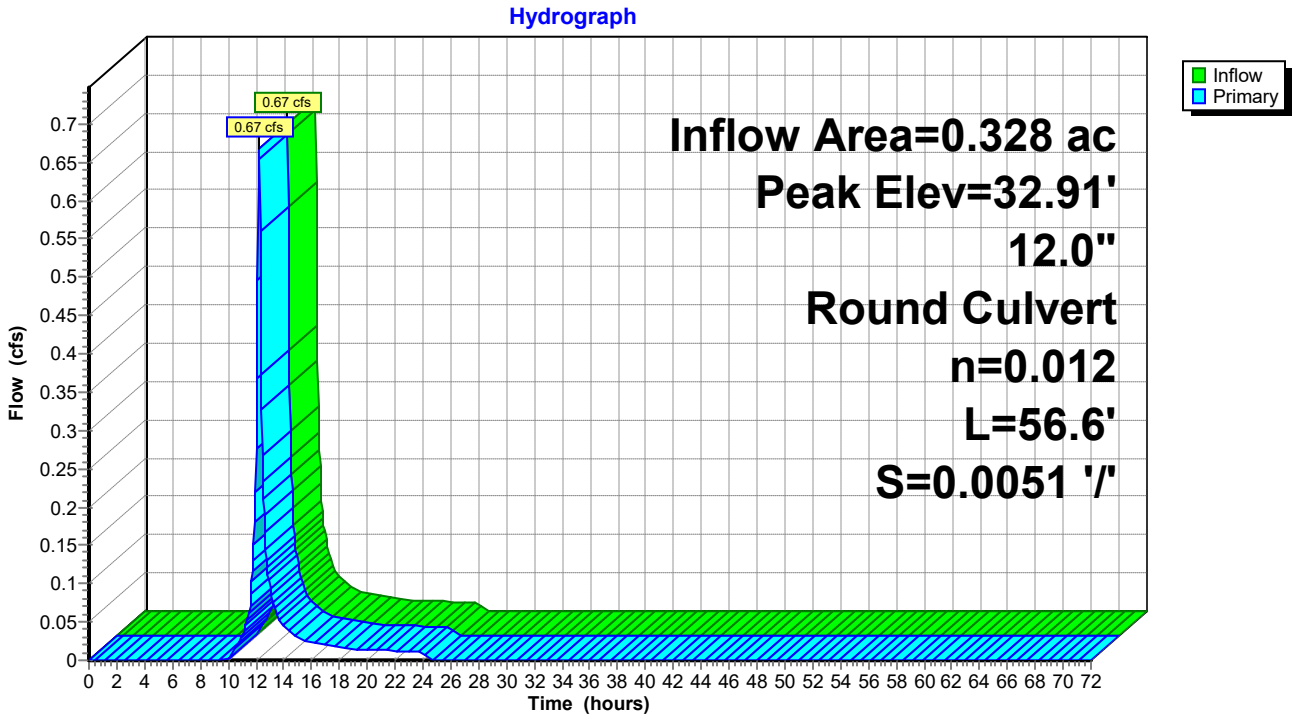
Inflow Area = 0.328 ac, 71.00% Impervious, Inflow Depth = 1.98" for 2-Year event
Inflow = 0.67 cfs @ 12.21 hrs, Volume= 0.054 af
Outflow = 0.67 cfs @ 12.21 hrs, Volume= 0.054 af, Atten= 0%, Lag= 0.0 min
Primary = 0.67 cfs @ 12.21 hrs, Volume= 0.054 af
Routed to Pond CI-11 : CI-11

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 32.91' @ 12.23 hrs

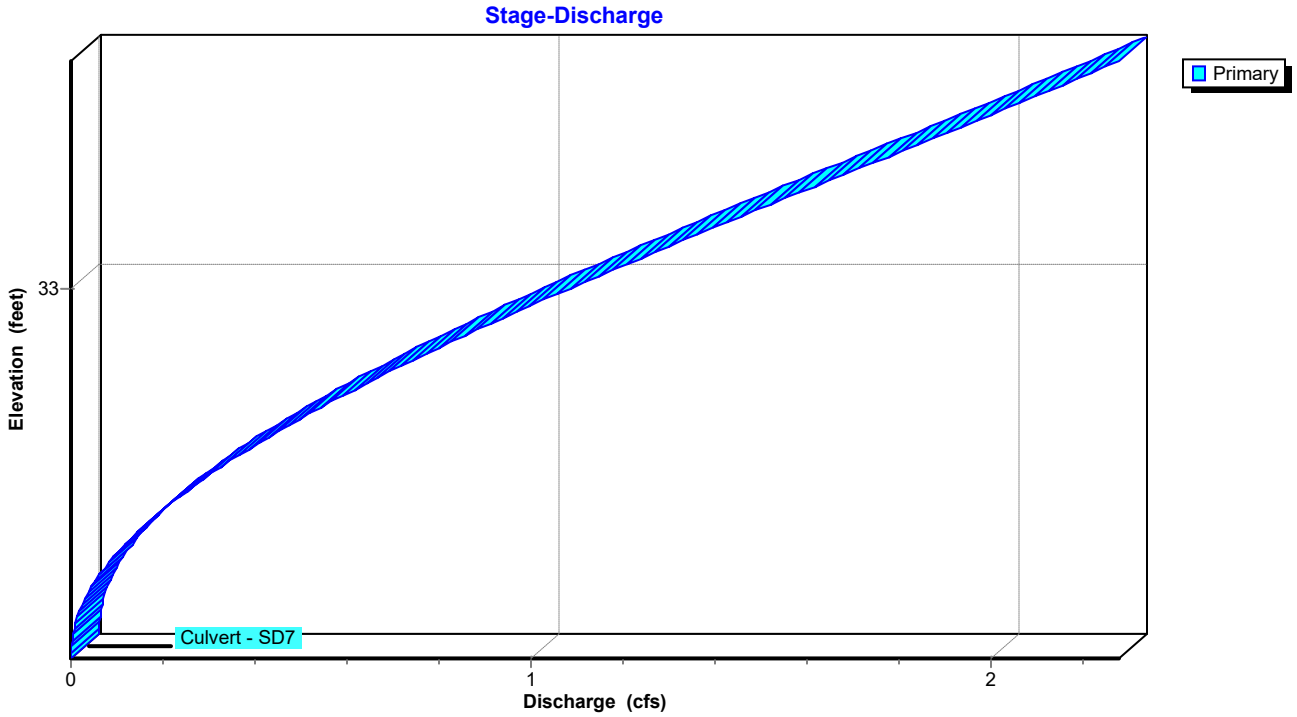
| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 32.38' | **12.0" Round Culvert - SD7**<br>L= 56.6' Box, headwall w/3 square edges, Ke= 0.500<br>Inlet / Outlet Invert= 32.38' / 32.09' S= 0.0051 '/' Cc= 0.900<br>n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf |

**Primary OutFlow** Max=0.64 cfs @ 12.21 hrs HW=32.90' TW=32.64' (Dynamic Tailwater)
**1=Culvert - SD7** (Outlet Controls 0.64 cfs @ 2.23 fps)

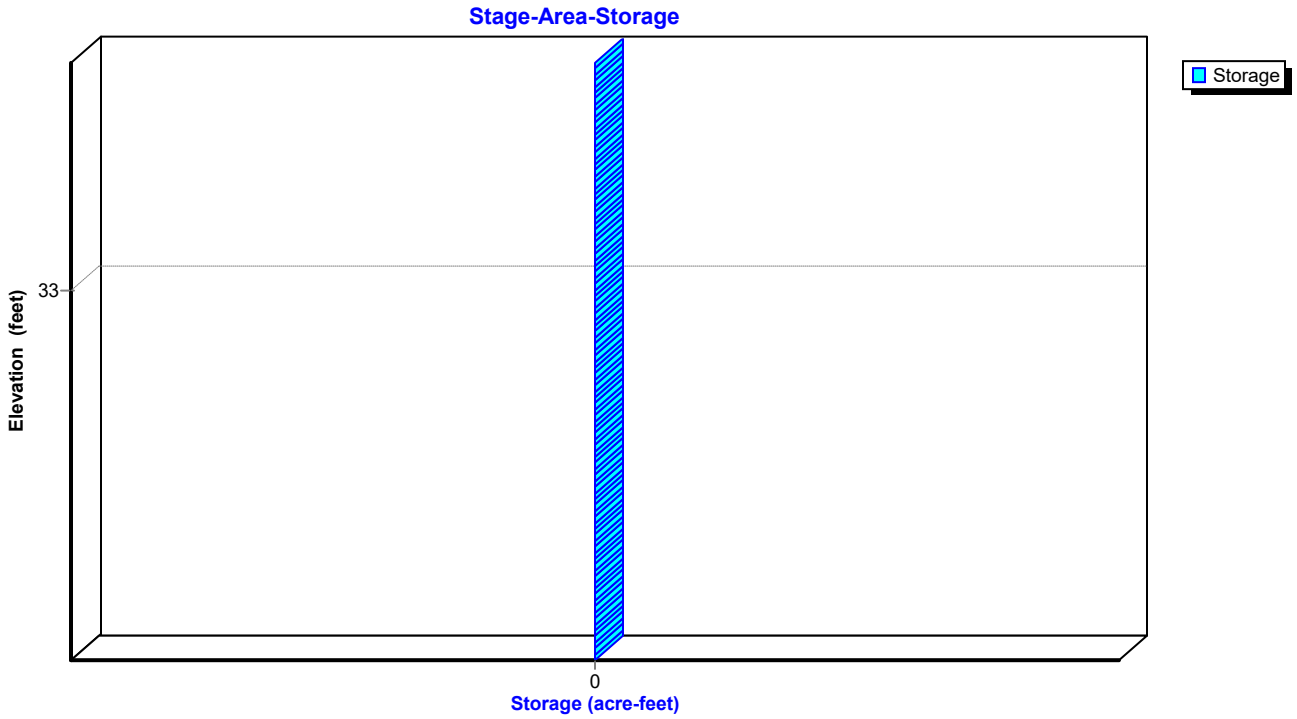
## Pond CI-12: CI-12



## Pond CI-12: CI-12




## Pond CI-12: CI-12



## Summary for Pond MBR-1: MBR-1

Inflow Area = 0.328 ac, 71.00% Impervious, Inflow Depth = 2.03" for 2-Year event
Inflow = 0.72 cfs @ 12.18 hrs, Volume= 0.055 af
Outflow = 0.67 cfs @ 12.21 hrs, Volume= 0.054 af, Atten= 7%, Lag= 1.8 min
Primary = 0.67 cfs @ 12.21 hrs, Volume= 0.054 af
Routed to Pond CI-12 : CI-12

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 33.40' @ 12.22 hrs Surf.Area= 257 sf Storage= 129 cf

Plug-Flow detention time= 28.1 min calculated for 0.054 af (97% of inflow)
Center-of-Mass det. time= 11.5 min ( 836.1 - 824.7 )

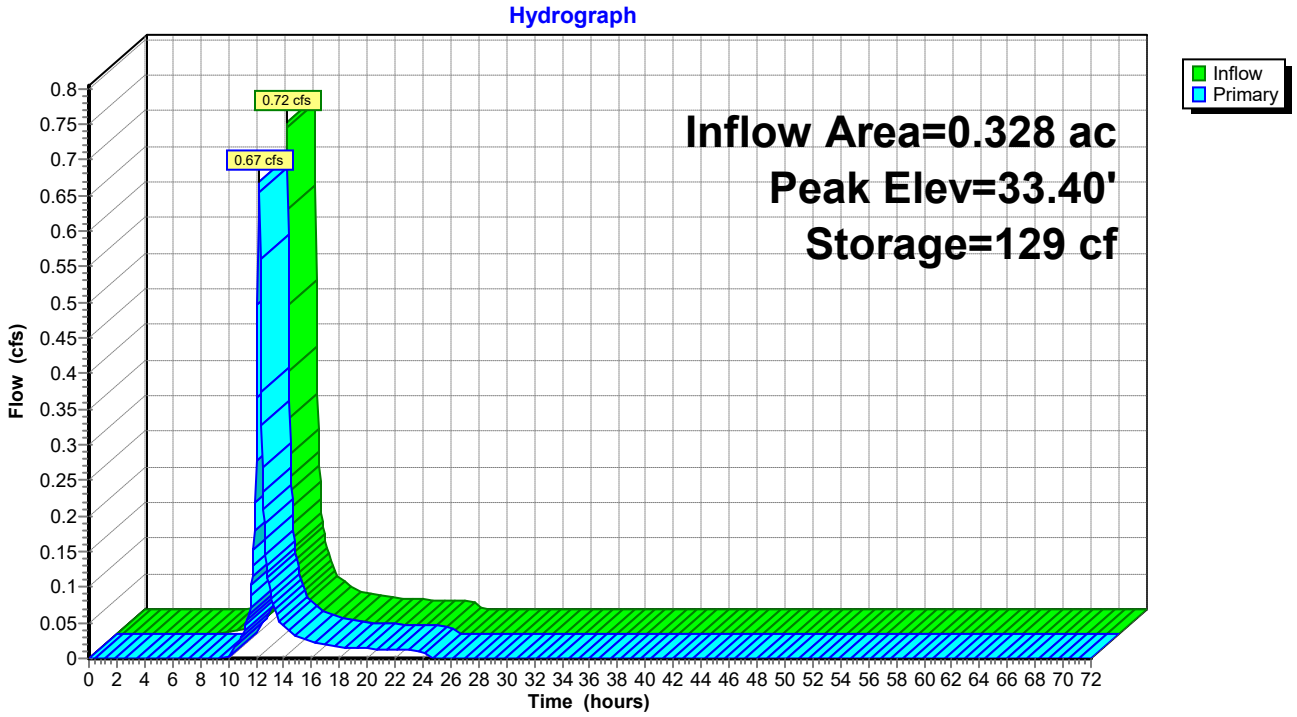
| Volume | Invert | Avail.Storage | Storage Description |
|---|---|---|---|
| #1 | 32.15' | 1,521 cf | **Custom Stage Data (Irregular)** Listed below |

| Elevation (feet) | Surf.Area (sq-ft) | Perim. (feet) | Voids (%) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) | Wet.Area (sq-ft) |
|---|---|---|---|---|---|---|
| 32.15 | 257 | 135.0 | 0.0 | 0 | 0 | 257 |
| 32.16 | 257 | 135.0 | 40.0 | 1 | 1 | 258 |
| 35.15 | 257 | 135.0 | 40.0 | 307 | 308 | 662 |
| 35.16 | 257 | 135.0 | 100.0 | 3 | 311 | 663 |
| 37.00 | 691 | 153.8 | 100.0 | 840 | 1,151 | 1,171 |
| 37.20 | 1,366 | 220.3 | 100.0 | 202 | 1,353 | 3,151 |
| 37.30 | 2,023 | 263.8 | 100.0 | 168 | 1,521 | 4,827 |

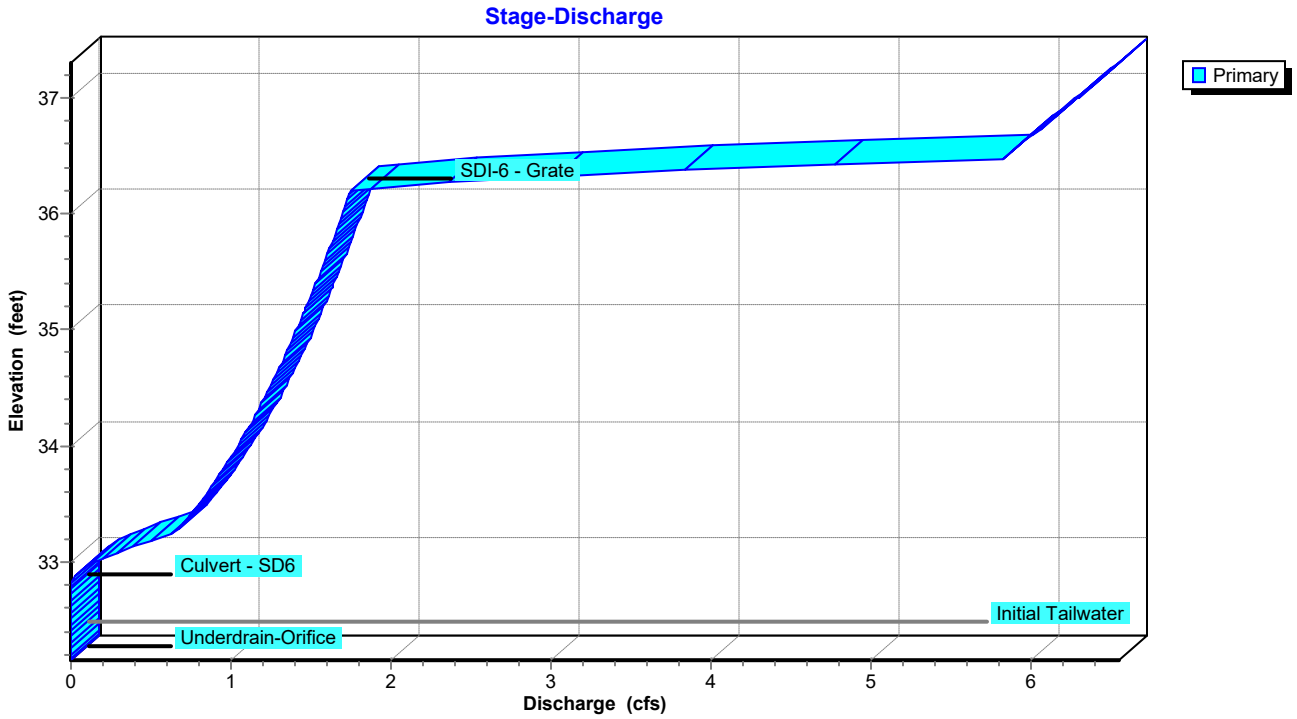
| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 32.78' | **12.0" Round Culvert - SD6**<br>L= 79.8' CPP, square edge headwall, Ke= 0.500<br>Inlet / Outlet Invert= 32.78' / 32.38' S= 0.0050 '/' Cc= 0.900<br>n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf |
| #2 | Device 1 | 36.19' | **24.0" x 24.0" Horiz. SDI-6 - Grate** C= 0.600<br>Limited to weir flow at low heads |
| #3 | Device 1 | 32.16' | **6.0" Vert. Underdrain-Orifice** C= 0.600<br>Limited to weir flow at low heads |

**Primary OutFlow** Max=0.66 cfs @ 12.21 hrs HW=33.39' TW=32.90' (Dynamic Tailwater)
└─**1=Culvert - SD6** (Passes 0.66 cfs of 1.00 cfs potential flow)
  ├─**2=SDI-6 - Grate** ( Controls 0.00 cfs)
  └─**3=Underdrain-Orifice** (Orifice Controls 0.66 cfs @ 3.35 fps)

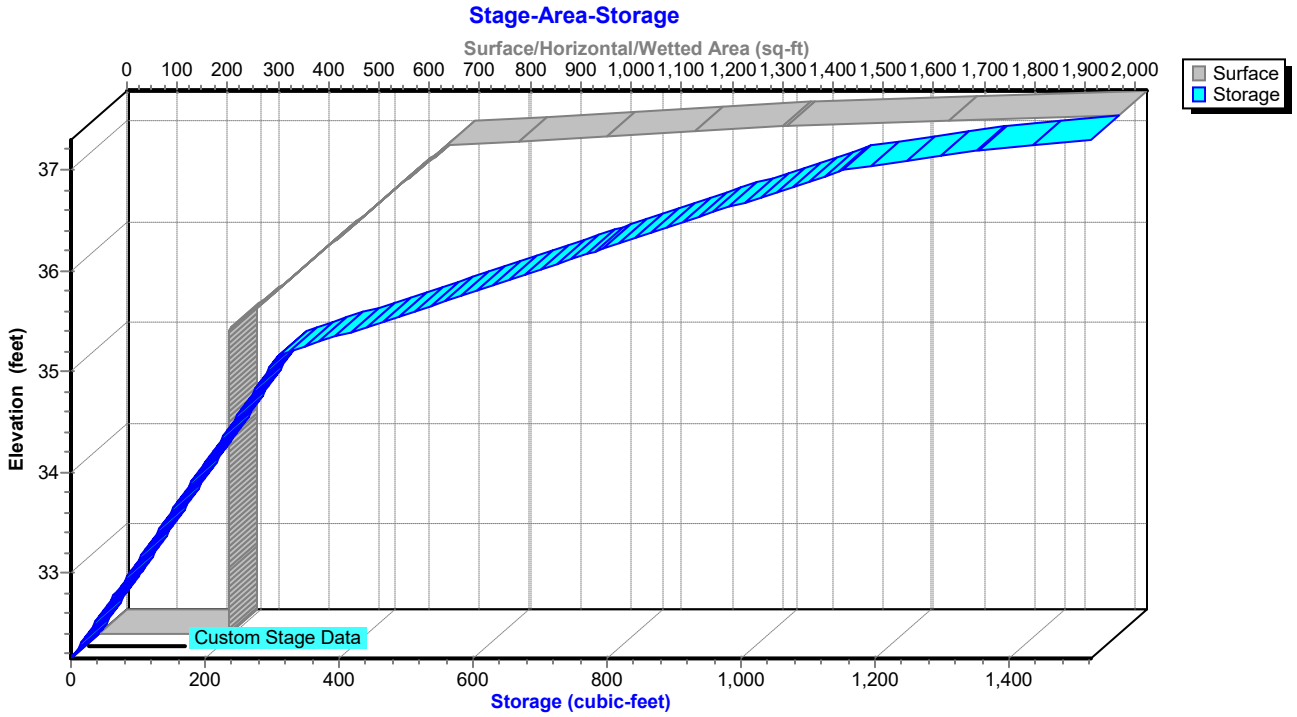
## Pond MBR-1: MBR-1




## Pond MBR-1: MBR-1



## Pond MBR-1: MBR-1



## Summary for Pond MBR-2: MBR-2

Inflow Area = 0.453 ac, 65.00% Impervious, Inflow Depth = 1.87" for 2-Year event
Inflow = 0.91 cfs @ 12.19 hrs, Volume= 0.071 af
Outflow = 0.77 cfs @ 12.23 hrs, Volume= 0.071 af, Atten= 15%, Lag= 2.2 min
Primary = 0.77 cfs @ 12.23 hrs, Volume= 0.071 af
Routed to Pond CI - 9 : CI - 9

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 32.94' @ 12.27 hrs Surf.Area= 321 sf Storage= 144 cf

Plug-Flow detention time= 6.6 min calculated for 0.071 af (100% of inflow)
Center-of-Mass det. time= 5.5 min ( 837.9 - 832.4 )

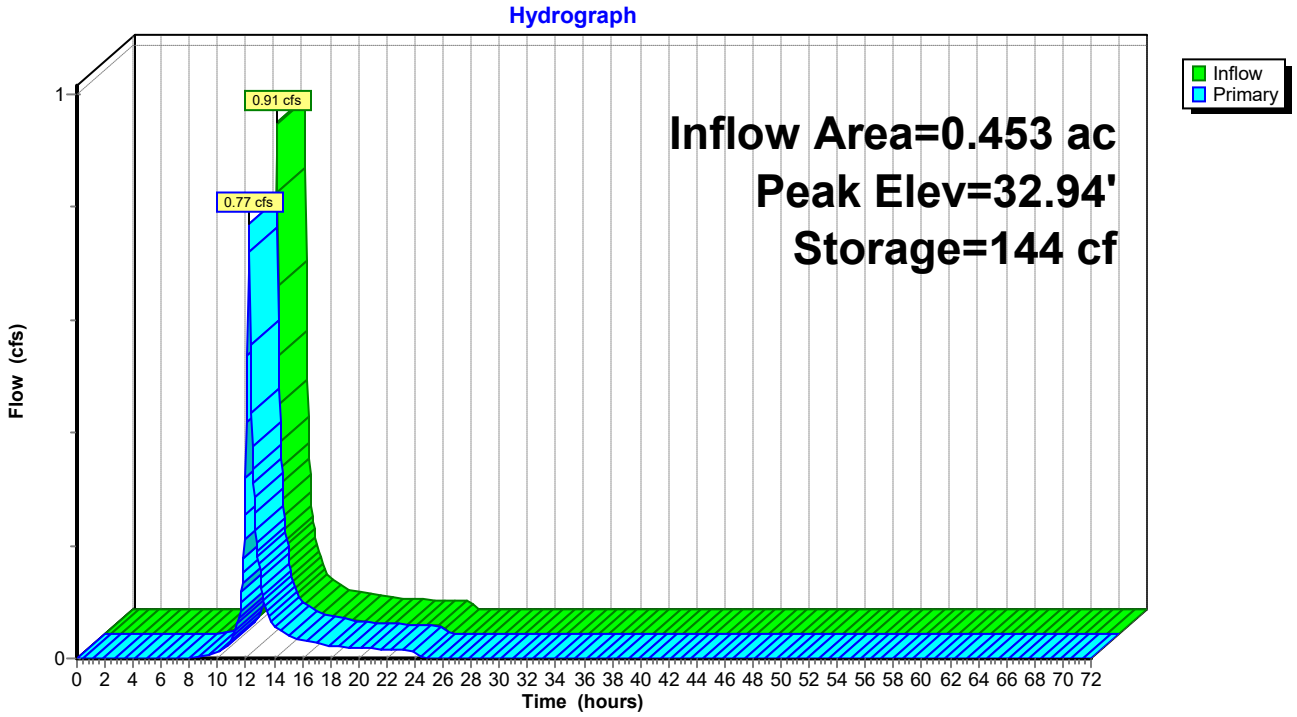
| Volume | Invert | Avail.Storage | Storage Description |
|---|---|---|---|
| #1 | 31.82' | 1,982 cf | **Custom Stage Data (Irregular)** Listed below (Recalc) |

| Elevation (feet) | Surf.Area (sq-ft) | Perim. (feet) | Voids (%) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) | Wet.Area (sq-ft) |
|---|---|---|---|---|---|---|
| 31.82 | 321 | 167.0 | 0.0 | 0 | 0 | 321 |
| 31.83 | 321 | 167.0 | 40.0 | 1 | 1 | 323 |
| 35.80 | 321 | 167.0 | 40.0 | 510 | 511 | 986 |
| 35.81 | 321 | 167.0 | 100.0 | 3 | 514 | 987 |
| 36.81 | 851 | 185.9 | 100.0 | 565 | 1,079 | 1,547 |
| 37.60 | 1,461 | 316.0 | 100.0 | 902 | 1,982 | 6,747 |

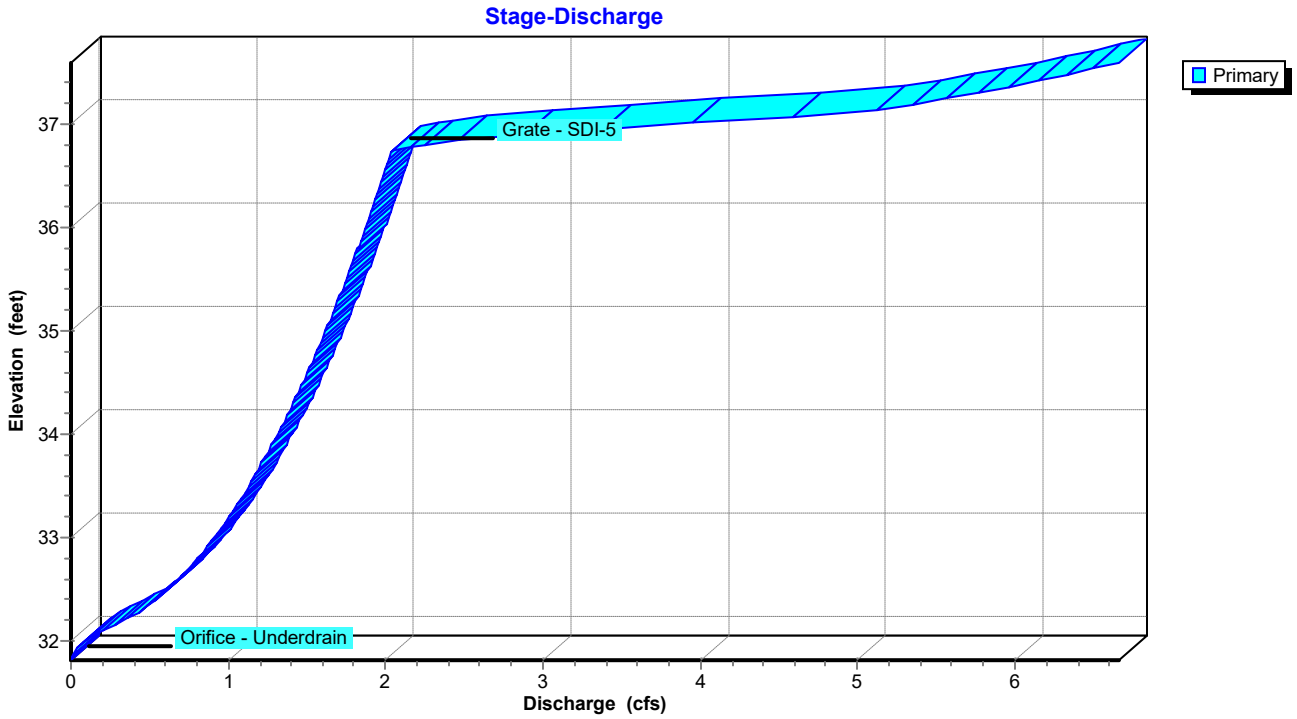
| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 31.61' | **12.0" Round Culvert - SD11**<br>L= 55.4' Box, headwall w/3 square edges, Ke= 0.500<br>Inlet / Outlet Invert= 31.61' / 31.34' S= 0.0049 '/' Cc= 0.900<br>n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf |
| #2 | Device 1 | 36.75' | **12.0" x 12.0" Horiz. Grate - SDI-5** C= 0.600<br>Limited to weir flow at low heads |
| #3 | Device 1 | 31.83' | **6.0" Vert. Orifice - Underdrain** C= 0.600<br>Limited to weir flow at low heads |

**Primary OutFlow** Max=0.68 cfs @ 12.23 hrs HW=32.88' TW=32.37' (Dynamic Tailwater)
└─**1=Culvert - SD11** (Passes 0.68 cfs of 2.69 cfs potential flow)
  ├─**2=Grate - SDI-5** ( Controls 0.00 cfs)
  └─**3=Orifice - Underdrain** (Orifice Controls 0.68 cfs @ 3.46 fps)

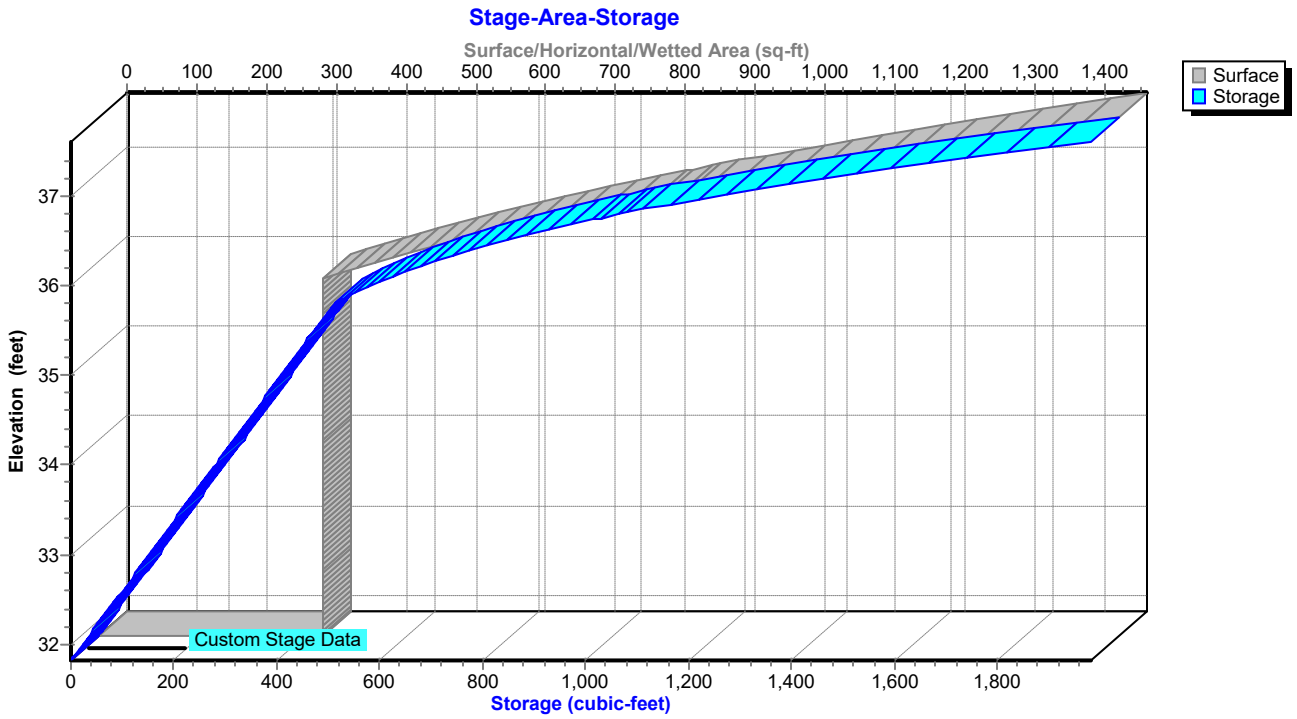
## Pond MBR-2: MBR-2




## Pond MBR-2: MBR-2



## Pond MBR-2: MBR-2



## Summary for Pond MBR-3: MBR-3

Inflow Area = 0.233 ac, 65.00% Impervious, Inflow Depth = 1.87" for 2-Year event
Inflow = 0.46 cfs @ 12.19 hrs, Volume= 0.036 af
Outflow = 0.45 cfs @ 12.19 hrs, Volume= 0.036 af, Atten= 4%, Lag= 0.1 min
Primary = 0.45 cfs @ 12.19 hrs, Volume= 0.036 af
Routed to Pond SGW : SGW

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 32.57' @ 12.40 hrs Surf.Area= 285 sf Storage= 85 cf

Plug-Flow detention time= 7.1 min calculated for 0.036 af (100% of inflow)
Center-of-Mass det. time= 6.8 min ( 839.2 - 832.4 )

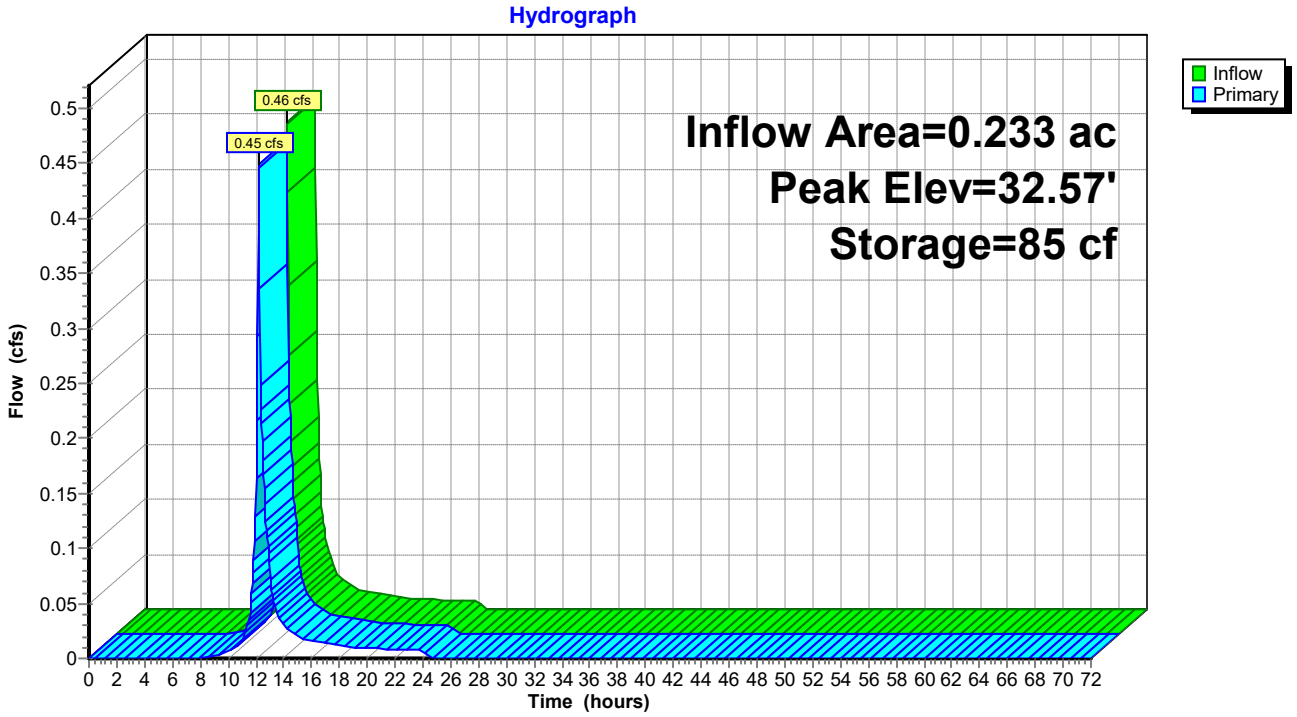
| Volume | Invert | Avail.Storage | Storage Description |
|---|---|---|---|
| #1 | 31.82' | 1,823 cf | **Custom Stage Data (Irregular)** Listed below (Recalc) |

| Elevation (feet) | Surf.Area (sq-ft) | Perim. (feet) | Voids (%) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) | Wet.Area (sq-ft) |
|---|---|---|---|---|---|---|
| 31.82 | 285 | 149.0 | 0.0 | 0 | 0 | 285 |
| 31.83 | 285 | 149.0 | 40.0 | 1 | 1 | 286 |
| 35.80 | 285 | 149.0 | 40.0 | 453 | 454 | 878 |
| 35.81 | 285 | 149.0 | 100.0 | 3 | 457 | 880 |
| 36.81 | 761 | 167.9 | 100.0 | 504 | 960 | 1,382 |
| 37.60 | 1,461 | 316.0 | 100.0 | 863 | 1,823 | 7,088 |

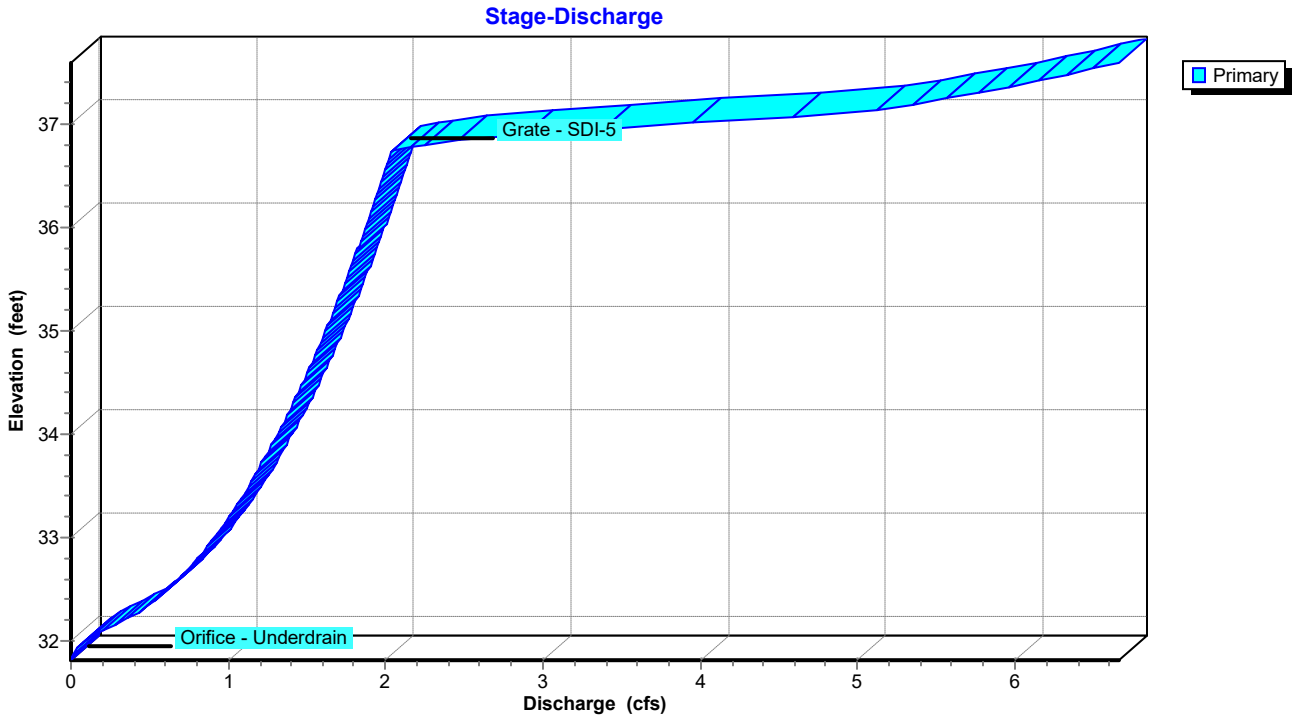
| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 31.61' | **12.0" Round Culvert - SD11**<br>L= 55.4' Box, headwall w/3 square edges, Ke= 0.500<br>Inlet / Outlet Invert= 31.61' / 31.34' S= 0.0049 '/' Cc= 0.900<br>n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf |
| #2 | Device 1 | 36.75' | **12.0" x 12.0" Horiz. Grate - SDI-5** C= 0.600<br>Limited to weir flow at low heads |
| #3 | Device 1 | 31.83' | **6.0" Vert. Orifice - Underdrain** C= 0.600<br>Limited to weir flow at low heads |

**Primary OutFlow** Max=0.44 cfs @ 12.19 hrs HW=32.29' TW=31.99' (Dynamic Tailwater)
└─**1=Culvert - SD11** (Passes 0.44 cfs of 1.03 cfs potential flow)
  ├─**2=Grate - SDI-5** ( Controls 0.00 cfs)
  └─**3=Orifice - Underdrain** (Orifice Controls 0.44 cfs @ 2.31 fps)

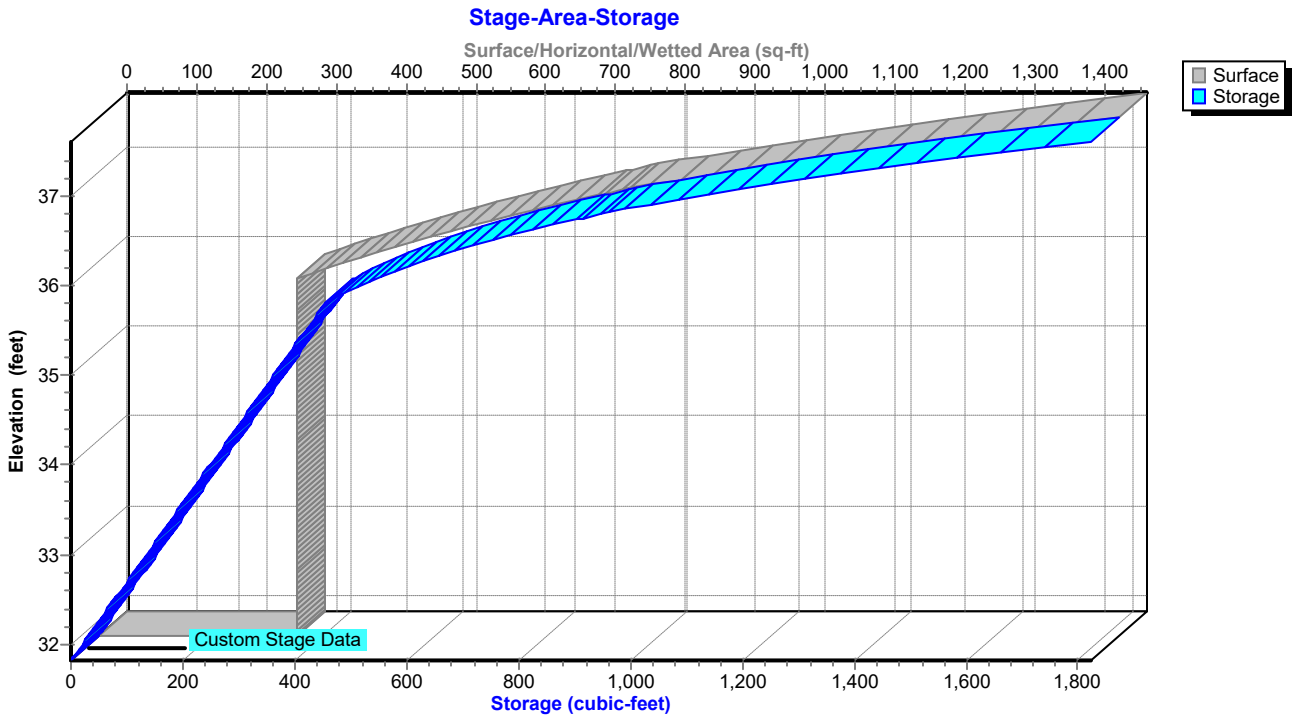
## Pond MBR-3: MBR-3




## Pond MBR-3: MBR-3



## Pond MBR-3: MBR-3



## Summary for Pond MBR-4: MBR-4

Inflow Area = 0.240 ac, 80.00% Impervious, Inflow Depth = 2.38" for 2-Year event
Inflow = 0.77 cfs @ 12.10 hrs, Volume= 0.048 af
Outflow = 0.67 cfs @ 12.11 hrs, Volume= 0.047 af, Atten= 12%, Lag= 0.9 min
Primary = 0.67 cfs @ 12.11 hrs, Volume= 0.047 af
Routed to Pond SDMH-3 : SDMH-3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 33.13' @ 12.32 hrs Surf.Area= 255 sf Storage= 96 cf

Plug-Flow detention time= 16.8 min calculated for 0.047 af (99% of inflow)
Center-of-Mass det. time= 9.0 min ( 810.6 - 801.6 )

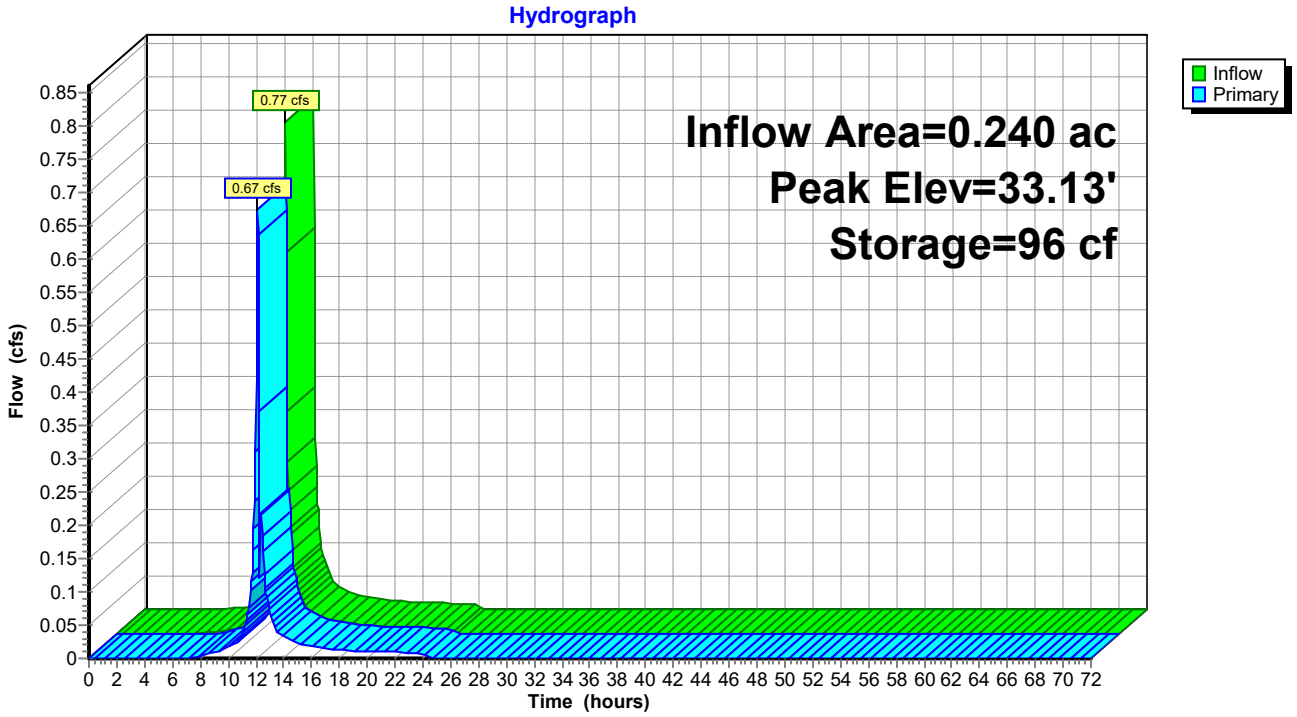
| Volume | Invert | Avail.Storage | Storage Description |
|---|---|---|---|
| #1 | 32.19' | 2,234 cf | **Custom Stage Data (Irregular)** Listed below (Recalc) |

| Elevation (feet) | Surf.Area (sq-ft) | Perim. (feet) | Voids (%) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) | Wet.Area (sq-ft) |
|---|---|---|---|---|---|---|
| 32.19 | 255 | 134.0 | 0.0 | 0 | 0 | 255 |
| 32.20 | 255 | 134.0 | 40.0 | 1 | 1 | 256 |
| 35.45 | 255 | 134.0 | 40.0 | 332 | 333 | 692 |
| 35.46 | 255 | 134.0 | 100.0 | 3 | 335 | 693 |
| 36.46 | 686 | 152.8 | 100.0 | 453 | 788 | 1,146 |
| 37.46 | 1,172 | 171.7 | 100.0 | 918 | 1,706 | 1,660 |
| 37.75 | 2,553 | 245.5 | 100.0 | 527 | 2,234 | 4,111 |

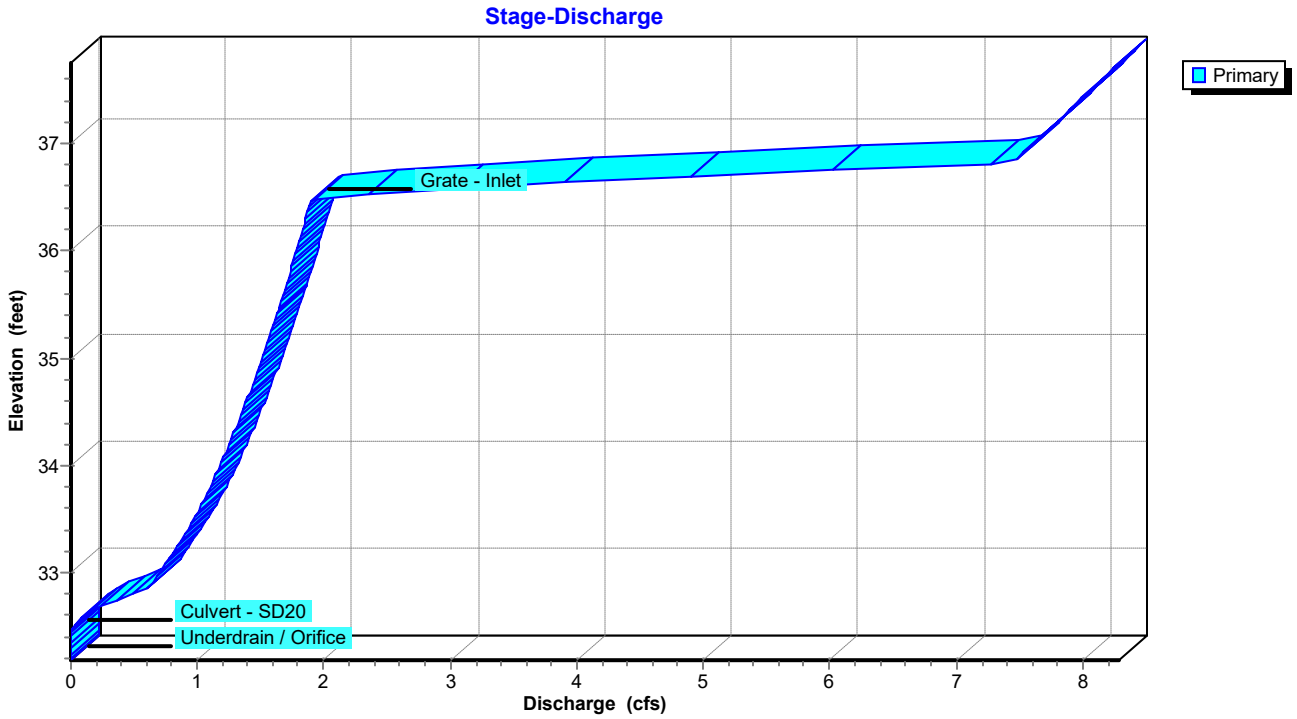
| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 32.45' | **12.0" Round Culvert - SD20**<br>L= 49.2' Box, headwall w/3 square edges, Ke= 0.500<br>Inlet / Outlet Invert= 32.45' / 31.39' S= 0.0215 '/' Cc= 0.900<br>n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf |
| #2 | Device 1 | 32.20' | **6.0" Vert. Underdrain / Orifice** C= 0.600<br>Limited to weir flow at low heads |
| #3 | Device 1 | 36.46' | **24.0" x 24.0" Horiz. Grate - Inlet** C= 0.600<br>Limited to weir flow at low heads |

**Primary OutFlow** Max=0.67 cfs @ 12.11 hrs HW=32.96' TW=32.37' (Dynamic Tailwater)
↑ **1=Culvert - SD20** (Passes 0.67 cfs of 0.94 cfs potential flow)
↑ **2=Underdrain / Orifice** (Orifice Controls 0.67 cfs @ 3.43 fps)
**3=Grate - Inlet** ( Controls 0.00 cfs)

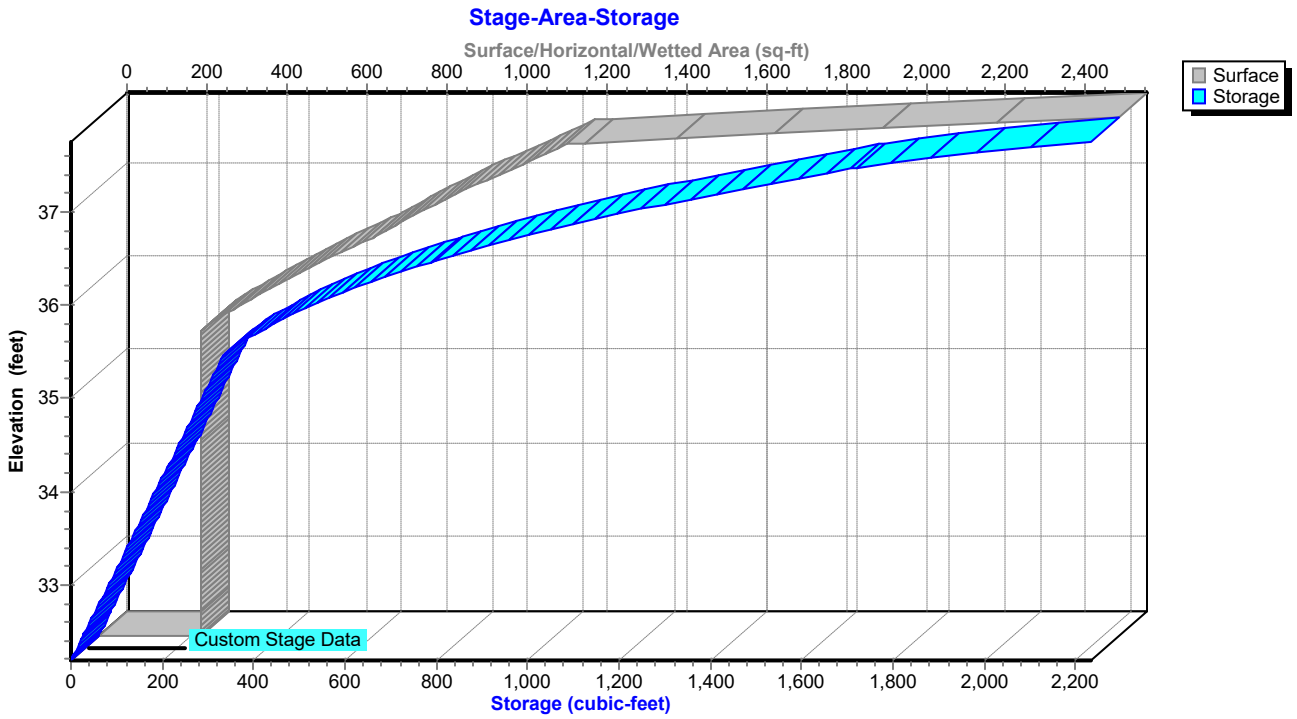
## Pond MBR-4: MBR-4




## Pond MBR-4: MBR-4



## Pond MBR-4: MBR-4



## Summary for Pond MBR-5: MBR-5

Inflow Area = 0.456 ac, 70.00% Impervious, Inflow Depth = 2.03" for 2-Year event
Inflow = 1.25 cfs @ 12.10 hrs, Volume= 0.077 af
Outflow = 1.00 cfs @ 12.14 hrs, Volume= 0.076 af, Atten= 20%, Lag= 2.3 min
Primary = 1.00 cfs @ 12.14 hrs, Volume= 0.076 af
Routed to Pond SDMH-4 : SDMH-4

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 34.80' @ 12.16 hrs Surf.Area= 239 sf Storage= 267 cf

Plug-Flow detention time= 21.4 min calculated for 0.076 af (98% of inflow)
Center-of-Mass det. time= 10.3 min ( 828.9 - 818.6 )

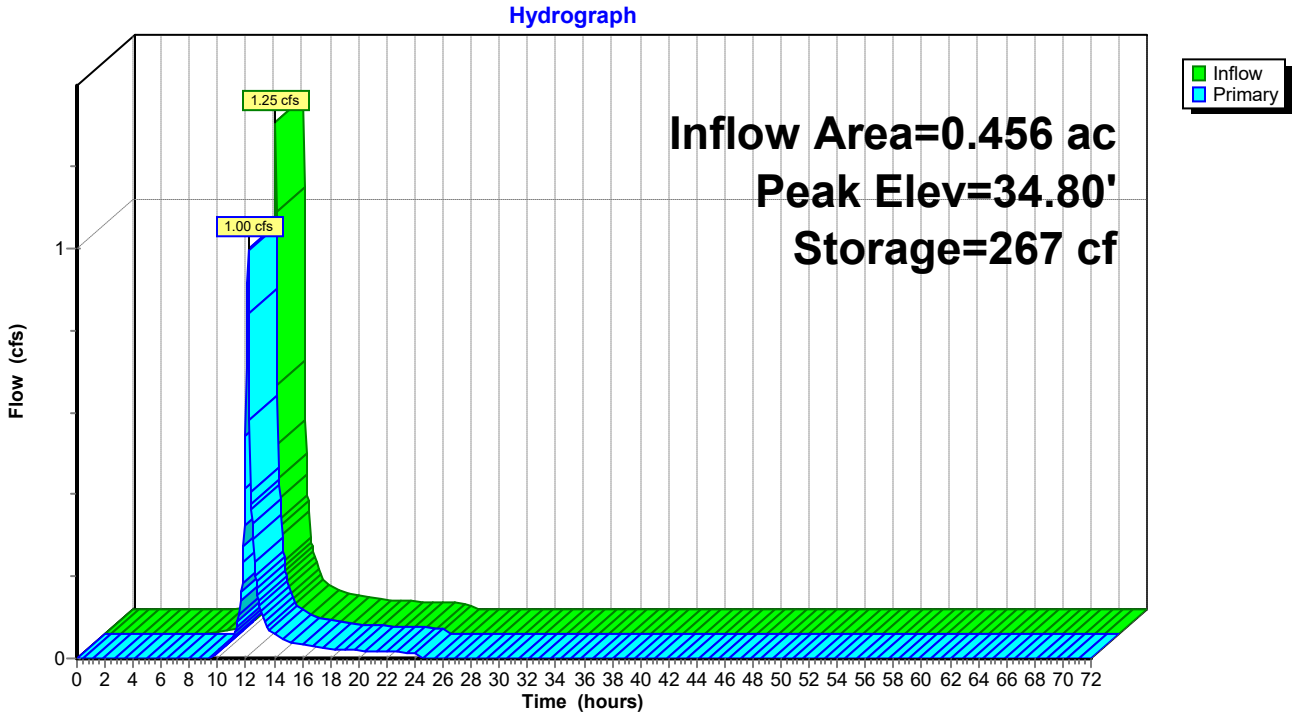
| Volume | Invert | Avail.Storage | Storage Description |
|---|---|---|---|
| #1 | 32.00' | 2,453 cf | **Custom Stage Data (Irregular)** Listed below |

| Elevation (feet) | Surf.Area (sq-ft) | Perim. (feet) | Voids (%) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) | Wet.Area (sq-ft) |
|---|---|---|---|---|---|---|
| 32.00 | 239 | 126.9 | 0.0 | 0 | 0 | 239 |
| 32.01 | 239 | 125.9 | 40.0 | 1 | 1 | 259 |
| 35.45 | 239 | 125.9 | 40.0 | 329 | 330 | 692 |
| 35.46 | 239 | 125.9 | 100.0 | 2 | 332 | 694 |
| 36.46 | 645 | 144.7 | 100.0 | 426 | 758 | 1,120 |
| 37.75 | 2,127 | 215.9 | 100.0 | 1,696 | 2,453 | 3,177 |

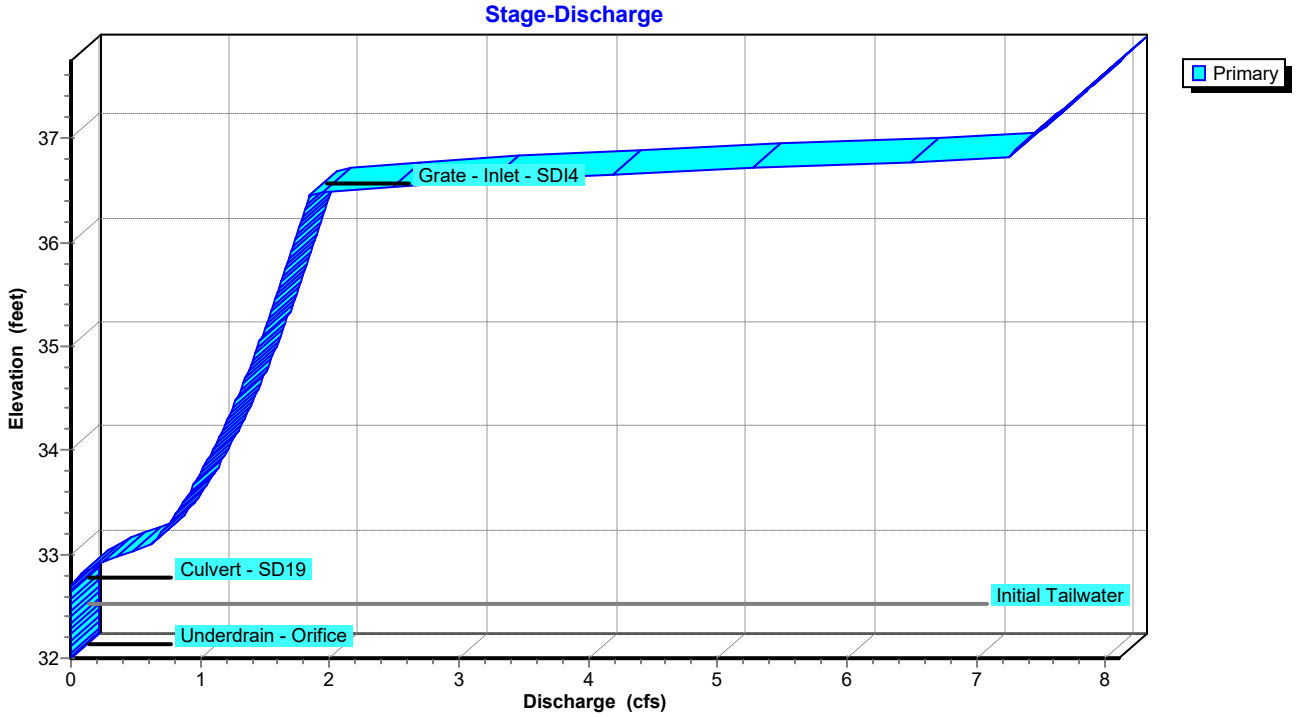
| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 32.66' | **12.0" Round Culvert - SD19**<br>L= 49.3' Box, headwall w/3 square edges, Ke= 0.500<br>Inlet / Outlet Invert= 32.66' / 32.41' S= 0.0051 '/' Cc= 0.900<br>n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf |
| #2 | Device 1 | 36.46' | **24.0" x 24.0" Horiz. Grate - Inlet - SDI4** C= 0.600<br>Limited to weir flow at low heads |
| #3 | Device 1 | 32.01' | **6.0" Vert. Underdrain - Orifice** C= 0.600<br>Limited to weir flow at low heads |

**Primary OutFlow** Max=0.99 cfs @ 12.14 hrs HW=34.74' TW=33.65' (Dynamic Tailwater)
└─**1=Culvert - SD19** (Passes 0.99 cfs of 3.94 cfs potential flow)
  ├─**2=Grate - Inlet - SDI4** ( Controls 0.00 cfs)
  └─**3=Underdrain - Orifice** (Orifice Controls 0.99 cfs @ 5.02 fps)

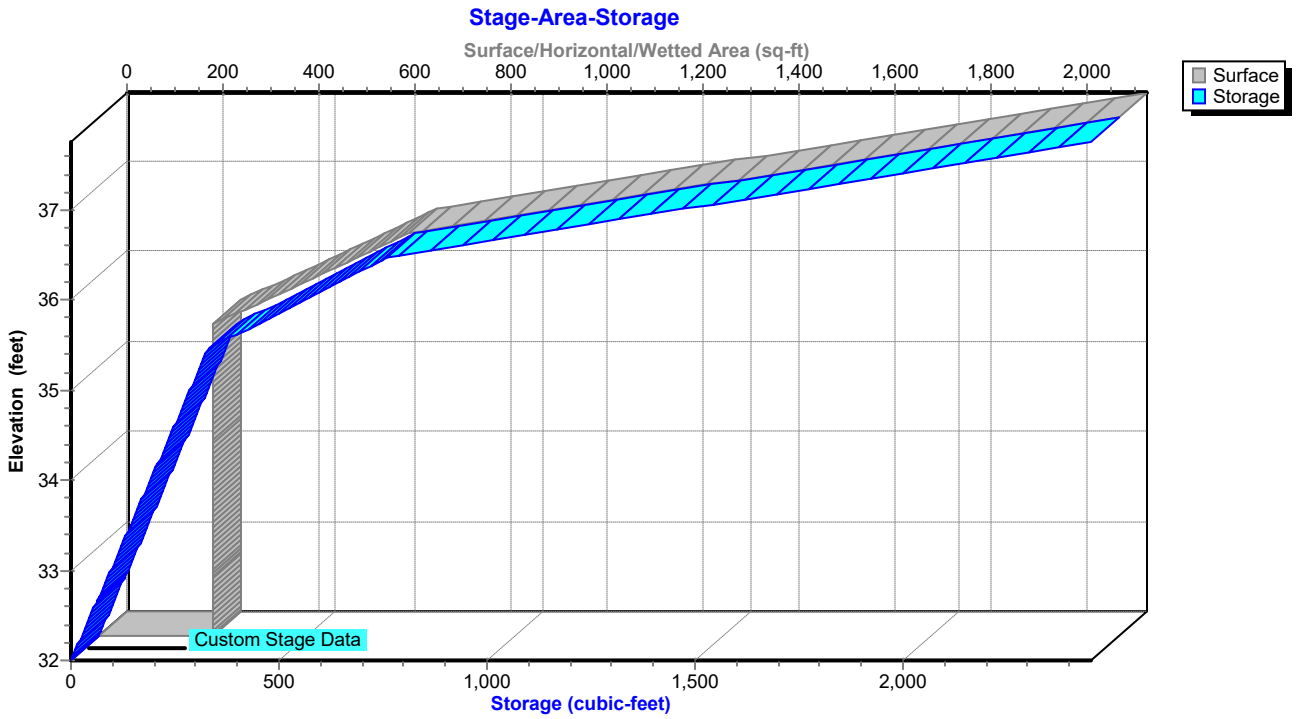
## Pond MBR-5: MBR-5




## Pond MBR-5: MBR-5



## Pond MBR-5: MBR-5



## Summary for Pond SDMH-3: SDMH-3

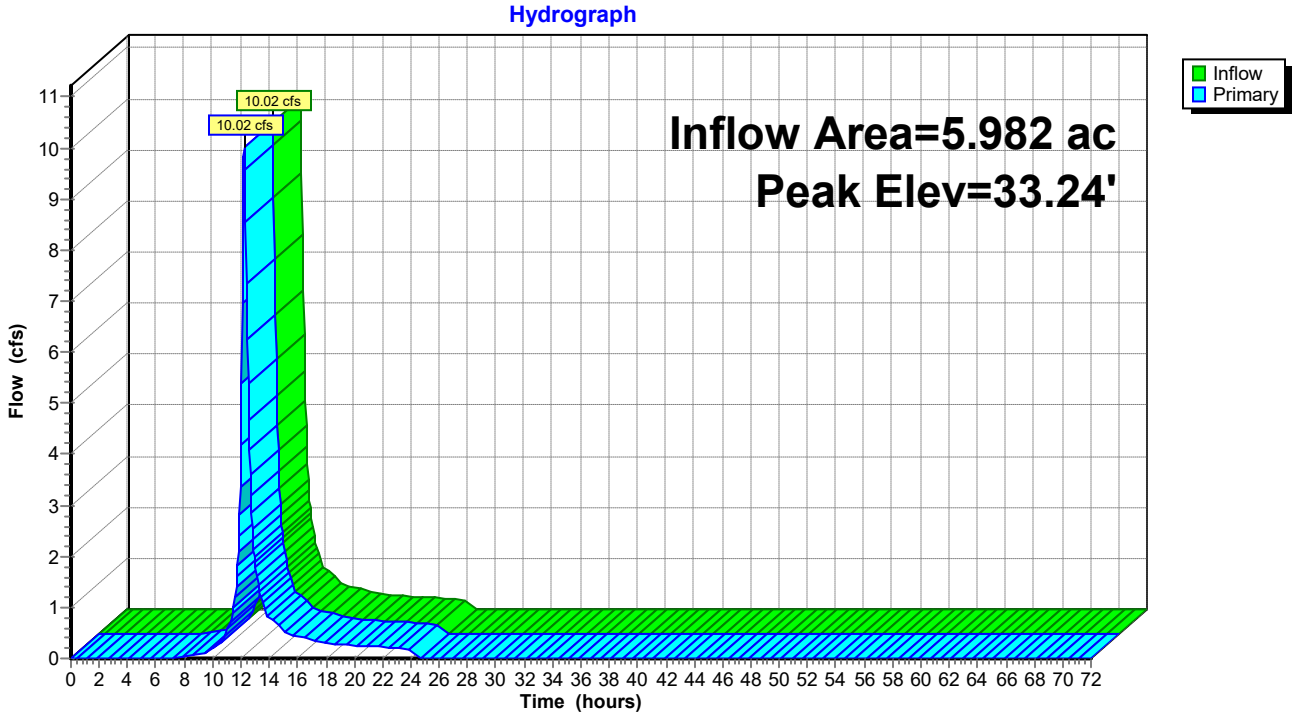
Inflow Area = 5.982 ac, 67.85% Impervious, Inflow Depth = 1.97" for 2-Year event
Inflow = 10.02 cfs @ 12.24 hrs, Volume= 0.981 af
Outflow = 10.02 cfs @ 12.24 hrs, Volume= 0.981 af, Atten= 0%, Lag= 0.0 min
Primary = 10.02 cfs @ 12.24 hrs, Volume= 0.981 af
Routed to Pond SGW : SGW

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 33.24' @ 12.30 hrs

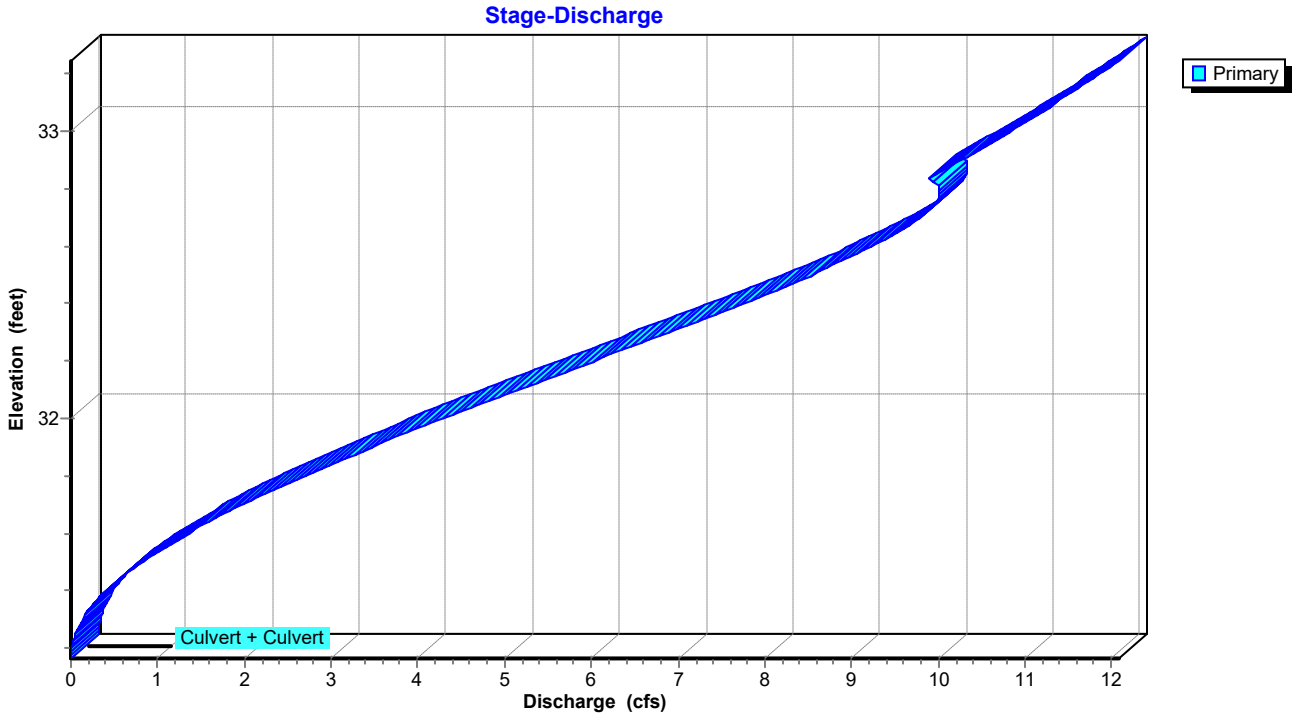
| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 31.16' | **15.0" Round Culvert**<br>L= 81.6' Box, 0° wingwalls, square crown edge, Ke= 0.700<br>Inlet / Outlet Invert= 31.16' / 30.75' S= 0.0050 '/' Cc= 0.900<br>n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.23 sf |
| #2 | Primary | 31.16' | **15.0" Round Culvert**<br>L= 81.0' Box, 0° wingwalls, square crown edge, Ke= 0.700<br>Inlet / Outlet Invert= 31.16' / 30.75' S= 0.0051 '/' Cc= 0.900<br>n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.23 sf |

**Primary OutFlow** Max=9.98 cfs @ 12.24 hrs HW=33.11' TW=32.20' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 4.99 cfs @ 4.07 fps)
└─**2=Culvert** (Inlet Controls 4.99 cfs @ 4.07 fps)

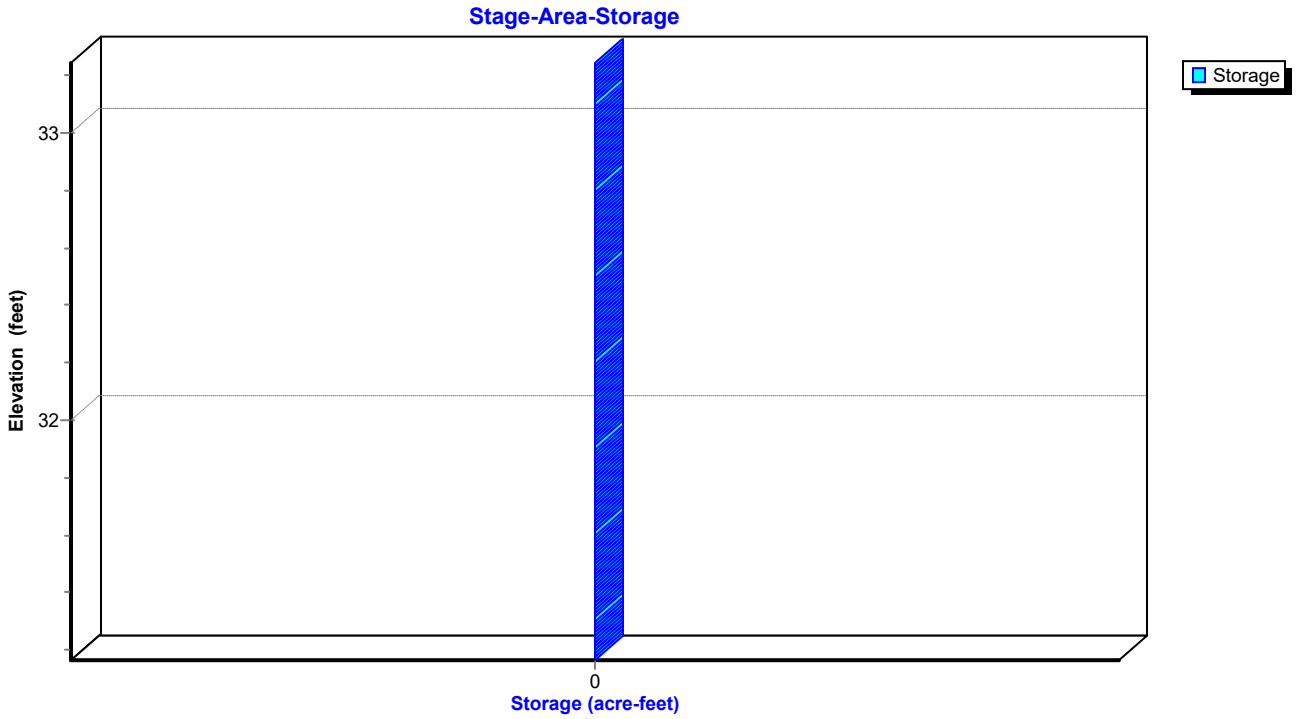
### Pond SDMH-3: SDMH-3



## Pond SDMH-3: SDMH-3




## Pond SDMH-3: SDMH-3



## Summary for Pond SDMH-4: SDMH-4

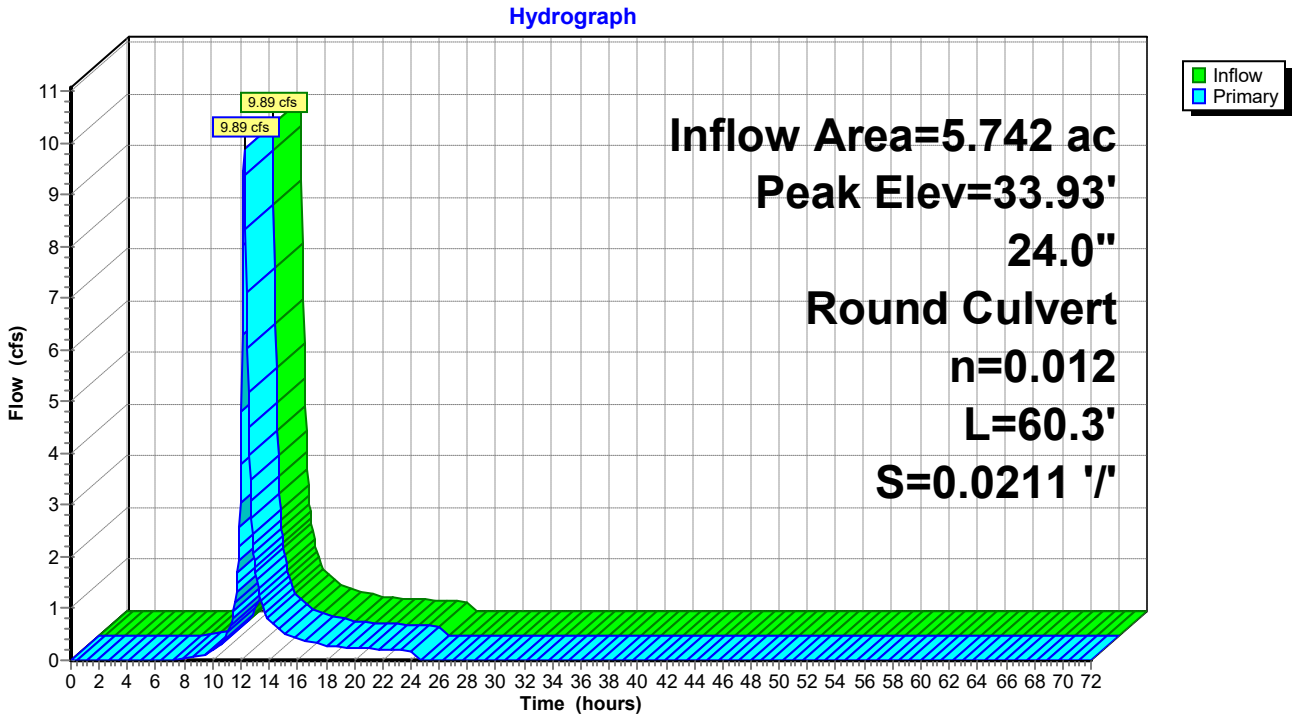
Inflow Area = 5.742 ac, 67.34% Impervious, Inflow Depth = 1.95" for 2-Year event
Inflow = 9.89 cfs @ 12.25 hrs, Volume= 0.934 af
Outflow = 9.89 cfs @ 12.25 hrs, Volume= 0.934 af, Atten= 0%, Lag= 0.0 min
Primary = 9.89 cfs @ 12.25 hrs, Volume= 0.934 af
Routed to Pond SDMH-3 : SDMH-3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 33.93' @ 12.28 hrs

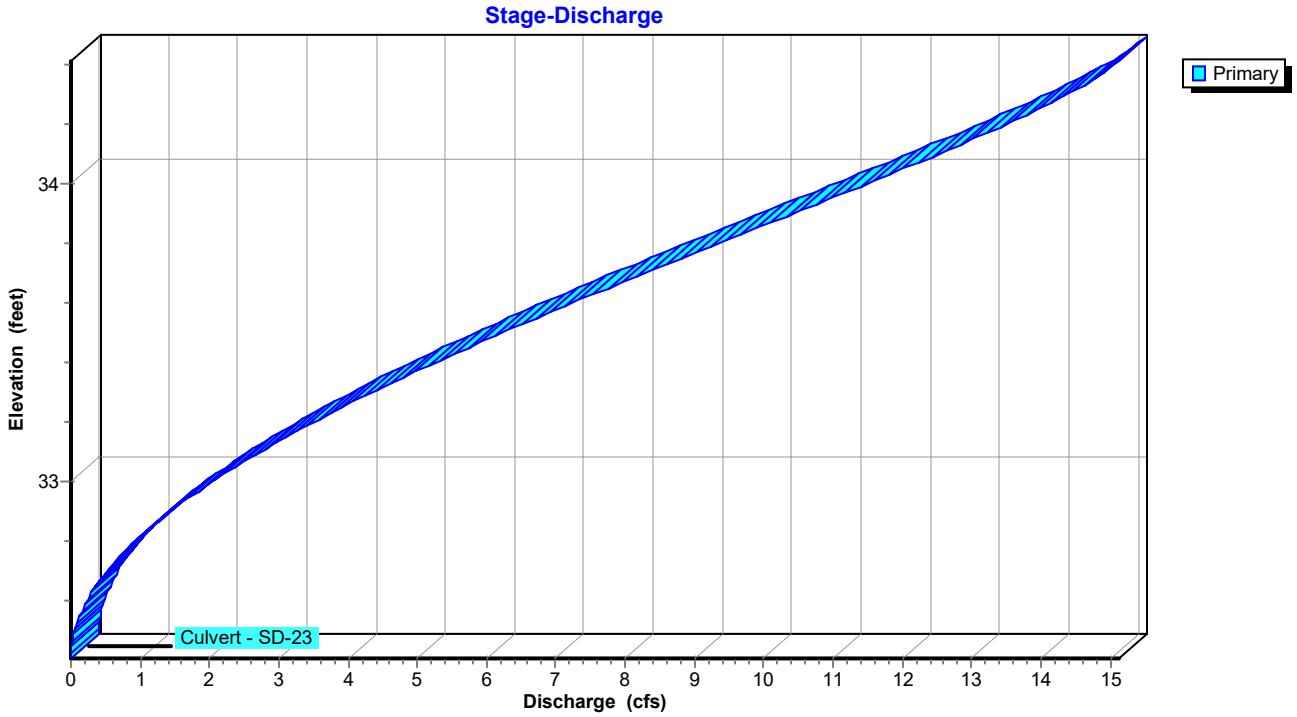
| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 32.41' | **24.0" Round Culvert - SD-23**<br>L= 60.3' Box, headwall w/3 square edges, Ke= 0.500<br>Inlet / Outlet Invert= 32.41' / 31.14' S= 0.0211 '/' Cc= 0.900<br>n= 0.012 Corrugated PP, smooth interior, Flow Area= 3.14 sf |

**Primary OutFlow** Max=8.80 cfs @ 12.25 hrs HW=33.91' TW=33.15' (Dynamic Tailwater)
**1=Culvert - SD-23** (Outlet Controls 8.80 cfs @ 4.84 fps)

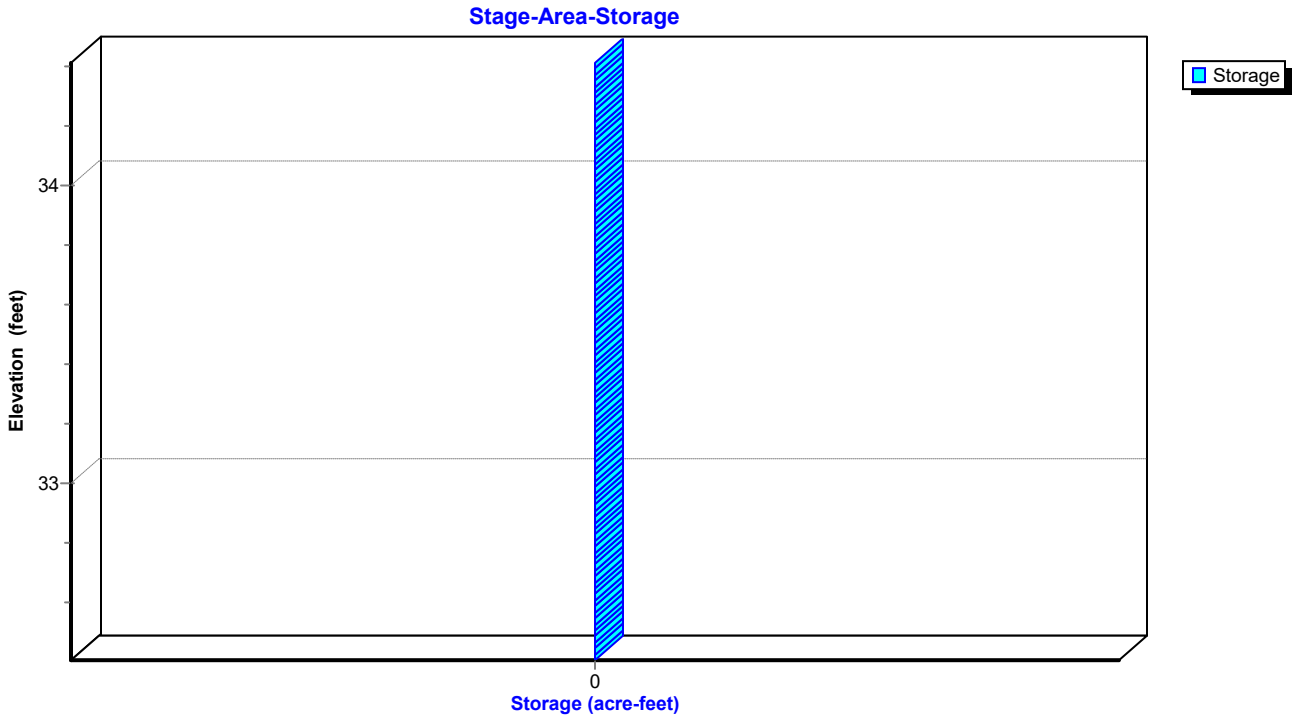
### Pond SDMH-4: SDMH-4



## Pond SDMH-4: SDMH-4




## Pond SDMH-4: SDMH-4



## Summary for Pond SDMH-5: SDMH-5

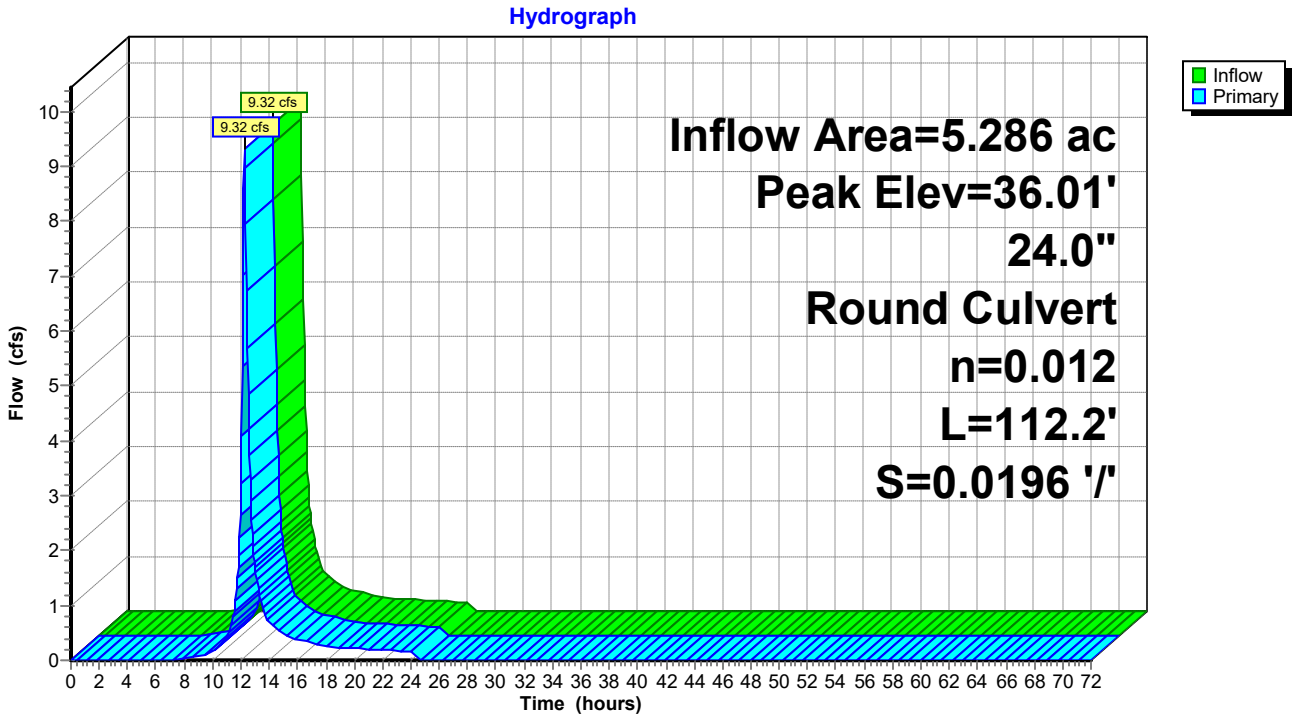
Inflow Area = 5.286 ac, 67.12% Impervious, Inflow Depth = 1.95" for 2-Year event
Inflow = 9.32 cfs @ 12.26 hrs, Volume= 0.858 af
Outflow = 9.32 cfs @ 12.26 hrs, Volume= 0.858 af, Atten= 0%, Lag= 0.0 min
Primary = 9.32 cfs @ 12.26 hrs, Volume= 0.858 af
Routed to Pond SDMH-4 : SDMH-4

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 36.01' @ 12.26 hrs

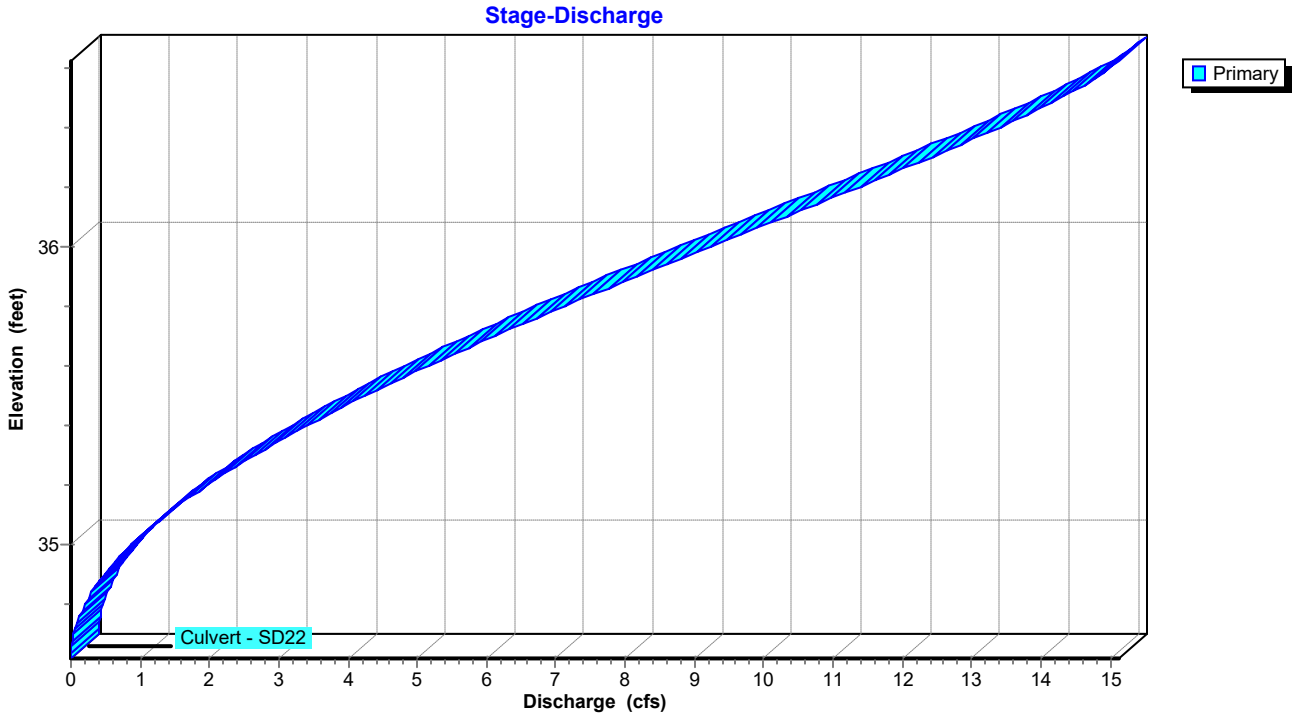
| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 34.62' | **24.0" Round Culvert - SD22**<br>L= 112.2' Box, headwall w/3 square edges, Ke= 0.500<br>Inlet / Outlet Invert= 34.62' / 32.42' S= 0.0196 '/' Cc= 0.900<br>n= 0.012 Corrugated PP, smooth interior, Flow Area= 3.14 sf |

**Primary OutFlow** Max=9.25 cfs @ 12.26 hrs HW=36.00' TW=33.91' (Dynamic Tailwater)
**1=Culvert - SD22** (Inlet Controls 9.25 cfs @ 4.00 fps)

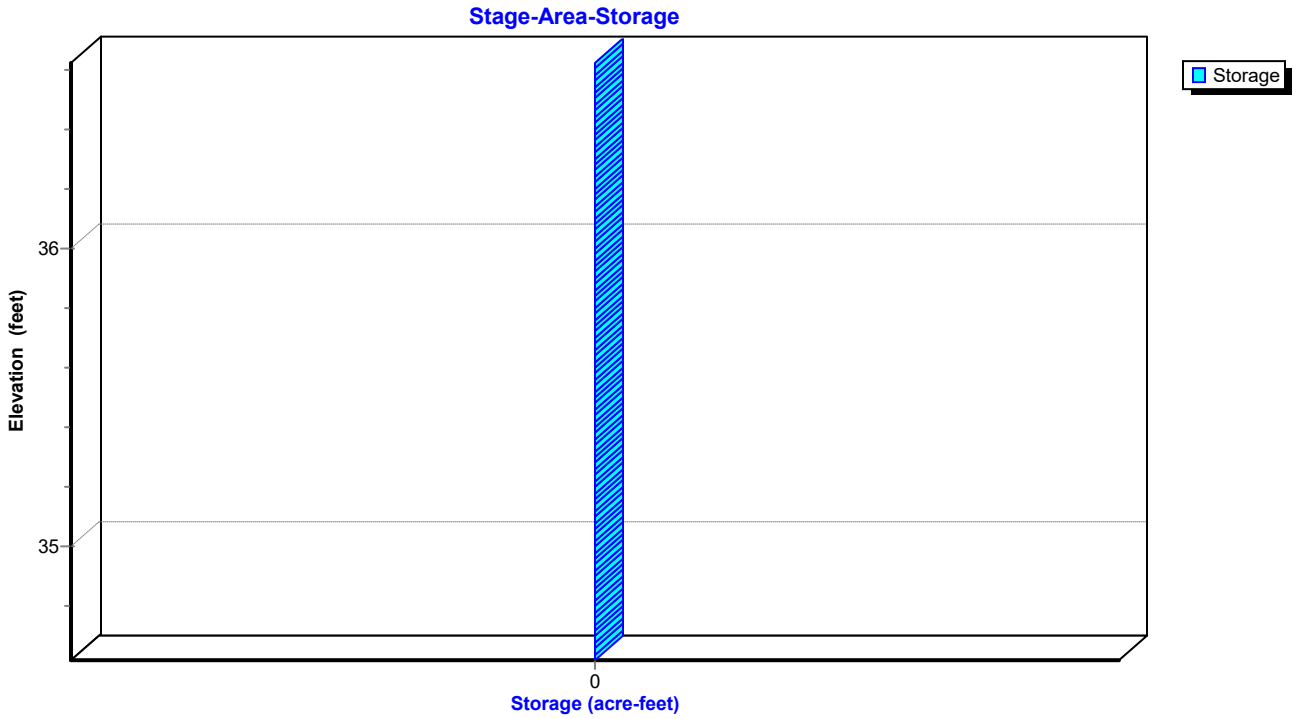
## Pond SDMH-5: SDMH-5



## Pond SDMH-5: SDMH-5




## Pond SDMH-5: SDMH-5



## Summary for Pond SGW: SGW

Inflow Area = 6.996 ac, 67.72% Impervious, Inflow Depth = 1.96" for 2-Year event
Inflow = 11.82 cfs @ 12.23 hrs, Volume= 1.142 af
Outflow = 8.34 cfs @ 12.41 hrs, Volume= 1.142 af, Atten= 29%, Lag= 10.6 min
Primary = 8.34 cfs @ 12.41 hrs, Volume= 1.142 af
Routed to Link PR-SP-1 : PR-SP-1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
Starting Elev= 30.42' Storage= 0 cf
Peak Elev= 32.52' @ 12.41 hrs Surf.Area= 6,358 sf Storage= 9,730 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 19.2 min ( 852.5 - 833.4 )

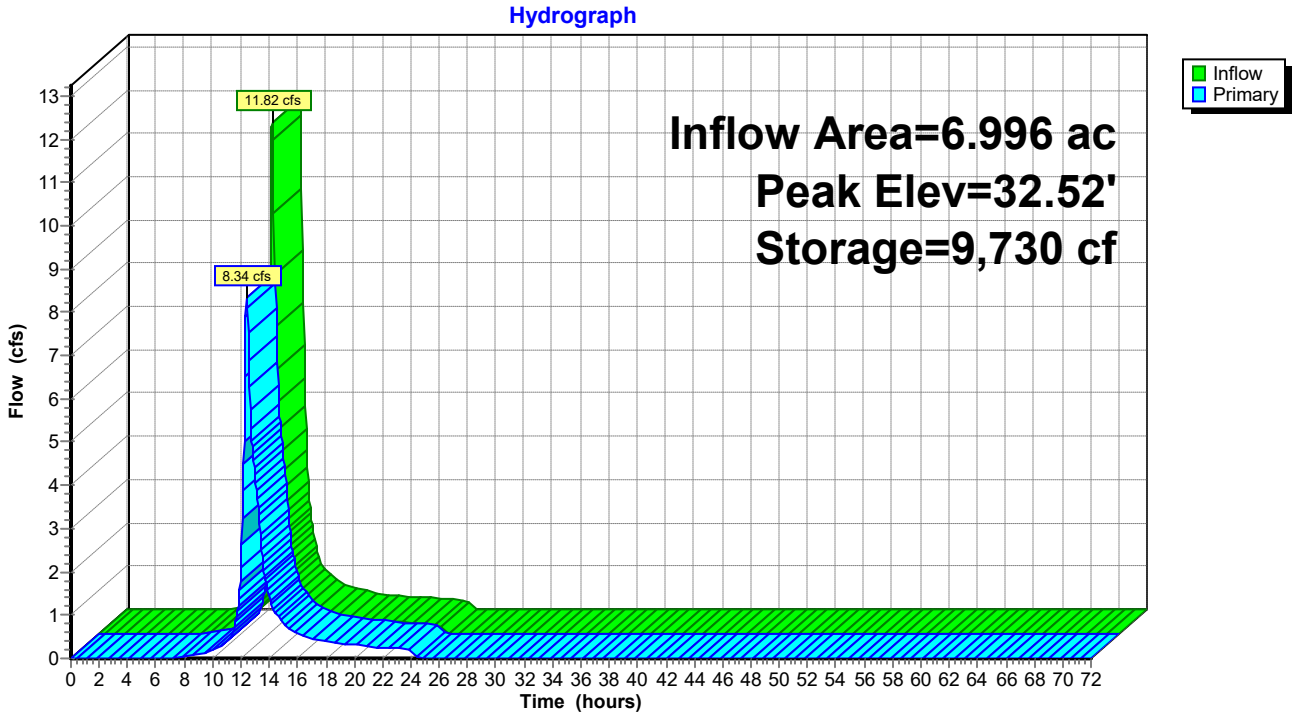
| Volume | Invert | Avail.Storage | Storage Description |
|---|---|---|---|
| #1 | 30.75' | 34,708 cf | **Custom Stage Data (Irregular)** Listed below (Recalc) |

| Elevation (feet) | Surf.Area (sq-ft) | Perim. (feet) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) | Wet.Area (sq-ft) |
|---|---|---|---|---|---|
| 30.75 | 4,692 | 305.3 | 0 | 0 | 4,692 |
| 31.25 | 5,135 | 313.7 | 2,456 | 2,456 | 5,134 |
| 31.75 | 5,608 | 322.3 | 2,685 | 5,141 | 5,597 |
| 32.25 | 6,095 | 330.8 | 2,925 | 8,066 | 6,068 |
| 32.75 | 6,592 | 339.4 | 3,171 | 11,237 | 6,556 |
| 33.25 | 7,157 | 350.0 | 3,436 | 14,673 | 7,163 |
| 33.75 | 7,979 | 388.0 | 3,782 | 18,455 | 9,402 |
| 34.25 | 8,868 | 419.0 | 4,210 | 22,665 | 11,403 |
| 34.75 | 43,702 | 1,798.0 | 12,043 | 34,708 | 254,692 |

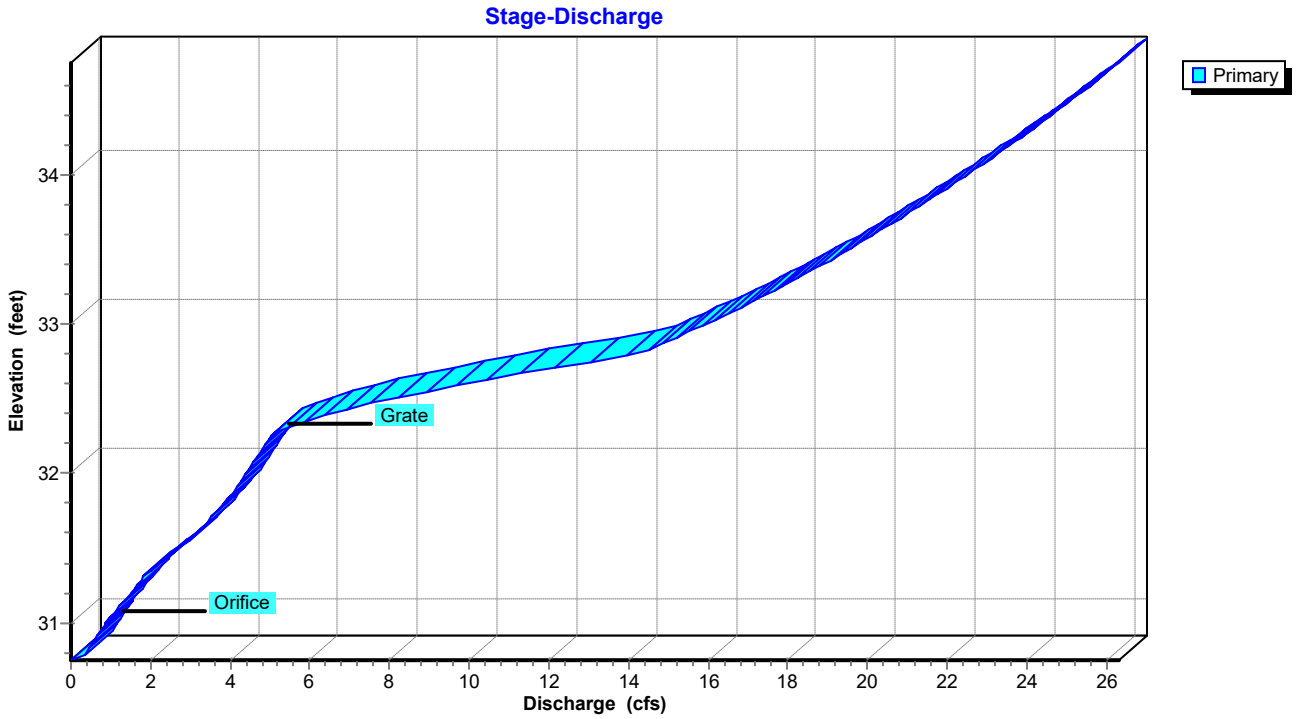
| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 25.70' | **24.0" Round Culvert**<br>L= 42.9' Box, headwall w/3 square edges, Ke= 0.500<br>Inlet / Outlet Invert= 25.70' / 25.50' S= 0.0047 '/' Cc= 0.900<br>n= 0.010 PVC, smooth interior, Flow Area= 3.14 sf |
| #2 | Device 1 | 30.42' | **8.0" Round Collection Pipe X 2.00**<br>L= 35.0' CPP, square edge headwall, Ke= 0.500<br>Inlet / Outlet Invert= 30.42' / 30.42' S= 0.0000 '/' Cc= 0.900<br>n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.35 sf |
| #3 | Device 1 | 32.25' | **18.0" x 18.0" Horiz. Grate** C= 0.600<br>Limited to weir flow at low heads |
| #4 | Primary | 31.00' | **8.0" Vert. Orifice** C= 0.600 Limited to weir flow at low heads |

**Primary OutFlow** Max=8.30 cfs @ 12.41 hrs HW=32.51' TW=0.00' (Dynamic Tailwater)
- **1=Culvert** (Passes 6.47 cfs of 36.48 cfs potential flow)
  - **2=Collection Pipe** (Barrel Controls 3.80 cfs @ 5.44 fps)
  - **3=Grate** (Weir Controls 2.68 cfs @ 1.68 fps)
- **4=Orifice** (Orifice Controls 1.83 cfs @ 5.23 fps)

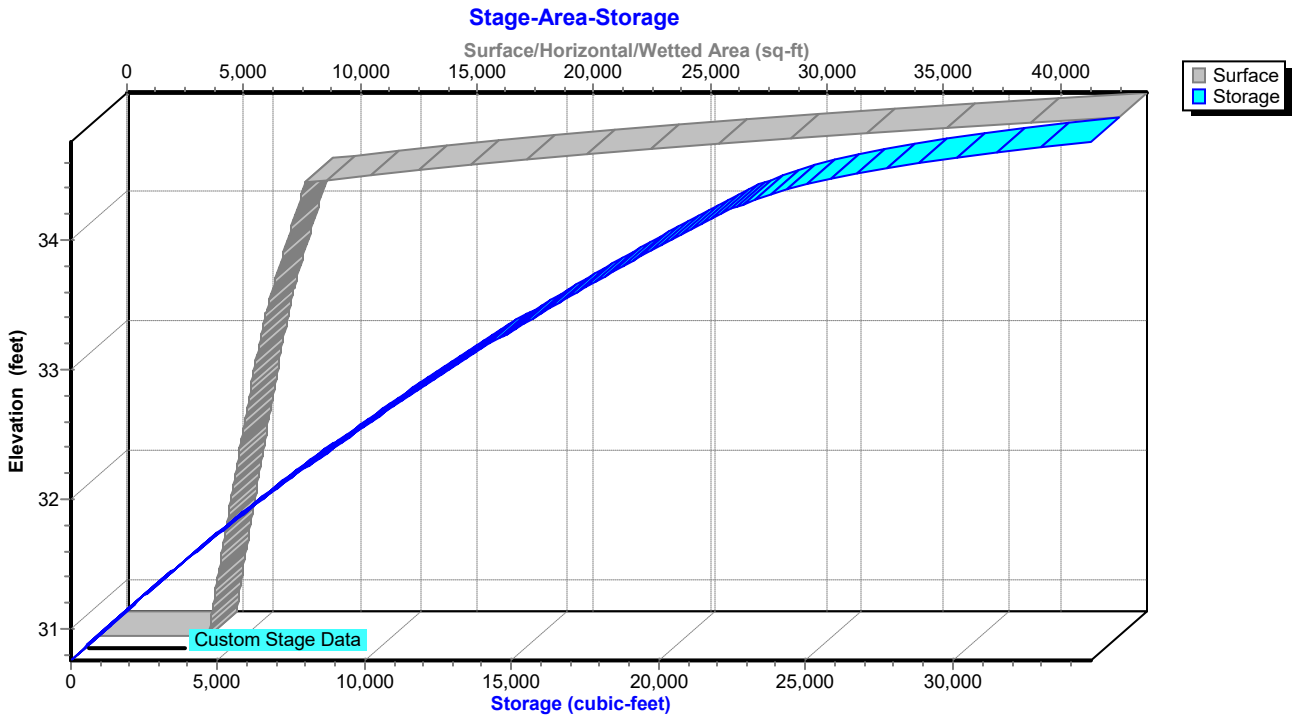
## Pond SGW: SGW




## Pond SGW: SGW



## Pond SGW: SGW


Stage-Area-Storage
Surface/Horizontal/Wetted Area (sq-ft)
0
5,000
10,000
15,000
20,000
25,000
30,000
35,000
40,000
Surface
Storage
Elevation (feet)
34
33
32
31
Custom Stage Data
0
5,000
10,000
15,000
20,000
25,000
30,000
Storage (cubic-feet)

## Summary for Pond YI-1: YI-1

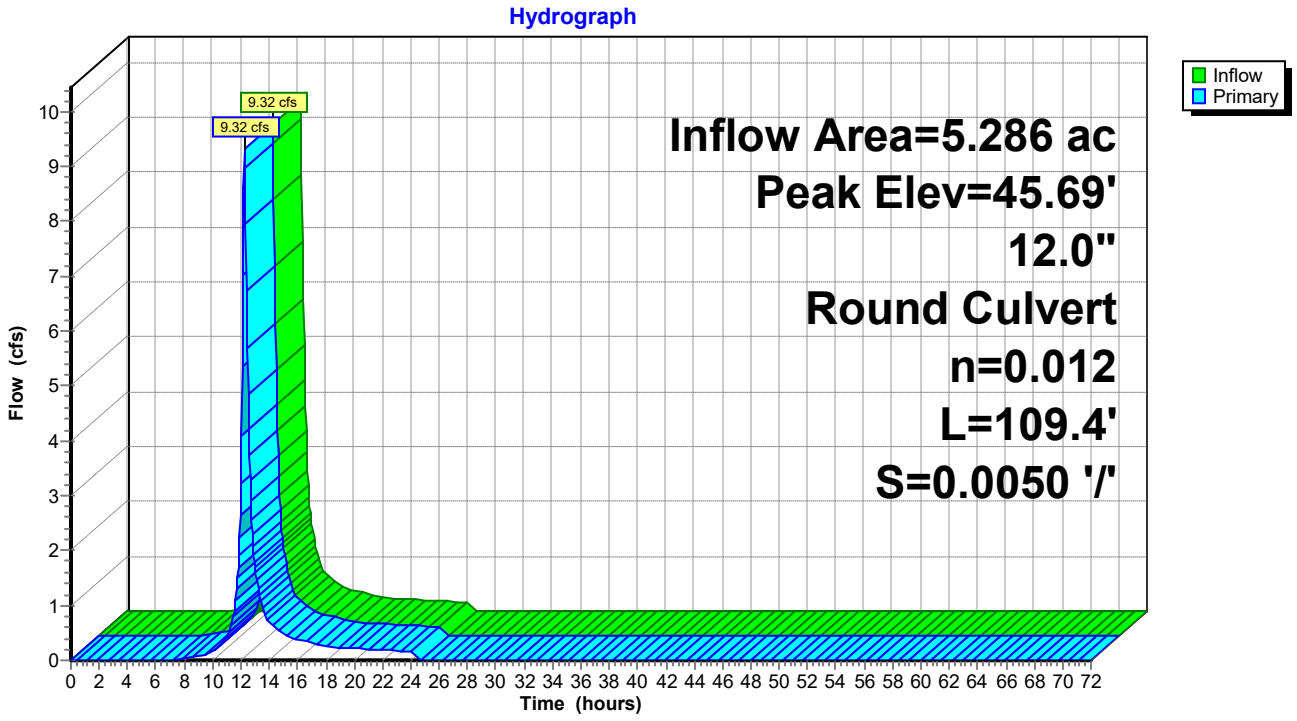
Inflow Area = 5.286 ac, 67.12% Impervious, Inflow Depth = 1.95" for 2-Year event
Inflow = 9.32 cfs @ 12.26 hrs, Volume= 0.858 af
Outflow = 9.32 cfs @ 12.26 hrs, Volume= 0.858 af, Atten= 0%, Lag= 0.0 min
Primary = 9.32 cfs @ 12.26 hrs, Volume= 0.858 af
Routed to Pond SDMH-5 : SDMH-5

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 45.69' @ 12.26 hrs

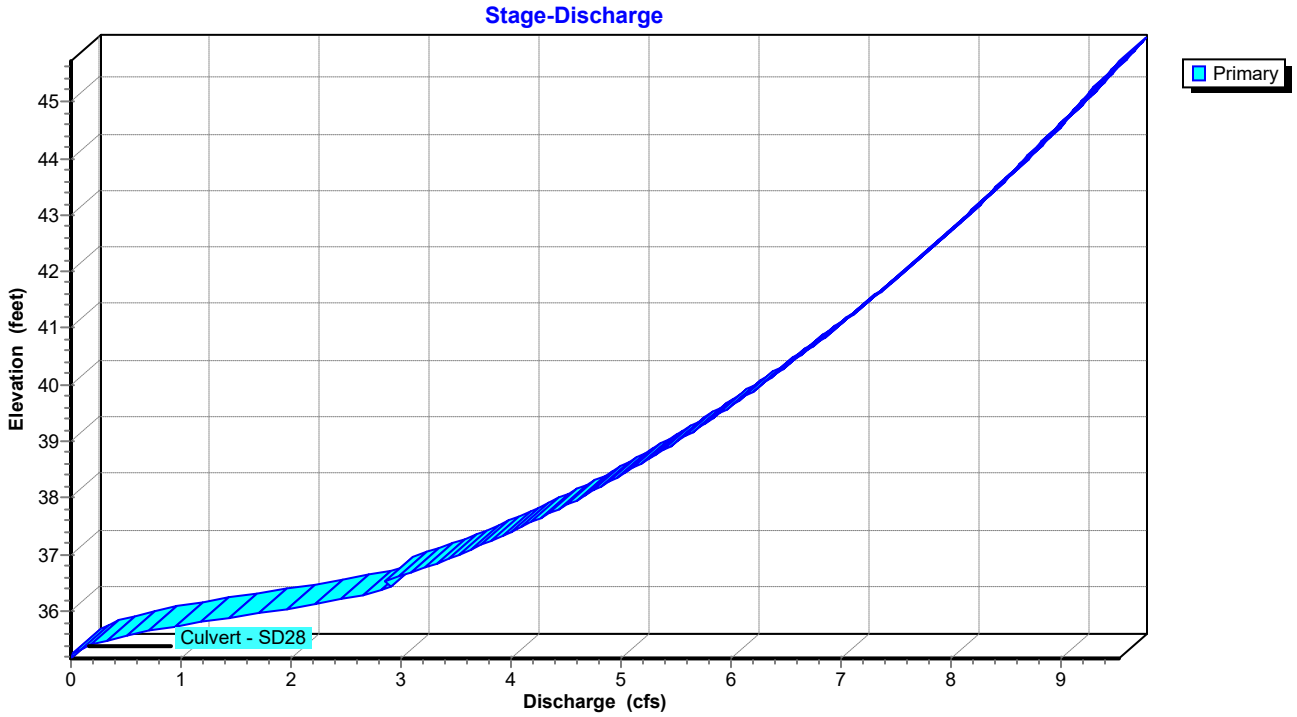
| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 35.16' | **12.0" Round Culvert - SD28**<br>L= 109.4' Box, headwall w/3 square edges, Ke= 0.500<br>Inlet / Outlet Invert= 35.16' / 34.61' S= 0.0050 '/' Cc= 0.900<br>n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf |

**Primary OutFlow** Max=9.25 cfs @ 12.26 hrs HW=45.53' TW=36.00' (Dynamic Tailwater)
**1=Culvert - SD28** (Outlet Controls 9.25 cfs @ 11.78 fps)

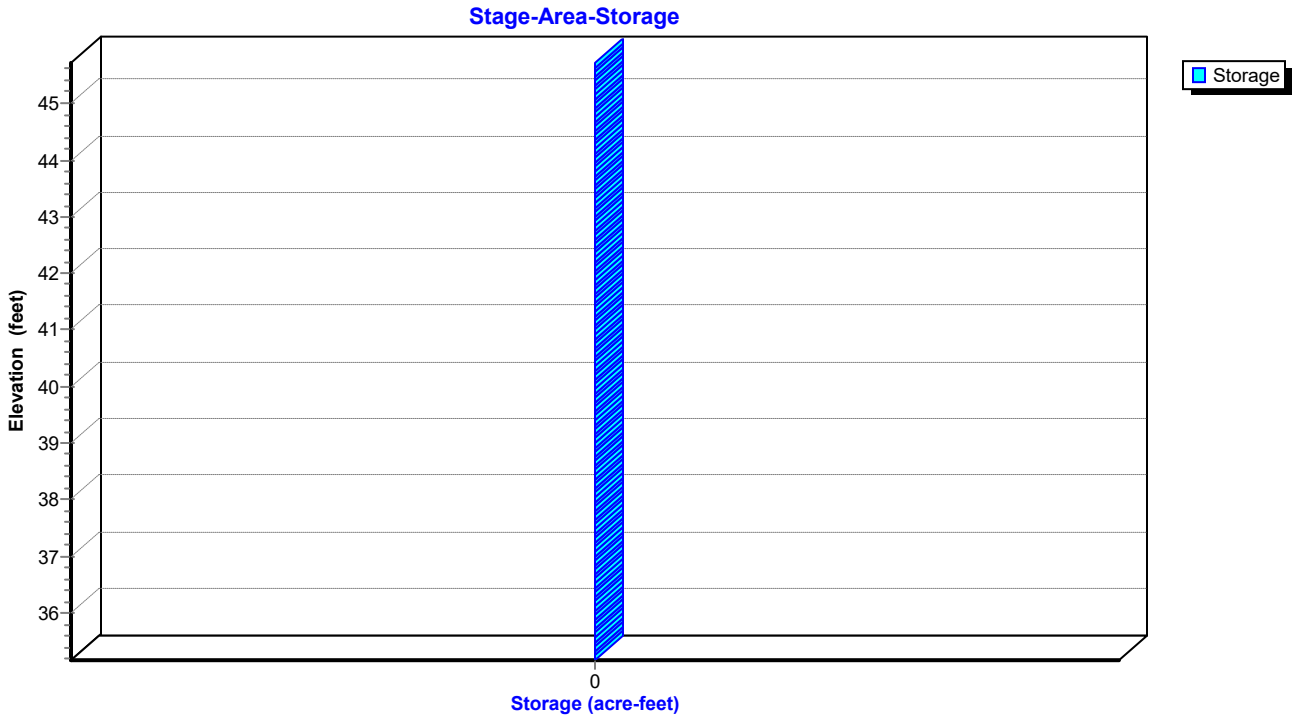
## Pond YI-1: YI-1



## Pond YI-1: YI-1




## Pond YI-1: YI-1



## Summary for Pond YI-2: YI-2

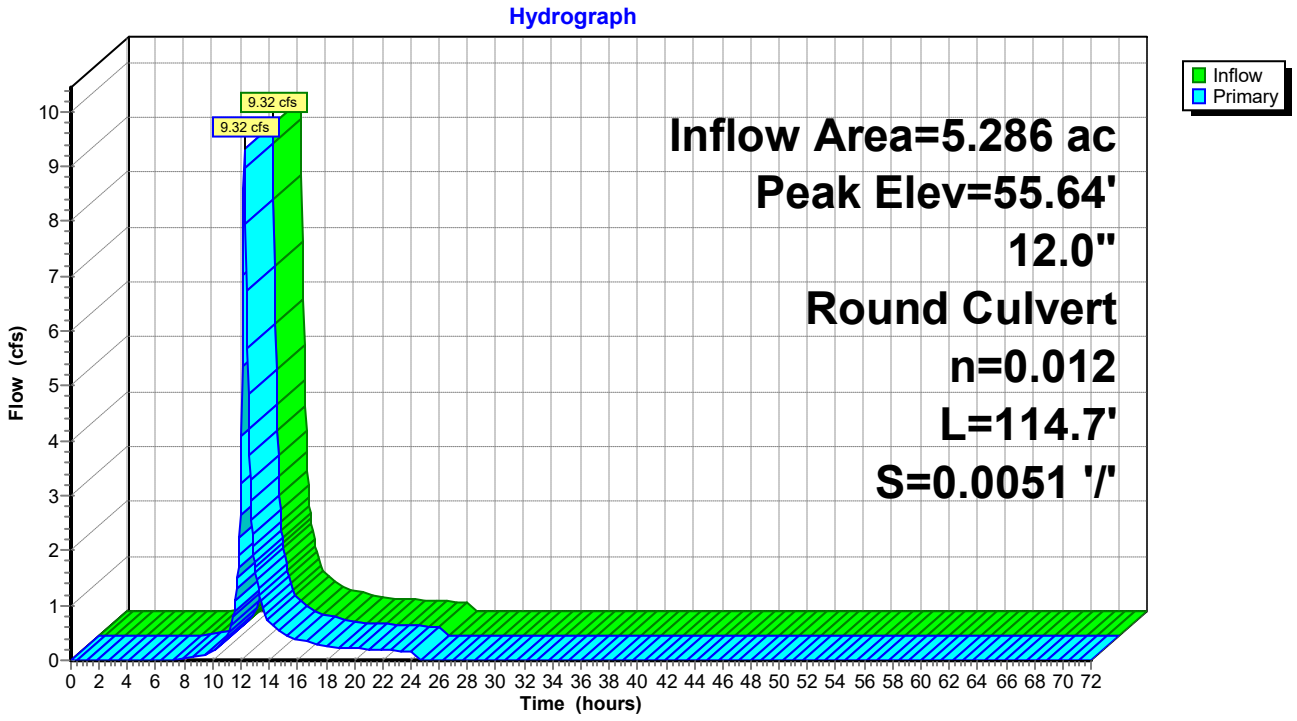
Inflow Area = 5.286 ac, 67.12% Impervious, Inflow Depth = 1.95" for 2-Year event
Inflow = 9.32 cfs @ 12.26 hrs, Volume= 0.858 af
Outflow = 9.32 cfs @ 12.26 hrs, Volume= 0.858 af, Atten= 0%, Lag= 0.0 min
Primary = 9.32 cfs @ 12.26 hrs, Volume= 0.858 af
Routed to Pond YI-1 : YI-1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 55.64' @ 12.26 hrs

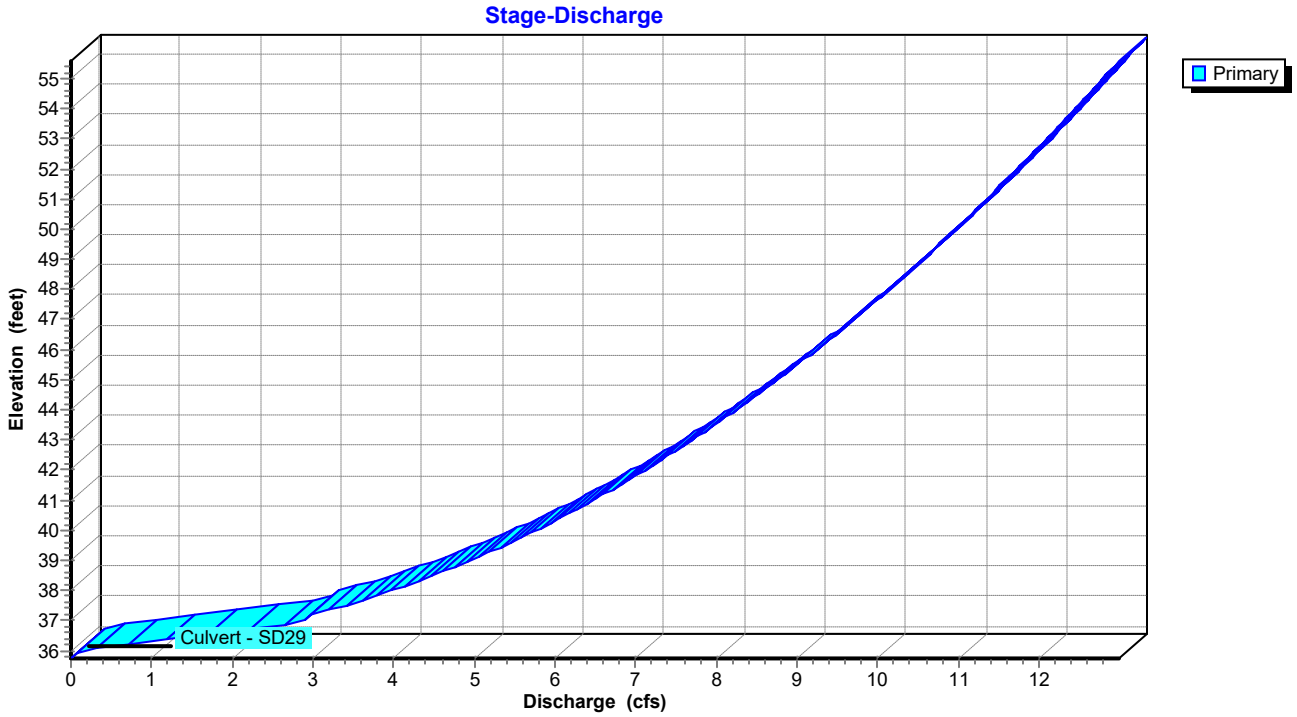
| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 35.74' | **12.0" Round Culvert - SD29**<br>L= 114.7' Box, headwall w/3 square edges, Ke= 0.500<br>Inlet / Outlet Invert= 35.74' / 35.16' S= 0.0051 '/' Cc= 0.900<br>n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf |

**Primary OutFlow** Max=9.23 cfs @ 12.26 hrs HW=55.32' TW=45.53' (Dynamic Tailwater)
**1=Culvert - SD29** (Outlet Controls 9.23 cfs @ 11.75 fps)

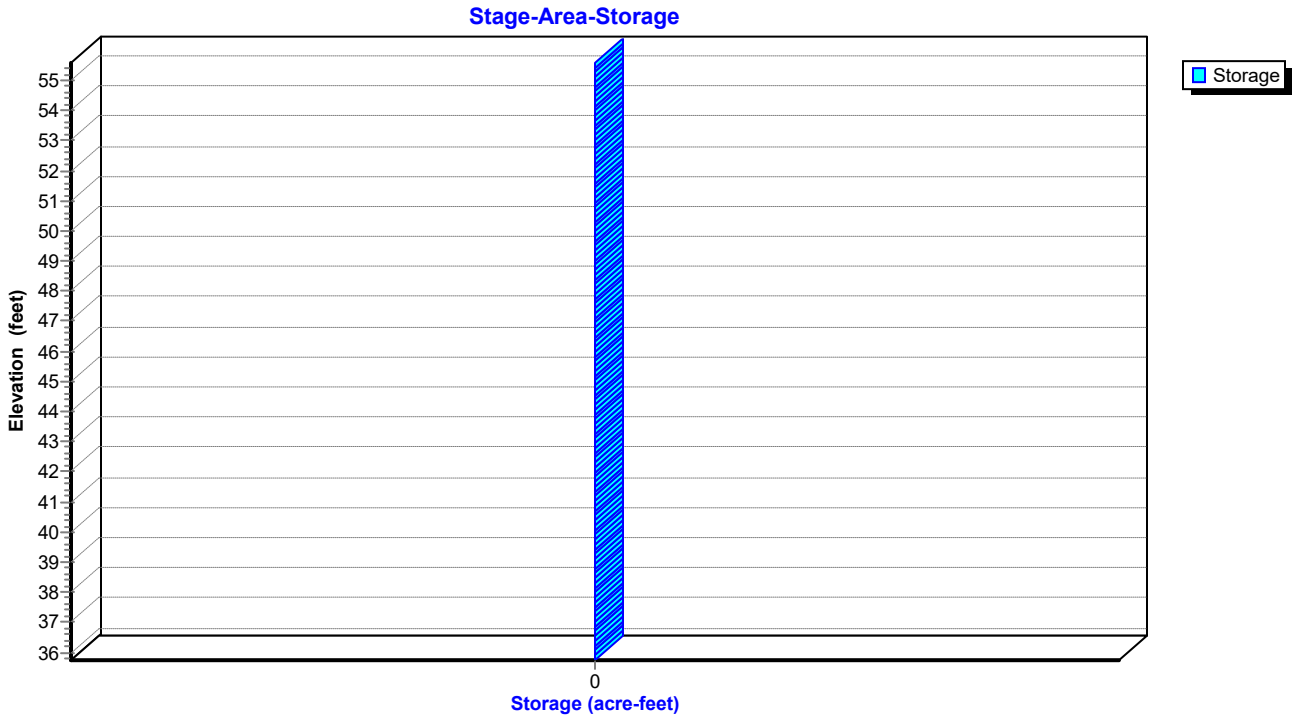
### Pond YI-2: YI-2



## Pond YI-2: YI-2




## Pond YI-2: YI-2

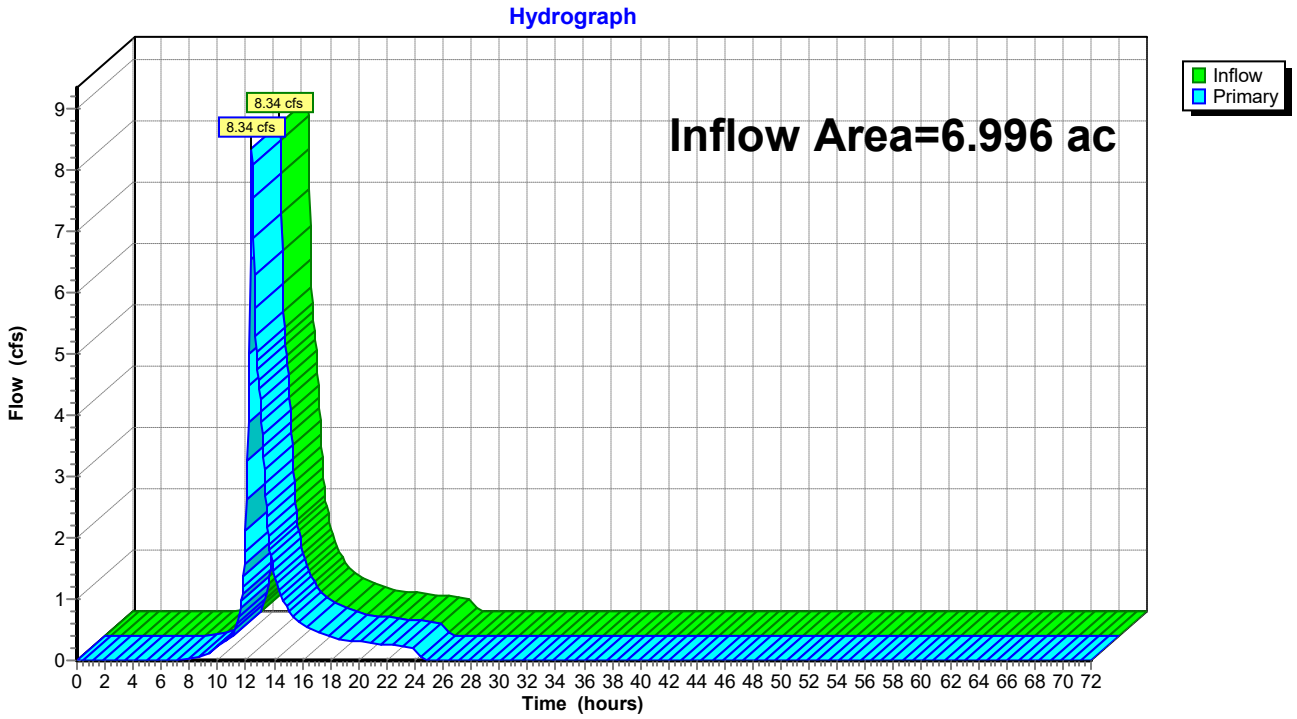


## Summary for Link PR-SP-1: PR-SP-1

Inflow Area = 6.996 ac, 67.72% Impervious, Inflow Depth = 1.96" for 2-Year event
Inflow = 8.34 cfs @ 12.41 hrs, Volume= 1.142 af
Primary = 8.34 cfs @ 12.41 hrs, Volume= 1.142 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

## Link PR-SP-1: PR-SP-1

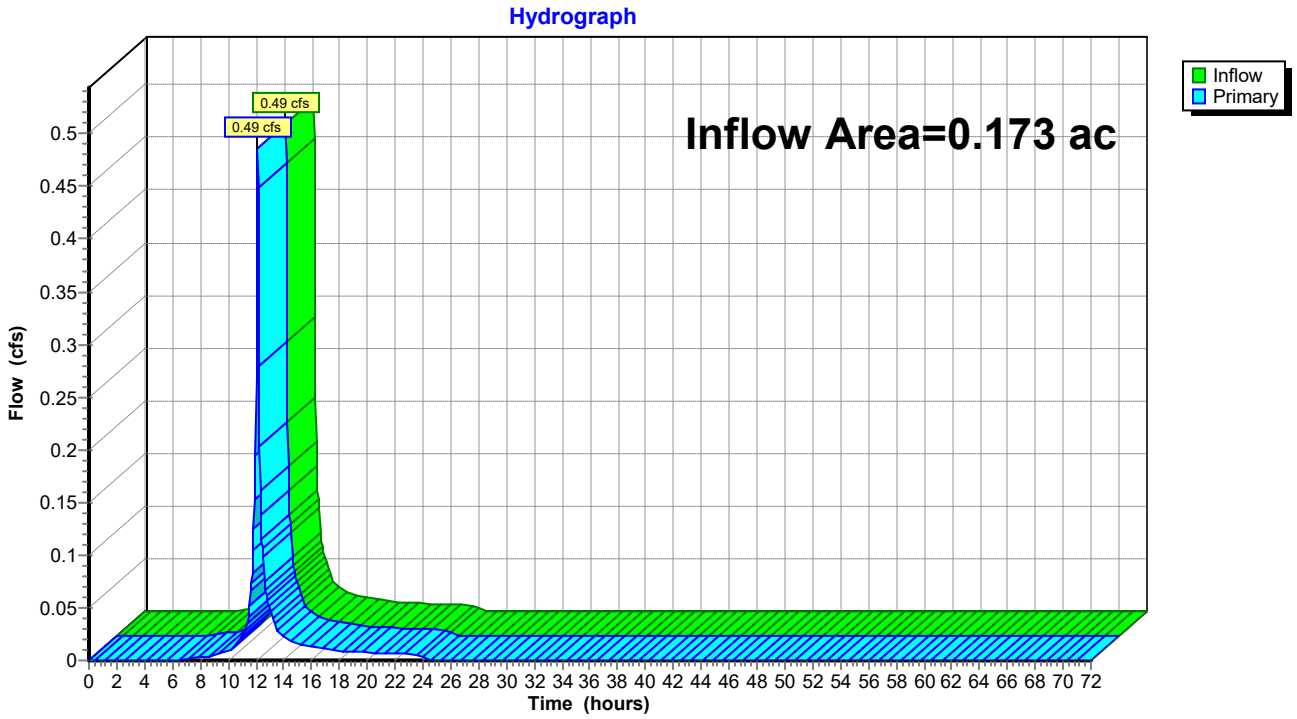


## Summary for Link PR-SP-2: PR-SP-2

Inflow Area = 0.173 ac, 75.24% Impervious, Inflow Depth = 2.20" for 2-Year event
Inflow = 0.49 cfs @ 12.12 hrs, Volume= 0.032 af
Primary = 0.49 cfs @ 12.12 hrs, Volume= 0.032 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

## Link PR-SP-2: PR-SP-2



Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points x 2
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

**Subcatchment PR-DA-1: PR-DA-1** Runoff Area=230,241 sf 67.12% Impervious Runoff Depth=3.65"
Flow Length=114' Tc=17.0 min CN=86 Runoff=17.19 cfs 1.609 af

**Subcatchment PR-DA-2: PR-DA-2** Runoff Area=7,525 sf 75.24% Impervious Runoff Depth=3.96"
Flow Length=258' Tc=5.1 min CN=89 Runoff=0.85 cfs 0.057 af

**Subcatchment PR-DA-3: PR-DA-3** Runoff Area=14,274 sf 71.00% Impervious Runoff Depth=3.76"
Flow Length=81' Tc=10.7 min CN=87 Runoff=1.30 cfs 0.103 af

**Subcatchment PR-DA-4: PR-DA-4** Runoff Area=19,745 sf 65.00% Impervious Runoff Depth=3.55"
Flow Length=101' Tc=11.2 min CN=85 Runoff=1.69 cfs 0.134 af

**Subcatchment PR-DA-5: PR-DA-5** Runoff Area=10,129 sf 65.00% Impervious Runoff Depth=3.55"
Flow Length=101' Tc=11.2 min CN=85 Runoff=0.87 cfs 0.069 af

**Subcatchment PR-DA-6: PR-DA-6** Runoff Area=10,473 sf 80.00% Impervious Runoff Depth=4.18"
Flow Length=45' Tc=3.7 min CN=91 Runoff=1.30 cfs 0.084 af

**Subcatchment PR-DA-7: PR-DA-7** Runoff Area=19,882 sf 70.00% Impervious Runoff Depth=3.76"
Flow Length=107' Tc=4.2 min CN=87 Runoff=2.24 cfs 0.143 af

**Pond CI - 9: CI - 9** Peak Elev=33.48' Inflow=2.36 cfs 0.235 af
12.0" Round Culvert n=0.012 L=58.8' S=0.0051 '/' Outflow=2.36 cfs 0.235 af

**Pond CI-10: CI-10** Peak Elev=33.46' Inflow=1.10 cfs 0.101 af
12.0" Round Culvert n=0.012 L=75.2' S=0.0049 '/' Outflow=1.10 cfs 0.101 af

**Pond CI-11: CI-11** Peak Elev=33.61' Inflow=1.10 cfs 0.101 af
12.0" Round Culvert n=0.012 L=76.0' S=0.0050 '/' Outflow=1.10 cfs 0.101 af

**Pond CI-12: CI-12** Peak Elev=33.58' Inflow=1.10 cfs 0.101 af
12.0" Round Culvert n=0.012 L=56.6' S=0.0051 '/' Outflow=1.10 cfs 0.101 af

**Pond MBR-1: MBR-1** Peak Elev=34.64' Storage=256 cf Inflow=1.30 cfs 0.103 af
Outflow=1.10 cfs 0.101 af

**Pond MBR-2: MBR-2** Peak Elev=35.19' Storage=433 cf Inflow=1.69 cfs 0.134 af
Outflow=1.29 cfs 0.134 af

**Pond MBR-3: MBR-3** Peak Elev=33.51' Storage=193 cf Inflow=0.87 cfs 0.069 af
Outflow=0.70 cfs 0.069 af

**Pond MBR-4: MBR-4** Peak Elev=35.72' Storage=413 cf Inflow=1.30 cfs 0.084 af
Outflow=0.74 cfs 0.083 af

**Pond MBR-5: MBR-5** Peak Elev=36.66' Storage=1,024 cf Inflow=2.24 cfs 0.143 af
Outflow=1.64 cfs 0.141 af

**Pond SDMH-3: SDMH-3** Peak Elev=35.74' Inflow=17.38 cfs 1.834 af
Outflow=17.38 cfs 1.834 af

**Pond SDMH-4: SDMH-4** Peak Elev=36.93' Inflow=17.19 cfs 1.751 af
24.0" Round Culvert n=0.012 L=60.3' S=0.0211 '/' Outflow=17.19 cfs 1.751 af

**Pond SDMH-5: SDMH-5** Peak Elev=38.12' Inflow=17.19 cfs 1.609 af
24.0" Round Culvert n=0.012 L=112.2' S=0.0196 '/' Outflow=17.19 cfs 1.609 af

**Pond SGW: SGW** Peak Elev=33.12' Storage=13,768 cf Inflow=20.44 cfs 2.138 af
Outflow=16.90 cfs 2.139 af

**Pond YI-1: YI-1** Peak Elev=70.97' Inflow=17.19 cfs 1.609 af
12.0" Round Culvert n=0.012 L=109.4' S=0.0050 '/' Outflow=17.19 cfs 1.609 af

**Pond YI-2: YI-2** Peak Elev=104.11' Inflow=17.19 cfs 1.609 af
12.0" Round Culvert n=0.012 L=114.7' S=0.0051 '/' Outflow=17.19 cfs 1.609 af

**Link PR-SP-1: PR-SP-1** Inflow=16.90 cfs 2.139 af
Primary=16.90 cfs 2.139 af

**Link PR-SP-2: PR-SP-2** Inflow=0.85 cfs 0.057 af
Primary=0.85 cfs 0.057 af

**Total Runoff Area = 7.169 ac Runoff Volume = 2.199 af Average Runoff Depth = 3.68"**
**32.10% Pervious = 2.301 ac 67.90% Impervious = 4.868 ac**

## Summary for Subcatchment PR-DA-1: PR-DA-1

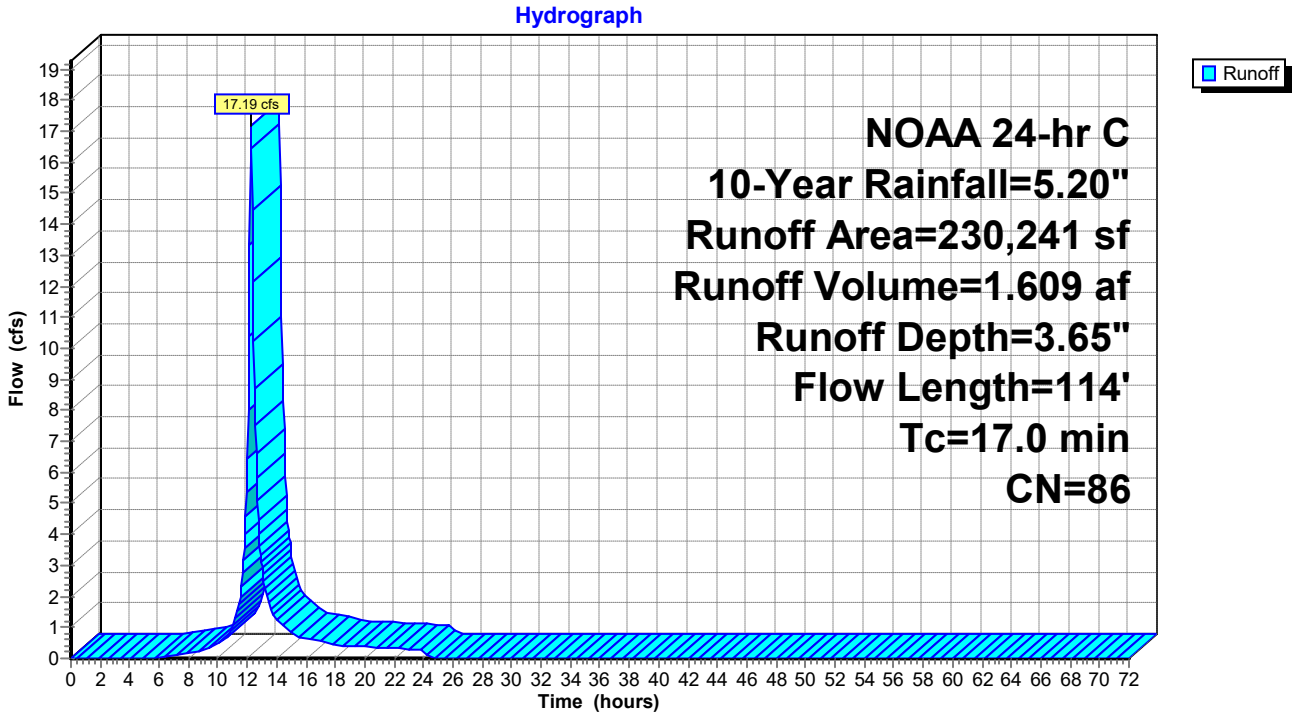
Runoff = 17.19 cfs @ 12.25 hrs, Volume= 1.609 af, Depth= 3.65"
Routed to Pond YI-2 : YI-2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C 10-Year Rainfall=5.20"

| Area (sf) | CN | Description |
|---|---|---|
| 65,361 | 61 | >75% Grass cover, Good, HSG B |
| 146,431 | 98 | Unconnected pavement, HSG B |
| 10,353 | 74 | >75% Grass cover, Good, HSG C |
| 8,096 | 98 | Unconnected pavement, HSG C |
| 230,241 | 86 | Weighted Average |
| 75,714 | | 32.88% Pervious Area |
| 154,527 | | 67.12% Impervious Area |
| 154,527 | | 100.00% Unconnected |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 2.8 | 10 | 0.0110 | 0.06 | | **Sheet Flow, Grassed Sheet Flow**<br>Grass: Dense n= 0.240 P2= 3.33" |
| 0.1 | 5 | 0.0110 | 0.61 | | **Sheet Flow, Concreted Sheet Flow**<br>Smooth surfaces n= 0.011 P2= 3.33" |
| 13.7 | 85 | 0.0153 | 0.10 | | **Sheet Flow, Grassed Sheet Flow**<br>Grass: Dense n= 0.240 P2= 3.33" |
| 0.4 | 14 | 0.0015 | 0.58 | | **Shallow Concentrated Flow, Grassed SCF**<br>Grassed Waterway Kv= 15.0 fps |
| 17.0 | 114 | Total | | | |

## Subcatchment PR-DA-1: PR-DA-1



## Summary for Subcatchment PR-DA-2: PR-DA-2

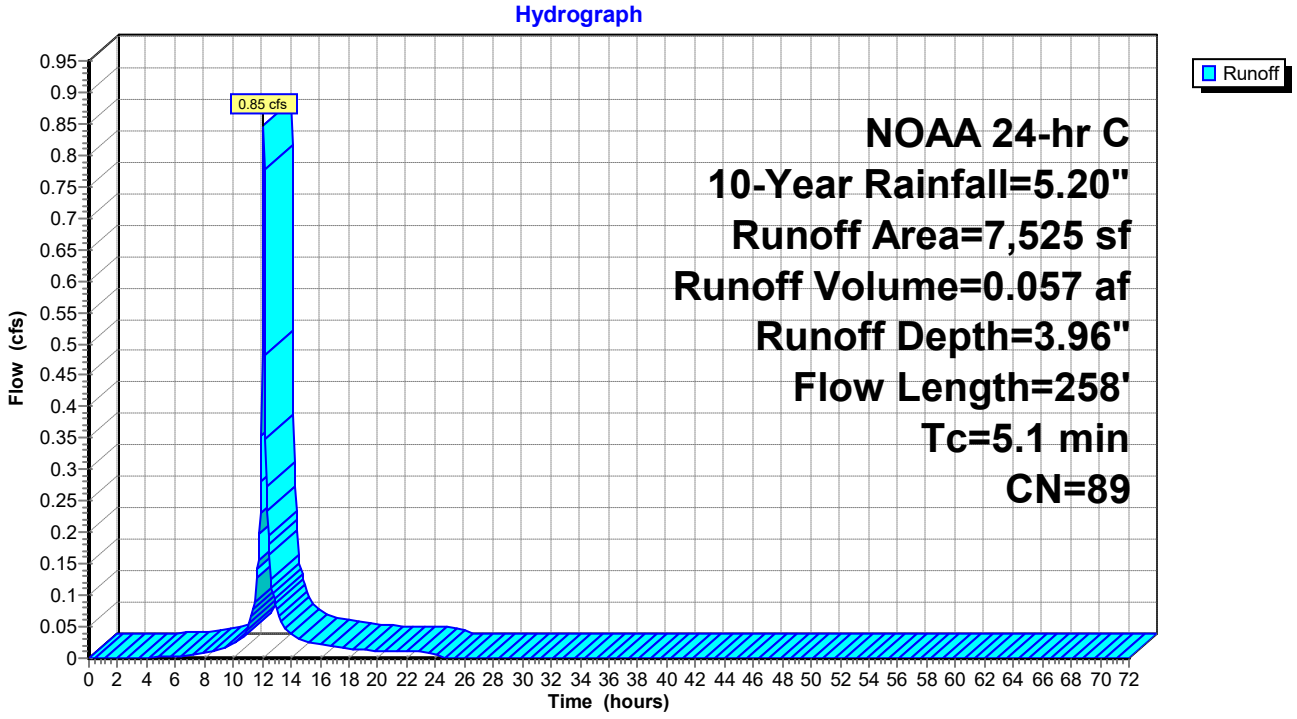
Runoff = 0.85 cfs @ 12.11 hrs, Volume= 0.057 af, Depth= 3.96"
Routed to Link PR-SP-2 : PR-SP-2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C 10-Year Rainfall=5.20"

| Area (sf) | CN | Description |
|---|---|---|
| 1,863 | 61 | >75% Grass cover, Good, HSG B |
| 5,662 | 98 | Unconnected pavement, HSG B |
| 7,525 | 89 | Weighted Average |
| 1,863 | | 24.76% Pervious Area |
| 5,662 | | 75.24% Impervious Area |
| 5,662 | | 100.00% Unconnected |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 0.2 | 13 | 0.0375 | 1.20 | | **Sheet Flow, Concreted Sheet Flow** Smooth surfaces n= 0.011 P2= 3.33" |
| 4.9 | 245 | 0.0021 | 0.82 | 0.08 | **Channel Flow, Concreted Channeled Flow** Area= 0.1 sf Perim= 1.6' r= 0.06' n= 0.013 Concrete, trowel finish |
| 5.1 | 258 | Total | | | |

## Subcatchment PR-DA-2: PR-DA-2



## Summary for Subcatchment PR-DA-3: PR-DA-3

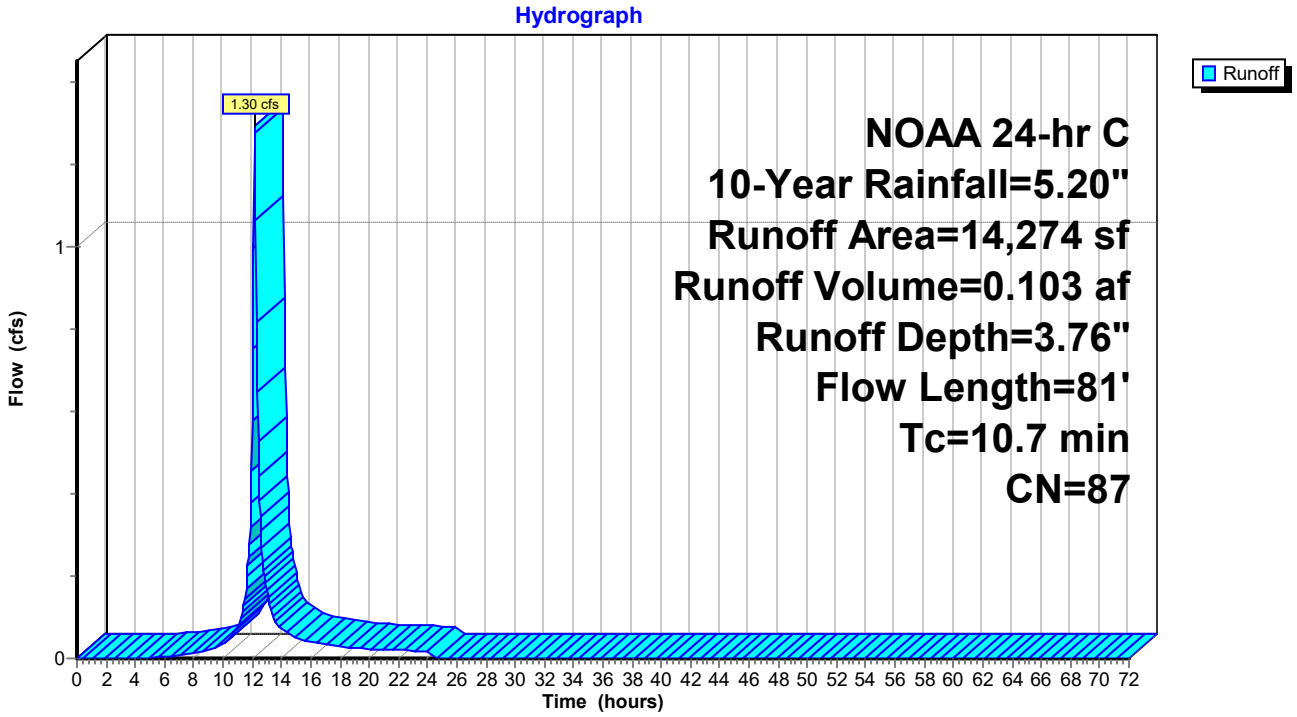
Runoff = 1.30 cfs @ 12.18 hrs, Volume= 0.103 af, Depth= 3.76"
Routed to Pond MBR-1 : MBR-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C 10-Year Rainfall=5.20"

| Area (sf) | CN | Description |
|---|---|---|
| 4,139 | 61 | >75% Grass cover, Good, HSG B |
| 10,135 | 98 | Unconnected pavement, HSG B |
| 14,274 | 87 | Weighted Average |
| 4,139 | | 29.00% Pervious Area |
| 10,135 | | 71.00% Impervious Area |
| 10,135 | | 100.00% Unconnected |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 1.3 | 5 | 0.0200 | 0.07 | | **Sheet Flow, grassed sheet flow** Grass: Dense n= 0.240 P2= 3.33" |
| 0.1 | 5 | 0.0200 | 0.77 | | **Sheet Flow, concrete** Smooth surfaces n= 0.011 P2= 3.33" |
| 4.0 | 18 | 0.0150 | 0.08 | | **Sheet Flow, grass** Grass: Dense n= 0.240 P2= 3.33" |
| 0.5 | 30 | 0.0150 | 0.98 | | **Sheet Flow, paved** Smooth surfaces n= 0.011 P2= 3.33" |
| 4.8 | 23 | 0.0150 | 0.08 | | **Sheet Flow, grass** Grass: Dense n= 0.240 P2= 3.33" |
| 10.7 | 81 | Total | | | |

## Subcatchment PR-DA-3: PR-DA-3



## Summary for Subcatchment PR-DA-4: PR-DA-4

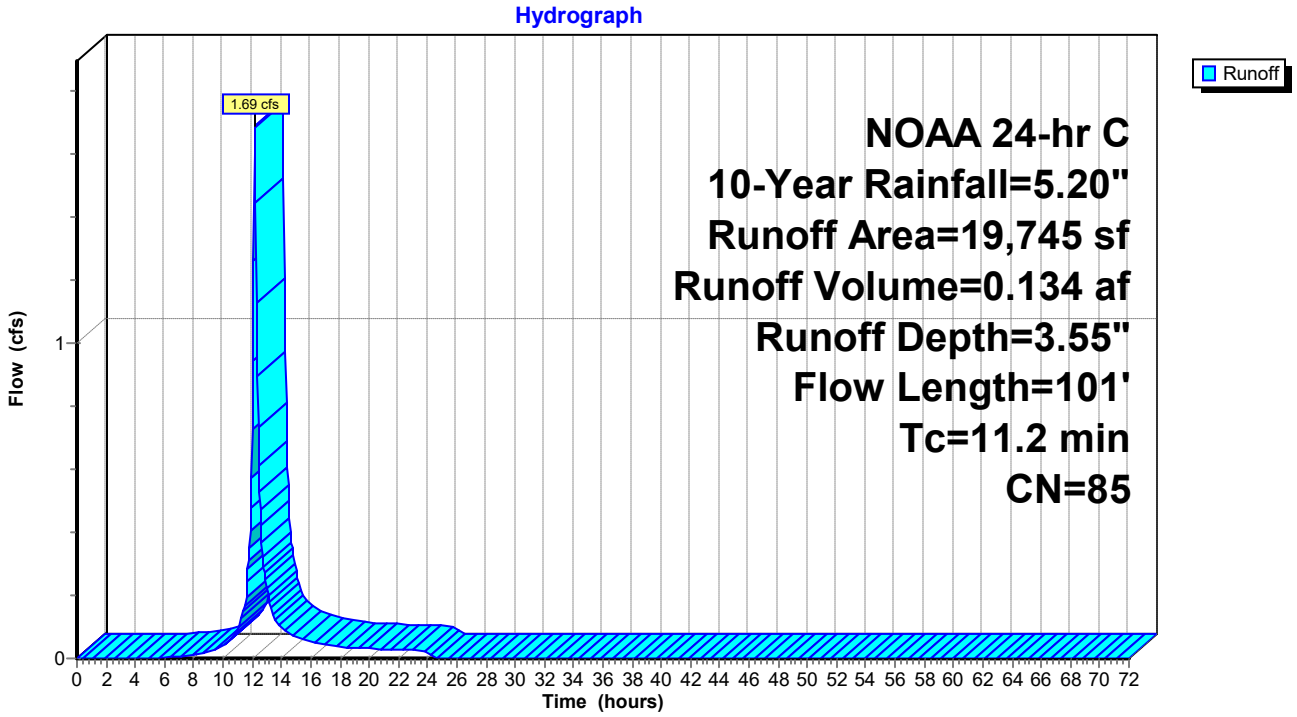
Runoff = 1.69 cfs @ 12.19 hrs, Volume= 0.134 af, Depth= 3.55"
Routed to Pond MBR-2 : MBR-2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C 10-Year Rainfall=5.20"

| Area (sf) | CN | Description |
|---|---|---|
| 6,911 | 61 | >75% Grass cover, Good, HSG B |
| 12,834 | 98 | Unconnected pavement, HSG B |
| 19,745 | 85 | Weighted Average |
| 6,911 | | 35.00% Pervious Area |
| 12,834 | | 65.00% Impervious Area |
| 12,834 | | 100.00% Unconnected |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 5.2 | 29 | 0.0200 | 0.09 | | **Sheet Flow, grassed** Grass: Dense n= 0.240 P2= 3.33" |
| 0.1 | 5 | 0.0100 | 0.58 | | **Sheet Flow, concrete** Smooth surfaces n= 0.011 P2= 3.33" |
| 4.7 | 18 | 0.0100 | 0.06 | | **Sheet Flow, grass** Grass: Dense n= 0.240 P2= 3.33" |
| 0.7 | 43 | 0.0150 | 1.06 | | **Sheet Flow, paved** Smooth surfaces n= 0.011 P2= 3.33" |
| 0.5 | 6 | 0.3300 | 0.21 | | **Sheet Flow, grass** Grass: Dense n= 0.240 P2= 3.33" |
| 11.2 | 101 | Total | | | |

## Subcatchment PR-DA-4: PR-DA-4



## Summary for Subcatchment PR-DA-5: PR-DA-5

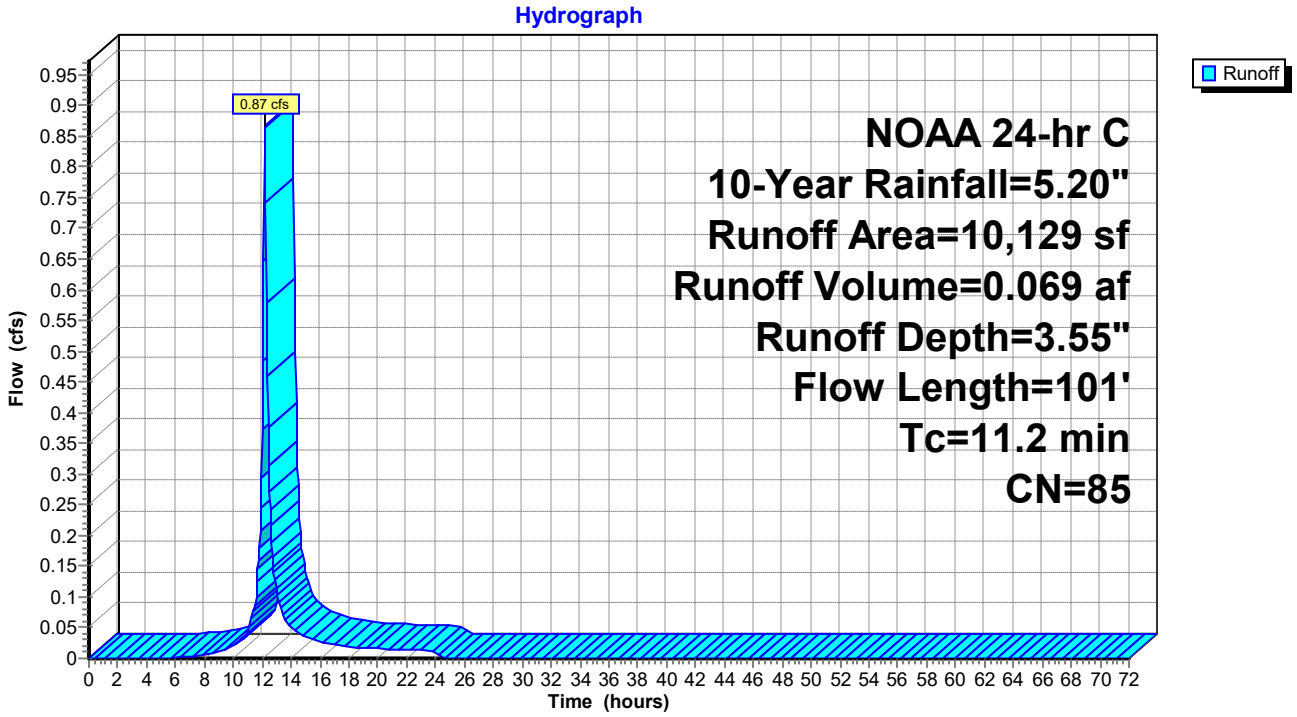
Runoff = 0.87 cfs @ 12.19 hrs, Volume= 0.069 af, Depth= 3.55"
Routed to Pond MBR-3 : MBR-3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C 10-Year Rainfall=5.20"

| Area (sf) | CN | Description |
|---|---|---|
| 3,545 | 61 | >75% Grass cover, Good, HSG B |
| 6,584 | 98 | Unconnected pavement, HSG B |
| 10,129 | 85 | Weighted Average |
| 3,545 | | 35.00% Pervious Area |
| 6,584 | | 65.00% Impervious Area |
| 6,584 | | 100.00% Unconnected |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 5.2 | 29 | 0.0200 | 0.09 | | **Sheet Flow, GRASS** Grass: Dense n= 0.240 P2= 3.33" |
| 0.1 | 5 | 0.0100 | 0.58 | | **Sheet Flow, Concrete** Smooth surfaces n= 0.011 P2= 3.33" |
| 4.7 | 18 | 0.0100 | 0.06 | | **Sheet Flow, Grass** Grass: Dense n= 0.240 P2= 3.33" |
| 0.7 | 43 | 0.0150 | 1.06 | | **Sheet Flow, Paved** Smooth surfaces n= 0.011 P2= 3.33" |
| 0.5 | 6 | 0.3300 | 0.21 | | **Sheet Flow, Grassed** Grass: Dense n= 0.240 P2= 3.33" |
| 11.2 | 101 | Total | | | |

## Subcatchment PR-DA-5: PR-DA-5



## Summary for Subcatchment PR-DA-6: PR-DA-6

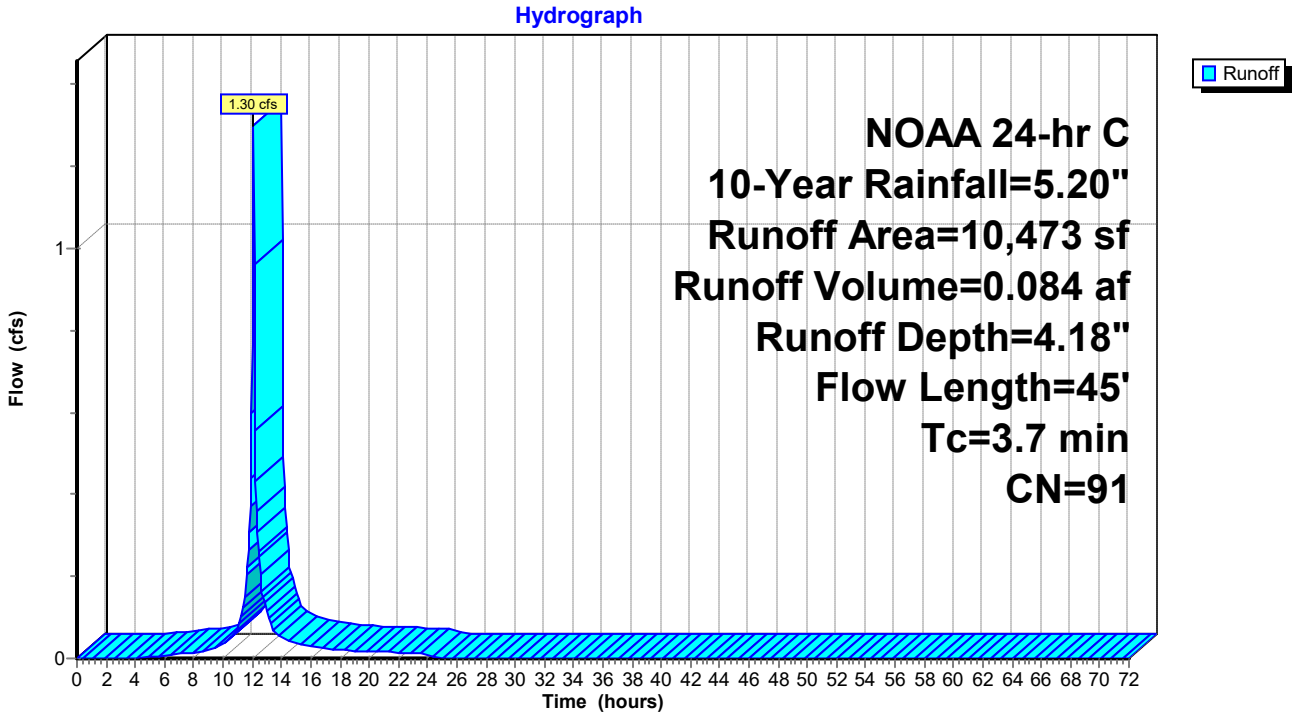
Runoff = 1.30 cfs @ 12.10 hrs, Volume= 0.084 af, Depth= 4.18"
Routed to Pond MBR-4 : MBR-4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C 10-Year Rainfall=5.20"

| Area (sf) | CN | Description |
|---|---|---|
| 2,095 | 61 | >75% Grass cover, Good, HSG B |
| 8,378 | 98 | Unconnected pavement, HSG B |
| 10,473 | 91 | Weighted Average |
| 2,095 | | 20.00% Pervious Area |
| 8,378 | | 80.00% Impervious Area |
| 8,378 | | 100.00% Unconnected |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 1.4 | 5 | 0.0150 | 0.06 | | **Sheet Flow, grassed** Grass: Dense n= 0.240 P2= 3.33" |
| 0.1 | 5 | 0.0090 | 0.56 | | **Sheet Flow, Concrete** Smooth surfaces n= 0.011 P2= 3.33" |
| 1.4 | 5 | 0.0150 | 0.06 | | **Sheet Flow, grassed** Grass: Dense n= 0.240 P2= 3.33" |
| 0.3 | 24 | 0.0287 | 1.22 | | **Sheet Flow, Paved** Smooth surfaces n= 0.011 P2= 3.33" |
| 0.5 | 6 | 0.3300 | 0.21 | | **Sheet Flow, Grassed** Grass: Dense n= 0.240 P2= 3.33" |
| 3.7 | 45 | Total | | | |

## Subcatchment PR-DA-6: PR-DA-6



## Summary for Subcatchment PR-DA-7: PR-DA-7

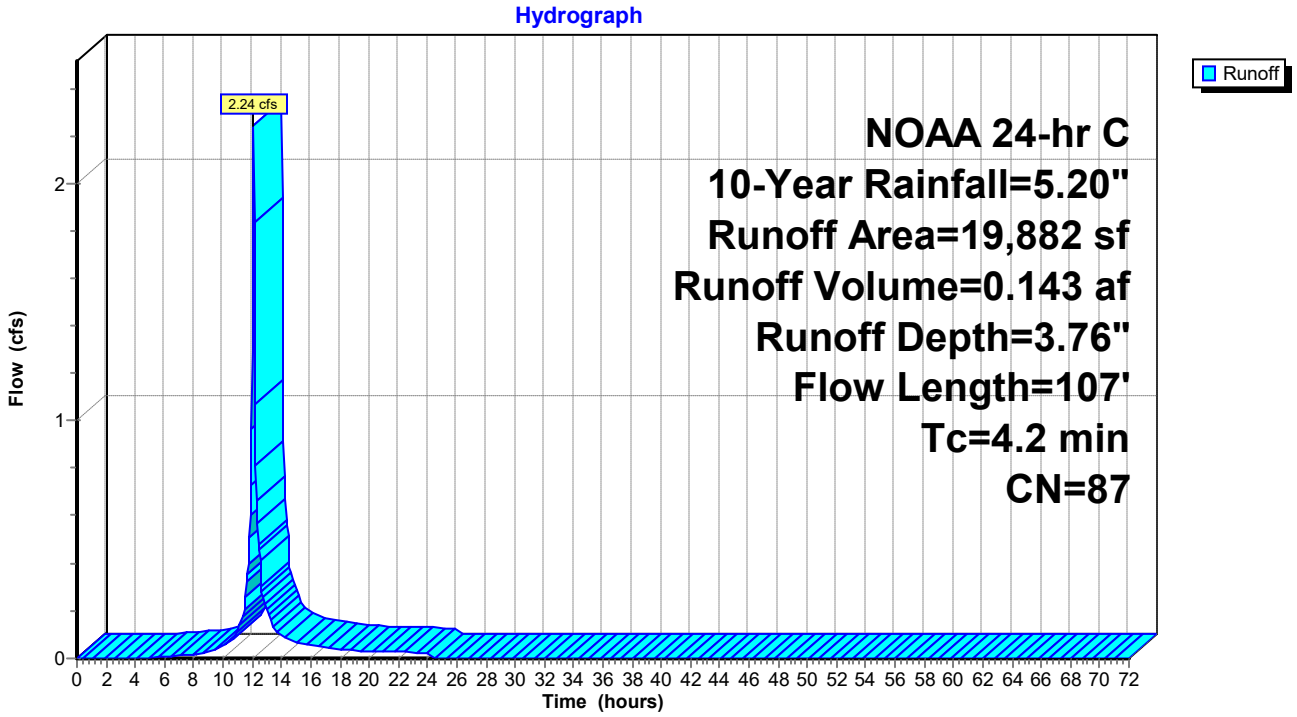
Runoff = 2.24 cfs @ 12.10 hrs, Volume= 0.143 af, Depth= 3.76"
Routed to Pond MBR-5 : MBR-5

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C 10-Year Rainfall=5.20"

| Area (sf) | CN | Description |
|---|---|---|
| 5,965 | 61 | >75% Grass cover, Good, HSG B |
| 13,917 | 98 | Unconnected pavement, HSG B |
| 19,882 | 87 | Weighted Average |
| 5,965 | | 30.00% Pervious Area |
| 13,917 | | 70.00% Impervious Area |
| 13,917 | | 100.00% Unconnected |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 3.1 | 10 | 0.0090 | 0.05 | | **Sheet Flow, Grassed**<br>Grass: Dense n= 0.240 P2= 3.33" |
| 0.2 | 6 | 0.0090 | 0.58 | | **Sheet Flow, Concrete**<br>Smooth surfaces n= 0.011 P2= 3.33" |
| 0.7 | 64 | 0.0296 | 1.50 | | **Sheet Flow, Paved**<br>Smooth surfaces n= 0.011 P2= 3.33" |
| 0.2 | 27 | 0.0200 | 2.55 | 0.25 | **Channel Flow, Concrete channel**<br>Area= 0.1 sf Perim= 1.6' r= 0.06'<br>n= 0.013 Concrete, trowel finish |
| 4.2 | 107 | Total | | | |

## Subcatchment PR-DA-7: PR-DA-7



## Summary for Pond CI - 9: CI - 9

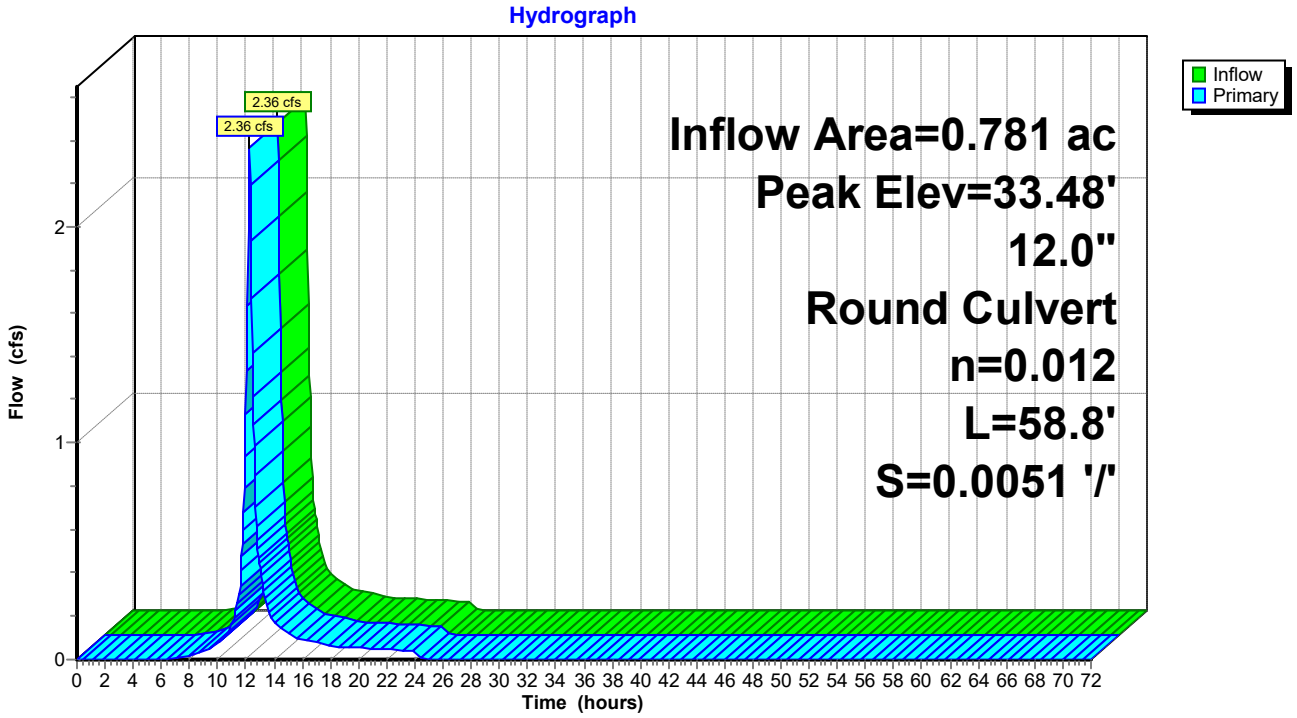
Inflow Area = 0.781 ac, 67.52% Impervious, Inflow Depth = 3.62" for 10-Year event
Inflow = 2.36 cfs @ 12.24 hrs, Volume= 0.235 af
Outflow = 2.36 cfs @ 12.24 hrs, Volume= 0.235 af, Atten= 0%, Lag= 0.0 min
Primary = 2.36 cfs @ 12.24 hrs, Volume= 0.235 af
Routed to Pond SGW : SGW

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 33.48' @ 12.30 hrs
Flood Elev= 35.91'

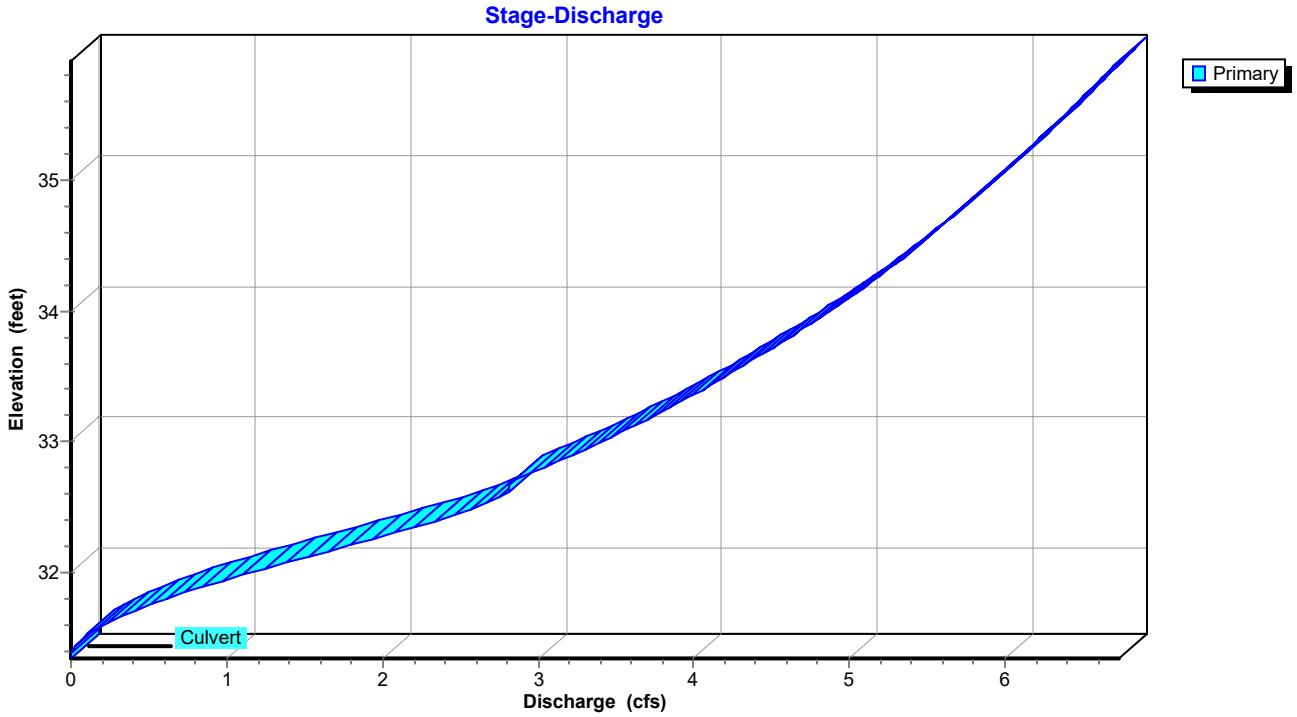
| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 31.34' | **12.0" Round Culvert**<br>L= 58.8' Box, 0° wingwalls, square crown edge, Ke= 0.700<br>Inlet / Outlet Invert= 31.34' / 31.04' S= 0.0051 '/' Cc= 0.900<br>n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf |

**Primary OutFlow** Max=2.36 cfs @ 12.24 hrs HW=33.41' TW=32.91' (Dynamic Tailwater)
**1=Culvert** (Inlet Controls 2.36 cfs @ 3.00 fps)

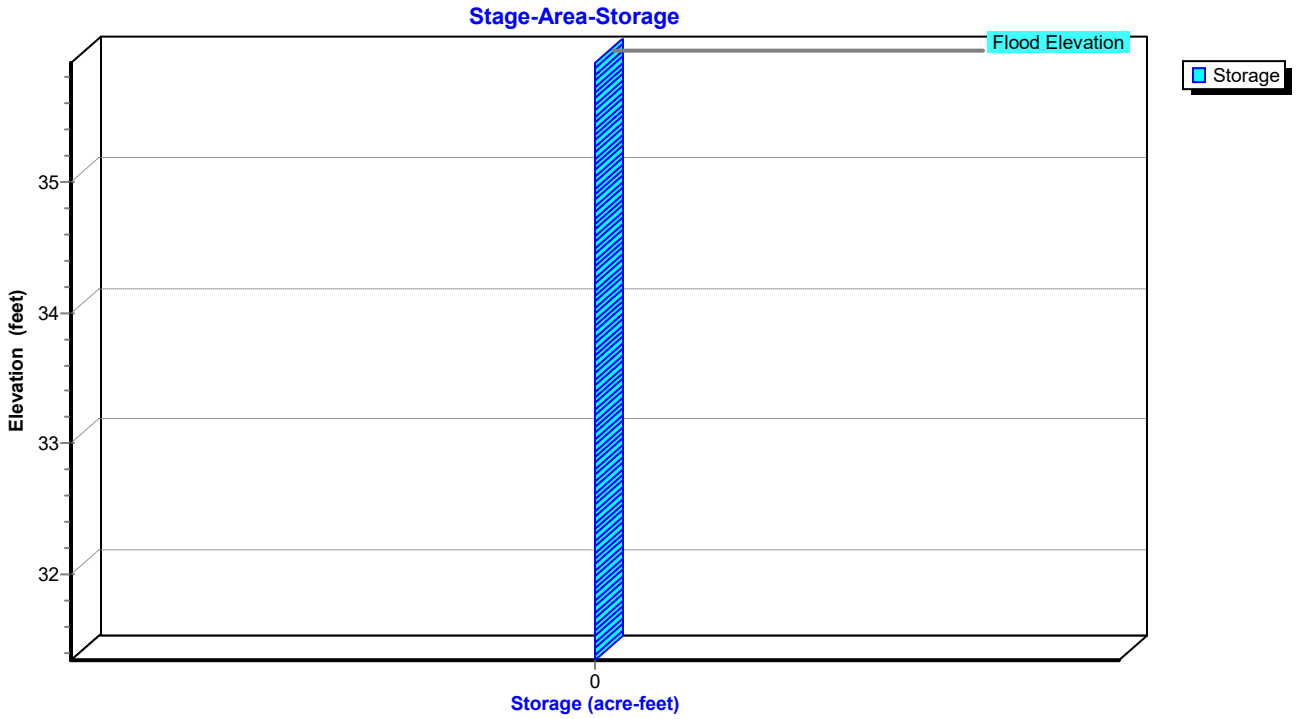
### Pond CI - 9: CI - 9



## Pond CI - 9: CI - 9




## Pond CI - 9: CI - 9



## Summary for Pond CI-10: CI-10

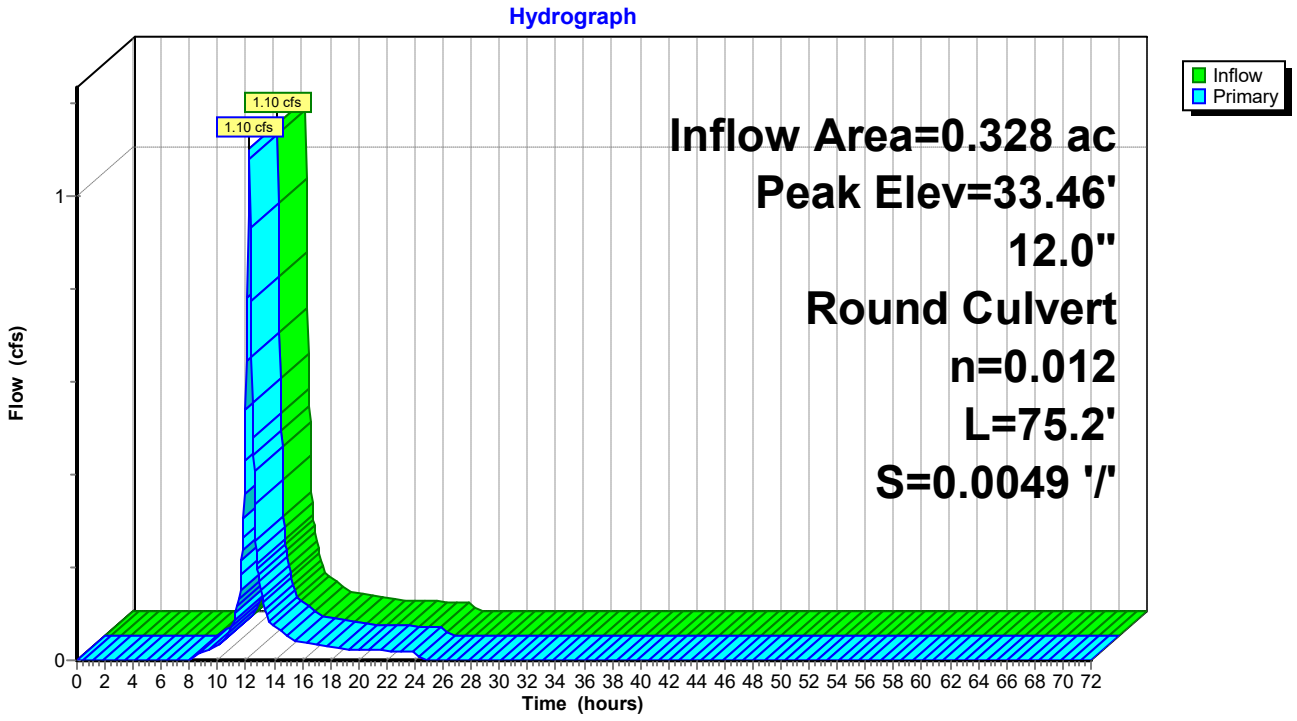
Inflow Area = 0.328 ac, 71.00% Impervious, Inflow Depth = 3.70" for 10-Year event
Inflow = 1.10 cfs @ 12.22 hrs, Volume= 0.101 af
Outflow = 1.10 cfs @ 12.22 hrs, Volume= 0.101 af, Atten= 0%, Lag= 0.0 min
Primary = 1.10 cfs @ 12.22 hrs, Volume= 0.101 af
Routed to Pond CI - 9 : CI - 9

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 33.46' @ 12.31 hrs

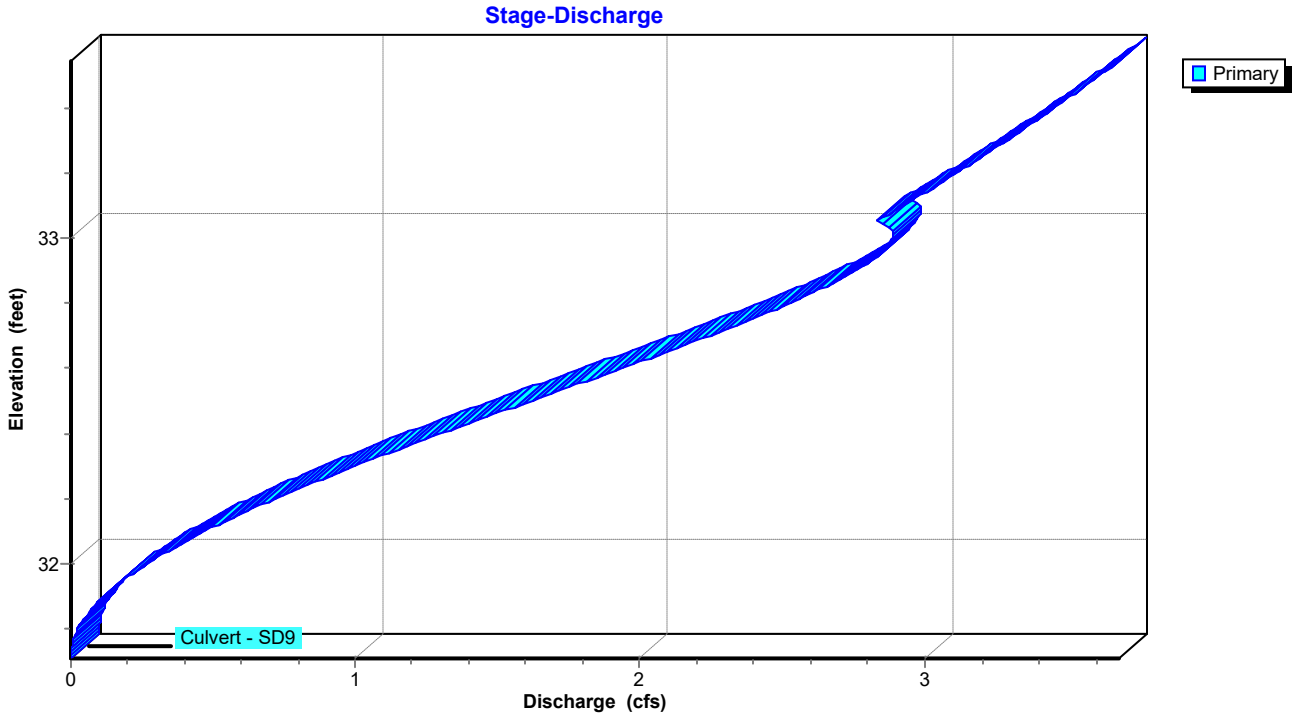
| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 31.71' | **12.0" Round Culvert - SD9**<br>L= 75.2' Box, headwall w/3 square edges, Ke= 0.500<br>Inlet / Outlet Invert= 31.71' / 31.34' S= 0.0049 '/' Cc= 0.900<br>n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf |

**Primary OutFlow** Max=0.00 cfs @ 12.22 hrs HW=33.29' TW=33.34' (Dynamic Tailwater)
**1=Culvert - SD9** ( Controls 0.00 cfs)

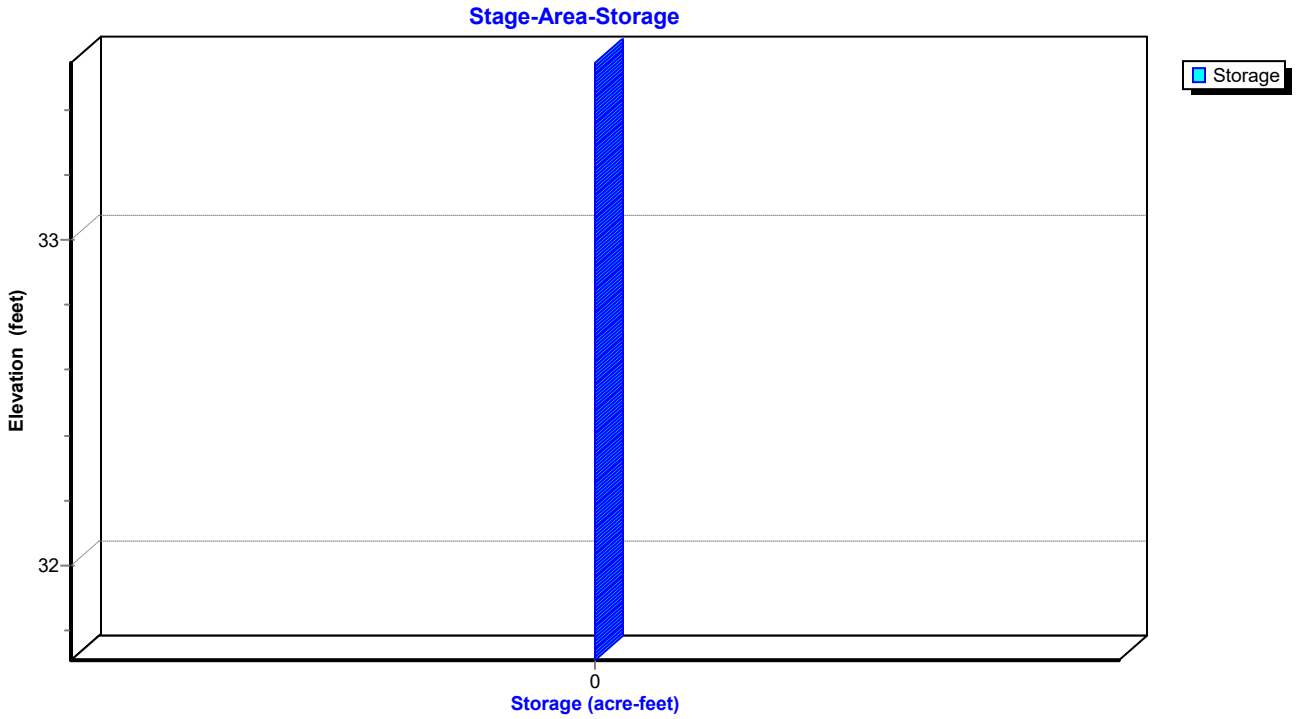
### Pond CI-10: CI-10



## Pond CI-10: CI-10




## Pond CI-10: CI-10



## Summary for Pond CI-11: CI-11

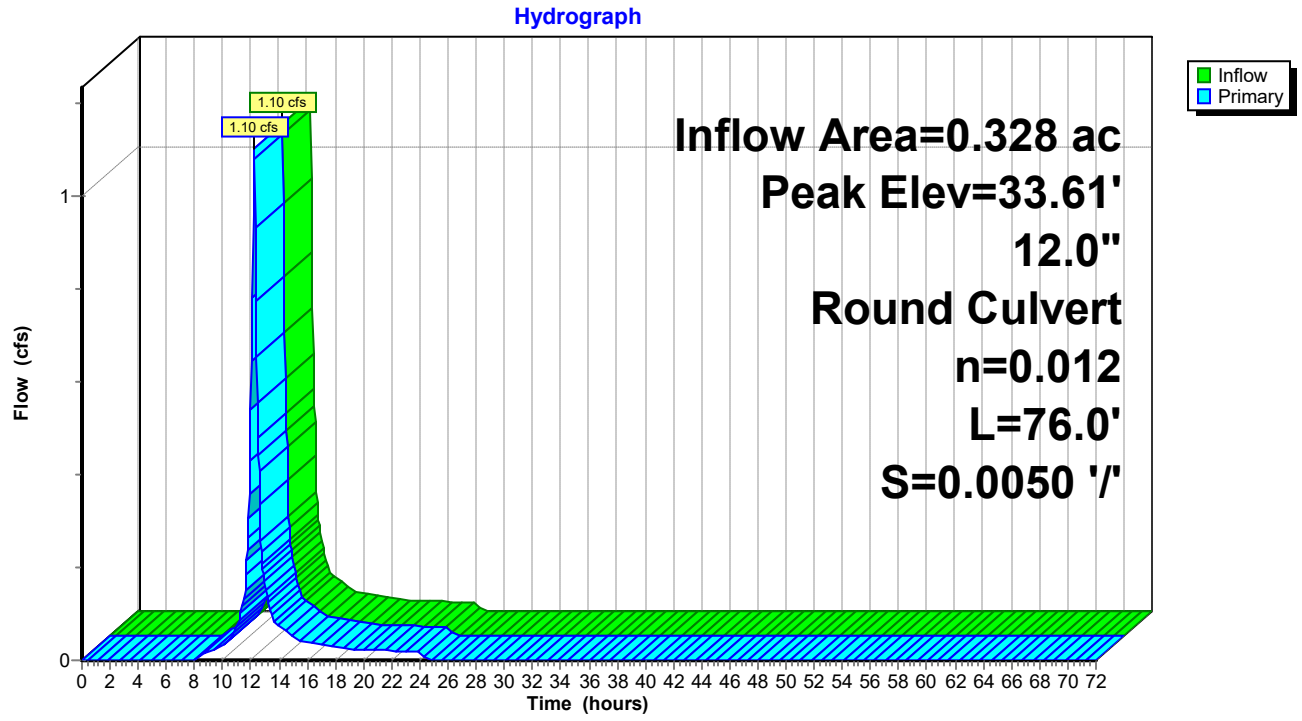
Inflow Area = 0.328 ac, 71.00% Impervious, Inflow Depth = 3.70" for 10-Year event
Inflow = 1.10 cfs @ 12.22 hrs, Volume= 0.101 af
Outflow = 1.10 cfs @ 12.22 hrs, Volume= 0.101 af, Atten= 0%, Lag= 0.0 min
Primary = 1.10 cfs @ 12.22 hrs, Volume= 0.101 af
Routed to Pond CI-10 : CI-10

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 33.61' @ 12.32 hrs

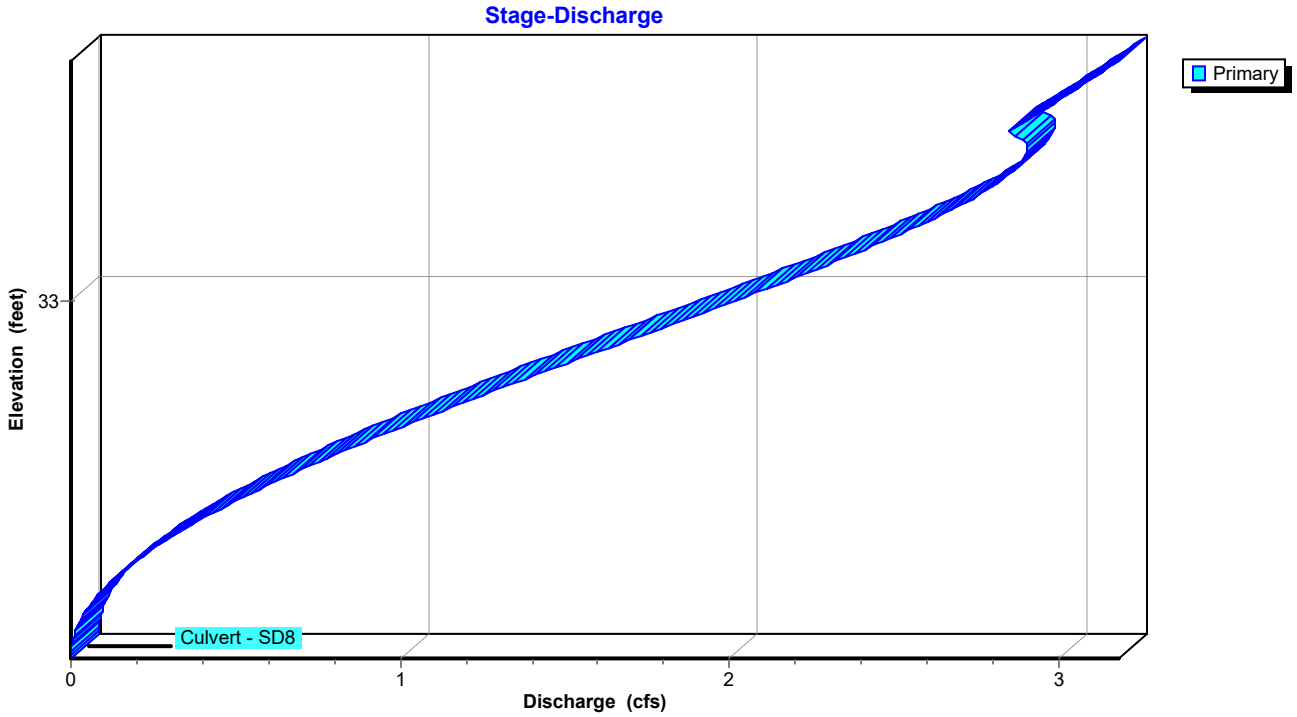
| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 32.09' | **12.0" Round Culvert - SD8**<br>L= 76.0' Box, headwall w/3 square edges, Ke= 0.500<br>Inlet / Outlet Invert= 32.09' / 31.71' S= 0.0050 '/' Cc= 0.900<br>n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf |

**Primary OutFlow** Max=0.50 cfs @ 12.22 hrs HW=33.31' TW=33.29' (Dynamic Tailwater)
**1=Culvert - SD8** (Outlet Controls 0.50 cfs @ 0.66 fps)

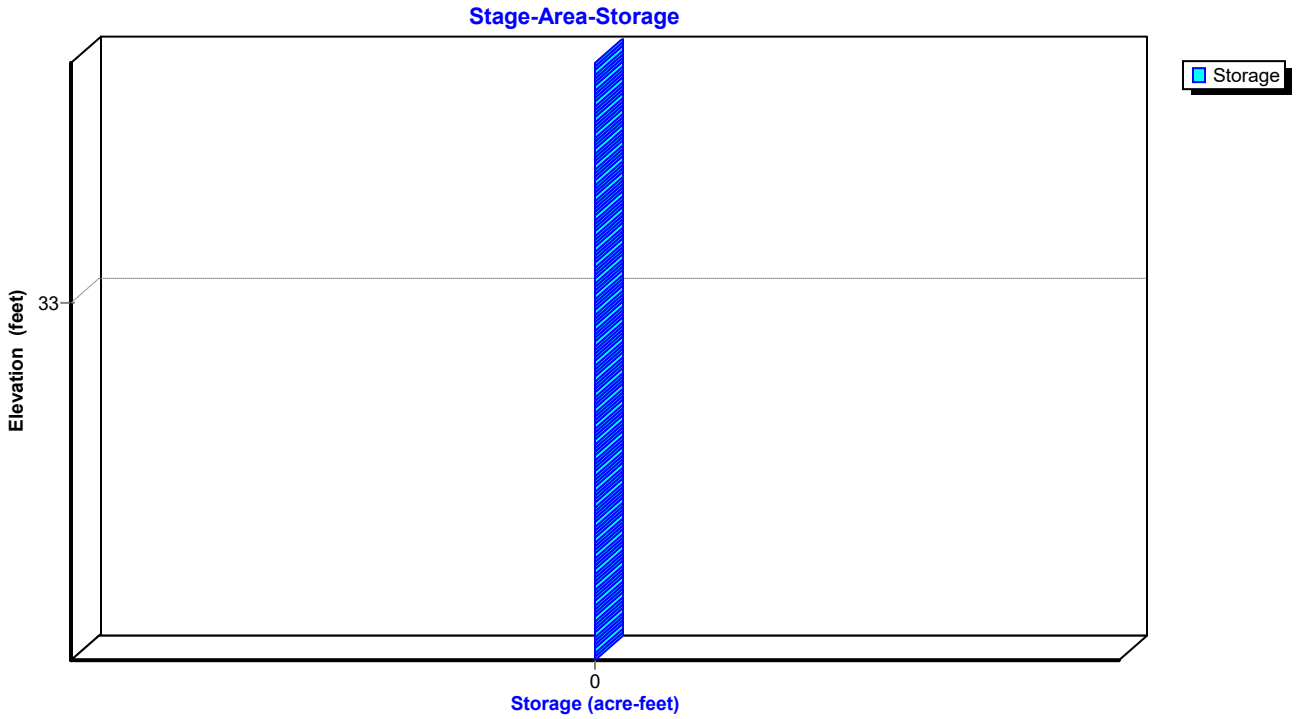
### Pond CI-11: CI-11



## Pond CI-11: CI-11




## Pond CI-11: CI-11



## Summary for Pond CI-12: CI-12

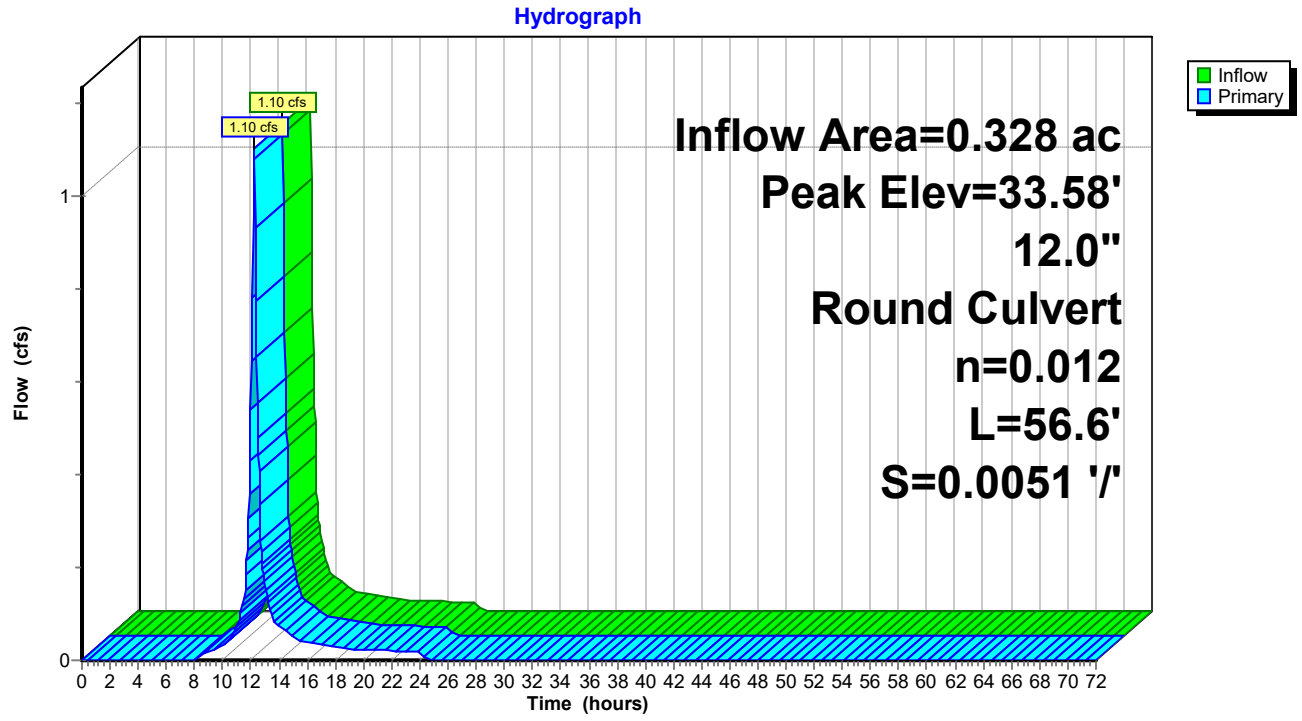
Inflow Area = 0.328 ac, 71.00% Impervious, Inflow Depth = 3.70" for 10-Year event
Inflow = 1.10 cfs @ 12.22 hrs, Volume= 0.101 af
Outflow = 1.10 cfs @ 12.22 hrs, Volume= 0.101 af, Atten= 0%, Lag= 0.0 min
Primary = 1.10 cfs @ 12.22 hrs, Volume= 0.101 af
Routed to Pond CI-11 : CI-11

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 33.58' @ 12.32 hrs

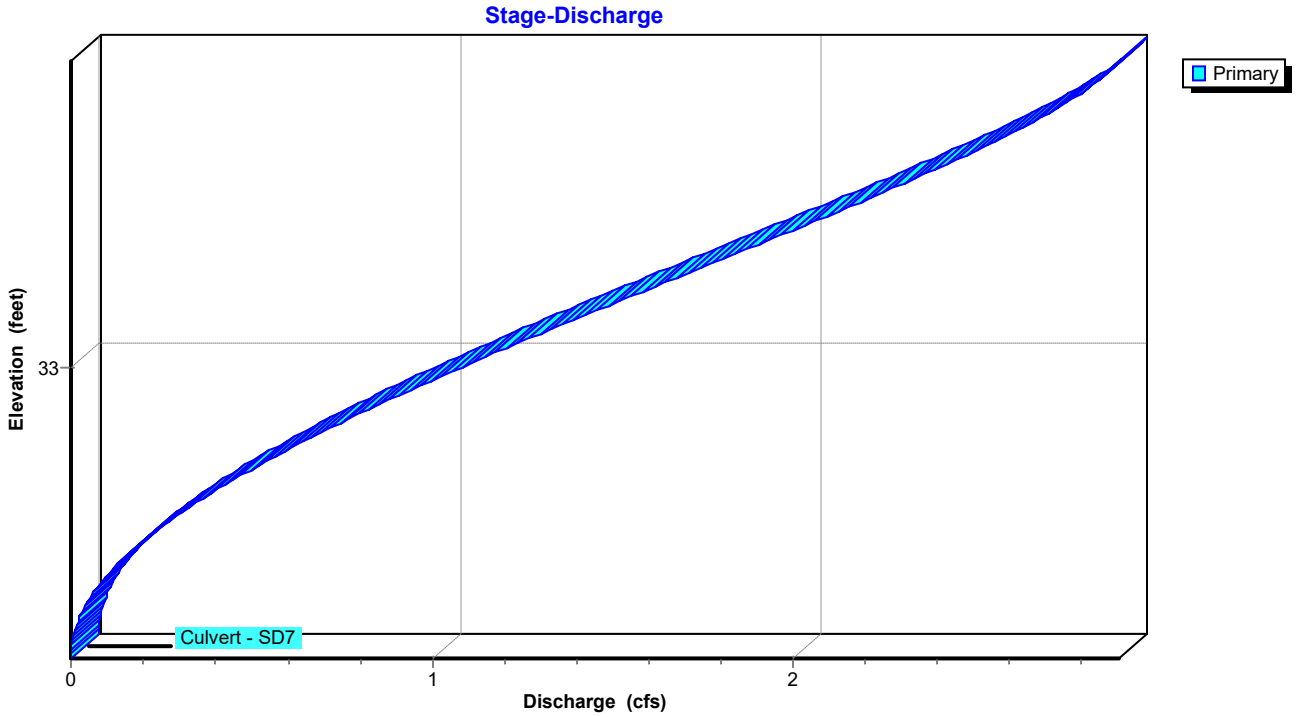
| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 32.38' | **12.0" Round Culvert - SD7**<br>L= 56.6' Box, headwall w/3 square edges, Ke= 0.500<br>Inlet / Outlet Invert= 32.38' / 32.09' S= 0.0051 '/' Cc= 0.900<br>n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf |

**Primary OutFlow** Max=0.00 cfs @ 12.22 hrs HW=33.30' TW=33.31' (Dynamic Tailwater)
**1=Culvert - SD7** ( Controls 0.00 cfs)

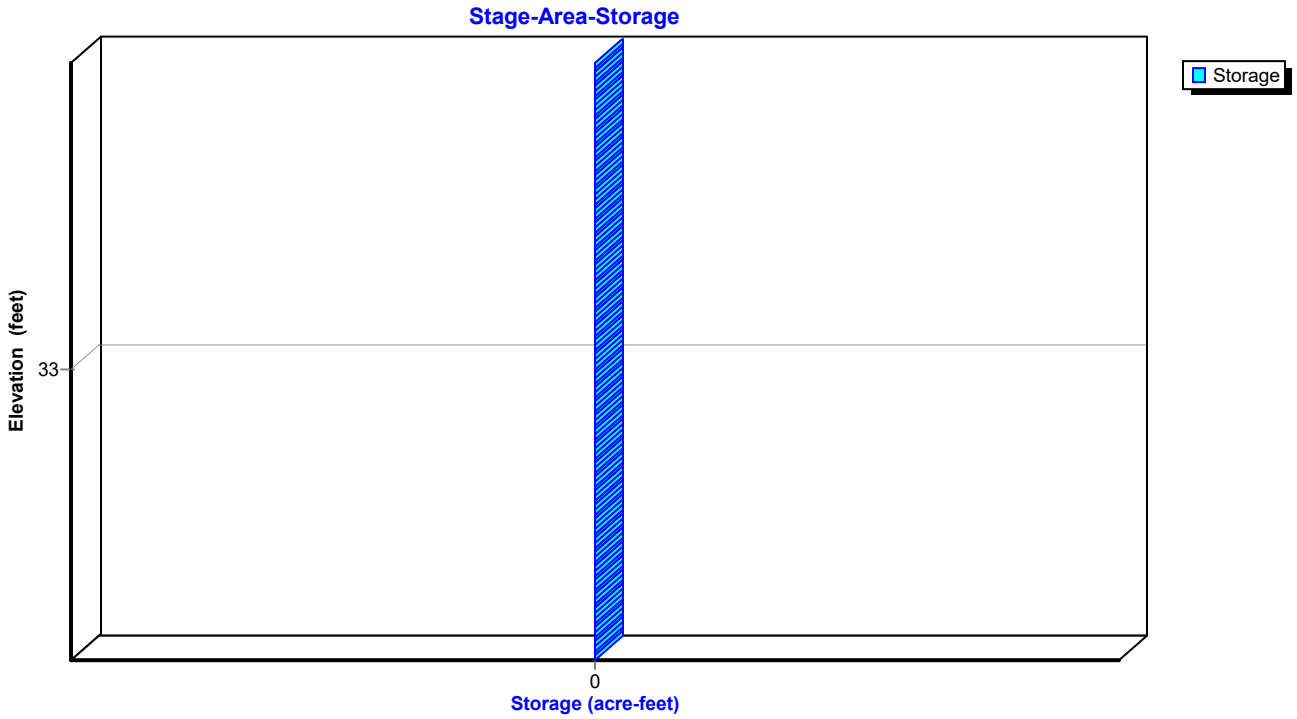
### Pond CI-12: CI-12



## Pond CI-12: CI-12




## Pond CI-12: CI-12



## Summary for Pond MBR-1: MBR-1

Inflow Area = 0.328 ac, 71.00% Impervious, Inflow Depth = 3.76" for 10-Year event
Inflow = 1.30 cfs @ 12.18 hrs, Volume= 0.103 af
Outflow = 1.10 cfs @ 12.22 hrs, Volume= 0.101 af, Atten= 15%, Lag= 2.4 min
Primary = 1.10 cfs @ 12.22 hrs, Volume= 0.101 af
Routed to Pond CI-12 : CI-12

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 34.64' @ 12.25 hrs Surf.Area= 257 sf Storage= 256 cf

Plug-Flow detention time= 18.1 min calculated for 0.101 af (98% of inflow)
Center-of-Mass det. time= 9.3 min ( 816.1 - 806.9 )

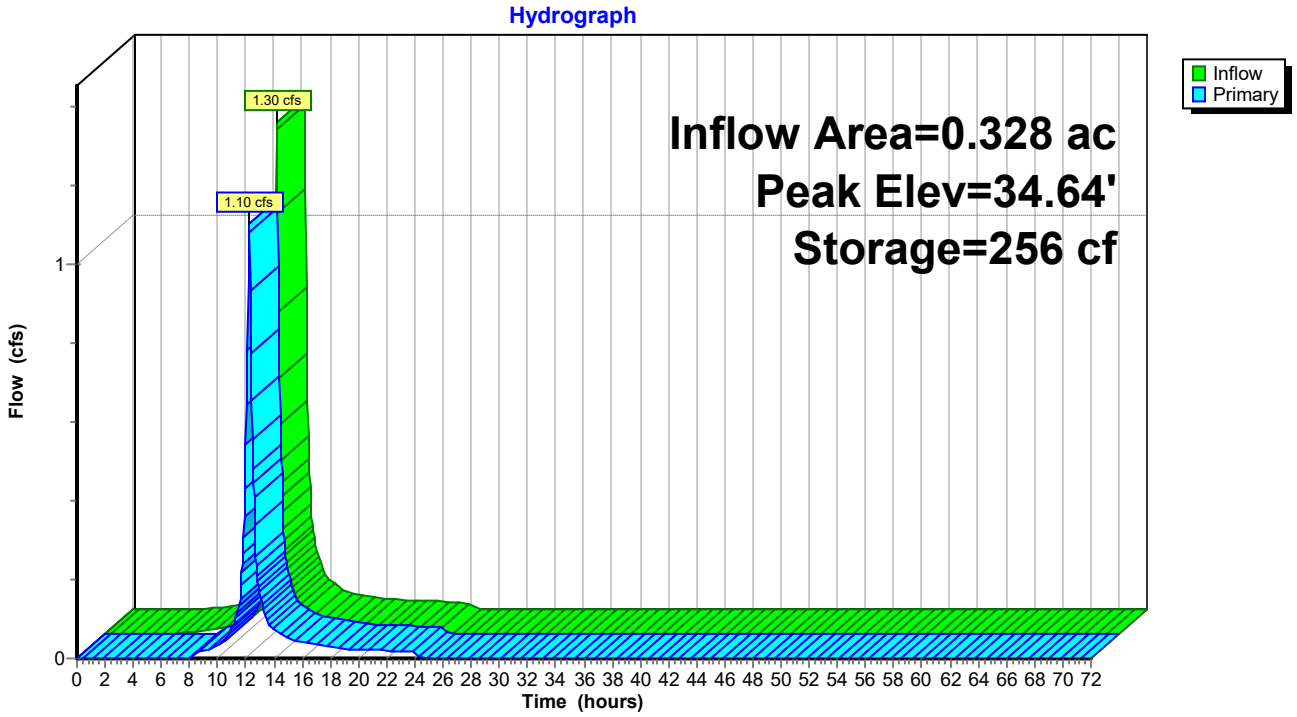
| Volume | Invert | Avail.Storage | Storage Description |
|---|---|---|---|
| #1 | 32.15' | 1,521 cf | **Custom Stage Data (Irregular)** Listed below |

| Elevation (feet) | Surf.Area (sq-ft) | Perim. (feet) | Voids (%) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) | Wet.Area (sq-ft) |
|---|---|---|---|---|---|---|
| 32.15 | 257 | 135.0 | 0.0 | 0 | 0 | 257 |
| 32.16 | 257 | 135.0 | 40.0 | 1 | 1 | 258 |
| 35.15 | 257 | 135.0 | 40.0 | 307 | 308 | 662 |
| 35.16 | 257 | 135.0 | 100.0 | 3 | 311 | 663 |
| 37.00 | 691 | 153.8 | 100.0 | 840 | 1,151 | 1,171 |
| 37.20 | 1,366 | 220.3 | 100.0 | 202 | 1,353 | 3,151 |
| 37.30 | 2,023 | 263.8 | 100.0 | 168 | 1,521 | 4,827 |

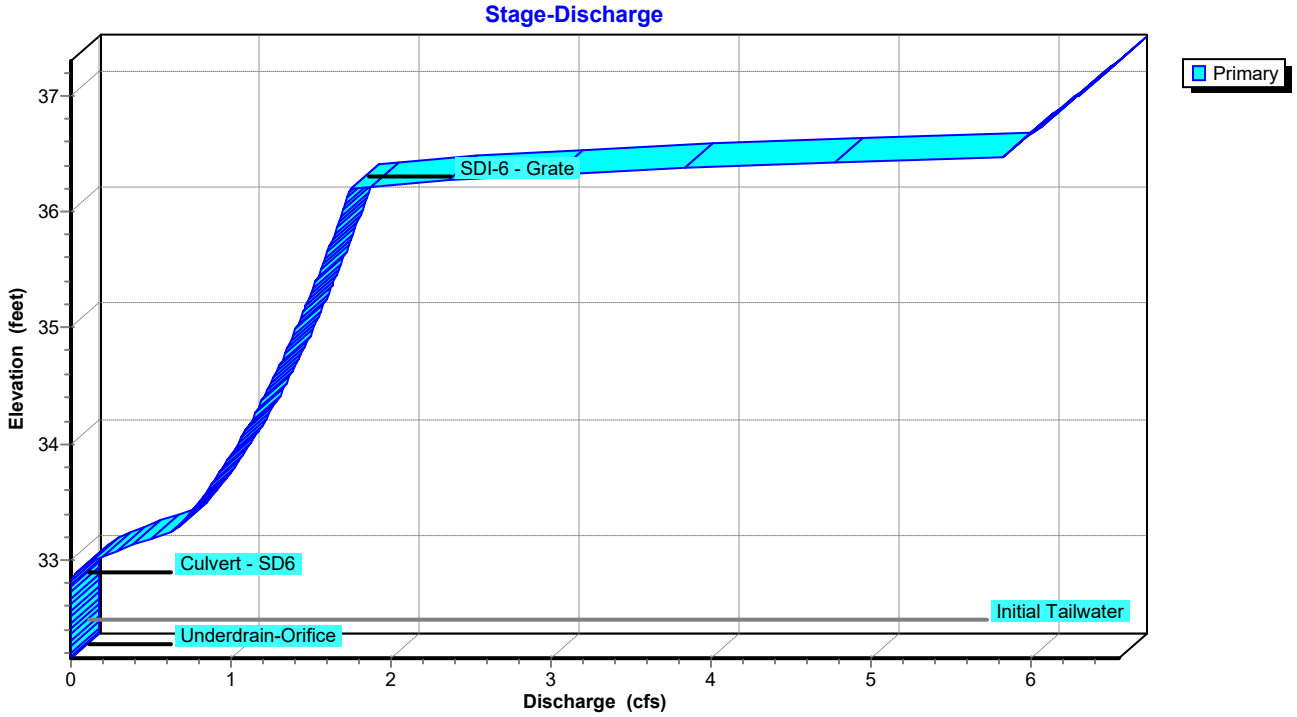
| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 32.78' | **12.0" Round Culvert - SD6**<br>L= 79.8' CPP, square edge headwall, Ke= 0.500<br>Inlet / Outlet Invert= 32.78' / 32.38' S= 0.0050 '/' Cc= 0.900<br>n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf |
| #2 | Device 1 | 36.19' | **24.0" x 24.0" Horiz. SDI-6 - Grate** C= 0.600<br>Limited to weir flow at low heads |
| #3 | Device 1 | 32.16' | **6.0" Vert. Underdrain-Orifice** C= 0.600<br>Limited to weir flow at low heads |

**Primary OutFlow** Max=1.06 cfs @ 12.22 hrs HW=34.55' TW=33.30' (Dynamic Tailwater)
↑**1=Culvert - SD6** (Passes 1.06 cfs of 3.58 cfs potential flow)
↑**2=SDI-6 - Grate** ( Controls 0.00 cfs)
**3=Underdrain-Orifice** (Orifice Controls 1.06 cfs @ 5.39 fps)

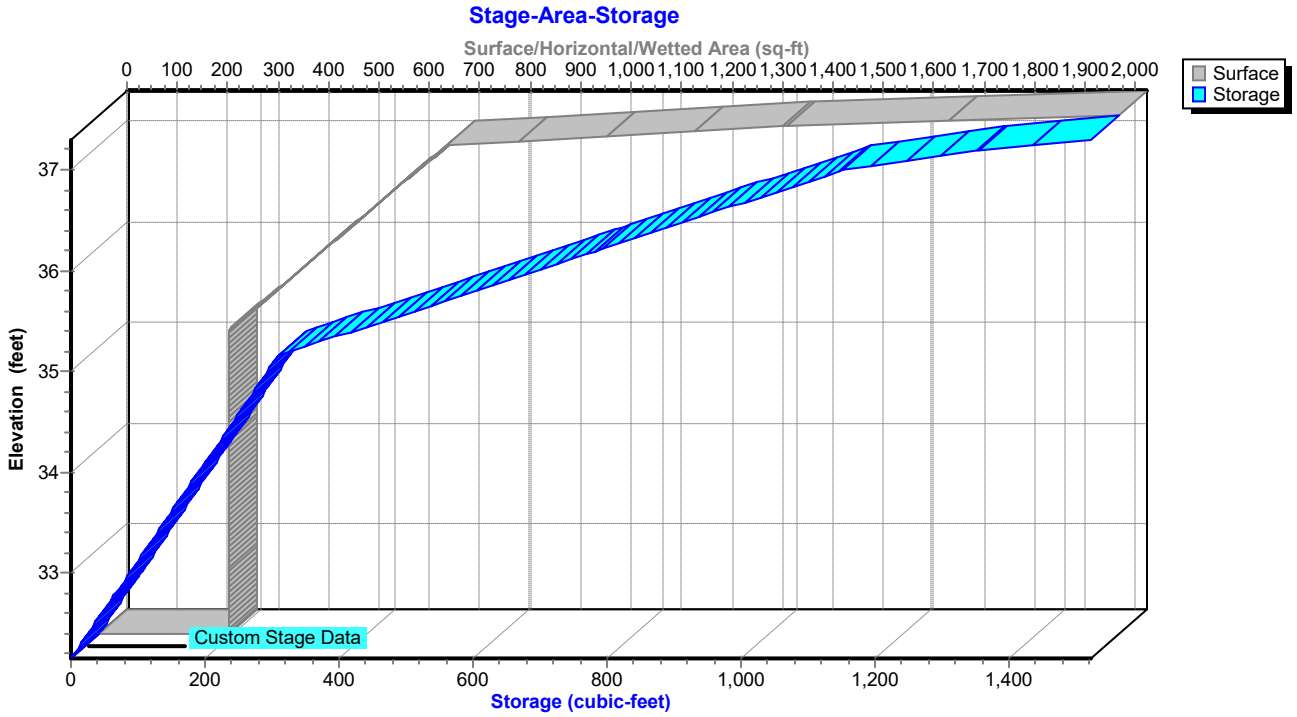
## Pond MBR-1: MBR-1




## Pond MBR-1: MBR-1



## Pond MBR-1: MBR-1



## Summary for Pond MBR-2: MBR-2

Inflow Area = 0.453 ac, 65.00% Impervious, Inflow Depth = 3.55" for 10-Year event
Inflow = 1.69 cfs @ 12.19 hrs, Volume= 0.134 af
Outflow = 1.29 cfs @ 12.27 hrs, Volume= 0.134 af, Atten= 24%, Lag= 4.8 min
Primary = 1.29 cfs @ 12.27 hrs, Volume= 0.134 af
Routed to Pond CI - 9 : CI - 9

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 35.19' @ 12.28 hrs Surf.Area= 321 sf Storage= 433 cf

Plug-Flow detention time= 5.3 min calculated for 0.134 af (100% of inflow)
Center-of-Mass det. time= 5.2 min ( 819.0 - 813.7 )

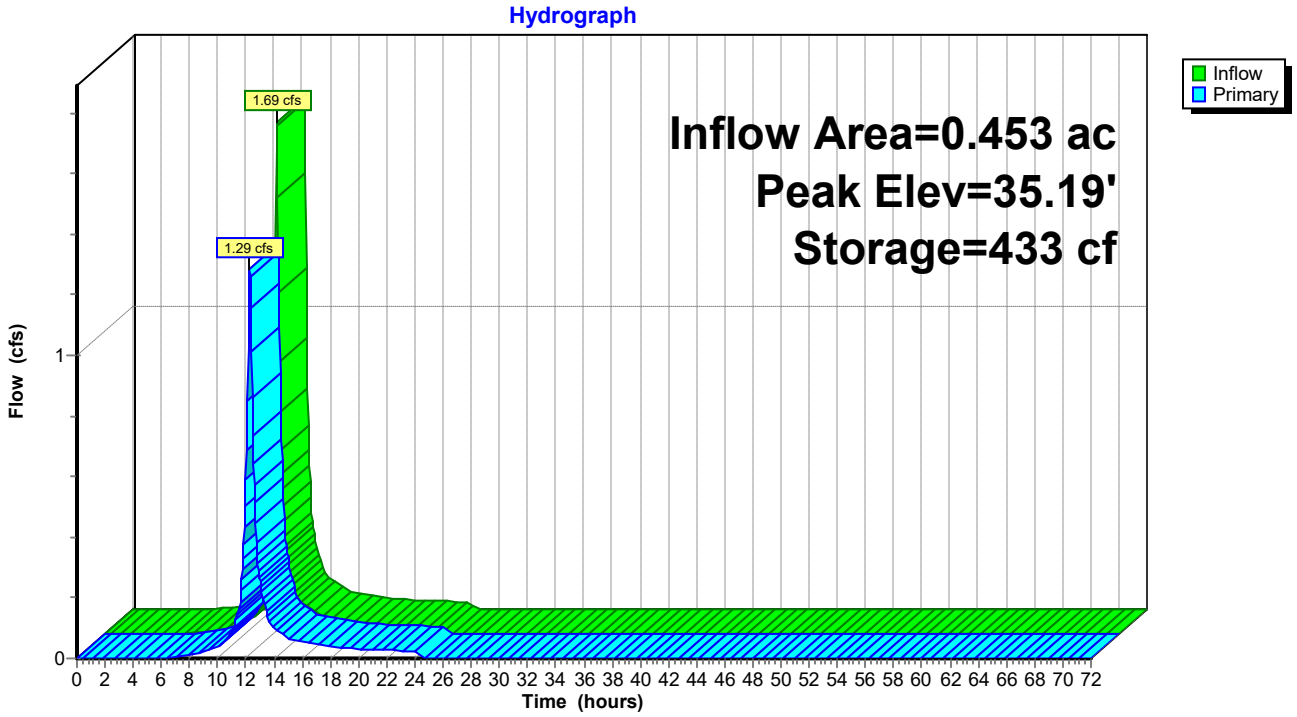
| Volume | Invert | Avail.Storage | Storage Description |
|---|---|---|---|
| #1 | 31.82' | 1,982 cf | **Custom Stage Data (Irregular)** Listed below (Recalc) |

| Elevation (feet) | Surf.Area (sq-ft) | Perim. (feet) | Voids (%) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) | Wet.Area (sq-ft) |
|---|---|---|---|---|---|---|
| 31.82 | 321 | 167.0 | 0.0 | 0 | 0 | 321 |
| 31.83 | 321 | 167.0 | 40.0 | 1 | 1 | 323 |
| 35.80 | 321 | 167.0 | 40.0 | 510 | 511 | 986 |
| 35.81 | 321 | 167.0 | 100.0 | 3 | 514 | 987 |
| 36.81 | 851 | 185.9 | 100.0 | 565 | 1,079 | 1,547 |
| 37.60 | 1,461 | 316.0 | 100.0 | 902 | 1,982 | 6,747 |

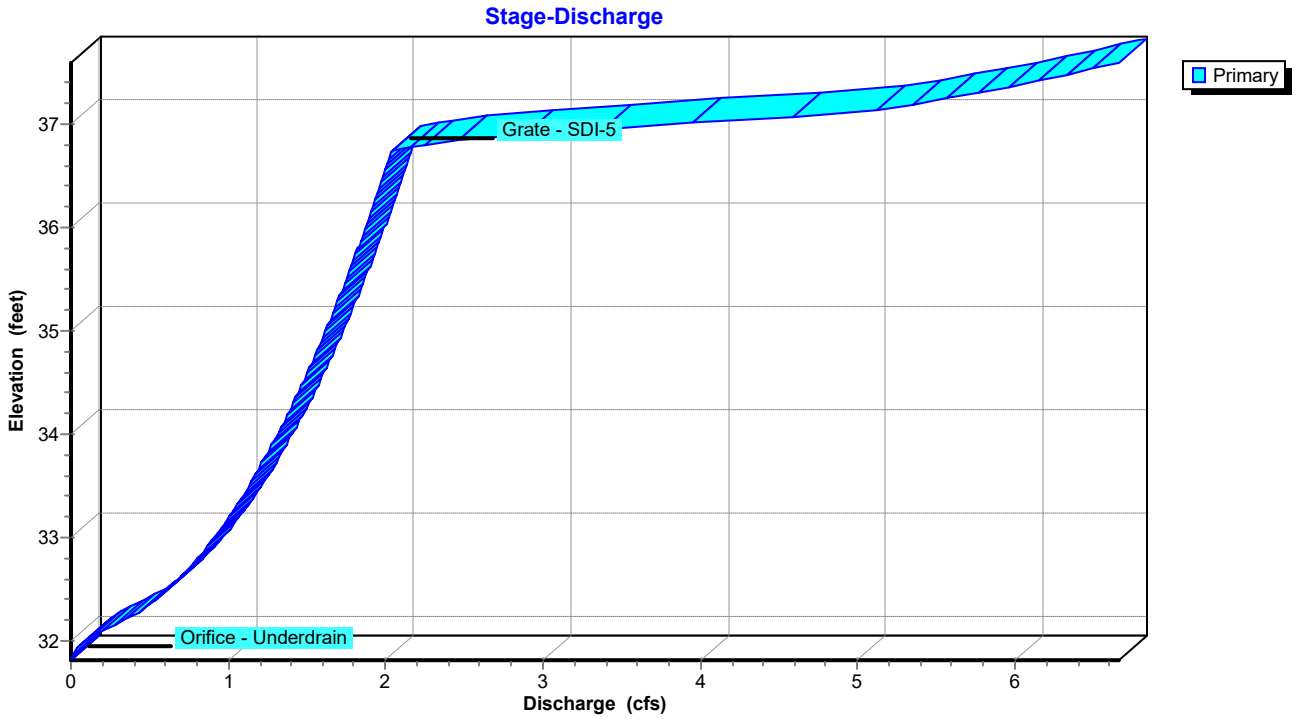
| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 31.61' | **12.0" Round Culvert - SD11**<br>L= 55.4' Box, headwall w/3 square edges, Ke= 0.500<br>Inlet / Outlet Invert= 31.61' / 31.34' S= 0.0049 '/' Cc= 0.900<br>n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf |
| #2 | Device 1 | 36.75' | **12.0" x 12.0" Horiz. Grate - SDI-5** C= 0.600<br>Limited to weir flow at low heads |
| #3 | Device 1 | 31.83' | **6.0" Vert. Orifice - Underdrain** C= 0.600<br>Limited to weir flow at low heads |

**Primary OutFlow** Max=1.23 cfs @ 12.27 hrs HW=35.15' TW=33.45' (Dynamic Tailwater)
└─**1=Culvert - SD11** (Passes 1.23 cfs of 4.75 cfs potential flow)
  ├─**2=Grate - SDI-5** ( Controls 0.00 cfs)
  └─**3=Orifice - Underdrain** (Orifice Controls 1.23 cfs @ 6.27 fps)

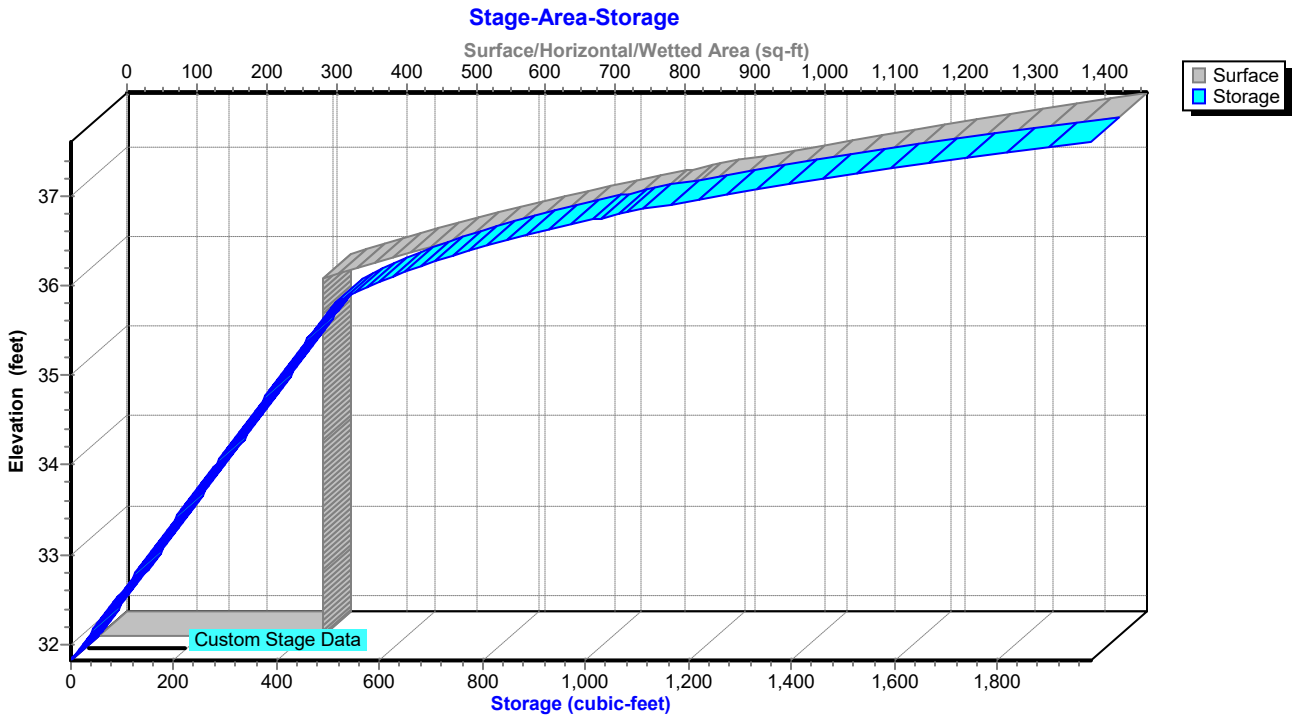
## Pond MBR-2: MBR-2




## Pond MBR-2: MBR-2



## Pond MBR-2: MBR-2



## Summary for Pond MBR-3: MBR-3

Inflow Area = 0.233 ac, 65.00% Impervious, Inflow Depth = 3.55" for 10-Year event
Inflow = 0.87 cfs @ 12.19 hrs, Volume= 0.069 af
Outflow = 0.70 cfs @ 12.24 hrs, Volume= 0.069 af, Atten= 19%, Lag= 2.9 min
Primary = 0.70 cfs @ 12.24 hrs, Volume= 0.069 af
Routed to Pond SGW : SGW

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 33.51' @ 12.27 hrs Surf.Area= 285 sf Storage= 193 cf

Plug-Flow detention time= 7.2 min calculated for 0.069 af (100% of inflow)
Center-of-Mass det. time= 6.0 min ( 819.8 - 813.7 )

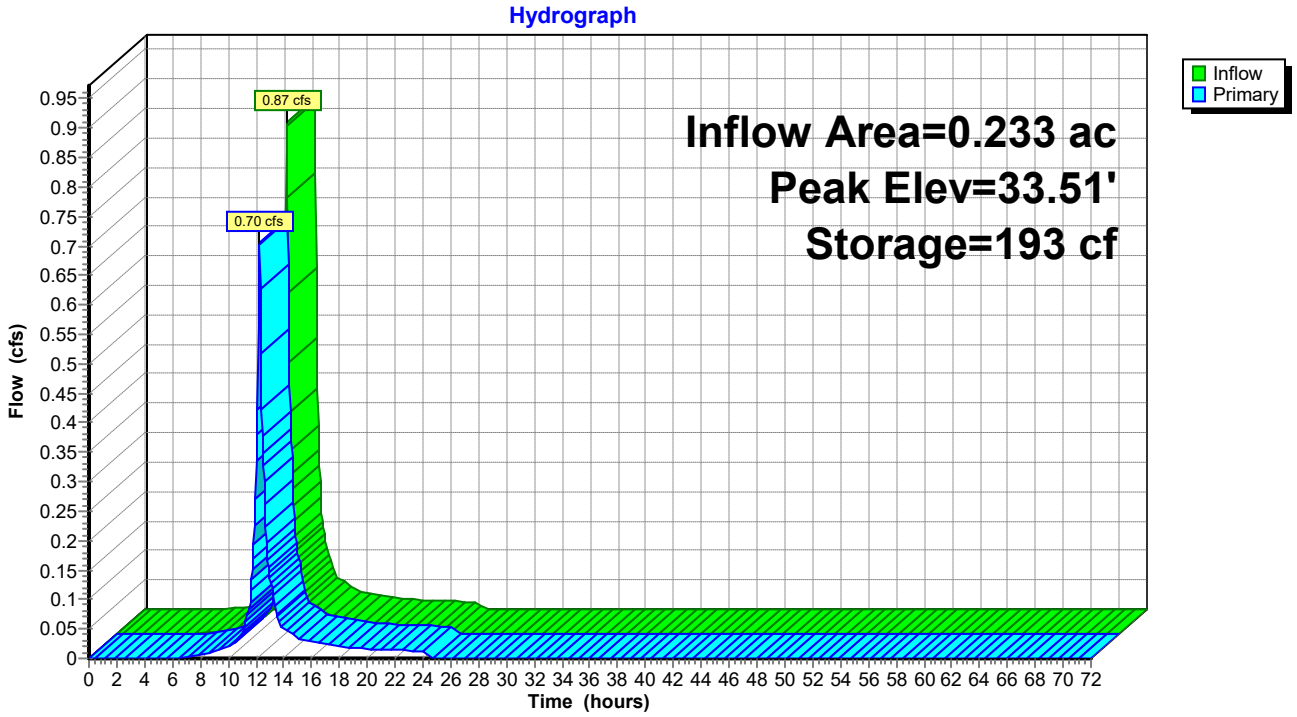
| Volume | Invert | Avail.Storage | Storage Description |
|---|---|---|---|
| #1 | 31.82' | 1,823 cf | **Custom Stage Data (Irregular)** Listed below (Recalc) |

| Elevation (feet) | Surf.Area (sq-ft) | Perim. (feet) | Voids (%) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) | Wet.Area (sq-ft) |
|---|---|---|---|---|---|---|
| 31.82 | 285 | 149.0 | 0.0 | 0 | 0 | 285 |
| 31.83 | 285 | 149.0 | 40.0 | 1 | 1 | 286 |
| 35.80 | 285 | 149.0 | 40.0 | 453 | 454 | 878 |
| 35.81 | 285 | 149.0 | 100.0 | 3 | 457 | 880 |
| 36.81 | 761 | 167.9 | 100.0 | 504 | 960 | 1,382 |
| 37.60 | 1,461 | 316.0 | 100.0 | 863 | 1,823 | 7,088 |

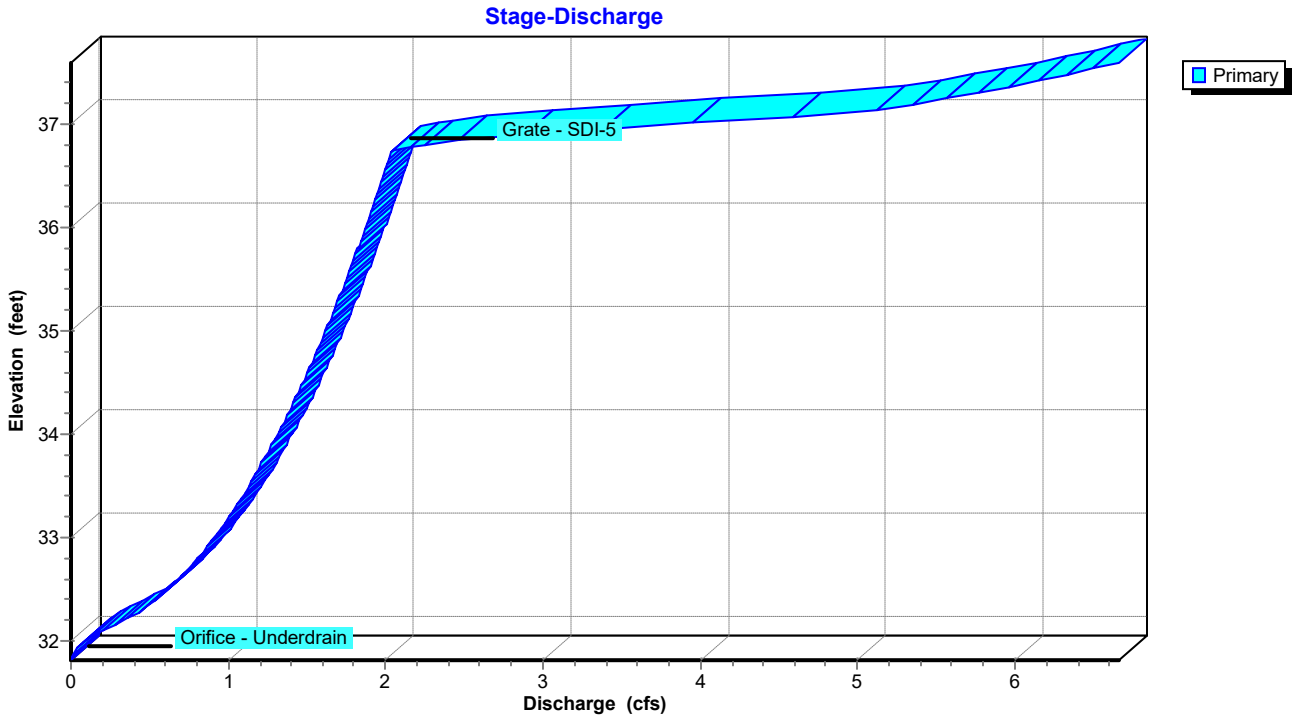
| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 31.61' | **12.0" Round Culvert - SD11**<br>L= 55.4' Box, headwall w/3 square edges, Ke= 0.500<br>Inlet / Outlet Invert= 31.61' / 31.34' S= 0.0049 '/' Cc= 0.900<br>n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf |
| #2 | Device 1 | 36.75' | **12.0" x 12.0" Horiz. Grate - SDI-5** C= 0.600<br>Limited to weir flow at low heads |
| #3 | Device 1 | 31.83' | **6.0" Vert. Orifice - Underdrain** C= 0.600<br>Limited to weir flow at low heads |

**Primary OutFlow** Max=0.70 cfs @ 12.24 hrs HW=33.44' TW=32.90' (Dynamic Tailwater)
└─**1=Culvert - SD11** (Passes 0.70 cfs of 2.70 cfs potential flow)
  ├─**2=Grate - SDI-5** ( Controls 0.00 cfs)
  └─**3=Orifice - Underdrain** (Orifice Controls 0.70 cfs @ 3.56 fps)

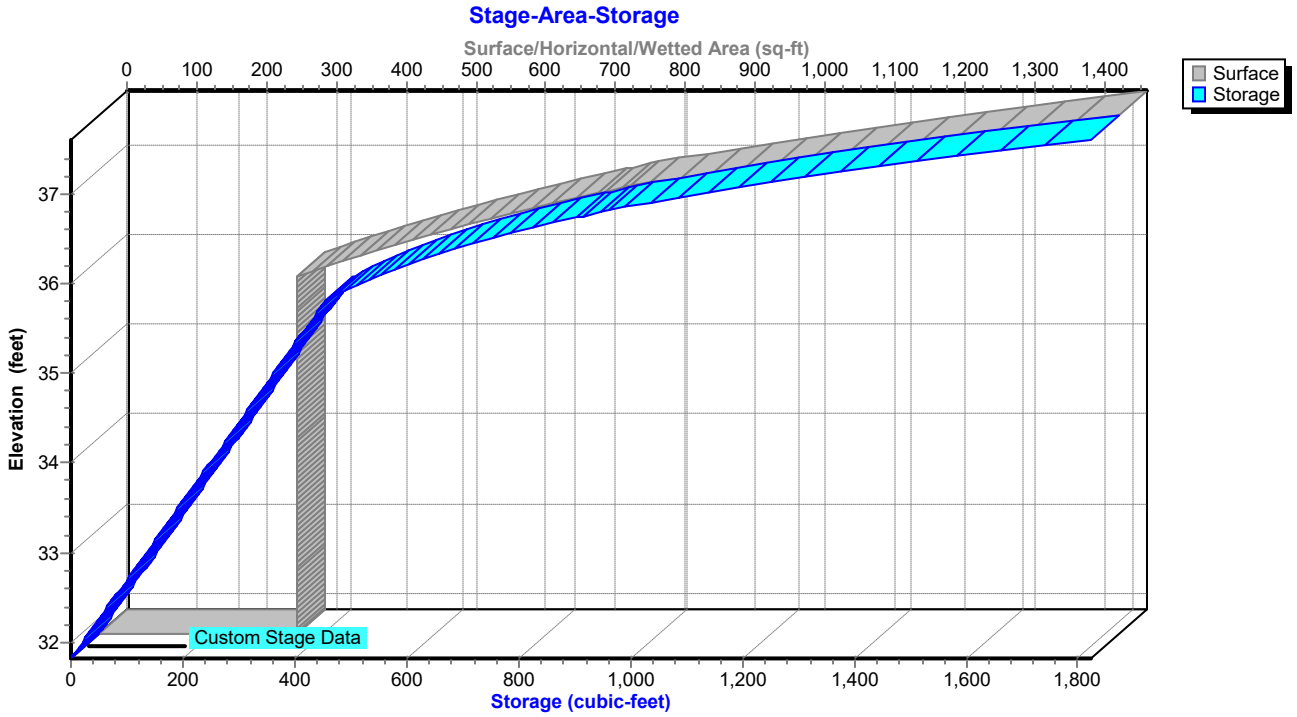
## Pond MBR-3: MBR-3




## Pond MBR-3: MBR-3



## Pond MBR-3: MBR-3



## Summary for Pond MBR-4: MBR-4

Inflow Area = 0.240 ac, 80.00% Impervious, Inflow Depth = 4.18" for 10-Year event
Inflow = 1.30 cfs @ 12.10 hrs, Volume= 0.084 af
Outflow = 0.74 cfs @ 12.09 hrs, Volume= 0.083 af, Atten= 43%, Lag= 0.0 min
Primary = 0.74 cfs @ 12.09 hrs, Volume= 0.083 af
Routed to Pond SDMH-3 : SDMH-3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 35.72' @ 12.29 hrs Surf.Area= 347 sf Storage= 413 cf

Plug-Flow detention time= 13.3 min calculated for 0.083 af (99% of inflow)
Center-of-Mass det. time= 8.7 min ( 794.4 - 785.7 )

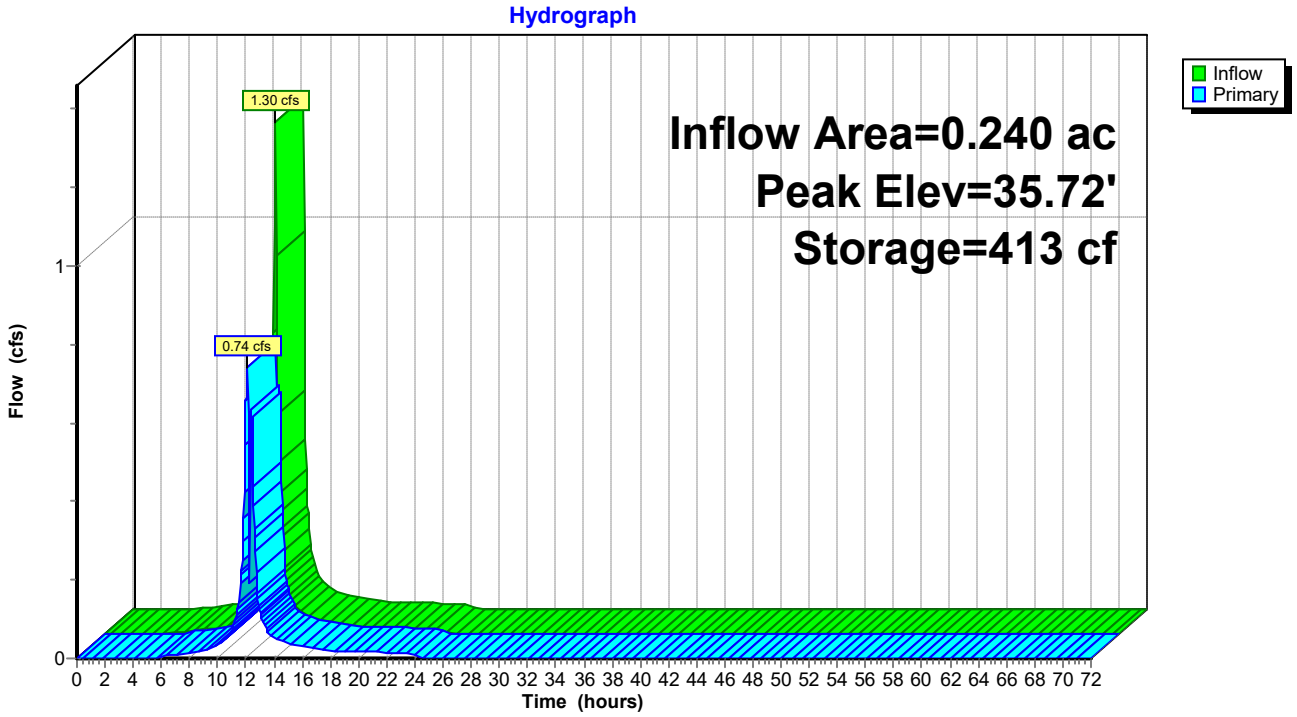
| Volume | Invert | Avail.Storage | Storage Description |
|---|---|---|---|
| #1 | 32.19' | 2,234 cf | **Custom Stage Data (Irregular)** Listed below (Recalc) |

| Elevation (feet) | Surf.Area (sq-ft) | Perim. (feet) | Voids (%) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) | Wet.Area (sq-ft) |
|---|---|---|---|---|---|---|
| 32.19 | 255 | 134.0 | 0.0 | 0 | 0 | 255 |
| 32.20 | 255 | 134.0 | 40.0 | 1 | 1 | 256 |
| 35.45 | 255 | 134.0 | 40.0 | 332 | 333 | 692 |
| 35.46 | 255 | 134.0 | 100.0 | 3 | 335 | 693 |
| 36.46 | 686 | 152.8 | 100.0 | 453 | 788 | 1,146 |
| 37.46 | 1,172 | 171.7 | 100.0 | 918 | 1,706 | 1,660 |
| 37.75 | 2,553 | 245.5 | 100.0 | 527 | 2,234 | 4,111 |

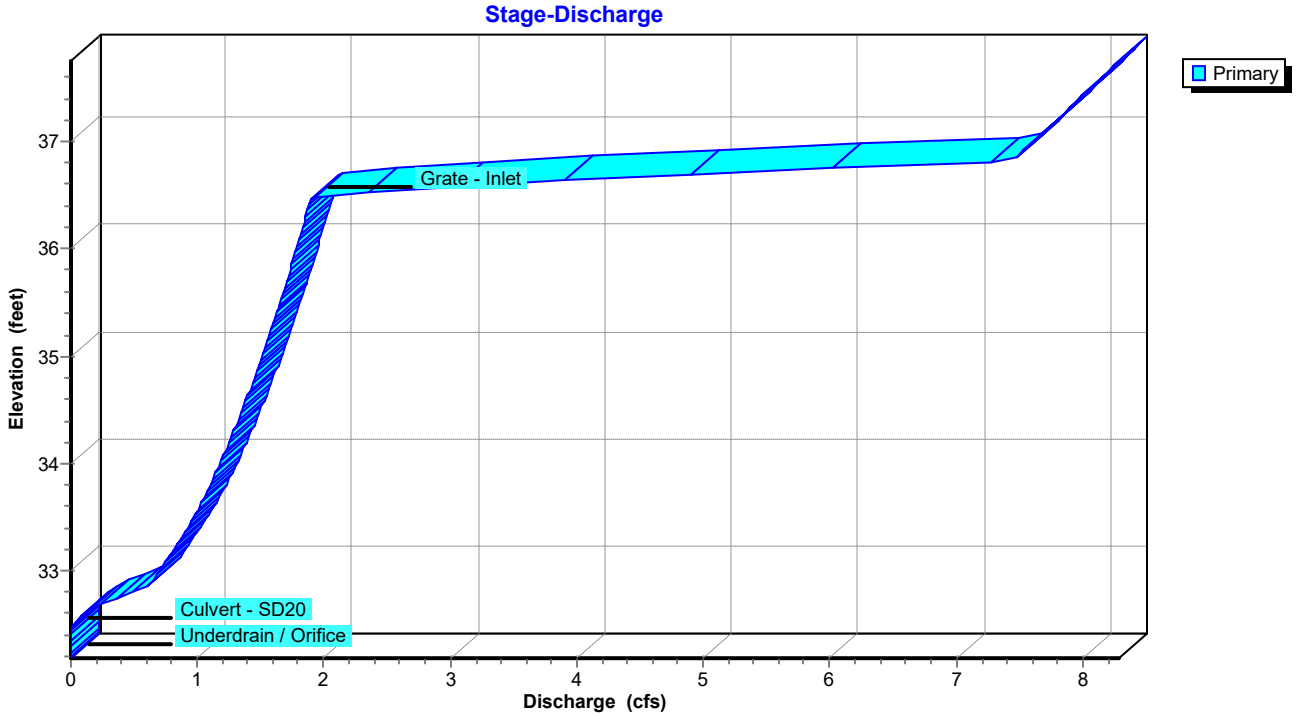
| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 32.45' | **12.0" Round Culvert - SD20**<br>L= 49.2' Box, headwall w/3 square edges, Ke= 0.500<br>Inlet / Outlet Invert= 32.45' / 31.39' S= 0.0215 '/' Cc= 0.900<br>n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf |
| #2 | Device 1 | 32.20' | **6.0" Vert. Underdrain / Orifice** C= 0.600<br>Limited to weir flow at low heads |
| #3 | Device 1 | 36.46' | **24.0" x 24.0" Horiz. Grate - Inlet** C= 0.600<br>Limited to weir flow at low heads |

**Primary OutFlow** Max=0.63 cfs @ 12.09 hrs HW=34.14' TW=33.70' (Dynamic Tailwater)
↑**1=Culvert - SD20** (Passes 0.63 cfs of 2.48 cfs potential flow)
↑**2=Underdrain / Orifice** (Orifice Controls 0.63 cfs @ 3.18 fps)
**3=Grate - Inlet** ( Controls 0.00 cfs)

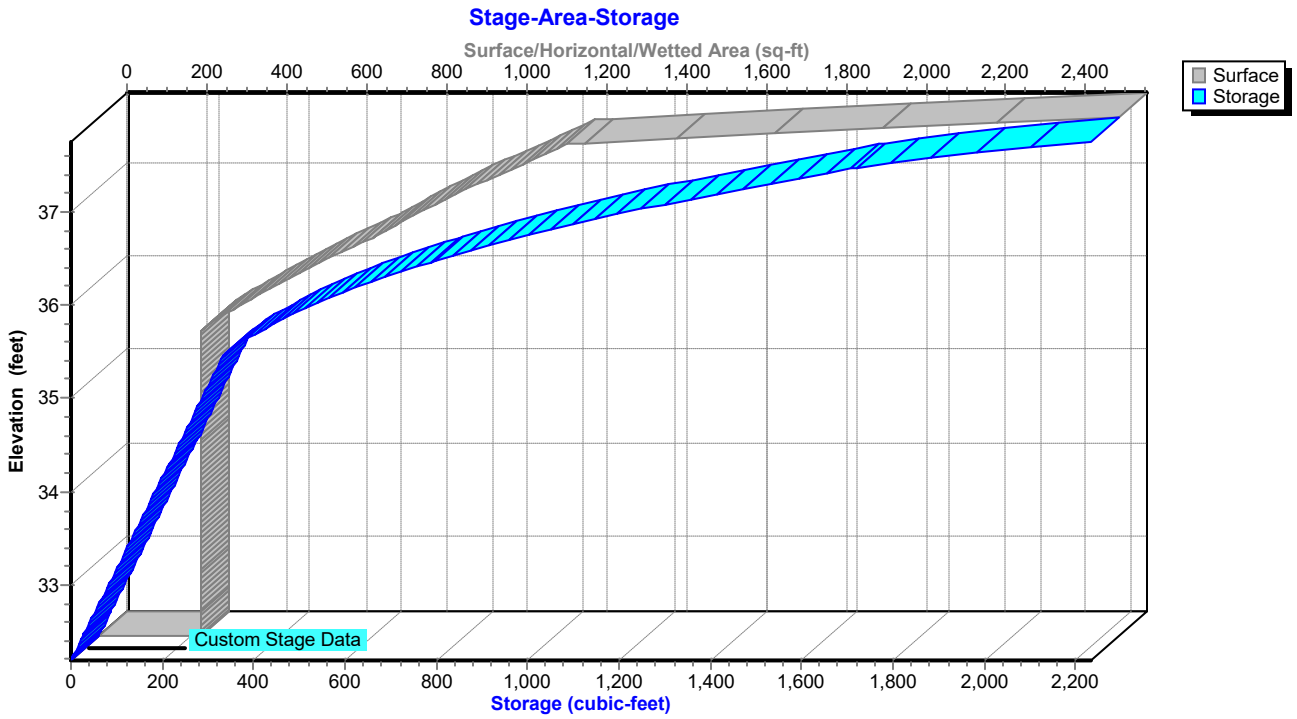
## Pond MBR-4: MBR-4




## Pond MBR-4: MBR-4



## Pond MBR-4: MBR-4



## Summary for Pond MBR-5: MBR-5

Inflow Area = 0.456 ac, 70.00% Impervious, Inflow Depth = 3.76" for 10-Year event
Inflow = 2.24 cfs @ 12.10 hrs, Volume= 0.143 af
Outflow = 1.64 cfs @ 12.40 hrs, Volume= 0.141 af, Atten= 27%, Lag= 18.1 min
Primary = 1.64 cfs @ 12.40 hrs, Volume= 0.141 af
Routed to Pond SDMH-4 : SDMH-4

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 36.66' @ 12.34 hrs Surf.Area= 878 sf Storage= 1,024 cf

Plug-Flow detention time= 18.1 min calculated for 0.141 af (99% of inflow)
Center-of-Mass det. time= 10.8 min ( 811.6 - 800.9 )

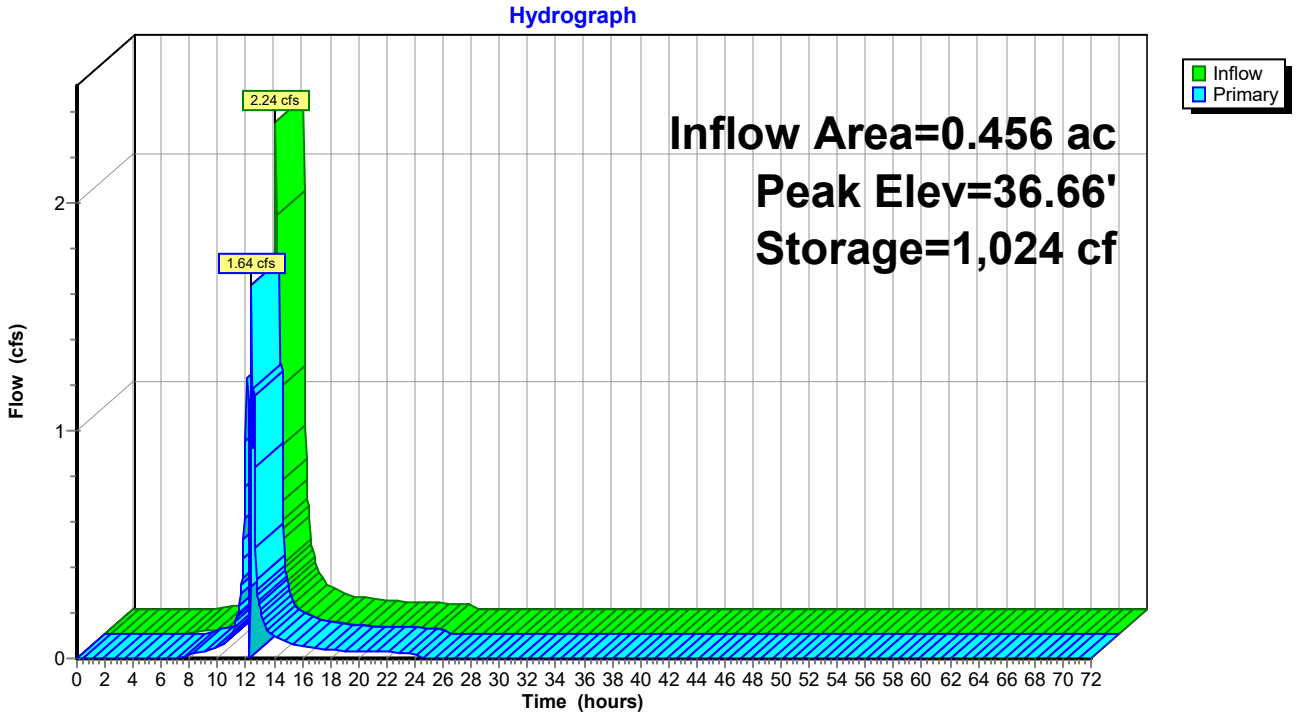
| Volume | Invert | Avail.Storage | Storage Description |
|---|---|---|---|
| #1 | 32.00' | 2,453 cf | **Custom Stage Data (Irregular)** Listed below |

| Elevation (feet) | Surf.Area (sq-ft) | Perim. (feet) | Voids (%) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) | Wet.Area (sq-ft) |
|---|---|---|---|---|---|---|
| 32.00 | 239 | 126.9 | 0.0 | 0 | 0 | 239 |
| 32.01 | 239 | 125.9 | 40.0 | 1 | 1 | 259 |
| 35.45 | 239 | 125.9 | 40.0 | 329 | 330 | 692 |
| 35.46 | 239 | 125.9 | 100.0 | 2 | 332 | 694 |
| 36.46 | 645 | 144.7 | 100.0 | 426 | 758 | 1,120 |
| 37.75 | 2,127 | 215.9 | 100.0 | 1,696 | 2,453 | 3,177 |

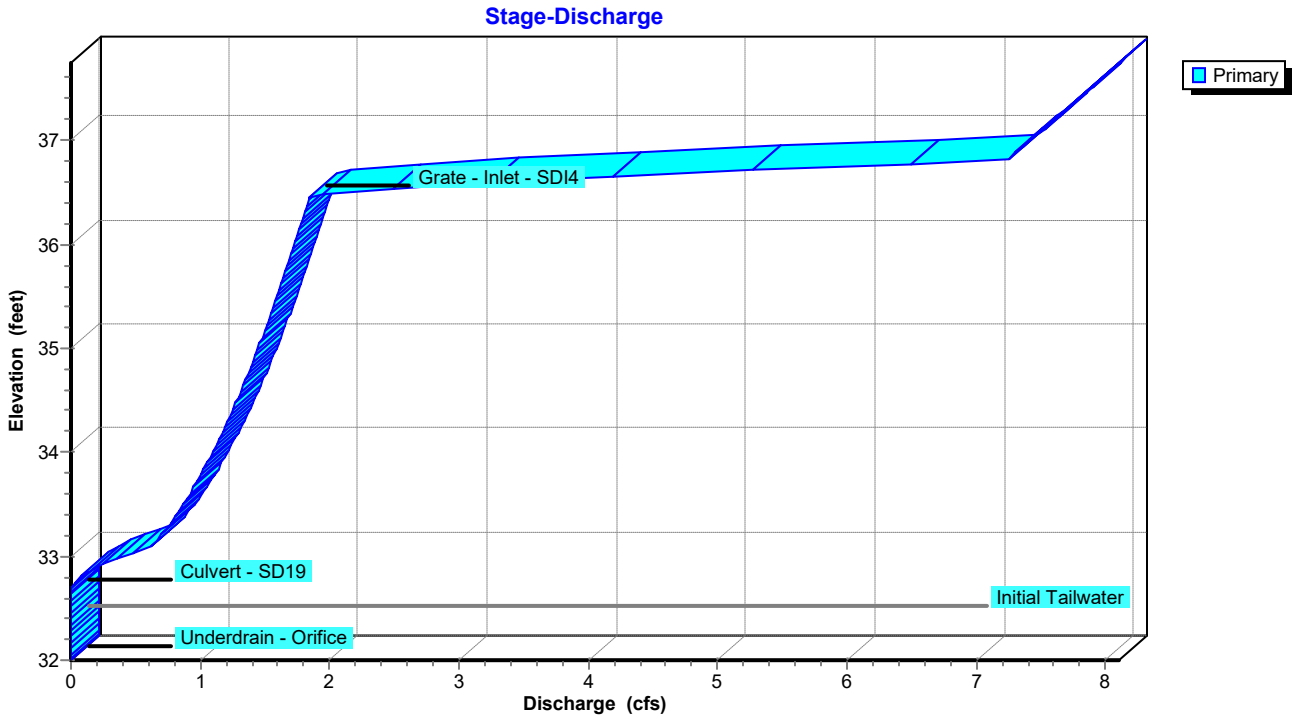
| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 32.66' | **12.0" Round Culvert - SD19**<br>L= 49.3' Box, headwall w/3 square edges, Ke= 0.500<br>Inlet / Outlet Invert= 32.66' / 32.41' S= 0.0051 '/' Cc= 0.900<br>n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf |
| #2 | Device 1 | 36.46' | **24.0" x 24.0" Horiz. Grate - Inlet - SDI4** C= 0.600<br>Limited to weir flow at low heads |
| #3 | Device 1 | 32.01' | **6.0" Vert. Underdrain - Orifice** C= 0.600<br>Limited to weir flow at low heads |

**Primary OutFlow** Max=1.82 cfs @ 12.40 hrs HW=36.57' TW=35.70' (Dynamic Tailwater)
└─**1=Culvert - SD19** (Passes 1.82 cfs of 3.53 cfs potential flow)
  ├─**2=Grate - Inlet - SDI4** (Weir Controls 0.93 cfs @ 1.08 fps)
  └─**3=Underdrain - Orifice** (Orifice Controls 0.88 cfs @ 4.50 fps)

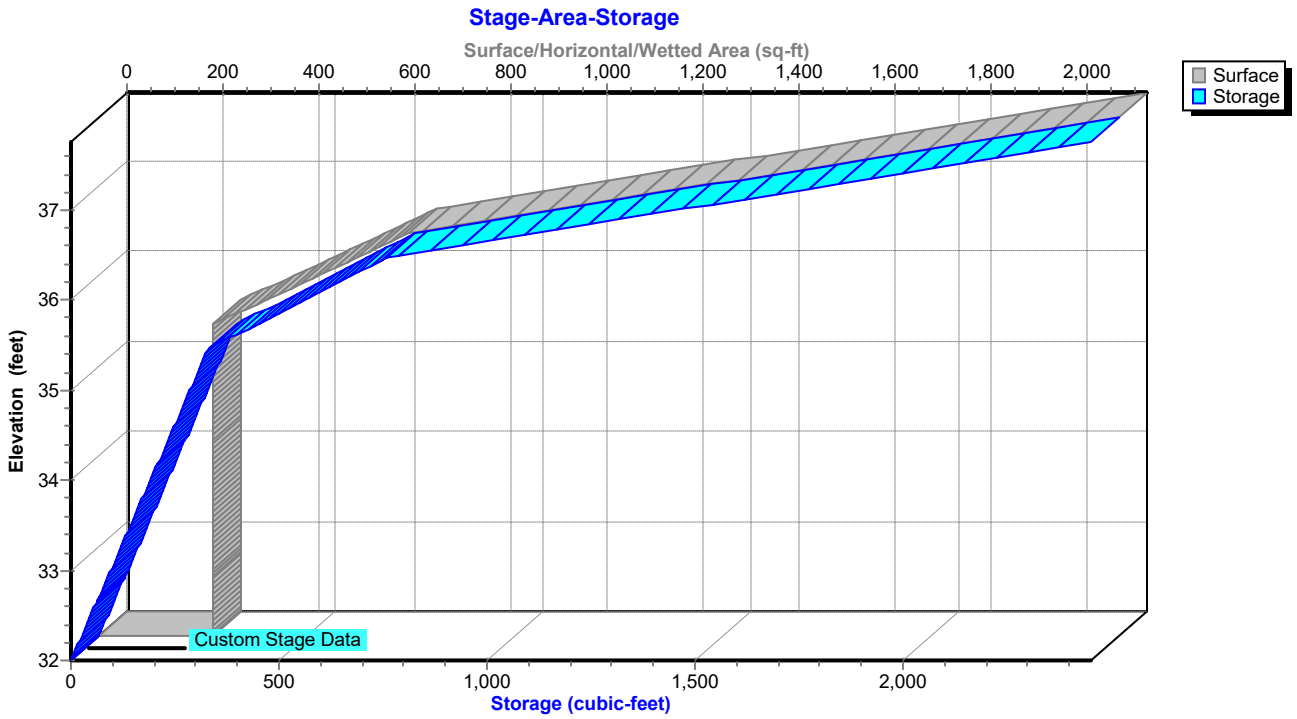
## Pond MBR-5: MBR-5




## Pond MBR-5: MBR-5



## Pond MBR-5: MBR-5



## Summary for Pond SDMH-3: SDMH-3

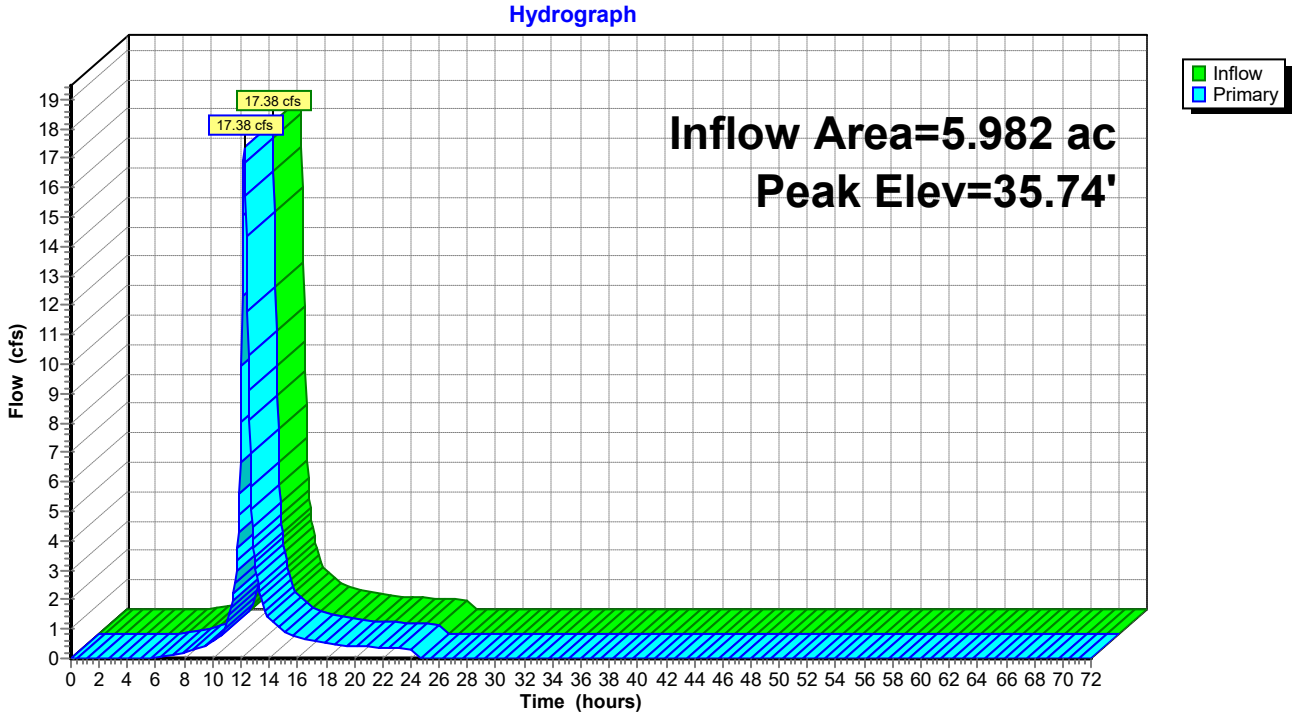
Inflow Area = 5.982 ac, 67.85% Impervious, Inflow Depth = 3.68" for 10-Year event
Inflow = 17.38 cfs @ 12.25 hrs, Volume= 1.834 af
Outflow = 17.38 cfs @ 12.25 hrs, Volume= 1.834 af, Atten= 0%, Lag= 0.0 min
Primary = 17.38 cfs @ 12.25 hrs, Volume= 1.834 af
Routed to Pond SGW : SGW

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 35.74' @ 12.27 hrs

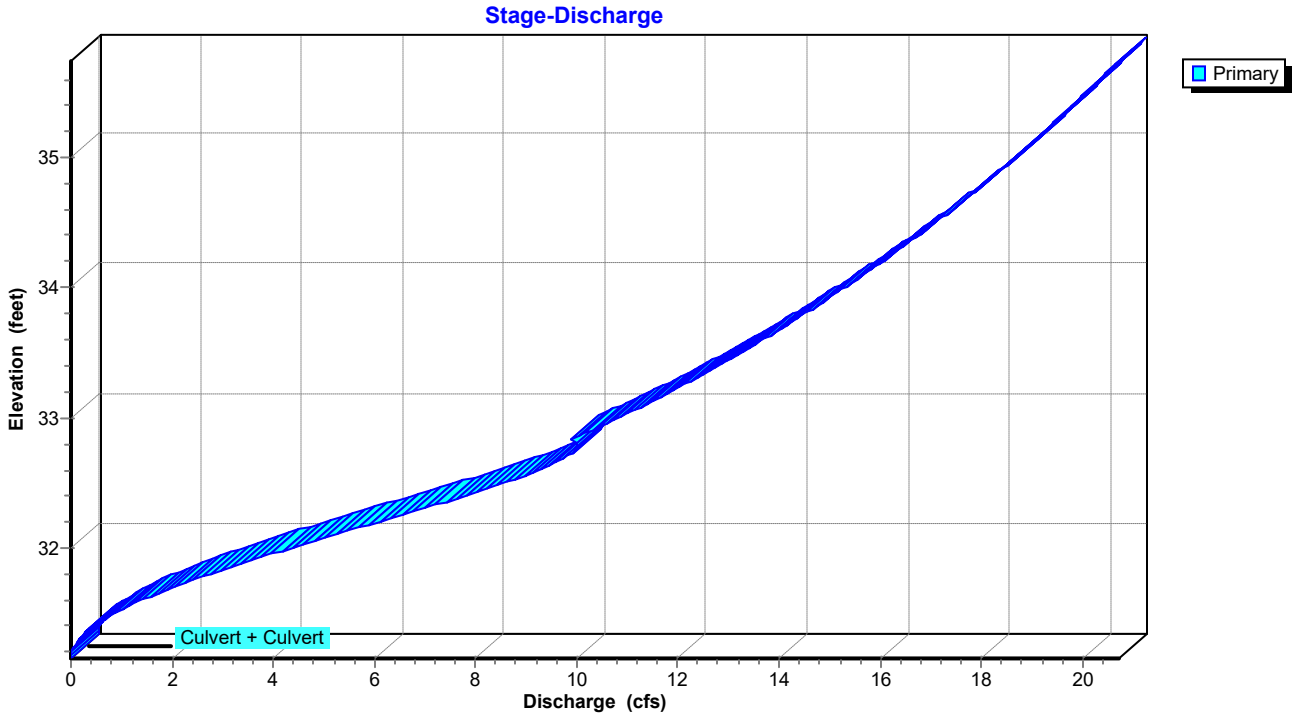
| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 31.16' | **15.0" Round Culvert**<br>L= 81.6' Box, 0° wingwalls, square crown edge, Ke= 0.700<br>Inlet / Outlet Invert= 31.16' / 30.75' S= 0.0050 '/' Cc= 0.900<br>n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.23 sf |
| #2 | Primary | 31.16' | **15.0" Round Culvert**<br>L= 81.0' Box, 0° wingwalls, square crown edge, Ke= 0.700<br>Inlet / Outlet Invert= 31.16' / 30.75' S= 0.0051 '/' Cc= 0.900<br>n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.23 sf |

**Primary OutFlow** Max=17.38 cfs @ 12.25 hrs HW=35.71' TW=32.93' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 8.69 cfs @ 7.08 fps)
└─**2=Culvert** (Inlet Controls 8.69 cfs @ 7.08 fps)

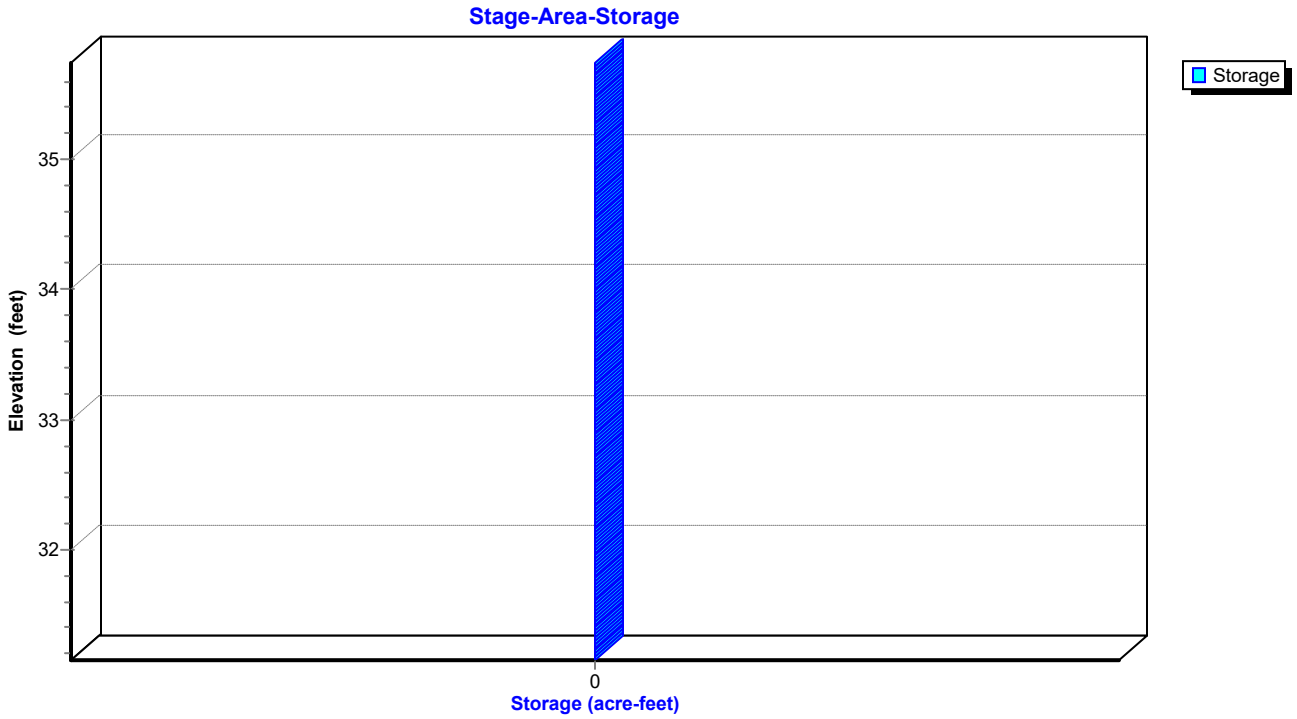
### Pond SDMH-3: SDMH-3



## Pond SDMH-3: SDMH-3




## Pond SDMH-3: SDMH-3



## Summary for Pond SDMH-4: SDMH-4

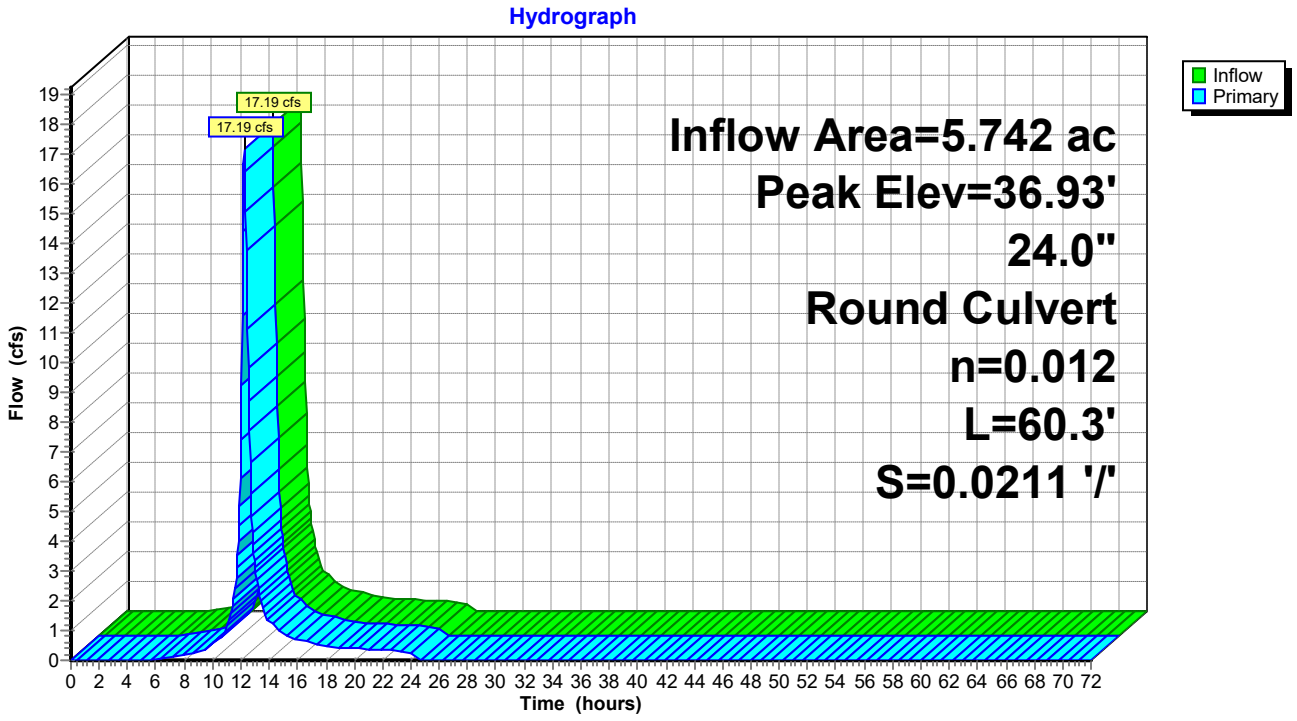
Inflow Area = 5.742 ac, 67.34% Impervious, Inflow Depth = 3.66" for 10-Year event
Inflow = 17.19 cfs @ 12.24 hrs, Volume= 1.751 af
Outflow = 17.19 cfs @ 12.24 hrs, Volume= 1.751 af, Atten= 0%, Lag= 0.0 min
Primary = 17.19 cfs @ 12.24 hrs, Volume= 1.751 af
Routed to Pond SDMH-3 : SDMH-3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 36.93' @ 12.25 hrs

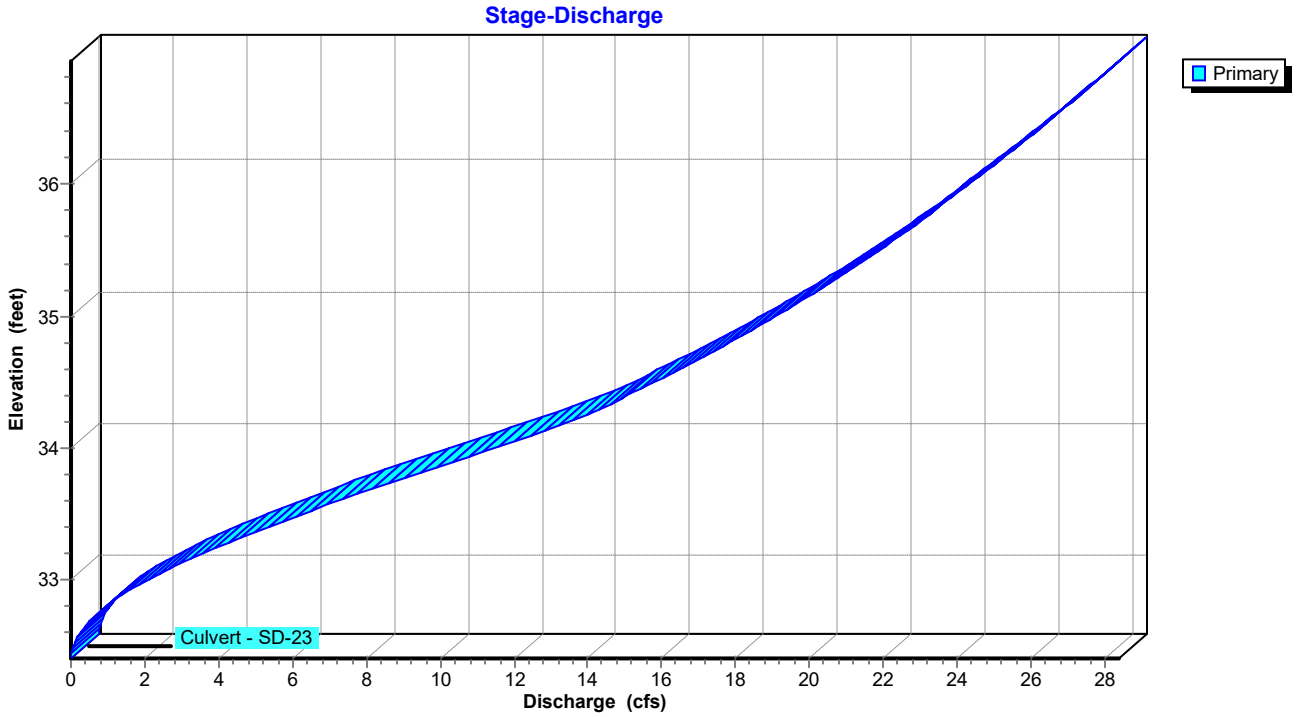
| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 32.41' | **24.0" Round Culvert - SD-23**<br>L= 60.3' Box, headwall w/3 square edges, Ke= 0.500<br>Inlet / Outlet Invert= 32.41' / 31.14' S= 0.0211 '/' Cc= 0.900<br>n= 0.012 Corrugated PP, smooth interior, Flow Area= 3.14 sf |

**Primary OutFlow** Max=16.67 cfs @ 12.24 hrs HW=36.90' TW=35.69' (Dynamic Tailwater)
**1=Culvert - SD-23** (Inlet Controls 16.67 cfs @ 5.31 fps)

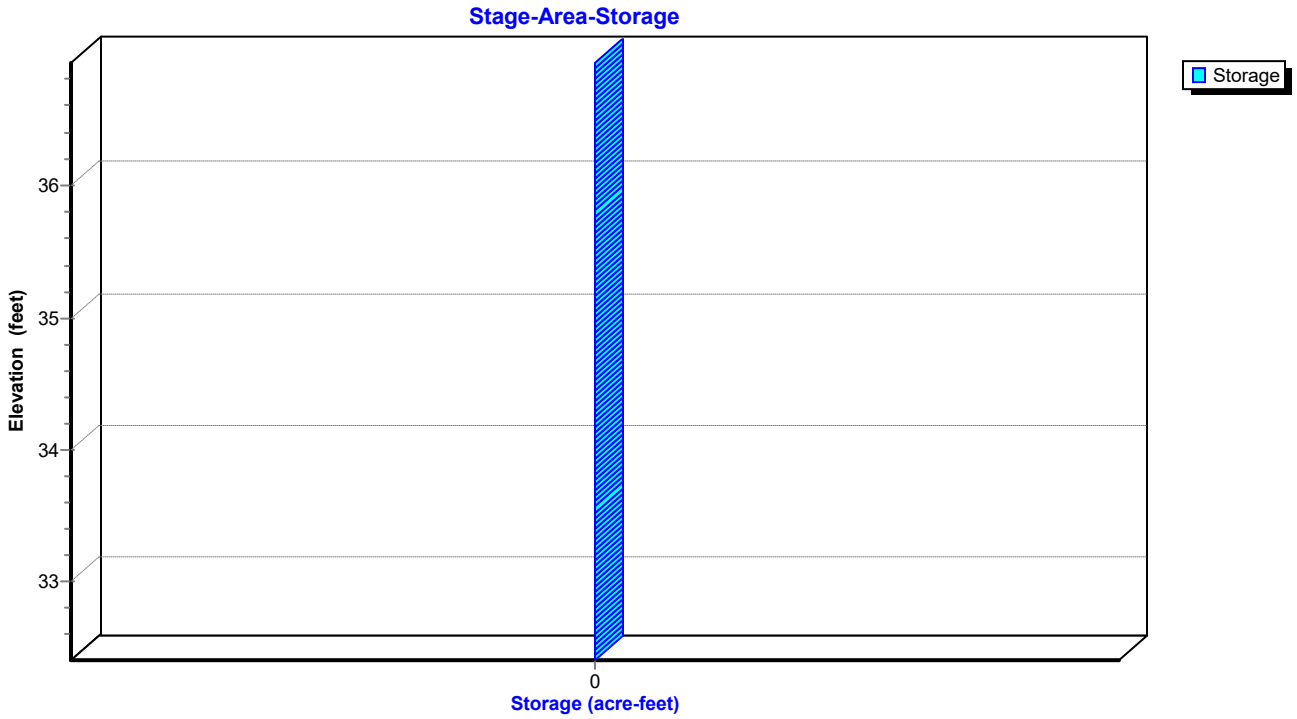
## Pond SDMH-4: SDMH-4



## Pond SDMH-4: SDMH-4




## Pond SDMH-4: SDMH-4



## Summary for Pond SDMH-5: SDMH-5

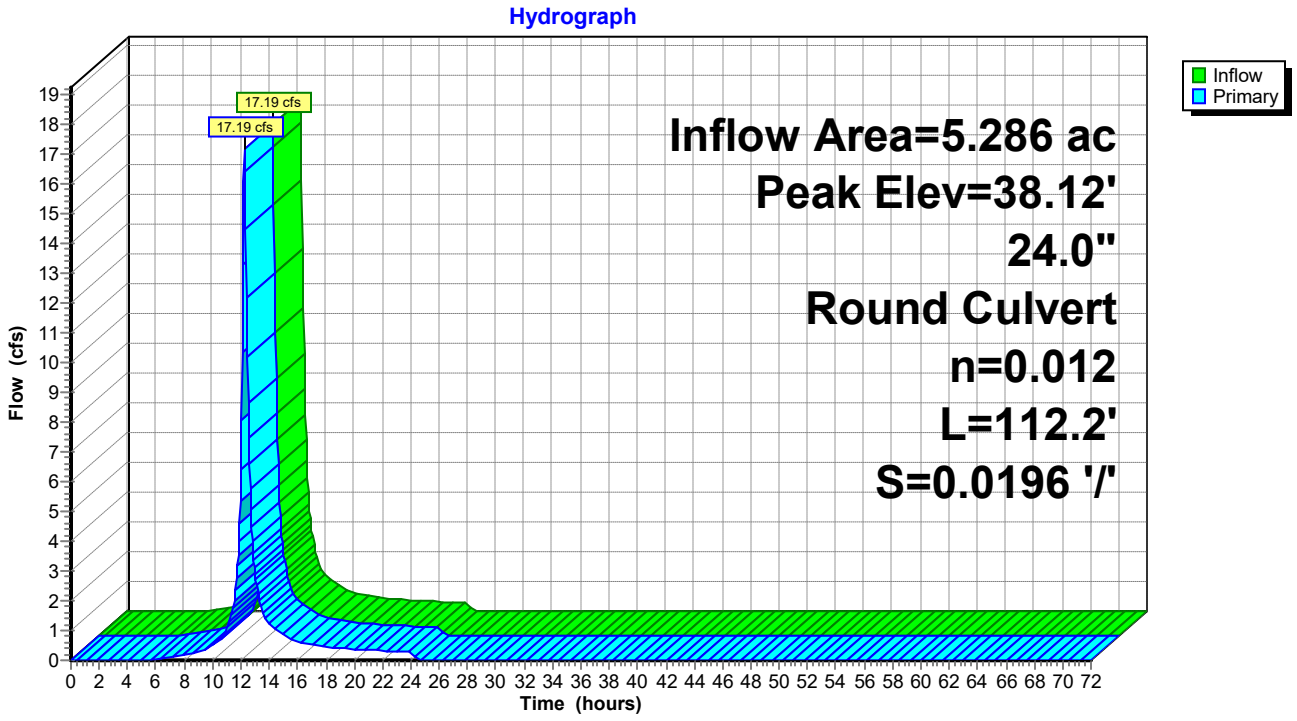
Inflow Area = 5.286 ac, 67.12% Impervious, Inflow Depth = 3.65" for 10-Year event
Inflow = 17.19 cfs @ 12.25 hrs, Volume= 1.609 af
Outflow = 17.19 cfs @ 12.25 hrs, Volume= 1.609 af, Atten= 0%, Lag= 0.0 min
Primary = 17.19 cfs @ 12.25 hrs, Volume= 1.609 af
Routed to Pond SDMH-4 : SDMH-4

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 38.12' @ 12.28 hrs

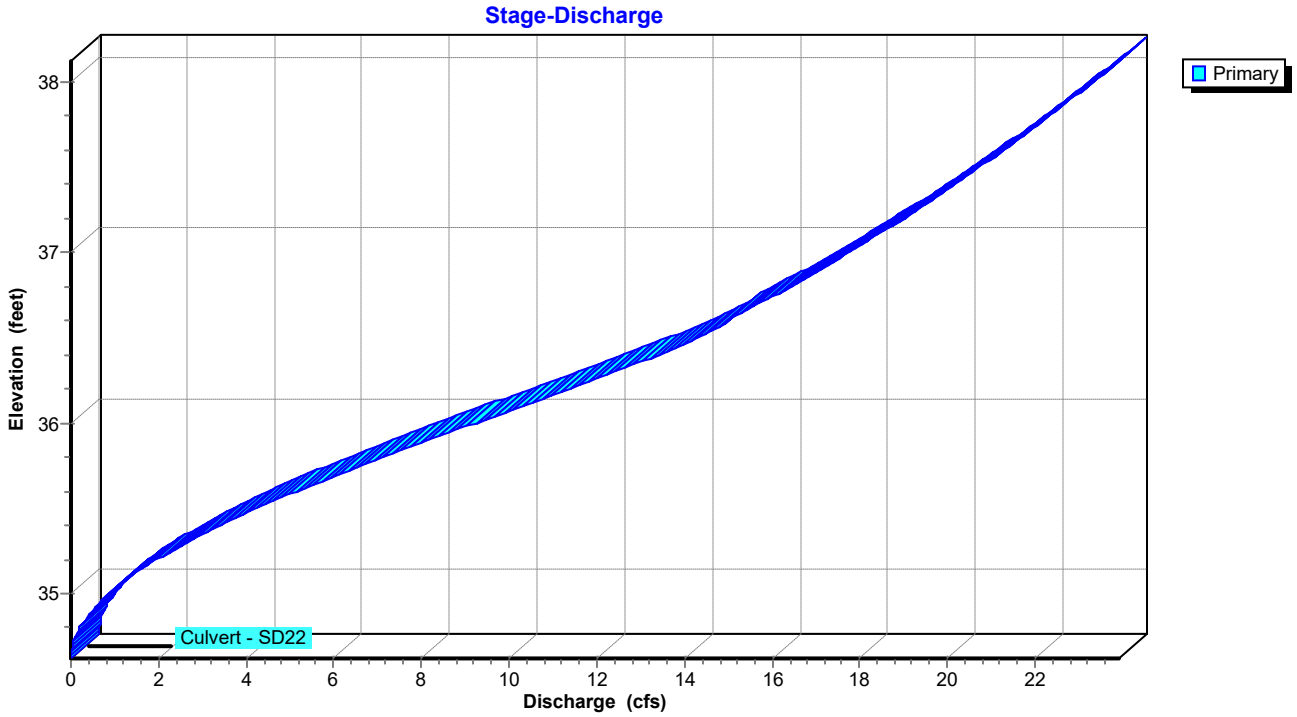
| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 34.62' | **24.0" Round Culvert - SD22**<br>L= 112.2' Box, headwall w/3 square edges, Ke= 0.500<br>Inlet / Outlet Invert= 34.62' / 32.42' S= 0.0196 '/' Cc= 0.900<br>n= 0.012 Corrugated PP, smooth interior, Flow Area= 3.14 sf |

**Primary OutFlow** Max=15.95 cfs @ 12.25 hrs HW=38.01' TW=36.90' (Dynamic Tailwater)
**1=Culvert - SD22** (Inlet Controls 15.95 cfs @ 5.08 fps)

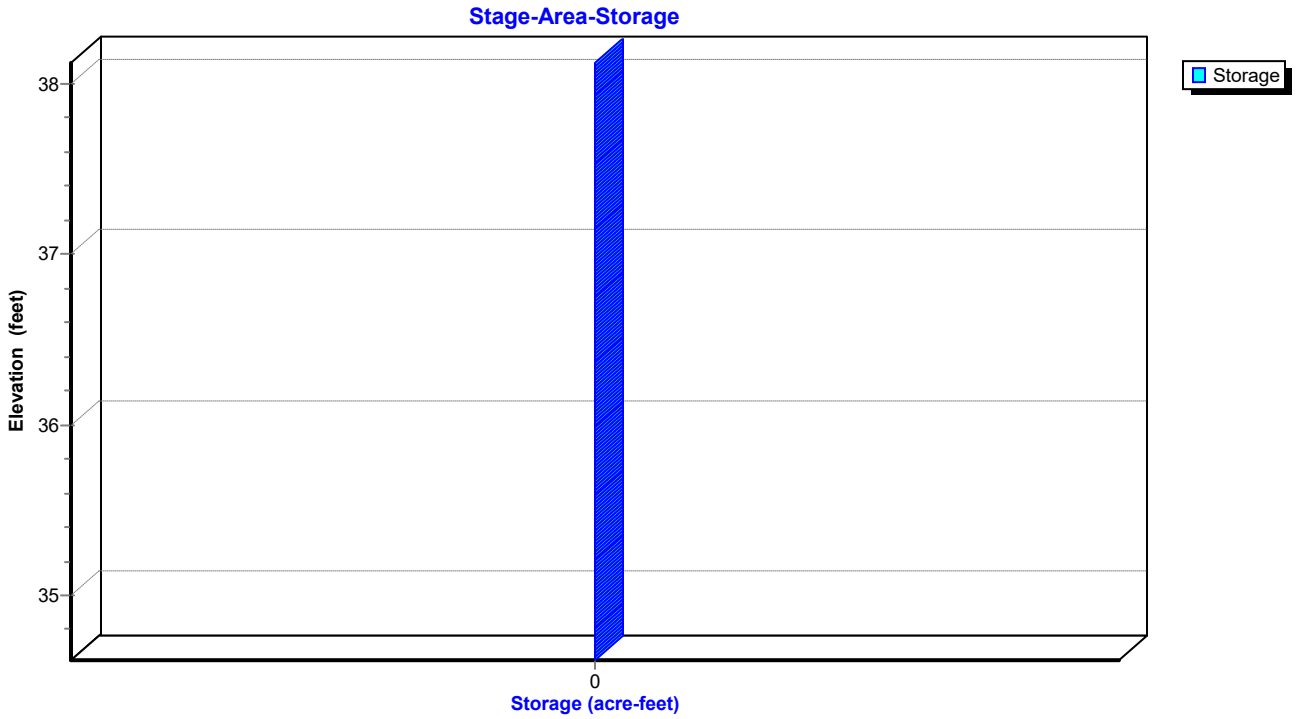
### Pond SDMH-5: SDMH-5



## Pond SDMH-5: SDMH-5




## Pond SDMH-5: SDMH-5



## Summary for Pond SGW: SGW

Inflow Area = 6.996 ac, 67.72% Impervious, Inflow Depth = 3.67" for 10-Year event
Inflow = 20.44 cfs @ 12.25 hrs, Volume= 2.138 af
Outflow = 16.90 cfs @ 12.39 hrs, Volume= 2.139 af, Atten= 17%, Lag= 8.3 min
Primary = 16.90 cfs @ 12.39 hrs, Volume= 2.139 af
Routed to Link PR-SP-1 : PR-SP-1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
Starting Elev= 30.42' Storage= 0 cf
Peak Elev= 33.12' @ 12.39 hrs Surf.Area= 7,010 sf Storage= 13,768 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 19.0 min ( 834.1 - 815.2 )

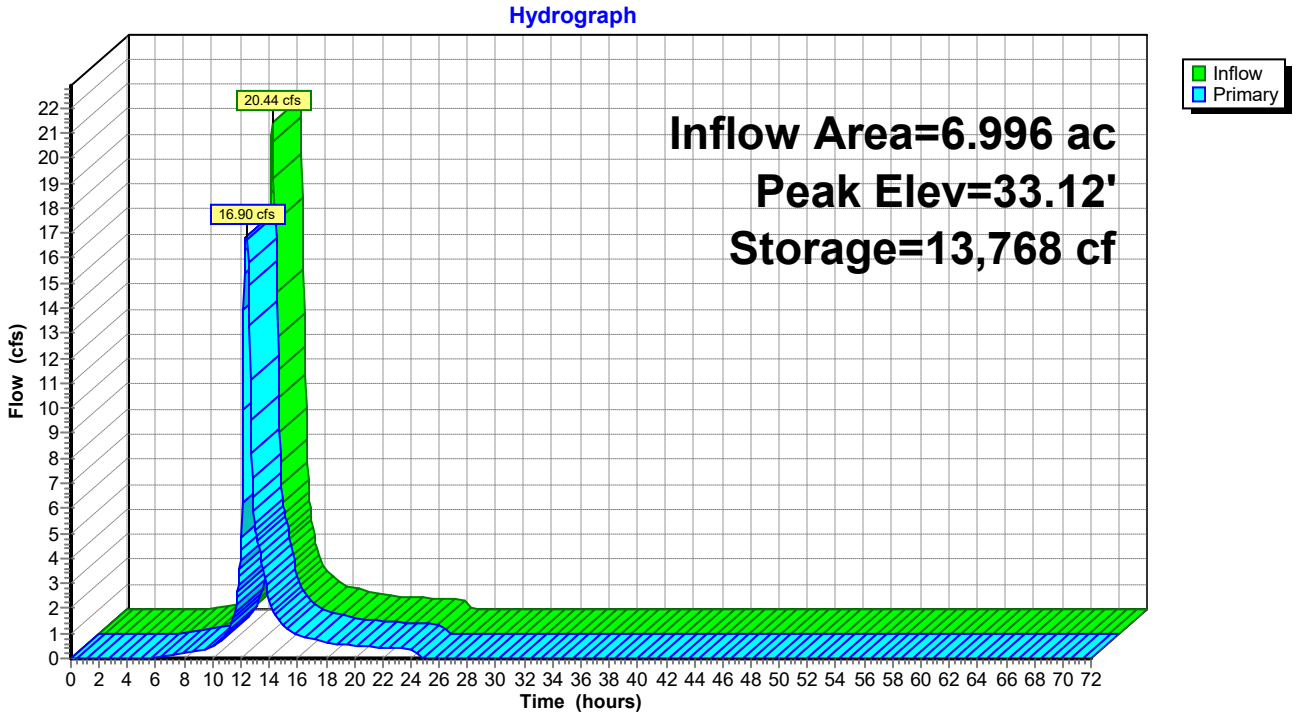
| Volume | Invert | Avail.Storage | Storage Description |
|---|---|---|---|
| #1 | 30.75' | 34,708 cf | **Custom Stage Data (Irregular)** Listed below (Recalc) |

| Elevation (feet) | Surf.Area (sq-ft) | Perim. (feet) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) | Wet.Area (sq-ft) |
|---|---|---|---|---|---|
| 30.75 | 4,692 | 305.3 | 0 | 0 | 4,692 |
| 31.25 | 5,135 | 313.7 | 2,456 | 2,456 | 5,134 |
| 31.75 | 5,608 | 322.3 | 2,685 | 5,141 | 5,597 |
| 32.25 | 6,095 | 330.8 | 2,925 | 8,066 | 6,068 |
| 32.75 | 6,592 | 339.4 | 3,171 | 11,237 | 6,556 |
| 33.25 | 7,157 | 350.0 | 3,436 | 14,673 | 7,163 |
| 33.75 | 7,979 | 388.0 | 3,782 | 18,455 | 9,402 |
| 34.25 | 8,868 | 419.0 | 4,210 | 22,665 | 11,403 |
| 34.75 | 43,702 | 1,798.0 | 12,043 | 34,708 | 254,692 |

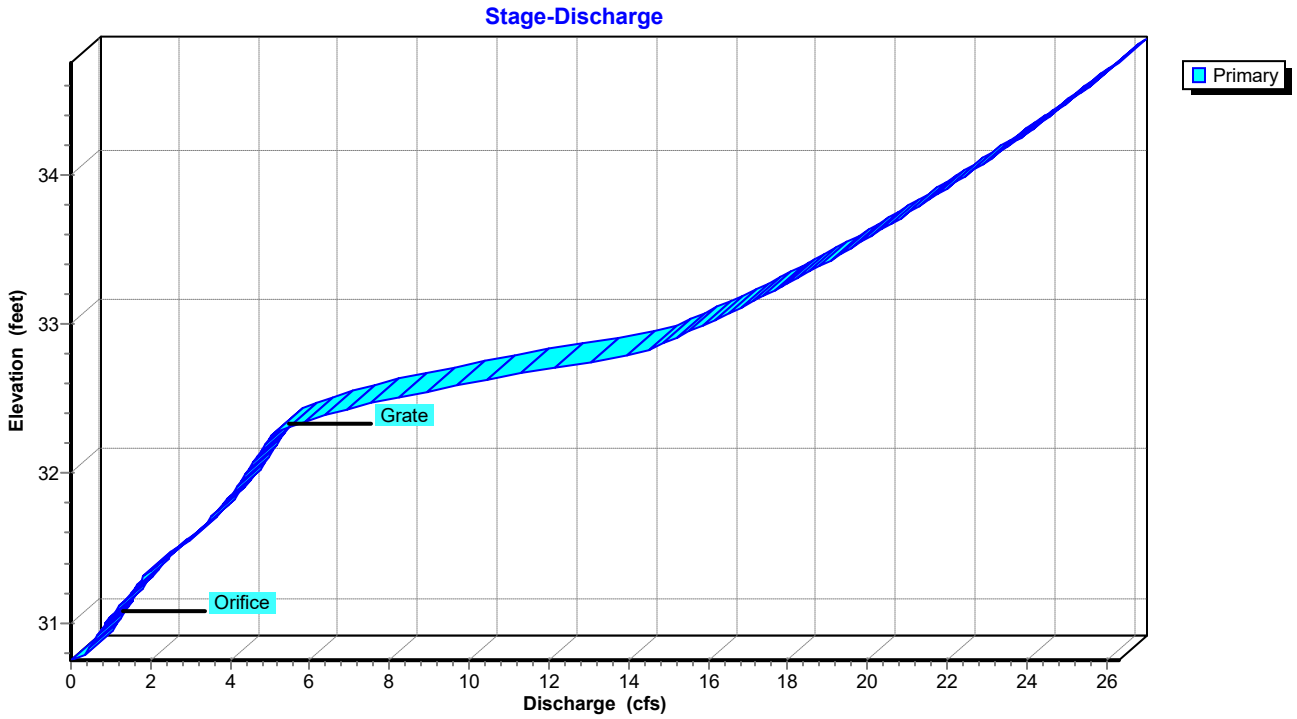
| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 25.70' | **24.0" Round Culvert**<br>L= 42.9' Box, headwall w/3 square edges, Ke= 0.500<br>Inlet / Outlet Invert= 25.70' / 25.50' S= 0.0047 '/' Cc= 0.900<br>n= 0.010 PVC, smooth interior, Flow Area= 3.14 sf |
| #2 | Device 1 | 30.42' | **8.0" Round Collection Pipe X 2.00**<br>L= 35.0' CPP, square edge headwall, Ke= 0.500<br>Inlet / Outlet Invert= 30.42' / 30.42' S= 0.0000 '/' Cc= 0.900<br>n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.35 sf |
| #3 | Device 1 | 32.25' | **18.0" x 18.0" Horiz. Grate** C= 0.600<br>Limited to weir flow at low heads |
| #4 | Primary | 31.00' | **8.0" Vert. Orifice** C= 0.600 Limited to weir flow at low heads |

**Primary OutFlow** Max=16.86 cfs @ 12.39 hrs HW=33.12' TW=0.00' (Dynamic Tailwater)
- **1=Culvert** (Passes 14.61 cfs of 38.32 cfs potential flow)
  - **2=Collection Pipe** (Barrel Controls 4.53 cfs @ 6.49 fps)
  - **3=Grate** (Orifice Controls 10.08 cfs @ 4.48 fps)
- **4=Orifice** (Orifice Controls 2.24 cfs @ 6.43 fps)

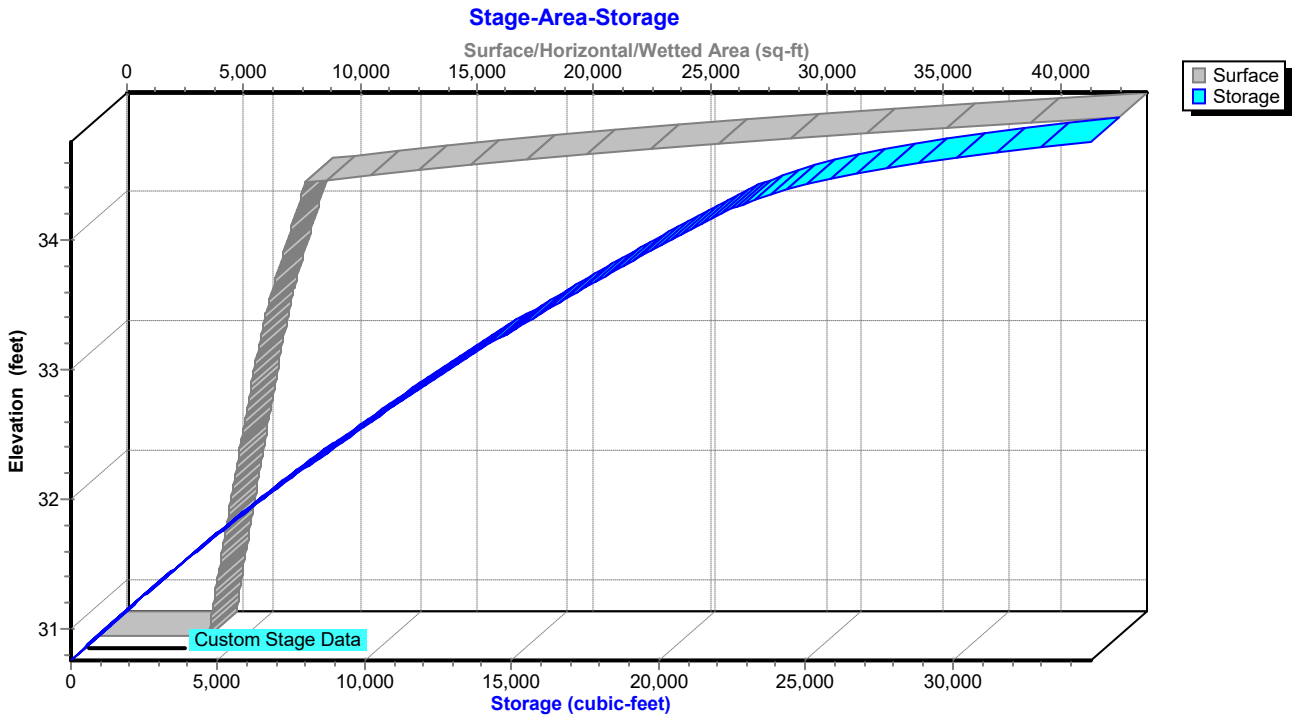
## Pond SGW: SGW




## Pond SGW: SGW



## Pond SGW: SGW


Stage-Area-Storage
Surface/Horizontal/Wetted Area (sq-ft)
0
5,000
10,000
15,000
20,000
25,000
30,000
35,000
40,000
Surface
Storage
Elevation (feet)
34
33
32
31
Custom Stage Data
0
5,000
10,000
15,000
20,000
25,000
30,000
Storage (cubic-feet)

## Summary for Pond YI-1: YI-1

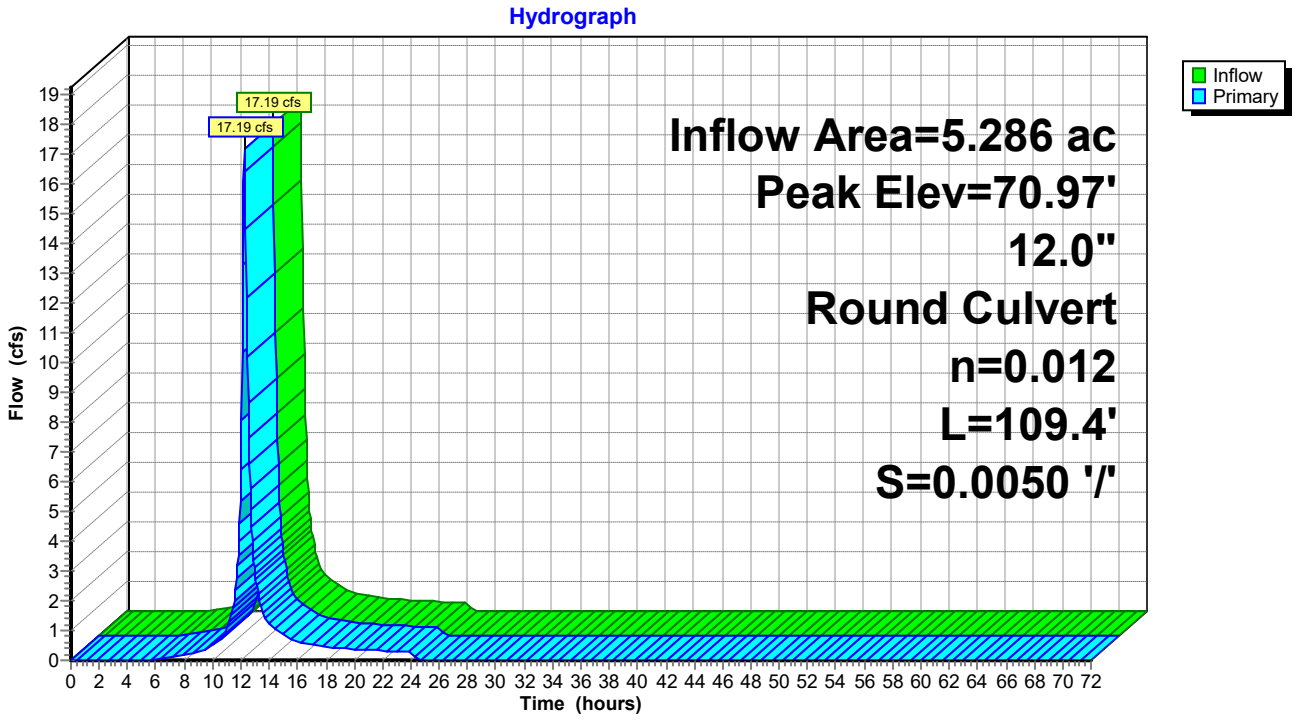
Inflow Area = 5.286 ac, 67.12% Impervious, Inflow Depth = 3.65" for 10-Year event
Inflow = 17.19 cfs @ 12.25 hrs, Volume= 1.609 af
Outflow = 17.19 cfs @ 12.25 hrs, Volume= 1.609 af, Atten= 0%, Lag= 0.0 min
Primary = 17.19 cfs @ 12.25 hrs, Volume= 1.609 af
Routed to Pond SDMH-5 : SDMH-5

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 70.97' @ 12.26 hrs

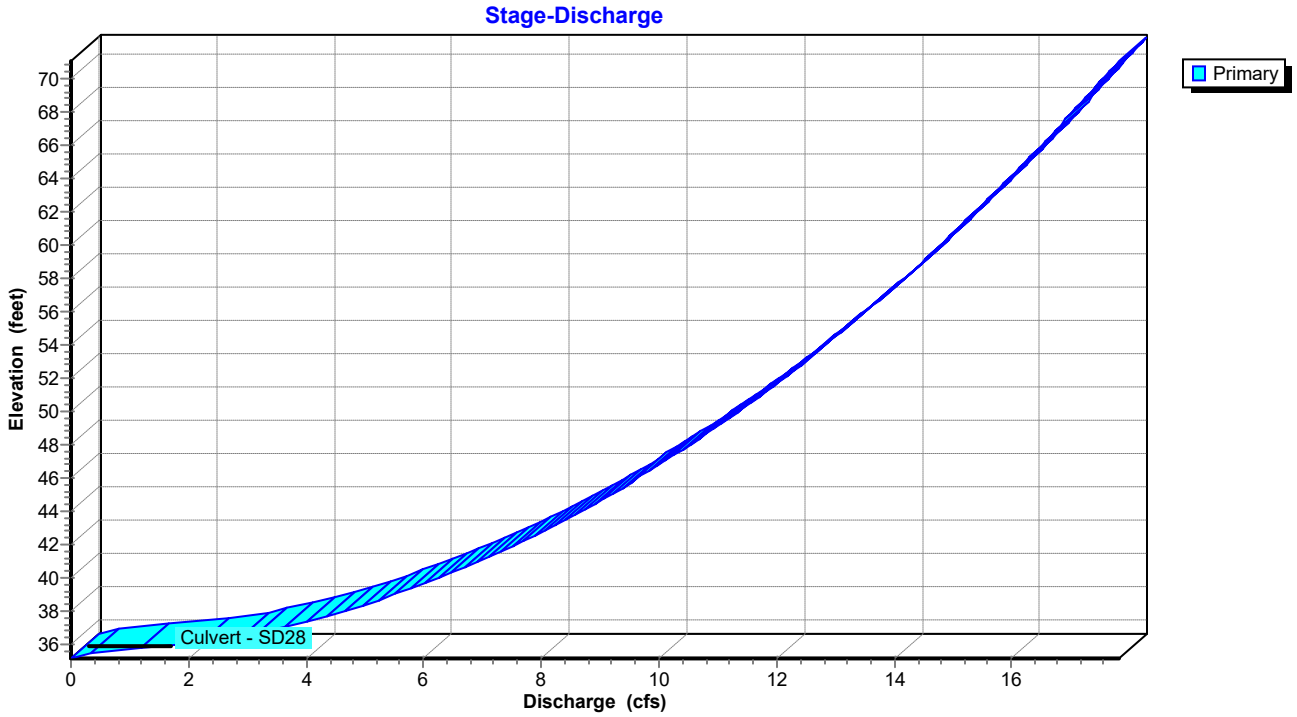
| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 35.16' | **12.0" Round Culvert - SD28**<br>L= 109.4' Box, headwall w/3 square edges, Ke= 0.500<br>Inlet / Outlet Invert= 35.16' / 34.61' S= 0.0050 '/' Cc= 0.900<br>n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf |

**Primary OutFlow** Max=17.10 cfs @ 12.25 hrs HW=70.61' TW=38.01' (Dynamic Tailwater)
**1=Culvert - SD28** (Outlet Controls 17.10 cfs @ 21.77 fps)

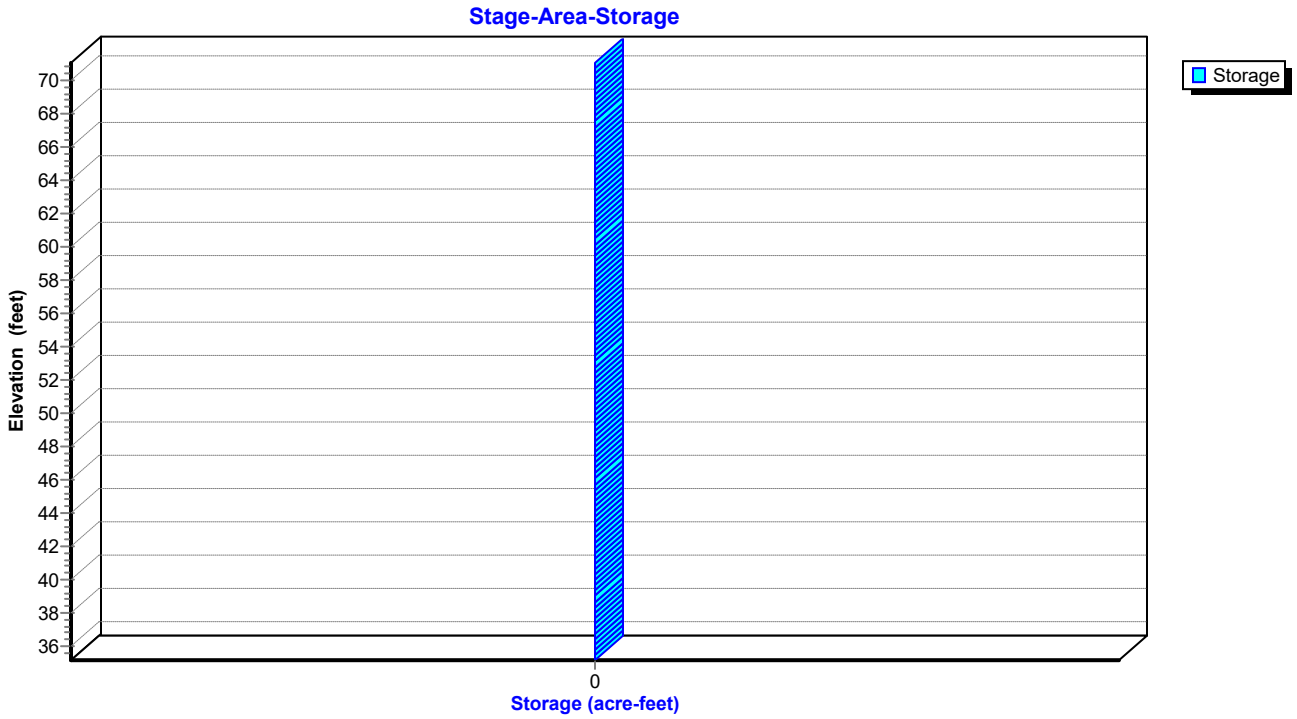
## Pond YI-1: YI-1



## Pond YI-1: YI-1




## Pond YI-1: YI-1



## Summary for Pond YI-2: YI-2

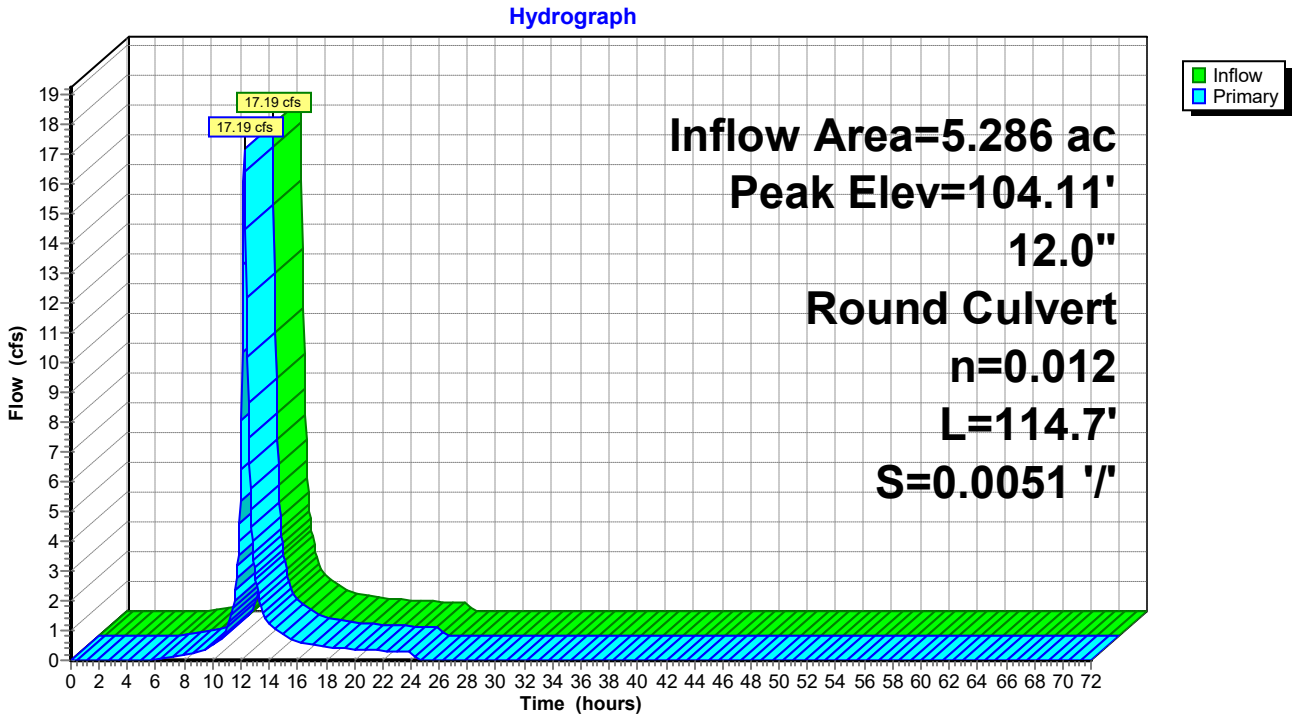
Inflow Area = 5.286 ac, 67.12% Impervious, Inflow Depth = 3.65" for 10-Year event
Inflow = 17.19 cfs @ 12.25 hrs, Volume= 1.609 af
Outflow = 17.19 cfs @ 12.25 hrs, Volume= 1.609 af, Atten= 0%, Lag= 0.0 min
Primary = 17.19 cfs @ 12.25 hrs, Volume= 1.609 af
Routed to Pond YI-1 : YI-1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 104.11' @ 12.26 hrs

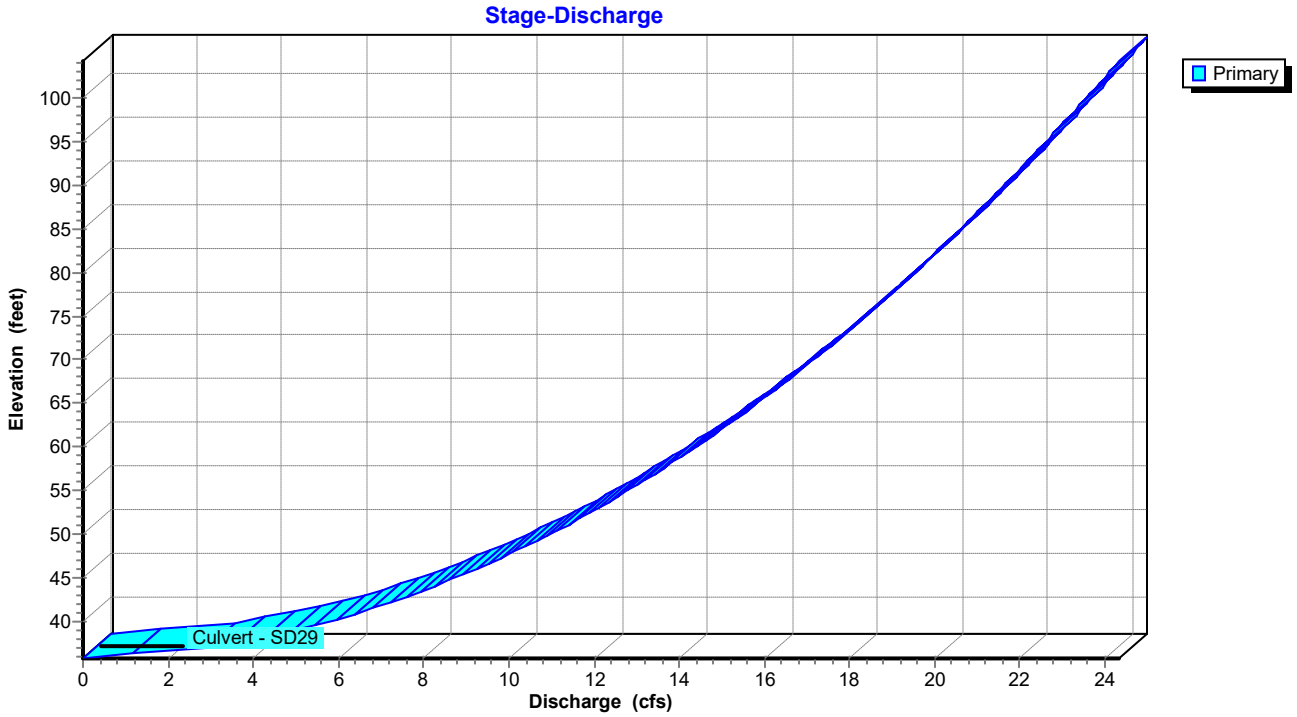
| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 35.74' | **12.0" Round Culvert - SD29**<br>L= 114.7' Box, headwall w/3 square edges, Ke= 0.500<br>Inlet / Outlet Invert= 35.74' / 35.16' S= 0.0051 '/' Cc= 0.900<br>n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf |

**Primary OutFlow** Max=16.91 cfs @ 12.25 hrs HW=103.48' TW=70.61' (Dynamic Tailwater)
**1=Culvert - SD29** (Outlet Controls 16.91 cfs @ 21.53 fps)

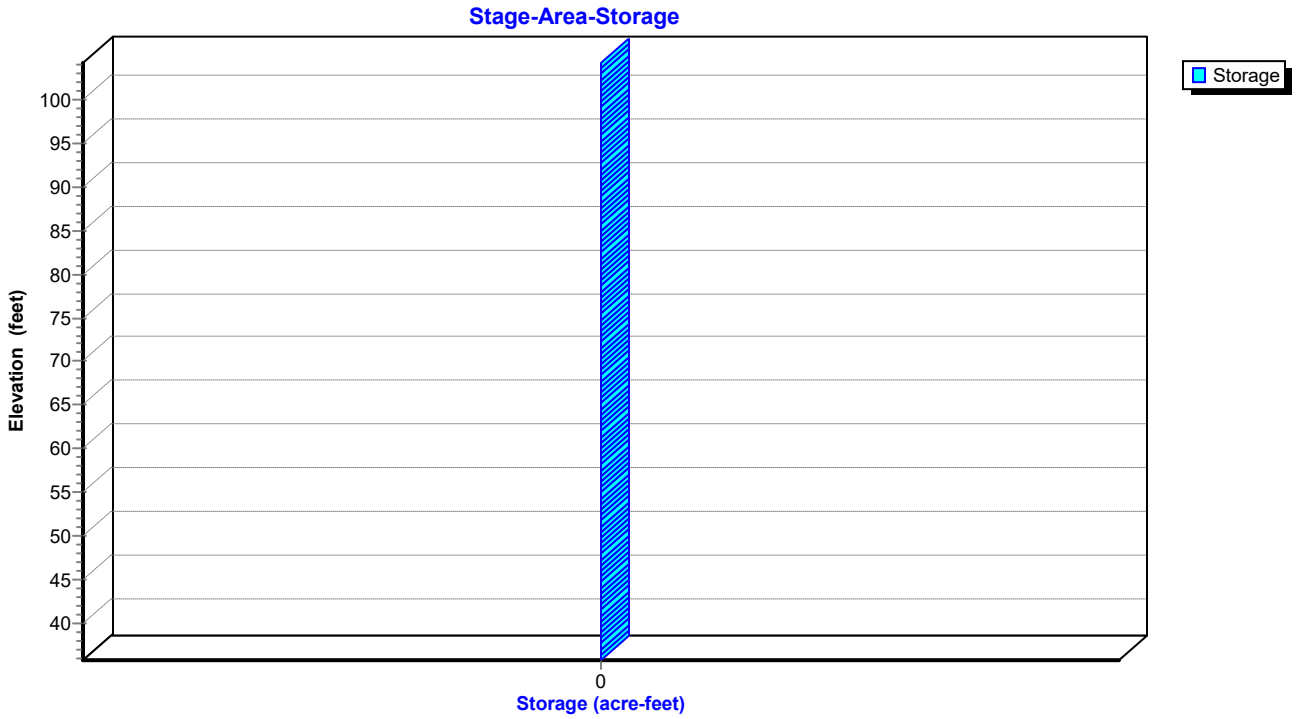
### Pond YI-2: YI-2



## Pond YI-2: YI-2




## Pond YI-2: YI-2

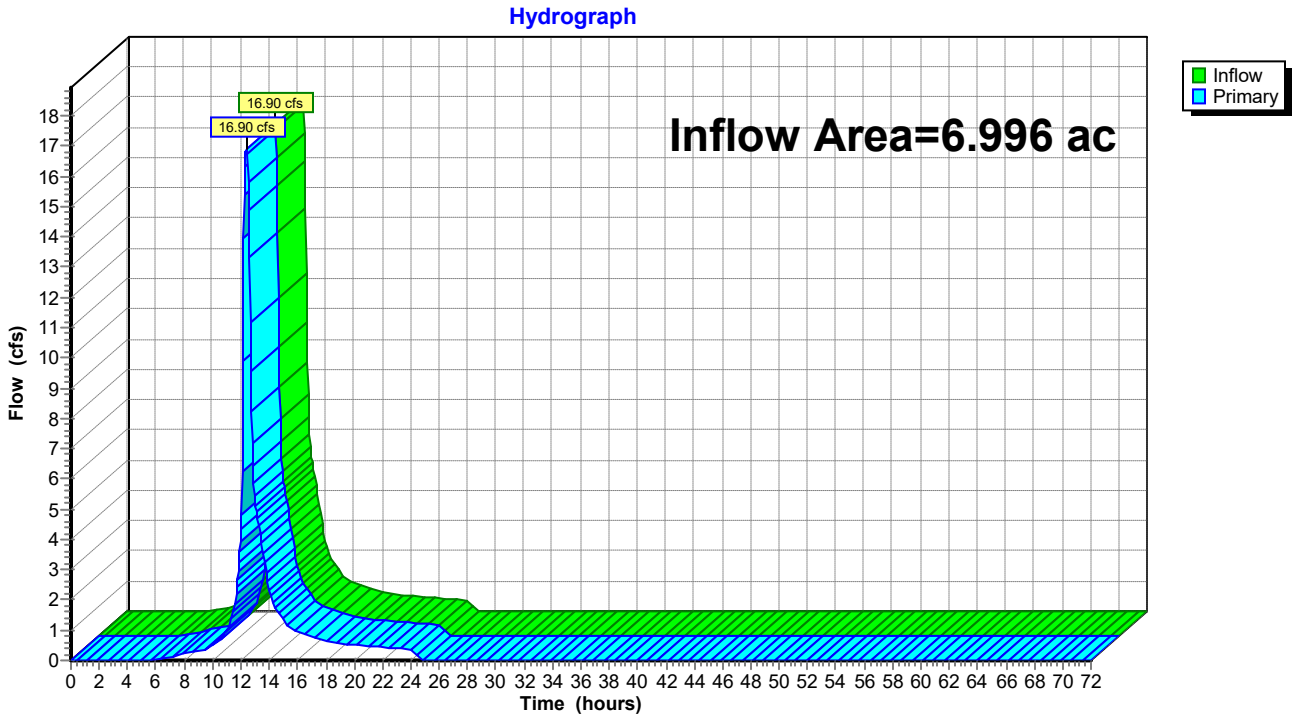


## Summary for Link PR-SP-1: PR-SP-1

Inflow Area = 6.996 ac, 67.72% Impervious, Inflow Depth = 3.67" for 10-Year event
Inflow = 16.90 cfs @ 12.39 hrs, Volume= 2.139 af
Primary = 16.90 cfs @ 12.39 hrs, Volume= 2.139 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

### Link PR-SP-1: PR-SP-1

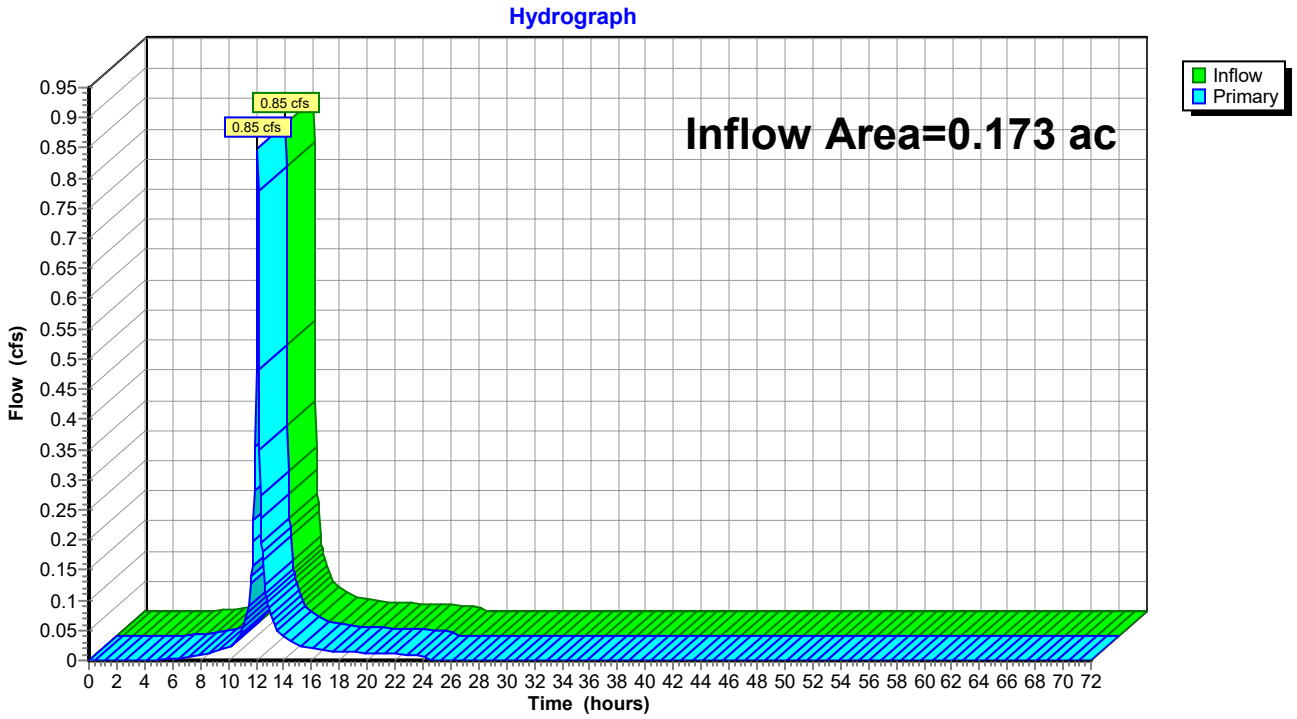


## Summary for Link PR-SP-2: PR-SP-2

Inflow Area = 0.173 ac, 75.24% Impervious, Inflow Depth = 3.96" for 10-Year event
Inflow = 0.85 cfs @ 12.11 hrs, Volume= 0.057 af
Primary = 0.85 cfs @ 12.11 hrs, Volume= 0.057 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

## Link PR-SP-2: PR-SP-2



Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points x 2
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

**Subcatchment PR-DA-1: PR-DA-1** Runoff Area=230,241 sf 67.12% Impervious Runoff Depth=7.28"
Flow Length=114' Tc=17.0 min CN=86 Runoff=33.13 cfs 3.208 af

**Subcatchment PR-DA-2: PR-DA-2** Runoff Area=7,525 sf 75.24% Impervious Runoff Depth=7.65"
Flow Length=258' Tc=5.1 min CN=89 Runoff=1.57 cfs 0.110 af

**Subcatchment PR-DA-3: PR-DA-3** Runoff Area=14,274 sf 71.00% Impervious Runoff Depth=7.41"
Flow Length=81' Tc=10.7 min CN=87 Runoff=2.46 cfs 0.202 af

**Subcatchment PR-DA-4: PR-DA-4** Runoff Area=19,745 sf 65.00% Impervious Runoff Depth=7.16"
Flow Length=101' Tc=11.2 min CN=85 Runoff=3.29 cfs 0.271 af

**Subcatchment PR-DA-5: PR-DA-5** Runoff Area=10,129 sf 65.00% Impervious Runoff Depth=7.16"
Flow Length=101' Tc=11.2 min CN=85 Runoff=1.69 cfs 0.139 af

**Subcatchment PR-DA-6: PR-DA-6** Runoff Area=10,473 sf 80.00% Impervious Runoff Depth=7.89"
Flow Length=45' Tc=3.7 min CN=91 Runoff=2.36 cfs 0.158 af

**Subcatchment PR-DA-7: PR-DA-7** Runoff Area=19,882 sf 70.00% Impervious Runoff Depth=7.41"
Flow Length=107' Tc=4.2 min CN=87 Runoff=4.24 cfs 0.282 af

**Pond CI - 9: CI - 9** Peak Elev=35.97' Inflow=4.55 cfs 0.471 af
12.0" Round Culvert n=0.012 L=58.8' S=0.0051 '/' Outflow=4.55 cfs 0.471 af

**Pond CI-10: CI-10** Peak Elev=36.15' Inflow=1.90 cfs 0.201 af
12.0" Round Culvert n=0.012 L=75.2' S=0.0049 '/' Outflow=1.90 cfs 0.201 af

**Pond CI-11: CI-11** Peak Elev=36.39' Inflow=1.90 cfs 0.201 af
12.0" Round Culvert n=0.012 L=76.0' S=0.0050 '/' Outflow=1.90 cfs 0.201 af

**Pond CI-12: CI-12** Peak Elev=36.50' Inflow=1.90 cfs 0.201 af
12.0" Round Culvert n=0.012 L=56.6' S=0.0051 '/' Outflow=1.90 cfs 0.201 af

**Pond MBR-1: MBR-1** Peak Elev=36.41' Storage=881 cf Inflow=2.46 cfs 0.202 af
Outflow=1.90 cfs 0.201 af

**Pond MBR-2: MBR-2** Peak Elev=37.00' Storage=1,256 cf Inflow=3.29 cfs 0.271 af
Outflow=2.66 cfs 0.271 af

**Pond MBR-3: MBR-3** Peak Elev=35.88' Storage=477 cf Inflow=1.69 cfs 0.139 af
Outflow=1.27 cfs 0.139 af

**Pond MBR-4: MBR-4** Peak Elev=37.71' Storage=2,141 cf Inflow=2.36 cfs 0.158 af
Outflow=3.35 cfs 0.158 af

**Pond MBR-5: MBR-5** Peak Elev=49.97' Storage=2,453 cf Inflow=4.24 cfs 0.282 af
Outflow=3.52 cfs 0.280 af

**Pond SDMH-3: SDMH-3** Peak Elev=45.15' Inflow=34.71 cfs 3.652 af
Outflow=34.71 cfs 3.652 af

**Pond SDMH-4: SDMH-4** Peak Elev=50.03' Inflow=34.71 cfs 3.489 af
24.0" Round Culvert n=0.012 L=60.3' S=0.0211 '/' Outflow=34.71 cfs 3.489 af

**Pond SDMH-5: SDMH-5** Peak Elev=54.40' Inflow=33.13 cfs 3.208 af
24.0" Round Culvert n=0.012 L=112.2' S=0.0196 '/' Outflow=33.13 cfs 3.208 af

**Pond SGW: SGW** Peak Elev=34.51' Storage=26,769 cf Inflow=40.43 cfs 4.262 af
Outflow=25.17 cfs 4.262 af

**Pond YI-1: YI-1** Peak Elev=175.71' Inflow=33.13 cfs 3.208 af
12.0" Round Culvert n=0.012 L=109.4' S=0.0050 '/' Outflow=33.13 cfs 3.208 af

**Pond YI-2: YI-2** Peak Elev=297.70' Inflow=33.13 cfs 3.208 af
12.0" Round Culvert n=0.012 L=114.7' S=0.0051 '/' Outflow=33.13 cfs 3.208 af

**Link PR-SP-1: PR-SP-1** Inflow=25.17 cfs 4.262 af
Primary=25.17 cfs 4.262 af

**Link PR-SP-2: PR-SP-2** Inflow=1.57 cfs 0.110 af
Primary=1.57 cfs 0.110 af

**Total Runoff Area = 7.169 ac Runoff Volume = 4.370 af Average Runoff Depth = 7.32"**
**32.10% Pervious = 2.301 ac 67.90% Impervious = 4.868 ac**

## Summary for Subcatchment PR-DA-1: PR-DA-1

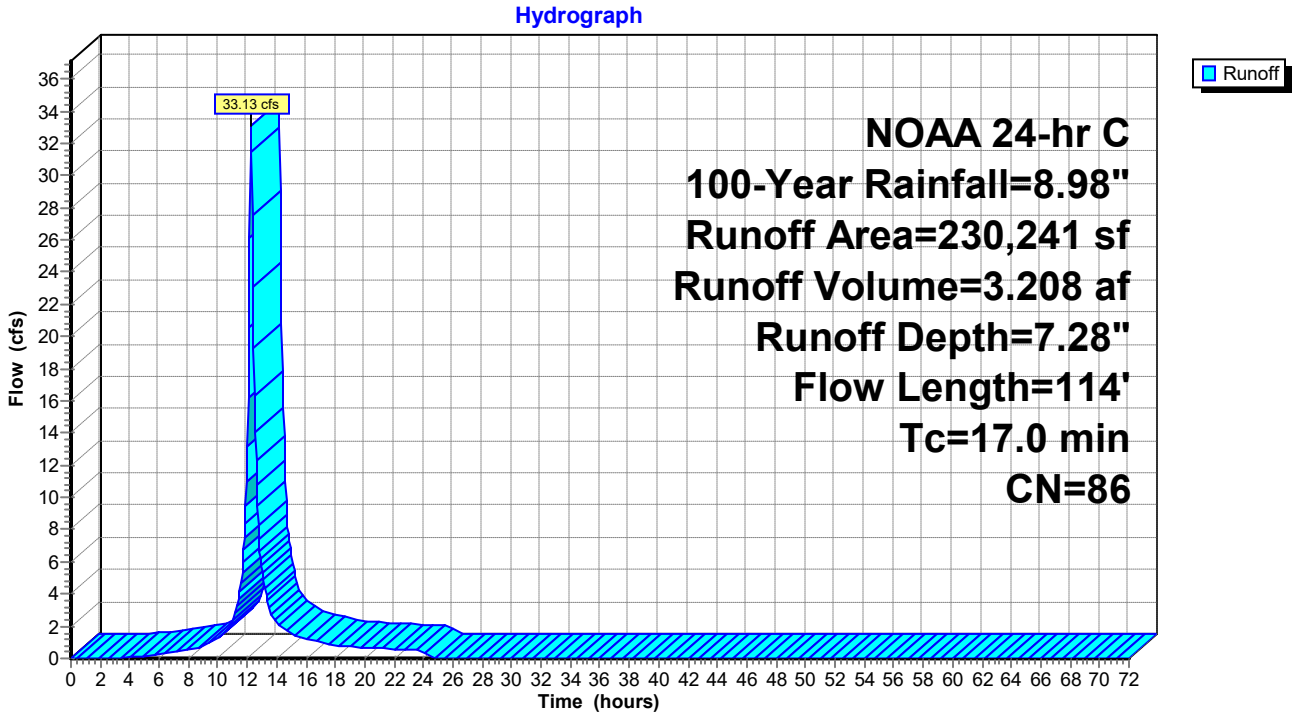
Runoff = 33.13 cfs @ 12.25 hrs, Volume= 3.208 af, Depth= 7.28"
Routed to Pond YI-2 : YI-2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C 100-Year Rainfall=8.98"

| Area (sf) | CN | Description |
|---|---|---|
| 65,361 | 61 | >75% Grass cover, Good, HSG B |
| 146,431 | 98 | Unconnected pavement, HSG B |
| 10,353 | 74 | >75% Grass cover, Good, HSG C |
| 8,096 | 98 | Unconnected pavement, HSG C |
| 230,241 | 86 | Weighted Average |
| 75,714 | | 32.88% Pervious Area |
| 154,527 | | 67.12% Impervious Area |
| 154,527 | | 100.00% Unconnected |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 2.8 | 10 | 0.0110 | 0.06 | | **Sheet Flow, Grassed Sheet Flow**<br>Grass: Dense n= 0.240 P2= 3.33" |
| 0.1 | 5 | 0.0110 | 0.61 | | **Sheet Flow, Concreted Sheet Flow**<br>Smooth surfaces n= 0.011 P2= 3.33" |
| 13.7 | 85 | 0.0153 | 0.10 | | **Sheet Flow, Grassed Sheet Flow**<br>Grass: Dense n= 0.240 P2= 3.33" |
| 0.4 | 14 | 0.0015 | 0.58 | | **Shallow Concentrated Flow, Grassed SCF**<br>Grassed Waterway Kv= 15.0 fps |
| 17.0 | 114 | Total | | | |

## Subcatchment PR-DA-1: PR-DA-1



## Summary for Subcatchment PR-DA-2: PR-DA-2

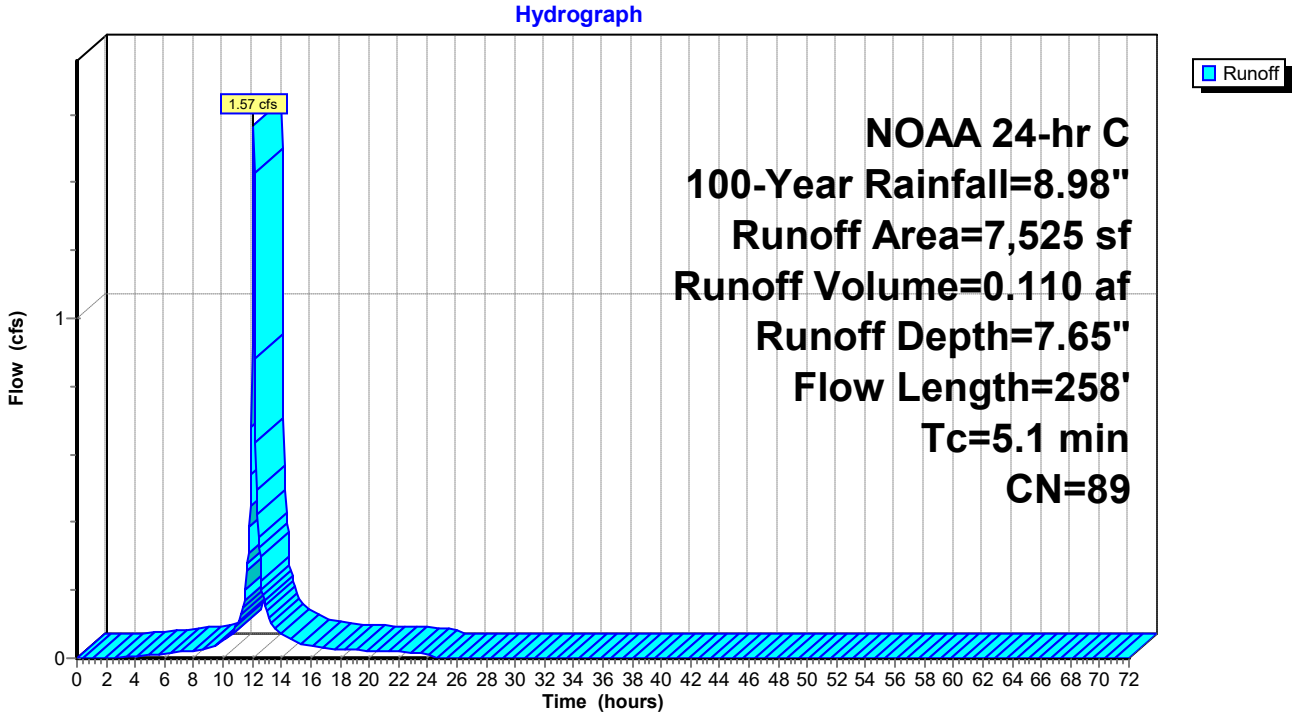
Runoff = 1.57 cfs @ 12.11 hrs, Volume= 0.110 af, Depth= 7.65"
Routed to Link PR-SP-2 : PR-SP-2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C 100-Year Rainfall=8.98"

| Area (sf) | CN | Description |
|---|---|---|
| 1,863 | 61 | >75% Grass cover, Good, HSG B |
| 5,662 | 98 | Unconnected pavement, HSG B |
| 7,525 | 89 | Weighted Average |
| 1,863 | | 24.76% Pervious Area |
| 5,662 | | 75.24% Impervious Area |
| 5,662 | | 100.00% Unconnected |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 0.2 | 13 | 0.0375 | 1.20 | | **Sheet Flow, Concreted Sheet Flow** Smooth surfaces n= 0.011 P2= 3.33" |
| 4.9 | 245 | 0.0021 | 0.82 | 0.08 | **Channel Flow, Concreted Channeled Flow** Area= 0.1 sf Perim= 1.6' r= 0.06' n= 0.013 Concrete, trowel finish |
| 5.1 | 258 | Total | | | |

## Subcatchment PR-DA-2: PR-DA-2



## Summary for Subcatchment PR-DA-3: PR-DA-3

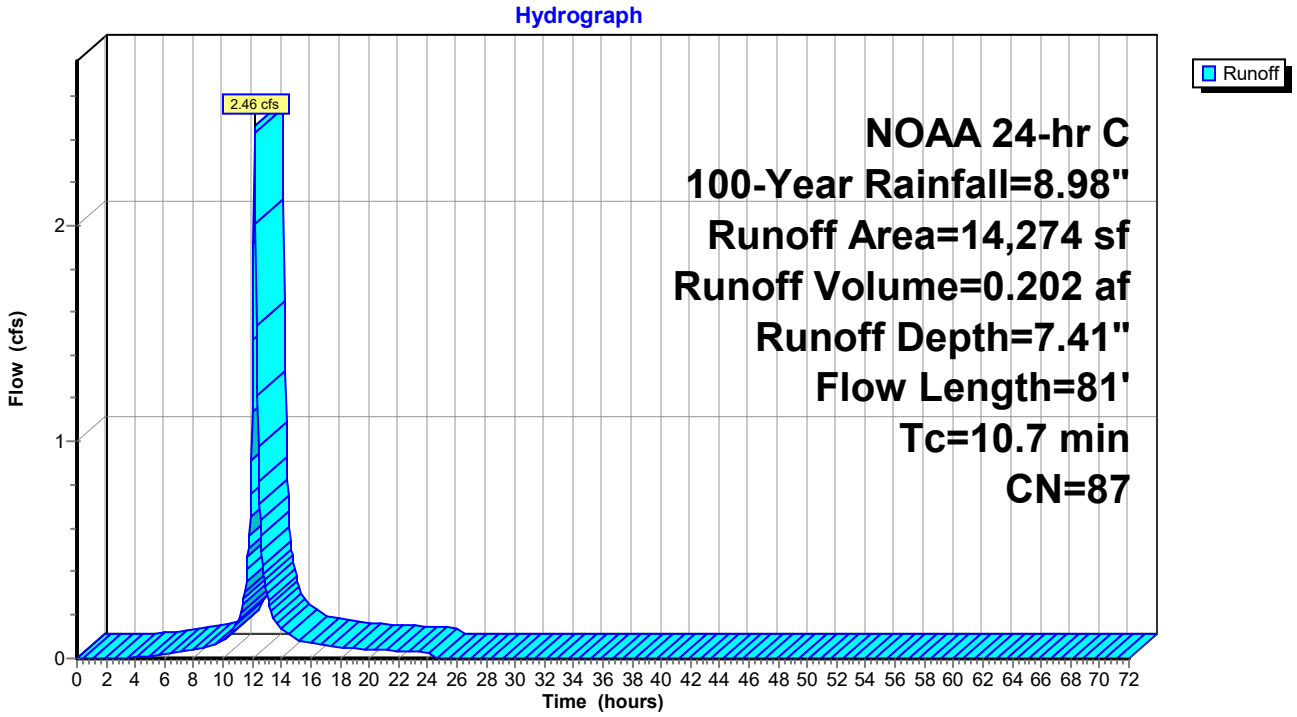
Runoff = 2.46 cfs @ 12.18 hrs, Volume= 0.202 af, Depth= 7.41"
Routed to Pond MBR-1 : MBR-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C 100-Year Rainfall=8.98"

| Area (sf) | CN | Description |
|---|---|---|
| 4,139 | 61 | >75% Grass cover, Good, HSG B |
| 10,135 | 98 | Unconnected pavement, HSG B |
| 14,274 | 87 | Weighted Average |
| 4,139 | | 29.00% Pervious Area |
| 10,135 | | 71.00% Impervious Area |
| 10,135 | | 100.00% Unconnected |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 1.3 | 5 | 0.0200 | 0.07 | | **Sheet Flow, grassed sheet flow** Grass: Dense n= 0.240 P2= 3.33" |
| 0.1 | 5 | 0.0200 | 0.77 | | **Sheet Flow, concrete** Smooth surfaces n= 0.011 P2= 3.33" |
| 4.0 | 18 | 0.0150 | 0.08 | | **Sheet Flow, grass** Grass: Dense n= 0.240 P2= 3.33" |
| 0.5 | 30 | 0.0150 | 0.98 | | **Sheet Flow, paved** Smooth surfaces n= 0.011 P2= 3.33" |
| 4.8 | 23 | 0.0150 | 0.08 | | **Sheet Flow, grass** Grass: Dense n= 0.240 P2= 3.33" |
| 10.7 | 81 | Total | | | |

## Subcatchment PR-DA-3: PR-DA-3



## Summary for Subcatchment PR-DA-4: PR-DA-4

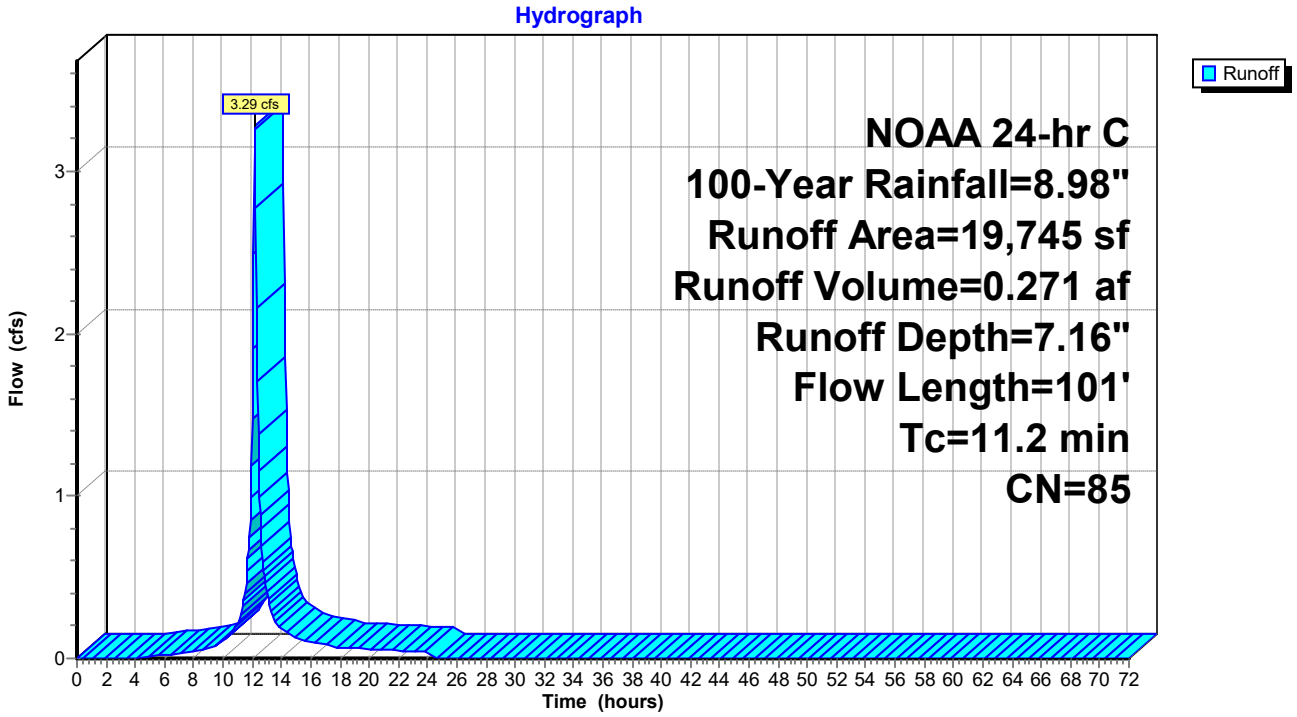
Runoff = 3.29 cfs @ 12.19 hrs, Volume= 0.271 af, Depth= 7.16"
Routed to Pond MBR-2 : MBR-2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C 100-Year Rainfall=8.98"

| Area (sf) | CN | Description |
|---|---|---|
| 6,911 | 61 | >75% Grass cover, Good, HSG B |
| 12,834 | 98 | Unconnected pavement, HSG B |
| 19,745 | 85 | Weighted Average |
| 6,911 | | 35.00% Pervious Area |
| 12,834 | | 65.00% Impervious Area |
| 12,834 | | 100.00% Unconnected |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 5.2 | 29 | 0.0200 | 0.09 | | **Sheet Flow, grassed** Grass: Dense n= 0.240 P2= 3.33" |
| 0.1 | 5 | 0.0100 | 0.58 | | **Sheet Flow, concrete** Smooth surfaces n= 0.011 P2= 3.33" |
| 4.7 | 18 | 0.0100 | 0.06 | | **Sheet Flow, grass** Grass: Dense n= 0.240 P2= 3.33" |
| 0.7 | 43 | 0.0150 | 1.06 | | **Sheet Flow, paved** Smooth surfaces n= 0.011 P2= 3.33" |
| 0.5 | 6 | 0.3300 | 0.21 | | **Sheet Flow, grass** Grass: Dense n= 0.240 P2= 3.33" |
| 11.2 | 101 | Total | | | |

## Subcatchment PR-DA-4: PR-DA-4



## Summary for Subcatchment PR-DA-5: PR-DA-5

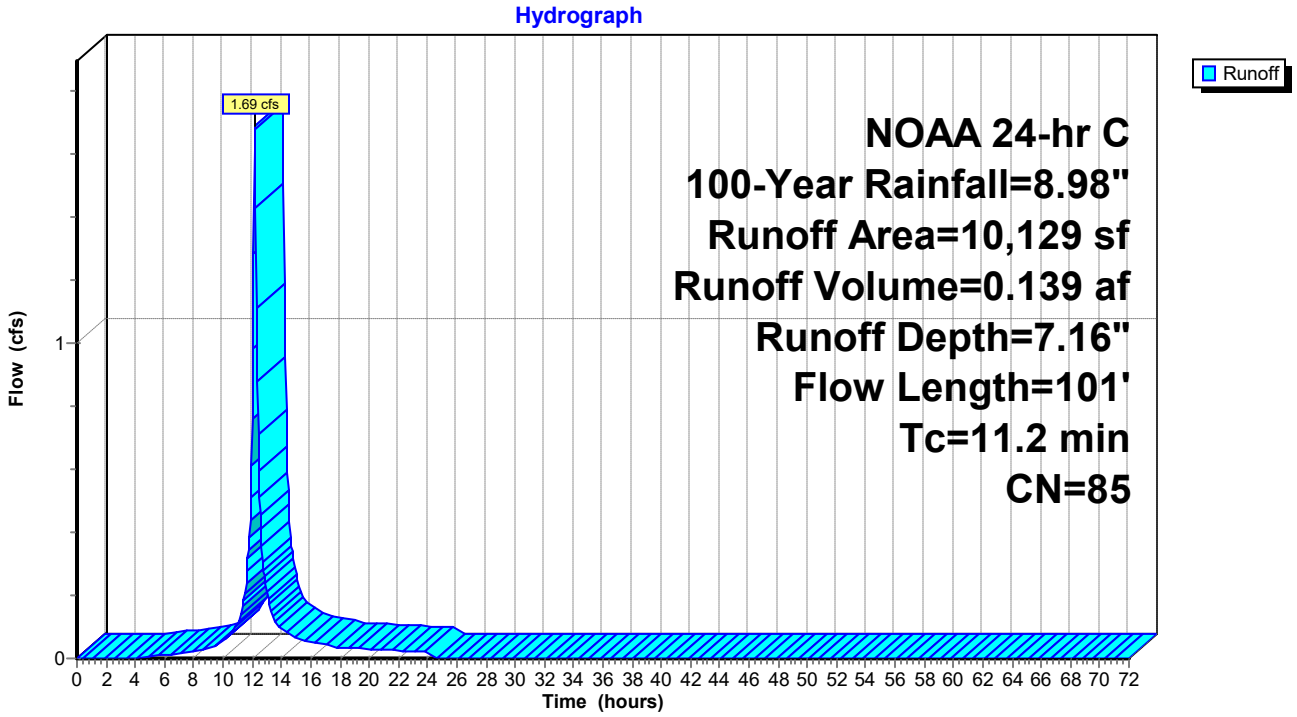
Runoff = 1.69 cfs @ 12.19 hrs, Volume= 0.139 af, Depth= 7.16"
Routed to Pond MBR-3 : MBR-3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C 100-Year Rainfall=8.98"

| Area (sf) | CN | Description |
|---|---|---|
| 3,545 | 61 | >75% Grass cover, Good, HSG B |
| 6,584 | 98 | Unconnected pavement, HSG B |
| 10,129 | 85 | Weighted Average |
| 3,545 | | 35.00% Pervious Area |
| 6,584 | | 65.00% Impervious Area |
| 6,584 | | 100.00% Unconnected |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 5.2 | 29 | 0.0200 | 0.09 | | **Sheet Flow, GRASS** Grass: Dense n= 0.240 P2= 3.33" |
| 0.1 | 5 | 0.0100 | 0.58 | | **Sheet Flow, Concrete** Smooth surfaces n= 0.011 P2= 3.33" |
| 4.7 | 18 | 0.0100 | 0.06 | | **Sheet Flow, Grass** Grass: Dense n= 0.240 P2= 3.33" |
| 0.7 | 43 | 0.0150 | 1.06 | | **Sheet Flow, Paved** Smooth surfaces n= 0.011 P2= 3.33" |
| 0.5 | 6 | 0.3300 | 0.21 | | **Sheet Flow, Grassed** Grass: Dense n= 0.240 P2= 3.33" |
| 11.2 | 101 | Total | | | |

## Subcatchment PR-DA-5: PR-DA-5



## Summary for Subcatchment PR-DA-6: PR-DA-6

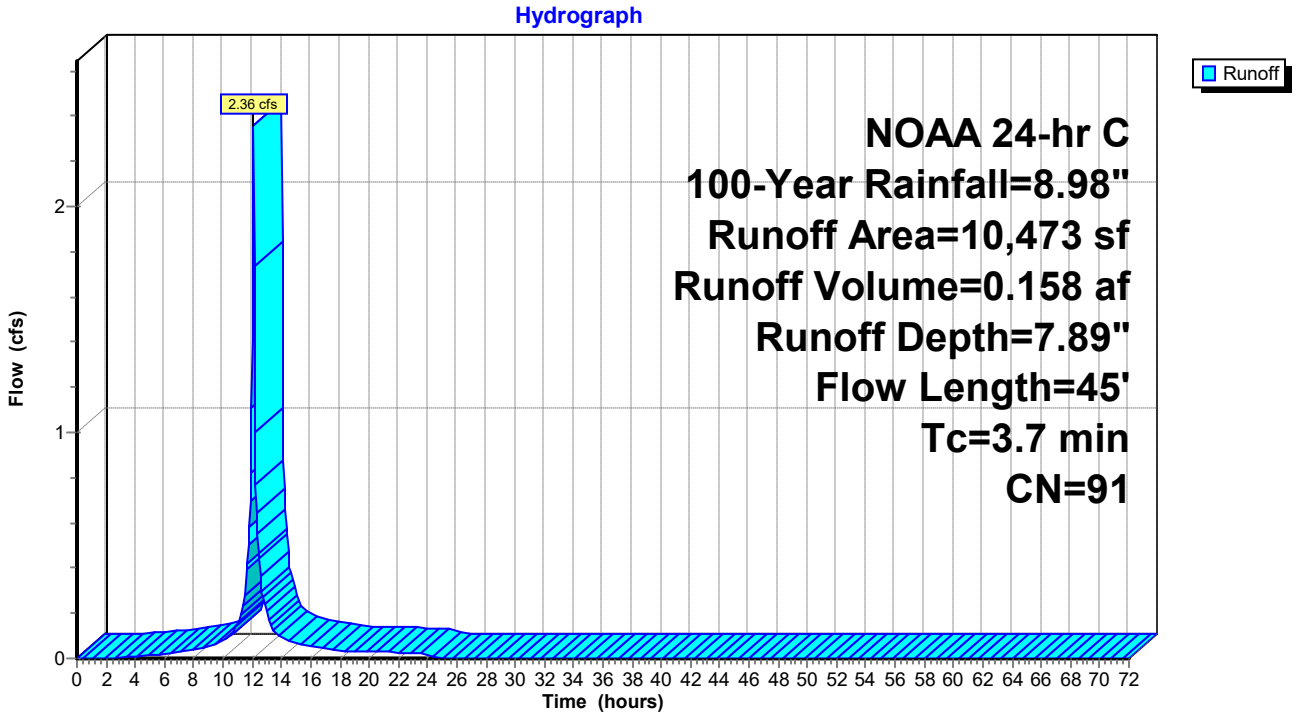
Runoff = 2.36 cfs @ 12.10 hrs, Volume= 0.158 af, Depth= 7.89"
Routed to Pond MBR-4 : MBR-4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C 100-Year Rainfall=8.98"

| Area (sf) | CN | Description |
|---|---|---|
| 2,095 | 61 | >75% Grass cover, Good, HSG B |
| 8,378 | 98 | Unconnected pavement, HSG B |
| 10,473 | 91 | Weighted Average |
| 2,095 | | 20.00% Pervious Area |
| 8,378 | | 80.00% Impervious Area |
| 8,378 | | 100.00% Unconnected |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 1.4 | 5 | 0.0150 | 0.06 | | **Sheet Flow, grassed** Grass: Dense n= 0.240 P2= 3.33" |
| 0.1 | 5 | 0.0090 | 0.56 | | **Sheet Flow, Concrete** Smooth surfaces n= 0.011 P2= 3.33" |
| 1.4 | 5 | 0.0150 | 0.06 | | **Sheet Flow, grassed** Grass: Dense n= 0.240 P2= 3.33" |
| 0.3 | 24 | 0.0287 | 1.22 | | **Sheet Flow, Paved** Smooth surfaces n= 0.011 P2= 3.33" |
| 0.5 | 6 | 0.3300 | 0.21 | | **Sheet Flow, Grassed** Grass: Dense n= 0.240 P2= 3.33" |
| 3.7 | 45 | Total | | | |

## Subcatchment PR-DA-6: PR-DA-6



## Summary for Subcatchment PR-DA-7: PR-DA-7

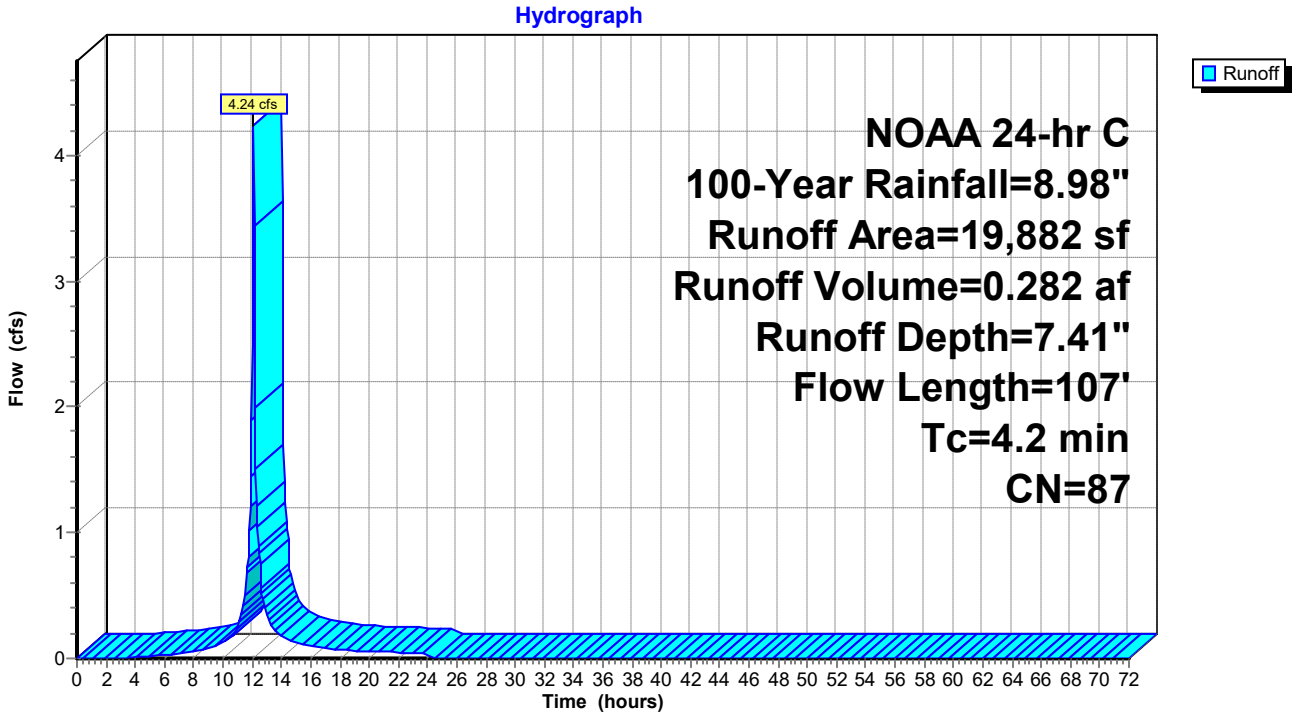
Runoff = 4.24 cfs @ 12.10 hrs, Volume= 0.282 af, Depth= 7.41"
Routed to Pond MBR-5 : MBR-5

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C 100-Year Rainfall=8.98"

| Area (sf) | CN | Description |
|---|---|---|
| 5,965 | 61 | >75% Grass cover, Good, HSG B |
| 13,917 | 98 | Unconnected pavement, HSG B |
| 19,882 | 87 | Weighted Average |
| 5,965 | | 30.00% Pervious Area |
| 13,917 | | 70.00% Impervious Area |
| 13,917 | | 100.00% Unconnected |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 3.1 | 10 | 0.0090 | 0.05 | | **Sheet Flow, Grassed**<br>Grass: Dense n= 0.240 P2= 3.33" |
| 0.2 | 6 | 0.0090 | 0.58 | | **Sheet Flow, Concrete**<br>Smooth surfaces n= 0.011 P2= 3.33" |
| 0.7 | 64 | 0.0296 | 1.50 | | **Sheet Flow, Paved**<br>Smooth surfaces n= 0.011 P2= 3.33" |
| 0.2 | 27 | 0.0200 | 2.55 | 0.25 | **Channel Flow, Concrete channel**<br>Area= 0.1 sf Perim= 1.6' r= 0.06'<br>n= 0.013 Concrete, trowel finish |
| 4.2 | 107 | Total | | | |

## Subcatchment PR-DA-7: PR-DA-7



## Summary for Pond CI - 9: CI - 9

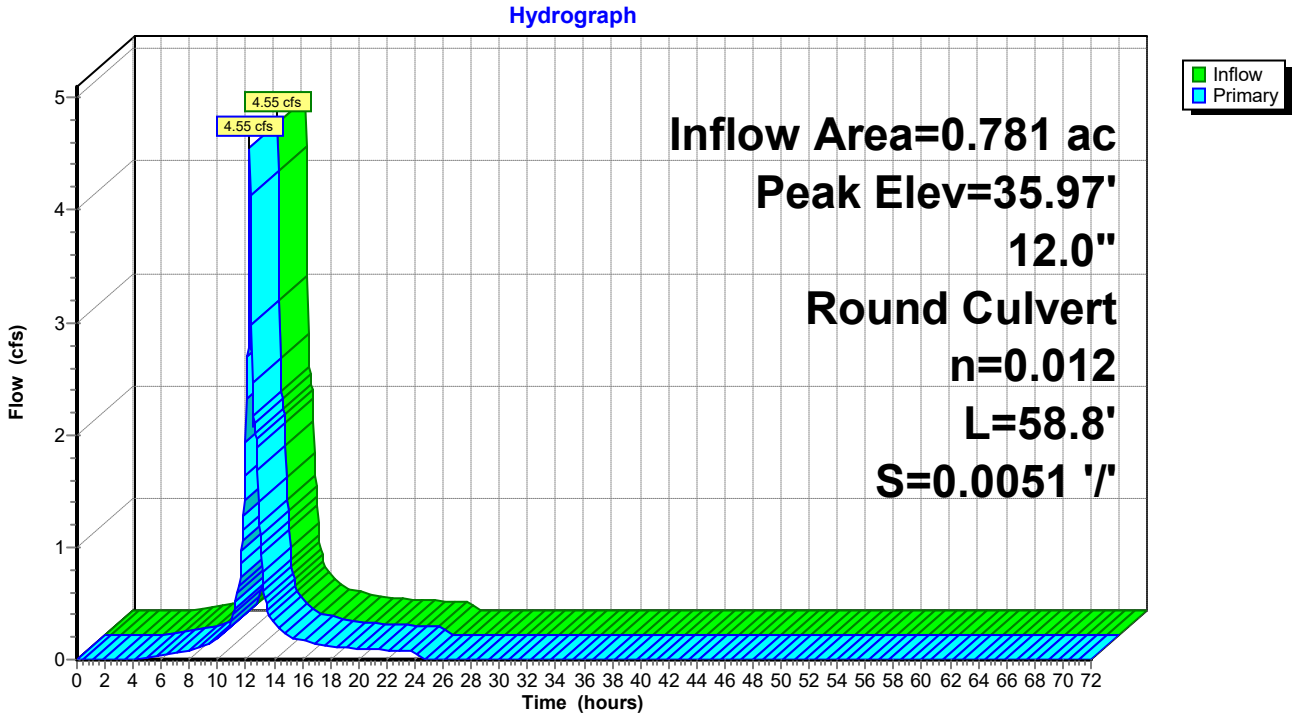
Inflow Area = 0.781 ac, 67.52% Impervious, Inflow Depth = 7.24" for 100-Year event
Inflow = 4.55 cfs @ 12.27 hrs, Volume= 0.471 af
Outflow = 4.55 cfs @ 12.27 hrs, Volume= 0.471 af, Atten= 0%, Lag= 0.0 min
Primary = 4.55 cfs @ 12.27 hrs, Volume= 0.471 af
Routed to Pond SGW : SGW

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 35.97' @ 12.28 hrs
Flood Elev= 35.91'

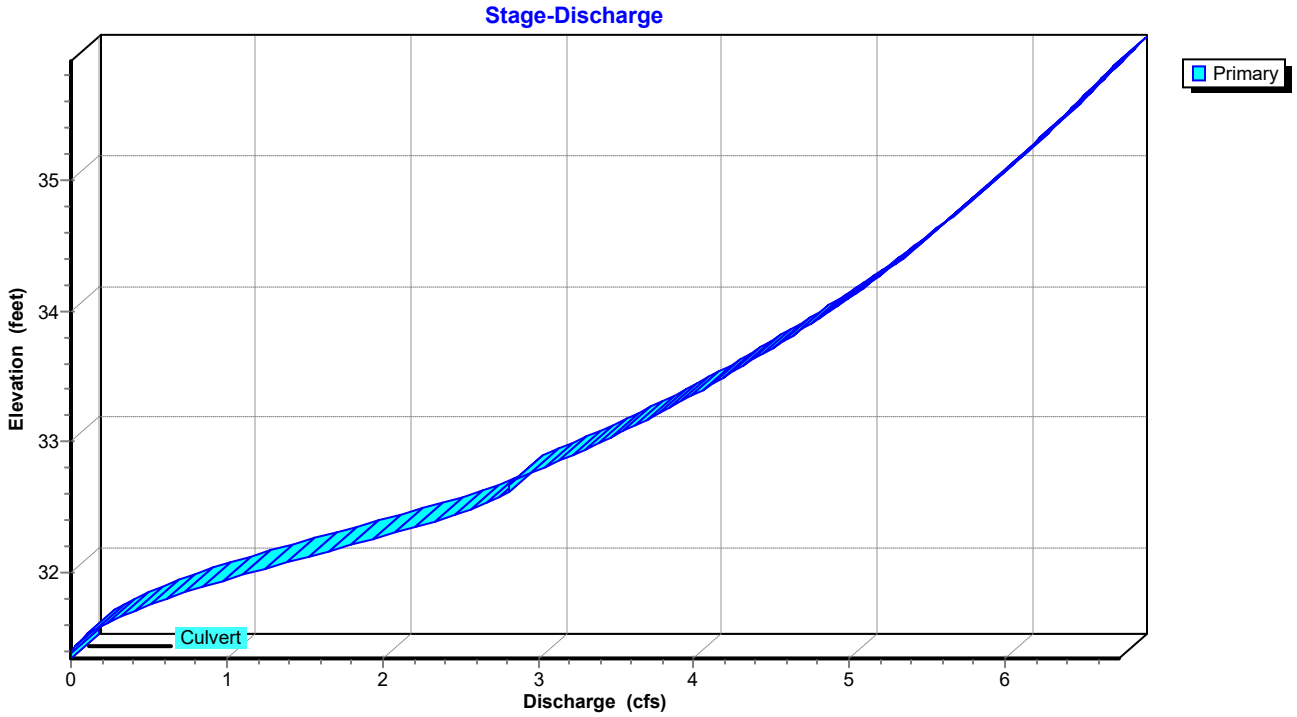
| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 31.34' | **12.0" Round Culvert**<br>L= 58.8' Box, 0° wingwalls, square crown edge, Ke= 0.700<br>Inlet / Outlet Invert= 31.34' / 31.04' S= 0.0051 '/' Cc= 0.900<br>n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf |

**Primary OutFlow** Max=4.37 cfs @ 12.27 hrs HW=35.87' TW=34.15' (Dynamic Tailwater)
**1=Culvert** (Inlet Controls 4.37 cfs @ 5.56 fps)

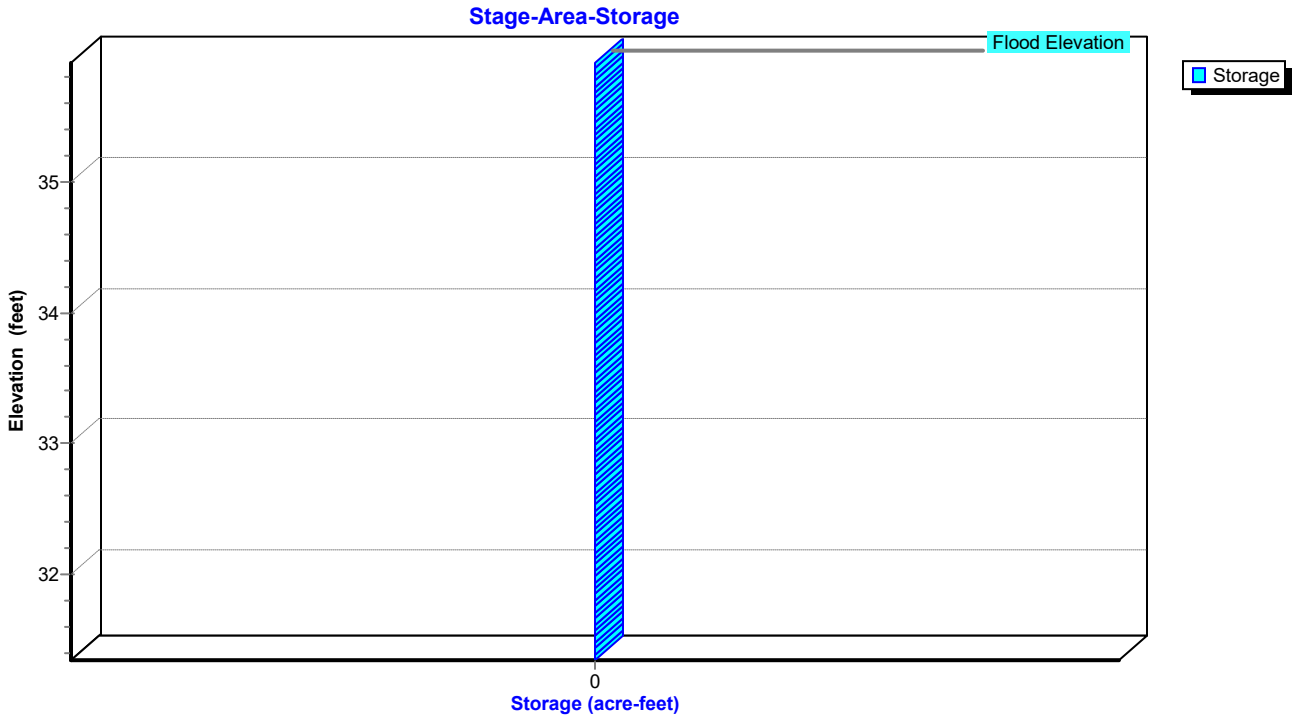
### Pond CI - 9: CI - 9



## Pond CI - 9: CI - 9




## Pond CI - 9: CI - 9



## Summary for Pond CI-10: CI-10

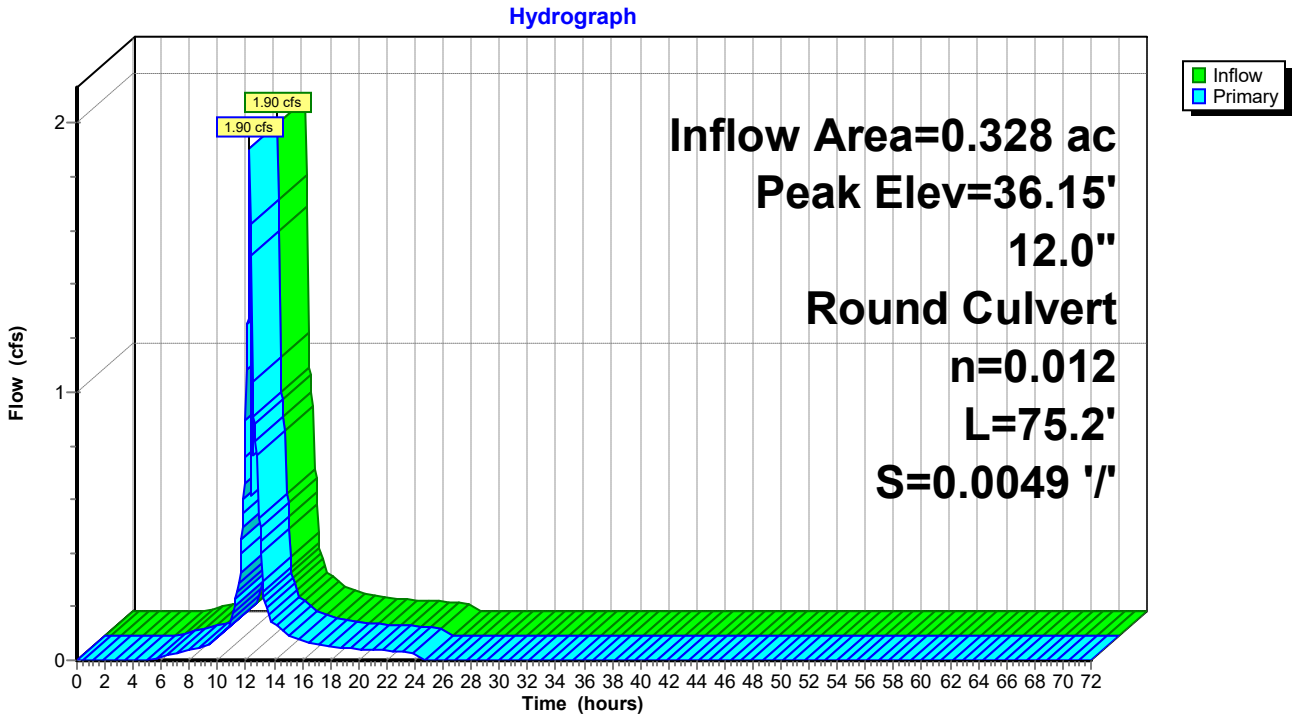
Inflow Area = 0.328 ac, 71.00% Impervious, Inflow Depth = 7.35" for 100-Year event
Inflow = 1.90 cfs @ 12.26 hrs, Volume= 0.201 af
Outflow = 1.90 cfs @ 12.26 hrs, Volume= 0.201 af, Atten= 0%, Lag= 0.0 min
Primary = 1.90 cfs @ 12.26 hrs, Volume= 0.201 af
Routed to Pond CI - 9 : CI - 9

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 36.15' @ 12.27 hrs

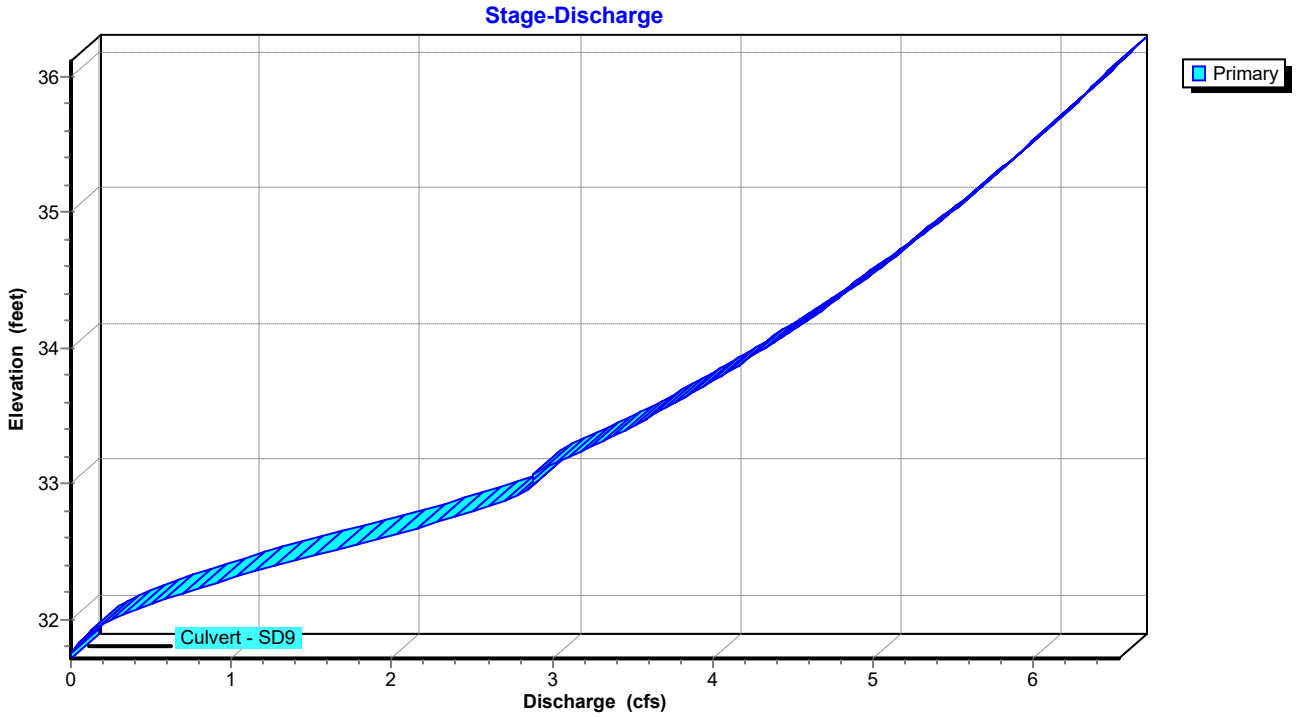
| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 31.71' | **12.0" Round Culvert - SD9**<br>L= 75.2' Box, headwall w/3 square edges, Ke= 0.500<br>Inlet / Outlet Invert= 31.71' / 31.34' S= 0.0049 '/' Cc= 0.900<br>n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf |

**Primary OutFlow** Max=1.09 cfs @ 12.26 hrs HW=35.97' TW=35.86' (Dynamic Tailwater)
**1=Culvert - SD9** (Outlet Controls 1.09 cfs @ 1.39 fps)

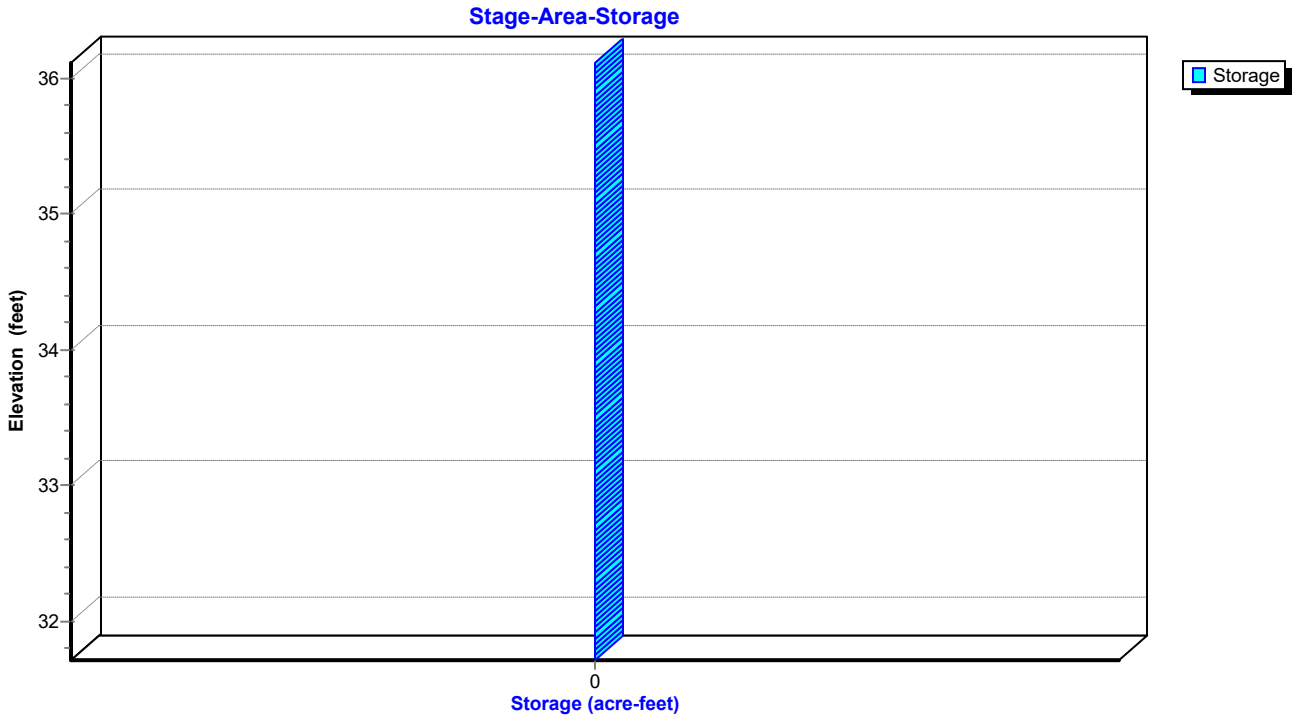
### Pond CI-10: CI-10



## Pond CI-10: CI-10




## Pond CI-10: CI-10



## Summary for Pond CI-11: CI-11

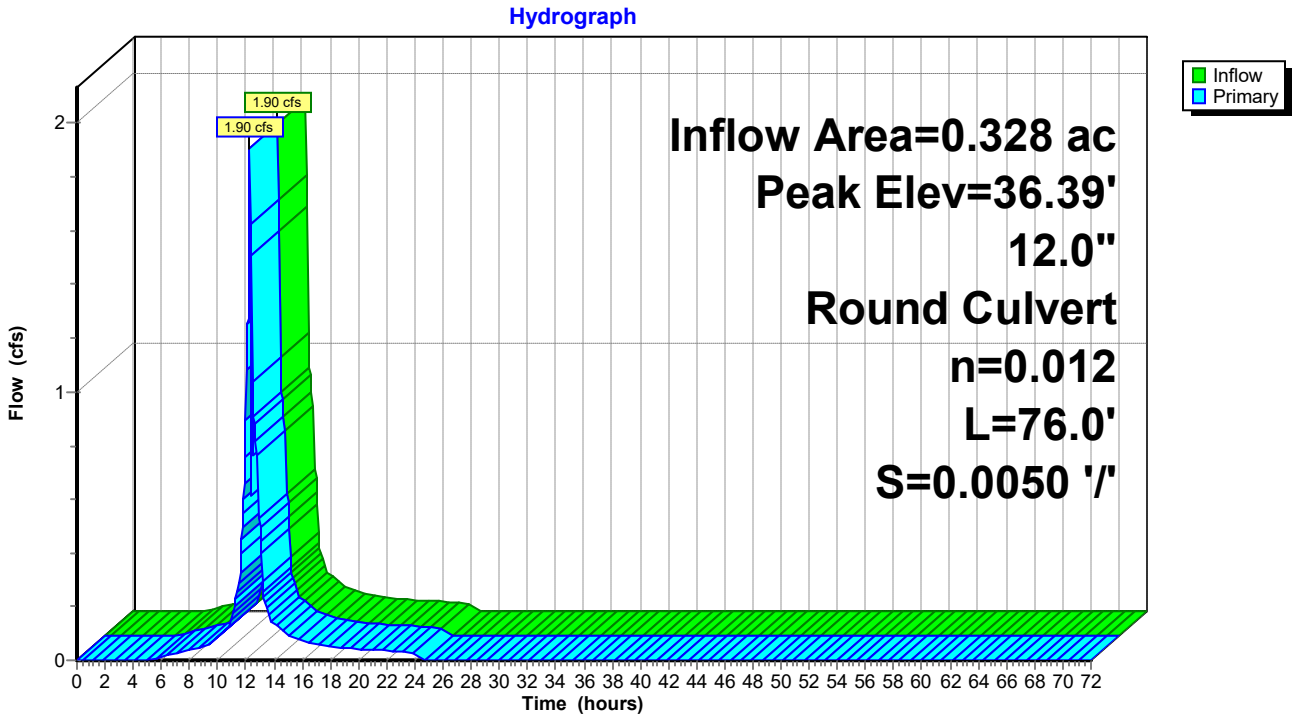
Inflow Area = 0.328 ac, 71.00% Impervious, Inflow Depth = 7.35" for 100-Year event
Inflow = 1.90 cfs @ 12.26 hrs, Volume= 0.201 af
Outflow = 1.90 cfs @ 12.26 hrs, Volume= 0.201 af, Atten= 0%, Lag= 0.0 min
Primary = 1.90 cfs @ 12.26 hrs, Volume= 0.201 af
Routed to Pond CI-10 : CI-10

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 36.39' @ 12.31 hrs

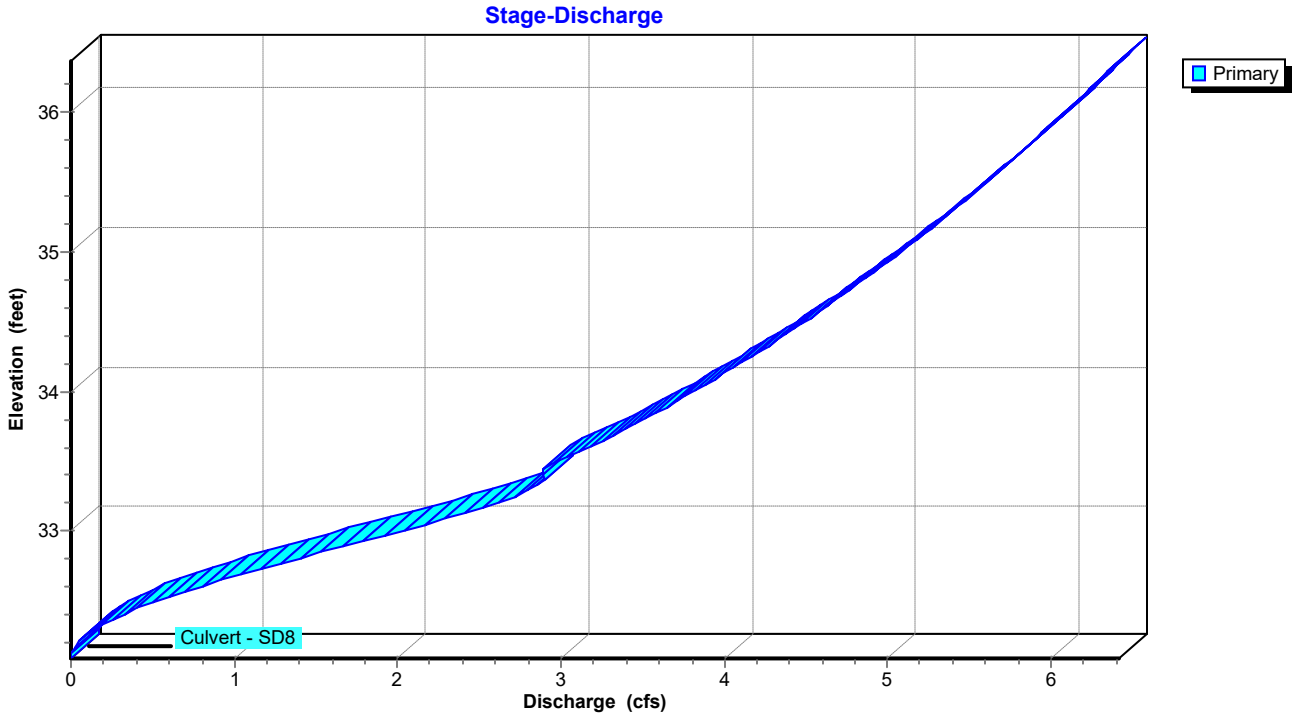
| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 32.09' | **12.0" Round Culvert - SD8**<br>L= 76.0' Box, headwall w/3 square edges, Ke= 0.500<br>Inlet / Outlet Invert= 32.09' / 31.71' S= 0.0050 '/' Cc= 0.900<br>n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf |

**Primary OutFlow** Max=0.00 cfs @ 12.26 hrs HW=35.40' TW=35.97' (Dynamic Tailwater)
**1=Culvert - SD8** ( Controls 0.00 cfs)

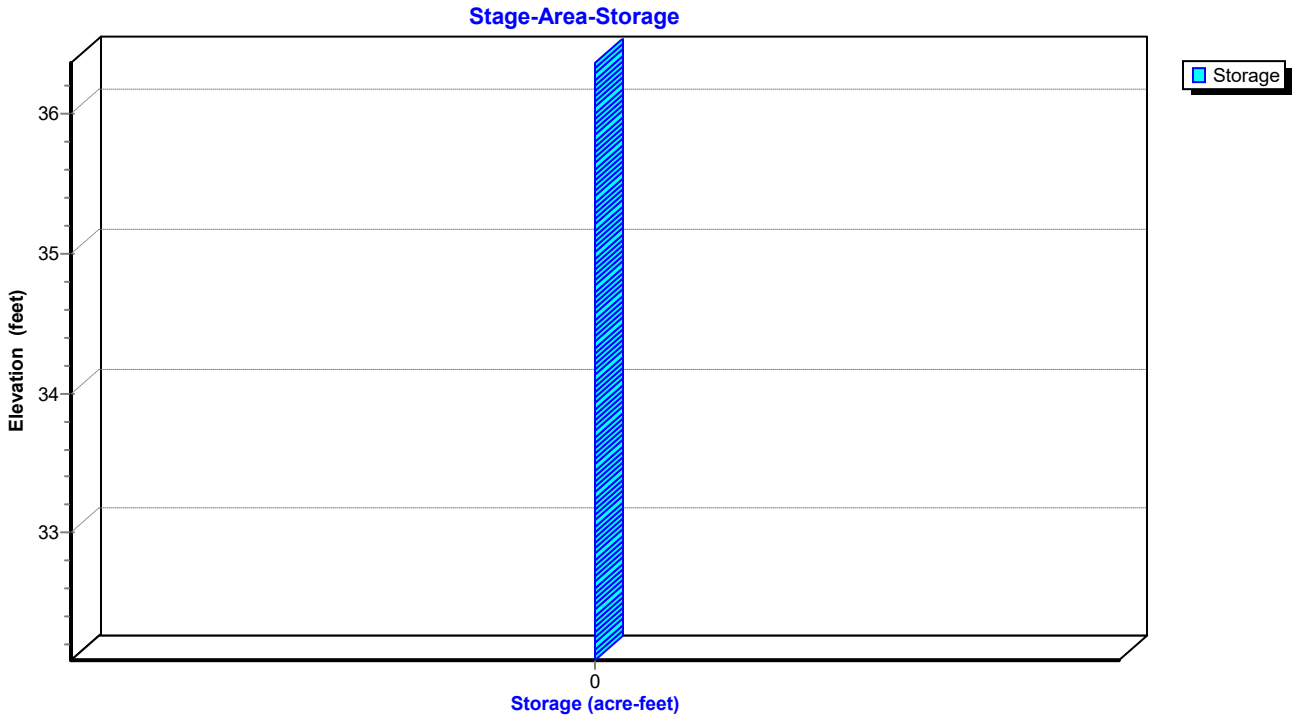
### Pond CI-11: CI-11



## Pond CI-11: CI-11




## Pond CI-11: CI-11



## Summary for Pond CI-12: CI-12

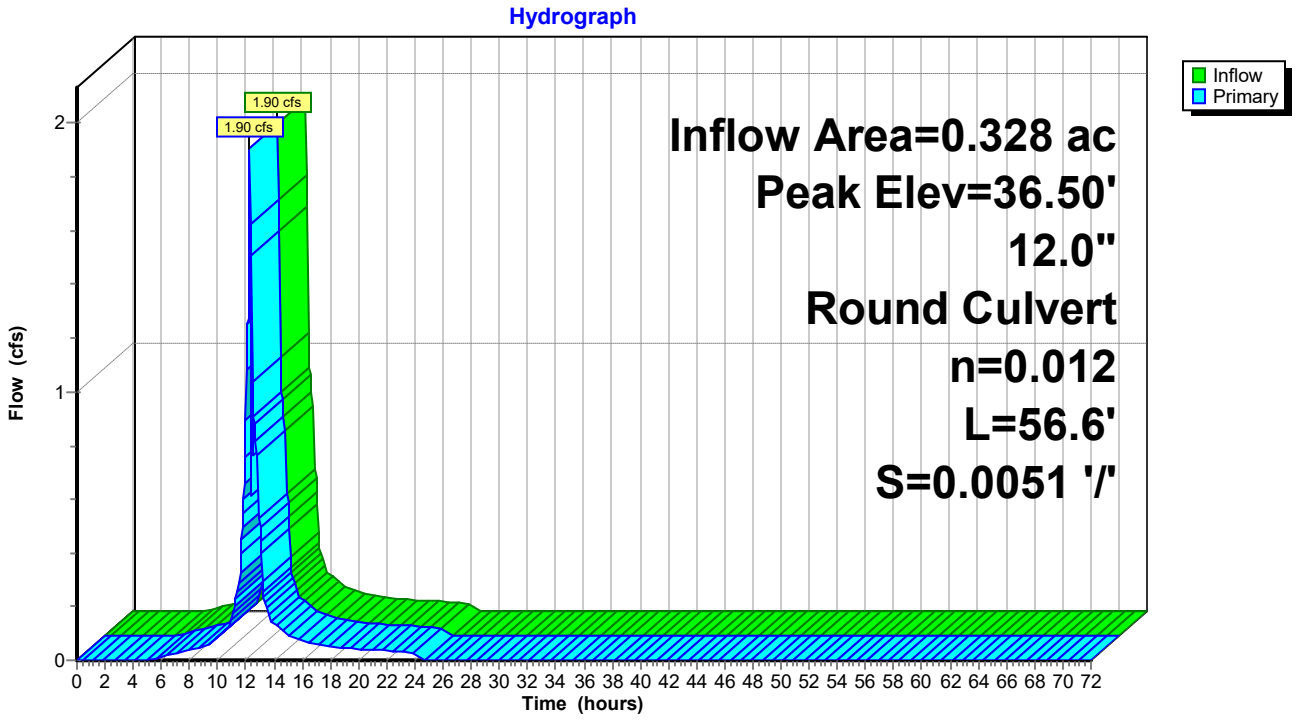
Inflow Area = 0.328 ac, 71.00% Impervious, Inflow Depth = 7.35" for 100-Year event
Inflow = 1.90 cfs @ 12.26 hrs, Volume= 0.201 af
Outflow = 1.90 cfs @ 12.26 hrs, Volume= 0.201 af, Atten= 0%, Lag= 0.0 min
Primary = 1.90 cfs @ 12.26 hrs, Volume= 0.201 af
Routed to Pond CI-11 : CI-11

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 36.50' @ 12.31 hrs

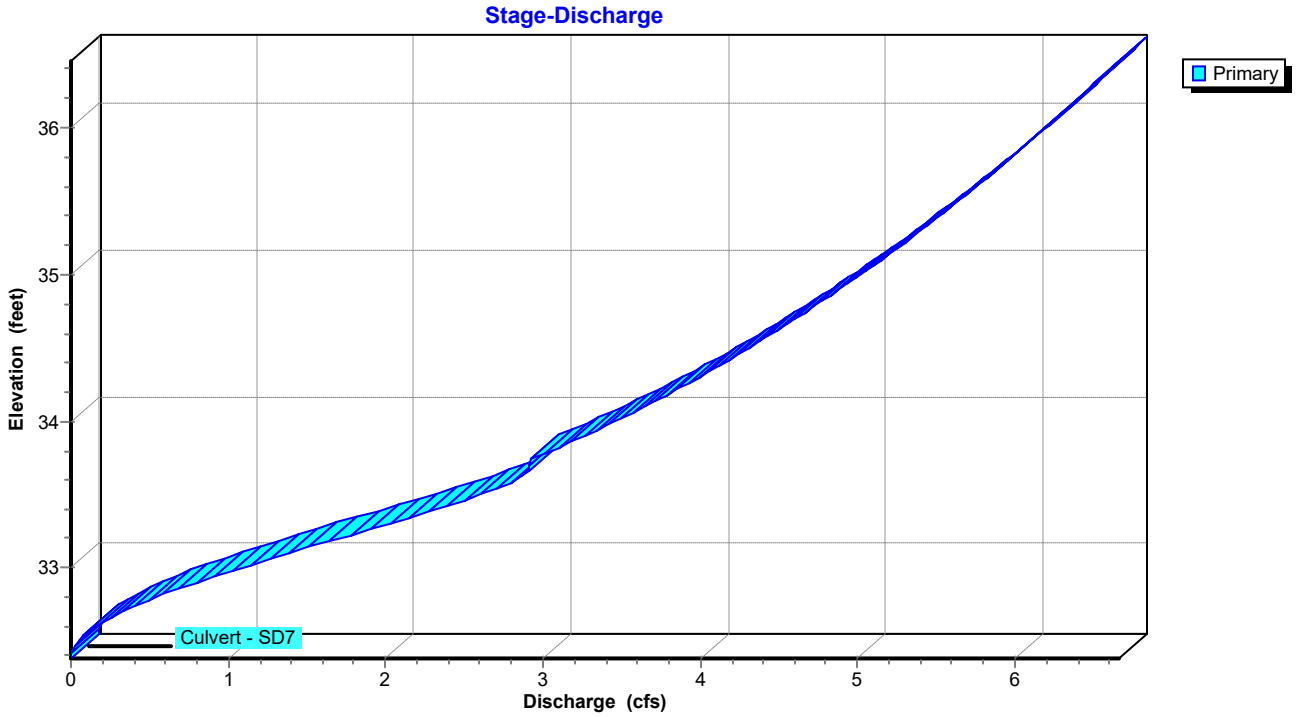
| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 32.38' | **12.0" Round Culvert - SD7**<br>L= 56.6' Box, headwall w/3 square edges, Ke= 0.500<br>Inlet / Outlet Invert= 32.38' / 32.09' S= 0.0051 '/' Cc= 0.900<br>n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf |

**Primary OutFlow** Max=0.00 cfs @ 12.26 hrs HW=35.27' TW=35.40' (Dynamic Tailwater)
**1=Culvert - SD7** ( Controls 0.00 cfs)

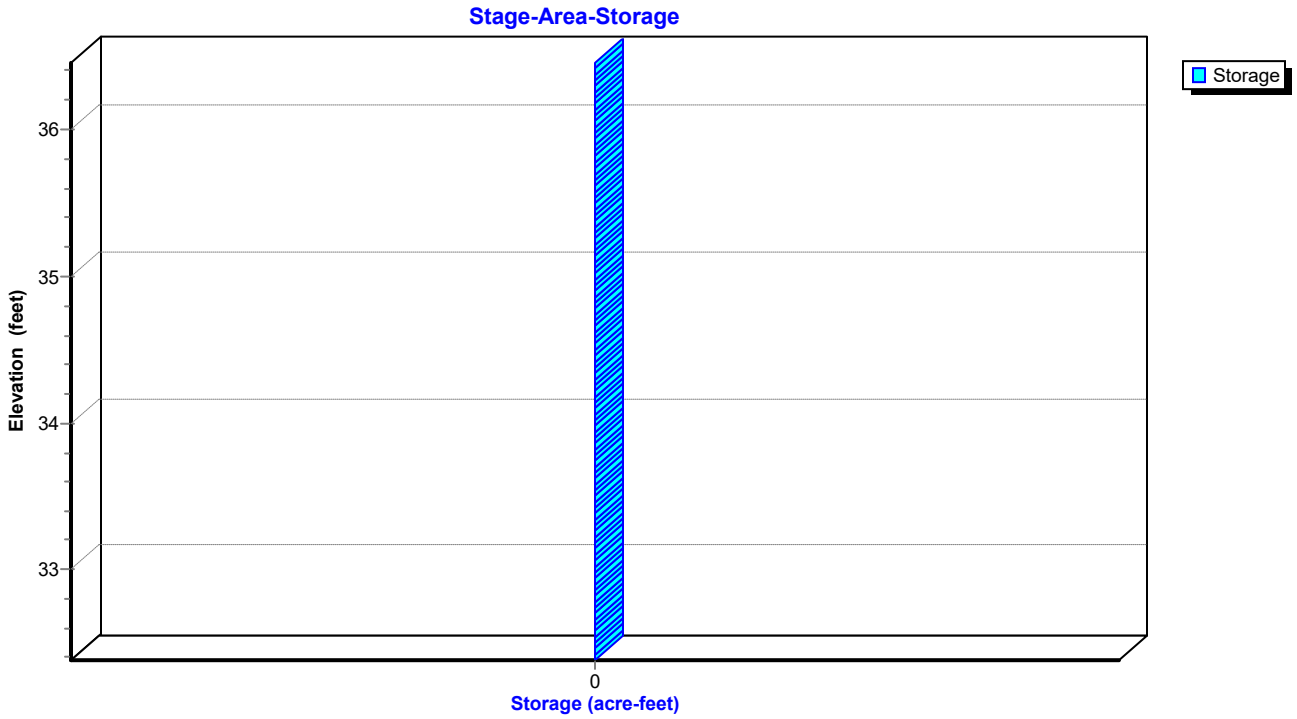
### Pond CI-12: CI-12



## Pond CI-12: CI-12




## Pond CI-12: CI-12



## Summary for Pond MBR-1: MBR-1

Inflow Area = 0.328 ac, 71.00% Impervious, Inflow Depth = 7.41" for 100-Year event
Inflow = 2.46 cfs @ 12.18 hrs, Volume= 0.202 af
Outflow = 1.90 cfs @ 12.26 hrs, Volume= 0.201 af, Atten= 23%, Lag= 4.8 min
Primary = 1.90 cfs @ 12.26 hrs, Volume= 0.201 af
Routed to Pond CI-12 : CI-12

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 36.41' @ 12.38 hrs Surf.Area= 552 sf Storage= 881 cf

Plug-Flow detention time= 13.9 min calculated for 0.201 af (99% of inflow)
Center-of-Mass det. time= 9.2 min ( 797.0 - 787.8 )

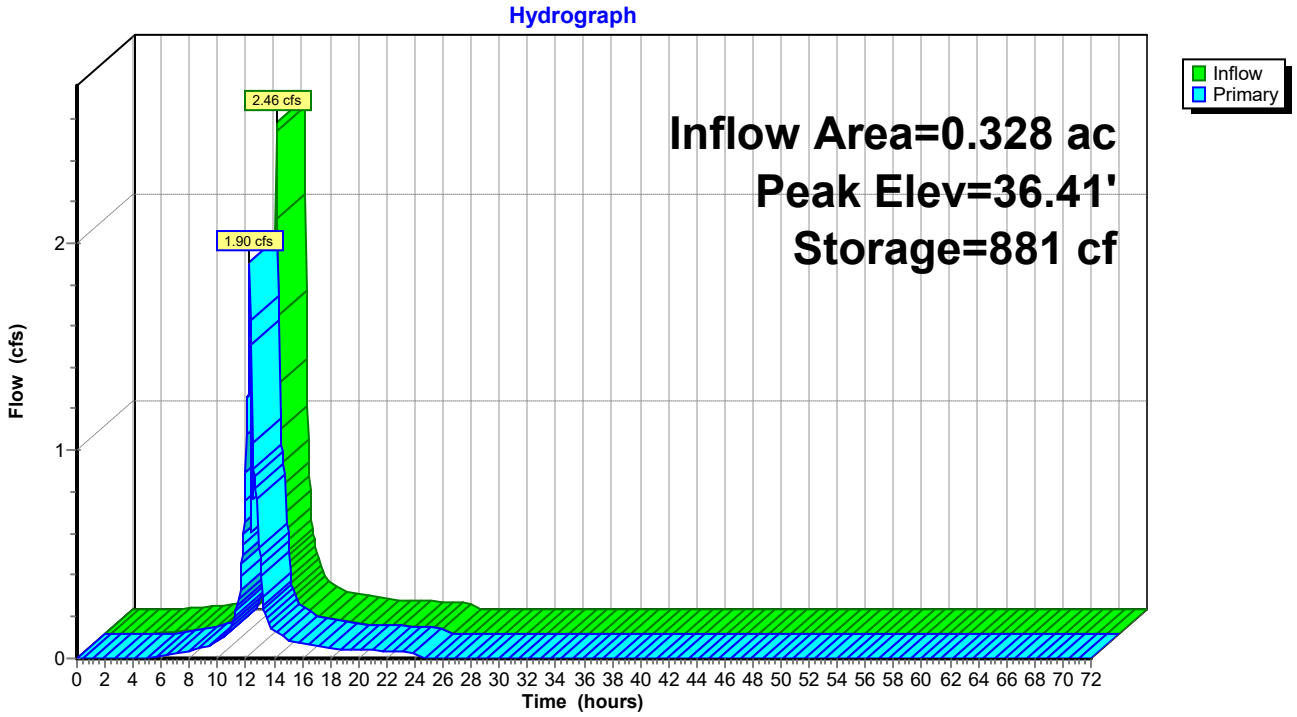
| Volume | Invert | Avail.Storage | Storage Description |
|---|---|---|---|
| #1 | 32.15' | 1,521 cf | **Custom Stage Data (Irregular)** Listed below |

| Elevation (feet) | Surf.Area (sq-ft) | Perim. (feet) | Voids (%) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) | Wet.Area (sq-ft) |
|---|---|---|---|---|---|---|
| 32.15 | 257 | 135.0 | 0.0 | 0 | 0 | 257 |
| 32.16 | 257 | 135.0 | 40.0 | 1 | 1 | 258 |
| 35.15 | 257 | 135.0 | 40.0 | 307 | 308 | 662 |
| 35.16 | 257 | 135.0 | 100.0 | 3 | 311 | 663 |
| 37.00 | 691 | 153.8 | 100.0 | 840 | 1,151 | 1,171 |
| 37.20 | 1,366 | 220.3 | 100.0 | 202 | 1,353 | 3,151 |
| 37.30 | 2,023 | 263.8 | 100.0 | 168 | 1,521 | 4,827 |

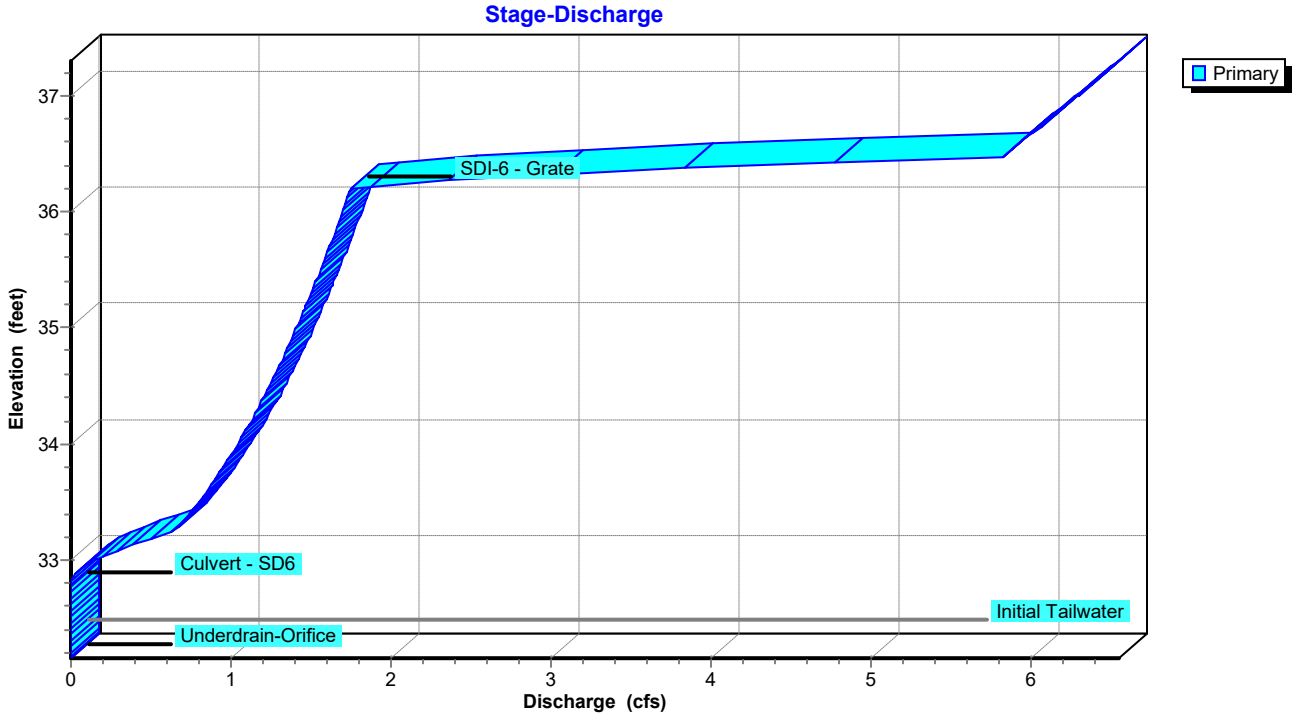
| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 32.78' | **12.0" Round Culvert - SD6**<br>L= 79.8' CPP, square edge headwall, Ke= 0.500<br>Inlet / Outlet Invert= 32.78' / 32.38' S= 0.0050 '/' Cc= 0.900<br>n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf |
| #2 | Device 1 | 36.19' | **24.0" x 24.0" Horiz. SDI-6 - Grate** C= 0.600<br>Limited to weir flow at low heads |
| #3 | Device 1 | 32.16' | **6.0" Vert. Underdrain-Orifice** C= 0.600<br>Limited to weir flow at low heads |

**Primary OutFlow** Max=1.64 cfs @ 12.26 hrs HW=36.28' TW=35.27' (Dynamic Tailwater)
↑ **1=Culvert - SD6** (Passes 1.64 cfs of 3.32 cfs potential flow)
↑ **2=SDI-6 - Grate** (Weir Controls 0.69 cfs @ 0.97 fps)
**3=Underdrain-Orifice** (Orifice Controls 0.95 cfs @ 4.84 fps)

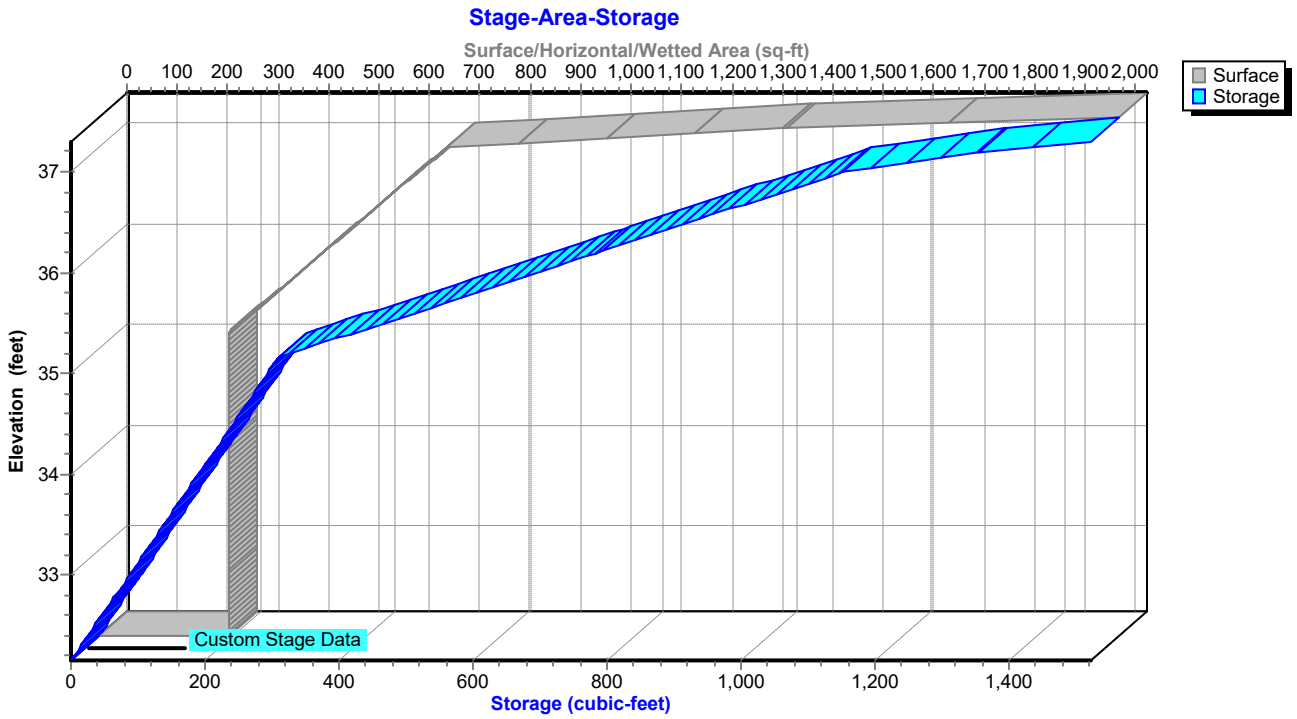
## Pond MBR-1: MBR-1




## Pond MBR-1: MBR-1



## Pond MBR-1: MBR-1



## Summary for Pond MBR-2: MBR-2

Inflow Area = 0.453 ac, 65.00% Impervious, Inflow Depth = 7.16" for 100-Year event
Inflow = 3.29 cfs @ 12.19 hrs, Volume= 0.271 af
Outflow = 2.66 cfs @ 12.27 hrs, Volume= 0.271 af, Atten= 19%, Lag= 5.1 min
Primary = 2.66 cfs @ 12.27 hrs, Volume= 0.271 af
Routed to Pond CI - 9 : CI - 9

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 37.00' @ 12.27 hrs Surf.Area= 985 sf Storage= 1,256 cf

Plug-Flow detention time= 6.6 min calculated for 0.270 af (100% of inflow)
Center-of-Mass det. time= 6.5 min ( 800.3 - 793.8 )

| Volume | Invert | Avail.Storage | Storage Description |
|---|---|---|---|
| #1 | 31.82' | 1,982 cf | **Custom Stage Data (Irregular)** Listed below (Recalc) |

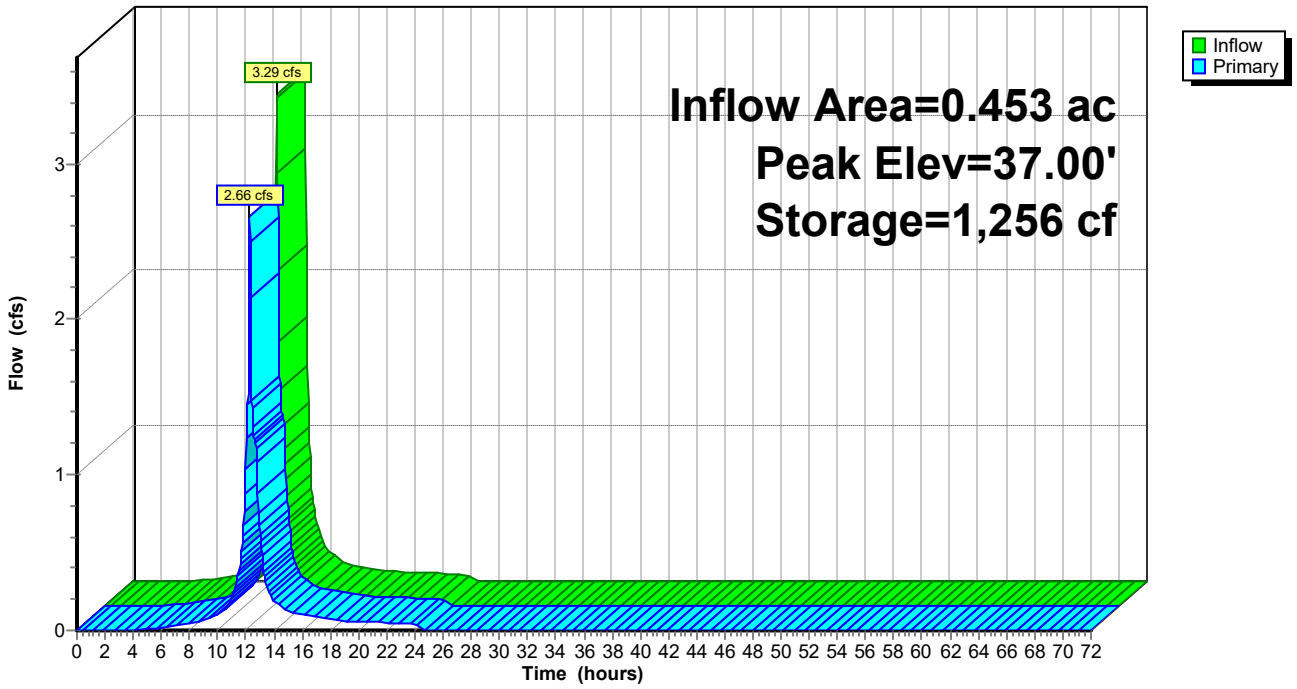
| Elevation (feet) | Surf.Area (sq-ft) | Perim. (feet) | Voids (%) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) | Wet.Area (sq-ft) |
|---|---|---|---|---|---|---|
| 31.82 | 321 | 167.0 | 0.0 | 0 | 0 | 321 |
| 31.83 | 321 | 167.0 | 40.0 | 1 | 1 | 323 |
| 35.80 | 321 | 167.0 | 40.0 | 510 | 511 | 986 |
| 35.81 | 321 | 167.0 | 100.0 | 3 | 514 | 987 |
| 36.81 | 851 | 185.9 | 100.0 | 565 | 1,079 | 1,547 |
| 37.60 | 1,461 | 316.0 | 100.0 | 902 | 1,982 | 6,747 |

| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 31.61' | **12.0" Round Culvert - SD11**<br>L= 55.4' Box, headwall w/3 square edges, Ke= 0.500<br>Inlet / Outlet Invert= 31.61' / 31.34' S= 0.0049 '/' Cc= 0.900<br>n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf |
| #2 | Device 1 | 36.75' | **12.0" x 12.0" Horiz. Grate - SDI-5** C= 0.600<br>Limited to weir flow at low heads |
| #3 | Device 1 | 31.83' | **6.0" Vert. Orifice - Underdrain** C= 0.600<br>Limited to weir flow at low heads |

**Primary OutFlow** Max=2.45 cfs @ 12.27 hrs HW=36.98' TW=35.87' (Dynamic Tailwater)
- **1=Culvert - SD11** (Passes 2.45 cfs of 3.85 cfs potential flow)
  - **2=Grate - SDI-5** (Weir Controls 1.45 cfs @ 1.57 fps)
  - **3=Orifice - Underdrain** (Orifice Controls 1.00 cfs @ 5.08 fps)

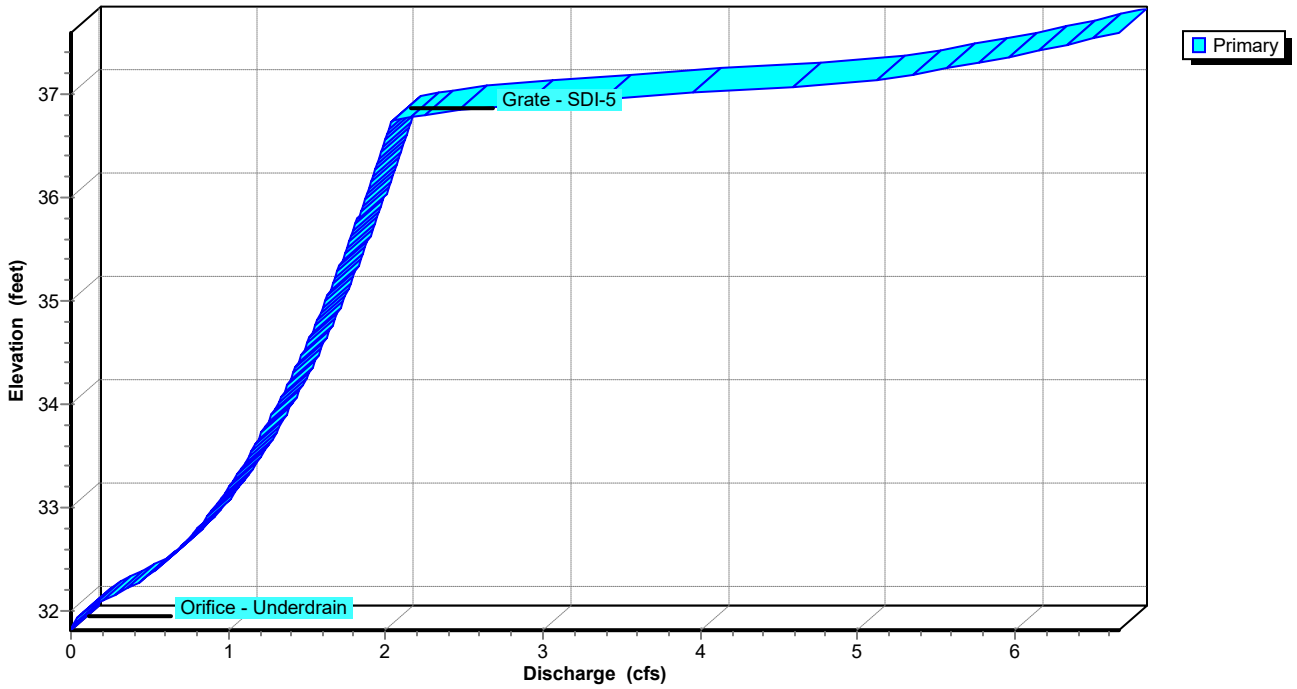
## Pond MBR-2: MBR-2

Hydrograph

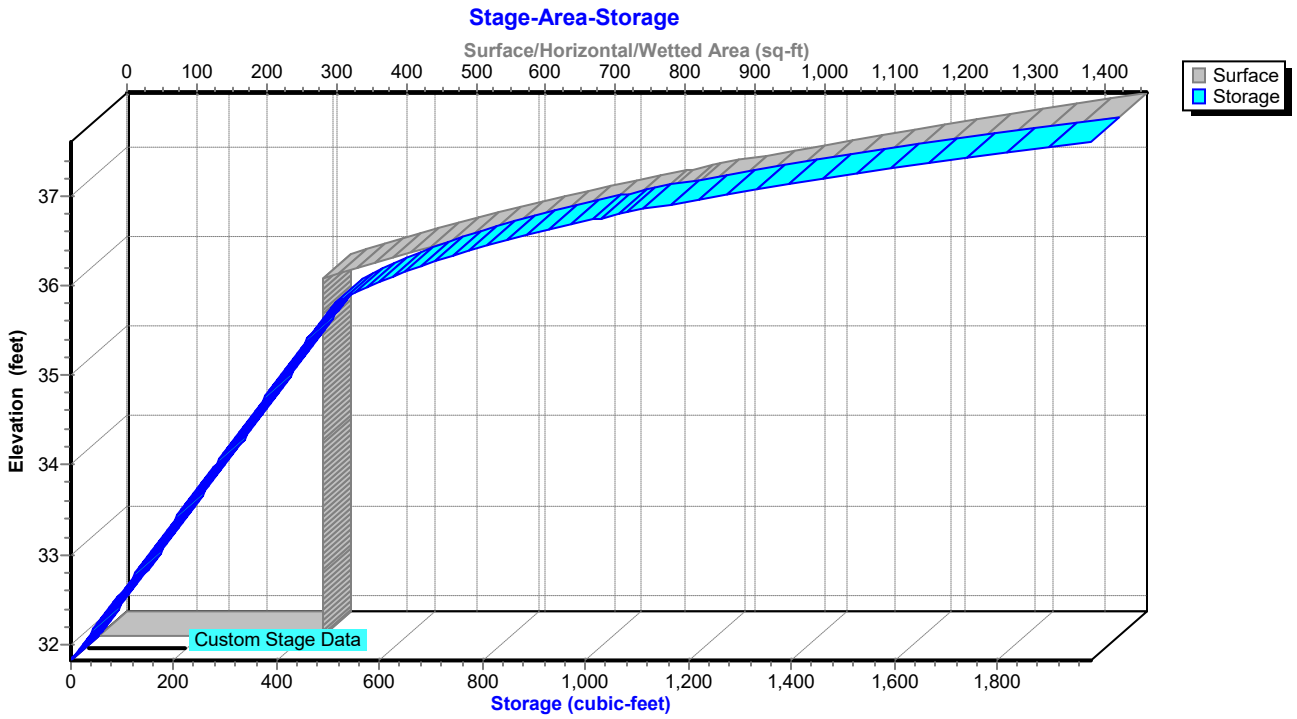



## Pond MBR-2: MBR-2

Stage-Discharge



## Pond MBR-2: MBR-2



## Summary for Pond MBR-3: MBR-3

Inflow Area = 0.233 ac, 65.00% Impervious, Inflow Depth = 7.16" for 100-Year event
Inflow = 1.69 cfs @ 12.19 hrs, Volume= 0.139 af
Outflow = 1.27 cfs @ 12.23 hrs, Volume= 0.139 af, Atten= 25%, Lag= 2.6 min
Primary = 1.27 cfs @ 12.23 hrs, Volume= 0.139 af
Routed to Pond SGW : SGW

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 35.88' @ 12.29 hrs Surf.Area= 310 sf Storage= 477 cf

Plug-Flow detention time= 7.3 min calculated for 0.139 af (100% of inflow)
Center-of-Mass det. time= 6.3 min ( 800.0 - 793.8 )

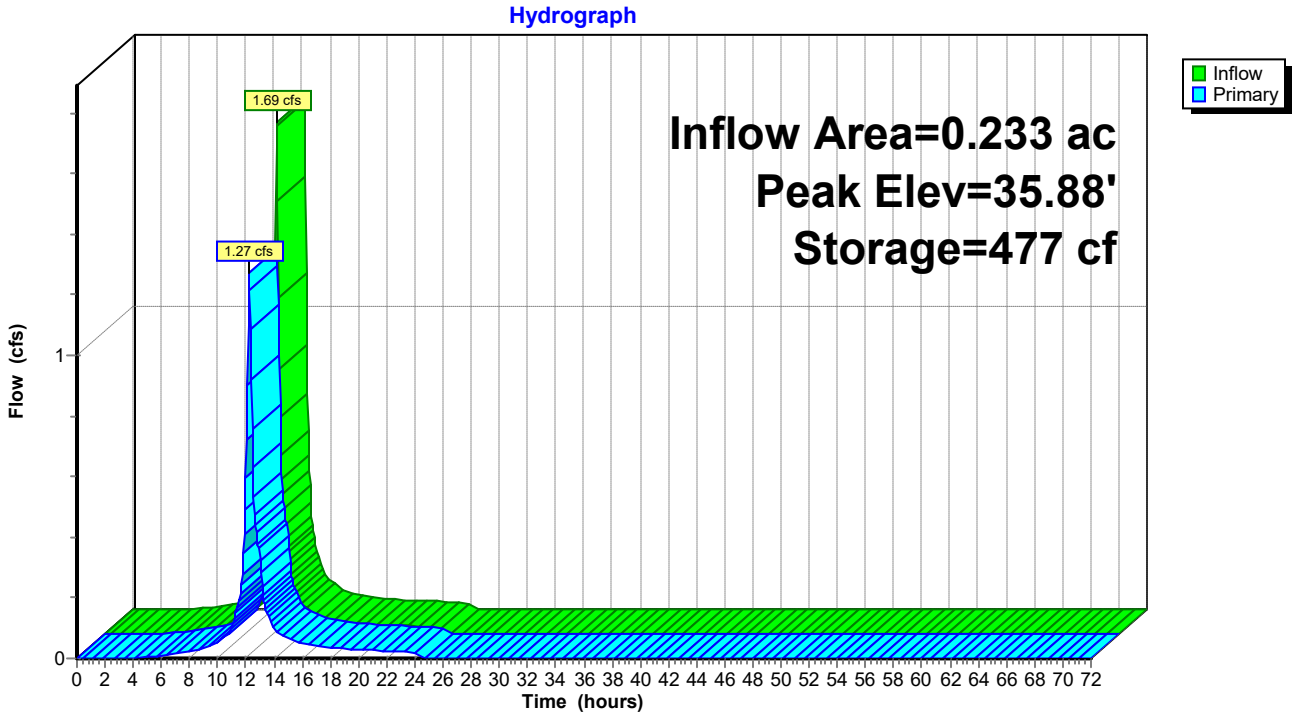
| Volume | Invert | Avail.Storage | Storage Description |
|---|---|---|---|
| #1 | 31.82' | 1,823 cf | **Custom Stage Data (Irregular)** Listed below (Recalc) |

| Elevation (feet) | Surf.Area (sq-ft) | Perim. (feet) | Voids (%) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) | Wet.Area (sq-ft) |
|---|---|---|---|---|---|---|
| 31.82 | 285 | 149.0 | 0.0 | 0 | 0 | 285 |
| 31.83 | 285 | 149.0 | 40.0 | 1 | 1 | 286 |
| 35.80 | 285 | 149.0 | 40.0 | 453 | 454 | 878 |
| 35.81 | 285 | 149.0 | 100.0 | 3 | 457 | 880 |
| 36.81 | 761 | 167.9 | 100.0 | 504 | 960 | 1,382 |
| 37.60 | 1,461 | 316.0 | 100.0 | 863 | 1,823 | 7,088 |

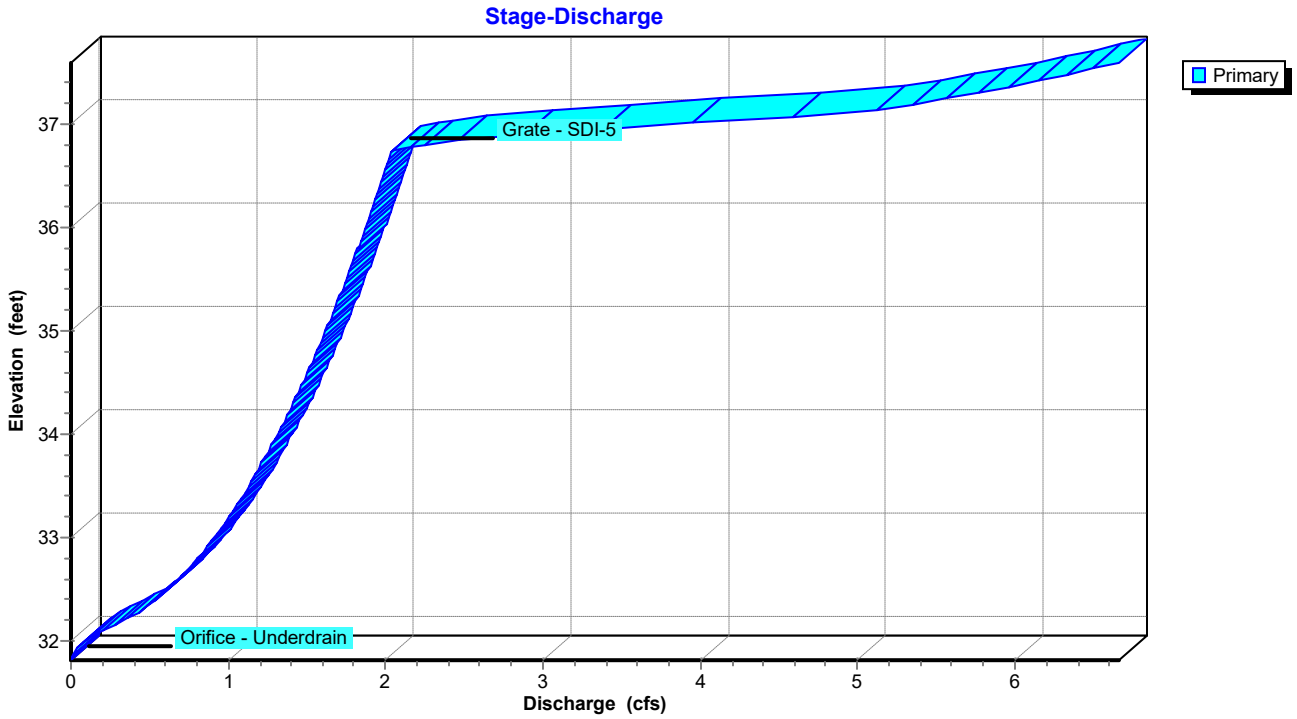
| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 31.61' | **12.0" Round Culvert - SD11**<br>L= 55.4' Box, headwall w/3 square edges, Ke= 0.500<br>Inlet / Outlet Invert= 31.61' / 31.34' S= 0.0049 '/' Cc= 0.900<br>n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf |
| #2 | Device 1 | 36.75' | **12.0" x 12.0" Horiz. Grate - SDI-5** C= 0.600<br>Limited to weir flow at low heads |
| #3 | Device 1 | 31.83' | **6.0" Vert. Orifice - Underdrain** C= 0.600<br>Limited to weir flow at low heads |

**Primary OutFlow** Max=1.26 cfs @ 12.23 hrs HW=35.67' TW=33.90' (Dynamic Tailwater)
└─**1=Culvert - SD11** (Passes 1.26 cfs of 4.85 cfs potential flow)
  ├─**2=Grate - SDI-5** ( Controls 0.00 cfs)
  └─**3=Orifice - Underdrain** (Orifice Controls 1.26 cfs @ 6.40 fps)

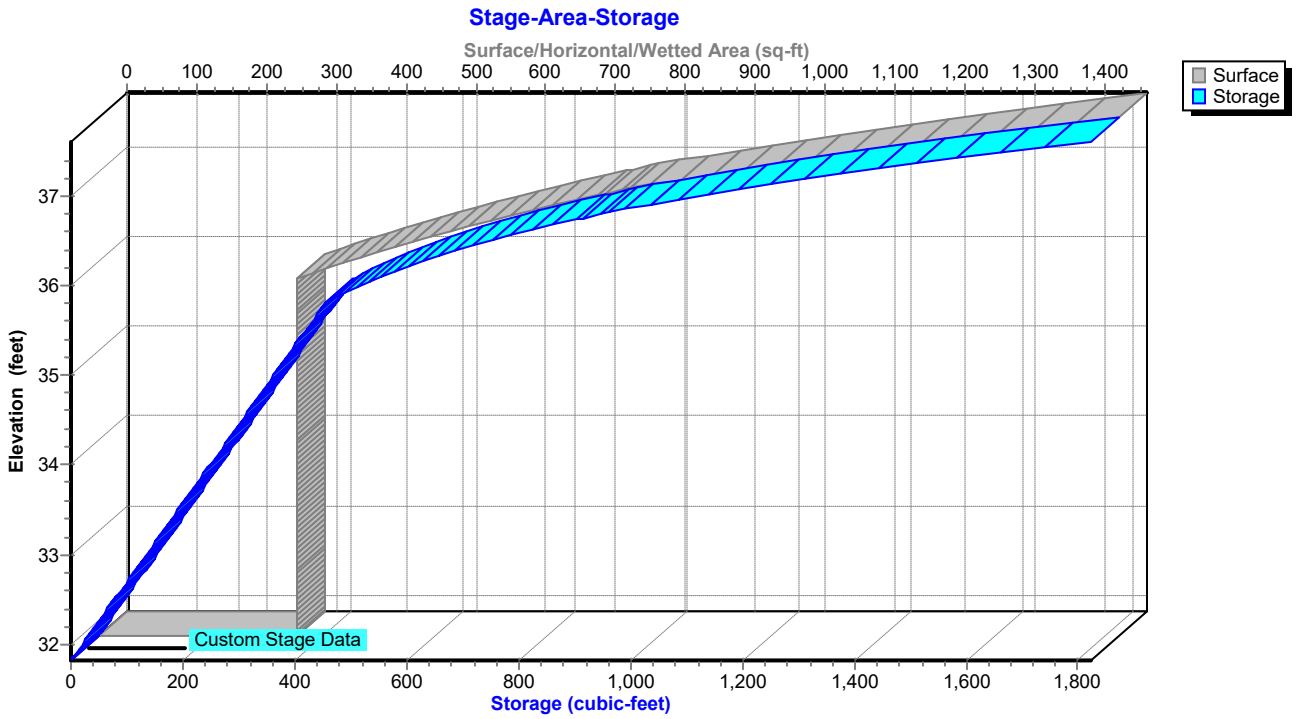
## Pond MBR-3: MBR-3




## Pond MBR-3: MBR-3



## Pond MBR-3: MBR-3



## Summary for Pond MBR-4: MBR-4

Inflow Area = 0.240 ac, 80.00% Impervious, Inflow Depth = 7.89" for 100-Year event
Inflow = 2.36 cfs @ 12.10 hrs, Volume= 0.158 af
Outflow = 3.35 cfs @ 12.55 hrs, Volume= 0.158 af, Atten= 0%, Lag= 27.5 min
Primary = 3.35 cfs @ 12.55 hrs, Volume= 0.163 af
Routed to Pond SDMH-3 : SDMH-3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 37.71' @ 12.44 hrs Surf.Area= 2,343 sf Storage= 2,141 cf

Plug-Flow detention time= 17.6 min calculated for 0.158 af (100% of inflow)
Center-of-Mass det. time= 14.1 min ( 783.1 - 769.0 )

| Volume | Invert | Avail.Storage | Storage Description |
|---|---|---|---|
| #1 | 32.19' | 2,234 cf | **Custom Stage Data (Irregular)** Listed below (Recalc) |

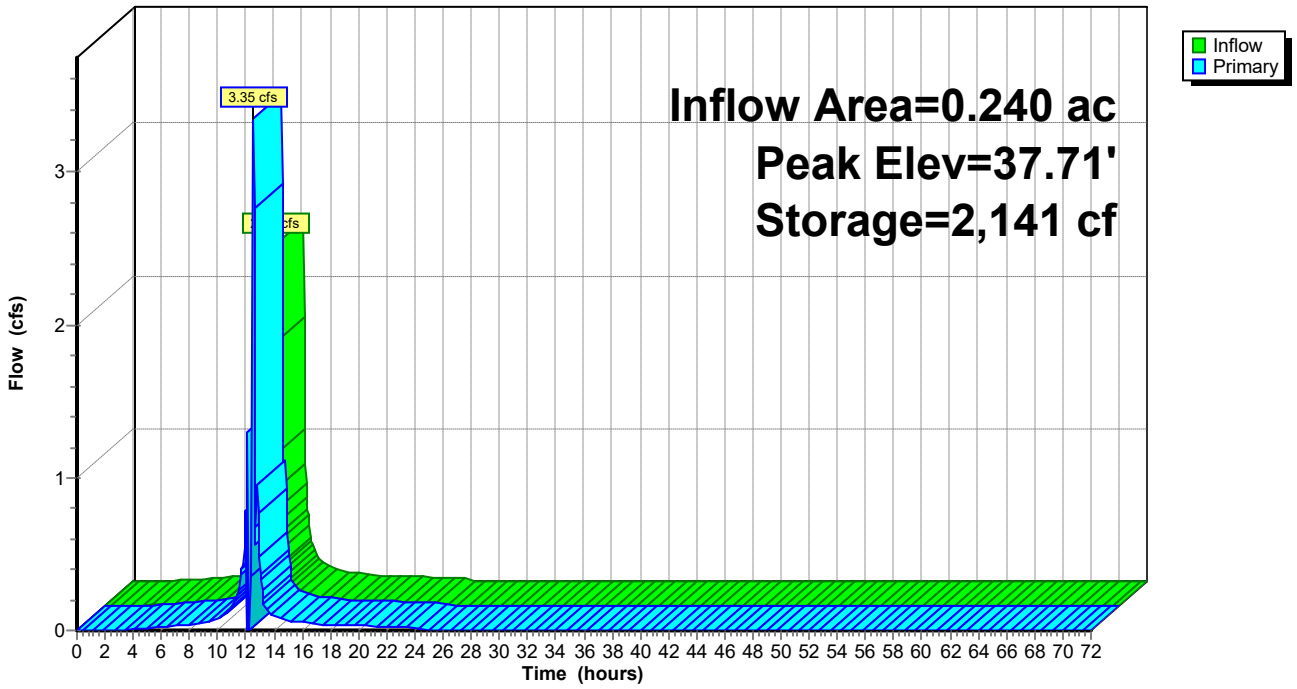
| Elevation (feet) | Surf.Area (sq-ft) | Perim. (feet) | Voids (%) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) | Wet.Area (sq-ft) |
|---|---|---|---|---|---|---|
| 32.19 | 255 | 134.0 | 0.0 | 0 | 0 | 255 |
| 32.20 | 255 | 134.0 | 40.0 | 1 | 1 | 256 |
| 35.45 | 255 | 134.0 | 40.0 | 332 | 333 | 692 |
| 35.46 | 255 | 134.0 | 100.0 | 3 | 335 | 693 |
| 36.46 | 686 | 152.8 | 100.0 | 453 | 788 | 1,146 |
| 37.46 | 1,172 | 171.7 | 100.0 | 918 | 1,706 | 1,660 |
| 37.75 | 2,553 | 245.5 | 100.0 | 527 | 2,234 | 4,111 |

| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 32.45' | **12.0" Round Culvert - SD20**<br>L= 49.2' Box, headwall w/3 square edges, Ke= 0.500<br>Inlet / Outlet Invert= 32.45' / 31.39' S= 0.0215 '/' Cc= 0.900<br>n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf |
| #2 | Device 1 | 32.20' | **6.0" Vert. Underdrain / Orifice** C= 0.600<br>Limited to weir flow at low heads |
| #3 | Device 1 | 36.46' | **24.0" x 24.0" Horiz. Grate - Inlet** C= 0.600<br>Limited to weir flow at low heads |

**Primary OutFlow** Max=0.00 cfs @ 12.55 hrs HW=37.26' TW=37.41' (Dynamic Tailwater)
└**1=Culvert - SD20** ( Controls 0.00 cfs)
└**2=Underdrain / Orifice** ( Controls 0.00 cfs)
└**3=Grate - Inlet** ( Controls 0.00 cfs)

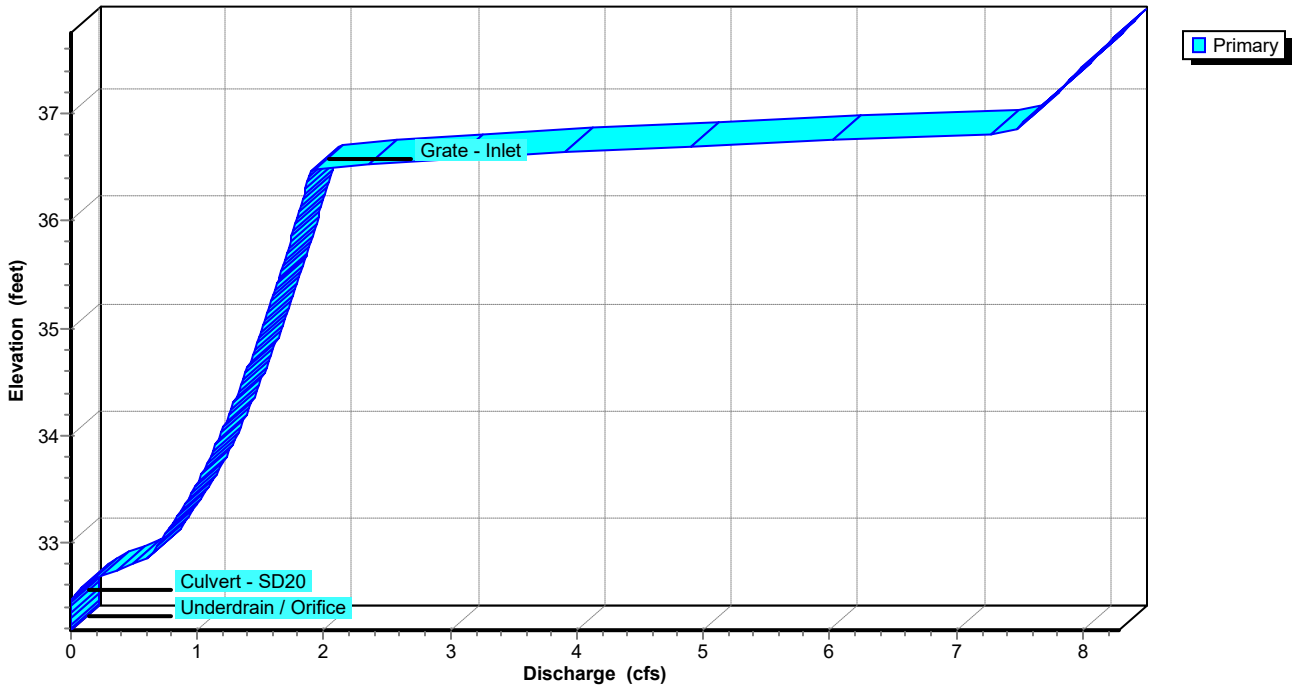
## Pond MBR-4: MBR-4

Hydrograph

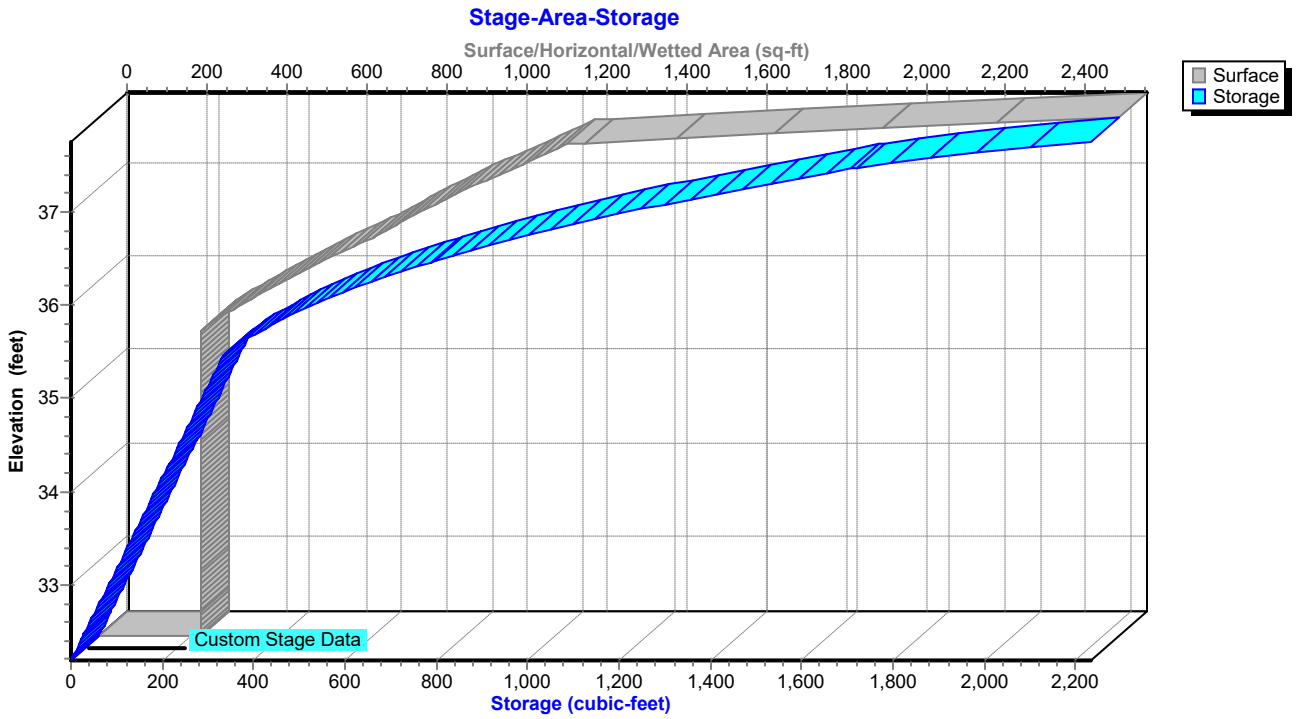



## Pond MBR-4: MBR-4

Stage-Discharge



## Pond MBR-4: MBR-4



## Summary for Pond MBR-5: MBR-5

Inflow Area = 0.456 ac, 70.00% Impervious, Inflow Depth = 7.41" for 100-Year event
Inflow = 4.24 cfs @ 12.10 hrs, Volume= 0.282 af
Outflow = 3.52 cfs @ 12.72 hrs, Volume= 0.280 af, Atten= 17%, Lag= 36.8 min
Primary = 3.52 cfs @ 12.72 hrs, Volume= 0.280 af
Routed to Pond SDMH-4 : SDMH-4

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 49.97' @ 12.29 hrs Surf.Area= 2,127 sf Storage= 2,453 cf

Plug-Flow detention time= 18.0 min calculated for 0.280 af (99% of inflow)
Center-of-Mass det. time= 13.7 min ( 795.5 - 781.8 )

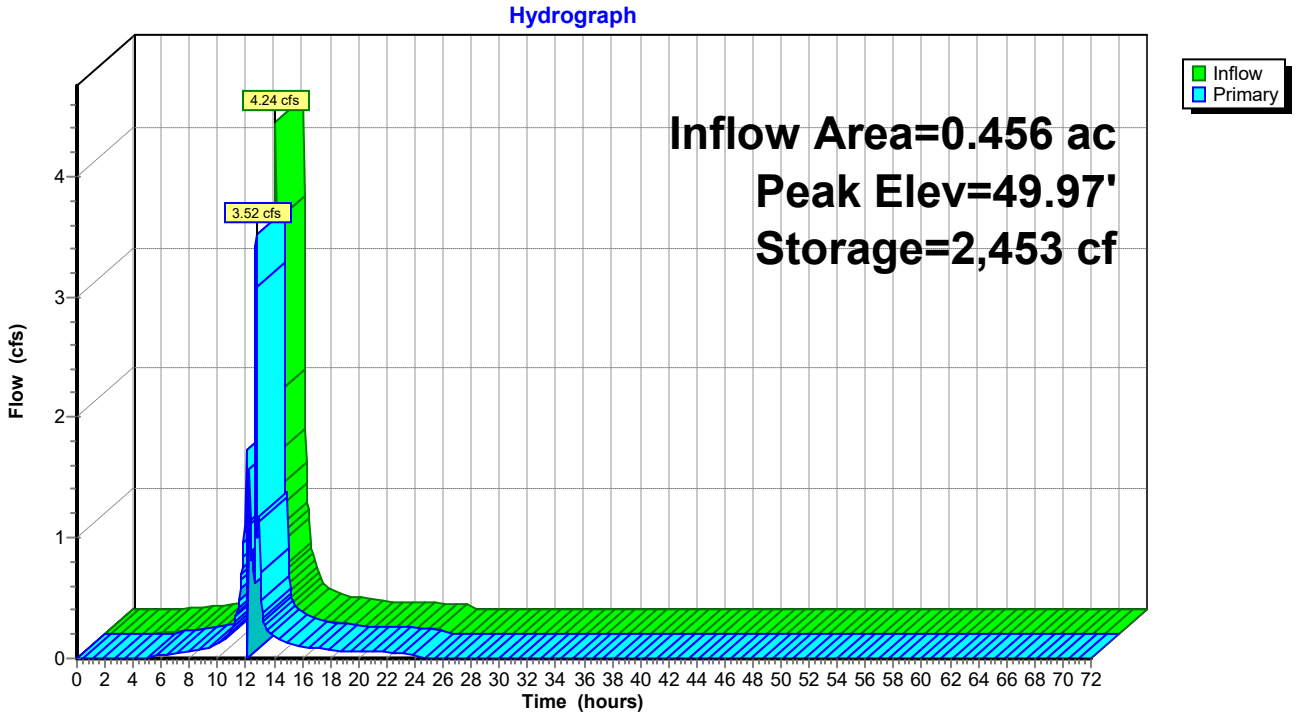
| Volume | Invert | Avail.Storage | Storage Description |
|---|---|---|---|
| #1 | 32.00' | 2,453 cf | **Custom Stage Data (Irregular)** Listed below |

| Elevation (feet) | Surf.Area (sq-ft) | Perim. (feet) | Voids (%) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) | Wet.Area (sq-ft) |
|---|---|---|---|---|---|---|
| 32.00 | 239 | 126.9 | 0.0 | 0 | 0 | 239 |
| 32.01 | 239 | 125.9 | 40.0 | 1 | 1 | 259 |
| 35.45 | 239 | 125.9 | 40.0 | 329 | 330 | 692 |
| 35.46 | 239 | 125.9 | 100.0 | 2 | 332 | 694 |
| 36.46 | 645 | 144.7 | 100.0 | 426 | 758 | 1,120 |
| 37.75 | 2,127 | 215.9 | 100.0 | 1,696 | 2,453 | 3,177 |

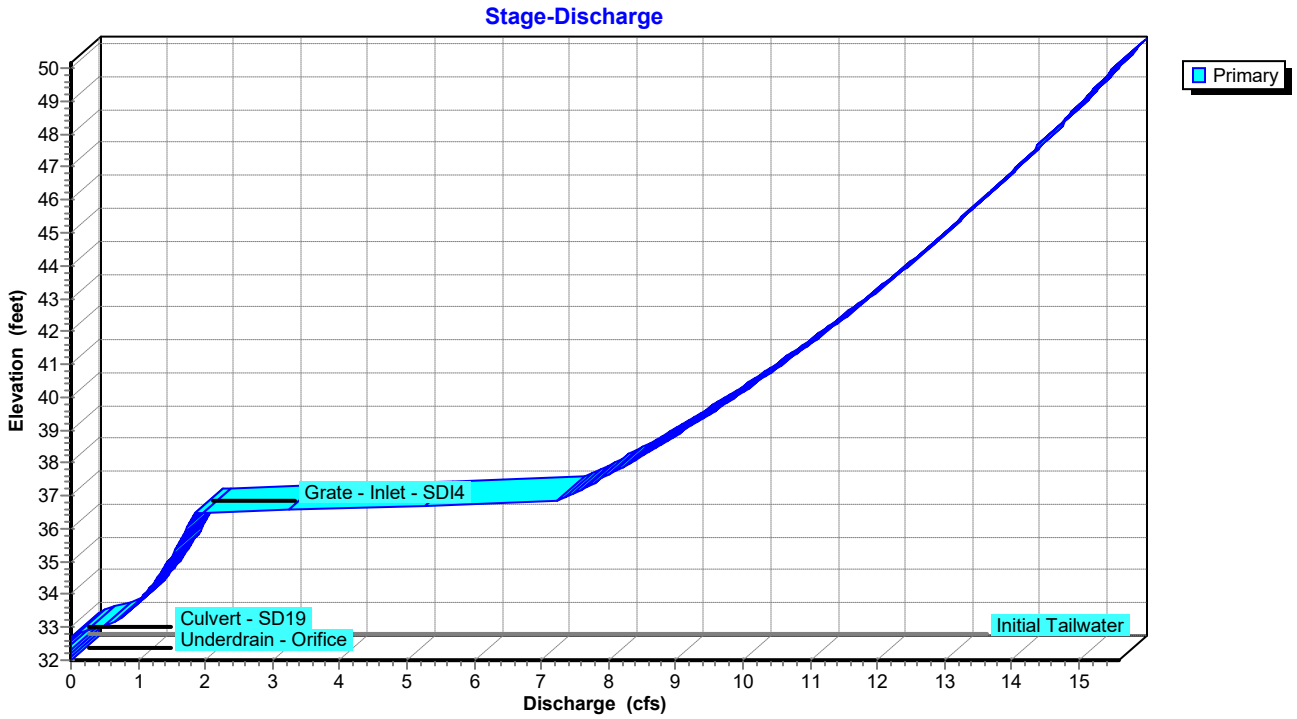
| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 32.66' | **12.0" Round Culvert - SD19**<br>L= 49.3' Box, headwall w/3 square edges, Ke= 0.500<br>Inlet / Outlet Invert= 32.66' / 32.41' S= 0.0051 '/' Cc= 0.900<br>n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf |
| #2 | Device 1 | 36.46' | **24.0" x 24.0" Horiz. Grate - Inlet - SDI4** C= 0.600<br>Limited to weir flow at low heads |
| #3 | Device 1 | 32.01' | **6.0" Vert. Underdrain - Orifice** C= 0.600<br>Limited to weir flow at low heads |

**Primary OutFlow** Max=3.55 cfs @ 12.72 hrs HW=37.27' TW=36.39' (Dynamic Tailwater)
└─**1=Culvert - SD19** (Inlet Controls 3.55 cfs @ 4.51 fps)
  ├─**2=Grate - Inlet - SDI4** (Passes < 17.31 cfs potential flow)
  └─**3=Underdrain - Orifice** (Passes < 0.89 cfs potential flow)

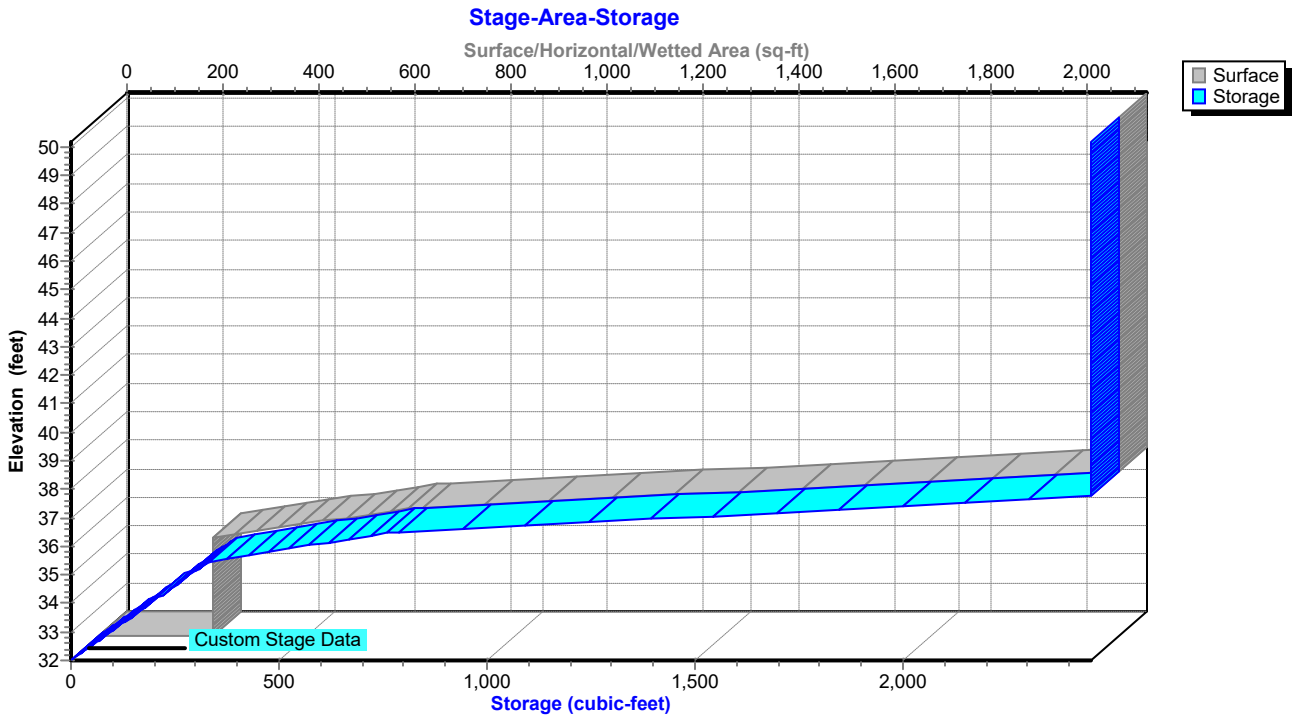
## Pond MBR-5: MBR-5




## Pond MBR-5: MBR-5



## Pond MBR-5: MBR-5



## Summary for Pond SDMH-3: SDMH-3

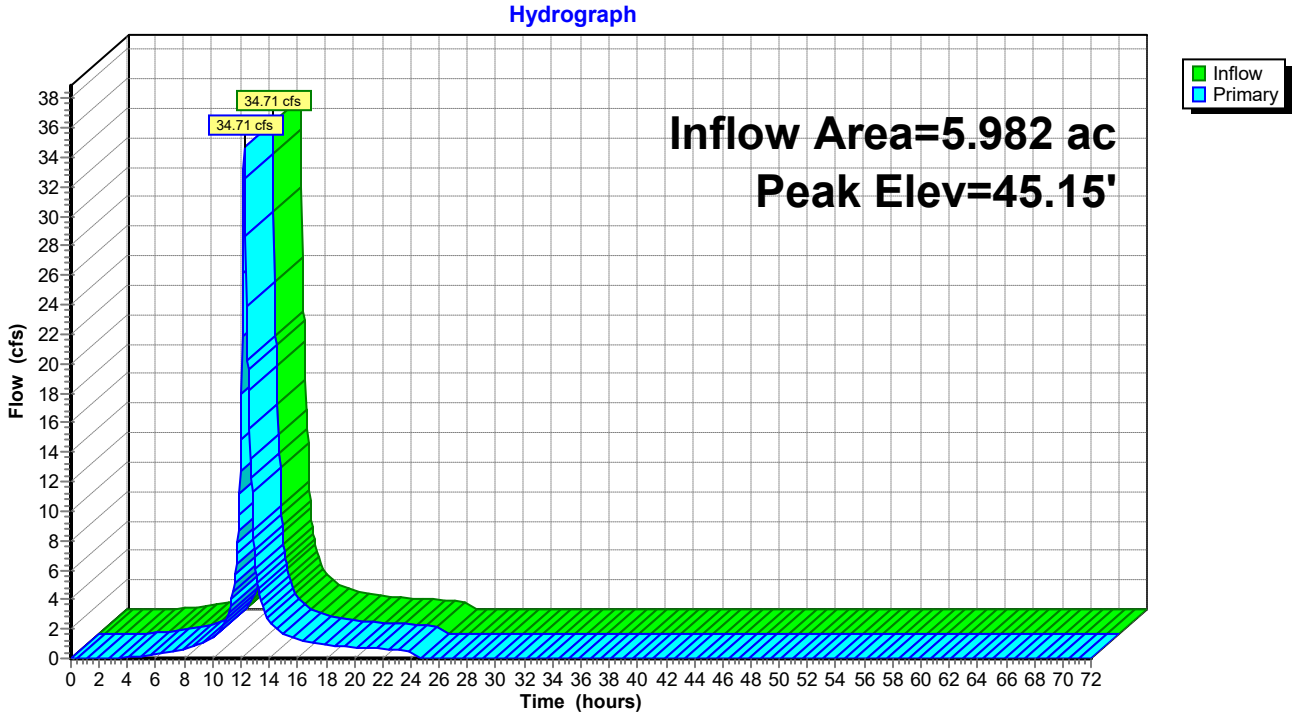
Inflow Area = 5.982 ac, 67.85% Impervious, Inflow Depth = 7.32" for 100-Year event
Inflow = 34.71 cfs @ 12.25 hrs, Volume= 3.652 af
Outflow = 34.71 cfs @ 12.25 hrs, Volume= 3.652 af, Atten= 0%, Lag= 0.0 min
Primary = 34.71 cfs @ 12.25 hrs, Volume= 3.652 af
Routed to Pond SGW : SGW

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 45.15' @ 12.25 hrs

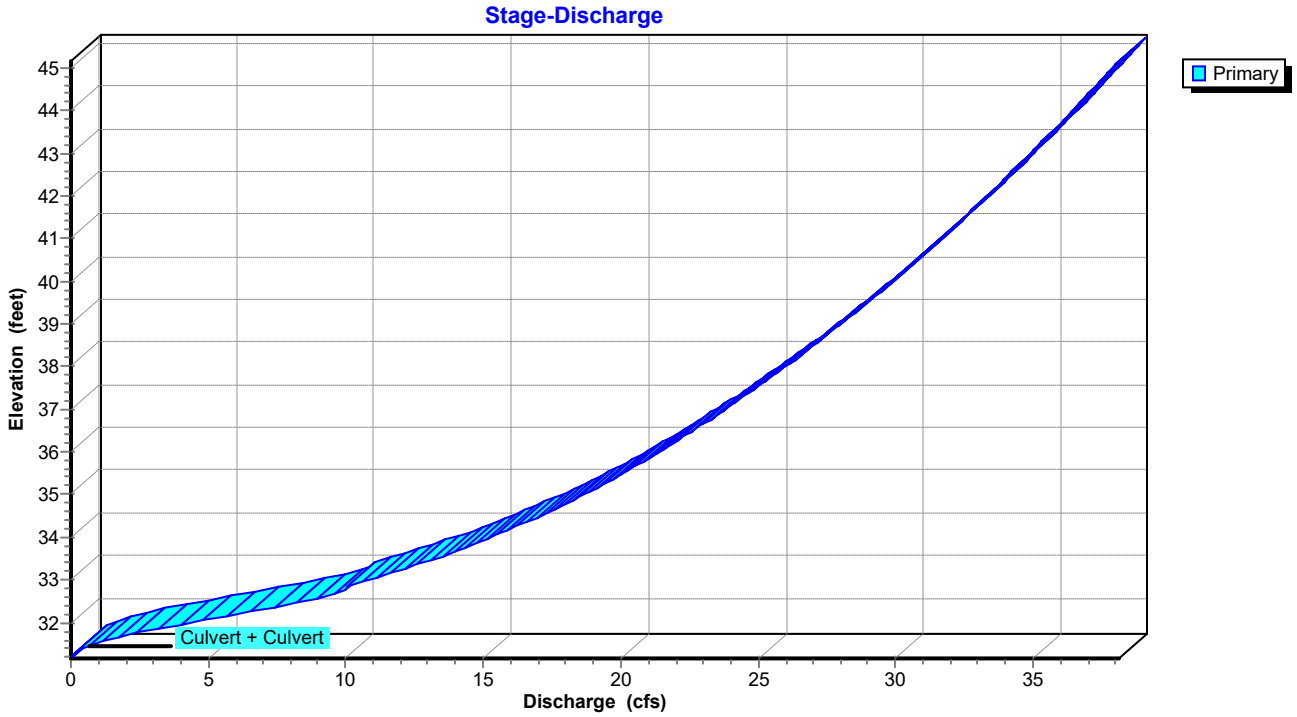
| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 31.16' | **15.0" Round Culvert**<br>L= 81.6' Box, 0° wingwalls, square crown edge, Ke= 0.700<br>Inlet / Outlet Invert= 31.16' / 30.75' S= 0.0050 '/' Cc= 0.900<br>n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.23 sf |
| #2 | Primary | 31.16' | **15.0" Round Culvert**<br>L= 81.0' Box, 0° wingwalls, square crown edge, Ke= 0.700<br>Inlet / Outlet Invert= 31.16' / 30.75' S= 0.0051 '/' Cc= 0.900<br>n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.23 sf |

**Primary OutFlow** Max=34.59 cfs @ 12.25 hrs HW=45.04' TW=34.04' (Dynamic Tailwater)
**1=Culvert** (Inlet Controls 17.30 cfs @ 14.09 fps)
**2=Culvert** (Inlet Controls 17.30 cfs @ 14.09 fps)

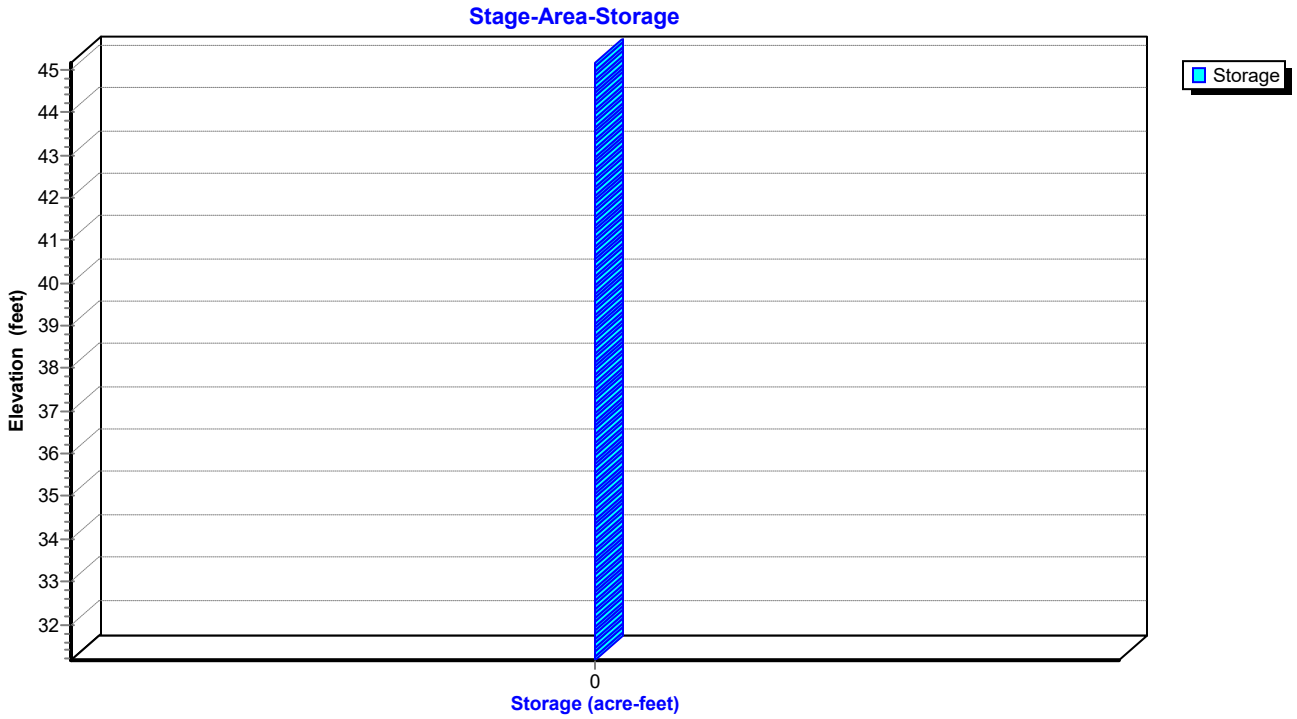
## Pond SDMH-3: SDMH-3



## Pond SDMH-3: SDMH-3




## Pond SDMH-3: SDMH-3



## Summary for Pond SDMH-4: SDMH-4

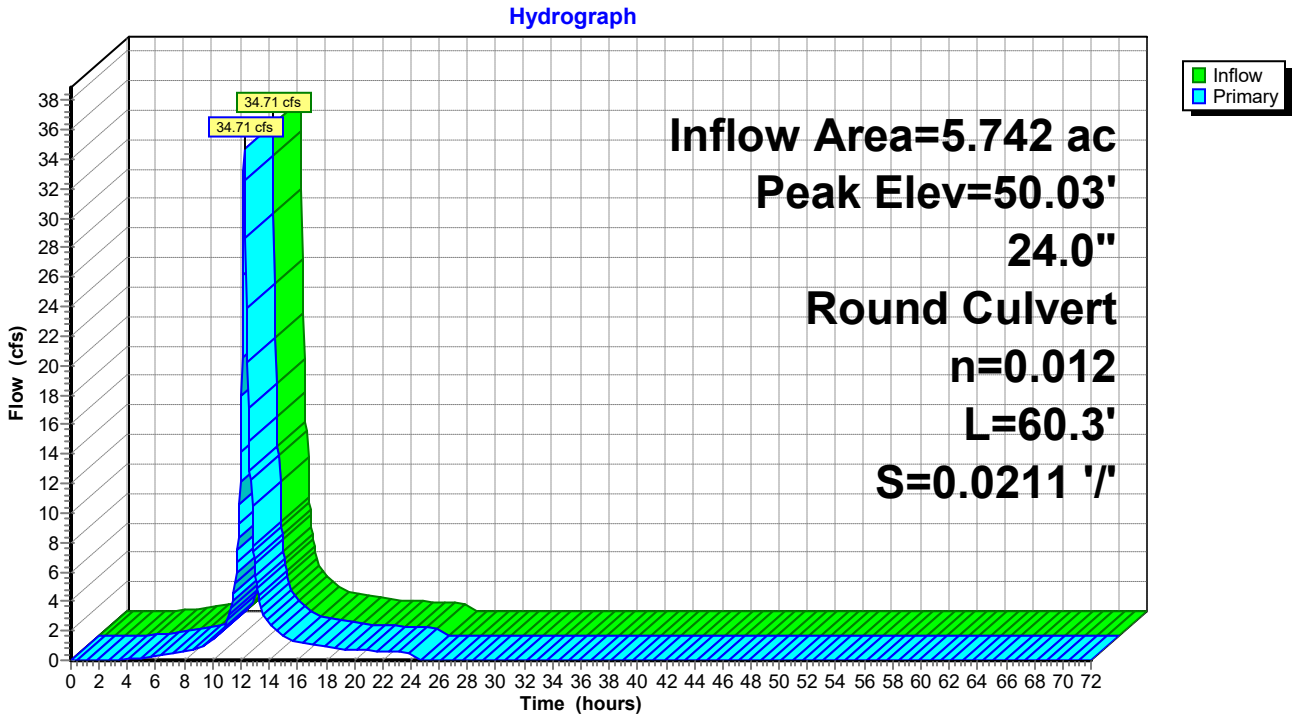
Inflow Area = 5.742 ac, 67.34% Impervious, Inflow Depth = 7.29" for 100-Year event
Inflow = 34.71 cfs @ 12.25 hrs, Volume= 3.489 af
Outflow = 34.71 cfs @ 12.25 hrs, Volume= 3.489 af, Atten= 0%, Lag= 0.0 min
Primary = 34.71 cfs @ 12.25 hrs, Volume= 3.489 af
Routed to Pond SDMH-3 : SDMH-3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 50.03' @ 12.25 hrs

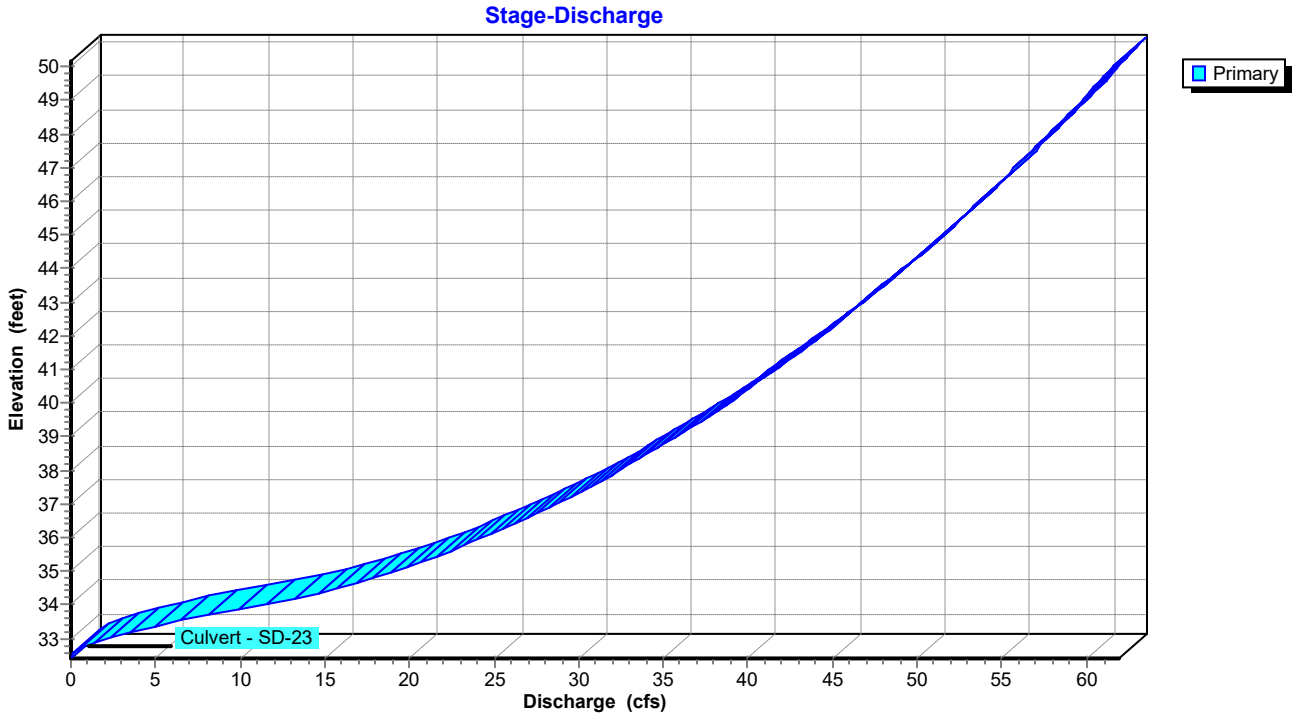
| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 32.41' | **24.0" Round Culvert - SD-23**<br>L= 60.3' Box, headwall w/3 square edges, Ke= 0.500<br>Inlet / Outlet Invert= 32.41' / 31.14' S= 0.0211 '/' Cc= 0.900<br>n= 0.012 Corrugated PP, smooth interior, Flow Area= 3.14 sf |

**Primary OutFlow** Max=33.32 cfs @ 12.25 hrs HW=49.89' TW=45.04' (Dynamic Tailwater)
**1=Culvert - SD-23** (Inlet Controls 33.32 cfs @ 10.61 fps)

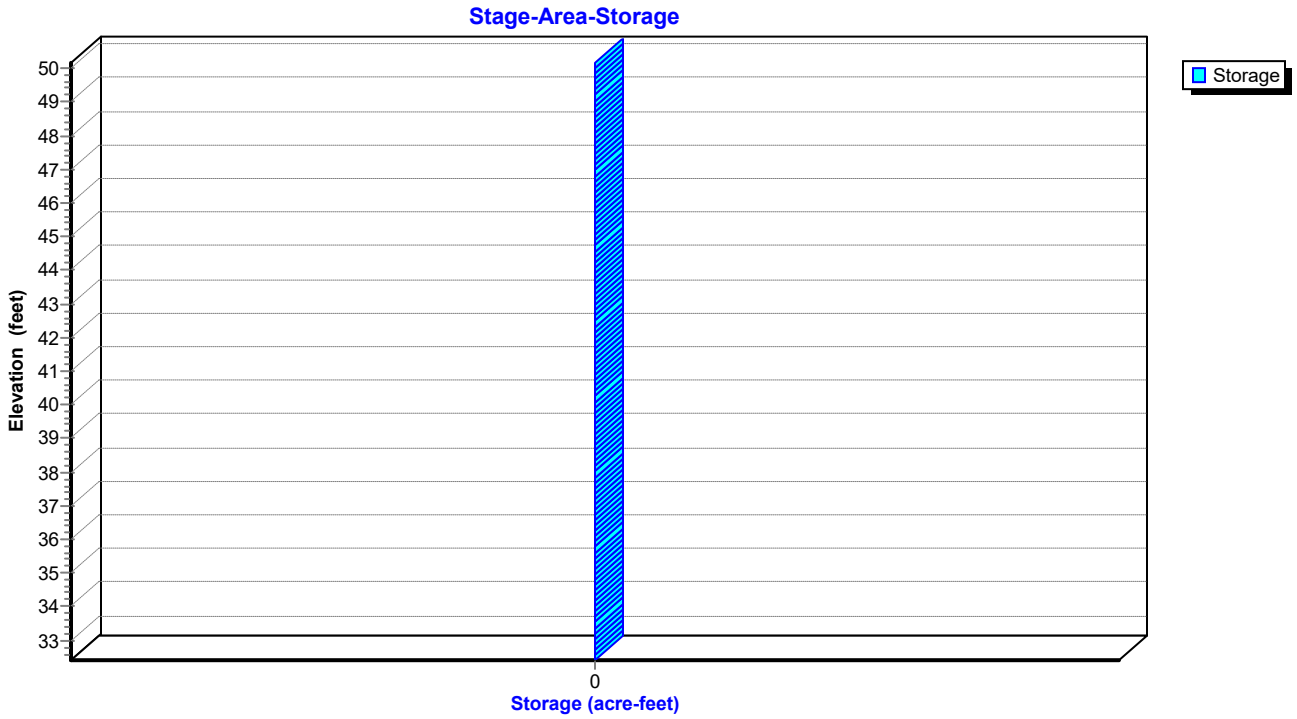
## Pond SDMH-4: SDMH-4



## Pond SDMH-4: SDMH-4




## Pond SDMH-4: SDMH-4



## Summary for Pond SDMH-5: SDMH-5

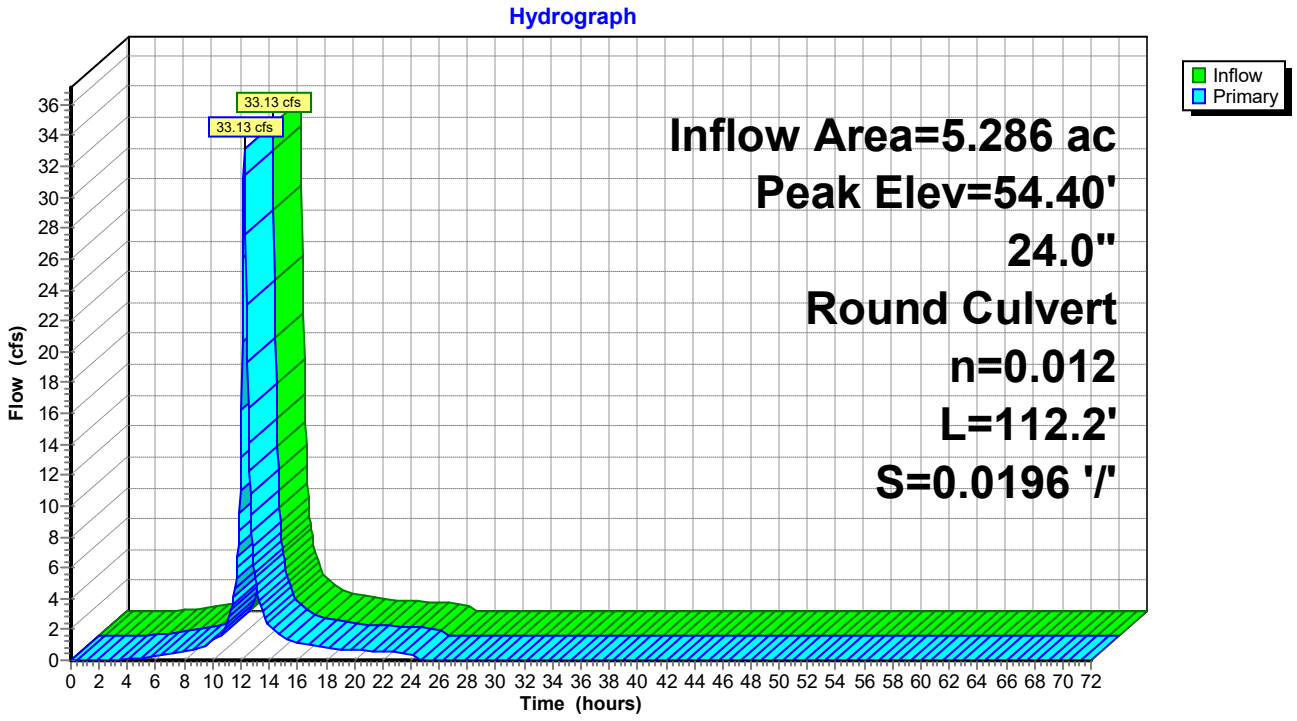
Inflow Area = 5.286 ac, 67.12% Impervious, Inflow Depth = 7.28" for 100-Year event
Inflow = 33.13 cfs @ 12.25 hrs, Volume= 3.208 af
Outflow = 33.13 cfs @ 12.25 hrs, Volume= 3.208 af, Atten= 0%, Lag= 0.0 min
Primary = 33.13 cfs @ 12.25 hrs, Volume= 3.208 af
Routed to Pond SDMH-4 : SDMH-4

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 54.40' @ 12.28 hrs

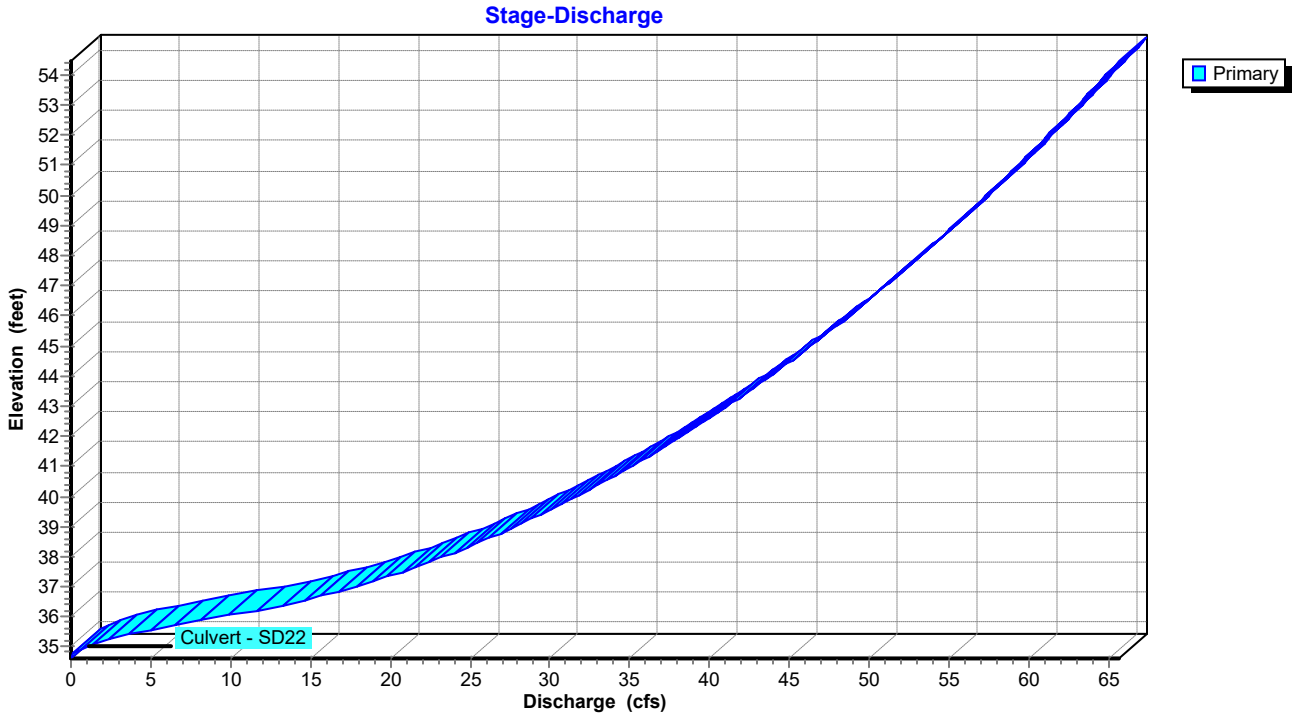
| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 34.62' | **24.0" Round Culvert - SD22**<br>L= 112.2' Box, headwall w/3 square edges, Ke= 0.500<br>Inlet / Outlet Invert= 34.62' / 32.42' S= 0.0196 '/' Cc= 0.900<br>n= 0.012 Corrugated PP, smooth interior, Flow Area= 3.14 sf |

**Primary OutFlow** Max=29.78 cfs @ 12.25 hrs HW=53.85' TW=49.97' (Dynamic Tailwater)
**1=Culvert - SD22** (Inlet Controls 29.78 cfs @ 9.48 fps)

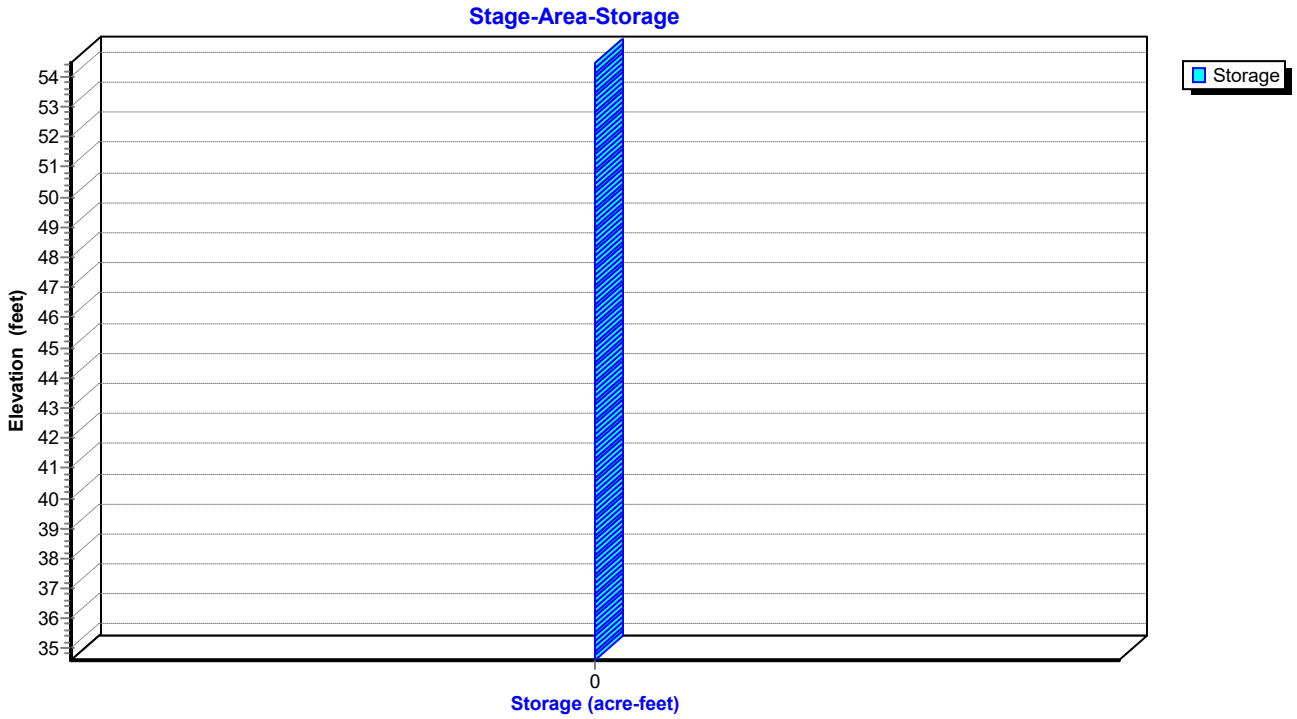
### Pond SDMH-5: SDMH-5



## Pond SDMH-5: SDMH-5




## Pond SDMH-5: SDMH-5



## Summary for Pond SGW: SGW

Inflow Area = 6.996 ac, 67.72% Impervious, Inflow Depth = 7.31" for 100-Year event
Inflow = 40.43 cfs @ 12.25 hrs, Volume= 4.262 af
Outflow = 25.17 cfs @ 12.43 hrs, Volume= 4.262 af, Atten= 38%, Lag= 10.9 min
Primary = 25.17 cfs @ 12.43 hrs, Volume= 4.262 af
Routed to Link PR-SP-1 : PR-SP-1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
Starting Elev= 30.42' Storage= 0 cf
Peak Elev= 34.51' @ 12.43 hrs Surf.Area= 23,768 sf Storage= 26,769 cf

Plug-Flow detention time= 19.3 min calculated for 4.259 af (100% of inflow)
Center-of-Mass det. time= 19.4 min ( 815.6 - 796.2 )

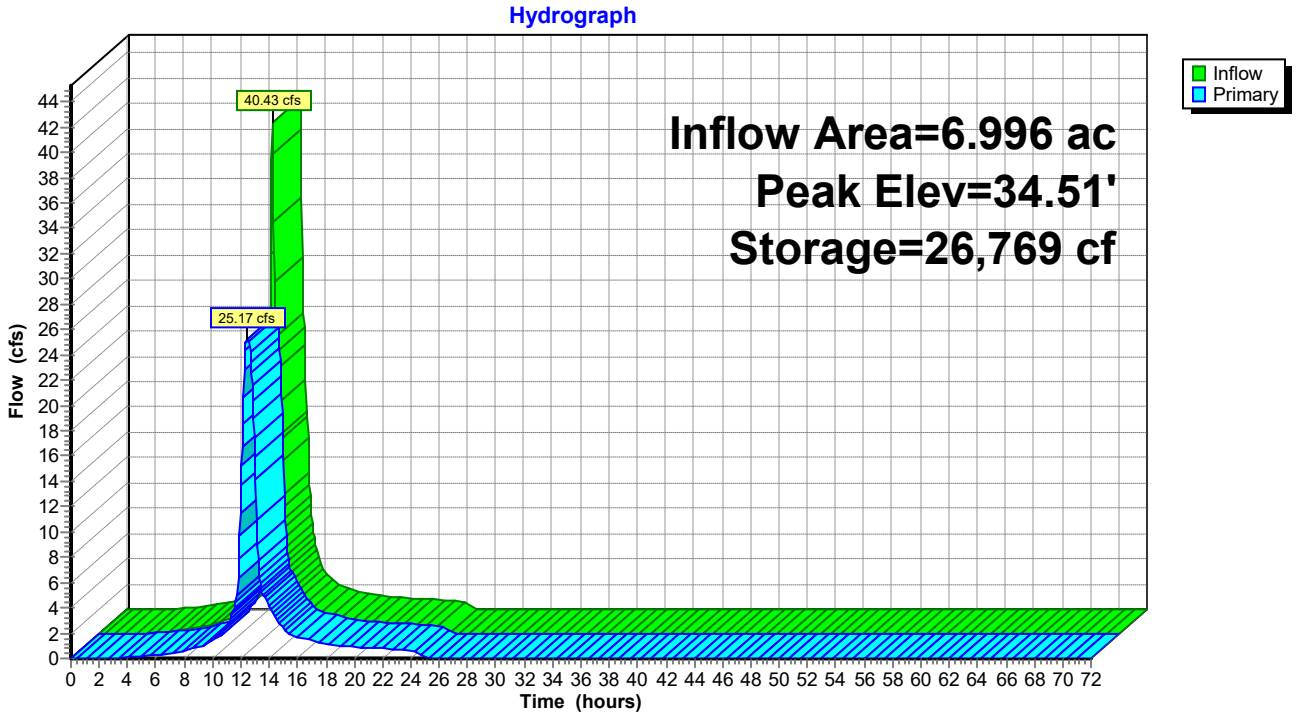
| Volume | Invert | Avail.Storage | Storage Description |
|---|---|---|---|
| #1 | 30.75' | 34,708 cf | **Custom Stage Data (Irregular)** Listed below (Recalc) |

| Elevation (feet) | Surf.Area (sq-ft) | Perim. (feet) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) | Wet.Area (sq-ft) |
|---|---|---|---|---|---|
| 30.75 | 4,692 | 305.3 | 0 | 0 | 4,692 |
| 31.25 | 5,135 | 313.7 | 2,456 | 2,456 | 5,134 |
| 31.75 | 5,608 | 322.3 | 2,685 | 5,141 | 5,597 |
| 32.25 | 6,095 | 330.8 | 2,925 | 8,066 | 6,068 |
| 32.75 | 6,592 | 339.4 | 3,171 | 11,237 | 6,556 |
| 33.25 | 7,157 | 350.0 | 3,436 | 14,673 | 7,163 |
| 33.75 | 7,979 | 388.0 | 3,782 | 18,455 | 9,402 |
| 34.25 | 8,868 | 419.0 | 4,210 | 22,665 | 11,403 |
| 34.75 | 43,702 | 1,798.0 | 12,043 | 34,708 | 254,692 |

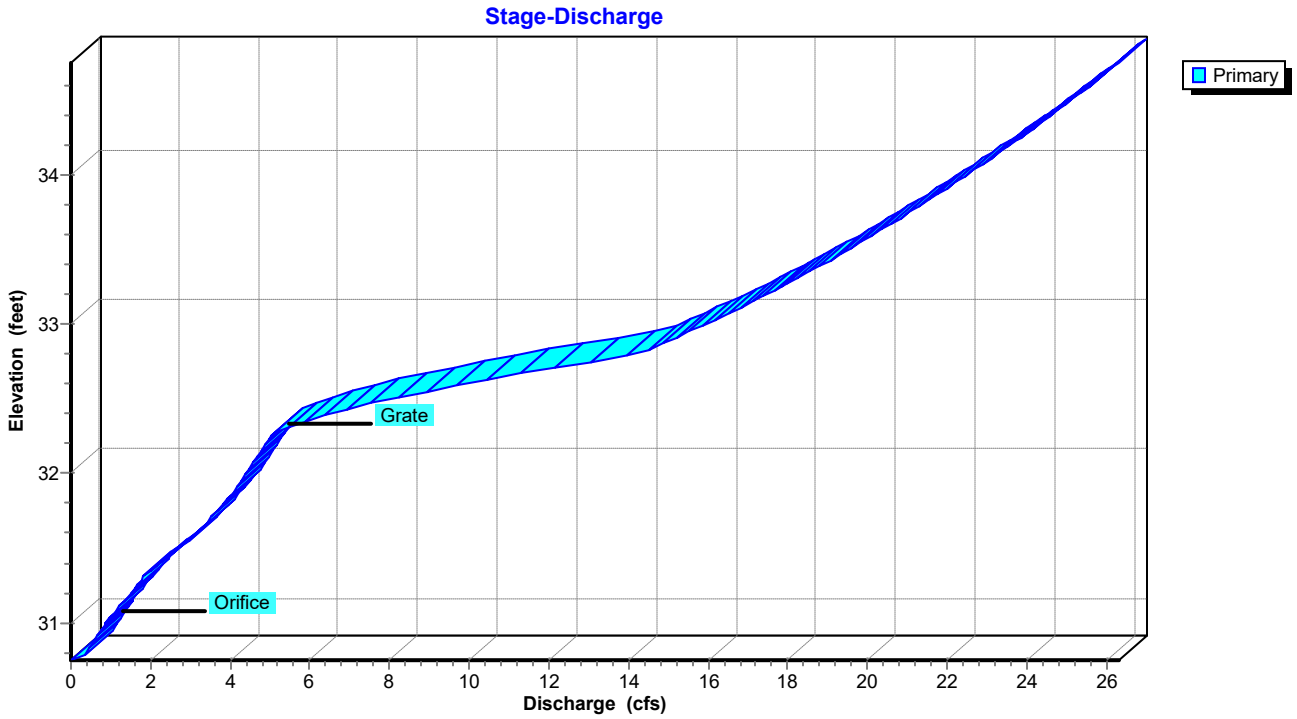
| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 25.70' | **24.0" Round Culvert**<br>L= 42.9' Box, headwall w/3 square edges, Ke= 0.500<br>Inlet / Outlet Invert= 25.70' / 25.50' S= 0.0047 '/' Cc= 0.900<br>n= 0.010 PVC, smooth interior, Flow Area= 3.14 sf |
| #2 | Device 1 | 30.42' | **8.0" Round Collection Pipe X 2.00**<br>L= 35.0' CPP, square edge headwall, Ke= 0.500<br>Inlet / Outlet Invert= 30.42' / 30.42' S= 0.0000 '/' Cc= 0.900<br>n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.35 sf |
| #3 | Device 1 | 32.25' | **18.0" x 18.0" Horiz. Grate** C= 0.600<br>Limited to weir flow at low heads |
| #4 | Primary | 31.00' | **8.0" Vert. Orifice** C= 0.600 Limited to weir flow at low heads |

**Primary OutFlow** Max=25.16 cfs @ 12.43 hrs HW=34.51' TW=0.00' (Dynamic Tailwater)
- **1=Culvert** (Passes 22.16 cfs of 42.27 cfs potential flow)
  - **2=Collection Pipe** (Barrel Controls 5.88 cfs @ 8.42 fps)
  - **3=Grate** (Orifice Controls 16.28 cfs @ 7.24 fps)
- **4=Orifice** (Orifice Controls 3.00 cfs @ 8.58 fps)

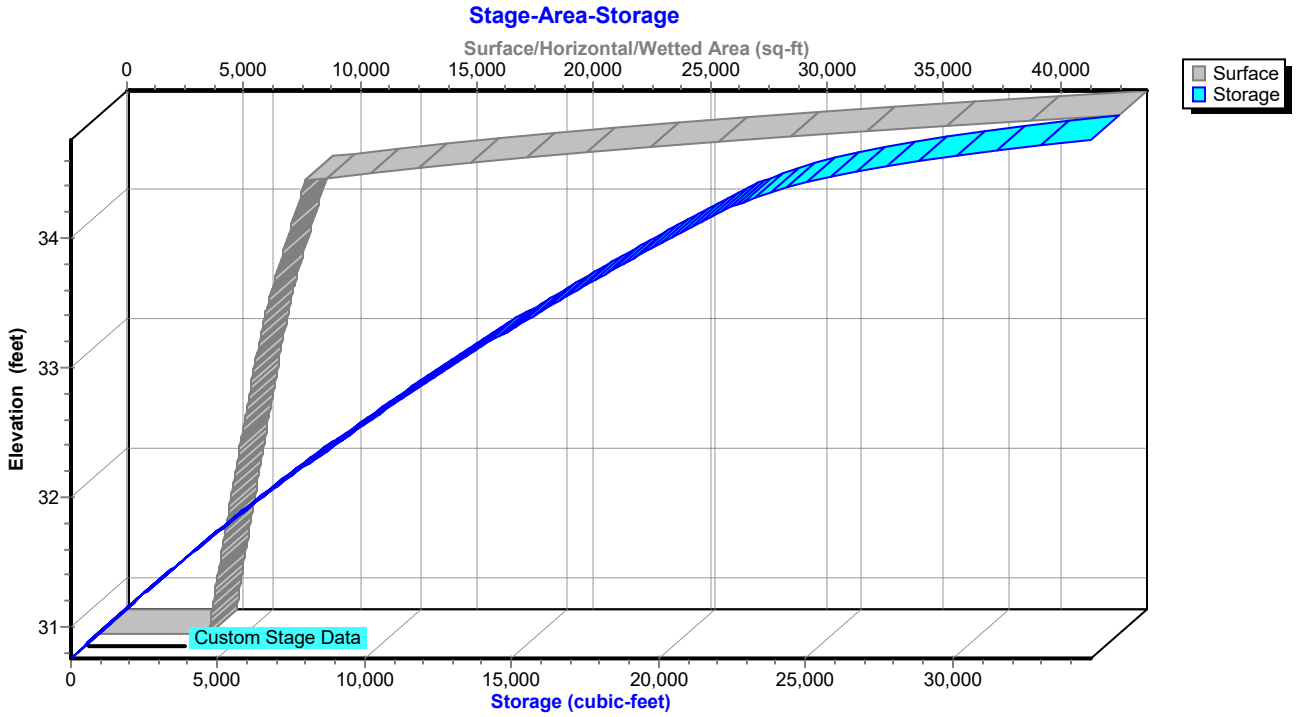
## Pond SGW: SGW




## Pond SGW: SGW



## Pond SGW: SGW


Stage-Area-Storage
Surface/Horizontal/Wetted Area (sq-ft)
0
5,000
10,000
15,000
20,000
25,000
30,000
35,000
40,000
Surface
Storage
Elevation (feet)
34
33
32
31
Custom Stage Data
0
5,000
10,000
15,000
20,000
25,000
30,000
Storage (cubic-feet)

## Summary for Pond YI-1: YI-1

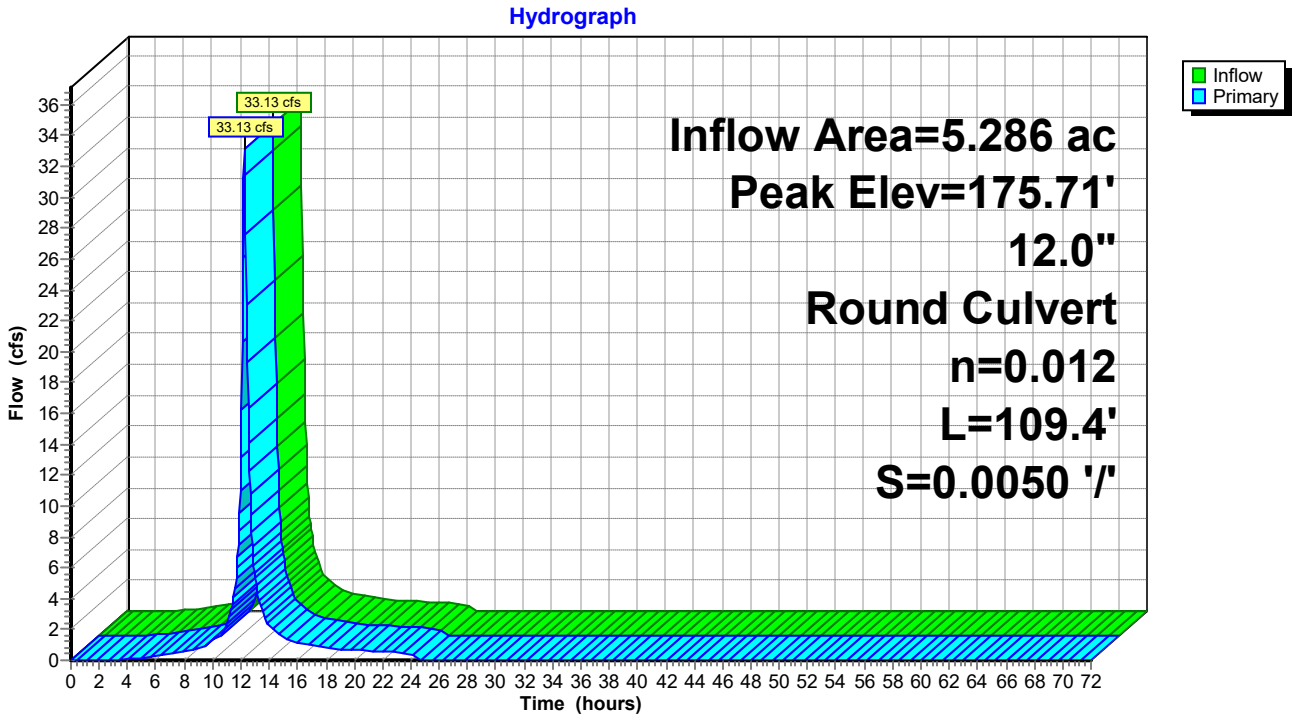
Inflow Area = 5.286 ac, 67.12% Impervious, Inflow Depth = 7.28" for 100-Year event
Inflow = 33.13 cfs @ 12.25 hrs, Volume= 3.208 af
Outflow = 33.13 cfs @ 12.25 hrs, Volume= 3.208 af, Atten= 0%, Lag= 0.0 min
Primary = 33.13 cfs @ 12.25 hrs, Volume= 3.208 af
Routed to Pond SDMH-5 : SDMH-5

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 175.71' @ 12.26 hrs

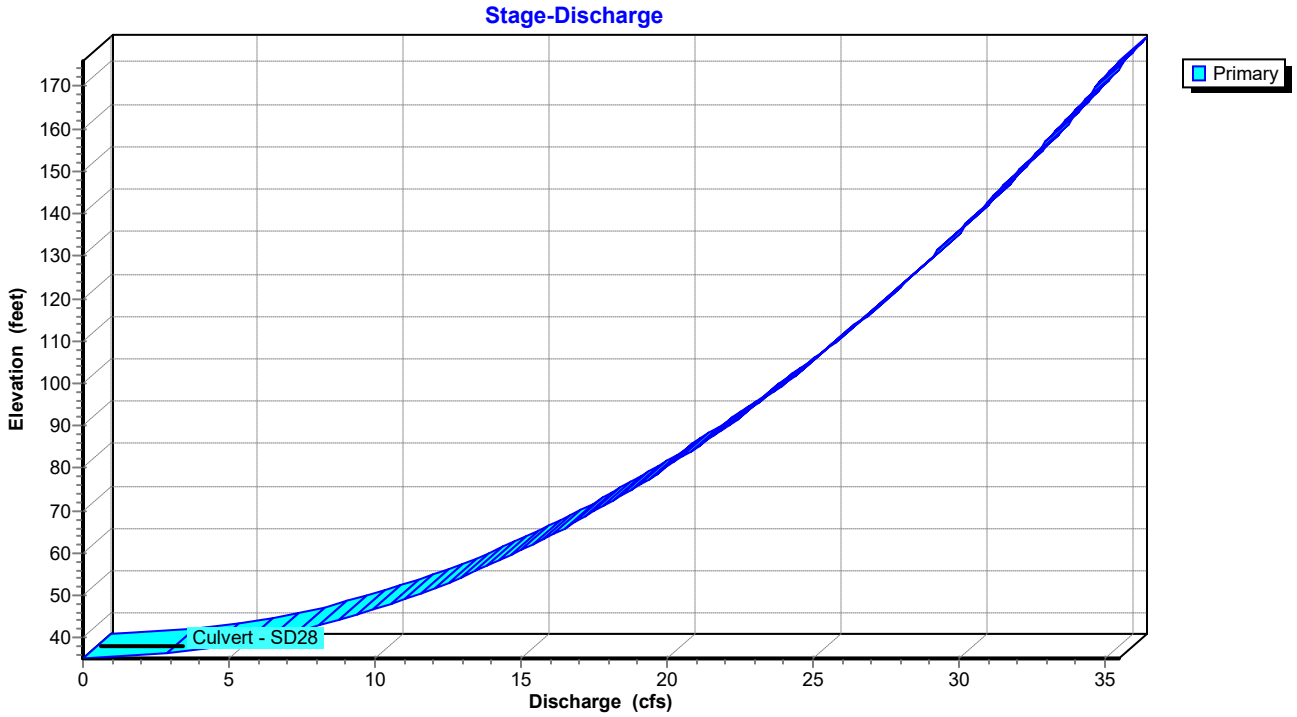
| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 35.16' | **12.0" Round Culvert - SD28**<br>L= 109.4' Box, headwall w/3 square edges, Ke= 0.500<br>Inlet / Outlet Invert= 35.16' / 34.61' S= 0.0050 '/' Cc= 0.900<br>n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf |

**Primary OutFlow** Max=32.97 cfs @ 12.25 hrs HW=175.00' TW=53.85' (Dynamic Tailwater)
**1=Culvert - SD28** (Outlet Controls 32.97 cfs @ 41.98 fps)

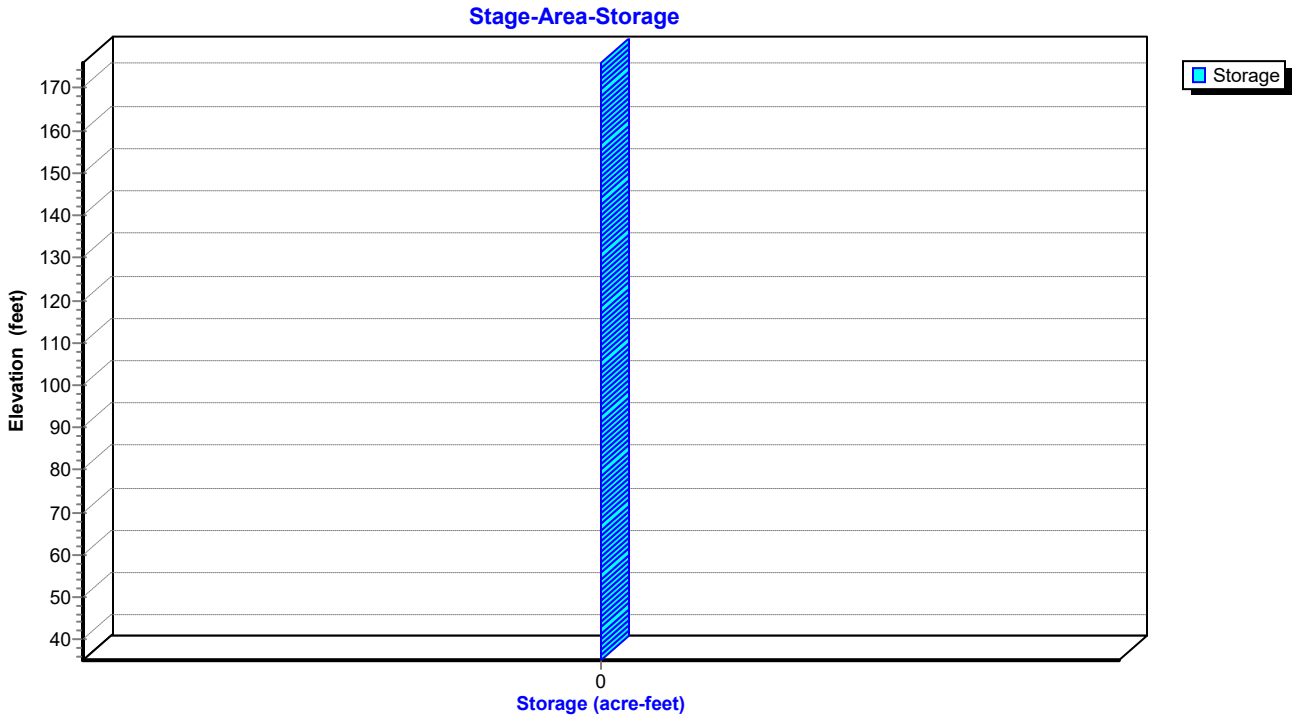
### Pond YI-1: YI-1



## Pond YI-1: YI-1




## Pond YI-1: YI-1



## Summary for Pond YI-2: YI-2

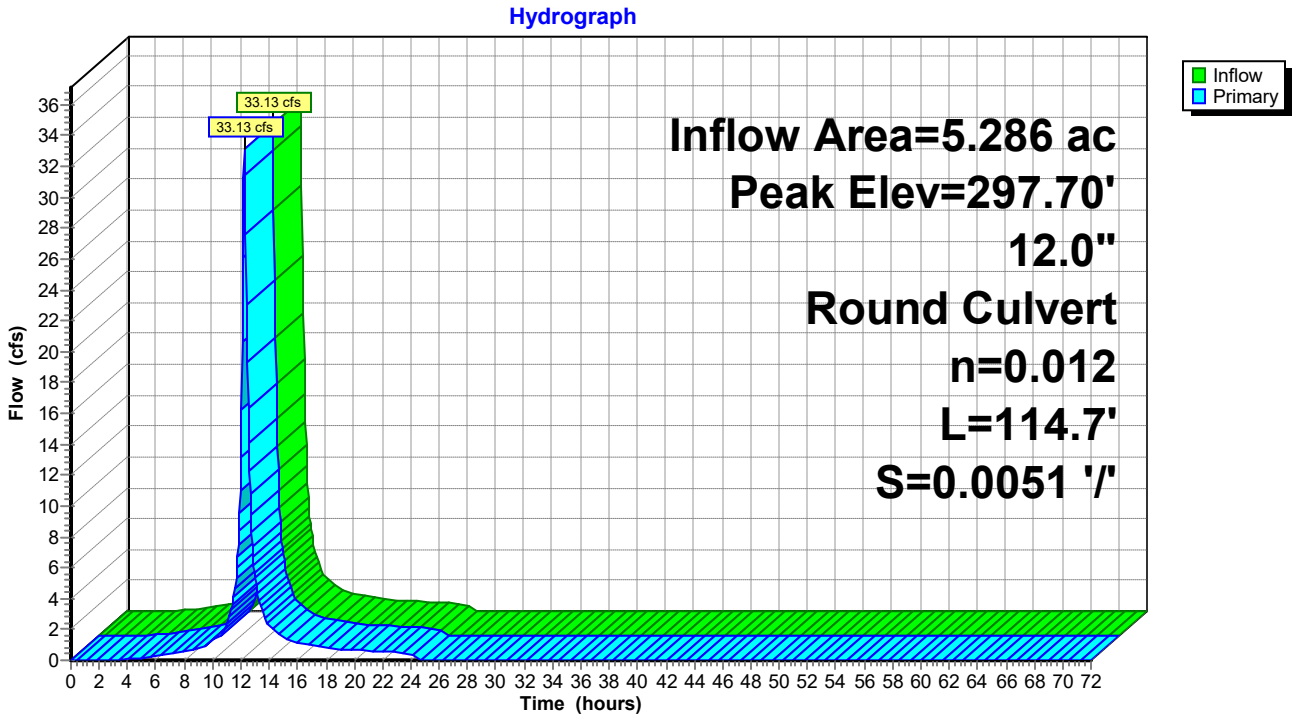
Inflow Area = 5.286 ac, 67.12% Impervious, Inflow Depth = 7.28" for 100-Year event
Inflow = 33.13 cfs @ 12.25 hrs, Volume= 3.208 af
Outflow = 33.13 cfs @ 12.25 hrs, Volume= 3.208 af, Atten= 0%, Lag= 0.0 min
Primary = 33.13 cfs @ 12.25 hrs, Volume= 3.208 af
Routed to Pond YI-1 : YI-1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 297.70' @ 12.26 hrs

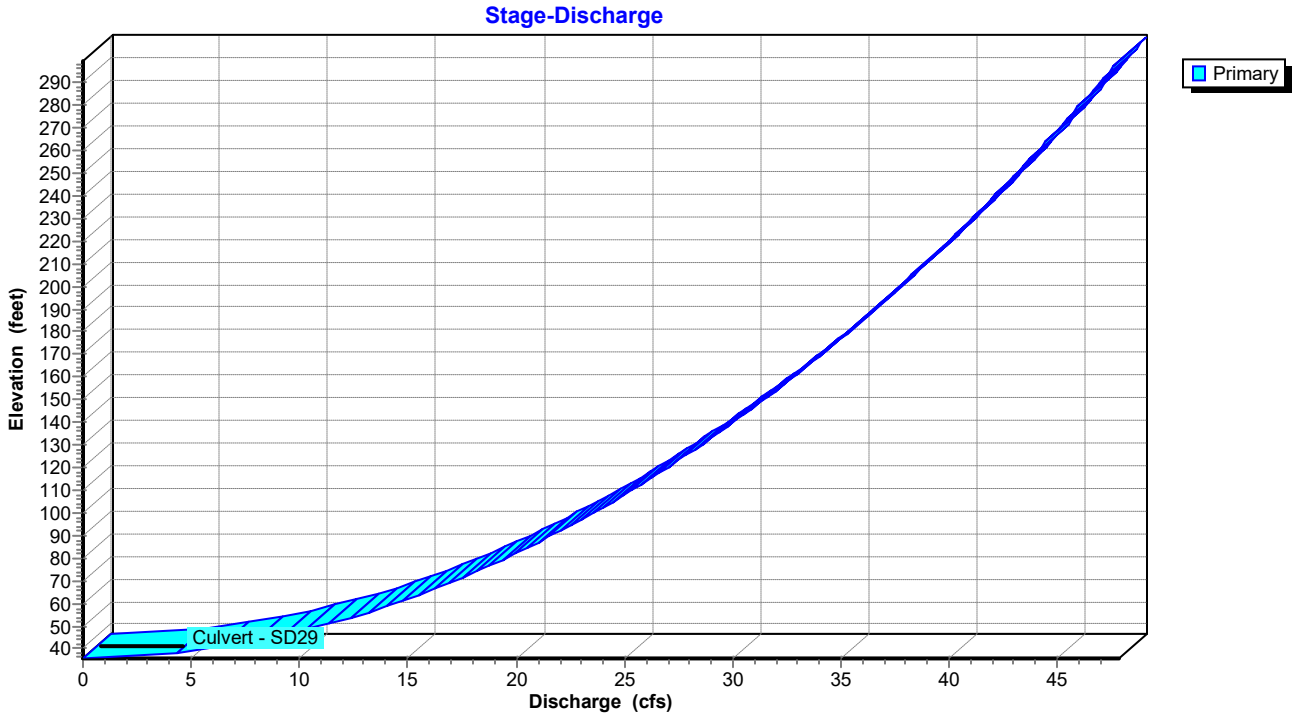
| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 35.74' | **12.0" Round Culvert - SD29**<br>L= 114.7' Box, headwall w/3 square edges, Ke= 0.500<br>Inlet / Outlet Invert= 35.74' / 35.16' S= 0.0051 '/' Cc= 0.900<br>n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf |

**Primary OutFlow** Max=32.52 cfs @ 12.25 hrs HW=296.61' TW=175.00' (Dynamic Tailwater)
**1=Culvert - SD29** (Outlet Controls 32.52 cfs @ 41.40 fps)

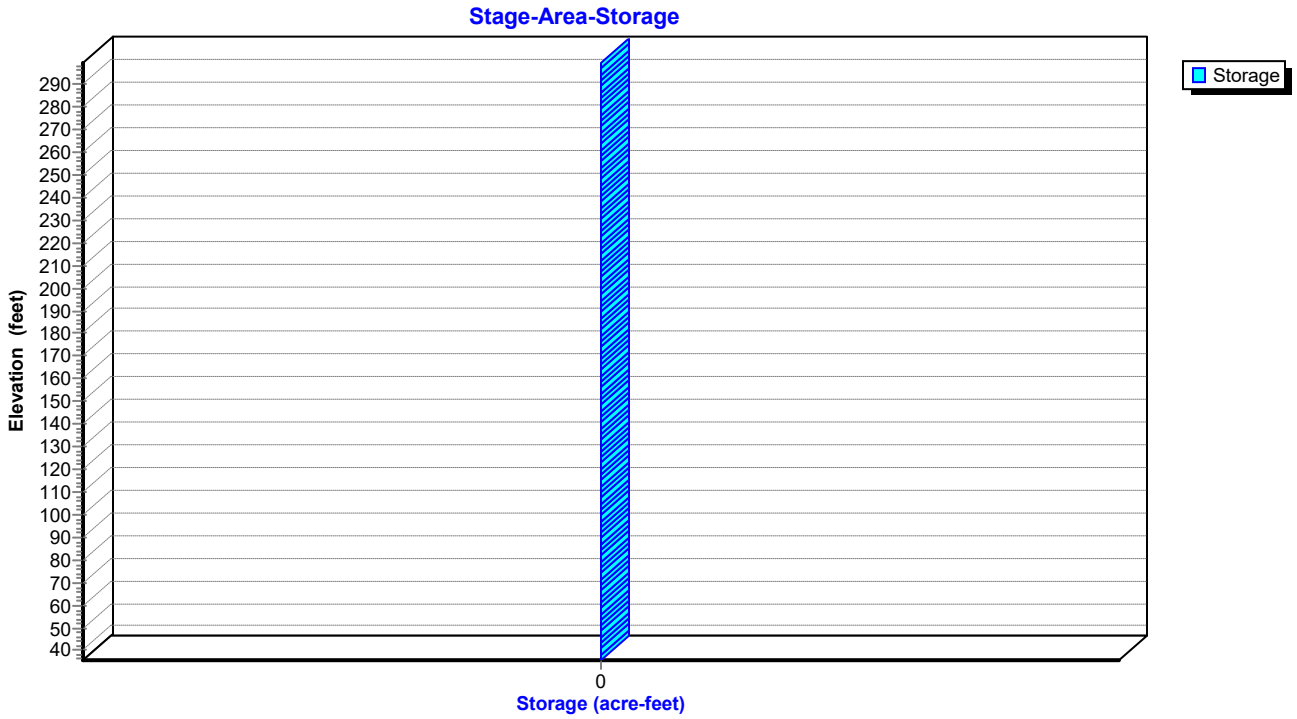
### Pond YI-2: YI-2



## Pond YI-2: YI-2




## Pond YI-2: YI-2

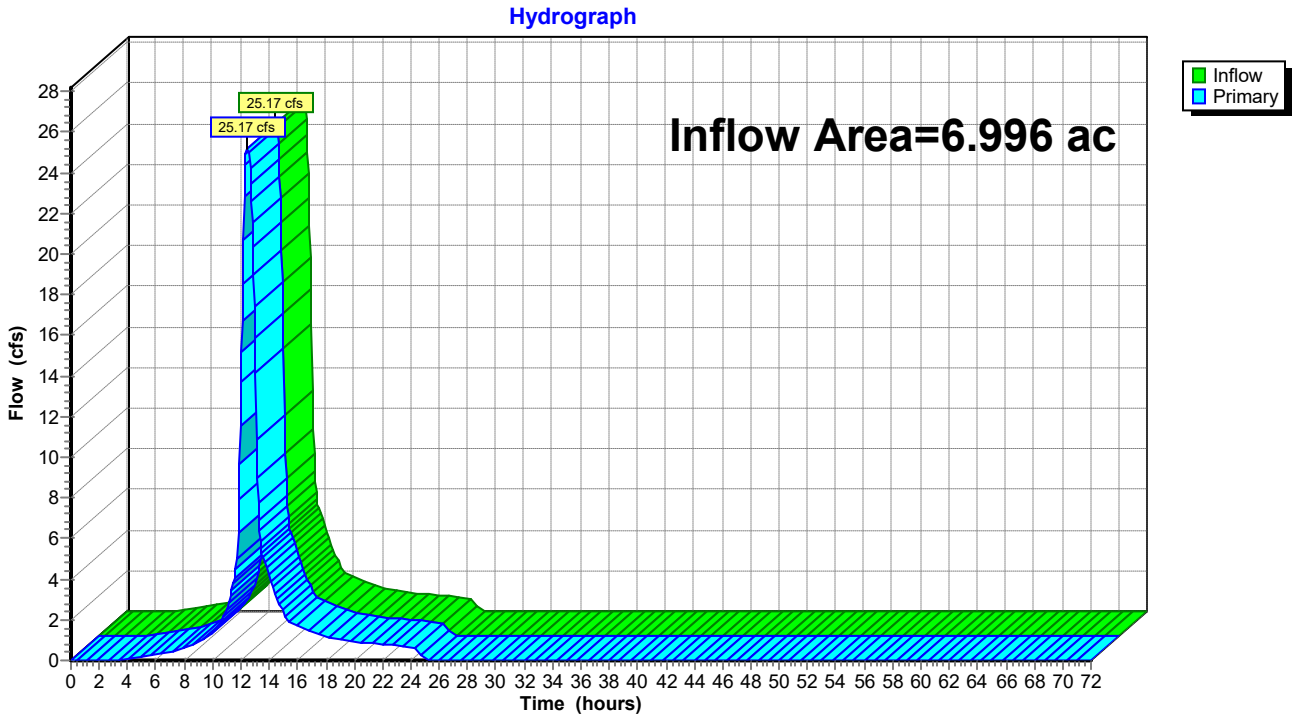


## Summary for Link PR-SP-1: PR-SP-1

Inflow Area = 6.996 ac, 67.72% Impervious, Inflow Depth = 7.31" for 100-Year event
Inflow = 25.17 cfs @ 12.43 hrs, Volume= 4.262 af
Primary = 25.17 cfs @ 12.43 hrs, Volume= 4.262 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

## Link PR-SP-1: PR-SP-1

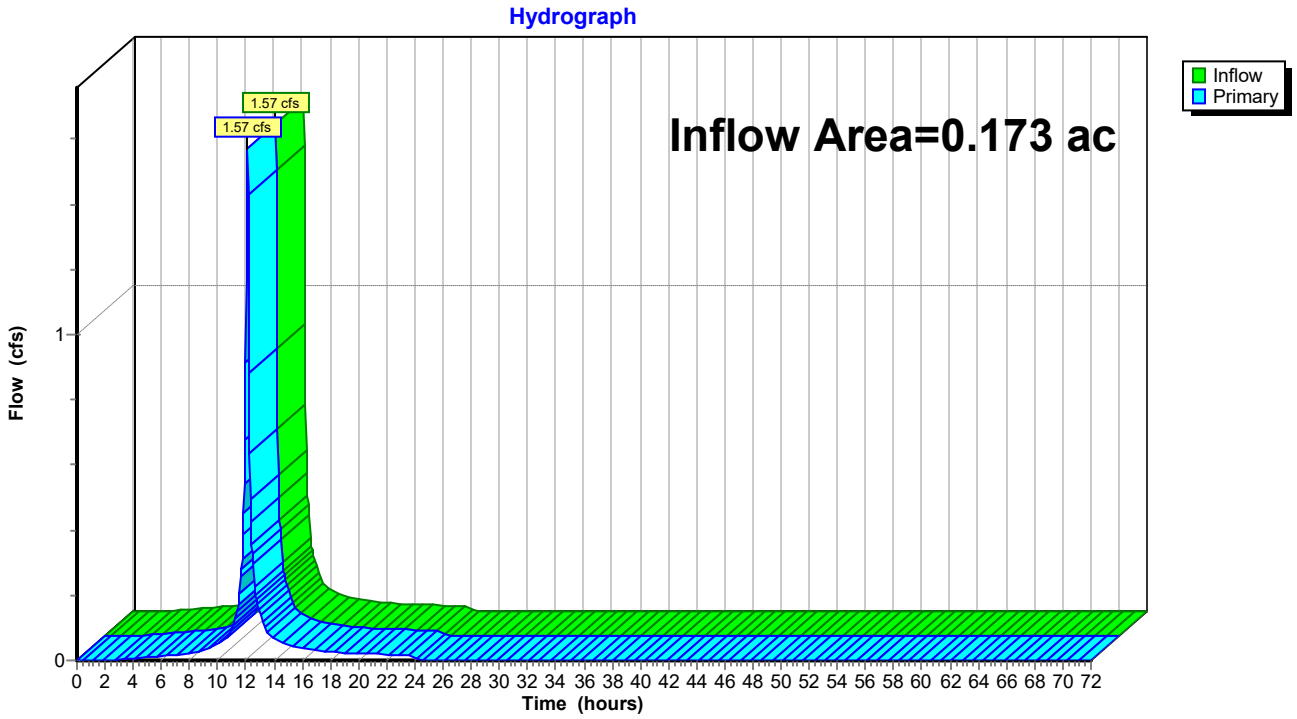


## Summary for Link PR-SP-2: PR-SP-2

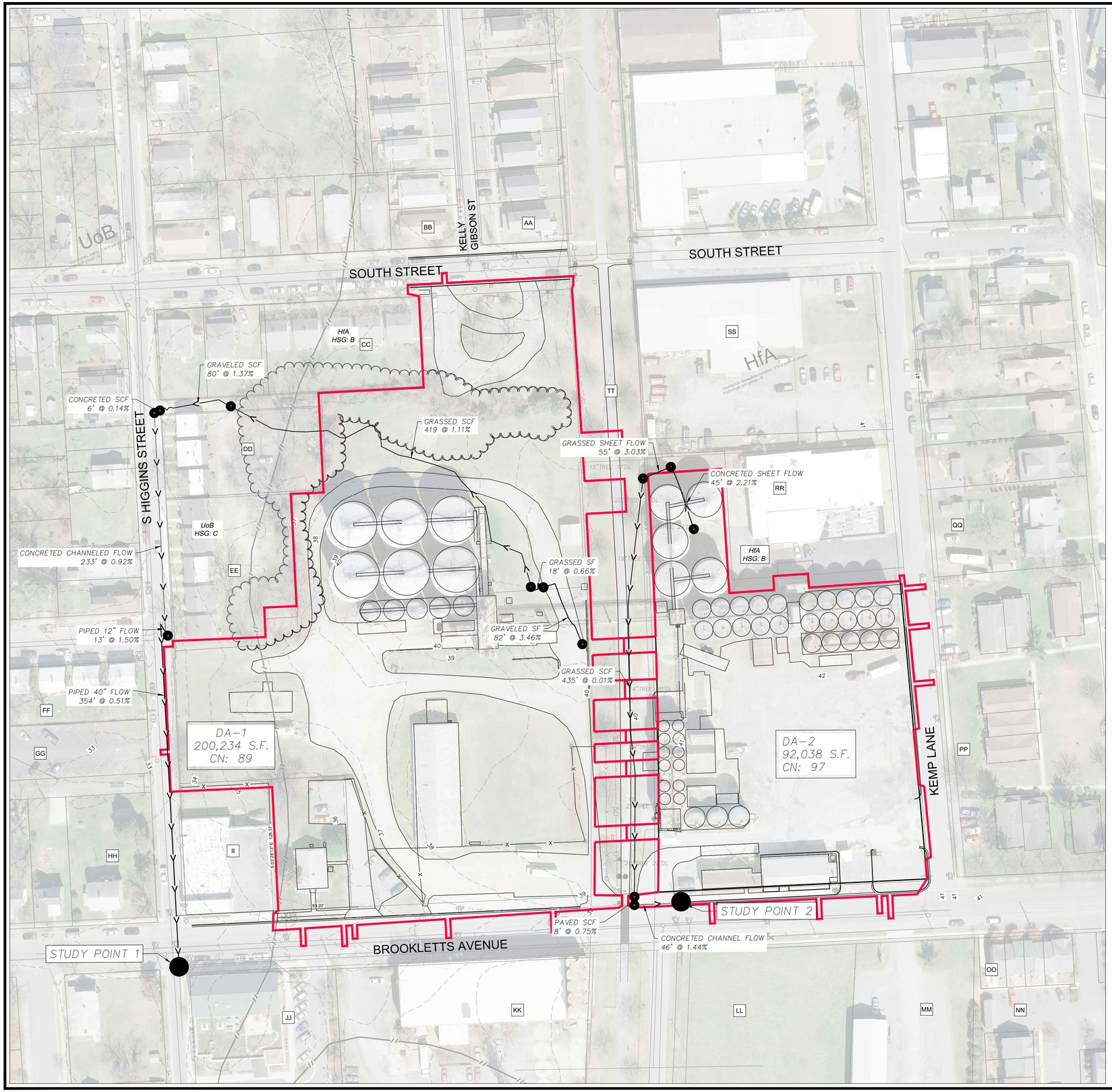
Inflow Area = 0.173 ac, 75.24% Impervious, Inflow Depth = 7.65" for 100-Year event
Inflow = 1.57 cfs @ 12.11 hrs, Volume= 0.110 af
Primary = 1.57 cfs @ 12.11 hrs, Volume= 0.110 af, Atten= 0%, Lag= 0.0 min

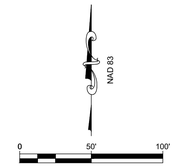
Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

## Link PR-SP-2: PR-SP-2



# Stormwater Drainage Area Maps




## LEGEND

- FLOWPATH
- DRAINAGE AREA
- SOILS BOUNDARY
- STUDY POINT

## PROPERTY DATA

| | |
|---|---|
| AA | 125 KEMP LLC<br>M/G/P: 0104/000EA/1822- B/P: 02734/00473 |
| BB | PRITCHETT HELEN M<br>M/G/P: 0104/00EA/1821 - B/P: 02609/00464 |
| CC | TOWN OF EASTON<br>M/G/P: 0105/000EA/2211 - B/P: 01595/00214 |
| DD | STUART MICHAEL, STUART MEGHAN<br>M/G/P: 0104/0000/1618 - B/P: 02899/00298 |
| EE | LEWIS BEVERLY<br>M/G/P: 0104/0000/1622 - B/P: 00890/00787 |
| FF | G M RENTALS L L C<br>M/G/P: 0104/00EA/1827 - B/P: 00786/00443 |
| GG | MARVEL PROPERTIES L L C<br>M/G/P: 0104/00EA/1830 - B/P: 00782/00168 |
| HH | MARVEL PROPERTIES L L C<br>M/G/P: 0104/00EA/1831 - B/P: 00782/00168 |
| II | MARVEL PROPERTIES LLC<br>M/G/P: 0104/00EA/1837 - B/P: 00786/00042 |
| JJ | FOR ALL SEASONS INC<br>M/G/P: 0104/000EA/1874 - B/P: 01511/00250 |
| KK | 401 BROOKLETTS LLC<br>M/G/P: 0104/00EA/1834 - B/P: 02325/00109 |
| LL | TALBOT COUNTY MARYLAND<br>M/G/P: 0105/00EA/2204 - B/P: 00613/00105 |
| MM | SHAW KENNETH L, SHAW BARBARA H<br>M/G/P: 0105/00EA/2205 - B/P: 02656/00470 |
| NN | DONALD D FOSTER INC<br>M/G/P: 0105/000EA/2206 - B/P: 00499/00522 |
| OO | EASTON CROSSING LLC<br>M/G/P: 0104/000EA/1823- B/P: 03117/00288 |
| PP | EASTON CROSSING LLC<br>M/G/P: 0104/000EA/1833 - B/P: 03114/00180 |
| QQ | EASTON CROSSING LLC<br>M/G/P: 0104/000EA/1816 - B/P: 03117/00288 |
| RR | 125 KEMP LLC<br>M/G/P: 0104/000EA/1822- B/P: 02734/00473 |
| SS | PRITCHETT HELEN M<br>M/G/P: 0104/000EA/1821 - B/P: 02609/00464 |
| TT | TOWN OF EASTON<br>M/G/P: 0105/000EA/2211 - B/P: 01595/00214 |

## SITE SOIL DATA

| Map Unit Symbol | Name | Hydrologic Soil Group | K-Factor | Hydric? |
|---|---|---|---|---|
| HfA | Hambrook-Sassafras complex, 0 to 2 percent slopes | B | 0.32 | No |
| UoB | Udorthents, loamy, 0 to 5 percent slopes | C | 0.37 | No |

# EXISTING CONDITIONS - QUANTITY ANALYSIS MAP

OF THE LANDS OF

# EASTON CROSSING

TAX MAP 0104, GRID 000EA/000 , PARCEL 1823,1826

EASTON, TALBOT COUNTY, MARYLAND

PREPARED FOR: EASTON CROSSING, LLC

RAUCH inc.
Engineering | Survey | Architecture | Environmental
Main Office: 106 N Harrison St - Easton, MD 21601
Web: www.rauch-inc.com | Email: design@rauchorg.com
Phone: 410 770 8081 | Fax: 410 770 3867

REVISIONS

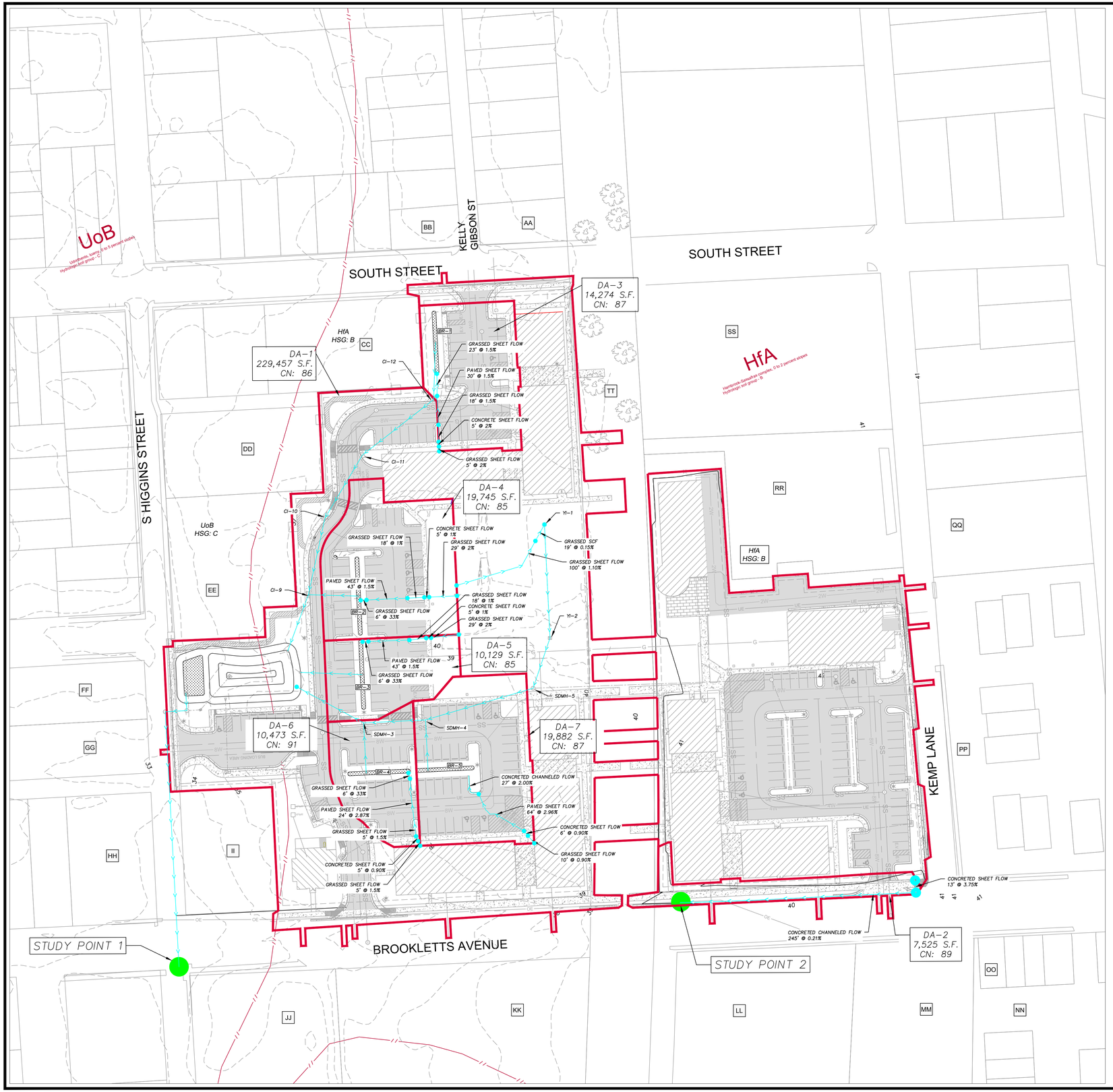
| REV. # | DATE | DESCRIPTION |
|---|---|---|
| 1 | | |

MISS UTILITY OF DELMARVA — 811

| | |
|---|---|
| DATE: | 5/5/2025 |
| SCALE: | 1" = 50' |
| DRAWN BY: | BAOC |
| DESIGNED BY: | BAOC |
| APPROVED BY: | |

SHEET NO.: SWM-101

FOR REVIEW




0 50' 100'

NAD 83

## LEGEND

- FLOWPATH
- DRAINAGE AREA
- SOILS BOUNDARY
- STUDY POINT

## PROPERTY DATA

| | | | |
|---|---|---|---|
| AA | MIDSHOREHOMES, LLC. M/G/P: 0104/000EA/1618- B/P: 03144/00403 | KK | SHAW KENNETH L, SHAW BARBARA H M/G/P: 0105/00EA/2205 - B/P: 02656/00470 |
| BB | LEWIS BEVERLY M/G/P: 0104/0000/1622 - B/P: 00890/00787 | LL | DONALD D FOSTER INC M/G/P: 0105/000EA/2206 - B/P: 00499/00522 |
| CC | G M RENTALS L L C M/G/P: 0104/00EA/1827 - B/P: 00786/00443 | MM | 411 NEEDWOOD LLC M/G/P: 0105/00EA/1824 - B/P: 03091/00291 |
| DD | MARVEL PROPERTIES L L C M/G/P: 0104/00EA/1830 - B/P: 00782/00168 | NN | TREEHAVEN HOMEOWNERS ASSOCIATION INC M/G/P: 0105/0000/2212A - B/P: 01306/00755 |
| EE | MARVEL PROPERTIES L L C M/G/P: 0104/00EA/1831 - B/P: 00782/00168 | OO | MAZARIEGOS JOSE V, MAZARIEGOS MARIA G M/G/P: 0105/0000/2212A - B/P: 01259/00865 |
| FF | MARVEL PROPERTIES LLC M/G/P: 0104/00EA/1837 - B/P: 00786/00042 | PP | BROOKLETT COMMONS HOMEOWNERS ASSOCIATION INC M/G/P: 0104/0000/1812 - B/P: 00829/00629 |
| GG | FOR ALL SEASONS INC M/G/P: 0104/000EA/1874 - B/P: 01511/00250 | QQ | SPARACINO MICHAEL J M/G/P: 0104/000EA/1814 - B/P: 00780/00334 |
| HH | MLYNARSKI ANDREW M/G/P: 0104/000EA/1835 - B/P: 02761/00429 | RR | 125 KEMP LLC M/G/P: 0104/000EA/1822- B/P: 02734/00473 |
| II | 401 BROOKLETTS LLC M/G/P: 0104/00EA/1834 - B/P: 02325/00109 | SS | PRITCHETT HELEN M M/G/P: 0104/000EA/1821 - B/P: 02609/00464 |
| JJ | TALBOT COUNTY MARYLAND M/G/P: 0105/00EA/2204 - B/P: 00613/00105 | TT | TOWN OF EASTON M/G/P: 0105/000EA/2211 - B/P: 01595/00214 |

| DRAINAGE AREA | TYPE OF ESD PRACTICE | NAME OF ESD PRACTICE (STRUCTURE NAME) | ON-SITE OR OFF-SITE STRUCTURE | RUNOFF CURVE NUMBE (RCN) WEIGHTED | MARYLAND GRID COORDINATE NAD 83 NORTHING | MARYLAND GRID COORDINATE NAD 83 EASTING | ESD PRACTICE TOTAL DRAINAGE AREA (ACRES) | ESD PRACTICE IMPERVIOUS DRAINAGE AREA (ACRES) | SURFACE AREA OF ESD PRACTICE (ACRES) | TARGET PE (IN.) | ACTUAL PE (IN.) | TARGET ESDV (FT.$^3$) | ACTUAL ESDV (FT.$^3$) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | M6R-1 | BIORETENTION 1 | ON-SITE | 95 | 404029.4247 | 1577801.9542 | 0.328 | 0.033 | 0.006 | 1.10 | 0.85 | 902 | 697.4 |
| 2 | M6R-2 | BIORETENTION 2 | ON-SITE | 91 | 403795.0894 | 1577722.2618 | 0.453 | 0.295 | 0.007 | 1.10 | 0.95 | 1149 | 990.4 |
| 3 | M6R-3 | BIORETENTION 3 | ON-SITE | 87 | 403681.1547 | 1577726.0716 | 0.233 | 0.151 | 0.007 | 1.10 | 1.49 | 590 | 800.4 |
| 4 | M6R-4 | BIORETENTION 4 | ON-SITE | 93 | 403581.1947 | 1577739.9223 | 0.240 | 0.192 | 0.006 | 1.10 | 1.1 | 739 | 737.4 |
| 5 | M6R-5 | BIORETENTION 5 | ON-SITE | 93 | 403584.5498 | 1577807.2968 | 0.466 | 0.319 | 0.005 | 1.10 | 0.61 | 1239 | 692.0 |
| 6 | SGW-1 | SUBMERGED GRAVEL WETLAND | ON-SITE | 87 | 403682.2326 | 1577610.0030 | 4.904 | 3.547 | 0.112 | 1.1 | 0.65 | 4533 | 9330.0 |
| TOTAL/ AVERAGE | | | | | | | 6.615 | 4.538 | 0.143 | 6.6 | 5.65 | 9152 | 13248 |

## SITE SOIL DATA

| Map Unit Symbol | Name | Hydrologic Soil Group | K-Factor | Hydric? |
|---|---|---|---|---|
| HfA | Hambrook-Sassafras complex, 0 to 2 percent slopes | B | 0.32 | No |
| UoB | Udorthents, loamy, 0 to 5 percent slopes | C | 0.37 | No |

| STUDY POINT | STORM EVENT | 2-YEAR (cfs) | 10-YEAR (cfs) | 100-YEAR (cfs) |
|---|---|---|---|---|
| STUDY POINT 1 | EXISTING | 11.19 | 19.35 | 35.59 |
| | PROPOSED | 8.34 | 16.9 | 25.17 |
| CHANGE | CHANGE | -2.85 | -2.45 | -10.42 |
| STUDY POINT 2 | EXISTING | 3.21 | 5.1 | 8.89 |
| | PROPOSED | 0.49 | 0.85 | 1.57 |
| CHANGE | CHANGE | -2.72 | -4.25 | -7.32 |

# DEVELOPED - QUANTITY ANALYSIS MAP

OF THE LANDS OF

# EASTON CROSSING

TAX MAP 0104, GRID 000EA/000 , PARCEL 1823,1826

EASTON, TALBOT COUNTY, MARYLAND

PREPARED FOR: EASTON CROSSING, LLC


RAUCH inc.
Engineering | Survey | Architecture | Environmental
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Phone: 410 770 8081 | Fax: 410 770 3867


REVISIONS

| REV. # | DATE | DESCRIPTION |
|---|---|---|
| 1 | | |

MISS UTILITY OF DELMARVA — CALL BEFORE YOU DIG — 811

| | |
|---|---|
| DATE: | 5/5/2025 |
| SCALE: | 1" = 50' |
| DRAWN BY: | BAOC |
| DESIGNED BY: | BAOC |
| APPROVED BY: | |

SHEET NO.: SWM-102

FOR REVIEW

# Soils Report

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

# Custom Soil Resource Report for Talbot County, Maryland



# Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

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# How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

# Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.


76° 4' 14" W
76° 3' 58" W
407000
407040
407080
407120
407160
407200
407240
407280
407320
407360
38° 46' 21" N
38° 46' 13" N
4292080
4292040
4292000
4291960
4291920
4291880
UoB
UoB
UoB
HfA
S Higgins St
Kemp Ln
Brookletts Ave
Soil Map may not be valid at this scale.
Map Scale: 1:1,700 if printed on A landscape (11" x 8.5") sheet.
N
0 25 50 100 150 Meters
0 50 100 200 300 Feet
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

## MAP LEGEND

**Area of Interest (AOI)**
- Area of Interest (AOI)

**Soils**
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

**Special Point Features**
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

**Water Features**
- Streams and Canals

**Transportation**
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

**Background**
- Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Talbot County, Maryland
Survey Area Data: Version 21, Sep 6, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 30, 2022—Jul 4, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

# Map Unit Legend

| Map Unit Symbol | Map Unit Name | Acres in AOI | Percent of AOI |
|---|---|---|---|
| HfA | Hambrook-Sassafras complex, 0 to 2 percent slopes | 7.5 | 94.1% |
| UoB | Udorthents, loamy, 0 to 5 percent slopes | 0.5 | 5.9% |
| **Totals for Area of Interest** | | **8.0** | **100.0%** |

# Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however,

onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

# Talbot County, Maryland

## HfA—Hambrook-Sassafras complex, 0 to 2 percent slopes

### Map Unit Setting

*National map unit symbol:* 1vh08
*Elevation:* 0 to 330 feet
*Mean annual precipitation:* 42 to 48 inches
*Mean annual air temperature:* 52 to 58 degrees F
*Frost-free period:* 180 to 220 days
*Farmland classification:* All areas are prime farmland

### Map Unit Composition

*Hambrook and similar soils:* 41 percent
*Sassafras and similar soils:* 39 percent
*Minor components:* 20 percent
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Hambrook

#### Setting

*Landform:* Depressions, flats, fluviomarine terraces
*Down-slope shape:* Concave, linear
*Across-slope shape:* Concave, linear

#### Typical profile

*Ap - 0 to 10 inches:* sandy loam
*BE - 10 to 14 inches:* loam
*Bt - 14 to 28 inches:* sandy clay loam
*BC - 28 to 65 inches:* loamy sand
*2Cg - 65 to 80 inches:* silt loam

#### Properties and qualities

*Slope:* 0 to 2 percent
*Depth to restrictive feature:* More than 80 inches
*Drainage class:* Well drained
*Runoff class:* Low
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high (0.20 to 1.98 in/hr)
*Depth to water table:* About 42 to 72 inches
*Frequency of flooding:* None
*Frequency of ponding:* None
*Available water supply, 0 to 60 inches:* Moderate (about 7.9 inches)

#### Interpretive groups

*Land capability classification (irrigated):* 1
*Land capability classification (nonirrigated):* 1
*Hydrologic Soil Group:* B
*Ecological site:* F149AY170MD - Well Drained Fine-Loamy Upland
*Hydric soil rating:* No

### Description of Sassafras

#### Setting

*Landform:* Low hills, flats, fluviomarine terraces, knolls
*Landform position (three-dimensional):* Riser, dip

*Down-slope shape:* Convex, linear
*Across-slope shape:* Convex, linear

**Typical profile**

*Ap - 0 to 9 inches:* sandy loam
*E - 9 to 15 inches:* sandy loam
*Bt - 15 to 30 inches:* loam
*BC - 30 to 37 inches:* sandy loam
*C - 37 to 80 inches:* loamy sand

**Properties and qualities**

*Slope:* 0 to 2 percent
*Depth to restrictive feature:* More than 80 inches
*Drainage class:* Well drained
*Runoff class:* Low
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high (0.57 to 1.98 in/hr)
*Depth to water table:* More than 80 inches
*Frequency of flooding:* None
*Frequency of ponding:* None
*Available water supply, 0 to 60 inches:* Moderate (about 7.8 inches)

**Interpretive groups**

*Land capability classification (irrigated):* 1
*Land capability classification (nonirrigated):* 1
*Hydrologic Soil Group:* B
*Ecological site:* F149AY170MD - Well Drained Fine-Loamy Upland
*Hydric soil rating:* No

**Minor Components**

**Woodstown**

*Percent of map unit:* 10 percent
*Landform:* Flats, depressions
*Landform position (three-dimensional):* Dip
*Ecological site:* F149AY130NJ - Moist Loamy Upland
*Hydric soil rating:* No

**Mattapex**

*Percent of map unit:* 5 percent
*Landform:* Depressions, flats
*Landform position (three-dimensional):* Dip
*Ecological site:* F153CY020MD - Moist Loess Upland
*Hydric soil rating:* No

**Ingleside**

*Percent of map unit:* 5 percent
*Landform:* Flats
*Landform position (three-dimensional):* Talf
*Ecological site:* F153DY160NJ - Well Drained Coarse-Loamy Upland
*Hydric soil rating:* No

## UoB—Udorthents, loamy, 0 to 5 percent slopes

### Map Unit Setting

*National map unit symbol:* 1vh0v
*Elevation:* 0 to 300 feet
*Mean annual precipitation:* 42 to 48 inches
*Mean annual air temperature:* 52 to 58 degrees F
*Frost-free period:* 180 to 220 days
*Farmland classification:* Not prime farmland

### Map Unit Composition

*Udorthents, loamy, and similar soils:* 90 percent
*Minor components:* 10 percent
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Udorthents, Loamy

#### Setting

*Landform:* Flats
*Landform position (three-dimensional):* Talf
*Down-slope shape:* Linear
*Across-slope shape:* Linear
*Parent material:* Fluviomarine deposits

#### Typical profile

*AC - 0 to 2 inches:* loam
*C - 2 to 72 inches:* gravelly loam

#### Properties and qualities

*Slope:* 0 to 5 percent
*Depth to restrictive feature:* More than 80 inches
*Drainage class:* Well drained
*Runoff class:* High
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to very high (0.01 to 19.98 in/hr)
*Depth to water table:* About 40 to 72 inches
*Frequency of flooding:* None
*Frequency of ponding:* None
*Available water supply, 0 to 60 inches:* Moderate (about 8.4 inches)

#### Interpretive groups

*Land capability classification (irrigated):* None specified
*Land capability classification (nonirrigated):* 2e
*Hydrologic Soil Group:* C
*Hydric soil rating:* No

**Minor Components**

**Urban land**

*Percent of map unit:* 10 percent
*Landform:* Flats
*Down-slope shape:* Linear
*Across-slope shape:* Linear
*Hydric soil rating:* No

# References

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# TOWN OF EASTON

14 South Harrison Street
Easton, Maryland 21601

June 9, 2025

Dear Resident,

The Easton Planning Commission (Commission) will hold a public meeting on **Tuesday, June 24, 2025 at 1:00 p.m**. in the Easton Town Council Chambers located on the second floor of 14 South Harrison Street. The Town of Easton Zoning Ordinance requires that owners of property located within 400 feet of a parcel on which certain types of applications are pending be given notice of upcoming meetings or hearings. If you are a tenant in or an owner of a multi-unit building, please distribute or post this notice in a visible location for all other tenants or owners to view. If you are a tenant of a rental property, please notify the property owner that this notice letter has been distributed to their property. Notice has also been sent to the Star Democrat, a sign has been posted at the subject property and the hearing agenda has been posted on the Town of Easton website: http://eastonmd.gov/.

This letter is sent to inform you that an amendment to application 2025 - 1370 has been filed by Easton Crossing, LLC (Applicant/Owner) to request a revision to a previously approved Sketch Site Plan for a mixed-use development, and the approval for building #409. On February 20, 2025 the Planning Commission granted Sketch Site Plan approval for buildings #411, #505, #507 and #509 subject to the condition that the Applicant return for approval of building #409. The property is located within the Planned Redevelopment Overlay District (PR) and has been submitted for review pursuant to that process. The property's address is 505 Brookletts Avenue, also known as Tax Map 0104, Grid 00EA, Parcels 1823, 1826 and 1833.

Copies of the proposed application are on file and available for public review in the Town's Planning Office at 14 South Harrison Street between the hours of 8:30 a.m. and 4:00 p.m., Monday through Friday. **In addition, digital copies will be available for review one week prior to the scheduled meeting via the Town's website at** https://www.eastonmd.gov/129/Agendas-Minutes. If you have any questions regarding this application, please contact the Planning Office at (410) 822-1943 or via email at ssmith@eastonMD.gov.

Samantha N. Smith

Samantha N. Smith, Administrative Specialist
Planning & Zoning Department
410-822-1943 ssmith@eastonMD.gov




***Subject property posting pursuant to Section 28-901.2.H.2 of the Town of Easton Zoning Code - June 6, 2025***

Samantha Smith <ssmith@eastonmd.gov>

# Easton Crossing "Amended" submission for June 24th meeting.

**Maury Schlesinger** Thu, Jun 19, 2025 at 8:01 PM
To: "PlanningCommission@eastonmd.gov" <planningcommission@eastonmd.gov>
Cc: Miguel Salinas <msalinas@eastonmd.gov>

The “amended” site plan submission for Easton Crossing still does not address the scale or texture of the Hill District.

The simplistic approach of replicating an enlarged 411 Brookletts building and placing it on the northern portion of the site does not remedy the problems of the previous design. The applicant’s response may best be illustrated by the lack of any illustration of the proposed building in the context of its South Street neighbors.

What’s Improved:

- A bit smaller – only four stories not five.
- Puts a building at the intersection of South Street and the Trail, rather than a parking lot.
- Enlarging Building 411 extends the street wall along Brookletts Ave.

What’s Worse:

- Leaves the large central lawn without a built edge to the west, with no screening of the parking lot (perhaps this will be addressed by planting tall trees and shrubs, but there is no landscape plan provided).
- A four-story building now closer to the small duplexes on South Street.
- Reduced number of parking spaces.

Suggestion:

- Break Building 409 at its corner, leave the portion running north-south along the Trail as one building, and rotate the remaining large section to also run north-south, but located on the western side of the open lawn as a separate building, essentially in the location of the original proposal.

Clarifications desired:

- The former grain gantry or bridge across the trail is shown without any significant supporting structures on each end. As such, it fails to convey its historical context. What is planned to anchor the ends of this element or explain its past or purpose?

- At the Commission’s February 20, 2025 meeting a question was raised about the mature trees along the Trail. I believe the applicant stated that the allée would remain, but a subsequent comment about need to remove some trees along the Trail requires clarification. Please confirm that all of the mature trees in the right of way, including the three most southern ones, will remain, as shown on the submitted site plan.

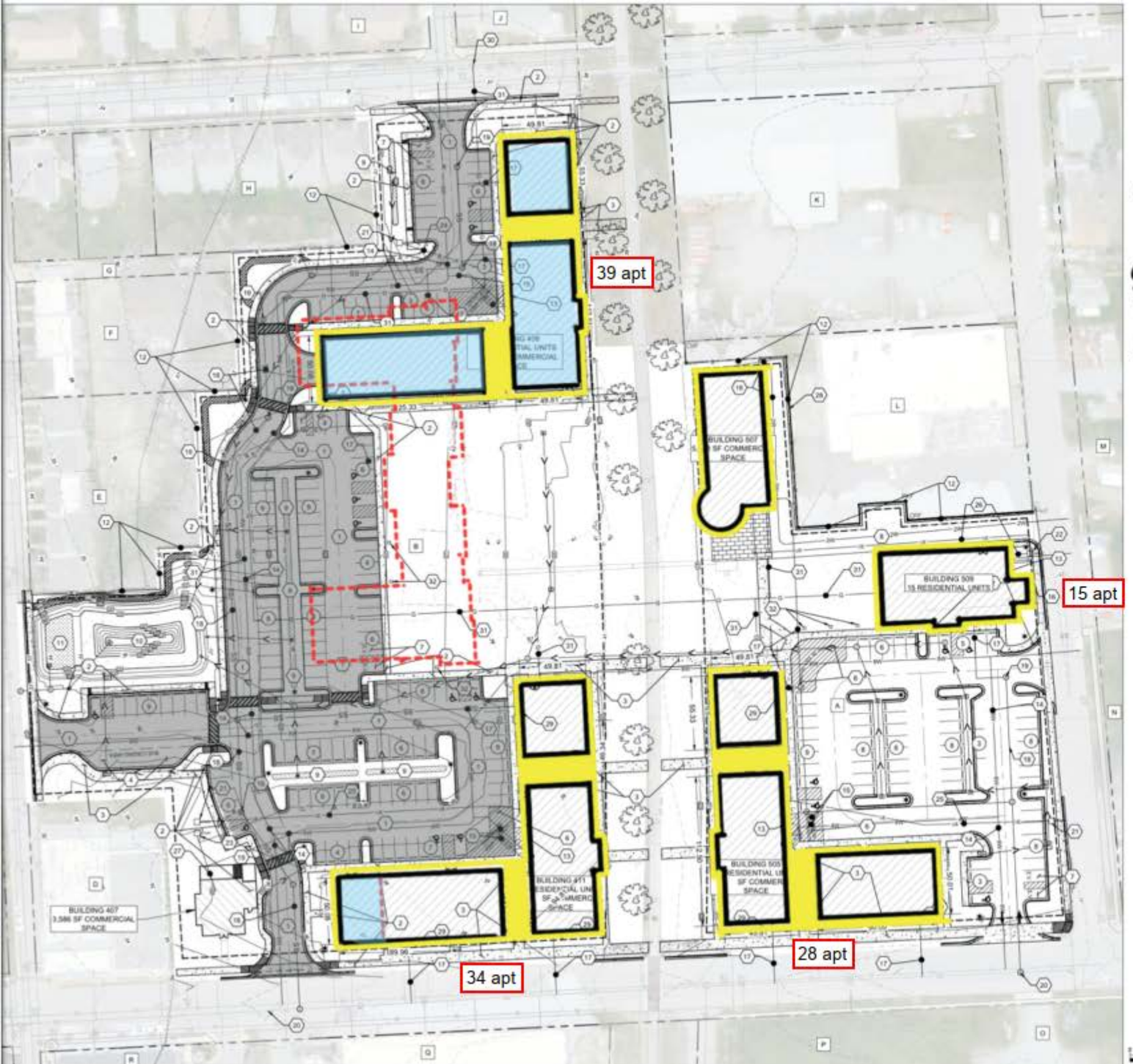
Maury Schlesinger
304 Winton Ave.
Easton, MD 21601

EASTON CROSSING

5/21/2025 6/23/25

| APARTMENT COUNT | | | APARTMENT BY TYPE | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | LAWN OPTION | | | | | | | | | | | | |
| BUILDING | PLANNING COMMISSION SUBMISSION 409 "U-SHAPED OPTION | *AMENDED PC SUBMISSION | CN - 3B/2B ADA | 1 B/1B ADA | 1 B/1B | 2B/1B TYPE A | 2B/1B | 1B/1B LOFT | 2B/1B LOFT | 2B/2B | 2B/1B/ DEN | 2B/2B/ DEN | 1STUDIO /1B | 3B/2B | MODEL APT 1B/1B |
| TOTAL | 123 | 116 | 1 | 2 | 11 | 1 | 38 | 2 | 2 | 37 | 0 | 9 | 2 | 10 | 1 |

*total does not include model apt;




CONTACT INFORMATION

OWNER/DEVELOPER: EASTON CROSSING, LLC
999 CORPORATE DRIVE,
LINTHICUM, MD 21090
(410) 384-4032

ENGINEER: RAUCH Inc.
106 N HARRISON ST
EASTON, MARYLAND 21601
(410)770-9081

6-2-25




VICINITY MAP
SCALE: 1" = 2000'

| | APPROVED | AMENDED | Δ |
|---|---|---|---|
| OFF-STREET PARKING | 217 | 215 ~~210~~ | 2 ~~7~~ |
| APARTMENTS | 123 | 116 + model apt ~~115~~ | 7 ~~8~~ |

APPROVED VS AMENDED SITE PLAN

KEY:

- APPROVED BLDG. LAYOUT
- AMENDED BLDG. LAYOUT
- FORMER BLDG 409 LAYOUT

PROPOSED FEATURES

1. 24' WIDE THRU WAY
2. 5' WIDE CONCRETE SIDEWALK
3. 6' WIDE CONCRETE SIDEWALK
4. 19' WIDE x 60' LONG BUS PULL-OFF/LOADING AREA
5. 9.5' WIDE x 20' LONG GARAGE ACCESS/LOADING AREA
6. DROP-OFF/LOADING AREA
7. E.V. CHARGING STATION STALL
8. 20' WIDE ACCESS LANE
9. BIO-RETENTION STRUCTURE FOR STORMWATER MANAGEMENT. TOP OF BANK VARIES
10. SUBMERGED GRAVEL WETLAND AND FOREBAY FOREBAY TOP OF BANK ELEV. 31.50', FOREBAY FLOOR ELEV. 25.00'
11. SUBMERGED GRAVEL WETLAND AND FOREBAY SGW TOP OF BANK ELEV. 31.50', SGW FLOOR ELEV. 29.00'
12. PROPOSED PRIVACY FENCE, HEIGHT AND TYPE TO BE DETERMINED
13. TRASH ROOM EXTERIOR ACCESS
14. PROPOSED 6" WATER MAIN
15. PROPOSED 6" WATER SERVICE BRANCHED TO PROVIDE 6" FIRE SUPPRESSION SERVICE AND 4" DOMESTIC WATER SERVICE
16. PROPOSED 6" WATER SERVICE BRANCHED TO PROVIDE 6" FIRE SUPPRESSION SERVICE AND 2" DOMESTIC WATER SERVICE
17. PROPOSED 6" SANITARY SEWER LATERAL AND CLEANOUT
18. PROPOSED 8" SANITARY SEWER MAIN
19. PROPOSED 48" DIA. PRECAST SANITARY MANHOLE PER TOWN STANDARD DETAIL
20. PROPOSED 48" DIA. DOGHOUSE SANITARY MANHOLE PER TOWN STANDARD DETAIL
21. 1500 kVA 208/120V 3-PH PAD MOUNTED TRANSFORMER
22. 500 kVA 208/120V 3-PH PAD MOUNTED TRANSFORMER
23. 75kVA 280/120V 3-PH PAD MOUNTED TRANSFORMER
24. (5) 4" SCH. 40 CONDUITS FOR POWER AND COMMUNICATION SERVICE TO BUILDING
25. (3) 4" SCH. 40 CONDUITS FOR POWER AND COMMUNICATION SERVICE TO BUILDING
26. (2) 4" SCH. 40 CONDUITS FOR POWER AND COMMUNICATION SERVICE TO BUILDING
27. (2) 2" SCH. 40 CONDUITS FOR POWER AND COMMUNICATION SERVICE TO BUILDING
28. PROPOSED GREASE TRAP
29. STUB SEWER LINE FOR FUTURE GREASE TRAP SEWER LINE
30. INSTALL 2" TAP INTO EXISTING 6" GAS MAIN
31. 2" BRANCH GAS LINE METERED AT EACH BUILDING AS REQUIRED FOR GAS SERVICE
32. POWER PEDESTALS FOR FOOD TRUCK PARKING

revised 6-23-25

OVERALL SITE CONCEPT P

OF THE LANDS OF

EASTON CROSSIN

TAX MAP 0104, GRIDS 0008A/0009, PARI

EASTON, TALBOT COUNTY, MAR

PREPARED FOR: EASTON CROSS

RAUCH INC

Engineering | Survey | Architecture | Environmental

Main Office: 106 N Harrison St - Easton, MD 21601
Web: www.rauch-inc.com | Email: design@rauchinc.com
Phone: 410 770 9081 | Fax: 410 770 3687

REVISIONS

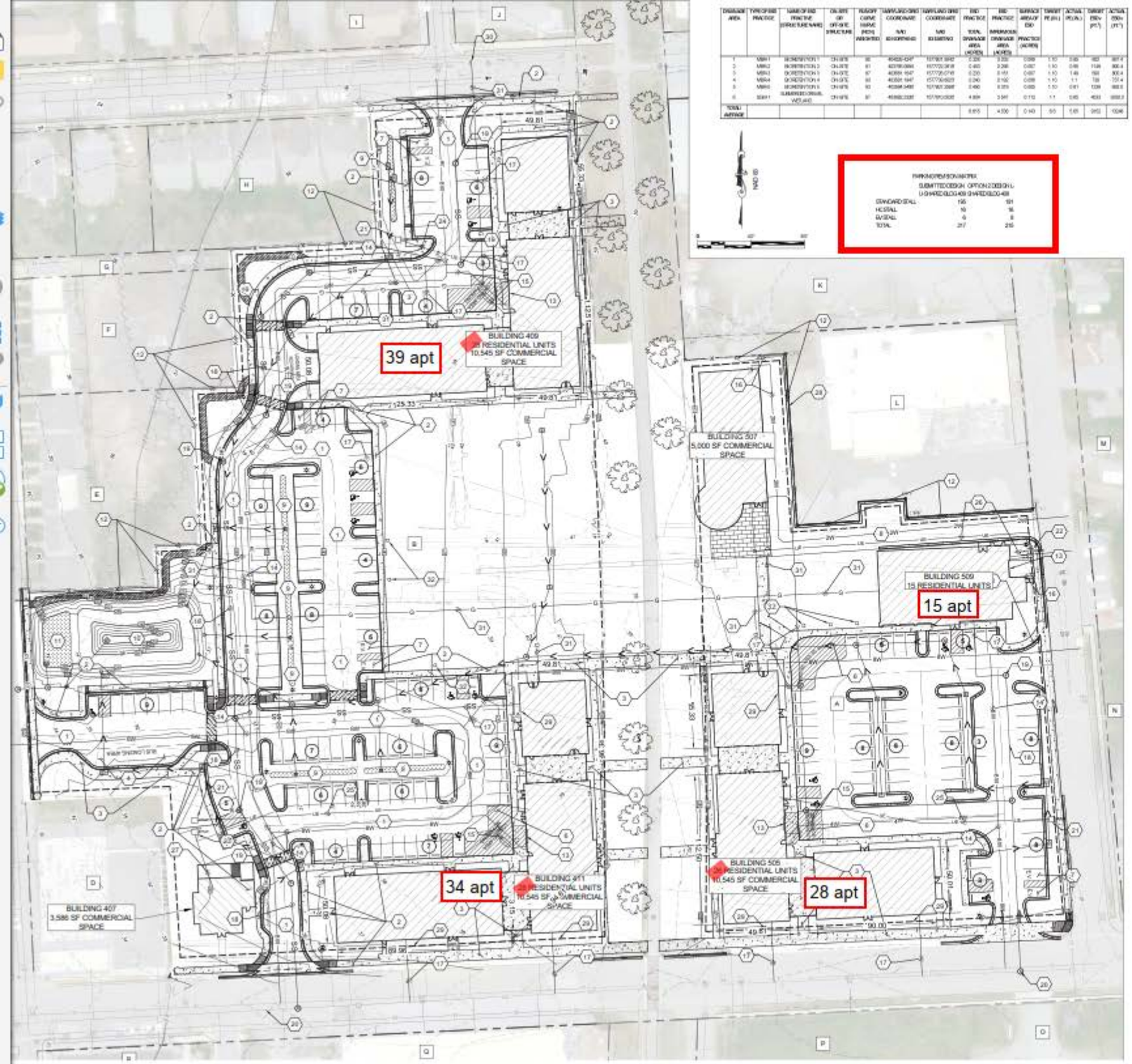
| REV # | DATE | DESCRIPTION |
|---|---|---|

811

DATE: 4/18/2025
SCALE: 1" = 40'
DRAWN BY: AF
DESIGNED BY:
APPROVED BY:

SHEET NO.: C-100

FOR REVIEW




| DRAINAGE AREA | TYPE OF BMP/SWM | NAME OF BMP IF MORE THAN ONE TYPE (STRUCTURE NAME) | ON-SITE OR OFF-SITE STRUCTURE | RUNOFF CURVE NUMBER (RCN) ASSIGNED | MARYLAND GRID COORDINATE N/E (EXISTING) | MARYLAND GRID COORDINATE N/E (EXISTING) | IMD PRACTICE TOTAL DRAINAGE AREA (ACRES) | IMD PRACTICE IMPERVIOUS DRAINAGE AREA (ACRES) | SURFACE AREA OF IMD PRACTICE (ACRES) | TARGET PE (IN.) | ACTUAL PE (IN.) | TARGET ESDv (FT.³) | ACTUAL ESDv (FT.³) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | MBR1 | BIORETENTION 1 | ON-SITE | 80 | 40455.0247 | 157801.9940 | 0.206 | 0.202 | 0.008 | 1.10 | 0.85 | 622 | 507.4 |
| 2 | MBR2 | BIORETENTION 2 | ON-SITE | 81 | 40378.0966 | 157703.0918 | 0.403 | 0.296 | 0.007 | 1.10 | 0.86 | 1149 | 906.4 |
| 3 | MBR3 | BIORETENTION 3 | ON-SITE | 87 | 40389.1647 | 157726.0716 | 0.230 | 0.151 | 0.007 | 1.10 | 1.46 | 769 | 906.4 |
| 4 | MBR4 | BIORETENTION 4 | ON-SITE | 83 | 40391.1947 | 157736.8923 | 0.240 | 0.150 | 0.008 | 1.10 | 1.1 | 726 | 731.4 |
| 5 | MBR5 | BIORETENTION 5 | ON-SITE | 83 | 40398.1487 | 157767.2387 | 0.460 | 0.370 | 0.008 | 1.10 | 0.81 | 1239 | 995.6 |
| 6 | SWM1 | SUBMERGED GRAVEL WETLAND | ON-SITE | 91 | 40382.2335 | 157761.0305 | 4.804 | 3.941 | 0.113 | 1.1 | 0.85 | 4033 | 3332.2 |
| TOTAL / AVERAGE | | | | | | | 6.915 | 4.936 | 0.143 | 1.1 | 1.05 | 9412 | 7206 |



| PARKING PROVISIONS MATRIX | | |
|---|---|---|
| | SUBMITTED DESIGN OPTION 2 (0.83 SHARED SLDG) | OPTION 1 (0.69 SHARED SLDG) |
| STANDARD STALL | 195 | 161 |
| HC STALL | 16 | 16 |
| EV STALL | 4 | 8 |
| TOTAL | 217 | 215 |




VICINITY MAP
SCALE: 1" = 2000'

## CONTACT INFORMATION

OWNER/DEVELOPER: EASTON CROSSING, LLC
999 CORPORATE DRIVE
LINTHICUM, MD 21090
(410) 394-4022

ENGINEER: RAUCH Inc.
108 N HARRISON ST
EASTON, MARYLAND 21301
(410)770-9081

## SITE DATA:

PROPERTY ADDRESS: 505 BROOKLETTS AVENUE EASTON, MD 21601

LATITUDE: 38° 46' 16.7" N

LONGITUDE: -76° 04' 03.5" W

PRESENT ZONING CLASSIFICATION: BUSINESS COMMERCIAL DISTRICT
PRD BOUNDARY
PUD INFILL BOUNDARY

PRESENT USE: BUSINESS COMMERCIAL
FUTURE USE: MIXED USE - COMMERCIAL AND RESIDENTIAL

TAX MAPS: 0104, 0104, 0104
GRIDS: 00EA, 00EA, 00EA
PARCELS: 1823, 1826, 1833
DEED REFERENCE: 00025/00086, 00025/00099, 00114/00199

PROPERTY AREA: 6.92 ACRES
LIMITS OF DISTURBANCE: 7.08 ACRES
CUT: 19,001 CY
FILL: 983 CY
NET CUT/FILL: 17,036 CY (CUT)
EXISTING IMPERVIOUS: 58%
PROPOSED IMPERVIOUS: 67%

FEMA FLOOD MAP: PANEL 24041C0176E
WATERSHED: LOWER CHOPTANK

NO PORTION OF THIS PROJECT SITE IS LOCATED WITHIN THE 100-YR FLOOD PLAIN

NO PORTION OF THIS PROJECT SITE IS LOCATED WITHIN THE CHESAPEAKE BAY CRITICAL AREA

DENSITY REQUIRED: LESS THAN 40 UNITS PER ACRE
DENSITY PROVIDED: 14.31 UNITS PER ACRE

PRD SETBACKS: FRONT: 5 FT FROM PROPERTY LINE
SIDE: 5 FT FROM PROPERTY LINE
REAR: NONE PRESENT

LOT SIZE: N/A - NO INTENT TO SUBDIVIDE

EXISTING LOT COVERAGE: 58%
REQUIRED LOT COVERAGE: NOT TO EXCEED 75%
ACTUAL PR. LOT COVERAGE: 67%

REQUIRED MAX BUILDING HEIGHT: 75'
MAX. EXISTING STRUCTURE HEIGHT: 73'
MAX PROPOSED BUILDING HEIGHT: 64'

FOREST CONSERVATION TOWN OF EASTON FOREST: EXEMPT PER SECTION 31-3.2 FROM THE CONSERVATION ORDINANCE #718

PARKING SPACES REQUIRED: N/A AS THIS IS IN THE PRD BOUNDARY

PARKING SPACES RECOMMENDED FOR NON-PRD PARKING PER 26-100.1.3 PARKING REQUIREMENTS OF THE 2021 EDITION TOWN OF EASTON ZONING ORDINANCE:

MULTI-FAMILY RESIDENTIAL
MIN - 1 PER DU = 89
MAX - 2 PER DU = 178
BASE - 0.5 PER DU = 50

FITNESS CLUB
MIN - 1.5 PER 1000 SF GFA = 10
MAX - 10 PER 1000 SF GFA = 62
BASE - 1 PER 10 VEHICLE SPACES = 1 TO 7

COMMERCIAL OFFICE
MIN - 1 PER 250 SF GFA = 15
MAX - 1 PER 146 SF GFA = 26
BASE - 1 PER 10 VEHICLE SPACES - 2 TO 3

COMMERCIAL RETAIL
MIN - 1 PER 200 SF GFA = 73
MAX - 1 PER 200 SF GFA = 110
BASE - 1 PER 10 VEHICLE SPACES - 8 TO 11

RESTAURANT - SIT-DOWN
MIN - 1 PER 100 GFA = 110
MAX - 1 PER 50 SF GFA = 219
BASE - 1 PER 10 VEHICLE SPACES - 11 TO 22

PARKING SPACES PROVIDED:
OFF-STREET PARKING: 215 PARKING SPACES
RESIDENTIAL UNIT @ 1 PER UNIT = 97
FITNESS CLUB @ 1.5 PER 1000 SF = 10
COMMERCIAL OFFICE @ 1 PER 360 SF = 10
COMMERCIAL RETAIL @ 1 PER 410 SF = 76
RESTAURANT @ 1 PER MINIMUM 250 SF = 20
INCLUDES 8 EV CHARGING STATION
INCLUDES 16 ADA SPACES WITH AISLE

SURVEY DATUM
HORIZONTAL: NAD83
VERTICAL: NAVD88
DATE OF SURVEY: 10/10/2024

NOTE: ALL ON-SITE LIGHTING UNLESS APPROVED OTHERWISE BY PLANNING AND ZONING COMMISSION SHALL BE LOW CUT-OFF SHIELDED LUMINARIES AT 18' HEIGHT AND LIGHT SHALL NOT SHINE OFF-SITE AT LEVEL GREATER THAN 1-FOOT CANDLE

## PROPOSED FEATURES

1. 24' WIDE THRUWAY
2. 5' WIDE CONCRETE SIDEWALK
3. 8' WIDE CONCRETE SIDEWALK
4. 15' WIDE x 60' LONG BUS PULL-OFF/LOADING AREA
5. 9.5' WIDE x 28' LONG GARAGE ACCESS/LOADING AREA
6. DROP-OFF/LOADING AREA
7. E.V. CHARGING STATION STALL
8. 20' WIDE ACCESS LANE
9. BIO-RETENTION STRUCTURE FOR STORMWATER MANAGEMENT. TOP OF BANK VARIES
10. SUBMERGED GRAVEL WETLAND AND FOREBAY FOREBAY TOP OF BANK ELEV. 31.50', FOREBAY FLOOR ELEV. 25.00'
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12. PROPOSED PRIVACY FENCE. HEIGHT AND TYPE TO BE DETERMINED
13. TRASH ROOM EXTERIOR ACCESS
14. PROPOSED 8" WATER MAIN
15. PROPOSED 8" WATER SERVICE BRANCHED TO PROVIDE 6" FIRE SUPPRESSION SERVICE AND 4" DOMESTIC WATER SERVICE
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31. 2" BRANCH GAS LINE METERED AT EACH BUILDING AS REQUIRED FOR GAS SERVICE
32. POWER PEDESTALS FOR FOOD TRUCK PARKING

## SOIL DATA

| Map Unit Symbol | Name | Hydrologic Soil Group | K-Factor | Hydric? |
|---|---|---|---|---|
| HIA | Hambrook-Sassafras complex, 0 to 2 percent slopes | B | 0.32 | No |
| UoB | Udorthents, loamy, 0 to 5 percent slopes | C | 0.37 | No |

# OVERALL SITE CONCEPT PLAN

OF THE LANDS OF

# EASTON CROSSING

TAX MAP 0104, GRIDS 00EA/00000, PARCEL 1823

EASTON, TALBOT COUNTY, MARYLAND

PREPARED FOR: EASTON CROSSING, LLC

RAUCH INC.
Engineering, Surveying, Landscape Architecture and Planning
108 N. Harrison St. Easton, MD 21601
410.770.9081 www.rauchinc.com

REVISIONS

| REV. # | DATE | DESCRIPTION |
|---|---|---|

MISS UTILITY OF DELMARVA 811

DATE: 6/2/2025
SCALE: 1" = 40'
DRAWN BY: AF
DESIGNED BY:
APPROVED BY:

SHEET NO.: C-100

revised 6-23-25

**TOWN OF EASTON**
**PLANNING & ZONING**
**14 S Harrison Street, Easton MD 21601**

**Date of Hearing**: June 24, 2025

# # 3d

**PLANNING COMMISSION**
**SUPPLEMENTAL ITEM**

**SUBJECT**: **7872 Ocean Gateway - In Town Properties**

**ELECTION WARD**: Ward 4

**CRITICAL ACTION DATE**: At the pleasure of the Commission

**STAFF CONTACTS**: Joseph Mayer, Plan Reviewer
Miguel Salinas, Director of Planning and Zoning

**APPLICANT**: In Town Properties, LLC

**DOCUMENT CREATED ON:** June 13, 2025

**PURPOSE**: In Town Properties, LLC has submitted a revised site plan for Planning Commission approval. The proposal modifies the retail building from its initial 19,250 sq. ft. with a 2,999 sq. ft. mezzanine office to a smaller 14,136 sq ft *"Multiple Use"* structure and introduces a restaurant. Additionally, the retail building's location has been adjusted, moving it further away from Rt. 50. The medical building's size and layout remain unchanged.

**RECOMMENDATION**:

**Planning Commission**: The Commission, at their March 21, 2024 meeting, moved (5-0) to approve the redevelopment of a 24,000 square foot, two-story medical clinic (Lot 1), and a 19,250 square foot, one-story retail store with a 2,999 square foot mezzanine office space (Lot 2) with the following conditions:

1. The applicant shall provide a sidewalk from the existing sidewalk on the East side of Purdy Street within the existing Utility Easement along the entire length of the West property line to connect the proposed future Rail Trail on the Town of Easton parcel to the North (per Section 28-1016.C of the Town Zoning Code).

2. The applicant shall provide a protective feature such as curb, or bollards between the stormwater management features and adjacent parking stalls.

**Staff**: Staff recommends the Planning Commission approve the proposed requests subject to staff's recommended conditions (see below).

---

**UPDATE**:

On March 21, 2024, the Town of Easton Planning Commission moved (5-0) to approve the redevelopment of a 24,000 square foot, two-story medical clinic (Lot 1), and a 19,250 square foot, one-story retail store with a 2,999 square foot mezzanine office space (Lot 2) with conditions.

On November 1, 2024, In Town Properties, LLC (Applicant), submitted a Development Site Plan for review. Agency review comments were forwarded to the Applicant on December 27, 2024 requesting a resubmittal.

On January 21, 2025, In Town Properties, LLC (Applicant), submitted a Subdivision Plat for review. Agency review comments were forwarded to the Applicant on February 5, 2025 requesting a resubmittal.

On June 2, 2025, the applicant presented a revised site plan for Planning Commission approval. This update includes a reduction in the retail building's size from the original 19,250 sq. ft. with a 2,999 sq. ft. mezzanine office to a smaller 14,136 sq. ft. structure, along with the addition of a restaurant. Furthermore, the retail building's placement has been altered, moving it further from Rt. 50. The medical building's dimensions and configuration remain as previously submitted.

**ZONING ANALYSIS:**

**A. Permissible Land Uses**

| 28-201 Table 2.1 | | | | | | | CG | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 228 | Restaurant, Carry Out/Delicatessen | -- | -- | -- | -- | P | P | P | -- | -- | -- | |

| 28-201 Table 2.1 | | | | | | | CG | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 230 | Restaurant, Sit Down | -- | -- | -- | -- | P | P | P | -- | -- | -- | |

| 28-201 Table 2.1 | | | | | | | CG | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 238 | Medical Services | -- | -- | -- | -- | P | P | P | P | -- | -- | |

| 28-201 Table 2.1 | | | | | | CG | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 256 | Any Retail Sales/Rental not listed above | -- | -- | -- | -- | P | P | SE | -- | -- | -- | |

| 28-201 Table 2.1 | | | | | | CG | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 263 | Multiple Uses* | -- | -- | -- | -- | P | P | P | P | P | P | |

**Analysis** – The original proposed project is presented and described by the Applicant as a proposed minor-subdivision to create two lots; redevelop the site to include a medical clinic on Lot 1 and a retail store with a mezzanine office space on Lot 2. The revised building on Lot 2 is categorized as *"Multiple Uses", that proposes "Restaurant, Carry Out/Delicatessan", "Restaurant, Sit Down", and"Any Retail Sales/retail not listed above". The "Medical Services"* building will remain the same. The proposed use *"Multiple Uses"* is permitted by-right within Table 2.1 Table of Permissible Uses.

**B. Off-Street Parking**

***28-1001.3 Parking Requirements***

| | Use/Activity | Minimum Vehicle Spaces | Maximum Vehicle Spaces | Minimum Bicycle Spaces | Notes |
|---|---|---|---|---|---|
| | Commercial Buildings | | | | |
| 15 | Standalone Retail Store | 1 per 300 sf GFA | 1 per 200 sf GFA | 1 per 10 vehicle spaces | |
| 27 | Restaurant, Carry-Out | 1 per 300 sf GFA | 1 per 200 sf GFA | 1 per 10 vehicle spaces | Plus 1 space per delivery vehicle |
| 28 | Restaurant, Sit-Down | 1 per 100 sf GFA | 1 per 50 sf GFA | 1 per 10 vehicle spaces | |
| | Institutional or Community Facilities | | | | |
| 52 | Medical Clinic | 1 per 400 sf GFA | 1 per 100 sf GFA | 1 per 20 vehicle spaces | |

**Total Site Parking Required:**

Medical Clinic: 1 Space /400 SF GFA; 60 Spaces Required- Minimum
1 Space /100 SF GFA; 240 Spaces Required- Maximum

Restaurant, Carry-Out: 1 Space /300 SF GFA; 13 Spaces Required- Minimum
1 Space /200 SF GFA; 19 Spaces Required- Maximum

Restaurant, Sit-Down: 1 Space /100 SF GFA; 8 Spaces Required- Minimum
1 Space /50 SF GFA; 16 Spaces Required- Maximum

Standalone Retail Store: 1 Space /300 SF GFA; 31 Spaces Required- Minimum
1 Space /200 SF GFA; 46 Spaces Required- Maximum

Total spaces Required- Minimum: 112
Total spaces Required- Maximum: 321
**Total spaces provided: 154**

Bike Racks Required: Medical - 1 Bike Space/20 Vehicle Spaces; 3 Bike Space Required
Retail - 1 Bike Space/10 Vehicle Spaces; 6 Bike Space Required
Restaurant, Carry-Out/Sit-Down - 1 Bike Space/10 Vehicle Spaces; 7 Bike Space Required

**Analysis-** The applicant has provided one-hundred & fifty-five (154) off-street parking spaces. The owner does not foresee a demand for more parking spaces in the future, due to the nature of their business operations.

**OUTSTANDING ISSUES:**

***SECTION 28 – 114 DEFINITIONS***

> ***Multiple use*** *(See also* ***shopping center****) – Two or more uses contained either within one building or in more than one building on an approved lot provided that if any commercial uses are involved, the total is less than 10,000 square feet gross floor area.*
>
> ***Shopping center*** *– A group of three (3) or more architecturally unified commercial establishments with a total gross floor area of more than 10,000 square feet which are planned, constructed, and managed as a total entity with customer and employee parking provided on-site. A shopping center may either be a strip center or a campus-style center. Strip centers describe all existing centers in Easton as of the year 2000 and new ones shall be prohibited. Existing ones may be redeveloped and in the event that downtown-scale and character commercial development is defined as a strip center, it shall be permitted.*

**Analysis-** A "Multiple Use" building is the applicant's proposal. The structure has been scaled down from the initial plan of a 19,250 square foot retail area and a 2,999 square foot mezzanine office to a more compact 14,136 square feet. The revised building design incorporates six possible tenant spaces: 9,128 square feet dedicated to retail stores, 3,776 square feet allocated for a carry-out restaurant, and an 800 square foot sit-down restaurant. The commercial-retail space falls below the 10,000 square foot gross floor area benchmark and incorporates the use of restaurants, capturing the spirit and intent of the "Multiple Use" definition. Staff supports the proposed use.

**RECOMMENDED CONDITION:**

Staff recommends the Planning Commission approve the sketch site plan with the following conditions:

- The Applicant is required to update and submit the Development Site Plan and continue

to address the March 21, 2024 Engineering Department's conditions:

1. Provide a sidewalk from the existing sidewalk on the east side of Purdy Street along the entire length of the west property line, within the existing Utility Easement, to connect to the proposed future Rail Trail on the Town of Easton parcel to the north (per Section 28-1016.C of the Town Zoning Code). This would be consistent with the Town of Easton Comprehensive Plan's Transportation section.
2. A protective feature such as curb or bollards will need to be installed between stormwater management features and adjacent parking stalls.

**DRAFT MOTIONS**:

1. I move that the Planning Commission approve the sketch site plan subject to staff's Conditions of Approval.

OR

2. I move that the Planning Commission table the application to the July 17th Commission meeting for further discussion.

OR

3. I move an alternate motion.

**ATTACHMENTS**:
1. 2024.03.12 TOE Staff Report 7872 Ocean Gateway, paper copy & PDF
2. 2024.03.21 PC Outcome Letter - In Town Properties, paper copy & PDF
3. 2025.05.22Easton BuildingUpdated - In Town Properties, paper copy & PDF
4. 2025.05.30 IllustrativePlan - In Town Properties, paper copy & PDF
5. 2025.06.02 Cover Letter - In Town Properties, paper copy & PDF
6. 2025.06.02 Cover Letter - In Town Properties, paper copy & PDF
7. 2025.06.02 Sketch Site Plan-In Town Properties, paper copy & PDF
8. 2025.06.06 7872 Ocean Gateway - EUC Review Comments, paper copy & PDF
9. 2025.06.13 ReviewLetter-(7875 Ocean Gateway PC), paper copy & PDF

TOWN OF
# EASTON
ENGINEERING DEPARTMENT

**DATE:** **June 13th, 2025**

**TO:** **Brett Ewing - Lane Engineering**

**CC:** **Sierra Clem - Engineering Department**

**FROM:** **Rick Van Emburgh – Town Engineer**

**SUBJECT:** **7872 Ocean Gateway**
**Revised Sketch Site Plan &**
**Revised Sketch Stormwater Management Plan**

Our office has reviewed the revised Application for the Subject project received on 6/2/2025 which is scheduled for the 6/24/2025 Planning Commission for revised Sketch Site Plan approval. This project was last reviewed at the 3/24/2024 Planning Commission. The application submitted proposes a minor subdivision of the existing parcel into two lots, the construction of a two-story medical clinic and a one-story retail store. The revision from the previously approved site plan includes a reduction in the retail building from 18,000 SF to 14,136SF, a modification in layout of the buildings, parking, entrance off Purdy Street and SWM.

The **Sketch Site Plan** is **acceptable to the Engineering Department.**

Provide an updated Stormwater Management Report and Summary Tables for a **Sketch Stormwater Management Plan** review.

The US-50 entrance will be reviewed and permitted by SHA.

Please contact me if you have any questions. Thank you.

P.O. Box 520, Easton, Maryland 21601
410-820-8822
Engineering@EastonMD.gov - www.EastonMD.gov

EASTON UTILITIES

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# Easton Utilities Commission

Plan Review Comments

**Date:** 06/06/25
**To:** Sierra Clem, Nancy Pinkney
**From:** Kia Gibbs on behalf of Aaron Goller, PE
**Address:** 7872 Ocean Gateway
**Project Name:** Southern States Redevelopment
**Phase:** Sketch Site Plan
**SUBM:** Amendment to Approved Plans
**Status:** **APPROVED AS NOTED**

Easton Utilities Commission has reviewed the above referenced plans and determined the plans are **"Approved As Noted".**

An **"Approved As Noted"** status means plans do not require resubmission to Easton Utilities. We ask that you implement the notes provided prior to Easton Utilities signing off on your plans. Notes are provided on the attached mark-up summary sheets.

Please contact Kia Gibbs, Engineering Administrative Support at kgibbs@eucmail.com should you have

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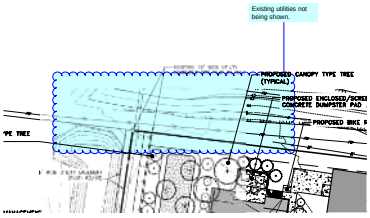
# 2025.06.02 Sketch Site Plan-In Town Properties - unlocked.pdf Markup Summary

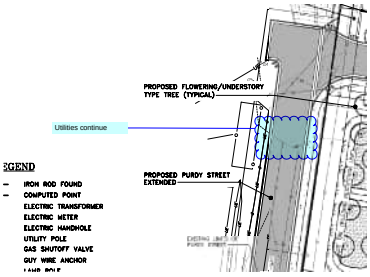
## Engineer (3)




**Subject:** Engineer
**Page Label:** 2
**Date:** 6/5/2025 9:12:12 AM

Existing utilities not being shown.

---




**Subject:** Engineer
**Page Label:** 2
**Date:** 6/5/2025 9:14:31 AM

Utilities continue

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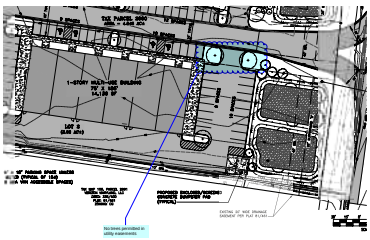

**Subject:** Engineer
**Page Label:** 2
**Date:** 6/5/2025 9:18:28 AM

No trees permitted in utility easements

---

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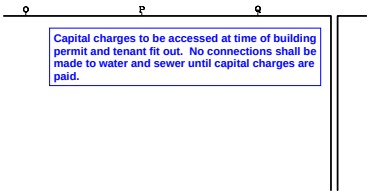
## Engineering (1)




**Subject:** Engineering
**Page Label:** 2
**Date:** 6/5/2025 9:17:04 AM

Capital charges to be accessed at time of building permit and tenant fit out. No connections shall be made to water and sewer until capital charges are paid.

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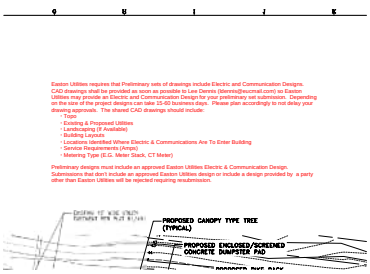
## Electric (1)




**Subject:** Electric
**Page Label:** 1
**Date:** 6/4/2025 9:18:49 AM

Easton Utilities requires that Preliminary sets of drawings include Electric and Communication Designs. CAD drawings shall be provided as soon as possible to Lee Dennis (ldennis@eucmail.com) so Easton Utilities may provide an Electric and Communication Design for your preliminary set submission. Depending on the size of the project designs can take 15-60 business days. Please plan accordingly to not delay your drawing approvals. The shared CAD drawings should include:

- ・Topo
- ・Existing & Proposed Utilities
- ・Landscaping (If Available)
- ・Building Layouts
- ・Locations Identified Where Electric & Communications Are To Enter Building
- ・Service Requirements (Amps)
- ・Metering Type (E.G. Meter Stack, CT Meter)

Preliminary designs must include an approved Easton Utilities Electric & Communication Design. Submissions that don't include an approved Easton Utilities design or include a design provided by a party other than Easton Utilities will be rejected requiring resubmission.

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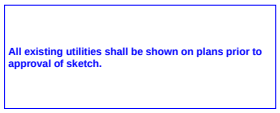
## Engineering (1)

**Subject:** Engineering
**Page Label:** 1
**Date:** 6/5/2025 9:11:09 AM

All existing utilities shall be shown on plans prior to approval of sketch.



## LANDSCAPE LEGEND

2" CALIPER MINIMUM CANOPY OR STREET TREES (OAK, ELM, MAPLE, ZELKOVA)

1.25" CALIPER OR 7' HEIGHT MINIMUM FLOWERING TREES (CHERRY, MAGNOLIA, RED BUD)

7' HEIGHT MINIMUM EVERGREEN TREES (WHITE PINE, SPRUCE, HOLLY, AMERICAN ARBORVITAE)

STORMWATER MANAGEMENT ESD LANDSCAPING MASS – PERENNIAL MIX WITH SHRUBS, GRASSES

Easton Utilities requires that Preliminary sets of drawings include Electric and Communication Designs. CAD drawings shall be provided as soon as possible to Lee Dennis (ldennis@eucmail.com) so Easton Utilities may provide an Electric and Communication Design for your preliminary set submission. Depending on the size of the project designs can take 15-60 business days. Please plan accordingly to not delay your drawing approvals. The shared CAD drawings should include:

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**All existing utilities shall be shown on plans prior to approval of sketch.**




## LEGEND

- IRON ROD FOUND
- COMPUTED POINT
- ELECTRIC TRANSFORMER
- ELECTRIC METER
- ELECTRIC HANDHOLE
- UTILITY POLE
- GAS SHUTOFF VALVE
- GUY WIRE ANCHOR
- LAMP POLE
- OVER HEAD UTILITY LINES
- SANITARY SEWER CLEAN OUT
- SANITARY SEWER MANHOLE
- ROUND STORM DRAIN INLET
- STORM DRAIN MANHOLE
- STORM DRAIN LINE
- TELEPHONE PEDESTAL
- UNDERGROUND PROPANE TANK
- UNDERGROUND GAS TANK
- FIRE HYDRANT
- WATER METER
- WATER VALVE
- MAJOR CONTOUR
- MINOR CONTOUR

**NOTE: THE LAYOUT AS SHOWN HEREON IS CONCEPTUAL ONLY AND NOT INTENDED TO BE UTILIZED FOR DESIGN OR CONSTRUCTION PURPOSES.**

PLANS ARE ISSUED FOR REVIEW ONLY

PLANS ARE NOT APPROVED FOR CONSTRUCTION

REVISIONS TO APPROVED PLANS

| No. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

**WARNING!!**

THE LOCATIONS OF EXISTING UTILITIES AS SHOWN ON THIS PLAN ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF EXISTING UTILITIES PRIOR TO BEGINNING CONSTRUCTION. THE QUANTITIES SHOWN ON THIS PLAN ARE FOR INFORMATIONAL AND PERMITTING PURPOSES ONLY. THE CONTRACTOR SHALL VERIFY ALL QUANTITIES TO HIS OWN SATISFACTION PRIOR TO BEGINNING CONSTRUCTION.

THE CONTRACTOR SHALL TEST PIT AND LOCATE EXISTING UNDERGROUND UTILITIES PRIOR TO THE BEGINNING OF ANY WORK ON-SITE. THE CONTRACTOR SHALL NOTIFY DEPT. OF PUBLIC WORKS OF ANY POSSIBLE CONFLICT AND REQUEST THE RELOCATION OF THE EXISTING UNDERGROUND UTILITIES BEFORE BEGINNING ANY WORK ON-SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY RELOCATION EXPENSE.

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117 Bay St. Easton, MD 21601 (410) 822-8003
15 Washington St. Cambridge, MD 21613 (410) 221-0818
354 Pennsylvania Ave. Centreville, MD 21617 (410) 758-2095


SEAL

DATE

# ILLUSTRATIVE PLAN

IN TOWN PROPERTIES, LLC
7872 OCEAN GATEWAY

*IN THE TOWN OF EASTON, ELECTION WARD 1*
*TALBOT COUNTY, MARYLAND*
*TAX MAP 105 GRID 17 PARCEL 2990*

| ISSUED/REVISED FOR: | DATE: | BY: |
|---|---|---|
| ESDR SUBMITTAL | 2/7/2024 | BCE |
| PLANNING COMMISSION SUBMITTAL | 3/4/2024 | BCE |
| PLANNING COMMISSION SUBMITTAL | 5/30/2025 | BCE |

SHEET No. 1 OF 1

SCALE: AS NOTED

JOB No. 240020

FILE No. 1026


Date: 05/30/2025 - 3:03pm User: wbarnhart Project Manager: BCE
Drawing Path: J:\2024\0000\240020\Civil3D-240020\Dwg\Plots\PSK-PLTS-240020.dwg | 1-Illustrative Plan
XREF File(s): VSP-BASE-240020/VLD-BASE-240020/RLD-BASE-240020/RES-BASE-24438-240020/RAR-BASE-240020/RLD-EUC-BASE-240020/LLP-BASE-240020/XRN-BASE-240020/CSW-BASE-240020/CSP-BASE-240020/CSP-PURDY-BASE-240020/CSP-SHA-BASE-240020

## LANDSCAPE LEGEND

2" CALIPER MINIMUM CANOPY OR STREET TREES (OAK, ELM, MAPLE, ZELKOVA)

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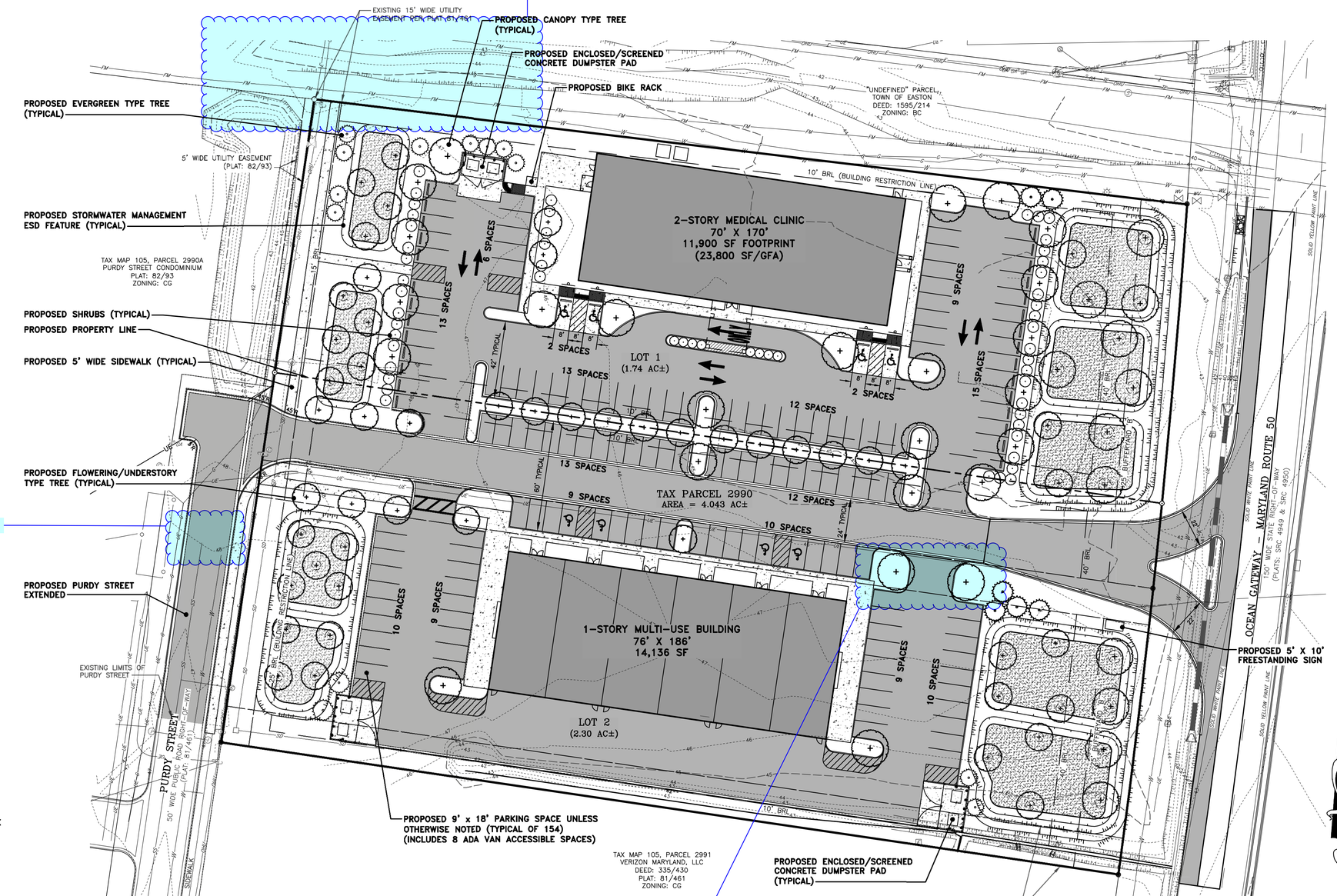
STORMWATER MANAGEMENT ESD LANDSCAPING MASS – PERENNIAL MIX WITH SHRUBS, GRASSES

**Capital charges to be accessed at time of building permit and tenant fit out. No connections shall be made to water and sewer until capital charges are paid.**

Existing utilities not being shown.




## LEGEND

- IRON ROD FOUND
- COMPUTED POINT
- ELECTRIC TRANSFORMER
- ELECTRIC METER
- ELECTRIC HANDHOLE
- UTILITY POLE
- GAS SHUTOFF VALVE
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- FIRE HYDRANT
- WATER METER
- WATER VALVE
- MAJOR CONTOUR
- MINOR CONTOUR
- PROPOSED E-ONE GRINDER PUMP
- PROPOSED WATER METER
- FM — PROPOSED FORCE MAIN

**NOTE: THE LAYOUT AS SHOWN HEREON IS CONCEPTUAL ONLY AND NOT INTENDED TO BE UTILIZED FOR DESIGN OR CONSTRUCTION PURPOSES.**

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PLANS ARE NOT APPROVED FOR CONSTRUCTION

REVISIONS TO APPROVED PLANS

| No. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

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15 Washington St. Cambridge, MD 21613 (410) 221-0818
354 Pennsylvania Ave. Centreville, MD 21617 (410) 758-2095


PROFESSIONAL CERTIFICATION: I hereby certify that this document was prepared or approved by me, and that I am a duly licensed Professional Engineer under the laws of the State of Maryland, License No. 51461 , Expiration Date: 04/04/2026.

SEAL

STATE OF MARYLAND
JESSE F. CHOATE
51461
PROFESSIONAL ENGINEER

06-02-25
DATE

# SKETCH SITE PLAN

IN TOWN PROPERTIES, LLC
7872 OCEAN GATEWAY

*IN THE TOWN OF EASTON, ELECTION WARD 1*
*TALBOT COUNTY, MARYLAND*
*TAX MAP 105 GRID 17 PARCEL 2990*

| ISSUED/REVISED FOR: | DATE: | BY: |
|---|---|---|
| ESDR SUBMITTAL | 2/7/2024 | BCE |
| PLANNING COMMISSION SUBMITTAL | 3/4/2024 | BCE |
| PLANNING COMMISSION SUBMITTAL | 6/2/2025 | BCE |

SHEET No. 2 OF 2
SCALE: AS NOTED
JOB No. 240020
FILE No. 1026

Date: 06/03/2025 - 9:48am User: barnes Project Manager: BCE
Drawing Path: J:\2024\0000\240020\Civil3D-240020\Dwg\Plats\RSK-PLTS-240020.dwg | 2-Sketch Site Plan
XREF File(s): XSF-BASE-240020/XLD-BASE-240020/RLD-BASE-210866/RBS-BASE-24X36-240020/RAR-BASE-240020/RLD-EUC-BASE-240020/LUP-BASE-240020/XRN-BASE-240020/CSW-BASE-240020/CSP-PURDY-BASE-240020/CSP-SHA-BASE-240020

Samantha Smith <ssmith@eastonmd.gov>

# Re: Quick Update: Ocean Gtwy 7872 (In Town Properties)

2 messages

**Daryl Caldwell** <1st.lieutenant@eastonvfd.org> Mon, Jun 23, 2025 at 2:20 PM
To: Samantha Smith <ssmith@eastonmd.gov>

Good afternoon

I am very sorry our suggestions are late. We hope there is s sprinkler system in the building, and a fire department connection very visible. Also a alarm system for the building, if there is going to be one alarm system. Please have it identify each store being used or set up a alarm system for each store independent system. NO blocking or parking space of the fire department connection. If possible 360 access around the building? Remember the fire department connection has to be NO more than 200ft away. Sorry again for being late with suggestions. Thanks again Assist Chief Daryl Caldwell, Easton VFD.

--- On Wed, 04 Jun 2025 08:27:15 -0400 **Samantha Smith via Smartsheet <user@app.smartsheet.com>** wrote ---

Good morning,

Please find the June 2025 Planning Commission submission items for "Ocean Gtwy 7872 (SouthernStatesRedevelopment)". This submission is an amendment to the previously approved sketch site plan in March 2024. Comments are due by June 17th.

Thank you,

Sam

# Ocean Gtwy 7872 (SouthernStatesRedevelopment)

Row 32

| | |
|---|---|
| **Primary Column** | Application and Plans |
| **Date Received** | 06/02/25 |
| **Date Due** | |
| **Date Completed** | |
| **Item Status** | |
| **Item Complete** | ☐ |

## Attachments

- 2024.03.21 PC Outcome Letter - In Town Properties.pdf (98k) (Row 32)
- 2025.05.22Easton BuildingUpdated - In Town Properties.pdf (1M) (Row 32)
- 2025.05.30 IllustrativePlan - In Town Properties.pdf (2M) (Row 32)
- 2025.06.02 Cover Letter - In Town Properties.pdf (101k) (Row 32)
- 2025.06.02 PC Concept Application - In Town Properties.pdf (203k) (Row 32)
- 2025.06.02 Sketch Site Plan-In Town Properties.pdf (1M) (Row 32)

View in Smartsheet

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**Samantha Smith** <ssmith@eastonmd.gov> Mon, Jun 23, 2025 at 2:24 PM
To: Daryl Caldwell <1st.lieutenant@eastonvfd.org>
Cc: Joe Mayer <jmayer@eastonmd.gov>

Thank you, Daryl.

Samantha

**Samantha N. Smith**
Administrative Specialist
Planning & Zoning Department
Town of Easton, MD
410-822-1943

* *Please be cautious of any unsolicited requests for money or sensitive financial information related to your application. The Town of Easton will never ask for payments via wire transfers, gift cards, cryptocurrency, or social payment apps (e.g., Zelle, Venmo, Cash App). If you have any doubts about the legitimacy of a payment request or communication, please contact the Planning and Zoning Department at (410) 822-1943.*

[Quoted text hidden]

TOWN OF EASTON
PLANNING & ZONING
14 S Harrison Street, Easton MD 21601

**Date of Hearing**: March 21, 2024

# # 4d

**PLANNING COMMISSION**
**PUBLIC HEARING**
**STAFF REPORT**

| | |
|---|---|
| **SUBJECT**: | **7872 Ocean Gateway - In Town Properties** |
| **ELECTION WARD**: | Ward 4 |
| **CRITICAL ACTION DATE**: | At the pleasure of the Commission |
| **STAFF CONTACTS**: | Joseph Mayer, Plan Reviewer<br>Miguel Salinas, Director of Planning and Zoning |
| **APPLICANT**: | In Town Properties, LLC |

**DOCUMENT CREATED ON:** March 12, 2024

**PURPOSE**: The applicant is seeking a site plan approval from the Planning Commission to construct two lots; redevelop the site to include a 24,000 square foot (SF) two-story medical clinic on Lot 1 and a 19,250 square foot (SF) retail store with a 2,999 square foot (SF) mezzanine office space on Lot 2 with associated improvements.

**RECOMMENDATION:** Staff supports Planning Commission approval of the proposed site plan subject to staff's recommended conditions (see below).

---

| **APPLICATION INFORMATION**: | |
|---|---|
| **APPLICANT:**<br>Lane Engineering, LLC.: Brett Ewing | **REPRESENTATIVE:**<br>Lane Engineering, LLC.: Brett Ewing<br>In Town Properties, LLC.: Steve Hershey |

**PARCELS/ACREAGE:**

| Parcel Information | Acreage |
|---|---|
| Map 105, Grid 0000, Parcel 2990 | 4.043 |

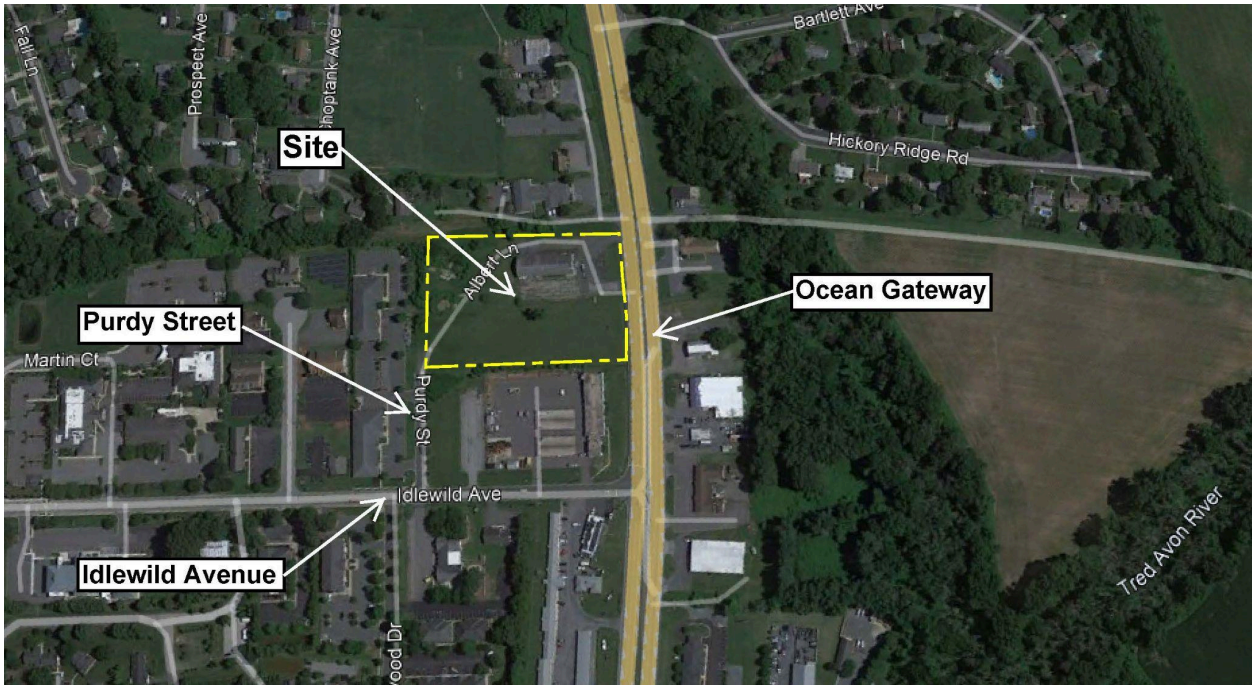
| | |
|---|---|
| **ACCEPTANCE DATE:**<br>March 4, 2024 | **LOCATION:**<br>7872 Ocean Gateway, Map 105, Parcel 2990 |
| **EXISTING ZONING**<br>CG | **EXISTING LAND USE:**<br>An unused commercial property that previously hosted a farm supply company (Southern States). |
| **HISTORIC DISTRICT:**<br>Not Applicable | **FUTURE LAND USE MAP:**<br>Commercial |

**CONTEXT**:
Location/Site Access – The subject property is located along Ocean Gateway, fronting on the east side of the road.

Existing Conditions – The subject property is currently an unused commercial property that previously hosted a farm supply company (Southern States).

Surrounding Properties
- 401 Purdy Street - CG
- 403 Purdy Street - CG
- 7894 Ocean Gateway - CG
- 7891 Ocean Gateway - R-10A
- 7871 Ocean Gateway - CG
- 7857 Ocean Gateway - CG
- 7847 Ocean Gateway - CG
- 7837 Ocean Gateway - CG
- 781 Idlewild Avenue - CG

***Figure 1**: Vicinity Map*




**PROPOSAL**: The applicant is proposing to construct two lots; redevelop the site to include a two-story medical clinic on Lot 1 and a retail store with a mezzanine office space on Lot 2 with associated parking, stormwater management facilities and landscaping.

The site is located on a previously developed area covered by impervious surface; existing walks, parking areas, drive aisles and a commercial structure. In addition, the site is within the priority funding area. Therefore, the applicant is seeking an exemption of forest conservation requirement from Article III of the Town's *Forest Conservation Ordinance Section 31-3.2.O; an activity on a previous area covered by impervious surface and located in the priority funding area.*

**BACKGROUND**: The applicant submitted an application to the Easton Staff Development Review Committee on April 28, 2022 and February 28, 2024.

**ZONING ANALYSIS:**

**A. Permissible Land Uses**

| **28-201 Table 2.1** | | | | | | **CG** | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 217 | Office* | -- | SE | SE | -- | P | P | P | P | -- | A | |

| 28-201 Table 2.1 | | | | | | CG | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 238 | Medical Services | -- | -- | -- | -- | P | P | P | P | -- | -- | |

| 28-201 Table 2.1 | | | | | | CG | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 256 | Any Retail Sales/Rental not listed above | -- | -- | -- | -- | P | P | SE | -- | -- | -- | |

**Analysis** – The proposed project is presented and described by the Applicant as a proposed minor-subdivision to create two lots; redevelop the site to include a medical clinic on Lot 1 and a retail store with a mezzanine office space on Lot 2. The project is categorized as *"Medical Services" , "Any Retail Sales/retail not listed above" and "Office"*. The proposed use is permitted by-right within Table 2.1 Table of Permissible Uses.

**B. Off-Street Parking**

***28-1001.3 Parking Requirements***

| | Use/Activity | Minimum Vehicle Spaces | Maximum Vehicle Spaces | Minimum Bicycle Spaces | Notes |
|---|---|---|---|---|---|
| | Commercial Buildings | | | | |
| 14 | Office or Bank without Drive-Thru | 1 per 250 sf GFA | 1 per 140 sf GFA | 1 per 10 vehicle spaces | |
| 15 | Standalone Retail Store | 1 per 300 sf GFA | 1 per 200 sf GFA | 1 per 10 vehicle spaces | |
| | Institutional or Community Facilities | | | | |
| 52 | Medical Clinic | 1 per 400 sf GFA | 1 per 100 sf GFA | 1 per 20 vehicle spaces | |

**Total Site Parking Required:**

Office: 1 Space /250 SF GFA; 12 Spaces Required- Minimum
1 Space /140 SF GFA; 21 Spaces Required- Maximum

Standalone Retail Store: 1 Space /300 SF GFA; 64 Spaces Required- Minimum
1 Space /200 SF GFA; 96 Spaces Required- Maximum

Medical Clinic : 1 Space /300 SF GFA; 60 Spaces Required- Minimum
1 Space /200 SF GFA; 240 Spaces Required- Maximum

Total spaces Required- Minimum: 136
Total spaces Required- Maximum: 357
**Total spaces provided: 155**

Bike Racks Required: Medical - 1 Bike Space/20 Vehicle Spaces; 3 Bike Space Required
Retail - 1 Bike Space/10 Vehicle Spaces; 6 Bike Space Required
Mezzanine w/ Office Space - 1 Bike Space/10 Vehicle Spaces; 1 Bike Space Required

**Analysis-** The applicant has provided one-hundred & fifty-five (155) off-street parking spaces. The owner does not foresee a demand for more parking spaces in the future, due to the nature of their business operations.

**C. Commercial General District Development Standards**

| Table 1. Development Standards | | |
|---|---|---|
| **CG Zoning District** | **Standard** | **Proposed** |
| Setbacks | Front = 25 feet,<br>40' State Highway<br>Side = 10 feet<br>Rear = 15 feet | Medical Clinic (Lot #1)<br>Front = 161 feet<br>Side = 11/49 feet<br>Rear – 144 feet<br><br>Retail (Lot #2)<br>Front = 40.3 feet<br>Side = 20/69 feet<br>Rear – 270 feet |
| Lot Size (min.) | 20,000 square feet | 75,794.4 square feet (Lot #1)<br>100,188 square feet (Lot #2) |
| Lot Frontage (min.) | 60 feet | 162 feet (Lot #1)<br>203 feet (Lot #2) |
| Building Envelope (min.) | 20 feet x 30 feet | 142 feet X 432 feet (Lot #1)<br>183 feet X 432 feet (Lot #2) |
| Lot Coverage (max.) | 50% (Lot Area) | 16% (Lot #1 Area)<br>17.8% (Lot#2 Area) |
| Height (max.) | 50 feet | 34' +/- (Lot #1 Area)<br>35.58' +/- (Lot#2 Area) |
| Bufferyard | Per the provisions of Section 28-1014 of the Zoning Ordinance. | Provided. |

***§ 306.2 of the Zoning Ordinance states that development within the Commercial General District shall also meet these additional requirements:***

- ***Off-Street Parking shall be provided for all uses in accordance with the standards of Section 28 – 1001.***
- ***All on-site lighting unless approved otherwise by the Planning and Zoning Commission shall be low cut-off shielded luminaries at 18' height and light shall not shine off-site at levels greater than 1-foot candle.***

- ***All off-street loading and unloading areas shall be screened from view by permanent decorative screens or natural planting, either of which shall be a minimum of eight (8) feet in height.***

- ***All areas not devoted to buildings or parking areas shall be landscaped and maintained in a suitable manner, in accordance with the provisions of Section 28 – 1014 of this Ordinance.***

**Analysis -** The site falls under the CG - Commercial General District Area and meets the 28-306 Development Standards. Any comments or concerns from the ESDR review letters will be addressed during the Development Site Plan review.

**D. Forest Conservation**

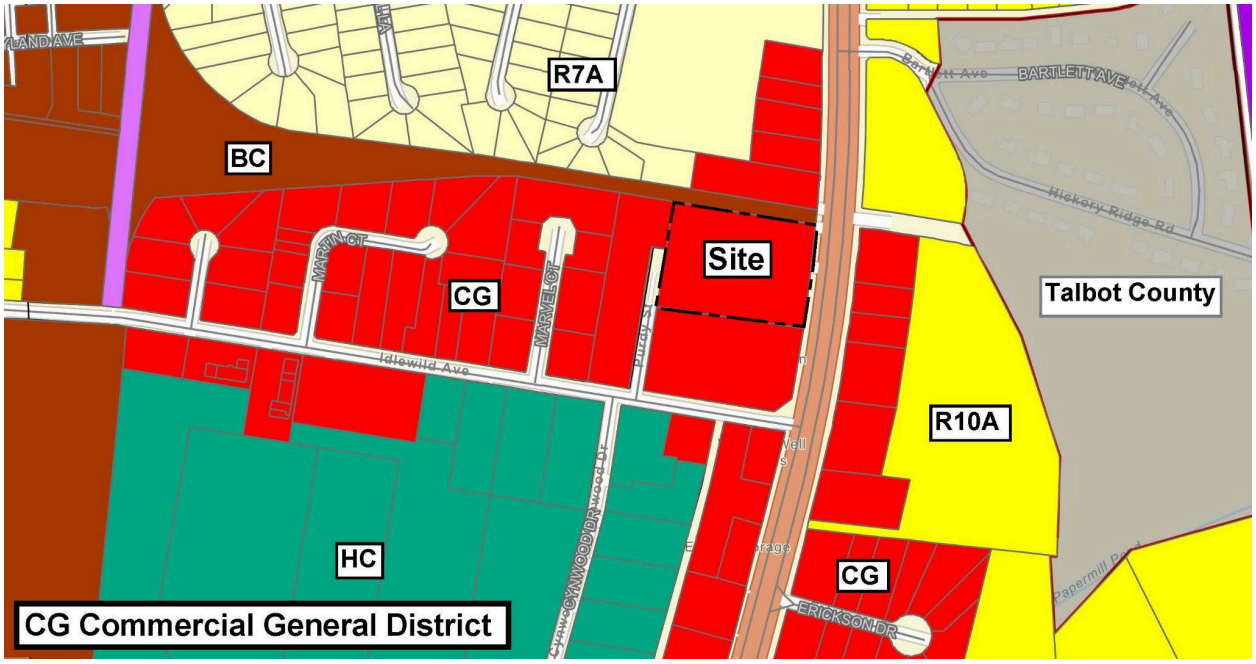
***Easton Forest Conservation Ordinance #718, Article III, § 31-3.2 Exemptions***

***O. An activity on a previously developed area covered by impervious surface and located in the priority funding area.***

**Analysis -** The site is within the priority funding area and is an existing developed area covered by impervious surface; existing utilities. The overall site area is 4.043 acres with a proposed 2-Story Medical Clinic and a 1-Story Retail Building along with associated parking, stormwater management and landscaping. Required Forest Conservation would be 0.606 acres or 26,417 square feet. The intent of the project is to maximize density within the infill area and provide adequate facilities to accommodate the site. The applicant has provided a landscape plan with forty (40) deciduous-shade/canopy trees, twenty-six (26) understory trees and thirty-eight (38) evergreen trees that is greater than the required forest conservation area. Based on the existing conditions and priority funding area, the staff supports the exemption.

**POLICY ANALYSIS:**

***Figure 2: Zoning Map***




***The submission of a site plan for a proposed use or development activity shall not be approved unless it meets the factors below:***

***1. The site plan meets the design principles and standards and required improvements set forth in this Ordinance, the Town Comprehensive Plan, the Town of Easton Subdivision Regulations, and other ordinances, regulations, and policies established by the Town of Easton.***

**Analysis -**

**Town of Easton 2010 Comprehensive Plan Design Principles (Principle #1) Integrated uses are desirable-** Applicant's response: *This development proposal provides a medical clinic and a retail store on a commercially zoned property in the Route 50 corridor.*

***Staff notes that the proposed development fits within the general commercial nature of Ocean Gateway.***

**(Principle #2) Natural features should determine design** – *Applicant's response: There are no compelling natural features; site layout oriented to take advantage of natural drainage patterns.*

***Staff notes that there are no compelling natural features on site.***

**(Principle #3) Automobiles should not determine design –** *Applicant's response: Parking for medical clinic & retail users provided, building orientation to compliment existing site is the primary design for this layout. Parking is located mainly to the rear of the retail.*

***Staff notes that the applicant has provided 155 off-street parking spaces.***

**(Principle #4) Ample Open Space should be provided within & around neighborhoods** – *Applicant's response: Usable Open Space is not applicable here.*

***Staff notes that open space is not applicable.***

**(Principle #5) Architecture should respect Easton's Historical Development –** *Applicant's response: This application proposes architecture compatible with the Town of Easton's architectural palette and consistent with commercial buildings in the Route 50 corridor.*

**(Principle #6) Signs should inform but not dominate –** *Applicant's response: Signage, simple and per code.*

***Staff notes that any proposed monument sign will require a Signage Application to be submitted prior to installation. Signs should inform but not dominate the area.***

**(Principle #7) Neighborhoods should contain a diversity of housing types –** *Applicant's response: Not applicable to this application.*

**(Principle #8) Residential neighborhoods should be interesting places –** *Applicant's response: Not applicable to this application.*

**(Principle #9) Neighborhoods should connect –** *Applicant's response: Not applicable to this application.*

***Staff notes that although this Principle is primarily directed towards residential subdivisions, Purdy Street provides connectivity for the surrounding businesses to access Idlewood Avenue.***

***2. The site plan avoids or minimizes adverse impacts upon features (whether on-site or off-site) of historical, cultural or ecological significance.***

**Analysis -** The proposed site is not within the Historic District or the Critical Area. This project would provide a medical clinic and a retail store with a mezzanine office space, including improved amenities; adequate parking, stormwater management facilities and landscaping.

***3. The proposed use or development activity will not substantially increase traffic hazards due to traffic generated by the proposed use, the location of curb cuts or the layout of internal traffic circulation.***

**Analysis -** The proposed use and activity will not increase traffic hazards in the surrounding area. Adequate off-street parking is provided and access to the proposed site is via a State Highway Administration's Access Permit. The overall location to the entrance is consistent with the existing entrance and will be updated to accommodate the proposed site.

***4. The site plan and the proposed use or uses do not cause any adverse impact upon the health or safety of persons residing or working in the area surrounding the site or upon the character of the neighborhood surrounding the site; and***

**Analysis -** There would be no adverse impacts. The existing property is located within a commercial general zoned area. Proposed uses would provide a medical clinic and a retail store with a mezzanine office space, including improved amenities; adequate parking, stormwater management facilities and landscaping.

**5.** ***The site plan improves the water quality of the Chesapeake Bay or its tributaries.***

**Analysis -** The proposed site would meet required design practices for stormwater management.

**RECOMMENDED CONDITION:**

Staff recommends the Planning Commission approve the sketch site plan with the following conditions:

- The Applicant is required to address the Engineering Department's conditions:

    1. Provide a sidewalk from the existing sidewalk on the east side of Purdy Street along the entire length of the west property line, within the existing Utility Easement, to connect to the proposed future Rail Trail on the Town of Easton parcel to the north (per Section 28-1016.C of the Town Zoning Code). This would be consistent with the Town of Easton Comprehensive Plan's Transportation section.
    2. A protective feature such as curb or bollards will need to be installed between stormwater management features and adjacent parking stalls.

**DRAFT MOTIONS**:

1. I move that the Planning Commission approve the sketch site plan subject to staff's Conditions of Approval.

OR

2. I move that the Planning Commission table the application to the April 18th Commission meeting for further discussion.

OR

3. I move an alternate motion.

**ATTACHMENTS**:
1. 2024-02-06 - Medical Clinic Rendering, paper copy & PDF
2. 2024-02-06 - Retail Space Rendering, paper copy & PDF
3. 2024-02-06 - Retail Store_Elevations, paper copy & PDF
4. 2024-02-07 - Concept SWM report, paper copy & PDF
5. 2024-02-07 - Medical Clinic_Elevations, paper copy & PDF
6. 2024-03-01 ESDFR Determination Letter & Applications, paper copy & PDF
7. 2024-03-04 - IllustrativePlan, paper copy & PDF
8. 2024-03-04 - SketchSitePlan, paper copy & PDF
9. 2024-03-12 - ReviewLetter-2-SketchESDR, paper copy & PDF

# Lane Engineering, LLC

Established 1986

Civil Engineering • Land Planning • Land Surveyors

15 Washington Street
Cambridge, Maryland 21613
Tel 410-221-0818
Fax 410-476-9942

**117 Bay Street**
**P.O. Box 1767**
**Easton, Maryland 21601**
**Tel 410-822-8003**
**Fax 410-822-2024**

354 Pennsylvania Avenue
Centreville, Maryland 21617
Tel 410-758-2095
Fax 410-758-4422


June 2, 2025

Joe Mayer
Town of Easton
14 S. Harrison Street
Easton, MD 21601

**Subject :** In Town Properties, LLC (Former Southern States Site) Sketch Site Plan – Planning Commission Submittal

Dear Joe,

On March 21, 2024, the PC approved the sketch site plan for a 24,000 sf medical building and a 19,250 sf retail building. The developer is proposing changes by reducing the size of the retail building to 14,100 sf and adding a restaurant component; the building has also been shifted further from Rt. 50. There are no changes to the medical building size and layout.

We believe the new retail/ restaurant architecture is more in keeping with the Town standards and consistent other buildings along this corridor.

Thank you for your review of this project. Should you have any questions or need additional information, please contact me directly at 410-822-8003.

Sincerely,



Brett C. Ewing, AICP
Principal

# TOWN OF EASTON

**Planning & Zoning Department**
P.O. Box 520
Easton, Maryland 21601

March 22, 2024

Lane Engineering, LLC
% Brett Ewing
117 Bay Street
Easton, Maryland 21601

**Re: Site Plan Application 2024 - 1129**
7872 Ocean Gateway
Tax Map 105, Grid 000, Parcel 2990
Easton, Maryland 21601

Dear Mr Ewing:

At their regularly scheduled meeting on March 21, 2024, the Town of Easton Planning Commission reviewed the above-referenced site plan application for the redevelopment of a 24,000 square foot, two-story medical clinic (Lot 1), and a 19,250 square foot, one-story retail store with a 2,999 square foot mezzanine office space (Lot 2).

The Commission voted 5-0 to approve the sketch site plan with the following conditions:

1. The applicant shall provide a sidewalk from the existing sidewalk on the East side of Purdy Street within the existing Utility Easement along the entire length of the West property line to connect the proposed future Rail Trail on the Town of Easton parcel to the North (per Section 28-1016.C of the Town Zoning Code).

2. The applicant shall provide a protective feature such as curb, or bollards between the stormwater management features and adjacent parking stalls.

Any person aggrieved by this decision may, within thirty (30) days of the Planning Commission's decision, file an appeal with the Town Planner and with the Board of Zoning Appeals specifying the grounds thereof. Should you have questions concerning the above finding, please contact this office at 410-822-1943.

Sincerely,

Samantha N. Smith

**Samantha N. Smith,** Administrative Specialist

Planning & Zoning Department
410-822-1943 ssmith@eastonMD.gov

CC: In Town Properties, LLC % Steve Hershey
Ryan D. Showalter *Esq.*, McAllister Detar Showalter & Walker LLC

RECEIVED
JUN 0 2 2025
TOWN OF EASTON

**Town of Easton**
Engineering, Planning and Zoning
14 South Harrison Street, Easton, MD 21601

# Planning Commission Concept, Use, and Design Application

## Site Information

| | | | |
|---|---|---|---|
| Structure's Floor Area | 38,136 | Structure's Square Feet | 26,136 |
| Area of Disturbance | 4 acres | Number of Dwelling Units | N/A |
| Property Size | Acres 4 acres | Square Feet | 174,240 |
| Address | 7872 Ocean Gateway | | |
| Tax Map | 105 Grid 17 | Parcel 2990 | Lot |
| Zoning District | Historic District Y ☐ N ☒ | PRD Y ☐ N ☒ | |
| Other Information | N/A | | |
| Existing Use | Vacant commercial parcel | | |

## Owner

| | | | |
|---|---|---|---|
| Name | Intown Properties, LLC | | |
| Mailing Address | 8845 Mistletoe Drive, Easton, MD 21601 | | |
| Telephone No. | 410-200-3057 | Email | dljcommercial@gmail.com |

## Applicant / Agent

| | | | |
|---|---|---|---|
| Name | Brett Ewing, Lane Engineering | | |
| Mailing Address | 117 Bay Street, Easton, MD 21601 | | |
| Telephone No. | 410-822-8003 | Email | bewing@leinc.com |

## General Information:

On March 21, 2024, The Easton PC approved the construction of a 24k sf medical bldg and a 19,250k retail bldg. The applicant has now reduced the size of the retail building to 14k sf and added a restaurant component; the bldg has also been shifted back from Rt. 50.

***Any modifications during review shall warrant an updated application.***
***I do hereby solemnly declare and affirm that the information provided by this application and the documents attached hereto accurately represent the conditions of the request and that submission of an incomplete application will be returned for correction prior to processing.***

Signature of Applicant or Agent

Date 6-2-25

Printed Name of Applicant or Agent Brett Ewing

*For Office Use Only*

| | |
|---|---|
| Planned Commission Meeting Date | 06/24/2025 |
| Review Fee Amount | - |
| Review Fee Paid Date | 02/07/2024 |
| ESDR Y / N Date | 02/28/2024 |

**2024 - 1129 / ESDR 24 - 04**

*Revised 02-2019*

# SKETCH SITE PLAN
## FOR
# IN TOWN PROPERTIES, LLC
## IN THE TOWN OF EASTON
## TALBOT COUNTY, MARYLAND

**PROJECT DATA**

PROPERTY: TAX MAP 105, PARCEL 2990
7872 OCEAN GATEWAY
EASTON, MARYLAND 21601

OWNER/DEVELOPER: IN TOWN PROPERTIES, LLC
C/O STEVE HERSHEY
8845 MISTLETOE DRIVE
EASTON, MARYLAND 21601
(410) 200–3057

DEED REFERENCE: 2412/282

PLAT REFERENCE: 84/461

ZONING CLASSIFICATION: CG – COMMERCIAL GENERAL

TOTAL SITE AREA: 4.043 ACRES±
LOT 1: 1.74 ACRES±
LOT 2: 2.30 ACRES±

| BUILDING SETBACKS: | | MEDICAL CLINIC | RETAIL/RESTAURANT BUILDING |
|---|---|---|---|
| FRONT – | 25'; 40' (STATE HIGHWAY) | 153'± | 165'± |
| SIDE – | 10' | 11'± / 75'± | 50'± / 78'± |
| REAR – | 15' | 157'± | 139'± |

EXISTING CONDITIONS: AN UNUSED COMMERCIAL PROPERTY, SITUATED BETWEEN PURDY STREET AND US ROUTE 50, THAT PREVIOUSLY HOSTED A FARM SUPPLY COMPANY (SOUTHERN STATES).

PROPOSED DEVELOPMENT: THE PROPOSED PROJECT IS TO SUBDIVIDE THE PARCEL INTO TWO LOTS, REDEVELOP THE SITE AND CONSTRUCT A 2–STORY 12,000 SF (24,000 GFA) MEDICAL CLINIC AND A 1–STORY 14,136 SF RETAIL/RESTAURANT BUILDING WITH SIDEWALKS, PARKING AND STORMWATER MANAGEMENT AREA.

LOT COVERAGE (BUILDINGS): ALLOWED – 50%
PROPOSED – LOT 1= 16%±; LOT 2 = 17.8%

STORMWATER MANAGEMENT: STORMWATER QUANTITY/ QUALITY CONTROL WILL BE ADDRESSED THROUGH ESD FEATURES AS REQUIRED AND DETAILED IN THE CONCEPT SWM REPORT INCLUDED WITH PRIOR SKETCH SITE PLAN.

FOREST CONSERVATION: IS EXEMPT PER §31–3.2.O: AN ACTIVITY ON A PREVIOUSLY DEVELOPED AREA COVERED BY IMPERVIOUS SURFACE AND LOCATED IN THE PRIORITY FUNDING AREA.

SPECIAL EXCEPTIONS/VARIANCES: NONE.

REFUSE/TRASH: PROVIDED AS SHOWN.

SITE LIGHTING: POLE HEIGHT TO BE DETERMINED FOR EFFICIENT LIGHT COVERAGE, BUT HEIGHTS IN RANGE OF 18'–20'±. PHOTOMETRIC ANALYSIS WILL BE PROVIDED PRIOR TO FINAL APPROVAL.

BUILDING HEIGHTS: ALLOWED = 50'; PROPOSED = LESS THAN 50'

PUBLIC SIDEWALKS: PROVIDED ALONG ALONG PURDY STREET.

**PARKING CALCULATIONS**

| | |
|---|---|
| PARKING REQUIRED: 2–STORY MEDICAL CLINIC @1 SP/400 SF GFA: 24,000 SF/400 | = 60 SPACES MINIMUM |
| 2–STORY MEDICAL CLINIC @1 SP/100 SF GFA: 24,000 SF/100 | = 240 SPACES MAXIMUM |
| 1–STORY RETAIL SUITE @ 1 SP/300 SF GFA; 9,128 SF/300 | = 31 SPACES MINIMUM |
| 1–STORY RETAIL SUITE @ 1 SP/200 SF GFA; 9,128 SF/200 | = 46 SPACES MAXIMUM |
| 1–STORY CARRY–OUT RESTAURANT @ 1 SP/300 SF GFA; 3,776 SF/300 | = 13 SPACES MINIMUM |
| 1–STORY CARRY–OUT RESTAURANT @ 1 SP/200 SF GFA; 3,776 SF/200 | = 19 SPACES MAXIMUM |
| 1–STORY SIT–DOWN RESTAURANT @ 1 SP/100 SF GFA; 800 SF/100 | = 8 SPACES MINIMUM |
| 1–STORY SIT–DOWN RESTAURANT @ 1 SP/50 SF GFA; 800 SF/50 | = 16 SPACES MAXIMUM |
| TOTAL SPACES REQUIRED | = 112 SPACES MINIMUM |
| TOTAL SPACES PROVIDED | = 154 SPACES INCLUDING 6 ADA SPACES |

BIKE RACKS REQUIRED: MEDICAL – 1 BIKE SPACE/20 VEHICLE SPACES; 3 BIKE SPACES REQUIRED
RETAIL – 1 BIKE SPACE/10 VEHICLE SPACES; 6 BIKE SPACES REQUIRED
RESTAURANT; CARRY–OUT/SIT–DOWN – 1 BIKE SPACE/10 VEHICLE SPACES; 7 BIKE SPACES REQUIRED

**PROJECT NOTES**

1. PROPERTY BOUNDARY AND EXISTING CONDITIONS SURVEYED BY LANE ENGINEERING, LLC ON 01/11/2022.
2. SITE TOPOGRAPHY AS SHOWN HEREIN WAS DERIVED FROM A FIELD SURVEY BY LANE ENGINEERING, LLC DATED 01/11/2022.
3. ALL UNDERGROUND UTILITIES ARE SHOWN PER SURVEY WORK CONDUCTED ON 1/31/2024 BY LANE ENGINEERING, IN CONJUNCTION WITH UTILITY TEST PITTING, AND SUPPLEMENTING WITH BEST AVAILABLE RECORDS.
4. THE ELEVATIONS SHOWN HEREON ARE NAVD 1988 DATUM.
5. THE COORDINATES SHOWN HEREON ARE BASED ON THE MARYLAND STATE PLANE COORDINATE SYSTEM NAD83 (2011).
6. THE SITE IS LOCATED ENTIRELY OUTSIDE OF THE CHESAPEAKE BAY CRITICAL AREA.
7. THE PROPERTY SHOWN HEREON IS NOT LOCATED IN THE NATIONAL FLOOD INSURANCE PROGRAM (NFIP) SPECIAL FLOOD HAZARD AREA (SFHA) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD. THE PROPERTY IS MAPPED IN THE X FLOOD ZONE(S) AS SHOWN ON THE FEDERAL INSURANCE RATE MAPS FOR COMMUNITY NO. 240067, MAP NO. 24041C0193C FOR THE TOWN OF EASTON, MARYLAND. THE 1% ANNUAL CHANCE FLOOD (100–YEAR FLOOD), ALSO KNOWN AS THE BASE FLOOD, IS THE FLOOD THAT HAS A 1% CHANCE OF BEING EQUALED OR EXCEEDED IN ANY GIVEN YEAR. THE SFHA IS THE AREA SUBJECT TO FLOODING BY THE 1% ANNUAL CHANCE FLOOD. THE SFHA INCLUDE ZONES A, AE, AH, AO, AR, A99, V & VE. THE BASE FLOOD ELEVATION (BFE) IS THE WATER SURFACE ELEVATION OF THE 1% ANNUAL CHANCE FLOOD. FLOOD INSURANCE MAY BE REQUIRED FOR STRUCTURES LOCATED IN THE SPECIAL FLOOD HAZARD AREA.

   FLOOD ZONE LEGEND
   ZONES A, AE, AH, AO, AR, A99, V & VE – 1% ANNUAL CHANCE FLOOD
   ZONE X (SHADED) – 0.2% ANNUAL CHANCE FLOOD
   ZONE X – AREA OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD

   THE FLOOD DATA SHOWN HEREON IS BASED ON AVAILABLE MAPPED AND/OR DIGITAL INFORMATION AND IS DEPICTED AS DIRECTED AND REQUIRED BY FEDERAL STATE AND LOCAL REGULATIONS. IT IS SUBJECT TO DATA INACCURACIES AND REGULATORY CHANGE AND SHOULD BE VERIFIED PRIOR TO FINALIZING DEVELOPMENT OR IMPROVEMENT PLANS FOR THE SUBJECT LANDS.
8. NO ABSTRACT OF TITLE, TITLE COMMITMENT, NOR RESULTS OF A TITLE SEARCH HAVE BEEN FURNISHED TO LANE ENGINEERING, LLC. THE BUILDING RESTRICTION LINES AS SHOWN HEREON ARE BASED SOLELY ON THE CURRENT TOWN OF EASTON ZONING ORDINANCE APPLICABLE TO THE PROPERTY SHOWN HEREON AND ARE SUBJECT TO CHANGE WITH THE REVISION OF ZONING LAWS. OTHER DOCUMENTS OF RECORD MAY EXIST THAT MAY AFFECT THE SURVEYED PROPERTY REFLECTED HEREON, INCLUDING BUT NOT LIMITED TO EASEMENTS, ENCUMBRANCES, RESTRICTIVE COVENANTS, PLAT RESTRICTIONS OR ANY OTHER FACTS THAT AN ACCURATE, COMPLETE AND CURRENT TITLE SEARCH MAY DISCLOSE.
9. THERE ARE NO KNOWN HISTORIC STRUCTURES OR ARCHEOLOGICALLY SIGNIFICANT RESOURCES, STEEP SLOPES APPROACHING 15%, STREAMS, TIDAL WETLANDS/NON–TIDAL WETLANDS OR KNOWN HABITAT PROTECTION AREAS IN PROXIMITY TO THE PROPOSED SITE IMPROVEMENTS. NON–TIDAL WETLANDS ARE PRESENT ON SITE AND HAVE BEEN FIELD LOCATED BY LANE ENGINEERING, LLC. ANY DISTURBANCE TO VALIDATED WETLAND OR BUFFER AREAS WILL REQUIRE APPROVAL BY MARYLAND DEPARTMENT OF THE ENVIRONMENT/U.S. ARMY CORP OF ENGINEERS.
10. PUBLIC WATER AND SEWER SERVICES ARE PROVIDED BY THE TOWN OF EASTON.




VICINITY MAP

400' 200' 0' 200' 400' 800'
SCALE IN FEET

| SHEET No. | TITLE |
|---|---|
| 1 OF 2 | TITLE SHEET |
| 2 OF 2 | SKETCH SITE PLAN |

**FOREST CONSERVATION REQUIREMENTS:**

EXEMPT PER §31–3.2.O: AN ACTIVITY ON A PREVIOUSLY DEVELOPED AREA COVERED BY IMPERVIOUS SURFACE AND LOCATED IN THE PRIORITY FUNDING AREA.

**LANDSCAPE REQUIREMENTS SUMMARY PER ZONING ORDINANCE:**

SECTION 1014.6.C.:

STREET TREES @ 1 TREE/70' OF STREET FRONTAGES = NOT APPLICABLE; NONE PROVIDED

SECTION 1014.6.E.:

1. OVERALL TREES: 1 TREE/1500 SQ FT DISTURBED AREA; 161,237 SF SQ FT/1500 = 107 TREES REQUIRED; 107 PROVIDED

2.B. INTERIOR PARKING LOT PLANTINGS: 154 SPACES / 7.5 = 21 TREES REQUIRED; 21 TREES PROVIDED

2.C. PARKING LOT HEDGE: AS SHOWN

2.D.I. BUILDING FAÇADE PLANTINGS: ONE TREE/50' OF APPLICABLE ENTRANCE FAÇADE ALONG US ROUTE NO. 50; FRONTAGE 146'/50 = 3 TREES REQUIRED; 3 TREES PROVIDED

2.D.II. FAÇADE LANDSCAPE BEDS: 25% OF APPLICABLE FAÇADE = LANDSCAPE BEDS PROVIDED

2.E. SERVICE LOADING AREA SCREENING: PROVIDED AS SHOWN

2.F. SHRUB/GROUNDCOVER PLANTINGS: PROVIDED AS SHOWN

SECTION 1014.7.E.:

25' WIDE LANDSCAPE BUFFERYARD 'B' (ALONG US ROUTE 50)
367 LF LESS ACCESS DRIVE & UTILITY EASEMENT (67 LF)= 300 LF / 50' = 6 PLANT UNITS (PU)
2 SHADE/ CANOPY TREES X 6 PU= 12 SHADE/ CANOPY TREES REQUIRED
1 EVERGREEN TREES X 6 PU= 6 EVERGREEN TREES REQUIRED

**COMPREHENSIVE PLAN DESIGN PRINCIPLES RESPONSE NARRATIVE**

PRINCIPLE #1– INTEGRATED USES ARE DESIRABLE– THIS DEVELOPMENT PROPOSAL PROVIDES A MEDICAL CLINIC AND RETAIL STORE ON A COMMERCIALLY ZONED PROPERTY IN THE ROUTE 50 CORRIDOR.

PRINCIPLE #2– NATURAL FEATURES SHOULD DETERMINE DESIGN– NO COMPELLING NATURAL FEATURES; SITE LAYOUT ORIENTED TO TAKE ADVANTAGE OF NATURAL DRAINAGE PATTERNS.

PRINCIPLE #3– AUTOMOBILES SHOULD NOT DETERMINE DESIGN– PARKING FOR MEDICAL CLINIC & RETAIL USERS PROVIDED, BUILDING ORIENTATION TO COMPLIMENT EXISTING SITE IS THE PRIMARY DESIGN FOR THIS LAYOUT. PARKING IS LOCATED MAINLY TO THE REAR OF THE RETAIL.

PRINCIPLE #4– AMPLE OPEN SPACES SHOULD BE PROVIDED WITHIN & AROUND NEIGHBORHOODS– USABLE OPEN SPACE NOT APPLICABLE HERE.

PRINCIPLE #5– ARCHITECTURE SHOULD RESPECT EASTON'S HISTORICAL DEVELOPMENT– THIS APPLICATION PROPOSES ARCHITECTURE COMPATIBLE WITH THE TOWN OF EASTON'S ARCHITECTURAL PALETTE AND CONSISTENT WITH COMMERCIAL BUILDINGS IN THE ROUTE 50 CORRIDOR.

PRINCIPLE #6– SIGNS SHOULD INFORM BUT NOT DOMINATE– SIGNAGE, SIMPLE AND PER CODE.

PRINCIPLE #7– NEIGHBORHOODS SHOULD CONTAIN A DIVERSITY OF HOUSING TYPES– NOT APPLICABLE TO THIS APPLICATION

PRINCIPLE #8– RESIDENTIAL NEIGHBORHOODS SHOULD BE INTERESTING PLACES– NOT APPLICABLE TO THIS APPLICATION

PRINCIPLE #9– NEIGHBORHOODS SHOULD CONNECT– NOT APPLICABLE TO THIS APPLICATION.

**SITE ADDRESS**

7872 OCEAN GATEWAY
EASTON, MD 21601

**DEVELOPER**

IN TOWN PROPERTIES, LLC
8845 MISTLETOE DRIVE
EASTON, MD 21601

**CIVIL ENGINEER**

LANE ENGINEERING, LLC
C/O ALEC F. CHOSTA, P.E.
117 BAY STREET
EASTON, MD 21601
(410) 822–8003

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REVISIONS TO APPROVED PLANS

| No. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

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Civil Engineers • Land Planning • Land Surveyors
E–mail: general@lanei.com
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15 Washington St. Cambridge, MD 21613 (410) 221–0818
354 Pennsylvania Ave. Centreville, MD 21617 (410) 758–2095


PROFESSIONAL CERTIFICATION: I hereby certify that this document was prepared or approved by me, and that I am a duly licensed Professional Engineer under the laws of the State of Maryland, License No. 21461 , Expiration Date: 04/04/2026.

SEAL

STATE OF MARYLAND
ALEC FREDERICK CHOSTA
21461
PROFESSIONAL ENGINEER

06-02-25
DATE

TITLE SHEET

IN TOWN PROPERTIES, LLC
7872 OCEAN GATEWAY

*IN THE TOWN OF EASTON, ELECTION WARD 1*
*TALBOT COUNTY, MARYLAND*
*TAX MAP 105 GRID 17 PARCEL 2990*

| ISSUED/REVISED FOR: | DATE: | BY: |
|---|---|---|
| ESDR SUBMITTAL | 2/7/2024 | BCE |
| PLANNING COMMISSION SUBMITTAL | 3/4/2024 | BCE |
| PLANNING COMMISSION SUBMITTAL | 6/2/2025 | BCE |

SHEET No. 1 OF 2
SCALE: AS NOTED
JOB No. 240020
FILE No. 1026

Land Development


Date: 06/03/2025 - 9:48am User: barnes Project Manager: BCE
Drawing Path: J:\2024\0000\240020\Civil\30-240020\Dwg\Plots\RSK-PLTS-240020.dwg | 1-Cover
XREF File(s): VSF-BASE-240020/VLD-BASE-240020/RLD-BASE-240020/RLD-EUC-BASE-240020/LLP-BASE-240020/ARN-BASE-240020/CSW-BASE-240020/CSP-PURDY-BASE-240020/CSP-SHA-BASE-240020

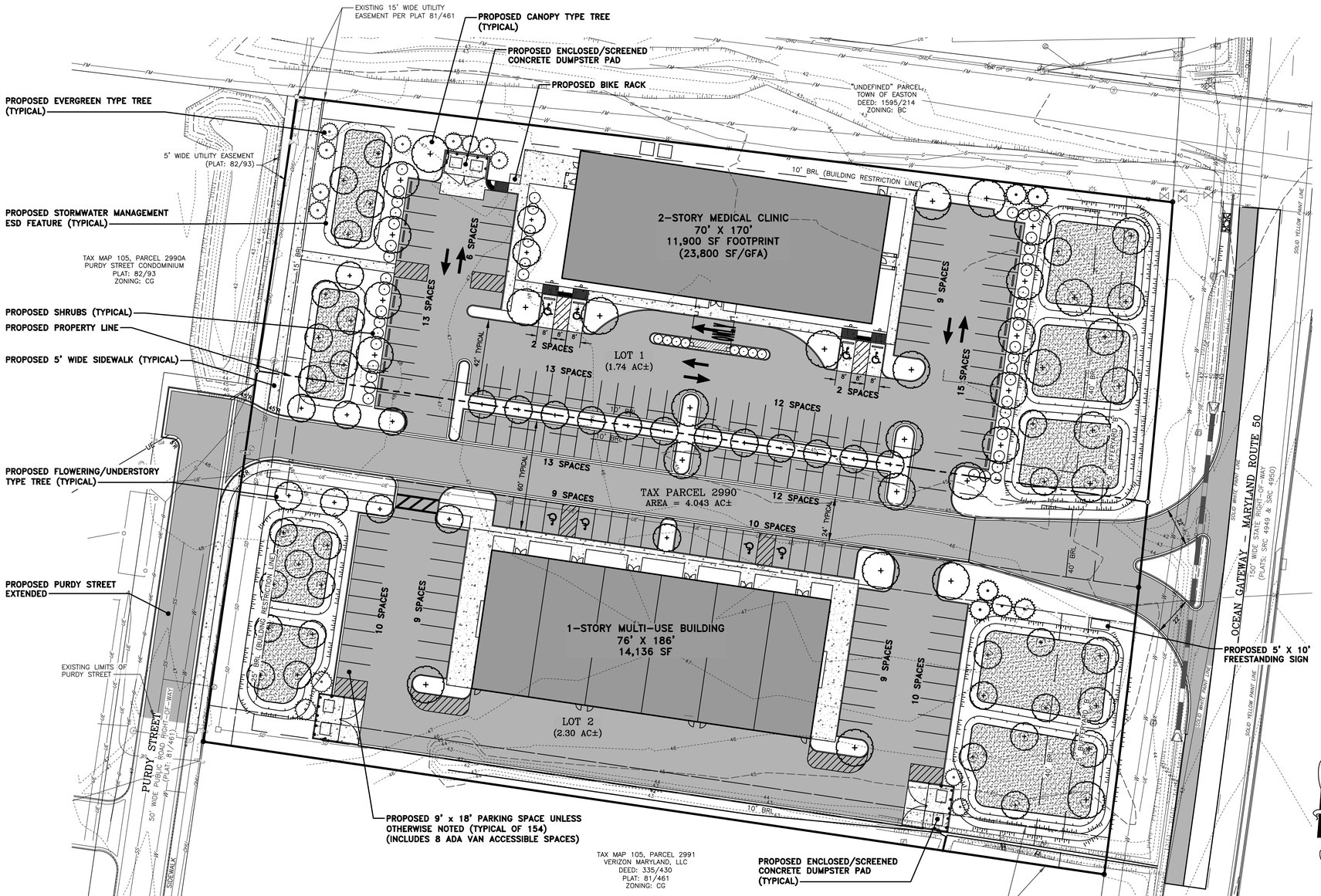
## LANDSCAPE LEGEND

2" CALIPER MINIMUM CANOPY OR STREET TREES (OAK, ELM, MAPLE, ZELKOVA)

1.25" CALIPER OR 7' HEIGHT MINIMUM FLOWERING TREES (CHERRY, MAGNOLIA, RED BUD)

7' HEIGHT MINIMUM EVERGREEN TREES (WHITE PINE, SPRUCE, HOLLY, AMERICAN ARBORVITAE)

STORMWATER MANAGEMENT ESD LANDSCAPING MASS – PERENNIAL MIX WITH SHRUBS, GRASSES




## LEGEND

- IRON ROD FOUND
- COMPUTED POINT
- ELECTRIC TRANSFORMER
- ELECTRIC METER
- ELECTRIC HANDHOLE
- UTILITY POLE
- GAS SHUTOFF VALVE
- GUY WIRE ANCHOR
- LAMP POLE
- OVER HEAD UTILITY LINES
- SANITARY SEWER CLEAN OUT
- SANITARY SEWER MANHOLE
- ROUND STORM DRAIN INLET
- STORM DRAIN MANHOLE
- STORM DRAIN LINE
- TELEPHONE PEDESTAL
- UNDERGROUND PROPANE TANK
- UNDERGROUND GAS TANK
- FIRE HYDRANT
- WATER METER
- WATER VALVE
- MAJOR CONTOUR
- MINOR CONTOUR
- PROPOSED E-ONE GRINDER PUMP
- PROPOSED WATER METER
- PROPOSED FORCE MAIN

NOTE: THE LAYOUT AS SHOWN HEREON IS CONCEPTUAL ONLY AND NOT INTENDED TO BE UTILIZED FOR DESIGN OR CONSTRUCTION PURPOSES.

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| No. | DATE | DESCRIPTION | BY |
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354 Pennsylvania Ave. Centreville, MD 21617 (410) 758-2095


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SEAL

STATE OF MARYLAND
SCOTT E. CHOATE
51461
PROFESSIONAL ENGINEER

06-02-25
DATE

# SKETCH SITE PLAN

IN TOWN PROPERTIES, LLC
7872 OCEAN GATEWAY

*IN THE TOWN OF EASTON, ELECTION WARD 1*
*TALBOT COUNTY, MARYLAND*
*TAX MAP 105 GRID 17 PARCEL 2990*

| ISSUED/REVISED FOR: | DATE: | BY: |
|---|---|---|
| ESDR SUBMITTAL | 2/7/2024 | BCE |
| PLANNING COMMISSION SUBMITTAL | 3/4/2024 | BCE |
| PLANNING COMMISSION SUBMITTAL | 6/2/2025 | BCE |

SHEET No. 2 OF 2
SCALE: AS NOTED
JOB No. 240020
FILE No. 1026

Last Saved Date: 6/2/2025


Date: 06/03/2025 - 9:48am User: barnes Project Manager: BCE
Drawing Path: J:\2024\0000\240020\Civil3D-240020\Dwg\Plats\RSK-PLTS-240020.dwg | 2-Sketch Site Plan
XREF File(s): XSF-BASE-240020/XLD-BASE-240020/RLD-BASE-210866/RBS-BASE-24X36-240020/RAR-BASE-240020/RLD-EUC-BASE-240020/LUP-BASE-240020/XRN-BASE-240020/CSW-BASE-240020/CSP-PURDY-BASE-240020/CSP-SHA-BASE-240020

## LANDSCAPE LEGEND

2" CALIPER MINIMUM CANOPY OR STREET TREES (OAK, ELM, MAPLE, ZELKOVA)

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7' HEIGHT MINIMUM EVERGREEN TREES (WHITE PINE, SPRUCE, HOLLY, AMERICAN ARBORVITAE)

STORMWATER MANAGEMENT ESD LANDSCAPING MASS – PERENNIAL MIX WITH SHRUBS, GRASSES




## LEGEND

- IRON ROD FOUND
- COMPUTED POINT
- ELECTRIC TRANSFORMER
- ELECTRIC METER
- ELECTRIC HANDHOLE
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SEAL

DATE

# ILLUSTRATIVE PLAN

IN TOWN PROPERTIES, LLC
7872 OCEAN GATEWAY

*IN THE TOWN OF EASTON, ELECTION WARD 1*
*TALBOT COUNTY, MARYLAND*
*TAX MAP 105 GRID 17 PARCEL 2990*

| ISSUED/REVISED FOR: | DATE: | BY: |
|---|---|---|
| ESDR SUBMITTAL | 2/7/2024 | BCE |
| PLANNING COMMISSION SUBMITTAL | 3/4/2024 | BCE |
| PLANNING COMMISSION SUBMITTAL | 5/30/2025 | BCE |

SHEET No. 1 OF 1

SCALE: AS NOTED

JOB No. 240020

FILE No. 1026


Date: 05/30/2025 - 3:03pm User: wbarnhart Project Manager: BCE
Drawing Path: J:\2024\0000\240020\Civil3D-240020\Dwg\Plots\PSK-PLTS-240020.dwg | 1-Illustrative Plan
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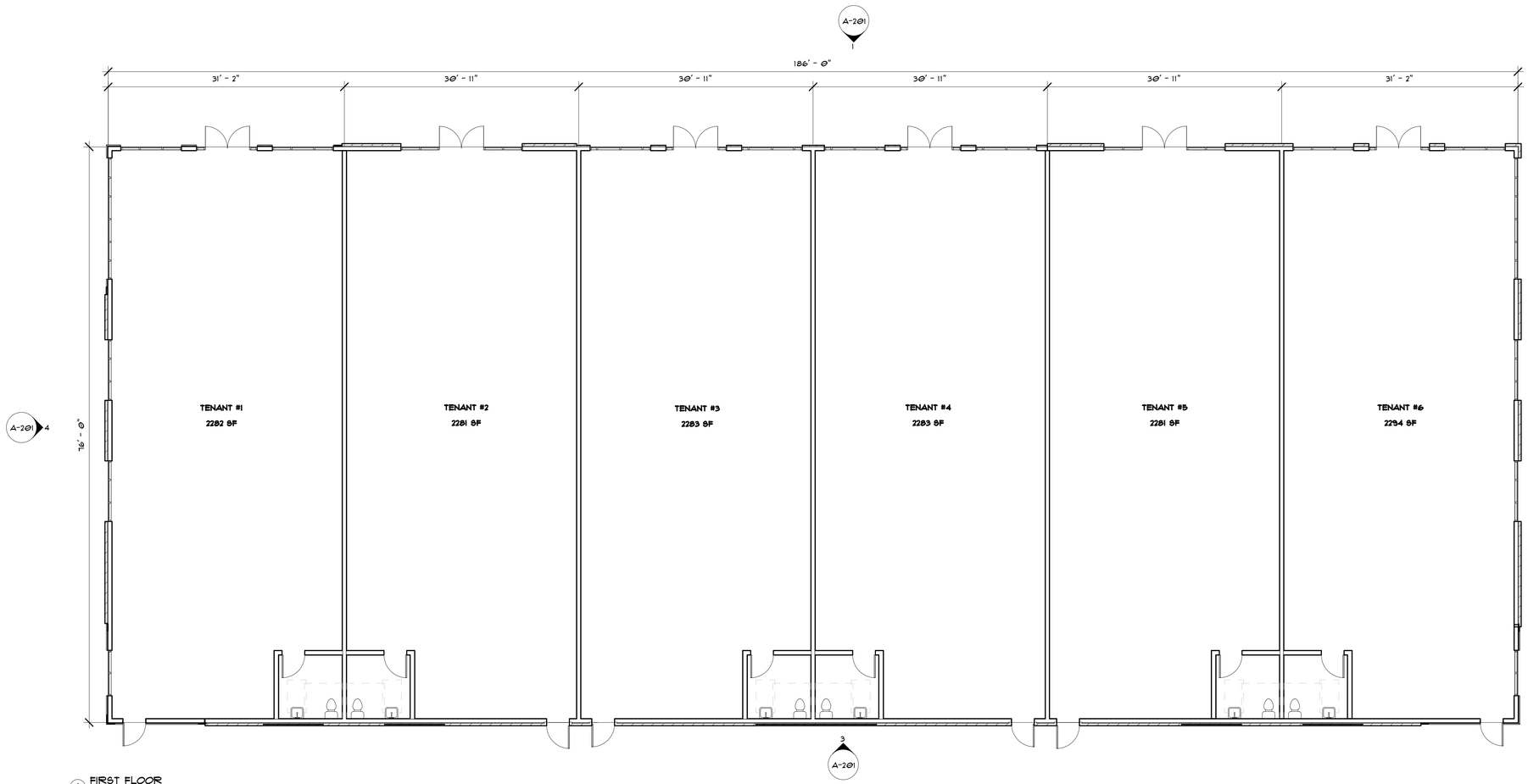


1 FIRST FLOOR
1/8" = 1'-0"

FISHER
ARCHITECTURE
Fisher Architecture, LLC
542 Riverside Drive
Salisbury, MD 21801
(410) 742-0238

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EXPIRATION NO.: 09.23.2026

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CONSULTANTS:

# 7872 OCEAN GATEWAY BUILDING #2

EASTON, MD

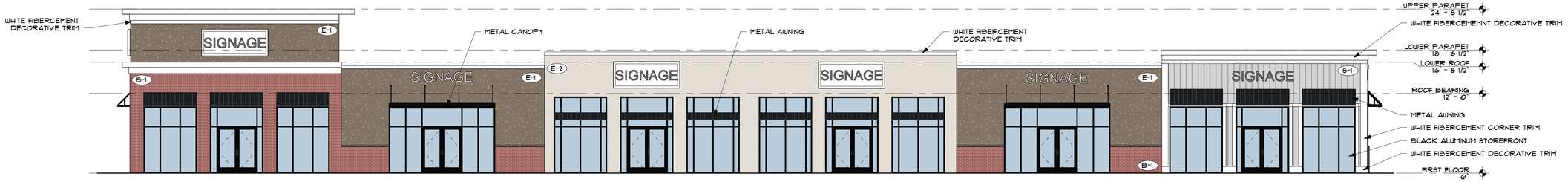
SHEET INFO:

FIRST FLOOR PLAN

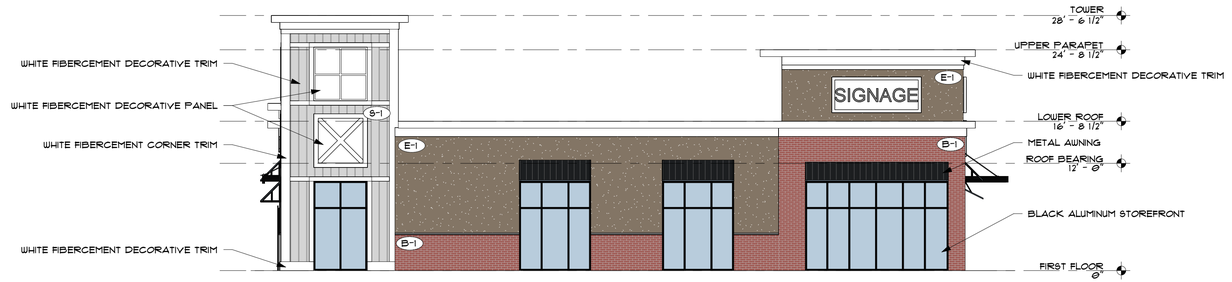
| REV | REV DATE | DESCRIPTION |
|---|---|---|
| DATE: | | 2025.04.07 |
| PROJECT NO. | | 2025047 |
| SCALE: | | 1/8" = 1'-0" |
| PROJ MGR: | | M. Parsons |
| DRAWN BY: | | Author |

SHEET NUMBER:

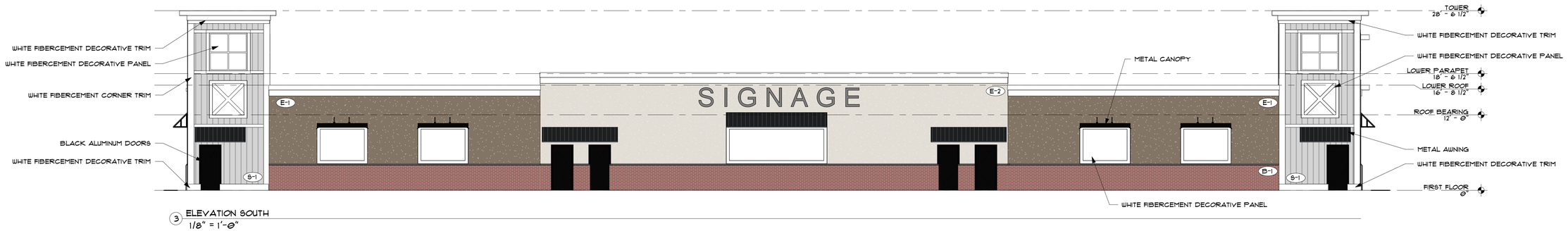
A-101



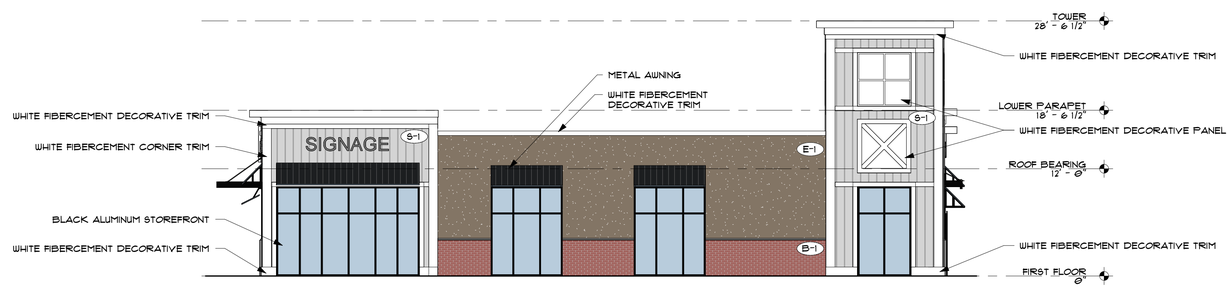

1 ELEVATION NORTH
1/8" = 1'-0"




2 ELEVATION EAST
1/8" = 1'-0"




3 ELEVATION SOUTH
1/8" = 1'-0"




4 ELEVATION WEST
1/8" = 1'-0"

## MATERIAL LEGEND

| ABBREV. | APPEAR. | DESCRIPTION |
|---|---|---|
| B-1 | | BRICK VENEER |
| S-1 | | BOARD & BATTEN FIBERCEMENT SIDING |
| E-1 | | EIFS - BROWN |
| E-2 | | EIFS - CREAM |

FISHER ARCHITECTURE
Fisher Architecture, LLC
542 Riverside Drive
Salisbury, MD 21801
(410) 742-0238

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CONSULTANTS:

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EASTON, MD

SHEET INFO:

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| REV | REV DATE | DESCRIPTION |
|---|---|---|
| DATE: | | 2025.04.07 |
| PROJECT NO. | | 2025047 |
| SCALE: | | 1/8" = 1'-0" |
| PROJ MGR: | | M. Parsons |
| DRAWN BY: | | Author |

SHEET NUMBER:

A-201




1 RT 50 FRONT VIEW
12" = 1'-0"




2 RT 50 REAR VIEW
12" = 1'-0"

FISHER
ARCHITECTURE
Fisher Architecture, LLC
542 Riverside Drive
Salisbury, MD 21801
(410) 742-0238

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CONSULTANTS:

# 7872 OCEAN GATEWAY BUILDING #2

EASTON, MD

SHEET INFO:

RENDERINGS

| REV | REV DATE | DISCRIPTION |
|---|---|---|
| DATE: | | 2025.04.07 |
| PROJECT NO. | | 2025047 |
| SCALE: | | 12" = 1'-0" |
| PROJ MGR: | | M. Parsons |
| DRAWN BY: | | Author |

SHEET NUMBER:

A-801




1 PURDY ST VIEW
12" = 1'-0"




2 FRONT VIEW
12" = 1'-0"

FISHER
ARCHITECTURE
Fisher Architecture, LLC
542 Riverside Drive
Salisbury, MD 21801
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EASTON, MD

SHEET INFO:

RENDERINGS

| REV | REV DATE | DESCRIPTION |
|---|---|---|
| DATE: | | 2025.04.07 |
| PROJECT NO. | | 2025047 |
| SCALE: | | 12" = 1'-0" |
| PROJ MGR: | | M. Parsons |
| DRAWN BY: | | Author |

SHEET NUMBER:

A-802

# TOWN OF EASTON

14 South Harrison Street
Easton, Maryland 21601

June 9, 2025

Dear Resident,

The Easton Planning Commission (Commission) will hold a public meeting on **Tuesday, June 24, 2025 at 1:00 p.m**. in the Easton Town Council Chambers located on the second floor of 14 South Harrison Street. The Town of Easton Zoning Ordinance requires that owners of property located within 400 feet of a parcel on which certain types of applications are pending be given notice of upcoming meetings or hearings. If you are a tenant in or an owner of a multi-unit building, please distribute or post this notice in a visible location for all other tenants or owners to view. If you are a tenant of a rental property, please notify the property owner that this notice letter has been distributed to their property. Notice has also been sent to the Star Democrat, a sign has been posted at the subject property and the hearing agenda has been posted on the Town of Easton website: http://eastonmd.gov/.

This letter is sent to inform you that an amendment to application 2024 - 1129 has been filed by Lane Engineering LLC (Applicant) on behalf of In Town Properties, LLC (Owner) to request a revision to a previously approved Sketch Site Plan. The Applicant is proposing a reduction in size to a one-story retail building from 19,250 to 14,136 square feet, and the addition of a restaurant component within the multi-tenant retail area. Additionally, the building has been repositioned further away from Route 50. On March 21, 2024, the Commission granted Sketch Site Plan approval for the redevelopment of a two-story medical clinic, and a one-story retail store. The property is located at 7872 Ocean Gateway, also known as Tax Map 0105, Grid 0017, Parcel 2990.

Copies of the proposed application are on file and available for public review in the Town's Planning Office at 14 South Harrison Street between the hours of 8:30 a.m. and 4:00 p.m., Monday through Friday. **In addition, digital copies will be available for review one week prior to the scheduled meeting via the Town's website at** https://www.eastonmd.gov/129/Agendas-Minutes. If you have any questions regarding this application, please contact the Planning Office at (410) 822-1943 or via email at ssmith@eastonMD.gov.

Samantha N. Smith

Samantha N. Smith, Administrative Specialist
Planning & Zoning Department
410-822-1943 ssmith@eastonMD.gov




***Subject property posting pursuant to Section 28-901.2.H.2 of the Town of Easton Zoning Code - June 6, 2025***

TOWN OF EASTON
PLANNING & ZONING
14 S Harrison Street, Easton MD 21601

**Date of Hearing**: June 24, 2025

# # 4a

**PLANNING COMMISSION**
**PUBLIC HEARING**
**STAFF REPORT**

**SUBJECT**: **322 Hopkins Place - Request for the use of a portable on demand storage (POD) unit to remain on-site for a long term temporary basis.**

**ELECTION WARD**: Ward 4

**CRITICAL ACTION DATE**: At the pleasure of the Commission

**STAFF CONTACTS**: Joseph Mayer, Plan Reviewer
Miguel Salinas, Director of Planning and Zoning

**APPLICANT**: Roto-Rooter % Steve Riedel

**DOCUMENT CREATED ON:** June 9, 2025

**PURPOSE**: The applicant is seeking approval to allow the existing 8' x 20' portable on demand storage (POD) unit to remain on-site for a long term temporary basis.

**RECOMMENDATION:** Staff supports a Planning Commission approval with a condition (see below).

---

| **APPLICATION INFORMATION**: | |
|---|---|
| **APPLICANT:**<br>Otis & Deborah Sampson (Owner) | **REPRESENTATIVE:**<br>Roto-Rooter: Steve Riedel |

**PARCELS/ACREAGE:**

| Parcel Information | Acreage |
|---|---|
| Map 104, Grid 0000, Parcel 1294, Lot 12 | 0.164 |

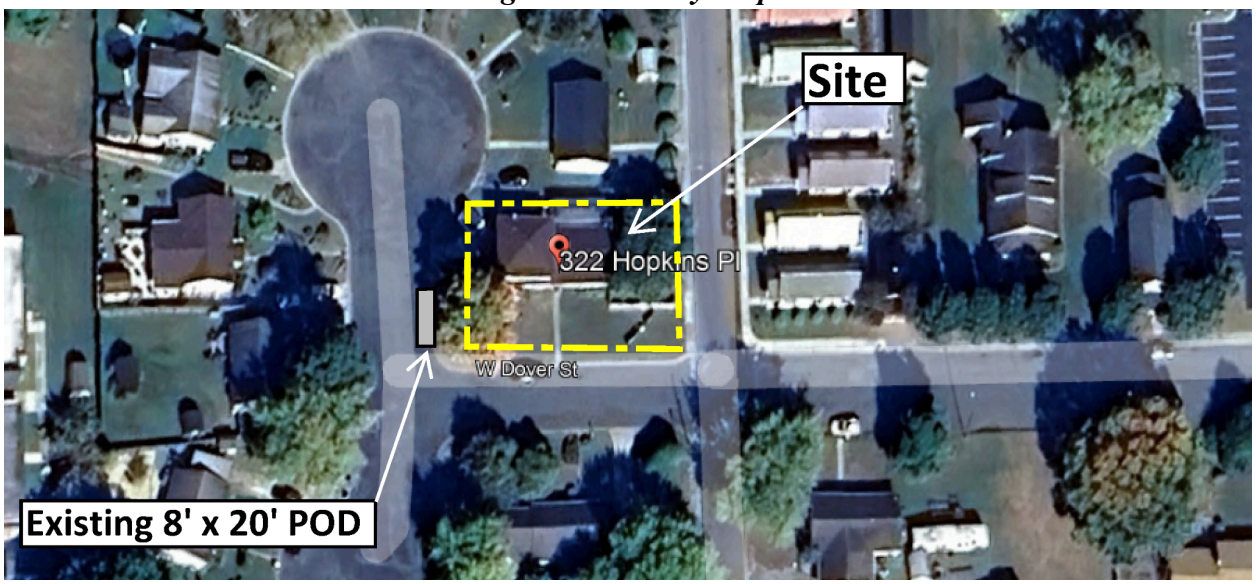
| | |
|---|---|
| **ACCEPTANCE DATE:**<br>May 15, 2025 | **LOCATION:**<br>322 Hopkins Place, Lot 12 |
| **EXISTING ZONING**<br>R-7A & PUD Infill | **EXISTING LAND USE:**<br>Residential Lot |
| **HISTORIC DISTRICT:**<br>Not applicable | **FUTURE LAND USE MAP:**<br>Residential |

**CONTEXT**:
Location/Site Access – The subject property is located at the corner of Hopkins Place and Hammond Street.

Existing Conditions – The subject property is currently a residential lot.

Surrounding Properties
- 221 West Dover Street – CB
- 222 West Dover Street – CB
- 300, 306, 308, 310, & 320 Hopkins Place - R-7A

***Figure 1**: Vicinity Map*




**PROPOSAL**: The applicant is requesting an existing 8'x 20' portable on demand storage (POD) to remain on-street for a long term temporary basis; possible ninety (90) days.

**BACKGROUND**: On March 23, 2025, the applicant obtained a Zoning Certificate for Temporary Use of a portable on demand storage (POD) to remain on-site for a 30 day time limit. The use was extended on April 23, 2025 for an additional 30 day time period until the pending Planning Commission review at their June 24, 2025 meeting for the use of the POD longer than sixty days.

**OUTSTANDING ISSUES**: None

**ZONING ANALYSIS:**

***28-1007.4.A MISCELLANEOUS USE***
***5. Portable On-Demand Storage (PODS)***

***a. May not remain on-site for more than thirty (30) days.***

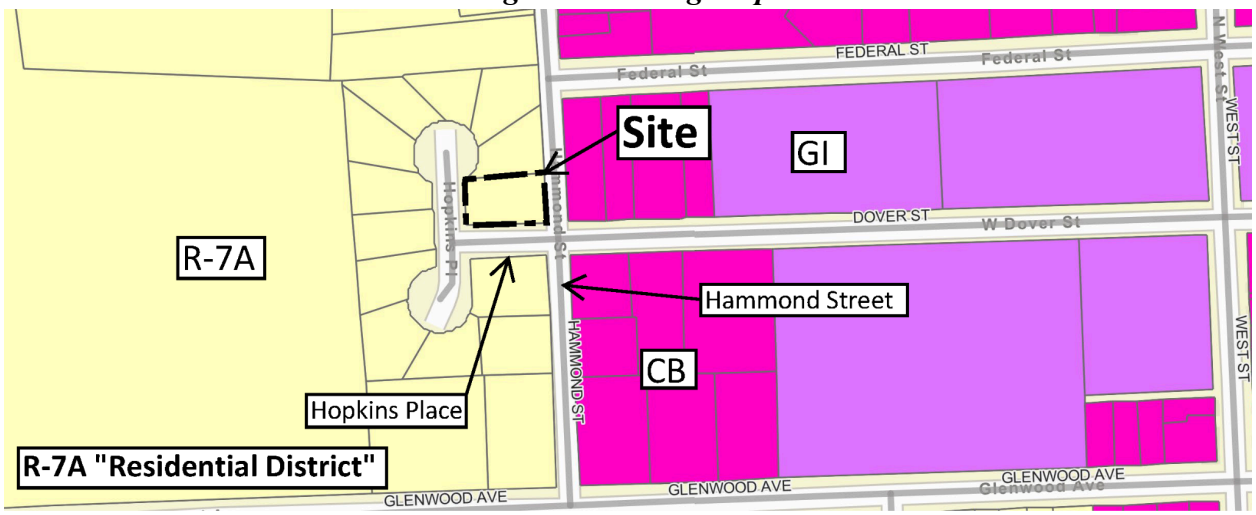
***b. Shall meet applicable setbacks.***

***c. The thirty (30) day time limit may be extended for an additional thirty (30) day period by the Town Planner, upon request of the applicant, for good cause. PODS utilized as part of a longer term temporary use or construction project may be considered and approved by the Planning and Zoning Commission in the course of the necessary approvals for said project.***

**Analysis-** Per the Section of the Zoning Code cited above, the Commission is charged with reviewing and approving the duration of temporary use for the POD, if it is desired to remain for more than 60 days. The existing POD is within the right-of-way of Hopkins Place. The applicant needs to move the POD on-site. Any relocation of the POD on-site to accommodate construction is applicable, provided the POD is within the building setbacks. In order to facilitate the staging of supplies, the applicant states that the long term use is necessary to coincide with the progress of the construction site.

**POLICY ANALYSIS:**

***Figure 2: Zoning Map***




**RECOMMENDED CONDITION:**

Staff recommends the Planning Commission approve the request with the following condition:

- Relocate the POD on-site within the building setbacks and establish a time limit to remain through June 24, 2026.

**DRAFT MOTIONS**:

1. I move that the Planning Commission approve the request subject to staff's Conditions of Approval.

OR

2. I move that the Planning Commission table the application to the July 17th Commission meeting for further discussion.

OR

3. I move an alternate motion.

**ATTACHMENTS**:
1. 2025.04.21 Town of Easton Mail - Storage POD, paper copy & PDF
2. 2025.05.15 ZC Temporary Use Application - 322 Hopkins Place, paper copy & PDF
3. 2025-05-22 Concept Use Design Application - 322 Hopkins Place, paper copy & PDF
4. 2025.06.11 EUC Review 322 Hopkins Place, paper copy & PDF.

TOWN OF
# EASTON
ENGINEERING DEPARTMENT

**DATE:** **June 23, 2025**

**TO:** **Otis and Deborah Sampson - Owner**

**Steve Riedel - Applicant**

**CC:** **Rick Van Emburgh – Town Engineer**

**FROM:** **Sierra Clem - Engineering Department**

**SUBJECT:** **322 Hopkins Pl - PODS**

Our Office has reviewed the request for a POD at the subject location. The subject request is for a POD to be located in the ROW at 322 Hopkins Place for three months. Currently a POD has been located in the ROW without any notification to the Engineering Department. The POD is currently located in the ROW and within a visibility triangle.

Per the Town of Easton Zoning Ordinance, the POD is required to be located on the property, outside of the Town ROW.

Please contact our office if you have any questions.

P.O. Box 520, Easton, Maryland 21601
410-820-8822
Engineering@EastonMD.gov - www.EastonMD.gov

5. Portable On-Demand Storage (PODS)

   a. May not remain on-site for more than thirty (30) days.

   b. Shall meet applicable setbacks.

   c. The thirty (30) day time limit may be extended for an additional thirty (30) day period by the Town Planner, upon request of the applicant, for good cause. PODS utilized as part of a longer term temporary use or construction project may be considered and approved by the Planning and Zoning Commission in the course of the necessary approvals for said project.








EASTON UTILITIES

Life. Made better.™

# Easton Utilities Commission

Plan Review Comments

**Date:** 06/11/25
**To:** Sierra Clem, Nancy Pinkney
**From:** Kia Gibbs on behalf of Aaron Goller, PE
**Address:** 322 Hopkins Place
**Project Name:** Storage Pods
**Phase:** Sketch Site Plan
**SUBM:** 1
**Status:** **APPROVED**

Easton Utilities Commission has reviewed the above referenced plans and determined the plans are **"Approved".**

An **"Approved"** status means plans do not require resubmission where utilities are concerned.

Please contact Kia Gibbs, Engineering Administrative Support at kgibbs@eucmail.com should you have any questions.

**Town of Easton**
Engineering, Planning and Zoning
14 South Harrison Street, Easton, MD 21601

RECEIVED
MAY 22 2025
TOWN OF EASTON

# Planning Commission Concept, Use, and Design Application

## Site Information

| | | | | | |
|---|---|---|---|---|---|
| Structure's Floor Area | 1872 | | Structure's Square Feet | 1872 | |
| Area of Disturbance | 600 | | Number of Dwelling Units | 1 | |
| Property Size | Acres | ~~7143 SF~~ | Square Feet | 7143 | |
| Address | 322 Hopkins Place Easton MD 21601 | | | | |
| Tax Map | 104 | Grid 0000 | Parcel 1294 | Lot | 12 |
| Zoning District | | Historic District Y ☐ N ☒ | | PRD Y ☐ N ☐ | |
| Other Information | | | | | |
| Existing Use | S.F. Residential | | | | |

## Owner

| | | | |
|---|---|---|---|
| Name | Otis and Deborah Sampson | | |
| Mailing Address | 322 Hopkins Place Edston MD 21601 | | |
| Telephone No. | 410.822.2388 | Email | |

## Applicant / Agent

| | | | |
|---|---|---|---|
| Name | Roto-Rooter "Steve Riedel" | | |
| Mailing Address | PO Box 559 Easton MD 21601 | | |
| Telephone No. | 410.463.5296 | Email | SteveR@EdsRoto.com |

## General Information:

Place 1 20' storage POD on street - "NO Driveway" to place personal contents while Mitigation and Repairs occur Due to Faulty Expansion tank. Requested Duration to Completion 3 Months

***Any modifications during review shall warrant an updated application.***
***I do hereby solemnly declare and affirm that the information provided by this application and the documents attached hereto accurately represent the conditions of the request and that submission of an incomplete application will be returned for correction prior to processing.***

Signature of Applicant or Agent: Steve Riedel
Date: 5/22/25
Printed Name of Applicant or Agent: Steve Riedel

*For Office Use Only*

| | | |
|---|---|---|
| Planned Commission Meeting Date | 06/24/2025 | |
| Review Fee Amount | - | |
| Review Fee Paid Date | - | 2025 - 1468 |
| ESDR Y / N Date | - | |

*Revised 02-2019*

Town of Easton
Engineering, Planning and Zoning
14 South Harrison Street, Easton, MD 21601

RECEIVED
MAY 15 2025
TOWN OF EASTON

# Zoning Certificate

**Application Type**

Zoning Verification Letter ☑ Temporary Use - Special Events ☐

Temporary Banner(s) ☐ Liquor License ☐

**Property Owner**

Name: Otis Sampson
Mailing Address: 322 Hopkins Place Easton, MD. 21601
Telephone No.: 410-253-4556 Email: N/A

**Property Information**

Address: 322 Hopkins Place Easton, MD. 21601
Tax Map: Grid: Parcel: Lot:
Deed Refernce: Liber: Folio:
Plat Reference: Liber: Folio:
Existing Use:
Zoning District:
Proposed Use:
Planned Redevelopment Y ☐ N ☐
Historic District Y ☐ N ☐

**Contractor (If Any)**

Name: Roto-Rooter License No.: 37973 Expiration Date:
Mailing Address: PO Box 559 Easton MD
Telephone No.: 410.463.5296 Email: SteveR@EdsRoto.com
Type of Business:

**Applicant or Agent**

Name: Steve Riedel
Mailing Address: 8919 Double Hills Rd Denton MD 21629
Telephone No.: 410.463.5296 Email:

Details of Request: Intended Use, Date(s), Event(s)

storage POD onsite 90 Days

Liquor Class Requested
Structure Start Date
Event Start Date
Previous Approvals PC / BOZA Y ☐ N ☐
Structure End Date
Event End Date
Please Attach Approvals

***Any modifications during review shall warrant an updated application.***

***I do hereby solemnly declare and affirm that the information provided by this application and the documents attached hereto accurately represent the conditions of the request and that submission of an incomplete application will be returned for correction prior to processing.***

| | |
|---|---|
| Signature of Applicant or Agent | |
| Date | 5/15/25 |
| Printed Name of Applicant or Agent | Steve Riedel |
| Signature of Property Owner | |

*For Office Use Only*

| | | | |
|---|---|---|---|
| Application Date | 05/15/2025 | Application No | ZV 25 - 25 / 2025 - 1468 |
| Approval Date | | Fee Amount Paid | $50.00 |
| | | Date Fee Paid | 06/02/2025 |

*Revised 2-19-2019*

# TOWN OF EASTON

14 South Harrison Street
Easton, Maryland 21601

June 9, 2025

Dear Resident,

The Easton Planning Commission (Commission) will hold a public meeting on **Tuesday, June 24, 2025 at 1:00 p.m**. in the Easton Town Council Chambers located on the second floor of 14 South Harrison Street. The Town of Easton Zoning Ordinance requires that owners of property located within 400 feet of a parcel on which certain types of applications are pending be given notice of upcoming meetings or hearings. If you are a tenant in or an owner of a multi-unit building, please distribute or post this notice in a visible location for all other tenants or owners to view. If you are a tenant of a rental property, please notify the property owner that this notice letter has been distributed to their property. Notice has also been sent to the Star Democrat, a sign has been posted at the subject property and the hearing agenda has been posted on the Town of Easton website: http://eastonmd.gov/.

This letter is sent to inform you that application 2025 - 1468 has been filed by Roto-Rooter Plumbing & Water Cleanup (Applicant) on behalf of Deborah and Otis Sampson (Owner) to request conceptual approval to allow the temporary use of a Portable On Demand Storage (PODS) structure to remain long term (more than 60 days) on the property located at 322 Hopkins Place, also known as Tax Map 0104, Grid 0000, Parcel 1294.

Copies of the proposed application are on file and available for public review in the Town's Planning Office at 14 South Harrison Street between the hours of 8:30 a.m. and 4:00 p.m., Monday through Friday. **In addition, digital copies will be available for review one week prior to the scheduled meeting via the Town's website at** https://www.eastonmd.gov/129/Agendas-Minutes. If you have any questions regarding this application, please contact the Planning Office at (410) 822-1943 or via email at ssmith@eastonMD.gov.

Samantha N. Smith

Samantha N. Smith, Administrative Specialist
Planning & Zoning Department
410-822-1943 ssmith@eastonMD.gov




***Subject property posting pursuant to Section 28-901.2.H.2 of the Town of Easton Zoning Code - June 6, 2025***

**TOWN OF EASTON**
**PLANNING & ZONING**
**14 S Harrison Street, Easton MD 21601**

**Date of Hearing**: June 24, 2025

# # 4b

**PLANNING COMMISSION**
**PUBLIC HEARING**
**STAFF REPORT**

| | |
|---|---|
| **SUBJECT**: | **52 South Washington Street - Foundation of Hope, Inc.** |
| **ELECTION WARD**: | Ward 4 |
| **CRITICAL ACTION DATE**: | At the pleasure of the Commission |
| **STAFF CONTACTS**: | Joseph Mayer, Plan Reviewer<br>Miguel Salinas, Director of Planning and Zoning |
| **APPLICANT**: | Brian Fitzgerald , Rauch Inc |

**DOCUMENT CREATED ON:** June 12, 2025

**PURPOSE**: Foundation of Hope, Inc. (Applicant), is seeking a sketch site plan and architectural approval for the construction of a two-story, 5,135 square foot (SF) building, with associated parking, stormwater management facilities and landscaping. The proposed building will be utilized for office use, along with nonprofits and community group use. In addition, the applicant is seeking a landscape and buffering waiver from Chapter 28-1014.7.E.4.(a)&(b) & Chapter 28-1014.7.E.5.(c) 1 of the Zoning Code.

**RECOMMENDATION:** Staff supports Planning Commission approval of the proposed site plan subject to staff's recommended condition (see below).

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| **APPLICATION INFORMATION**: | |
|---|---|
| **APPLICANT:**<br>Foundation of Hope, Inc. % Keasha Haythe | **REPRESENTATIVE:**<br>Rauch Inc.: Brian Fitzgerald<br>Foundation of Hope, Inc. % Keasha Haythe |

**PARCELS/ACREAGE:**

| Parcel Information | Acreage |
|---|---|
| Map 104, Grid 0000, Parcels 1463 | 0.25 Ac. |

| | |
|---|---|
| **ACCEPTANCE DATE:**<br>June 2, 2025 | **LOCATION:**<br>52 South Washington Street |
| **EXISTING ZONING**<br>CB<br>PUD Infill Boundary<br>Historic District | **EXISTING LAND USE:**<br>Vacant Commercial Lot |
| **HISTORIC DISTRICT:**<br>Applicable | **FUTURE LAND USE MAP:**<br>Commercial |

**CONTEXT**:
Location/Site Access – The subject property is located along South Washington Street, fronting on the East side of the road, at the intersection of Washington and South Streets.

Existing Conditions – The subject property is currently an unimproved lot.

Surrounding Properties
- 48, 103, 105, 107 & 110 S. Washington Street - CB
- 4 & 5 South Street - CB

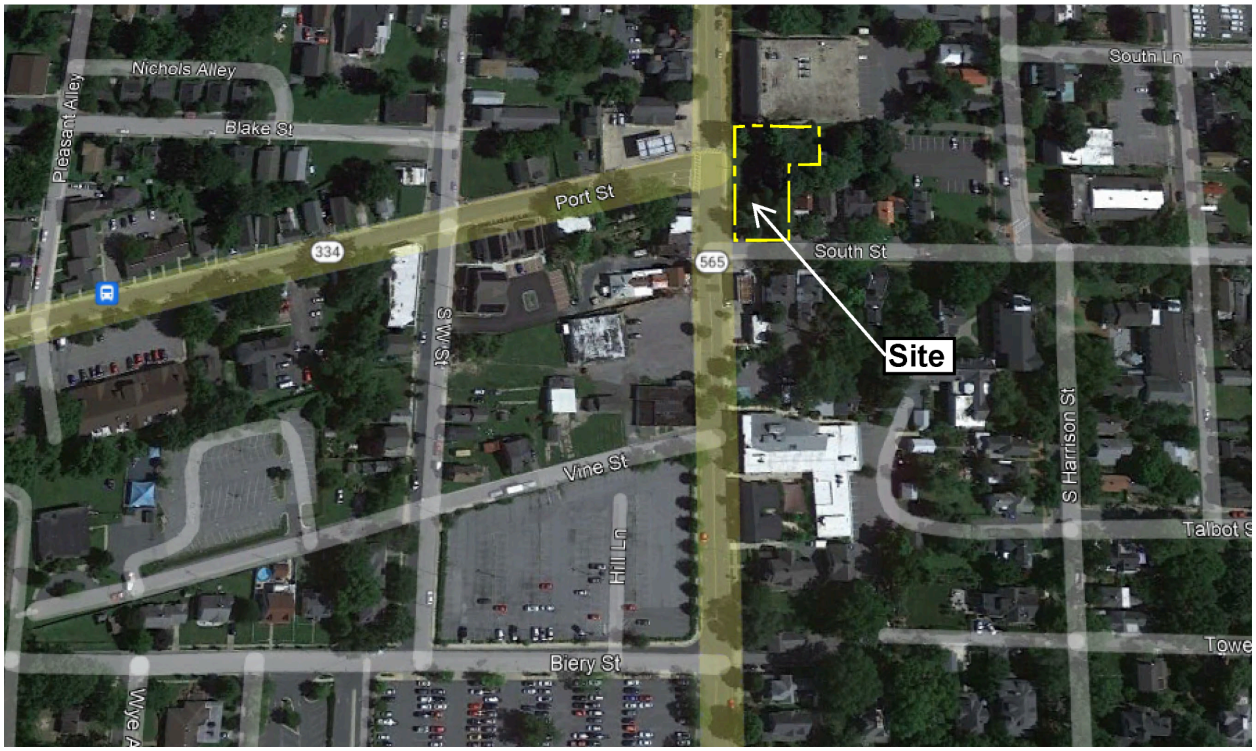


***Figure 1**: Vicinity Map*

**PROPOSAL**: The applicant, Foundation of Hope, Inc., is proposing to construct a 5,135 SF building, with associated parking, stormwater management facilities and landscaping. The design provides six (6) offices and four (4) work stations for staff. Initially, staff levels are anticipated to be less than ten. However, space within the building may be accessible to additional users, such as nonprofits and community groups. Foundation of Hope, Inc.'s programs are specifically designed for sixth-grade girls who arrive at the building either on foot or by drop-off. Considering the limited site space, the applicant asserts that seven parking spaces are sufficient to meet the building's requirements.

The applicant is seeking a landscape and buffer waiver from multiple sections of the Zoning Code, specifically Chapter 28-1014.7.E.4.(a)&(b) and Chapter 28-1014.7.E.5.(c)1. This waiver requests a reduction in the required width and plant quantity for Bufferyard “D” along both South Washington Street and South Street. Additionally, the applicant plans to implement the Bufferyard “E” option, which also permits a decrease in required width.

**BACKGROUND**: On November 13, 2024, the applicant received Historic District Commission’s Certificate of Appropriateness for the proposed architecture. The applicant submitted an application to the Easton Staff Development Review Committee on May 28, 2025.

**OUTSTANDING ISSUES:** There are no outstanding issues.

## ZONING ANALYSIS:

### A. Permissible Land Uses

| 28-201 table 2.1 (2)217 | | | | | | CB | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 217 | Office* | -- | SE | SE | -- | P | P | P | P | -- | | |

| 28-201 table 2.1 (3)303 | | | | | | CB | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 303 | Community Centers | -- | -- | -- | -- | P | P | P | SE | -- | | |

**Analysis** –The proposed project is presented and described by the Applicant as a two-story Office and Community Center Building (1st floor activity room classroom, teaching kitchen/classroom and offices with additional office units above). The Applicant proposes a 5,135 SF building. The project is categorized as an *"Office" and "Community Center"*. The proposed uses are permitted within Table 2.1 Table of Permissible Uses.

### B. Off-Street Parking

***28-1001.3 Parking Requirements***

| | Use/Activity | Minimum Vehicle Spaces | Maximum Vehicle Spaces | Minimum Bicycle Spaces | Notes |
|---|---|---|---|---|---|
| | Commercial Buildings | | | | |
| 14 | Office or Bank without Drive-Thru | 1 per 250 sf GFA | 1 per 140 sf GFA | 1 per 10 vehicle spaces | |

**Total Site Parking Required:**

Use/Activity #14: 1 Space /250 SF GFA; 21 Spaces Required- Minimum
1 Space /140 SF GFA; 37 Spaces Required- Maximum
**Total spaces provided: 7**

**Analysis -** The parking requirements listed above for the proposed uses. However, minimum and maximum parking requirements are not required for uses within the Central Business (CB) zoning district. Seven off-street parking spaces are proposed by the applicant. Furthermore, on-street parking is available along both sides of S. Washington Street within the right-of-way. The applicant believes the proposed parking is adequate to support the proposed uses because it is unlikely that staff levels will be over ten (10) staff members and the Foundation of Hope's

program is specifically designed for sixth-grade girls who arrive at the building either on foot or by drop-off.

**C. Central Business Development Standards**

| Table 1. Development Standards | | |
|---|---|---|
| **CB Zoning District** | **Standard** | **Proposed** |
| Setbacks | **Front =**<br>a. in previously developed areas in the CB commercial zone the existing or established front building line of that block;<br>b. all buildings hereafter constructed in areas without an established front building line in that block shall be setback twenty-five (25) feet from the front property line<br><br>**Side** = none<br><br>**Rear** =<br>a. in previously developed areas in the CB commercial zone the existing or established rear building line of that block;<br>b. all buildings hereafter constructed in areas without an established rear building line in that block shall be setback fifteen (15) feet from the rear property line. | Front = Established front line of block.<br>Side = 0 feet<br>Rear – Established rear line of block. |
| Lot Size (min.) | Not less than 5,000 square feet | 11,020 square feet |
| Lot Frontage (min.) | 30 feet | 63 & 128 feet |
| Building Envelope (min.) | 20 feet x 30 feet | 50 feet X 128 feet |
| Lot Coverage (max.) | 90% (Lot Area) | 23% (Lot Area) |
| Lot dimensions | Depth of at least sixty (60) feet. | 88 feet |
| Height (max.) | 60 feet | 35 feet +/- |

***§ 305.2 of the Zoning Ordinance states that development within the Central Business Commercial District shall also meet these additional requirements:***

- ***Building structure size – not to exceed twenty-five thousand (25,000) square feet of gross floor area, except by Special exception.***
- ***Maximum density shall be seven (7) dwelling units per acre for single-family dwellings, sixteen (16) dwelling units per acre for multifamily dwellings, or as specified in Section 28-1007.1 for Middle Housing Types.***
- ***All on-site lighting unless approved otherwise by the Planning and Zoning***

***Commission shall be low cut-off shielded luminaries at 18' height and light shall not shine off-site at levels greater than 1-foot candle.***

- ***All off-street loading and unloading areas shall be screened from view by permanent, decorative screens or natural plantings, a minimum of eight (8) feet in height, as per the requirements of Section 28 – 1014 of this Ordinance.***

**Analysis -** The site falls under the CB - Central Business Commercial District Area and meets the 28-305 Development Standards.

**D. Forest Conservation**

***The Easton Forest Conservation Requirements of the Town Code, Article III,* § 31-3.1 *Relevance, states that the requirements are applicable to any person making application for a subdivision, project plan, grading, or sediment and erosion control approval on units of land 40,000 square feet or greater after the effective date of the Ordinance.***

**Analysis -** The development of this site is within the priority funding area that's within the proximity of commercial buildings and residential dwellings. The overall site area is 0.25 acres or 11,020 square feet and is under the required 40,000 square foot minimum. Therefore, Forest Conservation is not required.

**E. Supplemental Waiver Request: Landscaping & Buffering**

***28 – 1014.7.E.4 & 5 BUFFERYARD STANDARDS***

*4. Bufferyard 'D' (for all non-residentially zoned lots or land use applications (excluding CR zoned parcels) to buffer all other streets equaling or exceeding Town of Easton "Residential Collector Designation)*

*a. 15' width*
*b.Plant unit: 1 shade/canopy trees, 1 evergreen trees & 5 shrubs*
*Note: when this Bufferyard is located between a parking lot and street r/w, delete the shrub requirement*

*5. Bufferyard 'E' (along non-street, exterior property lines adjoining more or less intense zoning or land use) The Planning and Zoning Commission may require additional buffering above the minimum standards listed below when the proposed or adjoining land uses are substantially incompatible.*

*c. 10' width*
*d. Plant unit: 1 shade/canopy and 3 evergreen trees*
*e.Option:*
1. *2 shade/canopy trees and 8 large evergreen shrubs*
2. *4 evergreen trees*
3. *wall/fence with 3 large evergreen shrubs*

**Analysis -** The applicant for 52 South Washington Street has requested a landscape and buffering waiver from Chapter 28-1014.7.E.4.(a)&(b) & Chapter 28-1014.7.E.5.(c) 1 of the Zoning Code. The application proposes to reduce the width requirements for Bufferyard "D" along South Washington Street and South Street, including a reduction in plant quantity. The applicant also intends to utilize the Bufferyard "E" option, asking for a reduction in width requirements. The staff supports the waiver request of the modified Bufferyard "D" and "E" along the properties designated locations The submitted plan effectively embodies the Bufferyard's intended character and purpose through the application of suggested plantings along the property's boundary. The applicant's modified design highlights the view of the proposed front elevations by providing plantings closer to the building.

**POLICY ANALYSIS:**

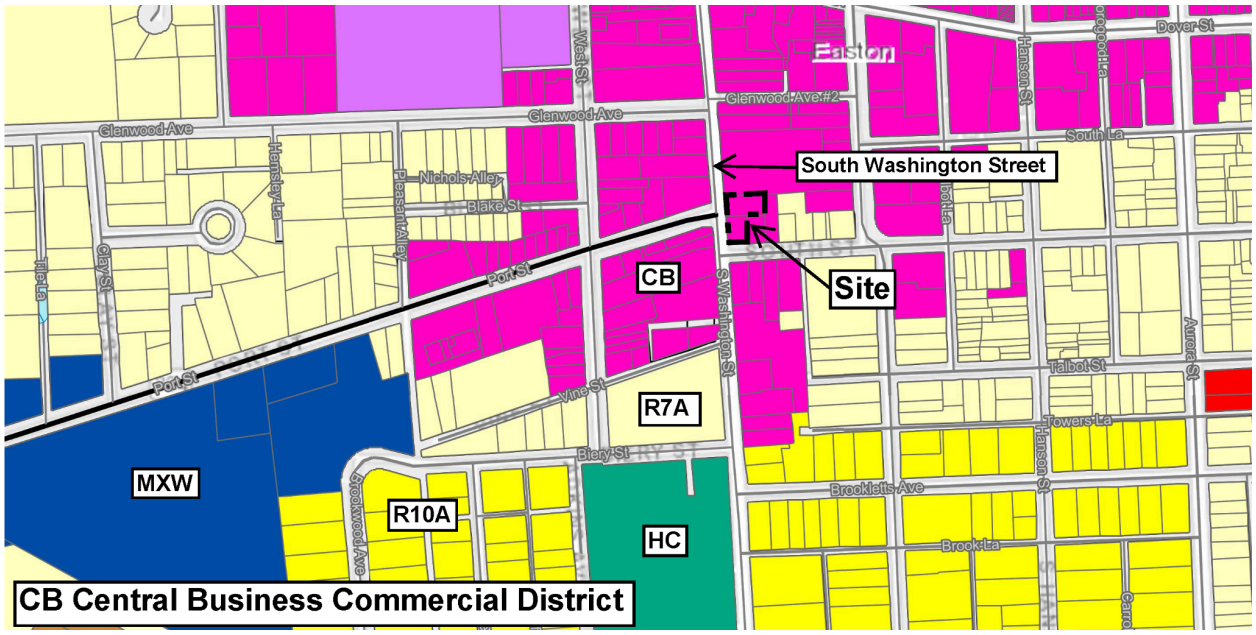


*Figure 2: Zoning Map*

***Section 28-901.2.G of the Town Code states that the submission of a site plan for a proposed use or development activity shall not be approved unless it meets the factors below:***

***1. The site plan meets the design principles and standards and required improvements set forth in this Ordinance, the Town Comprehensive Plan, the Town of Easton Subdivision Regulations, and other ordinances, regulations, and policies established by the Town of Easton.***

**Analysis -**

**Town of Easton 2010 Comprehensive Plan Design Principles**

**(Principle #1) Integrated uses are desirable**- *Applicant's response: The project consists of commercial business and stormwater management.this project will accommodate a 2,528 square foot office building and will provide necessary parking.*

**(Principle #2) Natural features should determine design** – *Applicant's response: The site is developed to maintain existing natural contours and drainage paths as well as possible. There are few natural features on the existing site as the original site including remaining trees.*

***Staff notes that there are no compelling natural features on site.***

**(Principle #3) Automobiles should not determine design –** *Applicant's response: Automobiles were not the priority focus for the design but sufficient parking is provided, which includes ample landscaping and green space.*

***Staff notes that the applicant has provided off-street parking and it should be noted that there's on-street parking along South Washington Street as well as off-street public parking in reasonably close proximity.***

**(Principle #4) Ample Open Space should be provided within & around neighborhoods** – *Applicant's response: Not applicable, this is not a residential development.*

***Staff notes that open space is not applicable in the CB District. The location of the site provides access to public pedestrian connections.***

**(Principle #5) Architecture should respect Easton's Historical Development –** *Applicant's response: This project's architecture respects Easton's Historic District and is based on the existing urban character of similar building types.*

***A Certificate of Appropriateness was issued by the Historic District Commission (HDC) on November 13, 2024 and has lapsed six (6) months after issuance. Coordinate with the Planning & Zoning Department for the next available Historic District meeting to obtain an extension to the previous approval.***

**(Principle #6) Signs should inform but not dominate –** *Applicant's response: There will be minimal signage on the proposed property. Signage will be provided for a.d.a. parking space, along with a few existing signs that will be relocated upon completion of construction.*

***Staff notes that any proposed monument sign will require a Signage Application to be submitted prior to installation. In addition, the approval from the Historic District Commission (HDC) would be required.***

**(Principle #7) Neighborhoods should contain a diversity of housing types –** *Applicant's response: Not applicable, this is not a residential development.*

***Staff observes that the proposed building presents a distinctive and varied opportunity, aligning with the current land use composition of Easton's Central Business Commercial District.***

**(Principle #8) Residential neighborhoods should be interesting places –** *Applicant's response: Not applicable, this is not a residential development.*

**(Principle #9) Neighborhoods should connect –** *Applicant's response: Pedestrians can traverse between the existing sidewalk that ties into the proposed sidewalk adjacent to South Washington Street.*

***2. The site plan avoids or minimizes adverse impacts upon features (whether on-site or off-site) of historical, cultural or ecological significance.***

**Analysis -** The proposed site is within the Historic District and has received architectural approval from the Historic District on November 13, 2024. The site is not within the Critical Area. This project would provide office use, along with nonprofits and community group use. Other improved amenities include: adequate parking, stormwater management facilities, and landscaping.

***3. The proposed use or development activity will not substantially increase traffic hazards due to traffic generated by the proposed use, the location of curb cuts or the layout of internal traffic circulation.***

**Analysis -** The applicant's proposed use and operations will not escalate traffic risks in the vicinity. Seven off-street parking spaces are planned, supplemented by accessible on-street parking along S. Washington Street. Given the Foundation of Hope's program caters to sixth-grade girls who arrive on foot or are dropped off, and with a projected staff of under ten, the applicant considers the proposed parking sufficient. Additionally, parking mandates are waived within the Central Business Commercial zone, meaning off-street parking is not obligatory. The Town Engineer stated in the ESDR review letter, May 29, 2025, that *"the Town is considering possible improvements to the intersection of Port Street, S Washington Street, and South Street to improve vehicular, bicycle and pedestrian safety. These improvements may include a raised crosswalk on S Washington Street extending from Port Street to South Street, with the road surface raised to the same elevation as the sidewalk and bollards along the curb line. The timing for these improvements is unknown, but the Town is interested in working with the applicant to consider this and additional options to improve safety at this location."*

***4. The site plan and the proposed use or uses do not cause any adverse impact upon the health or safety of persons residing or working in the area surrounding the site or upon the character of the neighborhood surrounding the site; and***

**Analysis -** The proposal is compatible with the existing Central Business Commercial Zoning District. Consequently, the intended use, including parking, stormwater management, and landscaping, aligns with district regulations. Furthermore, it is anticipated that no negative impacts will affect the surrounding area.

.

**5.** ***The site plan improves the water quality of the Chesapeake Bay or its tributaries.***

**Analysis -** The proposed site would meet required design practices for stormwater management.

**RECOMMENDED CONDITION:**

Staff recommends the Planning Commission approve the request with the following conditions:

- The applicant is to address all remaining ESDR review comments.
- The applicant is to coordinate with the Planning & Zoning Department for the next available Historic District meeting to obtain an extension to the previously approved Certificate of Appropriateness issued by the Historic District Commission (HDC) on November 13, 2024 .
- Per § Section 28-1001.2 K from the Town's Zoning Ordinance, *no part of any parking or maneuvering space shall be closer than ten (10) feet to any street line, sidewalk or property line for commercial or industrial uses.*Either modify the parking spaces next to the existing north building, ensuring a 10-foot setback from the property line, or secure a Variance from the Board of Zoning Appeals.

**DRAFT MOTIONS**:

1. I move that the Planning Commission approve the sketch site plan subject to staff's Condition of Approval.

OR

2. I move that the Planning Commission table the application to the July 17th Commission meeting for further discussion.

OR

3. I move an alternate motion.

**ATTACHMENTS**:

1. 2022.04.21 Architectural Plans - Foundation of Hope, paper copy & PDF
2. 2024.10.28 HDC COA - 52 S. Washington Street, paper copy & PDF
3. 2025.05.06 ESDR Application - Foundation of Hope, paper copy & PDF
4. 2025.05.06 Waiver Request - Foundation of Hope, paper copy & PDF
5. 2025.05.22 Sketch Site Plan - Foundation of Hope, paper copy & PDF
6. 2025.05.29 ESDR Determination Letter paper copy & PDF
7. 2025.05.30 SWM Report - Foundation of Hope, paper copy & PDF
8. 2025.06.02 Plan Review Checklist - Foundation of Hope, paper copy & PDF
9. 2025.06.02 Renderings- Foundation of Hope, paper copy & PDF
10. 2025.06.02 Site Plan Application - Foundation of Hope, paper copy & PDF
11. 2025.06.06 52 S. Washington Street - EUC Review Comments, paper copy & PDF

EASTON UTILITIES

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# Easton Utilities Commission

Plan Review Comments

**Date:** 06/06/25
**To:** Sierra Clem, Nancy Pinkney
**From:** Kia Gibbs on behalf of Aaron Goller, PE
**Address:** 52 S. Washington Street
**Project Name:** Foundation of Hope
**Phase:** Sketch Site Plan
**SUBM:** 1
**Status:** **APPROVED AS NOTED**

Easton Utilities Commission has reviewed the above referenced plans and determined the plans are **"Approved As Noted".**

An **"Approved As Noted"** status means plans do not require resubmission to Easton Utilities. We ask that you implement the notes provided prior to Easton Utilities signing off on your plans. Notes are provided on the attached mark-up summary sheets.

Please contact Kia Gibbs, Engineering Administrative Support at kgibbs@eucmail.com should you have

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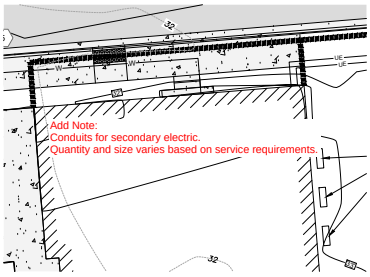
# 2025.05.22 Sketch Site Plan - Foundation of Hope.pdf Markup Summary

## Electric (1)




**Subject:** Electric
**Page Label:** C-401
**Date:** 6/4/2025 9:40:05 AM

Add Note:
Conduits for secondary electric.
Quantity and size varies based on service requirements.

201 N. Washington Street | Easton, Maryland 21601
Telephone: 410-822-6110 | Fax: 410-822-0743 | eastonutilities.com

## PROPOSED FEATURES

1. PROPERTY LINE
2. 5,135 (BOTH FLOORS) S.F. OFFICE BUILDING
3. SANITARY SEWER SERVICE. SEE DETAIL ON SHEET C-405
4. 1" COPPER TYPE K WATER SERVICE LINE. SEE DETAIL ON SHEET C-405
5. WATER METER PIT, 1" METER WITH 1 ½" SERVICE CONNECTION, TO BE SUPPLIED BY TOWN (TYP.) SEE DETAIL ON SHEET C-405
6. 4' X 6' ENTRY PIT
7. 1 - 4" DUCT (ELEC), 1 - 2 ½" DUCT (FIBER) FROM POLE TO PROPOSED TRANSFORMER AND COMM PEDESTAL. CONFIRM WITH EUC
8. 4' X 6' RECEIVING PIT
9. 3 PHASE TRANSFORMER
10. COMMUNICATION PEDESTAL
11. SANITARY SEWER CLEANOUT
12. HVAC OUTDOOR UNITS

TAX MAP 104, PARCEL 1461
N/F LANDS OF
VERIZON MARYLAND MERGE CO
//

TAX MAP 104, PARCEL 1466
N/F LANDS OF
FAQUIR LLC
00857/00371

TAX MAP 104, PARCEL 1513
N/F LANDS OF
GREGORY J. SHMIGEL
SUSAN A. SHMIGEL
2337/372

PORT STREET
VARIABLE WIDTH PUBLIC RIGHT OF WAY

SOUTH WASHINGTON STREET
VARIABLE WIDTH PUBLIC RIGHT OF WAY

SOUTH STREET
VARIABLE WIDTH PUBLIC RIGHT OF WAY

TAX MAP 104, PARCEL 1511
N/F LANDS OF
PRICE TODD C
1329/00026

TAX MAP 104, PARCEL 1512
N/F LANDS OF
ANASTACIA MCCAHAN
JOHN MCCAHAN
2799/142

Add Note:
Conduits for secondary electric.
Quantity and size varies based on service requirements.

E RIM: 27.05'
T RIM: 31.28'
D RIM: 30.66'
S RIM: 30.51'
D RIM: 30.35'
S RIM: 30.39'

# UTILITY PLAN

FOR

# FOUNDATION OF HOPE

TAX MAP 0104, ID 0000, PARCEL 1463
FIRST ELECTION DISTRICT, TALBOT COUNTY, MARYLAND
PREPARED FOR FOUNDATION OF HOPE


RAUCH INC
Engineering | Survey | Architecture | Environmental
Main Office: 106 N Harrison St - Easton, MD 21601
Web: www.rauch-inc.com | Email: design@raucheng.com
Phone: 410 770 9081 | Fax: 410 770 3987


**Professional Certification.**
I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License No. 11024
Expiration Date: July 24, 2026

30-May-25

**REVISIONS**

| REV. # | DATE | DESCRIPTION |
|---|---|---|
| A | 05/26/2025 | ISSUED FOR DO REVIEW |
| B | 06/30/2025 | SITE DATA UPDATES; FENCE AROUND TRASH |

MISS UTILITY OF DELMARVA
811

| | |
|---|---|
| DATE: | 5/22/2025 |
| SCALE: | 1" = 10' |
| DRAWN BY: | AK |
| DESIGNED BY: | AK |
| APPROVED BY: | |

**SHEET NO.: C-401**

**FOR PERMIT REVIEW**

Z:\FOUNDATION OF HOPE\CIVIL\PRODUCTION PLANS\FOUNDATION OF HOPE - SITE PLAN.DWG

**Town of Easton**
Engineering, Planning and Zoning
14 South Harrison Street, Easton, MD 21601

## Site Plan, PUD, Planned Healthcare Application

### Application Type

Planned Unit Development ☐ Amendment ☐ Health Care (HC) ☐ Site Plan ☒

### Subdivision Information

| | | | | | |
|---|---|---|---|---|---|
| Name | | | | | |
| Original Property Size | Acres | | Square Feet | | |
| Telephone No. | | Email | | | |

### Site Plan Information

| | | | | | |
|---|---|---|---|---|---|
| Property Size | Acres | 0.253 | Square Feet | 11,020 | |
| Structure's Floor Area | 5,135 | | Structure's Square Feet | 2,538 | |
| Area of Disturbance | 0.290 | | Number of Dwelling Units | N/A | |

### Property Information

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Address | 52 South Washington Street, Easton, MD 21601 | | | | | | |
| Tax Map | 0104 | Grid | 0000 | Parcel | 1463 | Lot | |
| Deed Refernce: | Liber | 02871 | Folio | 00437 | | | |
| Plat Reference: | Liber | | Folio | | | | |
| Base Zoning District | CB | Historic | Y ☒ | N ☐ | Planned Redevelopment | Y ☐ | N ☒ |
| Source of Electricity | | | | | | | |

### Owner

| | | | |
|---|---|---|---|
| Name | Foundation of Hope Inc | | |
| Mailing Address | 8671 Camac Street, Easton, MD 21601 | | |
| Telephone No. | (410) 443-9936 | Email | Keasha@foundationofhopemaryland.org |

### Applicant or Agent

| | | | |
|---|---|---|---|
| Name | RAUCH inc - Brian Fitzgerald | | |
| Mailing Address | 106 N Harrison Street, Easton, MD 21601 | | |
| Telephone No. | (410)770-9081 | Email | brian@raucheng.com |

### Surveyor / Engineer

| | | | | | |
|---|---|---|---|---|---|
| Name | RAUCH inc | License No. | 11024 | Expiration Date | 7/24/2026 |
| Mailing Address | 106 N Harrison Street, Easton, MD 21601 | | | | |
| Telephone No. | (410)770-9081 | Email | brian@raucheng.com | | |

**Any modifications during review shall warrant an updated application.**

***I hereby certify that I have reviewed and satisfied the Town of Easton Development Standards and that submission of an incomplete application will be returned for correction prior to processing.***

| | |
|---|---|
| Signature of Applicant or Agent | |
| Date | |
| Printed Name of Applicant or Agent | |

*For Office Use Only*

| | | | |
|---|---|---|---|
| Planning Commission Required | Y ☒ N ☐ | | |
| Planning Commission Meeting Date | **06/24/2025** | | |
| Sketch Approval Date | | Project No. | |
| Prelim/Dev. Approval Date | | Application No. | **2025-1454** |
| Final Approval Date | | Sketch Fee Paid | |
| Recordation Date | | Develop. Fee Paid | |

*Revised 02-2019*

RECEIVED
MAY 06 2025
TOWN OF EASTON

**Town of Easton**
Engineering, Planning and Zoning
14 South Harrison Street, Easton, MD 21601

**2025 - 1454 / W 25 - 06**

# Supplemental Waiver Request Application

## Waiver Request Type

| | | |
|---|---|---|
| Sidewalk ☐ | Parking Spaces ☐ | Parking/Aisle Dimension ☐ |
| Landscaping & Buffering ☒ | Signage ☐ | Other ☐ |

## Project Information

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Address | 52 South Washington Street, Easton, MD 21601 | | | | | | |
| Tax Map | 0104 | Grid | 0000 | Parcel | 1463 | Lot | N/A |
| Zoning District | CB | PC Meeting Date | | Historic District | Yes ☒ | No ☐ | |
| Owner or Agent | Rauch INC | | | | | | |
| Mailing Address | 106 North Harrison Street, Easton, MD 21601 | | | | | | |
| Telephone No. | (410) 443-9936 | Email | design@raucheng.com | | | | |

## Request Details

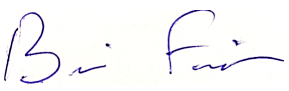
Please attach a detailed description of the waiver request(s) being made and the justification(s) for requesting said waiver(s).

Rauch Engineering requests a bufferyard waiver for multiple edges of the plot due to space constraints available for planting large canopy trees and the width of the buffers. The frontage on South Washington and South Streets each have existing street trees and a constrained buffer width (class D). On the three remaining Class E Buffer edges, space is constrained for planting. Our strategy is to utilize native shrubs instead of the larger trees that may become problematic some years after installation. These shrubs are native and provide bird food/habitat. See exhibit below and cover sheet of plans for exact waivers requested.

X Ordinance Section Supporting Waiver Request. 28-1014.6.D. Limited space per code

***Any modifications during review shall warrant an updated application.***

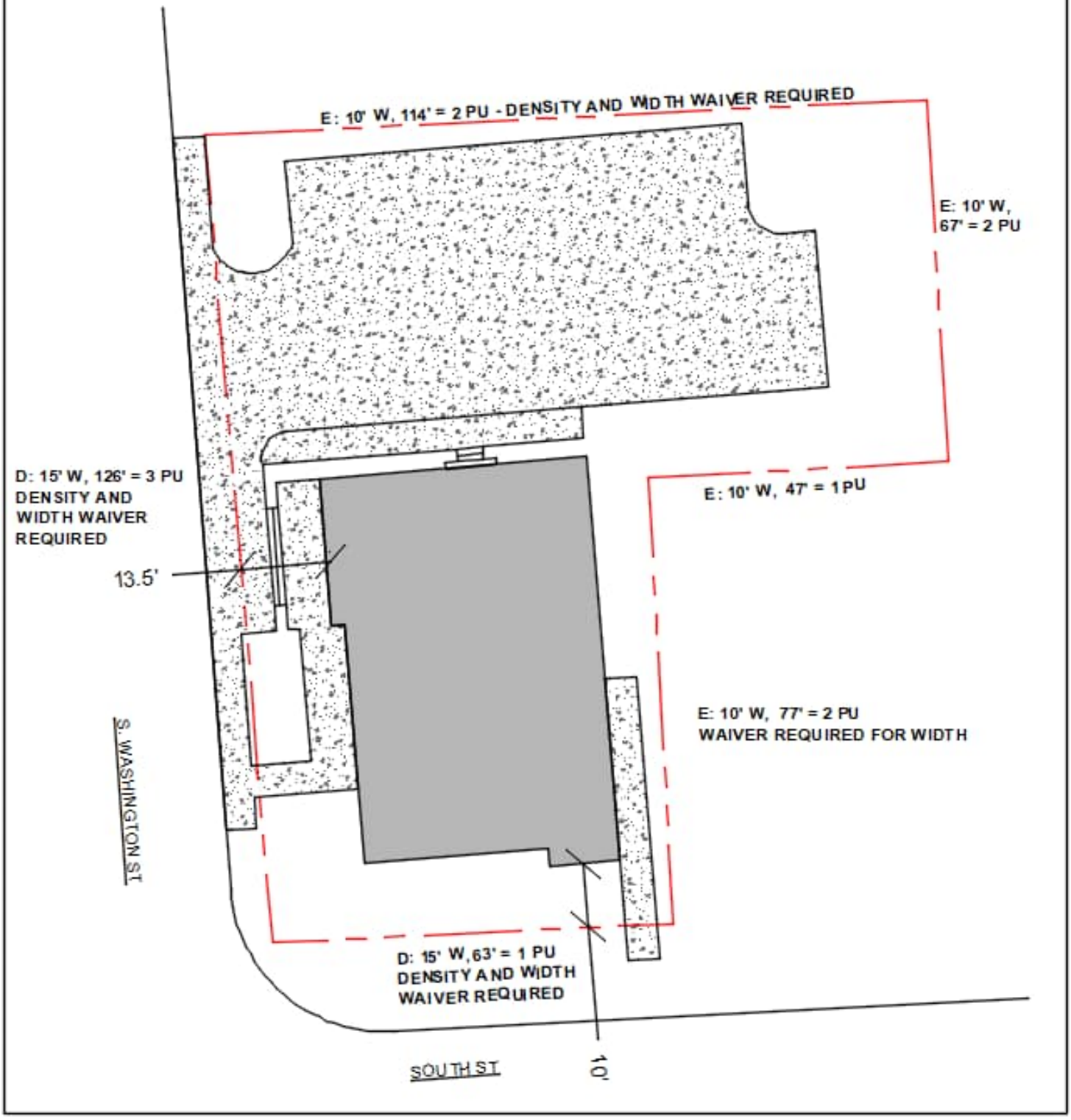
***I do hereby solemnly declare and affirm that the information provided by this application and the documents attached hereto accurately represent the conditions of the request and that submission of an incomplete application will be returned for correction prior to processing.***

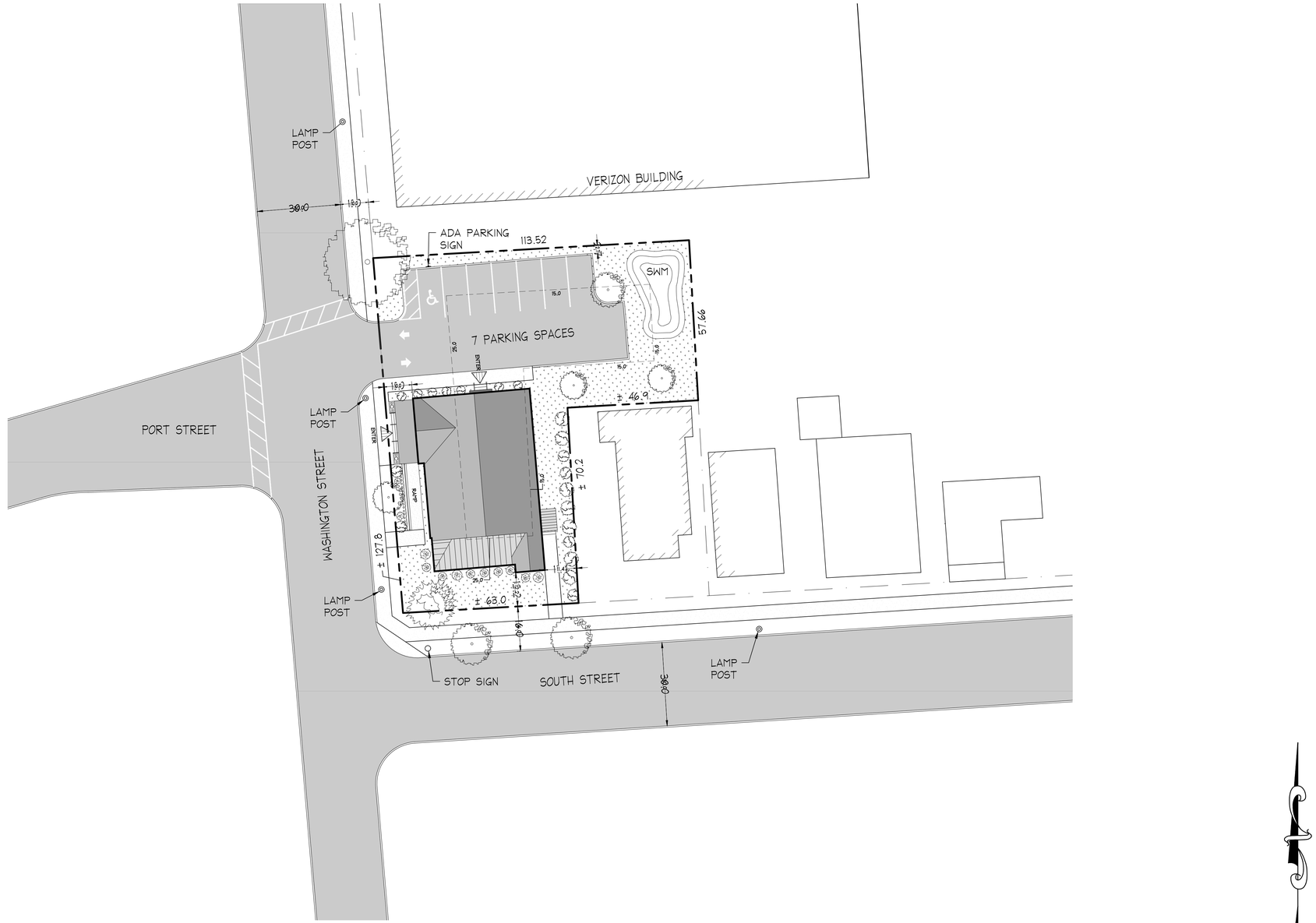
Signature of Applicant or Agent 

Date 5/6/2025

Printed Name of Applicant or Agent Brian Fitzgerald

# BUFFERYARD BOUNDARY MAP & PARCEL FRONTAGE SETBACK






1 / C101 SITE PLAN - PROPOSED
SCALE: 1" = 20'

SCALE 0' 20' 40' 60' 80' 100'


ARCHITECT
TIMOTHY F. CROSBY AIA
513 COURT LANE
CAMBRIDGE, MD 21613
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NEW COMMERCIAL / OFFICE BUILDING FOR:

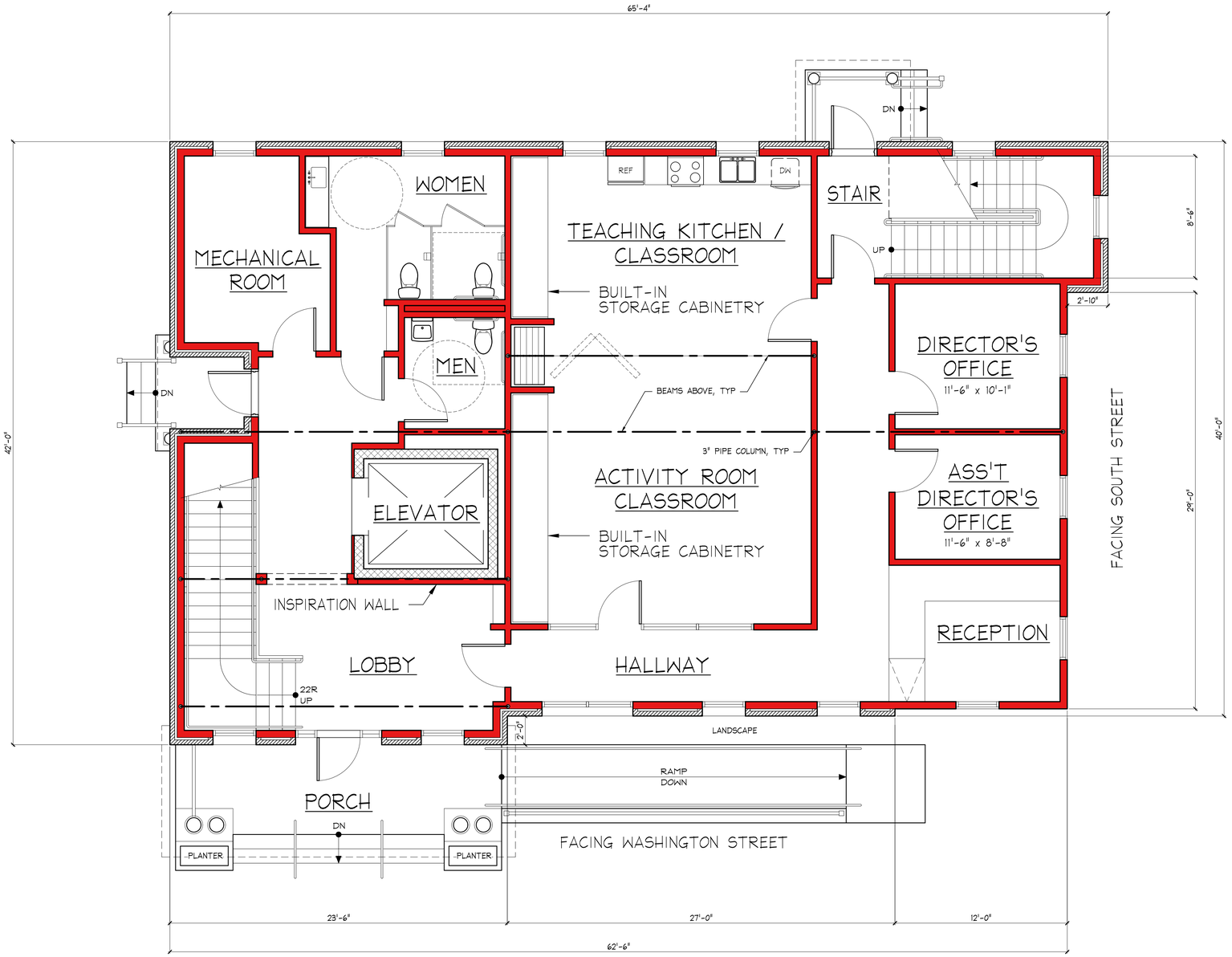
# FOUNDATION OF HOPE, INC

51 SOUTH WASHINGTON STREET
EASTON, MARYLAND 21601

| REV # | REVISION | DATE |
|---|---|---|
| A | SCHEMATIC DESIGN ISSUE FOR REVIEW | 6/10/22 |

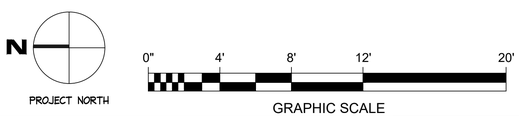
## SITE PLAN - PROPOSED

| | |
|---|---|
| DRAWN BY: | PGA |
| REVIEWED BY: | TFC |
| PROJECT NUMBER: | 0092022 |
| SCALE: | AS NOTED |
| ISSUE DATE: | 4/21/2022 |
| PROJECT STATUS: | SD |
| DRAWING NUMBER: | C101 |




1 / A101 FIRST FLOOR PLAN - PROPOSED

SCALE: 1/4" = 1'-0"





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| REV # | REVISION | DATE |
|---|---|---|
| A | SCHEMATIC DESIGN ISSUE FOR REVIEW | 6/10/22 |
| B | SCHEMATIC DESIGN ISSUE FOR REVIEW | 8/3/23 |

FIRST FLOOR PLAN - PROPOSED

| | |
|---|---|
| DRAWN BY: | CR |
| REVIEWED BY: | TFC |
| PROJECT NUMBER: | 0092022 |
| SCALE: | AS NOTED |
| ISSUE DATE: | 4/21/2022 |
| PROJECT STATUS: | SD |
| DRAWING NUMBER: | A101 |

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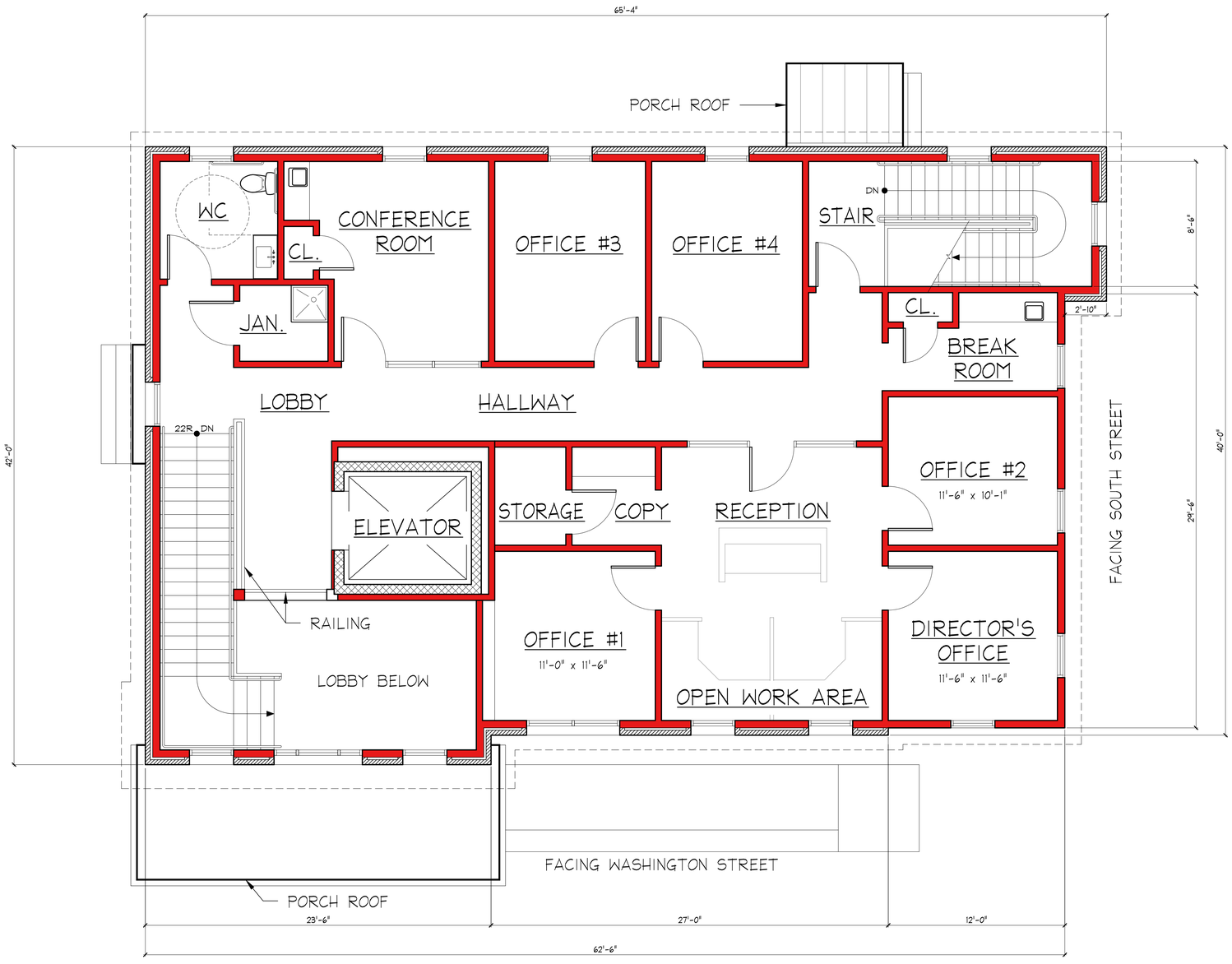
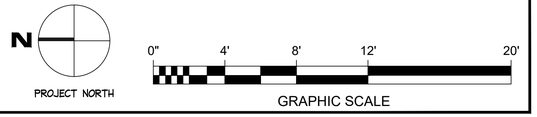



1 A102 SECOND FLOOR PLAN - PROPOSED
SCALE: 1/4" = 1'-0"





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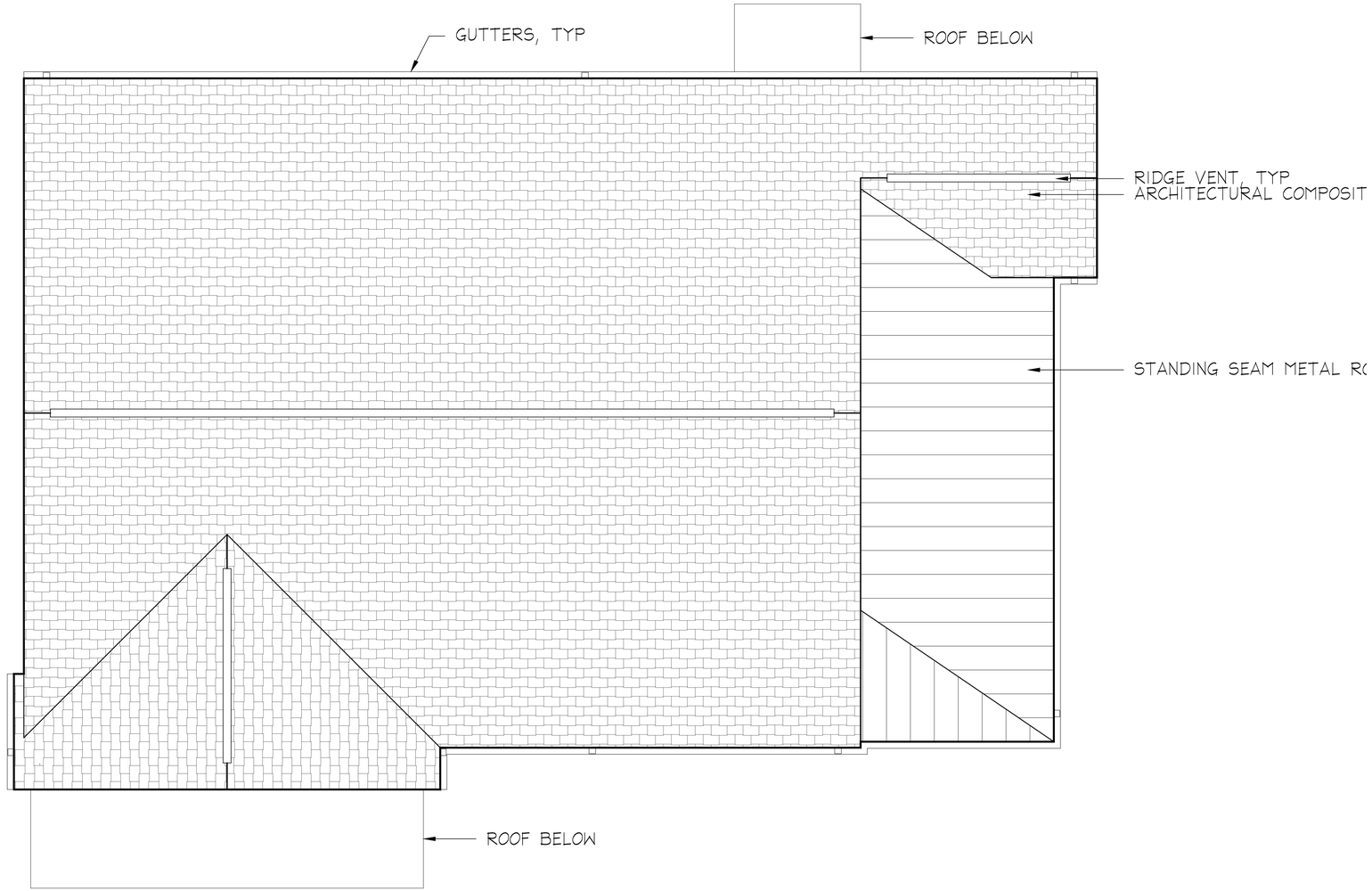
| A | SCHEMATIC DESIGN ISSUE FOR REVIEW | 6/10/22 |
| B | SCHEMATIC DESIGN ISSUE FOR REVIEW | 8/3/23 |

SECOND FLOOR PLAN - PROPOSED

| | |
|---|---|
| DRAWN BY: | CR |
| REVIEWED BY: | TFC |
| PROJECT NUMBER: | 0092022 |
| SCALE: | AS NOTED |
| ISSUE DATE: | 4/21/2022 |
| PROJECT STATUS: | SD |
| DRAWING NUMBER: | A102 |




1 / A103 ROOF PLAN - PROPOSED
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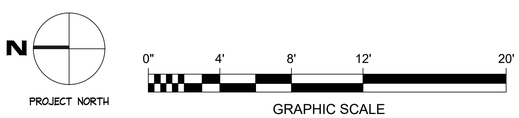


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FOUNDATION OF HOPE, INC

51 SOUTH WASHINGTON STREET
EASTON, MARYLAND 21601

| REV # | REVISION | DATE |
|---|---|---|
| A | SCHEMATIC DESIGN ISSUE FOR REVIEW | 6/10/22 |

ROOF PLAN - PROPOSED

| | |
|---|---|
| DRAWN BY: | CR |
| REVIEWED BY: | TFC |
| PROJECT NUMBER: | 0092022 |
| SCALE: | AS NOTED |
| ISSUE DATE: | 4/21/2022 |
| PROJECT STATUS: | SD |
| DRAWING NUMBER: | A103 |

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Page 394 of 979



1 A201 WEST ELEVATION - PROPOSED
SCALE: 1/4" = 1'-0"


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NEW COMMERCIAL / OFFICE BUILDING FOR:

FOUNDATION OF HOPE, INC

51 SOUTH WASHINGTON STREET
EASTON, MARYLAND 21601

| REV # | REVISION | DATE |
|---|---|---|
| A | SCHEMATIC DESIGN ISSUE FOR REVIEW | 6/10/22 |

BUILDING ELEVATIONS PROPOSED OPTION A

| | |
|---|---|
| DRAWN BY: | PGA |
| REVIEWED BY: | TFC |
| PROJECT NUMBER: | 0092022 |
| SCALE: | AS NOTED |
| ISSUE DATE: | 4/21/2022 |
| PROJECT STATUS: | SD |
| DRAWING NUMBER: | R201 |




1 / A201 WEST ELEVATION - PROPOSED

SCALE: 1/4" = 1'-0"


ARCHITECT

TIMOTHY F. CROSBY AIA
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CAMBRIDGE, MD 21613
LICENSE No. MD-5220-A


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NEW COMMERCIAL / OFFICE BUILDING FOR:

FOUNDATION OF HOPE, INC

51 SOUTH WASHINGTON STREET
EASTON, MARYLAND 21601

| REV # | REVISION | DATE |
|---|---|---|
| A | SCHEMATIC DESIGN ISSUE FOR REVIEW | 6/10/22 |

BUILDING ELEVATIONS PROPOSED OPTION A

| | |
|---|---|
| DRAWN BY: | CR |
| REVIEWED BY: | TFC |
| PROJECT NUMBER: | 0092022 |
| SCALE: | AS NOTED |
| ISSUE DATE: | 4/21/2022 |
| PROJECT STATUS: | SD |
| DRAWING NUMBER: | A201 |




1 / A202 SOUTH ELEVATION - PROPOSED

SCALE: 1/4" = 1'-0"


ARCHITECT
TIMOTHY F. CROSBY AIA
513 COURT LANE
CAMBRIDGE, MD 21613
LICENSE No. MD-5220-A


I certify that these documents were prepared or approved by me, and that I am a duly licensed Architect under the laws of the State of Maryland
License number: MD-5220-A Expiration date: 5/7/2023

CROSBY & ASSOCIATES


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NEW COMMERCIAL / OFFICE BUILDING FOR:

# FOUNDATION OF HOPE, INC

51 SOUTH WASHINGTON STREET
EASTON, MARYLAND 21601

| REV # | REVISION | DATE |
|---|---|---|
| A | SCHEMATIC DESIGN ISSUE FOR REVIEW | 6/10/22 |

## BUILDING ELEVATIONS PROPOSED OPTION A

| | |
|---|---|
| DRAWN BY: | CR |
| REVIEWED BY: | TFC |
| PROJECT NUMBER: | 0092022 |
| SCALE: | AS NOTED |
| ISSUE DATE: | 4/21/2022 |
| PROJECT STATUS: | SD |
| DRAWING NUMBER: | A202 |




1 / A203 EAST ELEVATION - PROPOSED

SCALE: 1/4" = 1'-0"

ARCHITECT
TIMOTHY F. CROSBY AIA
513 COURT LANE
CAMBRIDGE, MD 21613
LICENSE No. MD-5220-A

I certify that these documents were prepared or approved by me, and that I am a duly licensed Architect under the laws of the State of Maryland
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NEW COMMERCIAL / OFFICE BUILDING FOR:

FOUNDATION OF HOPE, INC

51 SOUTH WASHINGTON STREET
EASTON, MARYLAND 21601

| REV # | REVISION | DATE |
|---|---|---|
| A | SCHEMATIC DESIGN ISSUE FOR REVIEW | 6/10/22 |

BUILDING ELEVATIONS PROPOSED OPTION A

| | |
|---|---|
| DRAWN BY: | CR |
| REVIEWED BY: | TFC |
| PROJECT NUMBER: | 0092022 |
| SCALE: | AS NOTED |
| ISSUE DATE: | 4/21/2022 |
| PROJECT STATUS: | SD |
| DRAWING NUMBER: | A203 |

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1 A204 NORTH ELEVATION - PROPOSED

SCALE: 1/4" = 1'-0"


ARCHITECT

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513 COURT LANE
CAMBRIDGE, MD 21613
LICENSE No. MD-5220-A


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NEW COMMERCIAL / OFFICE BUILDING FOR:

FOUNDATION OF HOPE, INC

51 SOUTH WASHINGTON STREET
EASTON, MARYLAND 21601

| REV # | REVISION | DATE |
|---|---|---|
| A | SCHEMATIC DESIGN ISSUE FOR REVIEW | 6/10/22 |

BUILDING ELEVATIONS PROPOSED OPTION A

| | |
|---|---|
| DRAWN BY: | CR |
| REVIEWED BY: | TFC |
| PROJECT NUMBER: | 0092022 |
| SCALE: | AS NOTED |
| ISSUE DATE: | 4/21/2022 |
| PROJECT STATUS: | SD |
| DRAWING NUMBER: | A204 |

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# FOUNDATION OF HOPE

## SKETCH SITE PLAN

FOR

TOWN OF EASTON

TALBOT COUNTY, MARYLAND 21601

### SITE DATA

| | |
|---|---|
| PROPERTY ADDRESS: | 52 SOUTH WASHINGTON STREET, EASTON, MD 21601 |
| LONGITUDE: | 38°77'01.49" N |
| LATITUDE: | -76°08'46.61" W |
| TAX MAP: | 0104 |
| GRID: | 0000 |
| PARCEL: | 1463 |
| DEED REFERENCE: | *02871 / 00437* |
| EXISTING USE: | VACANT LOT |
| PROPOSED USE: | BUSINESS, GROUP B PER IBC INCLUDING: EDUCATION/TRAINING, OFFICES, MEETINGS ROOM, AND MULTIPURPOSE ACTIVITY ROOMS |
| SITE AREA: | 0.253 AC |
| FEMA FLOOD MAP: | PANEL 24041C0189D |
| LIMITS OF DISTURBANCE: | 0.290 AC ± |
| CUT: | 204 CY ± |
| FILL: | 250 CY ± |
| NET: | 47 CY ± FILL |

NO PORTION OF THIS PROJECT SITE IS LOCATED WITHIN THE 100-YR FLOOD PLAIN

NO PORTION OF THIS PROJECT SITE IS LOCATED WITHIN THE CHESAPEAKE BAY CRITICAL AREA

| | |
|---|---|
| PRESENT ZONING CLASSIFICATION: | CENTRAL BUSINESS COMMERCIAL |
| PROPOSED ZONING CLASSIFICATION: | CENTRAL BUSINESS COMMERCIAL |
| MAX LOT COVERAGE: | 90% |
| MAX BUILDING HEIGHT: | 60' |
| MINIMUM LOT SIZE: | 5,000 SQUARE FEET |
| MINIMUM FRONT SETBACK: | ESTABLISHED FRONT LINE OF BLOCK |
| MINIMUM REAR SETBACK: | ESTABLISHED REAR LINE OF BLOCK |
| MINIMUM SIDE SETBACKS : | NONE |
| PARKING SPACES FOR USE (MIN-MAX): | 21-37 PARKING SPACES |
| PARKING SPACES REQUIRED: | NOT REQUIRED; CB §28-305.2(B) |
| PARKING SPACES PROVIDED: | 7 PARKING SPACES |

PARKING JUSTIFICATIONS:
THE DESIGN PROVIDES 8 OFFICES AND FOUR WORK STATIONS FOR STAFF. INITIALLY IT IS UNLIKELY THAT STAFF LEVELS WILL BE 10, BUT OTHER USERS (NONPROFITS OR COMMUNITY GROUPS) MAY BE ALLOWED TO USE SPACE IN THE BUILDING. THE PROGRAMS OF THE FOUNDATION OF HOPE, INC. ARE DIRECTED TO SIXTH GRADE GIRLS WHO WILL WALK TO THE BUILDING OR BE DROPPED OFF. WE BELIEVE THE PROVISION OF SEVEN PARKING SPACES ADEQUATELY ADDRESSES THE NEEDS OF THE BUILDING ESPECIALLY GIVEN THE AREA CONSTRAINTS OF THE SITE.

| | |
|---|---|
| SURVEY DATUM | |
| HORIZONTAL: | NAD83 |
| VERTICAL: | NAVD88 |
| DATE OF SURVEY: | X/X/2025 |
| BENCHMARK: | |

### CONTACT INFORMATION

| | |
|---|---|
| OWNER/DEVELOPER: | FOUNDATION OF H O P E INC<br>8671 CAMAC ST<br>EASTON, MD 21601<br>(410) 443-9936 |
| ENGINEER: | RAUCH Inc.<br>106 N HARRISON ST<br>EASTON, MARYLAND 21301<br>(410)770-9081 |

**LANDSCAPE IMPROVEMENTS - §§28-1014.6**

OVERALL TREES REQUIRED:
MINIMUM OF ONE (1) TREE PER 750 SQ. FT. OF BUILDING FOOTPRINT SHALL BE PROVIDED ON-SITE OR AS STREET TREES IN THE PUBLIC R/W FRONTAGE OF THE SITE. **2,540 SQ FT / 750 = 3.39 TREES. 3 STREET FRONTAGE TREES CURRENTLY EXIST IN GOOD CONDITION - 3 ADDITIONAL TREES (DOGWOOD) ARE PROVIDED ALONG SOUTHERN EDGE OF SITE.**

PARKING LOTS SHALL BE LANDSCAPED WITH AN EVERGREEN SHRUB HEDGE WHICH WILL GROW TO A MINIMUM 42" HEIGHT WITHIN 5 YEARS ALONG STREET FRONTAGE. **PROVIDED WITH THUJA OCC. 'HETZ MIDGET' BETWEEN PARKING AND S. WASHINGTON STREET.**

STREET TREES PROVIDED:
3 TREES ARE EXISTING - SITE IS CONSTRAINED FOR WIDTH; TREES ARE PROVIDED INTERNALLY AS SITE REASONABLY PROVIDES FOR.

PARKING LOT TREES PROVIDED:
PARKING LOT SIZE DOES NOT REQUIRE INTERNAL PLANTINGS.

**BUFFERYARD STANDARDS - §§28-1014.7**

PROPERTY LINE FRONTING SOUTH WASHINGTON STREET:
BUFFERYARD "D" - *15' WIDTH - 1 SHADE/CANOPY TREE, 1 EVERGREEN TREES & 5 LARGE SHRUBS PER 50 LF*
**WAIVER REQUIRED - YES, FOR PLANT DENSITY AND BUFFER WIDTH (13.5') - (1 CATALPA STREET TREE IS EXISTING IS GOOD HEALTH). MINIMAL AREA IS AVAILABLE IN BUFFER FOR PLANTING - 1 COLUMNAR PINE & 12 SHRUBS PROVIDED.**

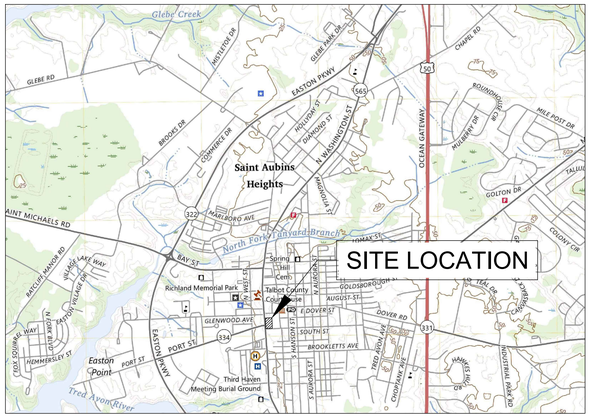
PROPERTY LINE FRONTING SOUTH STREET:
BUFFERYARD "D" - *15' WIDTH - 1 SHADE/CANOPY TREE, 1 EVERGREEN TREE & 5 LARGE SHRUBS PER 50 LF*
**WAIVER REQUIRED - YES, FOR PLANT DENSITY AND BUFFER WIDTH (10') - (2 RED OAK STREET TREES ARE EXISTING IN GOOD HEALTH), PLANTINGS ARE PROVIDED CLOSER TO THE BUILDING - 8 SHRUBS & 20 PERENNIALS PROVIDED.**

PROPERTY LINE WEST: SOUTHERN LINE CLOSER TO SOUTH ST. (77' L)
BUFFERYARD "E" - *10' WIDTH - 2 SHADE/CANOPY TREE, 8 EVERGREEN SHRUBS; OR 4 EVERGREEN TREES OR FENCE WITH 3EVERGREEN LARGE SHRUBS PER 50 LF*
**WAIVER REQUIRED - YES. FOR BUFFER WIDTH - 5 EVERGREEN TREES PROVIDED (TH. OCC. 'WINTERGREEN') WHERE BUFFER WIDTH ALLOWS.**

PROPERTY LINE ORIENTED EAST-WEST HALFWAY UP WESTERN EDGE (47' L)
BUFFERYARD "E" - *10' WIDTH - 2 SHADE/CANOPY TREE, 8 EVERGREEN SHRUBS; OR 4 EVERGREEN TREES OR FENCE WITH 3EVERGREEN LARGE SHRUBS PER 50 LF*
**WAIVER REQUIRED - NO, PLAN PROVIDES 2 HOLLY TREES, 1 MAGNOLIA TREE, AND 4 BIRD-FRIENDLY NATIVE UNDERSTORY SHRUBS AS SUBSTITUTION (BUFFER WIDTH CONSTRAINT).**

PROPERTY LINE WEST: NORTHERN LINE CLOSER TO VERIZON BUILDING. (66.5' L)
BUFFERYARD "E" - *10' WIDTH - 2 SHADE/CANOPY TREE, 8 EVERGREEN SHRUBS; OR 4 EVERGREEN TREES OR FENCE WITH 3EVERGREEN LARGE SHRUBS PER 50 LF*
**WAIVER REQUIRED - NO, 2 SERVICEBERRY TREES, 1 MAGNOLIA, 3 BIRD-FRIENDLY UNDERSTORY SHRUBS PROVIDED AS SUBSTITUTION (BUFFER WIDTH CONSTRAINT).**

PROPERTY LINE NORTHERN ADJACENT VERIZON BUILDING (113.5' L)
BUFFERYARD "E" - *10' WIDTH - 2 SHADE/CANOPY TREE, 8 EVERGREEN SHRUBS; OR 4 EVERGREEN TREES OR FENCE WITH 3EVERGREEN LARGE SHRUBS PER 50 LF*
**WAIVER REQUIRED - YES, FOR PLANT DENSITY AND BUFFER WIDTH. 8 SHRUBS ARE PROVIDED WHERE BUFFER WIDTH ALLOWS.**




VICINITY MAP
SCALE: 1" = 2,000'

### ENVIRONMENTAL NOTES:

1. THE PROJECT SITE IS NOT LOCATED WITHIN THE CRITICAL AREA BUFFER
2. THE SITE IS NOT LOCATED WITHIN A 100 YEAR FLOODPLAIN
3. STEEP SLOPES ARE NOT PRESENT ON SITE
4. NON TIDAL WETLANDS ARE NOT PRESENT ON THIS PORTION OF THE PROJECT

### HYDROLOGY NOTES:

1. THE PROJECT WILL NOT ALTER HYDROLOGY TO OR FROM THE SITE
2. NO OUTLETS WILL BE ALTERED BY THIS PROJECT

### STANDARD STABILIZATION NOTE

FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIATION MUST BE COMPLETE WITHIN:

A. THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1) AND
B. SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING

**SITE REQUIRED ESDv**

| DRAINAGE AREA | TYPE OF ESD PRACTICE | NAME OF ESD PRACTICE (STRUCTURE NAME) | ON-SITE OR OFF-SITE STRUCTURE | RUNOFF CURVE NUMBER (RCN) WEIGHTED | MARYLAND GRID COORDINATE NAD 83 NORTHING | MARYLAND GRID COORDINATE NAD 83 EASTING | ESD PRACTICE TOTAL DRAINAGE AREA (ACRES) | ESD PRACTICE IMPERVIOUS DRAINAGE AREA (ACRES) | SURFACE AREA OF ESD PRACTICE (ACRES) | TARGET PE (IN.) | ACTUAL PE (IN.) | TARGET ESDv ($FT^3$) | ACTUAL ESDv ($FT^3$) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | MBR-1 | BIORETENTION 1 | ON-SITE | | 404128.8956' | 1575858.8325' | 0.202 | 0.132 | 0.013 | 1.80 | 1.44 | 791 | 845 |
| TOTAL/ AVERAGE | | | | | | | 0.202 | 0.132 | 0.013 | 1.80 | 1.44 | 791 | 845 |

**WATER QUANTITY**

| STUDY POINT | STORM EVENT | 2-YEAR (cfs) | 10-YEAR (cfs) | 100-YEAR (cfs) |
|---|---|---|---|---|
| STUDY POINT 1 | EXISTING | 0.20 | 0.44 | 0.97 |
| | PROPOSED | 0.10 | 0.18 | 0.35 |
| CHANGE | CHANGE | -0.10 | -0.26 | -0.62 |
| STUDY POINT 2 | EXISTING | 0.05 | 0.12 | 0.28 |
| | PROPOSED | 0.00 | 0.00 | 0.00 |
| CHANGE | CHANGE | -0.05 | -0.12 | -0.28 |

**DRAWING LIST**

| DRAWING NUMBER | DRAWING TITLE |
|---|---|
| CG-100 | TITLE SHEET |
| V-101 | EXISTING CONDITIONS PLAN |
| C-100 | OVERALL SITE PLAN |
| C-201 | ESC AND STORMWATER MANAGEMENT PLAN |
| C-205.01 | ESC AND STORMWATER MANAGEMENT DETAILS |
| C-205.02 | STORMWATER MANAGEMENT DETAILS |
| C-301 | SITE GRADING PLAN |
| C-305 | SITE GRADING DETAILS |
| C-401 | UTILITY PLAN |
| C-405 | UTILITY DETAILS |
| L-501 | LANDSCAPE PLAN |
| L-505 | LANDSCAPE DETAILS |

### LINETYPES

PROPOSED / EXISTING

TOPOGRAPHY
MAJOR CONTOURS — 45
MINOR CONTOURS — 44
TOP OF SLOPE BREAKLINE
BOTTOM OF SLOPE BREAKLINE
TOPOGRAPHY BREAKLINE
CATCHMENT AREA
Tc FLOW PATH
PARCEL BOUNDARY
PARCEL SETBACK/EASEMENT
FENCELINE WOOD
FENCELINE STEEL — X
TREELINE/VEGETATION
ROADWAY CENTERLINE
HIGHWAY BARRIER

UTILITIES
OVERHEAD ELECTRIC — OE
UNDERGROUND ELECTRIC — UE
TELEPHONE LINE — T
GAS PIPE LINE — G
COMMUNICATIONS (FIBER, ETC) — C — CTV
WATER PIPE — W
STORMWATER PIPE
UNDERDRAIN
SANITARY SEWER — SS
FORCE MAIN SEWER — FM

ENVIRONMENTAL
WETLAND LINE — Ψ
FLOOD PLAIN 100/500 YR
MEAN HIGH WATER — MHW
MEAN LOW WATER — MLW
CRITICAL AREA BOUNDARY — CAB
BUFFER 25'/100' — 25
SOILS BOUNDARY

EROSION AND SEDIMENT CONTROL
SILT FENCE — SF
SUPER SILT FENCE — SSF
SILT FENCE ON PAVEMENT — SFOP
LIMITS OF DISTURBANCE — LOD
STANDARD INLET PROTECTION — SIP
AT-GRADE INLET PROTECTION — AGIP
CURB INLET PROTECTION — CIP
SWM EASEMENT 5'/10'

### SYMBOLS

PROPOSED / EXISTING

FLARED END SECTION
YARD INLET — YI
CURB INLET — CI
CUSTOM INLET — CuI
NYLOPLAST INLET — N
STORM DRAIN MANHOLE — D
SANITARY SEWER MANHOLE — S
CLEANOUT — C
GATE VALVE — GV
STUB
SIGN
WATER METER — WM
FIRE HYDRANT
WELL — W
BOLLARD
ELECTRIC TRANSFORMER — ELEC
TELEPHONE PEDESTAL — T
UTILITY POLE
GUY WIRE
CONIFEROUS TREE
DECIDUOUS TREE
SPOT ELEVATION — 39.01 / 39.00
LAND SLOPE — 0.41% / 0.41%
BENCHMARK — ELEV. 123
BOREHOLE/MONITORING WELL

### HATCHES

ASPHALT
GRAVEL
CONCRETE
RIPRAP/ROCK
ESD BED BOTTOM
BRICK PAVING
EXISTING,TO BE DEMOLISHED
STEEP SLOPES
ROOFTOP/NON-ROOFTOP DISCONNECT

### ABBREVIATIONS

| | |
|---|---|
| ADA | AMERICANS WITH DISABILITIES ACT |
| AGIP | AT GRADE INLET PROTECTION |
| @ | AT |
| BC | BACK OF CURB |
| BM | BENCHMARK |
| BRL | BUILDING RESTRICTION LINE |
| CES | CONCRETE END SECTION |
| C/O | CLEAN OUT |
| CHRD | CHORD |
| CI | CURB INLET |
| CIP | CURB INLET PROTECTION |
| CL | CENERLINE |
| CMP | CORRUGATED METAL PIPE |
| CuI | CUSTOM INLET |
| CY | CUBIC YARD |
| DI | DUCTILE IRON |
| E | EAST |
| EL/ELEV | ELEVATION |
| EP | EDGE OF PAVE |
| ESC | EROSION AND SEDIMENT CONTROL |
| EX | EXISTING |
| FES | FLARED END SECTION |
| FFE | FINISHED FLOOR ELEVATION |
| FH | FIRE HYDRANT |
| FL | FLOW LINE |
| FT | FOOT |
| GFA | GROSS FLOOR AREA |
| GPD | GALLONS PER DAY |
| GV | GATE VALVE |
| HDPE | HIGH DENSITY POLYETHYLENE |
| I | INLET |
| INV | INVERT |
| KV | KILOVOLTS |
| L | ARC LENGTH |
| LF | LINEAR FEET |
| LOD | LIMITS OF DISTURBED AREA |
| LT | LEFT |
| MAX | MAXIMUM |
| MBR | MICRO-BIORETENTION |
| MD | MARYLAND |
| MEP | MECHANICAL, ELECTRICAL, AND PLUMBING |
| MH | MANHOLE |
| MHW | MEAN HIGH WATER |
| MIN | MINIMUM |
| MLW | MEAN LOW WATER |
| MSHA | MARYLAND STATE HIGHWAY ADMINISTRATION |
| MUTCD | MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES |
| N | NORTH |
| NO | NUMBER |
| PC | POINT OF CURVATURE |
| PE | POLYETHYLENE |
| PERF | PERFORATED |
| PR | PROPOSED |
| PT | POINT OF TANGENCY |
| PVC | POLYVINYL CHLORIDE |
| PVI | POINT OF VERTICAL INTERSECTION |
| Q | DISCHARGE |
| R | RADIUS |
| RCP | REINFORCED CONCRETE PIPE |
| RCN | RUNOFF CURVE NUMBER |
| ROW | RIGHT-OF-WAY |
| RT | RIGHT |
| S | SOUTH |
| SCE | STABILIZED CONSTRUCTION ENTRANCE |
| SD | STORM DRAIN |
| SDMH | STORM DRAIN MANHOLE |
| Sf | FRICTION SLOPE |
| SF | SILT FENCE |
| SHA | STATE HIGHWAY ADMINISTRATION |
| SIP | STANDARD INLET PROTECTION |
| SQ | SQUARE |
| SS | SANITARY SEWER |
| SSF | SUPER SILT FENCE |
| SSMH | SANITARY SEWER MANHOLE |
| STA | STATION |
| STD | STANDARD |
| SWM | STORM WATER MANAGEMENT |
| TAN | TANGENT |
| TB | THRUST BLOCK |
| TBR | TO BE REMOVED |
| TC | TOP OF CURB |
| Tc | TIME OF CONCENTRATION |
| TP | TAX PARCEL |
| TYP | TYPICAL |
| UE | UNDERGROUND ELECTRIC |
| UL | UNDERGROUND LIGHT CABLE |
| UT | UNDERGROUND TELEPHONE |
| V | VELOCITY |
| W | WEST |
| W/ | WITH |

**DESIGN PRINCIPLES FOR EASTON**

(COMPREHENSIVE PLAN, PG. 29-31)

1. **INTEGRATED USES ARE DESIRABLE** - THE PROJECT CONSISTS OF COMMERCIAL BUSINESS AND STORMWATER MANAGEMENT.THIS PROJECT WILL ACCOMMODATE A 2,528 SQUARE FOOT OFFICE BUILDING AND WILL PROVIDE NECESSARY PARKING.
2. **NATURAL FEATURES SHOULD DETERMINE DESIGN** - THE SITE IS DEVELOPED TO MAINTAIN EXISTING NATURAL CONTOURS AND DRAINAGE PATHS AS WELL AS POSSIBLE. THERE ARE FEW NATURAL FEATURES ON THE EXISTING SITE AS THE ORIGINAL SITE INCLUDING REMAINING TREES.
3. **AUTOMOBILES SHOULD NOT DETERMINE DESIGN** - AUTOMOBILES WERE NOT THE PRIORITY FOCUS FOR THE DESIGN BUT SUFFICIENT PARKING IS PROVIDED, WHICH INCLUDES AMPLE LANDSCAPING AND GREEN SPACE.
4. **AMPLE OPEN SPACES SHOULD BE PROVIDED WITHIN AND AROUND NEIGHBORHOODS** - N/A, THIS IS NOT A RESIDENTIAL DEVELOPMENT.
5. **ARCHITECTURE SHOULD RESPECT EASTON'S HISTORIC DISTRICT** - THIS PROJECTS ARCHITECTURE RESPECTS EASTON'S HISTORIC DISTRICT AND IS BASED ON THE EXISTING URBAN CHARACTER OF SIMILAR BUILDING TYPES.
6. **SIGNS SHOULD INFORM BUT NOT DOMINATE** - THERE WILL BE MINIMAL SIGNAGE ON THE PROPOSED PROPERTY. SIGNAGE WILL BE PROVIDED FOR A.D.A. PARKING SPACE, ALONG WITH A FEW EXISTING SIGNS THAT WILL BE RELOCATED UPON COMPLETION OF CONSTRUCTION.
7. **NEIGHBORHOODS SHOULD CONTAIN A DIVERSITY OF HOUSING TYPES** - N/A, THIS IS NOT A RESIDENTIAL DEVELOPMENT.
8. **RESIDENTIAL DEVELOPMENTS SHOULD BE INTERESTING PLACES** - N/A, THIS IS NOT A RESIDENTIAL DEVELOPMENT.
9. **NEIGHBORHOODS SHOULD CONNECT** - PEDESTRIANS CAN TRAVERSE BETWEEN THE EXISTING SIDEWALK THAT TIES INTO THE PROPOSED SIDEWALK ADJACENT TO SOUTH WASHINGTON STREET.

### SEQUENCE OF CONSTRUCTION

| | | |
|---|---|---|
| 1. | NOTIFY MDE AT | (410) 901-4020 |
| | TALBOT COUNTY SOIL CONSERVATION DISTRICT AT | (410) 822-1583 |
| | TOWN OF EASTON DPW AT | (410) 822-0513 |
| 2. | PRE-CONSTRUCTION MEETING. | |
| 4. | INSTALL ALL SEDIMENT AND EROSION CONTROL MEASURES PER PLANS. | |
| 5. | DEMO PER PLAN. | |
| 6. | INSTALL UTILITIES. | |
| 7. | START SITE GRADING. | |
| 8. | START CONSTRUCTION. | |
| 9. | CONSTRUCT MICRO-BIORETENTION WETLAND AREA. DO NOT FINALIZE CONSTRUCTION OF THIS UNTIL EARTH DISTURBANCE IS COMPLETE. | |
| 10. | CONSTRUCT CURBS AND SIDEWALKS AS INDICATED ON THE PLANS. | |
| 11. | INSTALL BASE PAVEMENT | |
| 12. | PERMANENTLY STABILIZE REMAINING AREAS. | |
| 13. | MAINTAIN ALL PERIMETER CONTROLS AND SEDIMENT CONTROL DEVICES UNTIL FINAL STABILIZATION HAS BEEN COMPLETELY ESTABLISHED. | |
| 14. | REMOVE PERIMETER CONTROLS UPON APPROVAL BY THE MDE SEDIMENT CONTROL INSPECTOR. | |

REVIEWED FOR THE TALBOT SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS

APPROVED:

_____ _____
TALBOT SOIL CONSERVATION DISTRICT — DATE

NOTE: THE TALBOT SOIL CONSERVATION DISTRICT RESERVES THE RIGHT TO ADD, DELETE, MODIFY OR OTHERWISE ALTER THE EROSION CONTROL PROVISIONS OF THIS PLAN IN THE EVENT THAT ADDITIONAL PROTECTION BECOMES NECESSARY.

DEVELOPER'S CERTIFICATION

I HEREBY CERTIFY THAT ALL OF THE DEVELOPMENT AND/OR CONSTRUCTION SHALL BE DONE IN ACCORDANCE TO THIS PLAN OF EROSION AND SEDIMENT CONTROL.

_____ _____
SIGNATURE — DATE

1. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR OR SUBCONTRACTOR TO NOTIFY THE ENGINEER OF ANY DEVIATION MADE IN THIS PLAN. ANY CHANGE MADE TO THIS PLAN WITHOUT WRITTEN AUTHORIZATION FROM THE ENGINEER WILL PLACE RESPONSIBILITY FOR SAID CHANGE ON THE CONTRACTOR OR SUBCONTRACTOR.
2. ANY RESPONSIBLE PERSONNEL INVOLVED IN THIS CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT THE DEPARTMENT OF ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF EROSION AND SEDIMENT BEFORE BEGINNING THE PROJECT.

### GENERAL NOTES

PROJECT SHALL BE CONSTRUCTED TO COMPLY WITH THE TOWN OF EASTON DESIGN AND CONSTRUCTION STANDARDS.

ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM TO THE DRAWINGS, SPECIFICATIONS, LOCAL BUILDING CODES, BEST PRACTICES OF THE RESPECTIVE TRADES AND THE STANDARD SPECIFICATIONS AND DETAILS REFERRED TO HEREON.

THIS DRAWING SHOWS INFORMATION OBTAINED FROM AVAILABLE RECORDS REGARDING PIPES, CONDUITS, TELEPHONE LINES AND OTHER STRUCTURES AND CONDITIONS WHICH EXIST WITHIN LIMITS OF THE WORK AT AND BELOW THE SURFACE OF THE GROUND. THE CONTRACTOR IS RESPONSIBLE FOR SUPPORTING AND PROTECTING ALL PIPES, CONDUITS, TELEPHONE LINES, AND OTHER STRUCTURES.

THE CONTRACTOR SHALL NOTIFY THE FOLLOWING TWO (2) WEEKS PRIOR TO START OF CONSTRUCTION AND SHALL COORDINATE ALL CONSTRUCTION PHASES WITH THEM:

| | |
|---|---|
| MDE (Main Number) | 410-537-3000 |
| MDE (Eastern Shore Field Office) | 410-901-4020 |
| TOWN OF EASTON DPW | 410-822-0513 |
| TALBOT COUNTY SCD | 410-822-1583 |
| MISS UTILITY | 800-257-7777 or 811 |

SHOULD ANY DAMAGE OCCUR TO ANY MARKED UTILITIES, THEY SHALL BE REPAIRED SOLELY AT THE CONTRACTORS EXPENSE.

ALL LANDSCAPING SHALL BE PERFORMED BY QUALIFIED PROFESSIONALS. ALL PLANT MATERIALS SHALL BE FROM CERTIFIED NURSERYMAN AND BE GUARANTEED FOR ONE (1) YEAR FROM THE DATE OF PLANTING.

ANY PROPERTY LINE MONUMENTATION DISTURBED DURING CONSTRUCTION SHALL BE REPLACED SOLELY AT THE CONTRACTORS EXPENSE.

**COVER SHEET**

FOR

**FOUNDATION OF HOPE**

TAX MAP 0104, ID 0000, PARCEL 1463

FIRST ELECTION DISTRICT, TALBOT COUNTY, MARYLAND

PREPARED FOR FOUNDATION OF HOPE


RAUCH INC
Engineering | Survey | Architecture | Environmental
Main Office: 106 N Harrison St - Easton, MD 21601
Web: www.rauch-inc.com | Email: design@raucheng.com
Phone: 410 770 9081 | Fax: 410 770 3887


**Professional Certification.**
I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License No. 11024
Expiration Date: July 24, 2026
30-May-25

**REVISIONS**

| REV. # | DATE | DESCRIPTION |
|---|---|---|
| A | 05/23/2025 | ISSUED FOR DO REVIEW |
| B | 05/30/2025 | SITE DATA UPDATES; FENCE AROUND TRASH |

MISS UTILITY OF DELMARVA — DIAL BEFORE YOU DIG — 811

| | |
|---|---|
| DATE: | 5/22/2025 |
| SCALE: | N/A |
| DRAWN BY: | AK |
| DESIGNED BY: | AK |
| APPROVED BY: | |

**SHEET NO.: CG-100**

**FOR PERMIT REVIEW**

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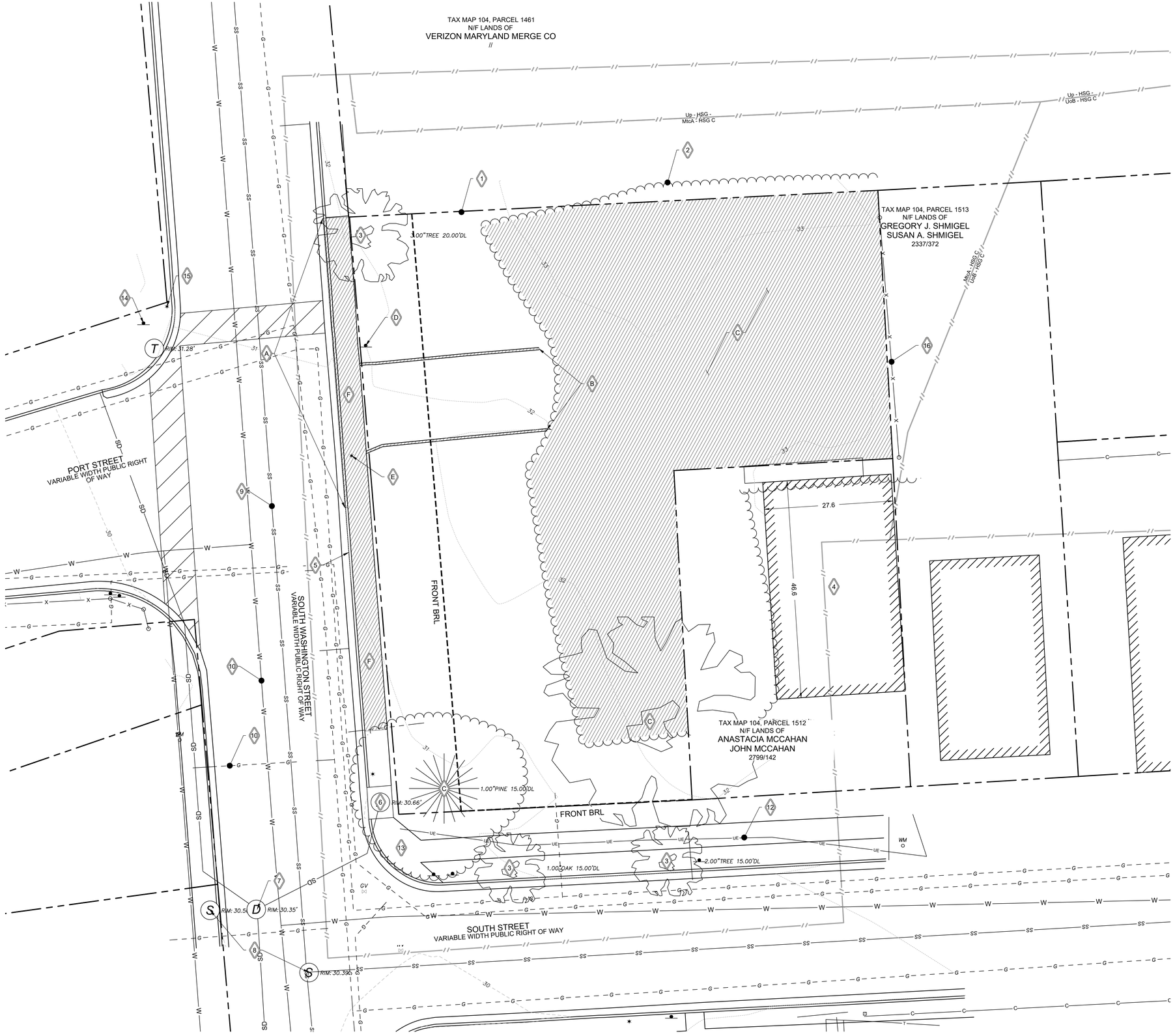


## EXISTING FEATURES

1. PROPERTY LINE
2. TREELINE
3. TREE
4. BUILDING
5. 6" CURB AND GUTTER
6. CURB INLET
7. STORM DRAIN MANHOLE
8. SEWER MANHOLE
9. SANITARY SEWER MAIN
10. WATER MAIN
11. GAS MAIN
12. UNDERGROUND ELECTRIC
13. CONCRETE SIDEWALK
14. SIGN TYP.
15. LAMP POST TYP.
16. FENCE

## DEMOLITION NOTES

- A. CURB AND GUTTER TO BE DEMOLISHED
- B. CONCRETE TO BE DEMOLISHED
- C. TREES TO BE DEMOLISHED
- D. SIGN TO BE RELOCATED
- E. LAMP POST TO BE RELOCATED
- F. CONCRETE SIDEWALK TO BE DEMOLISHED AND HAULED OFF SITE

GENERAL NOTE: CONTRACTOR SHALL TRY TO PRESERVE TREE ON SOUTH WEST CORNER OF PROPERTY

# EXISTING CONDITIONS AND DEMO PLAN

FOR

# FOUNDATION OF HOPE

TAX MAP 0104, ID 0000, PARCEL 1463

FIRST ELECTION DISTRICT, TALBOT COUNTY, MARYLAND

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| REVISIONS | | |
|---|---|---|
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| B | 05/30/2025 | SITE DATA UPDATES; FENCE AROUND TRASH |

MISS UTILITY OF DELMARVA — CALL BEFORE YOU DIG — 811

| | |
|---|---|
| DATE: | 5/22/2025 |
| SCALE: | 1" = 10' |
| DRAWN BY: | AK |
| DESIGNED BY: | AK |
| APPROVED BY: | |

SHEET NO.: V-101

FOR PERMIT REVIEW

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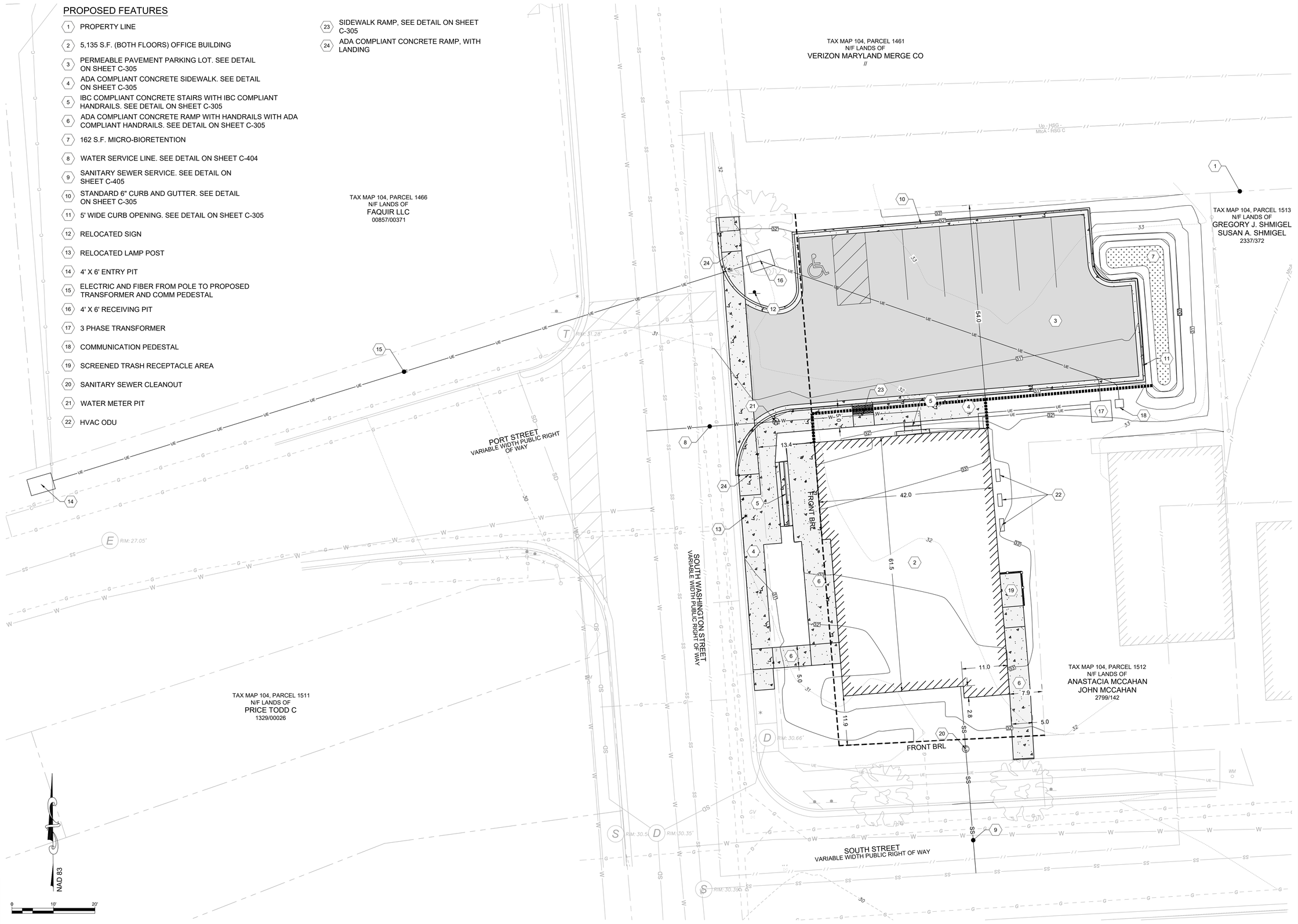
## PROPOSED FEATURES

1. PROPERTY LINE
2. 5,135 S.F. (BOTH FLOORS) OFFICE BUILDING
3. PERMEABLE PAVEMENT PARKING LOT. SEE DETAIL ON SHEET C-305
4. ADA COMPLIANT CONCRETE SIDEWALK. SEE DETAIL ON SHEET C-305
5. IBC COMPLIANT CONCRETE STAIRS WITH IBC COMPLIANT HANDRAILS. SEE DETAIL ON SHEET C-305
6. ADA COMPLIANT CONCRETE RAMP WITH HANDRAILS WITH ADA COMPLIANT HANDRAILS. SEE DETAIL ON SHEET C-305
7. 162 S.F. MICRO-BIORETENTION
8. WATER SERVICE LINE. SEE DETAIL ON SHEET C-404
9. SANITARY SEWER SERVICE. SEE DETAIL ON SHEET C-405
10. STANDARD 6" CURB AND GUTTER. SEE DETAIL ON SHEET C-305
11. 5' WIDE CURB OPENING. SEE DETAIL ON SHEET C-305
12. RELOCATED SIGN
13. RELOCATED LAMP POST
14. 4' X 6' ENTRY PIT
15. ELECTRIC AND FIBER FROM POLE TO PROPOSED TRANSFORMER AND COMM PEDESTAL
16. 4' X 6' RECEIVING PIT
17. 3 PHASE TRANSFORMER
18. COMMUNICATION PEDESTAL
19. SCREENED TRASH RECEPTACLE AREA
20. SANITARY SEWER CLEANOUT
21. WATER METER PIT
22. HVAC ODU
23. SIDEWALK RAMP, SEE DETAIL ON SHEET C-305
24. ADA COMPLIANT CONCRETE RAMP, WITH LANDING




# OVERALL SITE PLAN

FOR

# FOUNDATION OF HOPE

TAX MAP 0104, ID 0000, PARCEL 1463

FIRST ELECTION DISTRICT, TALBOT COUNTY, MARYLAND

PREPARED FOR FOUNDATION OF HOPE


RAUCH INC.
Engineering | Survey | Architecture | Environmental
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**Professional Certification.** I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 11024
Expiration Date: July 24, 2026

30-May-25

| REV. # | DATE | DESCRIPTION |
|---|---|---|
| A | 05/05/2025 | ISSUED FOR DD REVIEW |
| B | 05/30/2025 | SITE DATA UPDATES; FENCE AROUND TRASH |

MISS UTILITY OF DELMARVA — ONE CALL DOES IT ALL! — 811

| | |
|---|---|
| DATE: | 5/22/2025 |
| SCALE: | 1" = 10' |
| DRAWN BY: | AK |
| DESIGNED BY: | AK |
| APPROVED BY: | |

SHEET NO.: C-100

**FOR PERMIT REVIEW**

Z:\FOUNDATION OF HOPE\CIVIL\PRODUCTION PLANS\FOUNDATION OF HOPE - SITE PLAN.DWG

TAX MAP 104, PARCEL 1461
N/F LANDS OF
VERIZON MARYLAND MERGE CO
//

TAX MAP 104, PARCEL 1513
N/F LANDS OF
GREGORY J. SHMIGEL
SUSAN A. SHMIGEL
2337/372

TAX MAP 104, PARCEL 1512
N/F LANDS OF
ANASTACIA MCCAHAN
JOHN MCCAHAN
2799/142

PORT STREET
VARIABLE WIDTH PUBLIC RIGHT OF WAY

SOUTH WASHINGTON STREET
VARIABLE WIDTH PUBLIC RIGHT OF WAY

SOUTH STREET
VARIABLE WIDTH PUBLIC RIGHT OF WAY

SCE

## PROPOSED FEATURES

1. LIMITS OF DISTURBANCE
2. 5,135 (BOTH FLOORS) S.F. OFFICE BUILDING
3. SILT FENCE. SEE DETAIL ON SHEET C-205.01
4. STABILIZED CONSTRUCTION ENTRANCE, SEE DETAIL ON SHEET C-205.01
5. 162 S.F. MICRO-BIORETENTION
6. 5' WIDE CURB OPENING
7. CURB INLET PROTECTION. SEE DETAIL ON SHEET C-205.01
8. 6" ROOF LEADER TO MICRO-BIORETENTION

NAD 83

0 10' 20'

# ECS AND STORMWATER MANAGEMENT PLAN

FOR

# FOUNDATION OF HOPE

TAX MAP 0104, ID 0000, PARCEL 1463
FIRST ELECTION DISTRICT, TALBOT COUNTY, MARYLAND
PREPARED FOR FOUNDATION OF HOPE


RAUCH INC.
Engineering | Survey | Architecture | Environmental
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License No. 11024
Expiration Date: July 24, 2026

30-May-25

**REVISIONS**

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|---|---|---|
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| B | 05/30/2025 | SITE DATA UPDATES; FENCE AROUND TRASH |

MISS UTILITY OF DELMARVA — ONE NUMBER. YOU DIG. — 811

| | |
|---|---|
| DATE: | 5/22/2025 |
| SCALE: | 1" = 10' |
| DRAWN BY: | AK |
| DESIGNED BY: | AK |
| APPROVED BY: | |

SHEET NO.: C-201

FOR PERMIT REVIEW

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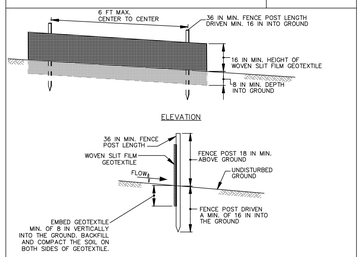
## DETAIL E-1 SILT FENCE

STANDARD SYMBOL: SF




1 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

| U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE | 2011 | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION |
|---|---|---|

## DETAIL E-1 SILT FENCE

STANDARD SYMBOL: SF

CONSTRUCTION SPECIFICATIONS

1. USE WOOD POSTS 1¾ X 1¾ ± ¾ INCH (MINIMUM) SQUARE CUT OF SOUND QUALITY HARDWOOD. AS AN ALTERNATIVE TO WOODEN POST USE STANDARD "T" OR "U" SECTION STEEL POSTS WEIGHING NOT LESS THAN 1 POUND PER LINEAR FOOT.
2. USE 36 INCH MINIMUM POSTS DRIVEN 16 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET APART.
3. USE WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H–1 MATERIALS AND FASTEN GEOTEXTILE SECURELY TO UPSLOPE SIDE OF FENCE POSTS WITH WIRE TIES OR STAPLES AT TOP AND MID–SECTION.
4. PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H–1 MATERIALS.
5. EMBED GEOTEXTILE A MINIMUM OF 8 INCHES VERTICALLY INTO THE GROUND. BACKFILL AND COMPACT THE SOIL ON BOTH SIDES OF FABRIC.
6. WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, TWIST, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL.
7. EXTEND BOTH ENDS OF THE SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SILT FENCE.
8. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE.

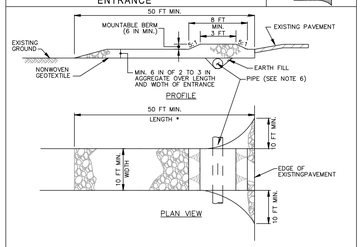
2 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

| U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE | 2011 | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION |
|---|---|---|

## DETAIL B-1 STABILIZED CONSTRUCTION ENTRANCE

STANDARD SYMBOL: SCE




CONSTRUCTION SPECIFICATIONS

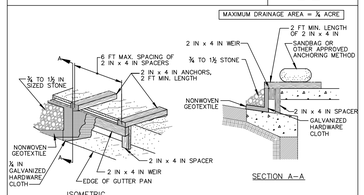
1. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (*50 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SCE TO FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
2. PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE, MAINTAINING POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SCE IS NOT LOCATED AT A HIGH SPOT.
3. PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H–1 MATERIALS.
4. PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE.
5. MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BERM, AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, AND/OR SWEEPING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

| U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE | 2011 | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION |
|---|---|---|

## DETAIL E-9-3 CURB INLET PROTECTION

STANDARD SYMBOL: CIP




CONSTRUCTION SPECIFICATIONS

1. USE NOMINAL 2 INCH x 4 INCH LUMBER
2. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H–1 MATERIALS.
3. NAIL THE 2x4 WEIR TO 9 INCH LONG VERTICAL SPACERS (MAXIMUM 6 FEET APART).
4. ATTACH A CONTINUOUS PIECE OF ¼ INCH GALVANIZED HARDWARE CLOTH, WITH A MINIMUM WIDTH OF 30 INCHES AND A MINIMUM LENGTH OF 4 FEET LONGER THAN THE THROAT OPENING, TO THE 2x4 WEIR, EXTENDING IT 2 FEET BEYOND THROAT ON EACH SIDE.
5. PLACE A CONTINUOUS PIECE OF NONWOVEN GEOTEXTILE OF THE SAME DIMENSIONS AS THE HARDWARE CLOTH OVER THE HARDWARE CLOTH AND SECURELY ATTACH TO THE 2x4 WEIR.
6. PLACE THE ASSEMBLY AGAINST THE INLET THROAT AND NAIL TO 2x4 ANCHORS (MINIMUM 2 FEET LENGTH). EXTEND THE ANCHORS ACROSS THE INLET TOP AND HOLD IN PLACE BY SANDBAGS OR OTHER APPROVED ANCHORING METHOD.
7. INSTALL END SPACERS A MINIMUM OF 1 FOOT BEYOND THE ENDS OF THE THROAT OPENING.
8. FORM THE HARDWARE CLOTH AND THE GEOTEXTILE TO THE CONCRETE GUTTER AND FACE OF CURB TO SPAN THE INLET OPENING. COVER THE HARDWARE CLOTH AND GEOTEXTILE WITH CLEAN ¾ TO 1½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE.
9. AT NON–SUMP LOCATIONS, INSTALL A TEMPORARY SANDBAG OR ASPHALT BERM TO PREVENT INLET BYPASS.
10. STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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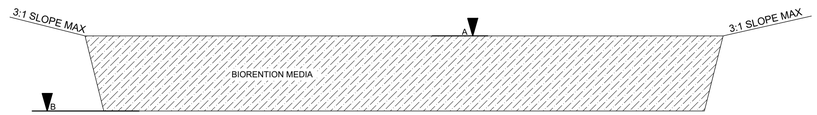
|---|---|---|

## 0 BIORETENTION AREA

STANDARD DETAIL — N.T.S.




NOTES:
- BIORETENTION MEDIA SHALL CONFORM TO TABLE B.4.1 MDE STORMWATER DESIGN MANUAL 2009 AND CONTAIN <5% CLAYS

CROSS SECTION

M-6 MICRO-BIORETENTION MAINTENANCE CRITERIA:

THE FOLLOWING ITEMS SHOULD BE ADDRESSED TO ENSURE PROPER MAINTENANCE AND LONG-TERM PERFORMANCE OF MICRO-BIORETENTION PRACTICES:

- PRIVATELY OWNED PRACTICES SHALL HAVE A MAINTENANCE PLAN AND SHALL BE PROTECTED BY EASEMENT, DEED RESTRICTION, ORDINANCE, OR OTHER LEGAL MEASURES PREVENTING ITS NEGLECT, ADVERSE ALTERATION, AND REMOVAL.
- THE TOP FEW INCHES OF FILTER MEDIA SHOULD BE REMOVED AND REPLACED WHEN WATER PONDS FOR MORE THAN 48 HOURS. SILTS AND SEDIMENT SHOULD BE REMOVED FROM THE SURFACE OF THE FILTER BED WHEN ACCUMULATION EXCEEDS ONE INCH.
- WHERE PRACTICES ARE USED TO TREAT AREAS WITH HIGHER CONCENTRATIONS OF HEAVY METALS (E.G., PARKING LOTS, ROADS), MULCH SHOULD BE REPLACED ANNUALLY. OTHERWISE, THE TOP TWO TO THREE INCHES SHOULD BE REPLACED AS NECESSARY.
- OCCASIONAL PRUNING AND REPLACEMENT OF DEAD VEGETATION IS NECESSARY. IF SPECIFIC PLANTS ARE NOT SURVIVING, MORE APPROPRIATE SPECIES SHOULD BE USED. WATERING MAY BE REQUIRED DURING PROLONGED DRY PERIODS.

INSPECTION:

REGULAR INSPECTIONS SHALL BE MADE DURING THE FOLLOWING STAGES OF CONSTRUCTION:

- DURING EXCAVATION OF SUBGRADE AND PLACEMENT AND BACKFILL OF UNDERDRAIN SYSTEMS.
- DURING PLACEMENT OF FILTER MEDIA.
- DURING CONSTRUCTION OF APPURTENANT CONVEYANCE. UPON COMPLETION OF FINAL GRADING OF ESTABLISHMENT OF PERMANENT STABILIZATION.

| BIORETENTION AREA | | |
|---|---|---|
| PRACTICE NAME | | SWM - 1 |
| | COMPONENT | ELEVATION - FT |
| A | BIORETENTION BED | 29.00 |
| B | BOTTOM OF MEDIA | 26.00 |

# ESC AND STORMWATER MANAGEMENT DETAILS

FOR

# FOUNDATION OF HOPE

TAX MAP 0104, ID 0000, PARCEL 1463

FIRST ELECTION DISTRICT, TALBOT COUNTY, MARYLAND

PREPARED FOR FOUNDATION OF HOPE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30-May-25

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| A | 05/30/2025 | ISSUED FOR DO REVIEW |
| B | 05/30/2025 | SITE DATA UPDATES- FENCE AROUND TRASH |

MISS UTILITY OF DELMARVA — ONE CALL BEFORE YOU DIG — 811

| | |
|---|---|
| DATE: | 5/22/2025 |
| SCALE: | N/A |
| DRAWN BY: | AK |
| DESIGNED BY: | AK |
| APPROVED BY: | |

SHEET NO.: C-205.01

**FOR PERMIT REVIEW**

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## B-4 STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION

### Definition

Using vegetation as cover to protect exposed soil from erosion.

### Purpose

To promote the establishment of vegetation on exposed soil.

### Conditions Where Practice Applies

On all disturbed areas not stabilized by other methods. This specification is divided into sections on incremental stabilization; soil preparation, soil amendments and topsoiling; seeding and mulching; temporary stabilization; and permanent stabilization.

### Effects on Water Quality and Quantity

Stabilization practices are used to promote the establishment of vegetation on exposed soil. When soil is stabilized with vegetation, the soil is less likely to erode and more likely to allow infiltration of rainfall, thereby reducing sediment loads and runoff to downstream areas.

Planting vegetation in disturbed areas will have an effect on the water budget, especially on volumes and rates of runoff, infiltration, evaporation, transpiration, percolation, and groundwater recharge. Over time, vegetation will increase organic matter content and improve the water holding capacity of the soil and subsequent plant growth.

Vegetation will help reduce the movement of sediment, nutrients, and other chemicals carried by runoff to receiving waters. Plants will also help protect groundwater supplies by assimilating those substances present within the root zone.

**Sediment control practices must remain in place during grading, seedbed preparation, seeding, mulching, and vegetative establishment.**

### Adequate Vegetative Establishment

Inspect seeded areas for vegetative establishment and make necessary repairs, replacements, and reseedings within the planting season.

1. Adequate vegetative stabilization requires 95 percent groundcover.

2. If an area has less than 40 percent groundcover, restabilize following the original recommendations for lime, fertilizer, seedbed preparation, and seeding.

3. If an area has between 40 and 94 percent groundcover, over-seed and fertilize using half of the rates originally specified.

4. Maintenance fertilizer rates for permanent seeding are shown in Table B.6.

**EROSION AND SEDIMENT CONTROL STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION**

1. Contractor shall install soil erosion and sediment control devices prior to any grading. Following initial disturbance or re-disturbance, permanent or temporary stabilization shall be completed within three (3) calendar days as to the surface of all perimeter controls, dikes, swales, ditches, perimeter slopes greater than three (3) horizontal to one (1) vertical (3:1) and seven (7) days as to all other disturbed or graded areas on the project site not under active grading.
2. All temporary erosion and sediment control devices are to be provided as indicated on this plan, with location adjustments to be made in the field as necessary, and to be maintained at the end of each working day until project completion. The minimum area practical shall be disturbed for the minimal amount of time possible.
3. Clearing and grubbing shall include all trees, brush, debris, root mat and organic materials to be removed.
4. Temporary seeding shall be accomplished between February 15th through April 30th, or August 15th through November 30th. During other times, temporary mulching shall be provided.
5. Temporary seeding shall conform to the following applications: 436 lbs. per acre of 10-20-20; 4,000 lbs. per acre of ground limestone, to be incorporated into the soil by disking or other suitable means. Annual ryegrass shall be applied at a rate of 50 lbs. per acre using suitable equipment. Mulching shall be accomplished immediately after seeding.

| Seed Mixture (For Hardiness Zone 7a) (From Table B.1) | | | | | Fertilizer Rate (10-20-20) | Lime Rate |
|---|---|---|---|---|---|---|
| No. | Species | Appl. Rate (lbs./ac.) | Seeding Dates | Seeding Depths | | |
| | ANNUAL RYEGRASS | 50# | 2/15 - 4/30<br>8/15 - 11/30 | ½" | 436 lb/ac<br>10 lb/<br>1000 sf | 2 tons/ac<br>90 lb/<br>1000 sf |
| | BARLEY | 96# | 2/15 - 4/30 / 8/15 - 11/30 | 1" | | |
| | OATS | 72# | 2/15 - 4/30 / 8/15 - 11/30 | 1" | | |
| | WHEAT | 120# | 2/15 - 4/30 / 8/15 - 11/30 | 1" | | |
| | CEREAL RYE | 112# | 2/15 - 4/30 / 8/15 - 12/15 | 1" | | |
| | FOXTAIL MILLET | 30# | 5/1 – 8/14 | ½" | | |
| | PEARL MILLET | 20# | 5/1 – 8/14 | ½" | | |

6. Mulching shall be unchopped, unrotted, small grain straw applied at a rate of 2-2½ tons per acre. Anchor mulch with a mulch anchoring tool on the Contour. Wood cellulose fiber may be used for anchoring straw at a rate of 750 lbs. per acre mixed with water at a maximum of 50 lbs. of wood cellulose fiber per 100 gals. of water, or with a synthetic liquid binder according to manufacturer recommendations. Wood cellulose fiber used as mulch must be applied at a net dry weight of 1,500 lbs. per acre. Mix wood cellulose fiber with water to attain a mixture with a maximum of 50 lbs. of wood cellulose fiber per 100 gals. of water.
7. Permanent seeding shall be accomplished between March 1st through May 15th, or August 15th through October 15th. Permanent seeding at other than specified times will be allowed only upon written approval. Permanent seeding shall conform to the following applications: Permanent seeding for sites having disturbed over five (5) acres shall use fertilizer rates recommended by a soil testing agency and the recommendations provided in the Permanent Seeding Summary Table. Permanent seeding for conditions other than listed above shall be performed at the rates and dates as provided in the Permanent Seeding Summary Table below. Fertilizer and lime amendments shall be incorporated into the top 3"-5" of the soil by disking or other suitable means. Mulching shall be accomplished as discussed in item #6 of these specifications.

| Seed Mixture (For Hardiness Zone 7a) (From Table B.3) | | | | | Fertilizer Rate (10-20-20) | | | Lime Rate |
|---|---|---|---|---|---|---|---|---|
| No. | Species | Appl. Rate (lbs/ac) | Seeding Dates | Seeding Depths | N | P2O5 | K2O | |
| 7 | CREEPING RED FESCUE<br>KENTUCKY BLUEGRASS | 60#<br>15# | 3/1 - 5/15<br>8/15 - 10/15 | 1/4" - 1/2" | 45 lb/ac<br>1 lb/<br>1000 sf | 90 lb/ac<br>2lb/<br>1000 sf | 90 lb/ac<br>2lb/<br>1000 sf | 2 tons/ac<br>90 lb/<br>1000 sq |
| 8 | TALL FESCUE | 100# | 3/1 - 5/15<br>8/15 - 10/15 | 1/4" - 1/2" | | | | |
| 9 | TALL FESCUE<br>KENTUCKY BLUEGRASS<br>PERENIAL RYEGERASS | 60#<br>40#<br>20# | 3/1 - 5/15<br>8/15 - 10/15 | 1/4" - 1/2" | | | | |
| | | | | | | | | |

8. Any spoil or borrow will be placed at a site approved by the Soil Conservation District.
9. All areas remaining or intended to remain disturbed for longer than seven (7) days shall be stabilized in accordance with the USDA, Natural Resources Conservation Service Standards and Specifications for Soil Erosion and Sediment Control in developing areas for critical area stabilization.
10. It will be the responsibility of the Contractor or Subcontractor to notify the Engineer of any deviation from this plan. Any change made in this plan without written authorization from the Engineer will place responsibility of said change on the Contractor or Subcontractor.

## B-4-2 STANDARDS AND SPECIFICATIONS FOR SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS

### Definition

The process of preparing the soils to sustain adequate vegetative stabilization.

### Purpose

To provide a suitable soil medium for vegetative growth.

### Conditions Where Practice Applies

Where vegetative stabilization is to be established.

### Criteria

A. Soil Preparation
   1. Temporary Stabilization
      a. Seedbed preparation consists of loosening soil to a depth of 3 to 5 inches by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened, it must not be rolled or dragged smooth but left in the roughened condition. Slopes 3:1 or flatter are to be tracked with ridges running parallel to the contour of the slope.
      b. Apply fertilizer and lime as prescribed on the plans.
      c. Incorporate lime and fertilizer into the top 3 to 5 inches of soil by disking or other suitable means.
   2. Permanent Stabilization
      a. A soil test is required for any earth disturbance of 5 acres or more. The minimum soil conditions required for permanent vegetative establishment are:
      i. Soil pH between 6.0 and 7.0.
      ii. Soluble salts less than 500 parts per million (ppm).
      iii. Soil contains less than 40 percent clay but enough fine grained material (greater than 30 percent silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception: if lovegrass will be planted, then a sandy soil (less than 30 percent silt plus clay) would be acceptable.
      iv. Soil contains 1.5 percent minimum organic matter by weight.
      v. Soil contains sufficient pore space to permit adequate root penetration.
      b. Application of amendments or topsoil is required if on-site soils do not meet the above conditions.
      c. Graded areas must be maintained in a true and even grade as specified on the approved plan, then scarified or otherwise loosened to a depth of 3 to 5 inches.
      d. Apply soil amendments as specified on the approved plan or as indicated by the results of a soil test.
      e. Mix soil amendments into the top 3 to 5 inches of soil by disking or other suitable means. Rake lawn areas to smooth the surface, remove large objects like stones and branches, and ready the area for seed application. Loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface where site conditions will not permit normal seedbed preparation. Track slopes 3:1 or flatter with tracked equipment leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. Leave the top 1 to 3 inches of soil loose and friable. Seedbed loosening may be unnecessary on newly disturbed areas.

CONTINUED IN NEXT COLUMN

## B-4-2 STANDARDS AND SPECIFICATIONS FOR SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS

CONTINUED FROM PREVIOUS COLUMN

B. Topsoiling
   1. Topsoil is placed over prepared subsoil prior to establishment of permanent vegetation. The purpose is to provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.
   2. Topsoil salvaged from an existing site may be used provided it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-NRCS.
   3. Topsoiling is limited to areas having 2:1 or flatter slopes where:
      a. The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
      b. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.
      c. The original soil to be vegetated contains material toxic to plant growth.
      d. The soil is so acidic that treatment with limestone is not feasible.
   4. Areas having slopes steeper than 2:1 require special consideration and design.
   5. Topsoil Specifications: Soil to be used as topsoil must meet the following criteria:
      a. Topsoil must be a loam, sandy loam, clay loam, silt loam, sandy clay loam, or loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Topsoil must not be a mixture of contrasting textured subsoils and must contain less than 5 percent by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1½ inches in diameter.
      b. Topsoil must be free of noxious plants or plant parts such as Bermuda grass, quack grass, Johnson grass, nut sedge, poison ivy, thistle, or others as specified.
      c. Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil.
   6. Topsoil Application
      a. Erosion and sediment control practices must be maintained when applying topsoil.
      b. Uniformly distribute topsoil in a 5 to 8 inch layer and lightly compact to a minimum thickness of 4 inches. Spreading is to be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations must be corrected in order to prevent the formation of depressions or water pockets.
      c. Topsoil must not be placed if the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed preparation.

C. Soil Amendments (Fertilizer and Lime Specifications)
   1. Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas of 5 acres or more. Soil analysis may be performed by a recognized private or commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analyses.
   2. Fertilizers must be uniform in composition, free flowing and suitable for accurate application by appropriate equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers must all be delivered to the site fully labeled according to the applicable laws and must bear the name, trade name or trademark and warranty of the producer.
   3. Lime materials must be ground limestone (hydrated or burnt lime may be substituted except when hydroseeding) which contains at least 50 percent total oxides (calcium oxide plus magnesium oxide). Limestone must be ground to such fineness that at least 50 percent will pass through a #100 mesh sieve and 98 to 100 percent will pass through a #20 mesh sieve.
   4. Lime and fertilizer are to be evenly distributed and incorporated into the top 3 to 5 inches of soil by disking or other suitable means.
   5. Where the subsoil is either highly acidic or composed of heavy clays, spread ground limestone at the rate of 4 to 8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil.

## B-4-3 STANDARDS AND SPECIFICATIONS FOR SEEDING AND MULCHING

### Definition

The application of seed and mulch to establish vegetative cover.

### Purpose

To protect disturbed soils from erosion during and at the end of construction.

### Conditions Where Practice Applies

To the surface of all perimeter controls, slopes, and any disturbed area not under active grading.

### Criteria

A. Seeding
   1. Specifications
      a. All seed must meet the requirements of the Maryland State Seed Law. All seed must be subject to re-testing by a recognized seed laboratory. All seed used must have been tested within the 6 months immediately preceding the date of sowing such material on any project. Refer to Table B.4 regarding the quality of seed. Seed tags must be available upon request to the inspector to verify type of seed and seeding rate.
      b. Mulch alone may be applied between the fall and spring seeding dates only if the ground is frozen.The appropriate seeding mixture must be applied when the ground thaws.
      c. Inoculants: The inoculant for treating legume seed in the seed mixtures must be a pure culture of nitrogen fixing bacteria prepared especially for the species. Inoculants must not be used later than the date indicated on the container. Add fresh inoculants as directed on the package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculant as cool as possible until used. Temperatures above 75 to 80 degrees Fahrenheit can weaken bacteria and make the inoculant less effective. Sod or seed must not be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phyto-toxic materials.
   2. Application
      a. Dry Seeding: This includes use of conventional drop or broadcast spreaders.
      i. Incorporate seed into the subsoil at the rates prescribed on Temporary Seeding Table B.1, Permanent Seeding Table B.3, or site-specific seeding summaries.
      ii. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction. Roll the seeded area with a weighted roller to provide good seed to soil contact.
      b. Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil.
      i. Cultipacking seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seedbed must be firm after planting.
      ii. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction.
      c. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer).
      i. If fertilizer is being applied at the time of seeding, the application rates should not exceed the following: nitrogen, 100 pounds per acre total of soluble nitrogen; P2O5 (phosphorous), 200 pounds per acre; K2O (potassium), 200 pounds per acre.
      i. Lime: Use only ground agricultural limestone (up to 3 tons per acre may be applied by hydroseeding). Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use burnt or hydrated lime when hydroseeding.
      iii. Mix seed and fertilizer on site and seed immediately and without interruption.
      iv. When hydroseeding do not incorporate seed into the soil.

B. Mulching
   1. Mulch Materials (in order of preference)
      a. Straw consisting of thoroughly threshed wheat, rye, oat, or barley and reasonably bright in color. Straw is to be free of noxious weed seeds as specified in the Maryland Seed Law and not musty, moldy, caked, decayed, or excessively dusty. Note: Use only sterile straw mulch in areas where no future species of grass is desired.
      b. Wood Cellulose Fiber Mulch (WCFM) consisting of specially prepared wood cellulose processed into a uniform fibrous physical state.
      i. WCFM is to be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry.
      ii. WCFM, including dye, must contain no germination or growth inhibiting factors.
      iii. WCFM materials are to be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material must form a blotter-like ground cover, on application, having moisture absorption and percolation properties and must cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.
      iv. WCFM material must not contain elements or compounds at concentration levels that will be phyto-toxic
      v. WCFM must conform to the following physical requirements: fiber length of approximately 10 millimeters, diameter approximately 1 millimeter, pH range of 4.0 to 8.5, ash content of 1.6 percent maximum and water holding capacity of 90 percent minimum.
   2. Application
      a. Apply mulch to all seeded areas immediately after seeding.
      b. When straw mulch is used, spread it over all seeded areas at the rate of 2 tons per acre to a uniform loose depth of 1 to 2 inches. Apply mulch to achieve a uniform distribution and depth so that the soil surface is not exposed. When using a mulch anchoring tool, increase the application rate to 2.5 tons per acre.
      c. Wood cellulose fiber used as mulch must be applied at a net dry weight of 1500 pounds per acre. Mix the wood cellulose fiber with water to attain a mixture with a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
   3. Anchoring
      a. Perform mulch anchoring immediately following application of mulch to minimize loss by wind or water. This may be done by one of the following methods (listed by preference), depending upon the size of the area and erosion hazard:
      i. A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface a minimum of 2 inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on sloping land, this practice should follow the contour.
      ii. Wood cellulose fiber may be used for anchoring straw. Apply the fiber binder at a net dry weight of 750 pounds per acre. Mix the wood cellulose fiber with water at a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
      iii. Synthetic binders such as Acrylic DLR (Agro-Tack), DCA-70, Petroset, Terra Tax II, Terra Tack AR or other approved equal may be used. Follow application rates as specified by the manufacturer. Application of liquid binders needs to be heavier at the edges where wind catches mulch, such as in valleys and on crests of banks. Use of asphalt binders is strictly prohibited.
      iv. Lightweight plastic netting may be stapled over the mulch according to manufacturer recommendations. Netting is usually available in rolls 4 to 15 feet wide and 300 to 3,000 feet long.

**The following items have been addressed to meet the requirements of the GENERAL PERMIT FOR STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITY (NPDES NUMBER MDR10, STATE DISCHARGE PERMIT NUMBER 09GP).**

1) Utilization of environmental site design
2) Maintenance of limits of disturbance to protect natural areas
3) Control of construction equipment and vehicles
4) Evaluation and appropriate limitation of site clearing
5) Evaluation and designation of site area for phasing or sequencing
6) Identification of soils at high risk for erosion and advanced stabilization techniques to be used
7) Identification of steep slopes and designation of limitations on clearing them
8) Evaluation and designation of stabilization requirements and time limits and protection measures for discharges to the Chesapeake Bay, impaired waters or waters with an established Total Maximum Daily Load (TMDL)

## B-4-4 STANDARDS AND SPECIFICATIONS FOR TEMPORARY STABILIZATION

### Definition

To stabilize disturbed soils with vegetation for up to 6 months.

### Purpose

To use fast growing vegetation that provides cover on disturbed soils.

### Conditions Where Practice Applies

Exposed soils where ground cover is needed for a period of 6 months or less. For longer duration of time, permanent stabilization practices are required.

### Criteria

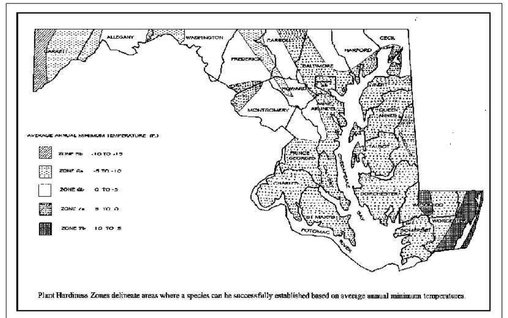
1. Select one or more of the species or seed mixtures listed in Table B.1 for the appropriate Plant Hardiness Zone (from Figure B.3), and enter them in the Temporary Seeding Summary below along with application rates, seeding dates and seeding depths. If this Summary is not put on the plan and completed, then Table B.1 plus fertilizer and lime rates must be put on the plan.

2. For sites having soil tests performed, use and show the recommended rates by the testing agency. Soil tests are not required for Temporary Seeding.

3. When stabilization is required outside of a seeding season, apply seed and mulch or straw mulch alone as prescribed in Section B-4-3.A.1.b and maintain until the next seeding season.

Temporary Seeding Summary

| Seed Mixture (For Hardiness Zone 7a) (From Table B.1) | | | | | Fertilizer Rate (10-20-20) | Lime Rate |
|---|---|---|---|---|---|---|
| No. | Species | Appl. Rate (lbs./ac.) | Seeding Dates | Seeding Depths | | |
| | ANNUAL RYEGRASS | 50# | 2/15 - 4/30<br>8/15 - 11/30 | ½" | 436 lb/ac<br>10 lb/<br>1000 sf | 2 tons/ac<br>90 lb/<br>1000 sf |
| | BARLEY | 96# | 2/15 – 4/30, 8/15 – 11/30 | 1" | | |
| | OATS | 72# | 2/15 – 4/30, 8/15 – 11/30 | 1" | | |
| | WHEAT | 120# | 2/15 – 4/30, 8/15 – 11/30 | 1" | | |
| | CEREAL RYE | 112# | 2/15 – 4/30, 8/15 – 12/15 | 1" | | |
| | FOXTAIL MILLET | 30# | 5/1 – 8/14 | ½" | | |
| | PEARL MILLET | 20# | 5/1 – 8/14 | ½" | | |




Plant Hardiness Zones delineate areas where a species can be successfully established based on average annual minimum temperatures

**Figure B.3: U.S.D.A. Plant Hardiness Zones**

**Table B.1: Temporary Seeding for Site Stabilization**

| Plant Species | Seeding Rate 1/ | | Seeding Depth 2/ (inches) | Recommended Seeding Dates by Plant Hardiness Zone 3/ | | |
|---|---|---|---|---|---|---|
| | lb/ac | lb/1000 ft² | | 5b and 6a | 6b | 7a and 7b |
| **Cool-Season Grasses** | | | | | | |
| Annual Ryegrass (*Lolium perenne* ssp. *multiflorum*) | 40 | 1.0 | 0.5 | Mar 15 to May 31; Aug 1 to Sep 30 | Mar 1 to May 15; Aug 1 to Oct 15 | Feb 15 to Apr 30; Aug 15 to Nov 30 |
| Barley (*Hordeum vulgare*) | 96 | 2.3 | 1.0 | Mar 15 to May 31; Aug 1 to Sep 30 | Mar 1 to May 15; Aug 1 to Oct 15 | Feb 15 to Apr 30; Aug 15 to Nov 30 |
| Oats (*Avena sativa*) | 72 | 1.7 | 1.0 | Mar 15 to May 31; Aug 1 to Sep 30 | Mar 1 to May 15; Aug 1 to Oct 15 | Feb 15 to Apr 30; Aug 15 to Nov 30 |
| Wheat (*Triticum aestivum*) | 120 | 2.8 | 1.0 | Mar 15 to May 31; Aug 1 to Sep 30 | Mar 1 to May 15; Aug 1 to Oct 15 | Feb 15 to Apr 30; Aug 15 to Nov 30 |
| Cereal Rye (*Secale cereale*) | 112 | 2.8 | 1.0 | Mar 15 to May 31; Aug 1 to Oct 31 | Mar 1 to May 15; Aug 1 to Nov 15 | Feb 15 to Apr 30; Aug 15 to Dec 15 |
| **Warm-Season Grasses** | | | | | | |
| Foxtail Millet (*Setaria italica*) | 30 | 0.7 | 0.5 | Jun 1 to Jul 31 | May 16 to Jul 31 | May 1 to Aug 14 |
| Pearl Millet (*Pennisetum glaucum*) | 20 | 0.5 | 0.5 | Jun 1 to Jul 31 | May 16 to Jul 31 | May 1 to Aug 14 |

NOTES:
1/ Seeding rates for the warm-season grasses are in pounds of Pure Live Seed (PLS). Actual planting rates shall be adjusted to reflect percent seed germination and purity, as tested. Adjustments are usually not needed for the cool-season grasses.

Seeding rates listed above are for temporary seedings, when planted alone. When planted as a nurse crop with permanent seed mixes, use 1/3 of the seeding rate listed above for barley, oats, and wheat. For smaller-seeded grasses (annual ryegrass, pearl millet, foxtail millet), do not exceed more than 5% (by weight) of the overall permanent seeding rate. Cereal rye generally should not be used as a nurse crop, unless planting will occur in very late fall beyond the seeding dates for other temporary seedings. Cereal rye has allelopathic properties that inhibit the germination and growth of other plants. If it must be used as a nurse crop, seed at 1/3 of the rate listed above.

Oats are the recommended nurse crop for warm-season grasses.

2/ For sandy soils, plant seeds at twice the depth listed above.

3/ The planting dates listed are averages for each Zone and may require adjustment to reflect local conditions, especially near the boundaries of the zone.

## B-4-5 STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION

### Definition

To stabilize disturbed soils with permanent vegetation.

### Purpose

To use long-lived perennial grasses and legumes to establish permanent ground cover on disturbed soils.

### Conditions Where Practice Applies

Exposed soils where ground cover is needed for 6 months or more.

### Criteria

A. Seed Mixtures
   1. General Use
      a. Select one or more of the species or mixtures listed in Table B.3 for the appropriate Plant Hardiness Zone (from Figure B.3) and based on the site condition or purpose found on Table B.2. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seedin Summary. The Summary is to be placed on the plan.
      b. Additional planting specifications for exceptional sites such as shorelines, stream banks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-NRCS Technical Field Office Guide, Section 342 - Critical Area Planting.
      c. For sites having disturbed area over 5 acres, use and show the rates recommended by the soil testing agency.
      d. For areas receiving low maintenance, apply urea form fertilizer (46-0-0) at 3 ½ pounds per 1000 square feet (150 pounds per acre) at the time of seeding in addition to the soil amendments shown in the Permanent Seeding Summary .
   2. Turfgrass Mixtures
      a. Areas where turfgrass may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance.
      b. Select one or more of the species or mixtures listed below based on the site conditions or purpose. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The summary is to be placed on the plan.
      i. Kentucky Bluegrass: Full Sun Mixture: For use in areas that receive intensive management. Irrigation required in the areas of central Maryland and Eastern Shore. Recommended Certified Kentucky Bluegrass Cultivars Seeding Rate: 1.5 to 2.0 pounds per 1000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.
      ii. Kentucky Bluegrass/Perennial Rye: Full Sun Mixture: For use in full sun areas where rapid establishment is necessary and when turf will receive medium to intensive management. Certified Perennial Ryegrass Cultivars/Certified Kentucky Bluegrass Seeding Rate: 2 pounds mixture per 1000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.
      iii. Tall Fescue/Kentucky Bluegrass: Full Sun Mixture: For use in drought prone areas and/or for areas receiving low to medium management in full sun to medium shade. Recommended mixture includes; Certified Tall Fescue Cultivars 95 to 100 percent, Certified Kentucky Bluegrass Cultivars 0 to 5 percent. Seeding Rate: 5 to 8 pounds per 1000 square feet. One or more cultivars may be blended.
      iv. Kentucky Bluegrass/Fine Fescue: Shade Mixture: For use in areas with shade in Bluegrass Lawns. For establishment in high quality, intensively managed turf area. Mixture includes; Certified Kentucky Bluegrass Cultivars 30 to 40 percent and Certified Fine Fescue and 60 to 70 percent. Seeding Rate: 1½ to 3 pounds per 1000 square feet.

      **Notes:**
      **Select turfgrass varieties from those listed in the most current University of Maryland Publication, Agronomy Memo #77, "Turfgrass Cultivar Recommendations for Maryland"**

      **Choose certified material. Certified material is the best guarantee of cultivar purity. The certification program of the Maryland Department of Agriculture, Turf and Seed Section, provides a reliable means of consumer protection and assures a pure genetic line**

      c. Ideal Times of Seeding for Turf Grass Mixtures

      Western MD: March 15 to June 1, August 1 to October 1 (Hardiness Zones: 5b, 6a)

      Central MD: March 1 to May 15, August 15 to October 15 (Hardiness Zone: 6b)

      Southern MD: Eastern Shore: March 1 to May 15, August 15 to October 15 (Hardiness Zones: 7a, 7b)

      d. Till areas to receive seed by disking or other approved methods to a depth of 2 to 4 inches, level and rake the areas to prepare a proper seedbed. Remove stones and debris over 1½ inches in diameter. The resulting seedbed must be in such condition that future mowing of grasses will pose no difficulty.
      e. If soil moisture is deficient, supply new seedings with adequate water for plant growth (½ to 1inch every 3 to 4 days depending on soil texture) until they are firmly established. This is especially true when seedings are made late in the planting season, in abnormally dry or hot seasons, or on adverse sites.

Permanent Seeding Summary

| Seed Mixture (For Hardiness Zone 7a) (From Table B.3) | | | | | Fertilizer Rate (10-20-20) | | | Lime Rate |
|---|---|---|---|---|---|---|---|---|
| No. | Species | Appl. Rate (lbs./ac.) | Seeding Dates | Seeding Depths | N | P2O5 | K2O | |
| 7 | CREEPING RED FESCUE<br>KENTUCKY BLUEGRASS | 60#<br>15# | 2/15-4/30<br>8/15-10/31 | ¼"-½" | 45 lb/ac<br>1 lb/<br>1000 sf | 90 lb/ac<br>2 lb/<br>1000 sf | 90 lb/ac<br>2 lb/<br>1000 sf | 2 tons/ac<br>60 lb/<br>1000 sf |
| 8 | TALL FESCUE | 100# | 2/15-4/30<br>8/15-10/31 | ¼"-½" | | | | |
| 9 | TALL FESCUE<br>KENTUCKY BLUEGRASS<br>PERENIAL RYEGERASS | 60#<br>40#<br>20# | 2/15-4/30<br>8/15-10/31 | ¼"-½" | | | | |
| | | | | | | | | |

B. Sod: To provide quick cover on disturbed areas (2:1 grade or flatter).
   1. General Specifications
      a. Class of turfgrass sod must be Maryland State Certified. Sod labels must be made available to the job foreman and inspector.
      b. Sod must be machine cut at a uniform soil thickness of ¾ inch, plus or minus ¼ inch, at the time of cutting. Measurement for thickness must exclude top growth and thatch. Broken pads and torn or uneven ends will not be acceptable.
      c. Standard size sections of sod must be strong enough to support their own weight and retain their size and shape when suspended vertically with a firm grasp on the upper 10 percent of the section.
      d. Sod must not be harvested or transplanted when moisture content (excessively dry or wet) may adversely affect its survival.
      e. Sod must be harvested, delivered, and installed within a period of 36 hours. Sod not transplanted within this period must be approved by an agronomist or soil scientist prior to its installation.
   2. Sod Installation
      a. During periods of excessively high temperature or in areas having dry subsoil, lightly irrigate the subsoil immediately prior to laying the sod.
      b. Lay the first row of sod in a straight line with subsequent rows placed parallel to it and tightly wedged against each other. Stagger lateral joints to promote more uniform growth and strength. Ensure that sod is not stretched or overlapped and that all joints are butted tight in order to prevent voids which would cause air drying of the roots.
      c. Wherever possible, lay sod with the long edges parallel to the contour and with staggering joints. Roll and tamp, peg or otherwise secure the sod to prevent slippage on slopes. Ensure solid contact exists between sod roots and the underlying soil surface.
      d. Water the sod immediately following rolling and tamping until the underside of the new sod pad and soil surface below the sod are thoroughly wet. Complete the operations of laying, tamping and irrigating for any piece of sod within eight hours.
   3. Sod Maintenance
      a. In the absence of adequate rainfall, water daily during the first week or as often and sufficiently as necessary to maintain moist soil to a depth of 4 inches. Water sod during the heat of the day to prevent wilting.
      b. After the first week, sod watering is required as necessary to maintain adequate moisture content.
      c. Do not mow until the sod is firmly rooted. No more than ⅓ of the grass leaf must be removed by the initial cutting or subsequent cuttings. Maintain a grass height of at least 3 inches unless otherwise specified.

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Phone: 410 770 9081 | Fax: 410 770 3887

STORMWATER MANAGEMENT DETAILS

FOR

FOUNDATION OF HOPE

TAX MAP 0104, ID 0000, PARCEL 1463

FIRST ELECTION DISTRICT, TALBOT COUNTY, MARYLAND

PREPARED FOR FOUNDATION OF HOPE

**Professional Certification.**
I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License No. 11024
Expiration Date: July 24, 2026

30-May-25

| REVISIONS | | |
|---|---|---|
| REV. # | DATE | DESCRIPTION |
| A | 05/29/2025 | ISSUED FOR DD REVIEW |
| B | 05/30/2025 | SITE DATA UPDATES; FENCE AROUND TRASH |

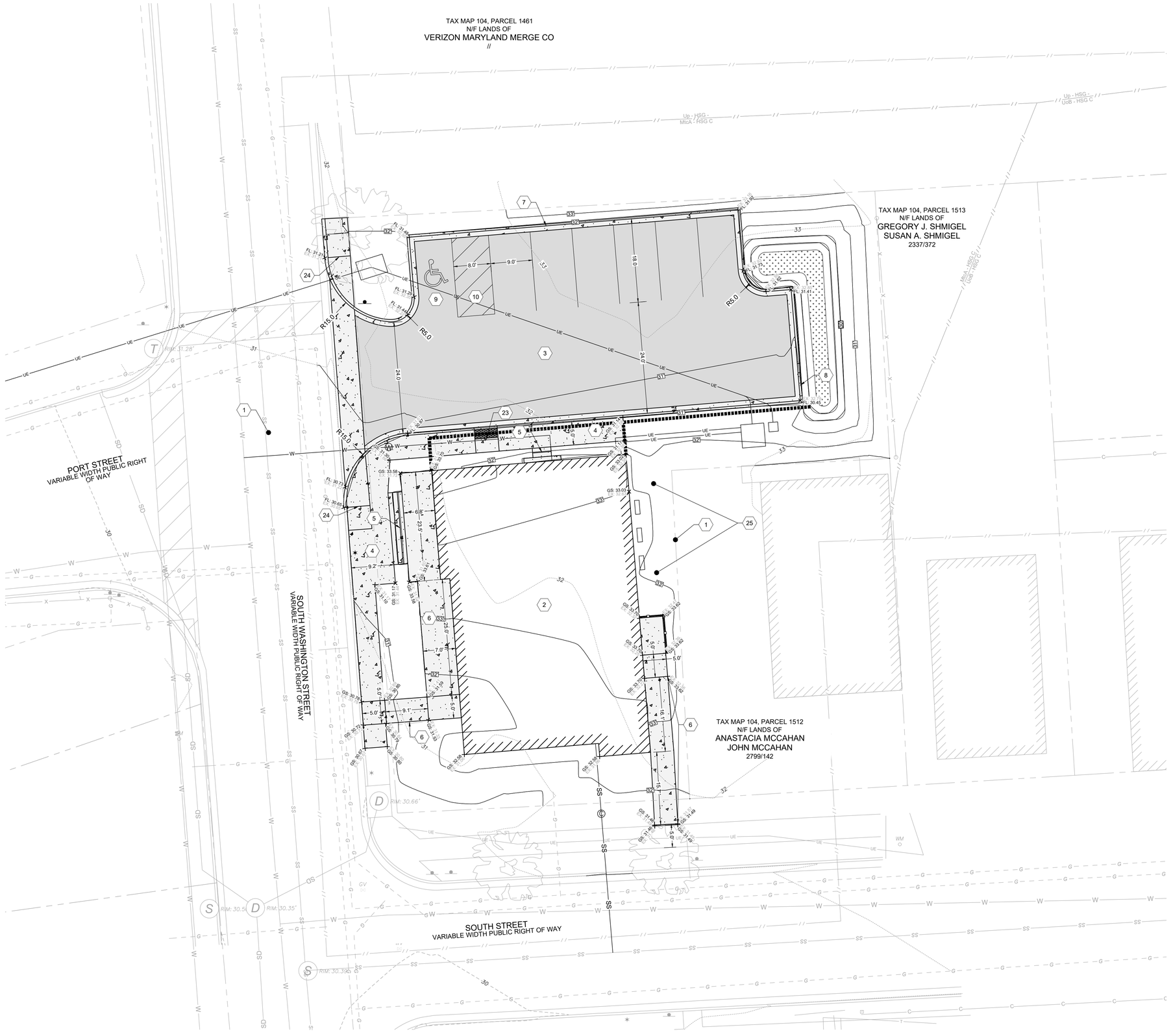
MISS UTILITY OF DELMARVA — CALL BEFORE YOU DIG — 811

| | |
|---|---|
| DATE: | 5/22/2025 |
| SCALE: | N/A |
| DRAWN BY: | AK |
| DESIGNED BY: | AK |
| APPROVED BY: | |

SHEET NO.: C-205.02

FOR PERMIT REVIEW

Z:\FOUNDATION OF HOPE\CIVIL\PRODUCTION PLANS\FOUNDATION OF HOPE - SITE PLAN.DWG




## PROPOSED FEATURES

1. PROPERTY LINE
2. 5,135 (BOTH FLOORS) S.F. OFFICE BUILDING
   FINISH GRADE = 33.03
   FINISH FLOOR = 33.70
3. PERMEABLE PAVEMENT PARKING LOT. SEE DETAIL ON SHEET C-305
4. ADA COMPLIANT CONCRETE SIDEWALK. SEE DETAIL ON SHEET C-305
5. IBC COMPLIANT CONCRETE STAIRS WITH IBC COMPLIANT HANDRAILS. SEE DETAIL ON SHEET C-305
6. ADA COMPLIANT CONCRETE RAMP WITH ADA COMPLIANT HANDDRAILS.SEE DETAIL ON SHEET C-305
7. STANDARD 6" CURB AND GUTTER. SEE DETAIL ON SHEET C-305
8. 5' WIDE CURB OPENING
9. ADA COMPLIANT VAN ACCESSIBLE PARKING SPACE WITH ADA COMPLIANT SIGN
10. ADA COMPLIANT VAN ACCESSIBLE AISLE WITH ADA COMPLIANT SIGN
23. SIDEWALK RAMP, SEE DETAIL ON SHEET C-305
24. ADA COMPLIANT CONCRETE RAMP, WITH LANDING
25. GRADE TO DIRECT WATER AWAY FROM ADJACENT PROPERTY AND AWAY FROM NEW BUILDING.

# SITE GRADING PLAN

FOR

# FOUNDATION OF HOPE

TAX MAP 0104, ID 0000, PARCEL 1463

FIRST ELECTION DISTRICT, TALBOT COUNTY, MARYLAND

PREPARED FOR FOUNDATION OF HOPE


RAUCH INC.
Engineering | Survey | Architecture | Environmental
Main Office: 106 N Harrison St - Easton, MD 21601
Web: www.rauch-inc.com | Email: design@raucheng.com
Phone: 410.770.9081 | Fax: 410.770.3887


**Professional Certification.**
I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 11024
Expiration Date: July 24, 2026

30-May-25

**REVISIONS**

| REV. # | DATE | DESCRIPTION |
|---|---|---|
| A | 05/05/2025 | ISSUED FOR DD REVIEW |
| B | 05/30/2025 | SITE DATA UPDATES; FENCE AROUND TRASH |

MISS UTILITY OF DELMARVA — ONE NUMBER. YOU DIG.

811

| | |
|---|---|
| DATE: | 5/22/2025 |
| SCALE: | 1" = 10' |
| DRAWN BY: | AK |
| DESIGNED BY: | AK |
| APPROVED BY: | |

SHEET NO.: **C-301**

**FOR PERMIT REVIEW**

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**ASPHALT PAVEMENT FOR ROADS**

| | |
|---|---|
| SURFACE COURSE: | 2" HMA SUPERPAVE, 9.5 MM |
| BASE COURSE: | 4" HMA SUPERPAVE, 19.0 MM |
| SUB BASE: | 9" GRADED AGGREGATE BASE (GAB) |

**ASPHALT PAVEMENT FOR ALLEYS**

| | |
|---|---|
| SURFACE COURSE: | 2" HMA SUPERPAVE, 9.5 MM |
| BASE COURSE: | 2.5" HMA SUPERPAVE, 19.0 MM |
| SUB BASE: | 6" GRADED AGGREGATE BASE (GAB) |

**WEDGE/LEVEL**

9.5 MM: 0" - 1.50"

**CONCRETE PAVEMENT**

| | |
|---|---|
| SURFACE COURSE: | 8" PORTLAND CEMENT CONCRETE MIX #7 |
| SUB BASE: | 9" GRADED AGGREGATE BASE (GAB) |

**LIFT THICKNESS**

| | |
|---|---|
| 9.5 MM: | 0" - 1.50" (WEDGE/LEVEL ONLY) |
| 9.5 MM | 1.50" - 2.50" |
| 12.5 MM: | 2.00" - 3.00" |
| 19.0 MM: | 2.50" - 4.00" |
| GAB | 2.00" - 6.00" |
| COLD PATCH | 1.00" - 3.00" |

**NOTES**

1. ALL DEPTHS ARE FINISHED/COMPACTED DEPTHS.
2. CR-6 OR CR-8 MAY BE USED IN LIEU OF GRADED AGGREGATE BASE (GAB).
3. GAB MUST BE COMPACTED TO A MINIMUM OF 95% MODIFIED PROCTOR.
4. BASE COURSE MUST BE COMPACTED TO 92% MODIFIED PROCTOR.
5. SURFACE COURSE MUST BE COMPACTED TO 92% MODIFIED PROCTOR.
6. MODIFIED PROCTOR TEST RESULTS MUST BE PROVIDED.

| APPROVED | TOWN OF EASTON STANDARD DETAILS |
|---|---|
| RICK VAN EMBURGH, TOWN ENGINEER | **PAVING SPECIFICATIONS** |
| ISSUED: **JANUARY, 2025** | STANDARD NO: **TOE-R-1.01** |

**SUB-BASE**

1. SUB-GRADE SHALL BE PLACED ON PREPARED AND COMPACTED REFILLED EXCAVATIONS. MATERIALS AND METHODS OF CONSTRUCTION SHALL MEET THE PROVISIONS OF MD SHA STANDARDS, SECTION 208.
2. GRADED AGGREGATE BASE COURSE:
   a. GRADED AGGREGATE BASE SHALL BE PLACED ON PREPARED AND COMPACTED REFILLED EXCAVATIONS TO THE COMPACTED DEPTH AS SHOWN ON THE DRAWING DETAILS.
   b. GRADED AGGREGATE SHALL BE PER MD SHA STANDARD, SECTION 901.
   c. RECYCLED CRUSHED CONCRETE IS AN ACCEPTABLE ALTERNATIVE PROVIDED THICKNESS ADJUSTMENTS ARE MADE BASED ON SUPPLEMENTAL TESTING TO BE SUBMITTED BY A QUALIFIED TESTING LABORATORY AND APPROVED BY THE TOWN ENGINEER.

**TACK COAT**

1. COATING SHALL BE RESIDUAL ASPHALT UNIFORMILY SPREAD BY AN ASPHALT DISTRIBUTOR AT A RATE OF 0.05 GAL/SY (+/- 0.01 GAL/SY).
2. CONTRACTOR SHALL TAKE CARE NOT TO TRACK COAT ON SURFACE COURSES.

**HOT MIX ASPHALT PAVEMENT**

1. HOT MIX ASHPALT PAVEMENT SHALL CONSIST OF A NUMBER OF COURSES OF HMA SUPERPAVE MATERIAL AND AGGREGATE ON A PREPARED SUB-BASE AS SHOWN WITHIN THE TOWN STANDARDS.
2. MATERIALS AND METHODS OF CONSTURCTION SHALL MEET THE PROVISIONS OF SECTION 504 AND SECTION 904 OF THE MD SHA STANDARDS AND DETAILS.
3. SURFACE COURSES OF BITUMINOUS CONCRETE MIXES SHALL HAVE LESS THAN 15% RECYCLED ASPHALT PAVEMENT (RAP), UNLESS OTHERWISE APPROVED BY THE TOWN ENGINEER.
4. BASE COURSES SHALL HAVE NOT MORE THAN 20% RAP.
5. WEATHER RESTRICTIONS:
   a. SURFACE COURSE - MINIMUM SURFACE TEMPERATURE 40° AND RISING.
   b. BASE COURSE - MINIMUM SURFACE TEMPERATURE 32° AND RISING.

**CONCRETE PAVEMENT**

1. CONCRETE USED IN THE RESTORATION OF STREETS AND ROADS SHALL BE PLACED TO THE MINIMUM THICKNESS THAT SHALL BE APPROVED BY THE TOWN. CONCRETE MAY BE A BASE COURSE WITH A BITUMINOUS OVERLAY OR A FINISHED SURFACE COURSE.
2. CONCRETE PAVEMENT SHALL MEET THE PROVISIONS OF MD SHA STANDARDS, SECTION 522.
3. CONCRETE SIDEWALK AND CURB AND GUTTER RESTORATION SHALL BE AS INDICATED WITHIN THE TOWN STANDARDS.

**SOIL CEMENT**

1. WHERE THE CBR VALUES ARE FOUND TO BE LOW WITHIN THE PAVED AREA, THE TOWN WILL ALLOW THE SUB-GRADE TO BE REINFORCED BY A CEMENTIOUS MATERIAL BEING MIXED IN THE SUBGRADE. APPLICATION SHALL BE SUBJECT TO THE GEOTECHNICAL INVESTIGATION.
2. A MINIMUM OF 2" OF GRADED AGGREGATE SHALL BE INSTALLED BETWEEN THE AMEND-ED SOIL AND BITUMINOUS PAVEMENT.
3. MINIMUM MIX DEPTH OF THE SOIL CEMENT MIXTURE SHALL BE 8" WITH A 5-5.5% MIN. CEMENT CONTENT.

**TOLERANCES**

1. SURFACE PAVEMENT SHALL NOT DEVIATE MORE THAN 0.25" OVER 10', WHEN MEASURED PARALLEL AND PERPENDICULAR TO THE DIRECTION OF TRAVEL.

| APPROVED | TOWN OF EASTON STANDARD DETAILS |
|---|---|
| RICK VAN EMBURGH, TOWN ENGINEER | **PAVING NOTES** |
| ISSUED: **JANUARY, 2025** | STANDARD NO: **TOE-R-1.02** |

**SUBMITTALS**

1. SUBMIT MIX DESIGN FOR APPROVAL PRIOR TO PLACING CONCRETE (MD SHA MIX #3 FOR ALL CONCRETE SIDEWALKS, AIR ENTRAINED, MINIMUM 3,500 PSI MIX). FOR CURB AND GUTTER, UTILIZE MD SHA MIX #3, EXCEPT MAXIMUM WATER CEMENTITIOUS RATIO OF 0.45 AND 611 POUNDS MINIMUM CEMENTITIOUS MATERIALS, AIR ENTRAINED, MINIMUM 4,200 PSI MIX.
2. SUBMIT CONCRETE TESTING AGENCY FOR APPROVAL, WHICH CONTRACTOR OR PROJECT OWNER SHALL EMPLOY FOR INFIELD AND LABORATORY TESTING.

**CONCRETE PLACEMENT**

1. NOTIFY TOWN OF INTENTION TO POUR CONCRETE 24 HOURS PRIOR TO PERFORMING WORK. (PHONE: 410-820-8822).
2. DRIVER SHALL PRESENT COMPUTER GENERATED MIX DELIVERY TICKET UPON ARRIVAL TO SITE.
3. DO NOT ADD WATER TO MIX AT JOB SITE UNLESS APPROVED BY ENGINEER. DO NOT POUR CONCRETE DURING RAIN EVENTS.
4. TESTING AGENCY SHALL TEST FOR SLUMP, TEMPERATURE AND AIR ENTRAINMENT AT THE JOB SITE, PRIOR TO POURING EACH TRUCK LOAD DELIVERED TO SITE. THE MAXIMUM TIME FROM ADDING WATER AT PLANT TO DISCHARGE AT SITE SHALL BE WITHIN 1.5 HOURS. TESTING AGENCY SHALL VERIFY THAT SUB-GRADE IS PROPERLY COMPACTED.
5. TESTING AGENCY SHALL COLLECT CYLINDERS FOR COMPRESSION TESTING ON EACH TRUCK LOAD OF CONCRETE DELIVERED TO SITE PER ACI REQUIREMENTS.TEST RESULTS SHALL BE PROVIDED TO THE ENGINEER WITHIN 48 HOURS OF 7 AND 28 DAY BREAKS, REPORT SHALL INCLUDE LOCATION OF POUR PER PLAN STATIONING.
6. ENGINEER OF HIS/HER REPRESENTATIVE SHALL VERIFY THAT AREA OF CONCRETE WORK IS PROPERLY PREPARED, FREE OF WATER, FREE OF UNSTABLE MATERIALS AND THAT ALL REINFORCEMENT REQUIRED AT DRIVEWAYS, RAMPS, VALLEY GUTTERS, ETC. IS IN PLACE AND PROPERLY SUPPORTED.
7. COLD WEATHER CONCRETE PLACEMENT SHALL BE PROTECTED FROM DAMAGE AND FROST, FREEZING ACTION OR LOW TEMPERATURES. NO UNAPPROVED ADMIXTURES ARE PERMITTED.
8. CONCRETE CURB AND SIDEWALKS SHALL HAVE PROPER CONTROL JOINTS INSTALLED AT 10' INTERVAL FOR CURB AND 5' INTERVALS FOR SIDEWALK. EXPANSION JOINTS FOR CURBING SHALL BE AT EACH 100' INTERVAL PLUS AT EACH POINT OF TANGENT OR CURVE. SIDEWALKS SHALL HAVE EXPANSION JOINTS AT 20' INTERVALS OR AT CHANGE OF DIRECTION.

| APPROVED | TOWN OF EASTON STANDARD DETAILS |
|---|---|
| RICK VAN EMBURGH, TOWN ENGINEER | **CONCRETE QUICK REFERENCE LIST** |
| ISSUED: **JANUARY, 2025** | STANDARD NO: **TOE-R-1.03** |

**CENTERLINE PAVEMENT MARKINGS**

1. CENTERLINE PAVEMENT MARKINGS SHALL BE USED TO DELINEATE THE SEPARATION OF TRAFFIC LANES THAT HAVE OPPOSITE DIRECTION OF TRAVEL.
2. THE CENTERLINE SHALL BE IN THE GEOMETRICAL CENTER OF THE ROADWAY UNLESS OTHERWISE REQUIRED BY FIELD CONDITIONS.
3. ALL TWO WAY STREETS WITH AT LEAST 10' TRAVELL LANES SHALL HAVE A CENTERLINE.
4. THE CENTERLINE MARKING SHALL BE YELLOW LINES, CONFIGURATION TO BE APPROVED BY THE TOWN ENGINEER.
5. WHILE SEPARATING TRAFFIC LANES TRAVELING IN THE SAME DIRECTION, A SINGLE BROKEN WHITE LINE SHALL BE USED WHERE CROSSING LANES IS PERMITTED.

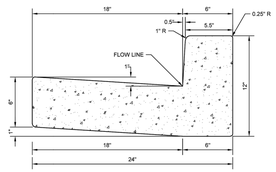
**EDGE LINE PAVEMENT MARKINGS**

1. EDGE LINE PAVEMENT MARKINGS SHALL BE USED TO DELINEATE THE SHOULDER AND TRAVEL LANES.
2. THE EDGE OF THE TRAVEL LANE SHALL CONSIST OF A SINGLE SOLID WHITE LINE.
3. EXCEPT FOR DOTTED EDGE LINE EXTENSIONS, EDGE LINES SHALL NOT BE EXTENDED THROUGH INTERSECTIONS OR MAJOR DRIVEWAYS.

**MARKING TYPE AND COMPOSITION**

1. MATERIAL SHALL BE HIGHLY DURABLE RETROREFLECTIVE POLYMERIC MATERIALS DESIGNED FOR USE AS TRANSVERSE LINES, NUMBERS, SYMBOLS AND ARROW MARKINGS SUBJECTED TO HIGH VOLUMES AND SEVERE WEAR CONDITIONS SUCH AS SHEAR ACTION FROM CROSSOVER OR ENCROACHMENT.
2. MATERIAL SHALL ADHERE TO ALL ASPHALT AND PORTLAND CEMENT CONCRETE PAVEMENT SURFACES AND ANY EXISTING PAVEMENT MARKINGS WHEN APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.
3. THE MATERIAL SHALL BE CAPABLE OF CONFORMING TO PAVEMENT CONTOURS, BREAKS AND FAULTS, AND SHALL REMAIN IN PLACE ON PAVEMENT WITHOUT BEING DISPLACED BY TRAFFIC.
4. THE MATERIAL SHALL CONSIST OF POLYMERIC MATERIALS, PIGMENTS, BINDERS AND GLASS BEADS DISTRIBUTED ACROSS THE ENTIRE CROSS-SECTIONAL AREA.
5. THE MATERIAL SHALL PROVIDE A MINIMUM AVERAGE SKID RESISTANCE VALUE OF 50 BPN WHEN TESTED.
6. THE MATERIAL SHALL HAVE A MINIMUM THICKNESS OF 120 MILS WITHOUT ADHESIVE.
7. THE MATERIAL SHALL RETAIN A MINIMUM OF 65% ADHESIVE BOND AFTER 100 FREEZE-THAW CYCLES.

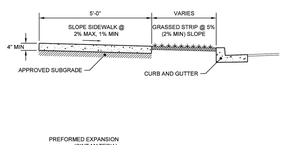
| APPROVED | TOWN OF EASTON STANDARD DETAILS |
|---|---|
| RICK VAN EMBURGH, TOWN ENGINEER | **PAVEMENT MARKINGS** |
| ISSUED: **JANUARY, 2025** | STANDARD NO: **TOE-R-1.04** |

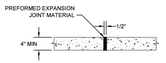



**NOTES:**

1. ALL CONCRETE USED FOR CURB AND GUTTER SHALL BE SHA MIX #3.
2. CURB AND GUTTER SHALL HAVE CONTRACTION JOINTS EVERY 10'-0", AND EXPANSION JOINTS EVERY 40'-0". EXTRUDED CURB AND GUTTER SHALL CONTRACTION JOINTS EVERY 10'-0", AND EXPANSION JOINTS EVERY 100'-0".
3. DEPRESSED CURB AND GUTTER SHALL BE UTILIZED AT HANDICAPPED RAMPS WHEN TRANSITIONING FROM STANDARD CURB AND GUTTER.
4. MAXIMUM GUTTER SLOPE ON CURB RETURNS SHALL BE 2% WHERE HANDICAPPED RAMPS ARE REQUIRED.
5. SUBGRADE SHALL BE 2" MIN. #57 STONE, BRG, GAB, CR6, CR8, OR MILLINGS.

| APPROVED | TOWN OF EASTON STANDARD DETAILS |
|---|---|
| RICK VAN EMBURGH, TOWN ENGINEER | **STANDARD CURB & GUTTER** |
| ISSUED: **JANUARY, 2025** | STANDARD NO: **TOE-R-4.01** |



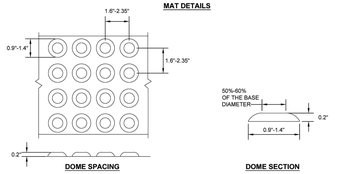

**EXPANSION JOINT DETAIL**

**NOTES:**

1. CONCRETE SHALL BE SHA MIX #3.
2. CONTRACTION JOINTS SHALL BE TOOLED AT 5'-0" INTERVALS (4' INTERVALS FOR 4' WIDE SIDEWALK).
3. EXPANSION JOINTS AT INTERVALS NOT GREATER THAN 20'-0".
4. ALL UNPAVED AREAS WITHIN STREET SIDELINES SHALL BE SEEDED OR SODDED PER SPECIFICATIONS.
5. SIDEWALKS AT DRIVEWAY LOCATIONS TO BE 8" THICK.
6. WHERE CONTINUOUS WIDTH OF TRAVEL IS LESS THAN 5'-0", PROVIDE PASSING ZONES AT AN INTERVAL NOT TO EXCEED 200' CENTER TO CENTER. ENTRANCES SHALL BE ACCEPTABLE PASSING ZONES PROVIDED PAVING WIDTH OF 5'-0" IS MAINTAINED AT 2% SLOPE.
7. GRASS STRIPS SHALL BE SLOPED TO PROVIDE POSITIVE DRAINAGE TOWARD STORMWATER FEATURES.
8. WHERE REVERSE SLOPES OF GRASS STRIPS AND SIDEWALKS ARE REQUIRED TO PROVIDE POSITIVE DRAINAGE TOWARDS A STORMWATER FEATURE, SPOT ELEVATIONS SHALL BE PROVIDED ON FRONT AND BACK OF SIDEWALK. (REVERSE SLOPES MUST BE APPROVED BY THE TOWN ENGINEER PRIOR TO CONSTRUCTION).
9. MAXIMUM SLOPE IN THE DIRECTION OF TRAVEL SHALL BE 5% IN LOCATIONS WITHOUT HANDICAPPED RAMPS.
10. SIDEWALKS SHALL COMPLY WITH ADA REQUIREMENTS PER THE MOST UP TO DATE DEPARTMENT OF JUSTICE REGULATION 28CFR PART 36.

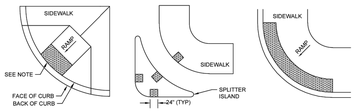
| APPROVED | TOWN OF EASTON STANDARD DETAILS |
|---|---|
| RICK VAN EMBURGH, TOWN ENGINEER | **CONCRETE SIDEWALK** |
| ISSUED: **JANUARY, 2025** | STANDARD NO: **TOE-R-5.01** |

**MAT DETAILS**




**DOME SPACING** **DOME SECTION**

**PLACEMENT GUIDELINES**




**SHARED CURB RAMP** **REFUGE ISLAND** **BLENDED CURB**

**NOTES:**

1. THE DETECTABLE WARNING SURFACE SHALL BE LOCATED SO THAT THE EDGE NEAREST THE CURB LINE IS 6"-8" FROM THE FACE OF THE CURB.
2. FOR SKEWED APPLICATIONS, DETECTABLE WARNING SHALL BE PLACED SUCH THAT THE DOMES CLOSEST TO THE BACK OF THE CURB ARE NO LESS THAN 0.5" AND NO MORE THAN 3.0" FROM THE BACK OF THE CURB.
3. TRUNCATED DOME SURFACES SHALL BE FABRICATED TO PROVIDE FULL DOMES ONLY.
4. DETECTABLE WARNING SURFACES ARE REQUIRED AT STREET CROSSINGS AND SIGNALIZED INTERSECTIONS.
5. WHERE ISLANDS OR MEDIANS ARE LESS THAN 6' WIDE, THE DETECTABLE WARNING SHOULD EXTEND ACROSS THE FULL LENGTH OF THE CUT THROUGH THE ISLAND OR MEDIAN.

| APPROVED | TOWN OF EASTON STANDARD DETAILS |
|---|---|
| RICK VAN EMBURGH, TOWN ENGINEER | **DETECTABLE WARNING SURFACES** |
| ISSUED: **JANUARY, 2025** | STANDARD NO: **TOE-R-5.08** |

**CAST-IN-PLACE CONCRETE SIDEWALK AND CURBING**

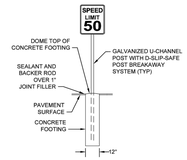
**A. SUBMITTALS**

1. SUBMIT MIX DESIGN FOR APPROVAL PRIOR TO PLACING CONCRETE. FOR ALL CONCRETE 1. SIDEWALKS, UTILIZE MD SHA MIX #3, AIR ENTRAINED, MINIMUM 3,500 PSI MIX. FOR CURB AND GUTTER, UTILIZE MD SHA MIX #3, EXCEPT MAXIMUM WATER CEMENTITIOUS RATIO OF 0.45 AND 611 POUNDS MINIMUM CEMENTITIOUS MATERIALS, AIR ENTRAINED, MINIMUM 4,200 PSI MIX.
2. SUBMIT CONCRETE TESTING AGENCY FOR APPROVAL, WHICH CONTRACTOR OR PROJECT OWNER SHALL EMPLOY FOR INFIELD AND LABORATORY TESTING.

**B. CONCRETE PLACEMENT**

1. NOTIFY THE TOWN ENGINEERING DEPARTMENT OF INTENTION TO POUR CONCRETE 24 HOURS PRIOR TO PERFORMING WORK AT 410-820-8822.
2. ENGINEER, OR THEIR REPRESENTATIVE, SHALL VERIFY THAT AREA OF CONCRETE WORK IS PROPERLY PREPARED, FREE OF WATER, FREE OF UNSTABLE MATERIALS AND THAT ALL REINFORCEMENT REQUIRED AT DRIVEWAYS, RAMPS, VALLEY GUTTERS, ETC. IS IN PLACE AND PROPERLY SUPPORTED.
3. TESTING AGENCY SHALL VERIFY THAT SUBGRADE IS PROPERLY COMPACTED.
4. DRIVER SHALL PRESENT COMPUTER GENERATED MIX DELIVERY TICKET UPON ARRIVAL TO SITE.
5. DO NOT ADD WATER TO MIX AT JOB SITE UNLESS APPROVED BY TOWN ENGINEER. DO NOT POUR CONCRETE DURING RAIN EVENTS.
6. TESTING AGENCY SHALL TEST FOR SLUMP, TEMPERATURE, AIR ENTRAINMENT AT THE JOB SITE, 6. PRIOR TO POURING EACH TRUCK LOAD DELIVERED TO SITE. THE MAXIMUM TIME FROM ADDING WATER TO THE BATCH AT PLANT TO DISCHARGE AT SITE SHALL BE 1.5 HOURS.
7. TESTING AGENCY SHALL COLLECT CYLINDERS FOR COMPRESSION TESTING ON EACH TRUCK LOAD OF CONCRETE DELIVERED TO SITE PER AMERICAN CONCRETE INSTITUTE (ACI) REQUIREMENTS.TEST RESULTS SHALL BE PROVIDED TO ENGINEER WITHIN 48 HOURS OF 7 AND 28 DAY BREAKS. REPORT SHALL INCLUDE LOCATION OF POUR PER PLAN STATIONING.
8. COLD WEATHER CONCRETE PLACEMENT SHALL BE PROTECTED FROM DAMAGE AND FROST.
9. CONCRETE CURB AND SIDEWALKS SHALL HAVE PROPER CONTROL JOINTS INSTALLED AT 10' INTERVALS FOR CURB AND 5' INTERVALS FOR SIDEWALK. CURB AND GUTTER SHALL HAVE CONTRACTION JOINTS EVERY 10', AND EXPANSION JOINTS EVERY 40'. EXTRUDED CURB AND GUTTER SHALL HAVE CONTRACTION JOINTS EVERY 10', AND EXPANSION JOINTS EVERY 100' AND AT A POINT OF TANGENT OR CURVE. SIDEWALKS SHALL HAVE EXPANSION JOINTS AT 20' INTERVALS OR AT A CHANGE OF DIRECTION.

| APPROVED | TOWN OF EASTON STANDARD DETAILS |
|---|---|
| RICK VAN EMBURGH, TOWN ENGINEER | **CONCRETE QUICK REFERENCE LIST** |
| ISSUED: **JANUARY, 2025** | STANDARD NO: **TOE-R-5.09** |




**MOUNTING DETAIL PAVED AREAS**



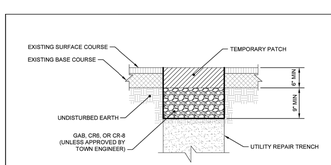

**MOUNTING DETAIL UNPAVED AREAS**




**NOTES:**

1. REFER TO THE MARYLAND STATE HIGHWAY ADMINISTRATION "STANDARD BOOK" FOR DIMENSIONS AND COLORS OF ALL SIGNS NOT SHOWN.
2. ALL PROPOSED SIGNS MUST MEET THE MINIMUM REQUIREMENTS FOR RETROREFLECTIVITY SET FORTH BY THE MANUAL FOR UNIFORM TRAFFIC CONTROL DEVICES, MOST CURRENT EDITION.

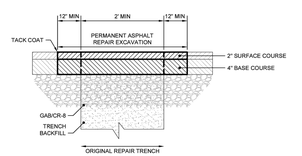
| APPROVED | TOWN OF EASTON STANDARD DETAILS |
|---|---|
| RICK VAN EMBURGH, TOWN ENGINEER | **SIGNS** |
| ISSUED: **JANUARY, 2025** | STANDARD NO: **TOE-R-7.03** |




**NOTES:**

1. PAVEMENT SHALL BE SAW CUT TO THE FULL DEPTH OF THE EXISTING PAVEMENT SECTION. ALL CUTS SHALL BE MADE IN STRAIGHT LINES.
2. TEMPORARY PATCH SHALL BE ONE OF THE FOLLOWING, PLACED AND COMPACTED IN LIFTS. (REFER TO TOE-R-1.01 FOR LIFT THICKNESS).
   a. GAB (CR6 OR CR8 MAY BE USED IN LIEU OF GAB)
   b. 9.5MM,12.5MM, OR 19.5MM HMA
   c. COLD PATCH
3. GAB MUST BE COMPACTED TO 95% MODIFIED PROCTOR, BASE/SURFACE PAVE MUST BE COMPACTED TO 92% MODIFIED PROCTOR.
4. A TEMPORARY GAB PATCH MUST BE CONVERTED TO COLD PATCH OR SUPERPAVE WITHIN 1 WEEK OF COMPLETION OF TRENCH WORK, UNLESS APPROVED BY THE TOWN ENGINEER.
5. TEMPORARY TRENCH RESTORATION MUST BE CONVERTED TO A PERMANENT TRENCH RESTORATION WITHIN 30 DAYS OF COMPLETION OF TRENCH WORK, UNLESS APPROVED BY THE TOWN ENGINEER. TEMPORARY TRENCH RESTORATION DONE AFTER NOVEMBER 20TH MUST BE CONVERTED TO A PERMANENT TRENCH RESTORATION BEFORE MAY 30TH OF THE FOLLOWING YEAR.
6. TEMPORARY RESTORATION MUST BE INSPECTED AND MAINTAINED EVERY 30 DAYS UNTIL THE PERMANENT RESTORATION IS COMPLETED. AN INSPECTION AND MAINTENANCE LOG MUST BE MAINTAINED.
7. CONTRACTOR MUST CONFIRM LIMITS OF PATCH REQUIRED WITH THE TOWN ENGINEER PRIOR TO START OF PATCH WORK.
8. A GEOTECHNICAL ENGINEER IS REQUIRED TO PROVIDE TESTING IN TRAFFIC BEARING AREAS. A VISUAL INSPECTION MAY BE PERFORMED IN NON-TRAFFIC BEARING AREAS.

| APPROVED | TOWN OF EASTON STANDARD DETAILS |
|---|---|
| RICK VAN EMBURGH, TOWN ENGINEER | **TEMPORARY PAVEMENT REPAIR FOR UTILITY TRENCHES** |
| ISSUED: **JANUARY, 2025** | STANDARD NO: **TOE-R-3.02** |




**NOTES:**

1. PAVEMENT SHALL BE SAW CUT TO THE FULL DEPTH OF THE EXISTING PAVEMENT SECTION. ALL CUTS SHALL BE MADE IN STRAIGHT LINES.
2. IF PATCH FALLS WITHIN 2' OF EXISTING CURB OR EDGE OF PAVING, CONTINUE RESTORATION TO EXISTING CURB OR EDGE OF PAVING.
3. GAB MUST BE COMPACTED TO 95% MODIFIED PROCTOR, BASE/SURFACE PAVE MUST BE COMPACTED TO 92% MODIFIED PROCTOR.
4. SURFACE COURSE: 2' OF 9.5MM SUPERPAVE. BASE COURSE: 4" OF 9.5MM, 12.5MM OR 19 0MM SUPERPAVE. (REFER TO TOE-R-1.01 FOR LIFT THICKNESS).
5. ADDITIONAL MILL AND OVERLAY MAY BE REQUIRED WHEN MULTIPLE PAVEMENT REPAIRS ARE LOCATED IN THE SAME RELATIVE VICINITY. LIMITS OF MILL AND OVERLAY, WHEN REQUIRED, WILL BE DETERMINED BY THE TOWN ENGINEER.
6. WHEN SURFACE AREAS OF REPAIR EXCEEDS 100 SF, THE 2' SURFACE COURSE SHALL EXTEND THE ENTIRE WIDTH OF THE TRAVEL LANE(S) AND/OR SHOULDER LIMITS OF MILL AND OVERLAY, WHEN REQUIRED, WILL BE DETERMINED BY THE TOWN ENGINEER.
7. CONTRACTOR MUST CONFIRM LIMITS OF PATCH REQUIRED WITH THE TOWN ENGINEER PRIOR TO START OF PATCH WORK.
8. ALL TEMPORARY PATCH ASPHALT MUST BE REMOVED PRIOR TO CONVERTING TO PERMANENT ASPHALT PAVEMENT REPAIR.
9. LIMIT OF ASPHALT PAVING SHALL EXTEND TO PATCHES WITHIN 20' OF MINIMUM ASPHALT LIMITS.

| APPROVED | TOWN OF EASTON STANDARD DETAILS |
|---|---|
| RICK VAN EMBURGH, TOWN ENGINEER | **PERMANENT PAVEMENT REPAIR FOR UTILITY TRENCHES** |
| ISSUED: **JANUARY, 2025** | STANDARD NO: **TOE-R-3.03** |

**GENERAL NOTES**

1. THIS SPECIFICATION SHALL APPLY TO ANY AND ALL UTILITY WORK OR STREET MODIFICATIONS, SUCH AS DRAINAGE IMPROVEMENTS, OR OTHER CONSTRUCTION DEEMED APPROPRIATE BY THE TOWN ENGINEER. THE CONTRACTOR SHALL RESTORE ALL SURFACES DAMAGED BY THEIR OPERATIONS TO THE WIDTHS AND EXTENT DETAILED OR SPECIFIED WITH.
2. SURFACE RESTORATION IN TOWN STREETS AND ROADS SHALL BE IN ACCORDANCE WITH THE MD STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS AND THESE TOWN STANDARDS.
3. EXISTING PAVEMENT SHALL BE TRIMMED TO SECURE A STRAIGHT, CLEAN EDGE FOR REMOVING. SAW CUT PAVEMENT AS SHOWN ON TOE-R-3.03 OR AS DIRECTED TO OBTAIN A CLEAN PAVEMENT EDGE. ALL TRENCHES SHALL BE CUT BACK BY ONE (1) FOOT TO EITHER SIDE OF THE TRENCH.
4. NO STAGGERED OR IRREGULAR LONGITUDINAL TRENCH REPAIRS WIDTHS SHALL BE ALLOWED. REPAIRS SHALL BE A UNIFORM WIDTH AND IN A STRAIGHT LINE.
5. MINIMUM TEMPORARY TRENCH RESTORATION WIDTH IS FIVE (5) FEET. ACTUAL WIDTH SHALL VARY BASED ON FIELD CONDITIONS AS DETERMINED BY TOWN ENGINEER.
6. ALL STREET REPAIR AREAS SHALL INCLUDE RESTORATION WHERE APPLICABLE, PLUS MILL AND OVERLAY. MILL AND OVERLAY SHALL INCLUDE THE FULL LANE WIDTH OF ANY STREET DISTURBED. ON HORIZONTAL CROSSINGS, THE MINIMUM RUN OF THE STREET TO BE MILLED AND OVERLAID SHALL BE THIRTY (207) FEET, CENTERED ON THE DISTURBANCE. WHERE MULTIPLE CROSS ROAD REPAIRS ARE CREATED, MILL AND OVERLAY SHALL CONTINUE THE FULL LANE WIDTH TO INCLUDE ALL TRENCHES WHERE CROSS ROAD REPAIRS ARE LESS THAN FIFTY (50) FEET APART. LONGITUDINAL TRENCHES SHALL INCLUDE MILL AND OVERLAY FOR ONE (1) FULL LANE FOR FIFTEEN (15) FEET BEYOND EXCAVATION FOR EACH LANE DISTURBED.
7. UNDERMINED AREAS SHALL BE GROUT FILLED OR CUT BACK.
8. A TEMPORARY TWO (2) INCH LAYER OF COLD PATCH SHALL BE PLACED ON UTILITY TRENCHES WHERE WEATHER CONDITIONS, OR OTHER DELAYS DO NOT PERMIT FINAL REPAIRS WITHIN SEVEN (7) CALENDAR DAYS.
9. METAL PLATING MAY BE USED AT THE END POINT OF THE UTILITY LAYING OPERATION AND MUST BE USED TO PROTECT THE INTEGRITY OF CONCRETE PATCHES. CONTRACTOR SHALL POST WARNING SIGNS.
10. ALL ADJUSTMENTS TO EXISTING UTILITIES MUST BE PRIOR TO PAVING OPERATIONS AND REPEATED IF THERE IS ANY DAMAGE DUE TO COMPACTING AND ROLLING OPERATIONS. MANHOLE OR CATCH BASIN ADJUSTMENTS SHALL BE DONE WITH ADJUSTMENT RINGS, BRICK COURSES, OR MORTAR LAYERS, SUBJECT TO TOWN OF EASTON AND/ OR EASTON UTILITIES AS REQUIRED.
11. PAVING OPERATIONS SHALL BE PERFORMED WHEN THE FOLLOWING MINIMUM TEMPERATURES ARE MET:
    a. 32° AND RISING FOR HOT MIX BASE COURSE.
    b. 40° AND RISING FOR HOT MIX SURFACE COURSE.
12. COMPACTED LIFT THICKNESS SHALL BE LIMITED TO:
    a. 2" FOR 9.5MM SUPERPAVE
    b. 3" FOR 12.5MM SUPERPAVE
    c. 4" FOR 19MM SUPERPAVE
    d. 6" FOR GRADED AGGREGATE
    e. 8"FOR BANK RUN GRAVEL
13. CATCH BASIN, INLETS, CURBS AND ALL OTHER APPURTENANCES SHALL BE ADEQUATELY COVERED AND PROTECTED PRIOR TO THE APPLICATION OF ANY BITUMINOUS MATERIALS. NO EARTH OR BITUMINOUS SHALL BE ALLOWED TO ENTER STORM DRAINAGE SYSTEM. SUITABLE CONTAINMENT PROVISIONS SHALL BE EMPLOYED TO PREVENT SURFACE RUNOFF OF BITUMINOUS MATERIALS.
14. THE FINAL SURFACE SHALL PROVIDE A SMOOTH TRANSITION, FREE OF ABRUPT CHANGES IN GRADE, IS MADE WITH WITH ADJACENT PAVEMENTS AND/OR SIDEWALK. NO DEPRESSIONS OR OTHER MISALIGNMENT SHALL OBSTRUCT, TRAP OR OTHERWISE MISDIRECT THE FLOW OF SURFACE WATER DRAINAGE.

**MAINTENANCE OF TRENCH REPAIRS**

1. ALL DEPRESSIONS APPEARING IN THE TRENCH REPAIR, STABILIZED BASE AND TEMPORARY PAVING SHALL BE PROPERLY BE REFILTED. IF THE CONTRACTOR FAILS TO MAKE REPAIRS WITHIN 48 HOURS AFTER RECEIPT OF WRITTEN NOTICE FROM THE TOWN ENGINEER, THE TOWN MAY REFILL SA

## PROPOSED FEATURES

1. PROPERTY LINE
2. 5,135 (BOTH FLOORS) S.F. OFFICE BUILDING
3. SANITARY SEWER SERVICE. SEE DETAIL ON SHEET C-405
4. 1" COPPER TYPE K WATER SERVICE LINE. SEE DETAIL ON SHEET C-405
5. WATER METER PIT, 1" METER WITH 1 ½" SERVICE CONNECTION, TO BE SUPPLIED BY TOWN (TYP.) SEE DETAIL ON SHEET C-405
6. 4' X 6' ENTRY PIT
7. 1 - 4" DUCT (ELEC), 1 - 2 ½" DUCT (FIBER) FROM POLE TO PROPOSED TRANSFORMER AND COMM PEDESTAL. CONFIRM WITH EUC
8. 4' X 6' RECEIVING PIT
9. 3 PHASE TRANSFORMER
10. COMMUNICATION PEDESTAL
11. SANITARY SEWER CLEANOUT
12. HVAC OUTDOOR UNITS

TAX MAP 104, PARCEL 1461
N/F LANDS OF
VERIZON MARYLAND MERGE CO
//

TAX MAP 104, PARCEL 1466
N/F LANDS OF
FAQUIR LLC
00857/00371

TAX MAP 104, PARCEL 1513
N/F LANDS OF
GREGORY J. SHMIGEL
SUSAN A. SHMIGEL
2337/372

PORT STREET
VARIABLE WIDTH PUBLIC RIGHT OF WAY

SOUTH WASHINGTON STREET
VARIABLE WIDTH PUBLIC RIGHT OF WAY

SOUTH STREET
VARIABLE WIDTH PUBLIC RIGHT OF WAY

TAX MAP 104, PARCEL 1511
N/F LANDS OF
PRICE TODD C
1329/00026

TAX MAP 104, PARCEL 1512
N/F LANDS OF
ANASTACIA MCCAHAN
JOHN MCCAHAN
2799/142

E RIM: 27.05'
T RIM: 31.28'
D RIM: 30.66'
S RIM: 30.51'
D RIM: 30.35'
S RIM: 30.39'

# UTILITY PLAN

FOR

# FOUNDATION OF HOPE

TAX MAP 0104, ID 0000, PARCEL 1463
FIRST ELECTION DISTRICT, TALBOT COUNTY, MARYLAND
PREPARED FOR FOUNDATION OF HOPE


RAUCH INC
Engineering | Survey | Architecture | Environmental
Main Office: 106 N Harrison St - Easton, MD 21601
Web: www.rauch-inc.com | Email: design@raucheng.com
Phone: 410 770 9081 | Fax: 410 770 3987


**Professional Certification.**
I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License No. 11024
Expiration Date: July 24, 2026

30-May-25

| REVISIONS | | |
|---|---|---|
| REV. # | DATE | DESCRIPTION |
| A | 05/26/2025 | ISSUED FOR DO REVIEW |
| B | 05/30/2025 | SITE DATA UPDATES; FENCE AROUND TRASH |

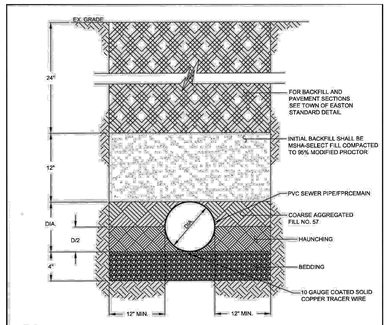
MISS UTILITY OF DELMARVA
811

| | |
|---|---|
| DATE: | 5/22/2025 |
| SCALE: | 1" = 10' |
| DRAWN BY: | AK |
| DESIGNED BY: | AK |
| APPROVED BY: | |

SHEET NO.:
C-401

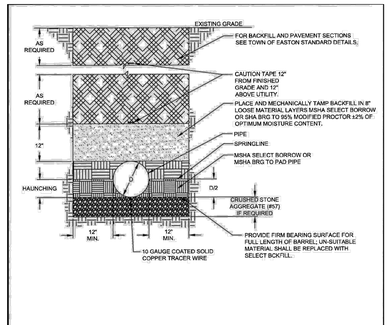
FOR PERMIT REVIEW

Z:\FOUNDATION OF HOPE\CIVIL\PRODUCTION PLANS\FOUNDATION OF HOPE - SITE PLAN.DWG



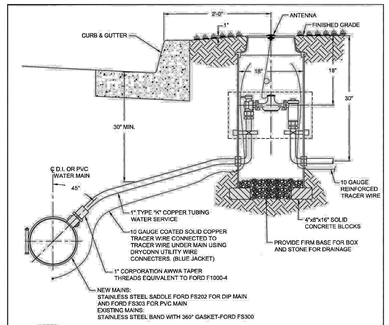

NOTES:
1. BEDDING, HAUNCHING AND FILL MATERIAL TO THE TOP OF PIPE SHALL BE COARSE AGGREGATE MEETING THE REQUIREMENTS OF AASHTO M43, SIZE NUMBER 57.
2. DURING HAUNCHING, CONTRACTOR SHALL CAREFULLY WORK GRAVEL DOWN AROUND THE BOTTOM OF THE PIPE.
3. WARNING TAPE SHALL BE PLACED 12" ABOVE PIPE AND 12" BELOW GRADE SURFACE.
4. CONTRACTOR TO PLACE FILL IN LIFTS, TAMPING AFTER EACH LIFT. LIFTS NOT TO EXCEED 6".
5. THOROUGHLY TAPE MECHANICAL CONNECTIONS OF TRACER WIRE WITH ELECTRICAL TAPE.
6. THE TRACING WIRE SHALL BE A CONTINUOUS CONDUCTOR CONNECTED TO ALL FITTINGS AND SERVICES.
7. ALL FITTINGS SHALL BE AS SPECIFIED IN AWWA C110-93, RESTRAINED MECHANICAL JOINT, DUCTILE IRON, PRESSURE RATED AT 350 PSI.
8. ALL FITTINGS SHALL BE RESTRAINED BY THRUST BLOCKS ACCORDING TO W-101.1.

| APPROVAL | REVISED | |
|---|---|---|
| EU ENGINEERING DEPARTMENT<br>1/31/2024<br>DATE | | EASTON UTILITIES STANDARD DETAILS<br>GRAVITY SEWER FORCEMAIN TRENCH |
| ISSUED: JANUARY 2024 | | STANDARD NO.: SS-100.1 |



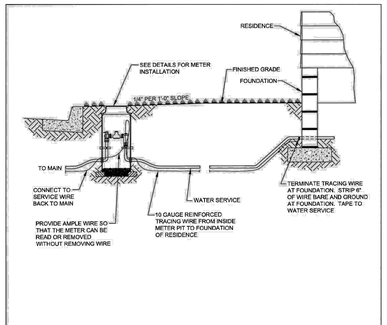

NOTES:
1. WARNING TAPE SHALL BE PLACED 12" ABOVE PIPE AND 12" BELOW GRADE SURFACE.
2. THE TRACING WIRE SHALL BE A CONTINUOUS CONDUCTOR CONNECTED TO ALL FITTINGS, FIRE HYDRANTS AND SERVICES.
3. ALL FITTINGS SHALL BE AS SPECIFIED IN AWWA C110, MECHANICAL JOINT, DUCTILE IRON, PRESSURE RATED AT 350 PSI.
4. ALL FITTINGS SHALL BE RESTRAINED BY THRUST BLOCKS ACCORDING TO EUC STANDARD DETAILS.
5. FIRM BEARING SHALL BE PROVIDED FOR FULL LENGTH OF BARREL. EXCAVATE FOR BELL HOLES.
6. AFTER PIPE IS INSTALLED ON BEDDING, PLACE BACKFILL IN LIFTS TO SPRINGLINE, CROWN AND COVER, TAMPING AFTER EACH LIFT. LIFTS NOT TO EXCEED 6".
7. THOROUGHLY TAPE MECHANICAL CONNECTIONS OF TRACER WIRE WITH ELECTRICAL TAPE.

| APPROVAL | REVISED | |
|---|---|---|
| EU ENGINEERING DEPARTMENT<br>1/31/2024<br>DATE | | EASTON UTILITIES STANDARD DETAILS<br>WATER MAIN INSTALLATION |
| ISSUED: JANUARY 2024 | | STANDARD NO.: W-100.1 |



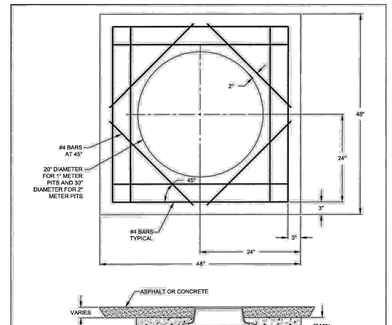

NOTES:
1. TUSING TO BE LAID LEVEL WITH TOP OF MAIN UNLESS OTHERWISE DIRECTED BY ENGINEER.
2. CORPORATION COCK TO BE LEFT OPEN, METER ANGLE VALVE LEFT CLOSED.
3. METER BOX MUELLER NO. 330RS1926PBBNN OR AN APPROVED EQUAL. FURNISHED AND INSTALLED BY CONTRACTOR. COVER SHALL BE TRUMBULL POLYMER 367-5771 LID WITH WATER LOGO AND 367-5640 FOR TRAFFIC BEARING. FRAME SHALL BE AY MCDONALD TYPE C OR APPROVED EQUAL. A 2" DIA. HOLE SHALL BE DRILLED IN THE CENTER OF ALL LIDS FOR EXTERNAL ANTENNA INSTALLATION.
4. SURFACE RESTORATION SHALL BE PER TOWN OF EASTON STANDARDS.
5. PIPE SHALL BE TAPPED WITH A HOLE CUTTER THAT WILL RETAIN THE COUPON IN ACCORDANCE WITH UNI-BELL PLASTIC PIPE ASSOCIATION UNI-B-3.
6. THOROUGHLY TAPE MECHANICAL CONNECTIONS WITH ELECTRICAL TAPE.
7. METER SHALL BE FURNISHED BY EASTON UTILITIES.

| APPROVAL | REVISED | |
|---|---|---|
| EU ENGINEERING DEPARTMENT<br>1/31/2024<br>DATE | | EASTON UTILITIES STANDARD DETAILS<br>1" WATER SERVICE |
| ISSUED: JANUARY 2024 | | STANDARD NO.: W-103.1 |




NOTES:
1. 10 GAUGE SOLID COPPER TRACER WIRE; BLUE JACKET.
2. THOROUGHLY TAPE MECHANICAL CONNECTIONS ON TRACER WIRE WITH ELECTRICAL TAPE.
3. INSTALLATION OF WATER SERVICE INTO FOUNDATION PER TOWN OF EASTON APPROVED PLUMBING CODE.

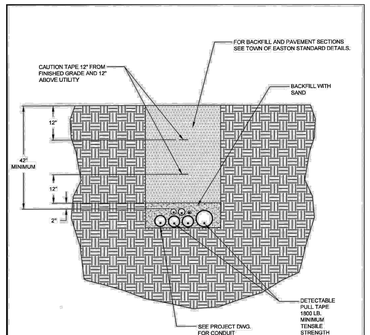
| APPROVAL | REVISED | |
|---|---|---|
| EU ENGINEERING DEPARTMENT<br>1/31/2024<br>DATE | | EASTON UTILITIES STANDARD DETAILS<br>WATER SERVICE CONNECTION |
| ISSUED: JANUARY 2024 | | STANDARD NO.: W-103.4 |




SECTION VIEW N.T.S.

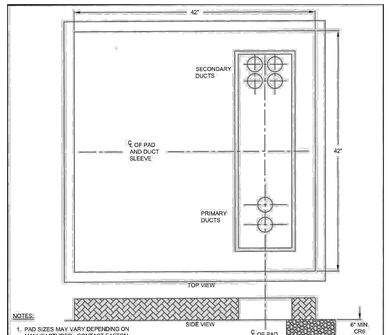
NOTES:
1. CONTRACTOR SHALL CONTACT EASTON UTILITIES PRIOR TO THE WATER METER PIT INSTALLATION FOR ALL TRAFFIC BEARING INSTALLATIONS.
2. PORTLAND CEMENT MIXTURE SHALL MEET OR EXCEED SHA MIX #2.
3. ALL REINFORCEMENT SHALL BE #4 RETAR UNLESS OTHERWISE NOTED.

| APPROVAL | REVISED | |
|---|---|---|
| EU ENGINEERING DEPARTMENT<br>1/31/2024<br>DATE | | EASTON UTILITIES STANDARD DETAILS<br>WATER METER PIT INSTALLATION-TRAFFIC BEARING |
| ISSUED: JANUARY 2024 | | STANDARD NO.: W-103.6 |




NOTES:
1. SEE CONDUIT AND DUCT BANK NOTES ON E-100.1.2 STANDARD DETAILS.

| APPROVAL | REVISED | |
|---|---|---|
| EU ENGINEERING DEPARTMENT<br>1/31/2024<br>DATE | | EASTON UTILITIES STANDARD DETAILS<br>TYPICAL TRENCH DETAIL |
| ISSUED: JANUARY 2024 | | STANDARD NO.: E-100.2 |




NOTES:
1. PAD SIZES MAY VARY DEPENDING ON MANUFACTURER. CONTACT EASTON UTILITIES FOR PAD DIMENSIONS.
2. INSTALL DUCTS WITH 42" MIN. COVERAGE. TRENCH MUST BE INSPECTED BY EASTON UTILITIES PRIOR TO BACKFILLING.
3. REFER TO ELECTRIC PLAN DRAWINGS FOR PRIMARY AND SECONDARY CONDUIT SIZE AND QUANTITY.
4. MINIMUM OF 6" CRS COMPACTED UNDER TRANSFORMER PAD.
5. COORDINATE WITH EASTON UTILITIES CONDUIT LOCATIONS WITHIN SLEEVE.

| APPROVAL | REVISED | |
|---|---|---|
| EU ENGINEERING DEPARTMENT<br>2/6/2025<br>DATE | FEB 2025 | EASTON UTILITIES STANDARD DETAILS<br>1Ø TRANSFORMER PAD 25 - 50 KVA (SUPPLIED BY EU) |
| ISSUED: JANUARY 2024 | | STANDARD NO.: E-101.1.1 |

UTILITY DETAILS

FOR

# FOUNDATION OF HOPE

TAX MAP 0104, ID 0000, PARCEL 1463

FIRST ELECTION DISTRICT, TALBOT COUNTY, MARYLAND

PREPARED FOR FOUNDATION OF HOPE

RAUCH INC.
Engineering | Survey | Architecture | Environmental
Main Office: 108 N Harrison St - Easton, MD 21601
Web: www.rauch-inc.com | Email: design@raucheng.com
Phone: 410 770 9081 | Fax: 410 770 3887

**Professional Certification.**
I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License No. 11024
Expiration Date: July 24, 2026

30-May-25

REVISIONS

| REV. # | DATE | DESCRIPTION |
|---|---|---|
| A | 05/29/2025 | ISSUED FOR DR REVIEW |
| B | 05/30/2025 | SITE DATA UPDATES; FENCE AROUND TRASH |

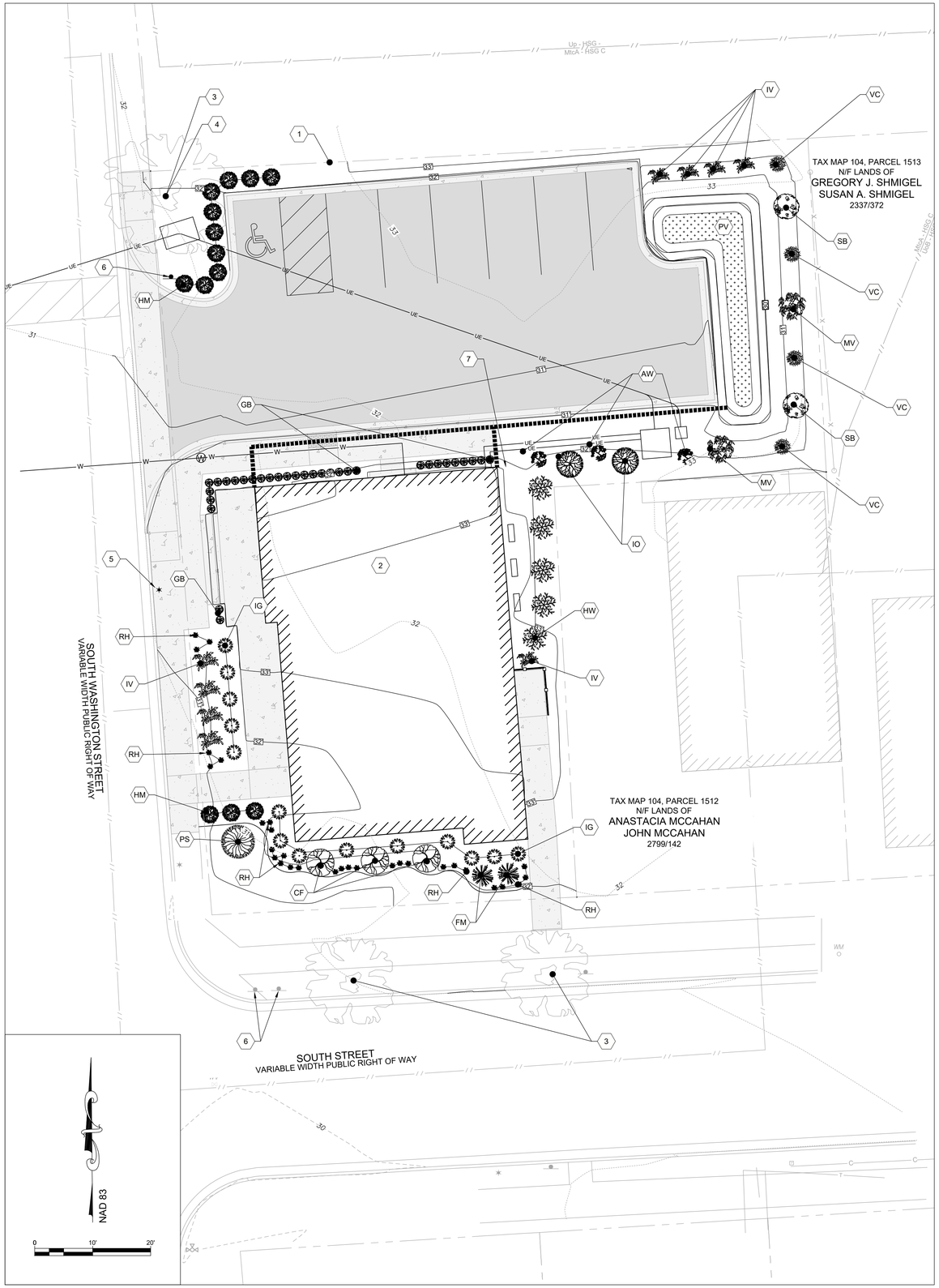
MISS UTILITY OF DELMARVA 1-800-257-7777 811

| | |
|---|---|
| DATE: | 5/22/2025 |
| SCALE: | N/A |
| DRAWN BY: | AK |
| DESIGNED BY: | AK |
| APPROVED BY: | |

SHEET NO.:
C-405

FOR PERMIT REVIEW

Z:\FOUNDATION OF HOPE\CIVIL\PRODUCTION PLANS\FOUNDATION OF HOPE - SITE PLAN.DWG

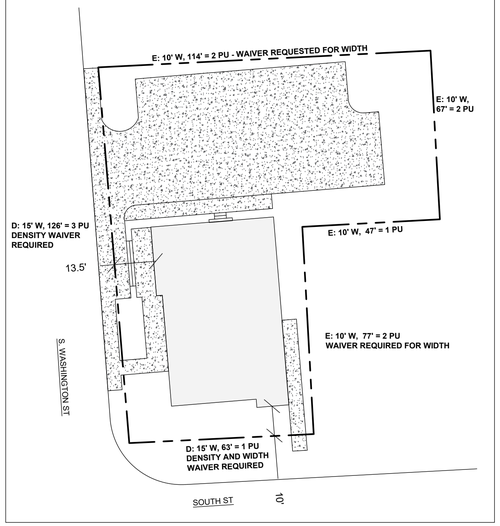



## PROPOSED FEATURES & PLANTINGS

1. LIMITS OF DISTURBANCE
2. 5,135 (BOTH FLOORS) S.F. OFFICE BUILDING
3. EXISTING DECIDUOUS CANOPY TREE
4. INSTALL TREE PROTECTION PER DETAIL ON L-505.
5. EXISTING STREET LIGHT RELOCATED HERE.
6. EXISTING STREET SIGN TO REMAIN.
7. PROPOSED HVAC

- PS EASTERN PINE
- HW HETZ WINTERGREEN
- IO AMERICAN HOLLY
- CF DOGWOOD
- SB SERVICEBERRY
- MV SWEETBAY MAGNOLIA
- HM THUJA HETZ MIDGET
- IG INKBERRY
- GB INKBERRY GEM BOX
- FM FOTHERGILLA
- AW ARROWWOOD
- IV SWEETSPIRE
- VC HIGHBUSH BLUEBERRY
- RH BLACK-EYED SUSAN
- PV PANICUM VIGRATUM

**BUFFERYARD BOUNDARY MAP & PARCEL FRONTAGE SETBACK**




**PLANT SCHEDULE:**

| SYMBOL | QUAN | SCIENTIFIC NAME | COMMON NAME | SPECIFICATION | DIMENSIONS | SPACING |
|---|---|---|---|---|---|---|
| **EVERGREEN TREE** | | | | | | |
| PS | 1 | PINUS STROBUS 'FASTIGIATA' | COLUMNAR EASTERN PINE | 8-10' TALL | 8' X 35' | |
| HW | 5 | THUJA OCCIDENTALIS 'HETZ W-GREEN' | WESTERN ARBORVITAE | 8-10' TALL | 6' X 25' | 6' O.C. |
| IO | 2 | ILEX OPACA | AMERICAN HOLLY | 8-10' TALL | 15' X 25' | 8' O.C. |
| **MINOR DECIDUOUS TREE** | | | | | | |
| CF | 3 | CORNUS FL. 'APPALACHIAN SPRING' | FLOWERING DOGWOOD | 1.5" CALIPER B&B | 12' X 20' | 7' O.C. |
| SB | 2 | AMELANCHIER LAEVIS 'CUMULUS' | SERVICEBERRY | 1.75" CAL. B&B | 12' X 20' | 8' O.C. |
| MV | 2 | MAGNOLIA VIRGINIANA 'MOONGLOW' | SWEETBAY MAGNOLIA | 6' TALL | 12' X 20' | 8' O.C. |
| **EVERGREEN SHRUB** | | | | | | |
| HM | 13 | THUJA OCCIDENTALIS 'HETZ' MIDGET' | WESTERN ARBORVITAE | #7 | 3' X 4' | 4' O.C. |
| IG | 14 | ILEX GLABRA 'SHAMROCK' | INKBERRY | #7 | 3' X 5' | 5' O.C. |
| GB | 32 | ILEX GLABRA 'GEM BOX' | INKBERRY - MICRO | #2 | 2' X 3' | 3' O.C. |
| **DECIDUOUS SHRUB** | | | | | | |
| FM | 2 | FOTHERGILLA MAJOR 'MT AIRY' | WITCH ALDER | #7 | 3' X 5' | 5' O.C. |
| AW | 3 | VIBURNUM DENTATUM | ARROWWOOD | #7 | 6' X 12' | 7' O.C. |
| IV | 9 | ITEA VIRGINICA 'HENRY'S GARNET' | SWEETSPIRE | #5 | 3' X 5' | 4' O.C. |
| VC | 4 | VACCINIUM CORYMBOSUM 'BLUE CROP' | HIGHBUSH BLUEBERRY | #5 | 5' X 8' | 6' O.C. |
| **FLOWERING PERENNIAL** | | | | | | |
| RH | 30 | RUDBECKIA HIRTA | BLACK-EYED SUSAN | #1 | 1' X 2' | 2' O.C. |
| **STORMWATER GRASSES** | | | | | | |
| PV | 100 | PANICUM VIGRATUM 'CAPE BREEZE' | SWITCHGRASS | 2 X TRAYS OF 50 | 2" PLUG | 18" O.C. |

**TOWN OF EASTON LANDSCAPE NOTES:**

1. LANDSCAPE INSTALLER SHALL VERIFY THE LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO COMMENCING WORK. INSTALLER SHALL ENSURE THAT FINAL GRADES HAVE BEEN ESTABLISHED AND THE SITE IS READY FOR LANDSCAPE INSTALLATION.

2. LANDSCAPE INSTALLER SHALL MAINTAIN THE LANDSCAPE IMPROVEMENT AREAS IN A CLEAN CONDITION, REMOVING DEBRIS DAILY AT THE COMPLETION OF THE INSTALLATION.

3. INSTALLER SHALL LAYOUT ALL BEDS AND POSITION PLANTS PER THE PLANS. ADJUST AS REQUIRED FOR FIELD CONDITIONS. REPORT SIGNIFICANT ADJUSTMENTS TO THE OWNER FOR APPROVAL PRIOR TO PLANT INSTALLATION. ALL BED AREAS SHALL BE SPRAYED WITH HERBICIDE AS NEEDED TO KILL AND/OR REMOVE ALL WEED OR GRASS VEGETATION.

4. EXCEPT FOR TREE SPADE INSTALLATIONS, ALL TREE PITS SHALL BE EXCAVATED TO A DEPTH SO THAT THE ROOT BALL WILL REST ON SOLID SOIL AT THE PROPER HEIGHT. STREET TREES PLANTING PITS SHALL BE EXCAVATED AND WORKED IN A RECTANGULAR FORM WITH THE SMALL DIMENSION TWICE THE DIAMETER OF THE ROOT BALL AND THE LARGE DIMENSION AT LEAST THREE (3) TIMES THE DIAMETER OF THE ROOT BALL. OPEN AREA TREE PITS SHALL BE EXCAVATED TO A MINIMUM DIMENSION OF TWICE THE ROOT BALL WIDTH. TREES PLANTED ON SLOPES OR SIDE SWALES SHALL BE INSTALLED AT A HEIGHT RELATING TO THE UPHILL SIDE OF THE PIT, AND MOUNDED WITH SOIL AROUND THE LOWER SIDE. ALL SIDES AND BOTTOM OF TREE PLANTING PITS SHALL BE SCARIFIED OR LOOSENED TO PERMIT ROOT GROWTH. EXCAVATED SOILS THAT HAVE BEEN PREVIOUSLY UNDISTURBED SHALL BE LOOSENED AND UTILIZED FOR BACKFILL. COMPACTED SOILS THAT CANNOT BE RESTORED TO A REASONABLE PLANTING SOIL SHALL BE REMOVED AND REPLACED WITH FRIABLE NATIVE SOILS FROM THE REGION.

5. ALL SHRUB PLANTING PITS, LANDSCAPE BEDS AND PLANTING MASS AREAS SHALL BE WORKED TO A DEPTH OF TWELVE INCHES (12") (OR RAISED SLIGHTLY TO ACHIEVE A TWELVE INCH (12") FRIABLE SOIL DEPTH). SHRUB PLANTING AREAS SHALL BE WORKED TO A TWELVE INCH (12") MINIMUM OUTSIDE THE ROOT BALL.

6. ALL LANDSCAPE BEDS SHALL BE "V" EDGED AND MULCHED WITH MINIMUM THREE INCH (3") DOUBLE SHREDDED HARDWOOD BARK MULCH, OR APPROVED EQUAL. MULCH TO FENCE LINES OR BACK OF CURBS WHERE APPROPRIATE TO ELIMINATE NARROW GRASS AREAS. AVOID MULCH PILED AGAINST TREE TRUNKS, ETC.

7. ALL TREES TO BE STAKED AND GUYED WITH HARDWOOD STAKES, MINIMUM OF TWO (2) - FIVE FEET (5') LONG, OR OTHER APPROVED GUYING SYSTEM. STAKES SHALL BE DRIVEN INTO STABLE SOILS. PROVIDE WIRE GUYS WITH RUBBER PROTECTANT OR OTHER APPROVED INDUSTRY PRACTICE.

8. LANDSCAPE INSTALLER SHALL MAINTAIN ALL PLANT MATERIALS THROUGH COMPLETION OF THE LANDSCAPE INSTALLATION, AND THEN AS REQUIRED BY THE OWNER.

9. AT THE COMPLETION OF THE LANDSCAPE INSTALLATION (OR BY PHASED COMPLETION IF PROVIDED FOR ON THE PLAN), THE OWNER, OR HIS DESIGNATED REPRESENTATIVE SHALL REQUEST AN INSPECTION BY THE TOWN OF EASTON.

**PLANT MATERIAL NOTES:**

1. ALL REQUIRED PLANT MATERIAL SHALL BE OBTAINED FROM REPUTABLE NURSERY STOCK GROWERS OR RELOCATED FROM ON-SITE OR OTHER SITES VIA NURSERY STANDARD PLANT HANDLING AND DIGGING METHODS. THE TOWN MAY REJECT PLANT MATERIAL GROWN, HANDLED, OR INSTALLED IMPROPERLY.

2. ALL SPECIFIED PLANTINGS IN THIS PLAN ARE NATIVE TO THIS REGION.

3. UNLESS REQUIRED OTHERWISE BY THIS ORDINANCE OR ANY OTHER TOWN REGULATION, ALL REQUIRED PLANT MATERIAL SHALL CONFORM TO THE FOLLOWING MINIMUM SIZE SPECIFICATION AT INSTALLATION.

**WARRANTY NOTES:**

1. THE OWNER/DEVELOPER SHALL MAINTAIN ALL LANDSCAPE IMPROVEMENTS PROVIDING ADEQUATE GROWING CONDITIONS TO ENSURE HEALTHY, VIGOROUS PLANT SURVIVAL AND GROWTH. THE TOWN RESERVES THE RIGHT TO PERIODICALLY REVIEW INSTALLED LANDSCAPES AND REPORT AND SIGNIFICANT DEFICIENCIES TO THE OWNER/DEVELOPER. AT THE END OF TWO (2) GROWING SEASONS, AND /OR AT ANY TIME PRIOR TO, THE TOWN SHALL ASSESS THE LANDSCAPE IMPROVEMENTS AND DIRECT REPLACEMENT OR REVITALIZATION OF ANY DEFICIENT AREAS. THE OWNER SHALL REPAIR OR REPLACE DEFICIENT ITEMS WITHIN THIRTY (30) CALENDAR DAYS/

2. UNLESS AN AMENDED LANDSCAPING PLAN IS SUBMITTED TO AND APPROVED BY THE PLANNING AND ZONING COMMISSION, FAILURE TO MAINTAIN, REPAIR OR REPLACE ANY REQUIRED AND APPROVED LANDSCAPE IMPROVEMENTS SHALL BE CONSIDERED A VIOLATION OF THIS ORDINANCE AND SHALL BE ENFORCED IN ACCORDANCE WITH SECTION 28 - 1308 HEREIN.

# LANDSCAPE & LIGHTING PLAN

FOR

# FOUNDATION OF HOPE

TAX MAP 0104, ID 0000, PARCEL 1463

FIRST ELECTION DISTRICT, TALBOT COUNTY, MARYLAND

PREPARED FOR FOUNDATION OF HOPE

RAUCH INC.
Engineering | Survey | Architecture | Environmental
Main Office: 106 N Harrison St - Easton, MD 21601
Web: www.rauch-inc.com | Email: design@raucheng.com
Phone: 410 770 9081 | Fax: 410 770 3987

**Professional Certification.**
I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License No. 11024
Expiration Date: July 24, 2026

30-May-25

**REVISIONS**

| REV. # | DATE | DESCRIPTION |
|---|---|---|
| A | 05/08/2025 | ISSUED FOR DO REVIEW |
| B | 05/30/2025 | SITE DATA UPDATES; FENCE AROUND TRASH |

MISS UTILITY OF DELMARVA — ONE CALL DOES IT ALL! — 811

| | |
|---|---|
| DATE: | 5/22/2025 |
| SCALE: | 1" = 10' |
| DRAWN BY: | GJR |
| DESIGNED BY: | GJR |
| APPROVED BY: | |

SHEET NO.: L-501

**FOR PERMIT REVIEW**

Z:\FOUNDATION OF HOPE\CIVIL\PRODUCTION PLANS\FOUNDATION OF HOPE - SITE PLAN.DWG

## LANDSCAPE PLANTING REQUIREMENTS

**GENERAL REQUIREMENTS:**

- COMPLIANCE WITH THE TERMS OF THIS LANDSCAPE PLAN, INCLUDING ALL MAINTENANCE AND WARRANTY REQUIREMENTS PRESCRIBED HEREON IS THE RESPONSIBILITY OF THE OWNER. MAINTENANCE AND WARRANTY TERMS AND RESPONSIBILITIES OF THE CONTRACTOR SHALL BE NEGOTIATED BETWEEN OWNER AND CONTRACTOR.
- THE CONTRACTOR (CONTRACTOR) IS RESPONSIBLE FOR THE COMPLETE INSTALLATION OF ALL LANDSCAPING SHOWN OR IMPLIED ON THIS PLAN. PLANT QUANTITIES ARE SHOWN FOR CONVENIENCE ONLY AND SHALL BE VERIFIED PRIOR TO INSTALLATION. THE CONTRACTOR SHALL NOTIFY THE OWNER, OR DESIGNATED REPRESENTATIVE IF PROPOSED SPECIES AND/OR SITE PLANTING CONDITIONS WARRANT RE-DESIGN CONSIDERATIONS.
- THE CONTRACTOR SHALL DILIGENTLY ATTEMPT TO LOCATE THE SPECIFIED NATIVE PLANT MATERIAL. IF SPECIFIED PLANT MATERIALS CANNOT BE LOCATED, ALTERNATIVES MAY BE CONSIDERED AND APPROVED, IN ADVANCE, BY THE OWNER, OR DESIGNATED REPRESENTATIVE.
- PRIOR TO LANDSCAPE INSTALLATION, THE CONTRACTOR SHALL COORDINATE A SITE MEETING WITH THE OWNER, OR DESIGNATED REPRESENTATIVE TO REVIEW THE PLAN, SITE DRAINAGE CONDITIONS AND TO DETERMINE ANY FIELD ADJUSTMENTS NECESSARY.
- THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO COMMENCING WORK, AND SHALL COORDINATE WITH OTHER CONTRACTORS ON SITE AND MISS UTILITY TO VERIFY UTILITY LOCATIONS. ANY REPAIRS TO EXISTING UNDERGROUND UTILITIES REQUIRED AS A RESULT OF ACTIONS OF THE CONTRACTOR AND/OR HIS ASSIGNS SHALL BE BORNE BY CONTRACTOR.
- THE CONTRACTOR SHALL VERIFY THAT FINAL ROUGH GRADES HAVE BEEN ESTABLISHED AND THAT THE SITE IS READY FOR LANDSCAPE INSTALLATION. THE CONTRACTOR SHALL ENSURE THAT PLANTINGS WILL HAVE ADEQUATE DRAINAGE. THE CONTRACTOR SHALL INSTALL PLANT MATERIAL FACTORING IN ANY "FINAL" GRADING WORK TO BE COMPLETED AFTER LANDSCAPE INSTALLATION.
- THE CONTRACTOR SHALL LAY OUT BEDS AND POSITION PLANTS FOR APPROVAL BY OWNER, OR DESIGNATED REPRESENTATIVE. THE CONTRACTOR SHALL REVIEW ANY SIGNIFICANT FIELD ADJUSTMENTS PRIOR TO INSTALLATION.
  - **NOTE:** PLANTING WITHIN THE ROOT ZONE OF EXISTING TREES REQUIRES ADDITIONAL CARE. HAND DIGGING OF PLANTING HOLES AND ADJUSTMENT OF PLANTING LAYOUT MAY BE NECESSARY.
- THE CONTRACTOR SHALL MAINTAIN A CLEAN JOB SITE AND REMOVE ALL PLANTING AND RELATED DEBRIS DAILY DURING THE COURSE OF IMPLEMENTATION.
- THE OWNER, OR DESIGNATED REPRESENTATIVE SHALL REJECT ANY AND ALL PLANT MATERIAL THAT DOES NOT MEET SPECIFICATIONS, IS DISEASED OR OTHERWISE UNHEALTHY.
- ALL LANDSCAPE INSTALLATION SHALL BE ACCOMPLISHED WITH QUALIFIED PERSONNEL, UTILIZING INDUSTRY STANDARD PRACTICES AND TECHNIQUES.

**PLANT MATERIAL:**

- ALL PLANT MATERIAL SHALL CONFORM TO THE AMERICAN STANDARD FOR NURSERY STOCK AS APPROVED BY THE AMERICAN NATIONAL STANDARDS INSTITUTE INC. LATEST EDITIONS.
- ALL PLANT MATERIAL SHALL BE NURSERY GROWN WITH SOUND HORTICULTURAL PRACTICES AND UNLESS OTHERWISE APPROVED BY THE OWNER, OR DESIGNATED REPRESENTATIVE, GROWN IN SOIL AND CLIMATE CONDITIONS SIMILAR TO THIS PROJECT SITE.
- ALL MATERIAL SHALL EXHIBIT HEALTHY GROWTH WITH GOOD BRANCHING STRUCTURE, DENSE FOLIAGE AND A FIBROUS, DEVELOPED ROOT SYSTEM.
- ALL MATERIAL SHALL BE FREE OF INSECT INFESTATION AND DISEASE. THE OWNER RESERVES THE RIGHT TO HAVE THE PLANT MATERIAL INSPECTED AND TAGGED AT THE GROWING SITE, AND TO REJECT ANY DEFICIENT MATERIAL AT THE JOB SITE.

**PLANT MATERIAL HANDLING:**

- ALL PLANT MATERIAL SHALL ARRIVE AT THE JOB SITE IN A HEALTHY CONDITION.
- THE CONTRACTOR SHALL STAGE DELIVERY AND PLANT INSTALLATION TO MINIMIZE STRESS ON PLANT MATERIAL.
- PLANT MATERIAL TO BE STAGED ON OR OFF THE JOB SITE SHALL BE LOCATED TO MAXIMIZE PROTECTION FROM HOT SUN AND DRYING WINDS, AND SHALL BE WATERED TO MAINTAIN A STRESS FREE CONDITION. ON-SITE WATER MAY NOT BE AVAILABLE FOR THE CONTRACTOR TO USE. THE LACK OF AVAILABLE WATER SHALL NOT RELIEVE THE CONTRACTOR OF ADEQUATE MAINTENANCE.

**PLANTING SCHEDULE:**

- PLANTING SCHEDULES SHALL COINCIDE WITH THE OVERALL PROGRESS OF SITE CONSTRUCTIONS.
- CERTAIN PLANT SPECIES REQUIRE SPECIFIC SEASON INSTALLATION AND SHALL BE COORDINATED APPROPRIATELY.
- PLANTING IS DISCOURAGED IN THE HOT, DRY PERIODS OF SUMMER AND DURING FROZEN GROUND CONDITIONS IN WINTER, BUT MAY BE CONSIDERED YEAR-ROUND WITH MAINTENANCE REQUIREMENTS ADDRESSED ACCORDINGLY.
- THE CONTRACTOR IS RESPONSIBLE FOR PLANT MATERIAL HEALTH AND VIGOR REGARDLESS OF WHEN THE MATERIAL IS INSTALLED.

**TREE & SHRUB PLANTINGS:**

- ALL TREE/SHRUB PLANTING PITS SHALL BE EXCAVATED TO A DEPTH SO THAT THE PLANT ROOT FLARE SHALL LIE AT THE FINISHED GRADE SURROUNDING THE PLANT. SOIL THAT MAY HAVE BEEN PLACED ON TOP OF ROOT BALL OR SETTLED AROUND TRUNK OR ROOT FLARE DURING TRANSPORT SHALL BE REMOVED TO ADEQUATELY EXPOSE ROOT FLARE SO PROPER PLANTING DEPTH CAN BE ESTABLISHED.
- THE ROOT BALL SHALL REST ON UNDISTURBED OR STABILIZED SOIL. THE CONTRACTOR SHALL NOTIFY THE OWNER, OR DESIGNATED REPRESENTATIVE IF THIS PLANTING DEPTH SPECIFICATION CANNOT BE IMPLEMENTED.
- TREE PLANTING PITS SHALL BE EXCAVATED DEPTH EQUAL TO THE HEIGHT OF THE ROOT BALL AND TO A WIDTH EQUALING TWICE THE ROOT BALL DIAMETER.
- EXCAVATED SOILS NOT PREVIOUSLY COMPACTED OR OTHERWISE DEGRADED SHALL BE RE-USED FOR PLANTING PIT BACKFILL. EXCAVATED SOILS UNSUITED FOR BACKFILL SHALL BE AMENDED WITH FRIABLE TOPSOIL TO CREATE A SUITABLE PLANTING SOIL AS APPROVED BY THE OWNER, OR DESIGNATED REPRESENTATIVE. EXCAVATED SOILS THAT CANNOT BE RESTORED TO A REASONABLE PLANTING SOIL SHALL BE REMOVED AND REPLACED WITH A SUITABLE PLANTING SOIL. NOTE: FOR BEDDING PURPOSES OR UNLESS OTHERWISE SPECIFIED HERON, THE CONTRACTOR SHALL ASSUME EXCAVATED SOILS ARE SUITABLE FOR PLANTING BACKFILL.
- SLOW RELEASE FERTILIZER TAB(S) (20-10-5, 21 GRAM, 2-YEAR) SHALL BE ADDED TO PLANTING HOLES AS PER MANUFACTURER'S SPECIFICATIONS.
- THE SIDES OF CONTAINER GROWN STOCK SHALL BE CUT OR SCARIFIED TO ELIMINATE BOUND ROOTS AND PROMOTE HEALTHY ROOT GROWTH.
- ALL SYNTHETIC MATERIALS FROM AROUND THE TREE TRUNK AND ROOT BALL SHALL BE REMOVED AND NOT EVIDENT WITHIN THE BACKFILL SOIL MIX. STRING, ROPE, SYNTHETIC BURLAP, PLASTIC STRAPPING, AND OTHER MATERIALS THAT WILL NOT DECOMPOSE IN THE SOIL SHALL BE REMOVED AT THE TIME OF PLANTING
- SOIL GRADES SHALL BE FEATHERED AROUND PLANTINGS TO BLEND WITH SURROUNDING LANDSCAPE OR TURF AREAS. EXCESS EXCAVATED SOIL SHALL BE REMOVED FROM JOB SITE.
- ALL TREES AND SHRUBS SHALL BE WATERED DURING PLANTING TO MINIMIZE AIR POCKETS AND TO ENSURE SOIL CONTACT WITH ROOTS.

**TREE STAKING/ GUYING:**

- TREES SHALL BE STAKED TO PREVENT TOPPLING BY STRONG WIND.
- STAKES SHALL BE INSTALLED ACORDING TO DETAIL PROVIDED ON PLAN. ANOTHER STAKING/GUYING METHOD MAY BE USED WITH APPROVAL OF OWNER'S REPRESENTATIVE.

**HERBACEOUS PLANT INSTALLATION:**

- ROOT MASSES SHALL BE MOIST, BUT NOT SATURATED, AT THE TIME OF PLANTING.
- PLANT PITS SHALL BE PREPARED USING A DIBBLE, SPADE OR MECHANICAL AUGER BY OPENING A HOLE AT THE PLANTING SITE. FOR PLANTINGS UNDER EXISTING TREES, PLANTING HOLES SHALL BE HAND-DUG AND LOCATIONS ADJUSTED TO ACCOMMODATE EXISTING TREE ROOTS.
- PLANTS SHALL BE PLACED IN PLANTING PITS IN A VERTICAL POSITION.
- SOIL SHALL BE BACKFILLED INTO PLANT PITS, LIGHTLY COMPRESSED TO ELIMINATE AIR POCKETS, AND FIRMED AROUND THE PLANTS.
- ALL PLANTS SHALL BE WATERED DURING PLANTING TO MINIMIZE AIR POCKETS AND TO ENSURE SOIL CONTACT WITH ROOTS.

**MULCHING:**

- THREE INCHES OF HARDWOOD MULCH SHALL BE APPLIED TO ALL NEWLY PLANTED TREES AND SHRUBS.
- THREE INCHES OF HARDWOOD MULCH SHALL BE APPLIED TO UPLAND HERBACEOUS PLANTING AREAS AS SHOWN ON THE PLANTING PLAN.
- WOOD CHIPS STOCKPILED FROM TREE REMOVAL PROCESS, OR COMPOSTED LEAVES, MAY BE USED AS MULCH UNDER EXISTING TREES.
- MULCH SHALL NOT BE APPLIED TO SWALE, FOREBAY, OR WETLAND PLANTING SHELF AREAS.

**MAINTENANCE**

**DURING CONSTRUCTION PERIOD:**

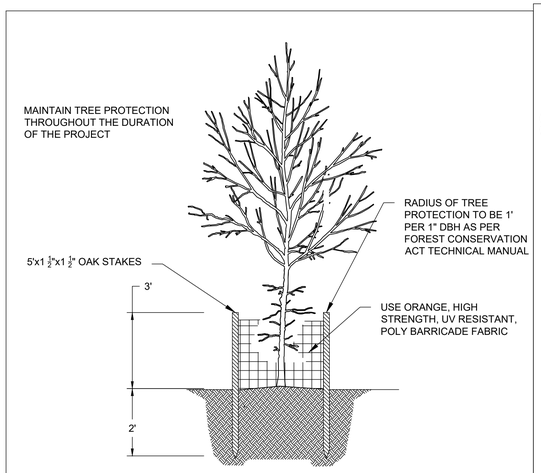
- THE CONTRACTOR SHALL MAINTAIN ALL PLANT MATERIAL THROUGHOUT JOB COMPLETION AND FINAL ACCEPTANCE. ALL PLANT MATERIAL SHALL BE WATERED, WEEDED, MULCHED, PRUNED AND TREATED FOR INSECT DAMAGE, FUNGUS OR DISEASE TO INSURE HEALTHY GROWING CONDITIONS. WATERING SHALL PROVIDE ADEQUATE MOISTURE TO SUPPORT VIGOROUS GROWTH. DURING TIMES OF NORMAL PRECIPITATION, ALL TREES SHALL RECEIVE 1", OR APPROX. 5-10 GALLONS OF WATER PER WEEK. PLANTS IN HEAVIER SOILS SHALL BE MONITORED TO AVOID OVER-WATERING. GATOR BAGS, WATERING TRAYS, IRRIGATION, HAND WATERING, OR OTHER INDUSTRY STANDARD TECHNIQUES SHALL BE EMPLOYED TO MAINTAIN ADEQUATE MOISTURE SUPPLY TO THE PLANT MATERIAL. THE CONTRACTOR SHALL INSTRUCT THE OWNER REGARDING THE REQUIRED AND PROPER ON-GOING MAINTENANCE OF LANDSCAPE MATERIAL.

**DURING WARRANTY PERIOD:**

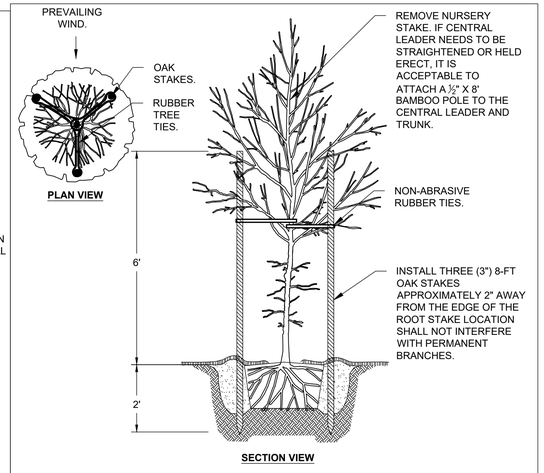
- THE CONTRACTOR SHALL VISIT THE SITE PERIODICALLY TO ADVISE OWNER OF ANY DEFICIENT CONDITIONS AFFECTING PLANT SURVIVABILITY. DEAD OR DYING PLANT MATERIAL SHALL BE REPLACED (SEE WARRANTY BELOW).

**LANDSCAPE WARRANTIES**

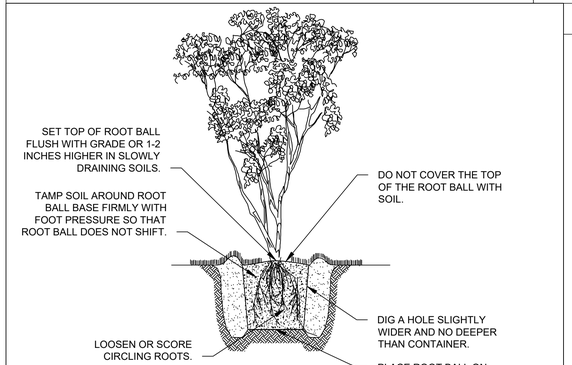
- THE CONTRACTOR SHALL GUARANTEE THAT ALL PLANTS ARE TRUE TO NAME, HAVE BEEN GROWN IN ACCORDANCE WITH GOOD HORTICULTURAL PRACTICES, ARE FREE OF DISEASE, INSECTS, EGGS, LARVAE AND OTHER DEFECTS, ARE HEALTHY AT THE TIME OF PLANTING AND THAT ALL PLANTS HAVE BEEN PLANTED ACCORDING TO ACCEPTED LANDSCAPING PRACTICES.
- THE OWNER SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND CARE OF THE PLANTS IN ACCORDANCE WITH GOOD HORTICULTURAL PRACTICES; INCLUDING: (A) ADEQUATE WATERING; (B) WEED CONTROL; (C) PROTECTION FROM HERBIVORY; (D) DISEASE AND INSECT CONTROL AFTER PLANTINGS HAVE BEEN ACCEPTED BY THE OWNER.
- SUBJECT TO THE ABOVE CONDITIONS, THE CONTRACTOR SHALL GUARANTEE 85% PLANT SURVIVAL FOR ONE YEAR FROM THE TIME OF INSTALLATION. IF AFTER ONE YEAR, THE TOTAL NUMBER OF PLANTS HAS FALLEN BELOW THIS THRESHOLD, THE CONTRACTOR SHALL MAKE A ONE-TIME REPLACEMENT OF PLANTINGS TO BRING PLANT NUMBERS TO THE TOTALS SPECIFIED FOR EACH SPECIES, OR FUNCTIONAL EQUIVALENT.
- THIS SURVIVAL GUARANTEE SHALL BE VOID IF: (A) PLANTS ARE NOT MAINTAINED BY THE OWNER ACCORDING TO GOOD HORTICULTURAL PRACTICES, INCLUDING, BUT NOT LIMITED TO THE PRACTICES SPECIFIED ABOVE; (B) PLANTINGS HAVE BEEN DAMAGED AS A RESULT OF NATURALLY OCCURRING EVENTS, INCLUDING BUT NOT LIMITED TO FLOODING, WIND, FIRE, OR DISEASE/PEST INFESTATIONS; (C) PLANTINGS HAVE BEEN DAMAGED BY OTHERS, INCLUDING CONTRACTORS OR UTILITIES PERFORMING WORK IN THE AREA; (D) PLANTINGS HAVE BEEN DAMAGED BY CONDITIONS NOT PRESENT AT THE TIME OF PLANTING, INCLUDING BUT NOT LIMITED TO CHANGES IN DRAINAGE PATTERNS, OR INAPPROPRIATE APPLICATION OF HERBICIDES.



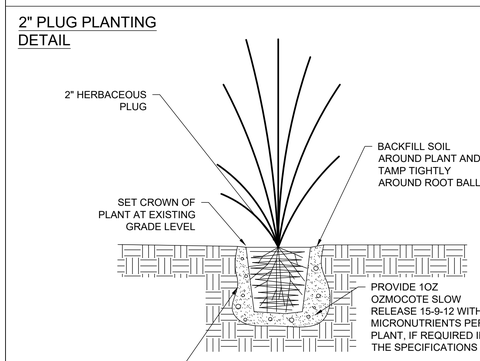

**STANDARD TREE PROTECTION FENCE**

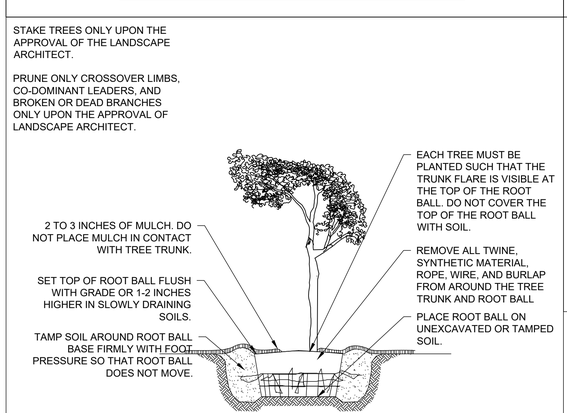



**STANDARD TREE STAKE DETAIL**

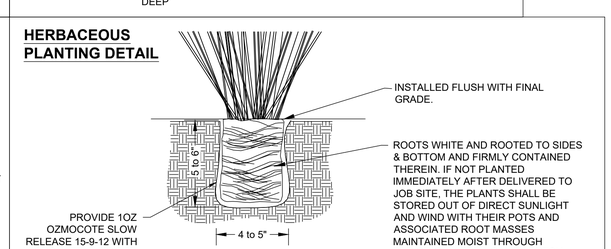



**CONTAINER TREE & SHRUB PLANTING DETAIL**




**B&B TREE & SHRUB PLANTING DETAIL**




## B-4-2 STANDARDS AND SPECIFICATIONS FOR SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS

**Definition**

The process of preparing the soils to sustain adequate vegetative stabilization.

**Purpose**

To provide a suitable soil medium for vegetative growth.

**Conditions Where Practice Applies**

Where vegetative stabilization is to be established.

**Criteria**

A. Soil Preparation

1. Temporary Stabilization
   a. Seedbed preparation consists of loosening soil to a depth of 3 to 5 inches by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened, it must not be rolled or dragged smooth but left in the roughened condition. Slopes 3:1 or flatter are to be tracked with ridges running parallel to the contour of the slope.
   b. Apply fertilizer and lime as prescribed on the plans.
   c. Incorporate lime and fertilizer into the top 3 to 5 inches of soil by disking or other suitable means.

2. Permanent Stabilization
   a. A soil test is required for any earth disturbance of 5 acres or more. The minimum soil conditions required for permanent vegetative establishment are:
   i. Soil pH between 6.0 and 7.0.
   ii. Soluble salts less than 500 parts per million (ppm).
   iii. Soil contains less than 40 percent clay but enough fine grained material (greater than 30 percent silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception: if lovegrass will be planted, then a sandy soil (less than 30 percent silt plus clay) would be acceptable.
   iv. Soil contains 1.5 percent minimum organic matter by weight.
   v. Soil contains sufficient pore space to permit adequate root penetration.
   b. Application of amendments or topsoil is required if on-site soils do not meet the above conditions.
   c. Graded areas must be maintained in a true and even grade as specified on the approved plan, then scarified or otherwise loosened to a depth of 3 to 5 inches.
   d. Apply soil amendments as specified on the approved plan or as indicated by the results of a soil test.
   e. Mix soil amendments into the top 3 to 5 inches of soil by disking or other suitable means. Rake lawn areas to smooth the surface, remove large objects like stones and branches, and ready the area for seed application. Loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface where site conditions will not permit normal seedbed preparation. Track slopes 3:1 or flatter with tracked equipment leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. Leave the top 1 to 3 inches of soil loose and friable. Seedbed loosening may be unnecessary on newly disturbed areas.

B. Topsoiling

1. Topsoil is placed over prepared subsoil prior to establishment of permanent vegetation. The purpose is to provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.

2. Topsoil salvaged from an existing site may be used provided it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-NRCS.

3. Topsoiling is limited to areas having 2:1 or flatter slopes where:
   a. The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
   b. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.
   c. The original soil to be vegetated contains material toxic to plant growth.
   d. The soil is so acidic that treatment with limestone is not feasible.

4. Areas having slopes steeper than 2:1 require special consideration and design.

5. Topsoil Specifications: Soil to be used as topsoil must meet the following criteria:
   a. Topsoil must be a loam, sandy loam, clay loam, silt loam, sandy clay loam, or loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Topsoil must not be a mixture of contrasting textured subsoils and must contain less than 5 percent by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1½ inches in diameter.
   b. Topsoil must be free of noxious plants or plant parts such as Bermuda grass, quack grass, Johnson grass, nut sedge, poison ivy, thistle, or others as specified.
   c. Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil.

6. Topsoil Application
   a. Erosion and sediment control practices must be maintained when applying topsoil.
   b. Uniformly distribute topsoil in a 5 to 8 inch layer and lightly compact to a minimum thickness of 4 inches. Spreading is to be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations must be corrected in order to prevent the formation of depressions or water pockets.
   c. Topsoil must not be placed if the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed preparation.

C. Soil Amendments (Fertilizer and Lime Specifications)

1. Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas of 5 acres or more. Soil analysis may be performed by a recognized private or commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analyses.

2. Fertilizers must be uniform in composition, free flowing and suitable for accurate application by appropriate equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers must all be delivered to the site fully labeled according to the applicable laws and must bear the name, trade name or trademark and warranty of the producer.

3. Lime materials must be ground limestone (hydrated or burnt lime may be substituted except when hydroseeding) which contains at least 50 percent total oxides (calcium oxide plus magnesium oxide). Limestone must be ground to such fineness that at least 50 percent will pass through a #100 mesh sieve and 98 to 100 percent will pass through a #20 mesh sieve.

4. Lime and fertilizer are to be evenly distributed and incorporated into the top 3 to 5 inches of soil by disking or other suitable means.

5. Where the subsoil is either highly acidic or composed of heavy clays, spread ground limestone at the rate of 4 to 8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil.

**EROSION AND SEDIMENT CONTROL STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION**

1. Contractor shall install soil erosion and sediment control devices prior to any grading. Following initial disturbance or re-disturbance, permanent or temporary stabilization shall be completed within three (3) calendar days as to the surface of all perimeter controls, dikes, swales, ditches, perimeter slopes greater than three (3) horizontal to one (1) vertical (3:1) and seven (7) days as to all other disturbed or graded areas on the project site not under active grading.
2. All temporary erosion and sediment control devices are to be provided as indicated on this plan, with location adjustments to be made in the field as necessary, and to be maintained at the end of each working day until project completion. The minimum area practical shall be disturbed for the minimal amount of time possible.
3. Clearing and grubbing shall include all trees, brush, debris, root mat and organic materials to be removed.
4. Temporary seeding shall be accomplished between February 15th through April 30th, or August 15th through November 30th. During other times, temporary mulching shall be provided.
5. Temporary seeding shall conform to the following applications: 436 lbs. per acre of 10-20-20; 4,000 lbs. per acre of ground limestone, to be incorporated into the soil by disking or other suitable means. Annual ryegrass shall be applied at a rate of 50 lbs. per acre using suitable equipment. Mulching shall be accomplished immediately after seeding.

| Seed Mixture (For Hardiness Zone 7a) (From Table B.1) | | | | | Fertilizer Rate (10-20-20) | Lime Rate |
|---|---|---|---|---|---|---|
| No. | Species | Appl. Rate (lbs./ac.) | Seeding Dates | Seeding Depths | | |
| | ANNUAL RYEGRASS | 50# | 2/15 - 4/30<br>8/15 - 11/30 | ½" | 436 lb/ac<br>10 lb/<br>1000 sf | 2 tons/ac<br>90 lb/<br>1000 sf |
| | BARLEY | 96# | 2/15 - 4/30 / 8/15 - 11/30 | 1" | | |
| | OATS | 72# | 2/15 - 4/30 / 8/15 - 11/30 | 1" | | |
| | WHEAT | 120# | 2/15 - 4/30 / 8/15 - 11/30 | 1" | | |
| | CEREAL RYE | 112# | 2/15 - 4/30 / 8/15 - 12/15 | 1" | | |
| | FOXTAIL MILLET | 30# | 5/1 - 8/14 | ½" | | |
| | PEARL MILLET | 20# | 5/1 - 8/14 | ½" | | |

6. Mulching shall be unchopped, unrotted, small grain straw applied at a rate of 2-2½ tons per acre. Anchor mulch with a mulch anchoring tool on the Contour. Wood cellulose fiber may be used for anchoring straw at a rate of 750 lbs. per acre mixed with water at a maximum of 50 lbs. of wood cellulose fiber per 100 gals. of water, or with a synthetic liquid binder according to manufacturer recommendations. Wood cellulose fiber used as mulch must be applied at a net dry weight of 1,500 lbs. per acre. Mix wood cellulose fiber with water to attain a mixture with a maximum of 50 lbs. of wood cellulose fiber per 100 gals. of water.
7. Permanent seeding shall be accomplished between March 1st through May 15th, or August 15th through October 15th. Permanent seeding at other than specified times will be allowed only upon written approval. Permanent seeding shall conform to the following applications: Permanent seeding for sites having disturbed over five (5) acres shall use fertilizer rates recommended by a soil testing agency and the recommendations provided in the Permanent Seeding Summary Table. Permanent seeding for conditions other than listed above shall be performed at the rates and dates as provided in the Permanent Seeding Summary Table below. Fertilizer and lime amendments shall be incorporated into the top 3"-5" of the soil by disking or other suitable means. Mulching shall be accomplished as discussed in Item #6 of these specifications.

| Seed Mixture (For Hardiness Zone 7a) (From Table B.3) | | | | | Fertilizer Rate (10-20-20) | | | Lime Rate |
|---|---|---|---|---|---|---|---|---|
| No. | Species | Appl Rate (lbs/ac) | Seeding Dates | Seeding Depths | N | P2O5 | K2O | |
| 7 | CREEPING RED FESCUE<br>KENTUCKY BLUEGRASS | 60#<br>15# | 3/1 - 5/15<br>8/15 - 10/15 | 1/4" - 1/2" | 45 lb/ac<br>1lb/<br>1000 sf | 90<br>lb/ac<br>2lb/<br>1000 sf | 90 lb/ac<br>2lb/<br>1000 sf | 2 tons/ac<br>90 lb/<br>1000 sq |
| 8 | TALL FESCUE | 100# | 3/1 - 5/15<br>8/15 - 10/15 | 1/4" - 1/2" | | | | |
| 9 | TALL FESCUE<br>KENTUCKY BLUEGRASS<br>PERRENIAL RYEGRASS | 60#<br>40#<br>20# | 3/1 - 5/15<br>8/15 - 10/15 | 1/4" - 1/2" | | | | |
| | | | | | | | | |

8. Any spoil or borrow will be placed at a site approved by the Soil Conservation District.
9. All areas remaining or intended to remain disturbed for longer than seven (7) days shall be stabilized in accordance with the USDA, Natural Resources Conservation Service Standards and Specifications for Soil Erosion and Sediment Control in developing areas for critical area stabilization.
10. It will be the responsibility of the Contractor or Subcontractor to notify the Engineer of any deviation from this plan. Any change made in this plan without written authorization from the Engineer will place responsibility of said change on the Contractor or Subcontractor.

# LANDSCAPE DETAILS

FOR

# FOUNDATION OF HOPE

TAX MAP 0104, ID 0000, PARCEL 1463

FIRST ELECTION DISTRICT, TALBOT COUNTY, MARYLAND

PREPARED FOR FOUNDATION OF HOPE


RAUCH INC.
Engineering | Survey | Architecture | Environmental
Main Office: 106 N Harrison St • Easton, MD 21601
Web: www.rauch-inc.com | Email: design@raucheng.com
Phone: 410 770 9081 | Fax: 410 770 3887


**Professional Certification.** I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 11024
Expiration Date: July 24, 2026

30-May-25

**REVISIONS**

| REV. # | DATE | DESCRIPTION |
|---|---|---|
| A | 05/26/2025 | ISSUED FOR DO REVIEW |
| B | 05/30/2025 | SITE DATA UPDATES; FENCE AROUND TRASH |

MISS UTILITY OF DELMARVA — CALL BEFORE YOU DIG — 811

| | |
|---|---|
| DATE: | 5/22/2025 |
| SCALE: | N/A |
| DRAWN BY: | GJR |
| DESIGNED BY: | GJR |
| APPROVED BY: | |

SHEET NO.: L-505

**FOR PERMIT REVIEW**

Z:\FOUNDATION OF HOPE\CIVIL\PRODUCTION PLANS\FOUNDATION OF HOPE - SITE PLAN.DWG

**Town of Easton**
Planning and Zoning
14 S. Harrison Street Easton, MD 21601 410-822-1943
**HISTORIC DISTRICT COMMISSION**
**CERTIFICATE OF APPROPRIATENESS**

| | |
|---|---|
| **Meeting Date:** | **10/28/2024** |
| **Application Number:** | **2024-1318** |
| **Location:** | **52 S Washington Street** |
| **Applicant:** | **Timothy F. Crosby AIA** |

**Request**: The applicant is requesting approval for the construction of a new two-story, 5400 square foot structure on the vacant lot located on the corner of S. Washington Street and South Street. Proposed site improvements include the construction of an off-street parking area with seven (7) spaces, additional landscaping, and the addition of a small stormwater management feature. The materials proposed for this structure include vinyl-clad wood windows, fiberglass doors, a combination of brick and fiber cement siding, composite trim, PVC shutters, iron railings, standing seam metal roofing, and asphalt shingle roofing.

**The Applicant amended their application to reflect the use of half-round gutters and downspouts.**

Commissioner Stuart moved to **approve the amended application subject to the following conditions:**

1) **A minimum landscape buffer of three (3) feet shall be installed between the edge of the parking lot and S. Washington Street. Planting shall be of a native species, and at least 42" in height;**
2) **all HVAC equipment shall be located on a non-visible rooftop location or within a side yard location that is not visible from a public right of way;**
3) **trash receptacles shall be screened from view using opaque fencing;**
4) **half-round gutters and downspouts shall be utilized; and**
5) **minor revisions to the proposed site and structure that are consistent with the Historic District Guidelines may be administratively approved by staff after consultation with the Chairperson and/or Vice Chairperson of the Commission.**

Commissioner Bateman seconded the motion.
FOR: 4 - Demby, Bateman, Greer, Stuart

If the scope of work changes and or the materials and methods used are contrary to that understood by the application and any supplemental information provided, the work shall not continue until such time that the Commission is notified and said differences are considered and approved by the Commission.

"A Certificate of Appropriateness shall lapse upon the expiration of the corresponding Building Permit. For applications that require a building permit but for which none is issued, this Certificate of Appropriateness shall lapse six (6) months after issuance. In the event a building permit is not required, the Certificate of Appropriateness shall lapse six (6) months from its issuance if substantial work is not underway. For good cause shown, this period may be extended by the Commission".

In the event than any party is aggrieved by a decision of the Commission, the party has the right of appeal to the Board of Zoning Appeals in accordance with Article XIII of the Zoning Code. Appeal requests must be filed within thirty (30) days from the date of the Commission decision. Further appeal may be taken to the Circuit Court for Talbot County.

**Prior to start of work please contact the Building Inspection Department at 410 822 2525 to ensure all required building permits have been obtained. Also, please reach out to the Building Inspection department to ensure your project complies with the Town of Easton's building codes.**

Nicholas Johnson
Representative, Historic District Commission

11/13/2024
Date

**Town of Easton**
Engineering, Planning and Zoning
14 South Harrison Street, Easton, MD 21601

RECEIVED
MAY 06 2025
TOWN OF EASTON

# Easton Staff Development Review

## Property Information

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Address | 52 South Washington Street, Easton, MD 21601 | | | | | | |
| Tax Map | 0104 | Grid | 0000 | Parcel | 1463 | Lot | |
| Deed Refernce: | Liber | 02871 | Folio | 00437 | | | |
| Plat Reference: | Liber | | Folio | | | | |
| Base Zoning District | CB | Historic District | Y ☒ | N ☐ | Planning Redevelopment | Y ☐ | N ☒ |

Purpose of Application / Description of Work:

Proposed commercial training building with parking, ADA accessible sidewalks, utilities, and stormwater management.

## Owner

| | |
|---|---|
| Name | Foundation of Hope INC |
| Mailing Address | 8671 Camac Street, Easton, MD 21601 |
| Telephone No. | (410) 443-9936 Email |

## Applicant / Agent

| | |
|---|---|
| Name | RAUCH inc - Brian Fitzgerald |
| Mailing Address | 106 N Harrison Street, Easton, MD 21601 |
| Telephone No. | (410)770-9081 Email brian@raucheng.com |

## Surveyor / Engineer

| | | | | |
|---|---|---|---|---|
| Name | RAUCH inc | License No. | 11024 | Expiration Date 7/24/2026 |
| Mailing Address | 106 N Harrison Street, Easton, MD 21601 | | | |
| Telephone No. | (410)770-9081 | Email | brian@raucheng.com | |

***Any modifications during review shall warrant an updated application.***

***I do hereby solemnly declare and affirm that the information provided by this application and the documents attached hereto accurately represent the conditions of the request and that submission of an incomplete application will be returned for correction prior to processing.***

Signature of Applicant or Agent

Date 5/6/2025

Printed Name of Applicant or Agent Brian Fitzgerald

*For Office Use Only*

Easton Staff Development Review Meeting Required Y ☒ N ☐

Easton Staff Development Review Meeting Date **05/28/2025**

**2025 - 1454 / W 25 - 06**

Completeness Check Date **05/06/2025**

Revisions/Resubmissions Required Y ☐ N ☒

Resubmission Date

Documents Received Y ☐ N ☐

Staff Determination

**Scheduled for May 28, 2025 Easton Staff Development Review**

**Historic District Certificate of Appropriateness issued October 28, 2024**

**Scheduled for June 24, 2025 Planning Commission**

Planning Commission Required Y ☒ N ☐

BOZA Required Y ☒ N

Historic District Commission Required Y ☒ N ☐

Resubmission for ESDR Required Y ☐ N ☒

Staff Signature Samantha N. Smith Date **06/03/2025**

Revised 02-2019

**TOWN OF EASTON**
**Planning & Zoning Department**
14 South Harrison Street
P.O. Box 520
Easton, Maryland 21601

## Easton Staff Development Review Worksheet

**Date**: May 29, 2025
**Project:** 52 S. Washington Street
**To**: Brian Fitzgerald, Rauch Inc.
**CC:** Keasha Haythe - % Foundation of Hope Inc. (Founder)
**CC:** Robert Rauch, Rauch Inc.
**CC:** Alan Brock, Crosby & Associates

The Easton Staff Development Review (ESDR) Committee meeting was held on May 28th at 11:00 am. Staff reviewed the Site Sketch Plan for the proposed commercial training building. The site includes a parking lot, landscaping, utilities and SWM features on the property located at 52 S. Washington Street, also known as Tax Map 104, Parcel 1463.

The Committee determined that the project will need to address all agency comments as specified in the attached review letters and at ESDR. It was determined by the Committee that the application may be scheduled for Planning Commission review. Please submit all revised documents.

At this time, based on the ESDR sketch plan submission, Staff did identify constraints which would require action by the Board of Zoning Appeals.

The next Planning Commission meeting is scheduled for **Tuesday, June 24, 2025 at 1:00 pm.** Submit all documentation to the Planning and Zoning Department no later than Monday, June 2nd at 1:00 pm. All files for presentation at the Planning Commission, as described under ***§****Section 28-901.3.A.(1 through 13) of the Town's Zoning Ordinance,* need to be provided on a flash drive. In addition, provide a digital submittal (via email) of all supporting documents necessary for the Planning Commission's review, including **six paper copies**.

Please contact the Planning & Zoning Department at 410 822-1943 with any questions.
Sincerely,

Joseph A. Mayer
Plan Reviewer

# TOWN OF EASTON
## PLANNING & ZONING DEPARTMENT
P.O. Box 520
Easton, Maryland 21601
410-822-1943
www.EastonMD.gov


**DATE:** **May 28, 2025**
**TO:** **Brian Fitzgerald –** Rauch, Inc. (Agent)
**Keasha Haythe** - % Foundation of Hope INC (Founder)
**Cc:** **Miguel Salinas –** Director of Planning & Zoning Department
**Rick VanEmburgh –** Town Engineer

**FROM:** **Joseph A. Mayer -** Plan Reviewer, Planning & Zoning Department
**SUBJECT: 52 South Washington Street - Foundation of Hope**

We reviewed the **May 6, 2025** Sketch Plan Submittal for the Subject Project and have the following comments:

## PLANNING & ZONING COMMENTS

**Sketch Site Plan Review #1**

1. Per § Section 28-1001.2 K from the Town's Zoning Ordinance, *no part of any parking or maneuvering space shall be closer than ten (10) feet to any street line, sidewalk or property line for commercial or industrial uses.* Remove or adjust the parking spaces adjacent to the Northern property line and maintain a ten (10') distance from the property line or obtain a Variance from the Board of Zoning Appeals. **See attached markup below.**

2. The ADA access aisle depicted on the Architectural Plans does not align with the Overall Site Plan (sheet C-100). Please revise for consistency.

3. List intended uses within Site Data on sheet G-100.

4. Will Electric Vehicle (EV) Charging Station stalls be included in the plans?

5. The submitted Architectural Plans detail a proposed two-story structure. Include the total square footage on all applicable site plans.

6. Check Limit of Disturbance calculation on sheet G-100.

7. The length of the outer building as shown in the Architectural Plans and the Overall Site Plan is inconsistent. Please verify the building's outer length dimension and make the necessary revisions to ensure accuracy across all plans.

8. The Historic District Commission (HDC) approved the HDC Application on October 28, 2024 with the condition that trash receptacles shall be screened from view using opaque fencing. Revise *Proposed Feature Note #19* on sheet C-100 to include the condition within the note and plan view.

9. A Certificate of Appropriateness was issued by the Historic District Commission (HDC) on November 13, 2024 and has lapsed six (6) months after issuance. Coordinate with the Planning & Zoning Department for the next available Historic District meeting to obtain an extension to the previous approval.

10. The Western Arborvitae (Thuja plicata) selected on sheet L-501 is not a native plant species. Replace plant species with American Arborvitae (Thuja occidentalis).

11. Indicate within the Site Data the overall proposed parking spaces, including the minimum and **maximum** parking space requirements for designated use.

12. Elaborate your response to the parking note within the parking calculations on sheet G-100. Verify, in a statement, that the proposed parking on-site is adequate to support the proposed use. Provide data that supports the correlation between the parking demand and the square foot area of the proposed building.

13. Revise the description of Bufferyard “E” to read 10’ width - 2 shade/canopy tree on sheet G-100. **See markup below.**

14. Complete a Site Plan Application prior to submitting documents to the Planning Commission.

15. All applicable review fees are required to be paid prior to submitting to the Planning Commission.

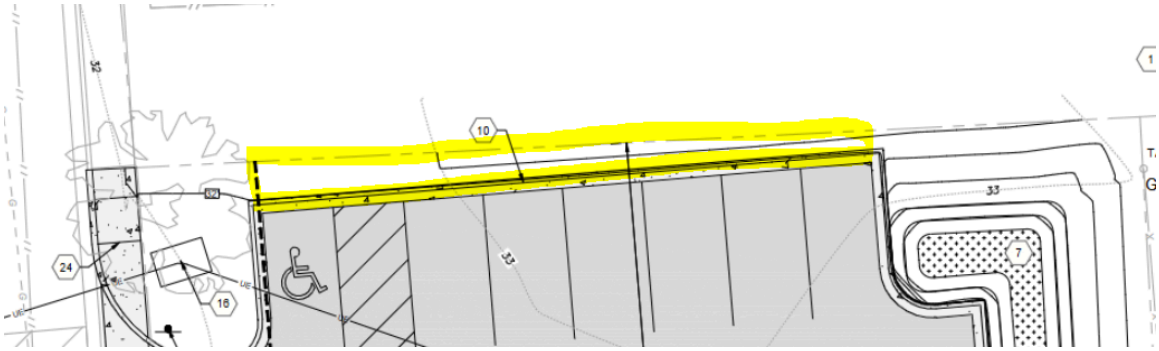
16. **Prior to Development Site Plan approval,** verify and add slope information for all ADA spaces, ramps, access aisles and landing areas. Check all ADA related spot elevations and obtain approval from the Building Inspection Department.

17. **Prior to Development Site Plan approval,** dumpster areas are to be ADA compliant. When new construction or alterations occur, ADA requires that the altered portion of the facility, including dumpster areas, be accessible to individuals with disabilities. This includes providing accessible routes to the dumpster, ensuring clear access to the dumpster itself, and providing proper signage.

18. **Prior to Development Site Plan approval,** provide Van Accessible ADA Parking Sign Detail to include the sign "*No Parking in Access Aisle*" with an arrow pointing to the access aisle.

**Please address review comments 3, 5, 8, and 10 through 15 prior to your Planning Commission submission. All remaining comments are to be addressed prior to Preliminary Site Plan review.**

**Review Comment #1**




**Review Comment #13**

**(2 RED OAK STREET TREES ARE EXISTING IN GOOD HEALTH). PLANTINGS ARE PROVIDED CLOSER TO THE BUILDING - 8 SHRUBS & 20 PE NIALS PROVIDED.**

2

PROPERTY LINE WEST: SOUTHERN LINE CLOSER TO SOUTH ST. (77' L)

BUFFERYARD "E" - *10' WIDTH - 5 SHADE/CANOPY TREE, 8 EVERGREEN SHRUBS; OR 4 EVERGREEN TREES OR FENCE WITH 3EVERGREEN LARGE SHRUBS PER 50 LF*

**WAIVER REQUIRED - YES, FOR BUFFER WIDTH - 5 EVERGREEN TREES PROVIDED (TH. OCC. 'WINTERGREEN') WHERE BUFFER WIDTH ALLOWS.**

PROPERTY LINE ORIENTED EAST-WEST HALFWAY UP WESTERN EDGE (47' L)

BUFFERYARD "E" - *10' WIDTH - 5 SHADE/CANOPY TREE, 8 EVERGREEN SHRUBS; OR 4 EVERGREEN TREES OR FENCE WITH 3EVERGREEN LARGE SHRUBS PER 50 LF*

**Plan Review Status**

| Sketch Site Plan Review | | | Comments |
|---|---|---|---|
| Plans Approved | ☐Y | ☒ N | Please review the comments above. Revise and resubmit. |
| **Forest Stand Delineation & Forest Conservation Plan** | | | |
| ☐ Required<br>☐ Submitted<br>☐ Approved<br>☒ **Exempt** | | | ***The Easton Forest Conservation Requirements of the Town Code, Article III, § 31-3.1 Relevance, states that the requirements are applicable to any person making application for a subdivision, project plan, grading, or sediment and erosion control approval on units of land 40,000 square feet or greater after the effective date of the Ordinance.***<br>**Analysis -** The development of this site is within the priority funding area that's within the proximity of residential dwellings. The overall site area is 11,020 square feet and is under the required 40,000 square foot minimum. Therefore, Forest Conservation is not required.<br>. |
| **Other** | | | |
| ☒ **Required**<br>☐ Submitted<br>☐ Approved | | | **IMPACT FEES**<br>**Please note, there will be a required Impact Fee for the proposed building. The Town's Impact Fees and Inspection Fees are to be paid upon the time you pick up your Building Permit. Please provide building square footage with appropriate use for calculation of Impact Fee.**<br><br>**Talbot County Impact Fees are due prior to obtaining your Building Permit. Please provide receipt of payment to the Town's Building Inspection Division.**<br><br>**Please add estimated Town Impact Fee calculations to cover sheet and add note below calculations; "*Note: The Impact Fee indicated in this notation shall not be construed as vested and until submission of the building application.*"**<br><br>**Supplemental Waiver Request Application**<br>**The applicant for 52 South Washington Street has requested a landscape and buffering waiver from Chapter 28-1014.7.E.4.(a)&(b) & Chapter 28-1014.7.E.5.(c) 1 of the Zoning Code. The application proposes to reduce the width requirements for Bufferyard "D" along South Washington Street and South Street, including a reduction in plant quantity. The applicant also intends to utilize the Bufferyard "E" option calling for a reduction in width requirements.**<br><br>**Analysis -** The staff supports the waiver request of the modified Bufferyard "D" and "E" along the properties designated locations The submitted plan effectively embodies the Bufferyard's intended character and purpose through the application of suggested plantings along the property's boundary. The applicant's modified design highlights the view of the proposed front elevations by providing plantings closer to the building.<br><br>**Demolition Permit Application**<br>**To be submitted to the Historic District Commission and Building Inspection Division for review.**<br><br>**Fence Permit Application** |

| | |
|---|---|
| | **To be submitted to the Historic District Commission and Building Inspection Division for review.**<br><br>**<u>Sign Permit Application</u>**<br>**If applicable, to be submitted to the Historic District Commission and Building Inspection Division for review.** |

Please contact me if you have any questions. Thank you.

TOWN OF
**EASTON**
ENGINEERING DEPARTMENT

**DATE:** **May 29, 2025**

**TO:** **Brian Fitzgerald - Rauch**

**cc:** **Sierra Clem - Town of Easton**

**FROM:** **Rick Van Emburgh, P.E. – Town Engineer**

**SUBJECT:** **Foundation of Hope**
**Sketch Site Plan & Sketch Stormwater Management Plan Review**

I reviewed the Application for the Subject project received on 5/6/2025 and the Geotechnical report received 5/28/2025.

The **Sketch Plan** and **Sketch Stormwater Management Plan** are **Acceptable with the Following Conditions**:

1. **SHEET G-100 - SEQUENCE OF CONSTRUCTION - #1 -** Change TOWN OF EASTON "DPW" to TOWN OF EASTON "ENGINEERING" at 410-820-8822.
2. **SHEET G-100 - GENERAL NOTES -** Change TOWN OF EASTON "DPW" to TOWN OF EASTON "ENGINEERING" at 410-820-8822.
3. **SHEET G-100 - SITE DATA -** The Site Area is listed as 0.253 acres but the LOD is 1.589. Please verify.
4. **SHEET C-100** - The entrance should match TOE-R-6.01. Alternatively, if the proposed configuration is needed, additional detail will have to be provided during the Preliminary Plan phase to illustrate how the ADA Ramps will transition from the sidewalk to the entrance.
5. **SHEET C-100** - Provide Visibility Triangles per TOE-R-2.05 at the proposed entrance as well as the intersection of South Washington Street and South Street.
6. **SWM REPORT** - The proposed Micro-Biorention Feature appears to rely entirely on infiltration and does not have a proposed outfall weir. Page 8 of the Geotechnical Report provided after the ESDR Meeting indicates "**Hynes & Associates does not recommend the use of infiltration practices** at locations where the bottom of the proposed infiltration basin is within, or just above, restrictive soil layers. We, also, do not recommend the use of infiltration practices at locations where the infiltration rate is less than 1.0 in./hr. In consideration of the measured infiltration rate, **the use of infiltration SWM practices is not recommended at the test location**." The design should be modified to include either soil amendments to improve infiltration, or an overflow outfall to the street.

The Town is considering possible improvements to the intersection of Port Street, S Washington Street, and South Street to improve vehicular, bicycle and pedestrian safety. These improvements may include a raised crosswalk on S Washington Street

extending from Port Street to South Street, with the road surface raised to the same elevation as the sidewalk and bollards along the curb line. The timing for these improvements is unknown, but the Town is interested in working with the applicant to consider this and additional options to improve safety at this location.

Please contact me if you have any questions. Thank you.

END OF DOCUMENT

EASTON UTILITIES

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# Easton Utilities Commission

Plan Review Comments

**Date:** 05/23/25
**To:** Sierra Clem, Nancy Pinkney
**From:** Kia Gibbs on behalf of Aaron Goller, PE
**Address:** 52 S. Washington Street
**Project Name:** Foundation of Hope
**Phase:** Sketch Site Plan
**SUBM:** 1
**Status:** **APPROVED AS NOTED**

Easton Utilities Commission has reviewed the above referenced plans and determined the plans are **"Approved As Noted".**

An **"Approved As Noted"** status means plans do not require resubmission to Easton Utilities. We ask that you implement the notes provided prior to Easton Utilities signing off on your plans. Notes are provided on the attached mark-up summary sheets.

Please contact Kia Gibbs, Engineering Administrative Support at kgibbs@eucmail.com should you have

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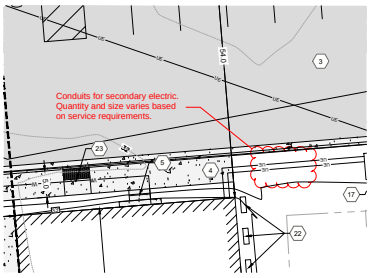
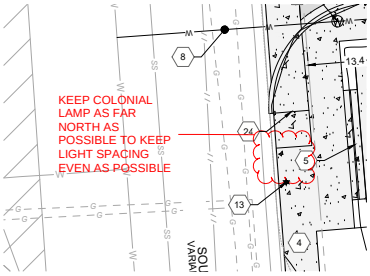
# 2025-05-06 Site Plan - Foundation of Hope.pdf Markup Summary

## Electric (5)



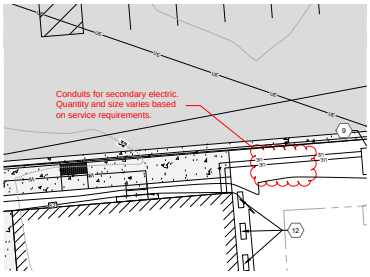

**Subject:** Electric
**Page Label:** C-100
**Date:** 5/7/2025 2:13:27 PM

Conduits for secondary electric.
Quantity and size varies based on service requirements.




**Subject:** Electric
**Page Label:** C-100
**Date:** 5/7/2025 2:20:25 PM

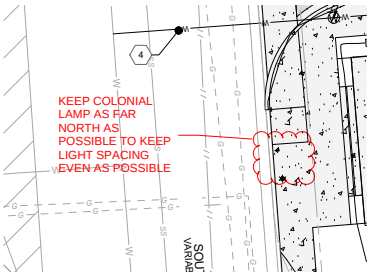
KEEP COLONIAL LAMP AS FAR NORTH AS POSSIBLE TO KEEP LIGHT SPACING EVEN AS POSSIBLE




**Subject:** Electric
**Page Label:** C-401
**Date:** 5/7/2025 2:23:13 PM

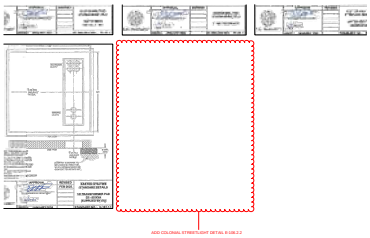
Conduits for secondary electric.
Quantity and size varies based on service requirements.

Life. Made better.™




**Subject:** Electric
**Page Label:** C-401
**Date:** 5/7/2025 2:23:13 PM

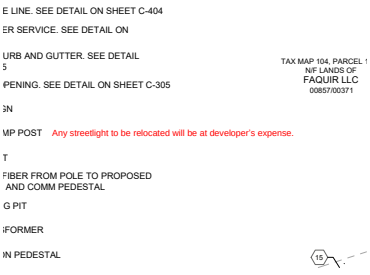
KEEP COLONIAL LAMP AS FAR NORTH AS POSSIBLE TO KEEP LIGHT SPACING EVEN AS POSSIBLE



**Subject:** Electric
**Page Label:** C-405
**Date:** 5/7/2025 2:27:12 PM

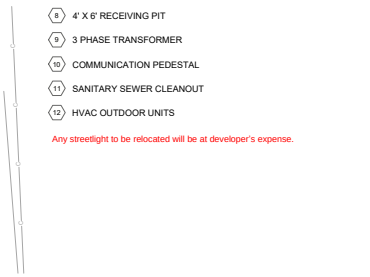
ADD COLONIAL STREETLIGHT DETAIL E-106.2.2

## Electric (2)




**Subject:** Electric
**Page Label:** C-100
**Date:** 5/7/2025 2:17:01 PM

Any streetlight to be relocated will be at developer's expense.




**Subject:** Electric
**Page Label:** C-401
**Date:** 5/7/2025 2:24:18 PM

Any streetlight to be relocated will be at developer's expense.

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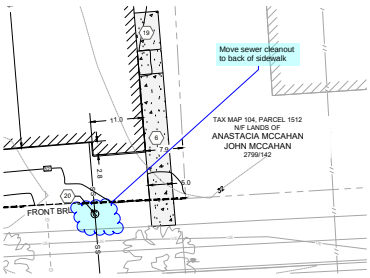
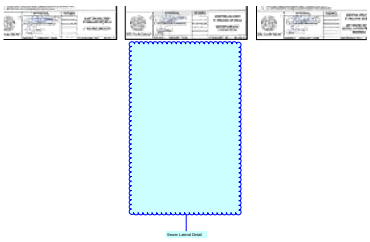
## Engineer (2)




**Subject:** Engineer
**Page Label:** C-100
**Date:** 5/23/2025 3:13:31 PM

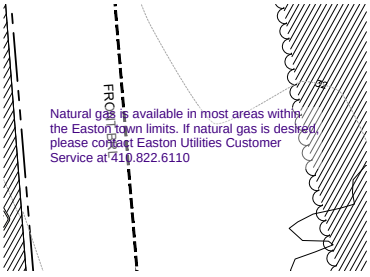
Move sewer cleanout to back of sidewalk



**Subject:** Engineer
**Page Label:** C-405
**Date:** 5/23/2025 3:22:49 PM

Sewer Lateral Detail

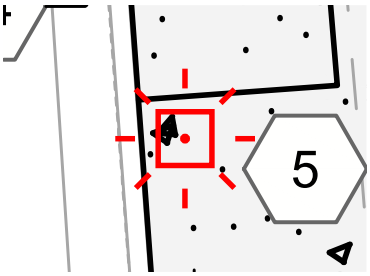
## Gas (1)




**Subject:** Gas
**Page Label:** V-101
**Date:** 5/9/2025 9:46:52 AM

Natural gas is available in most areas within the Easton town limits. If natural gas is desired, please contact Easton Utilities Customer Service at 410.822.6110

## Group (9)




**Subject:** Group
**Page Label:** C-100
**Date:** 5/7/2025 2:19:12 PM

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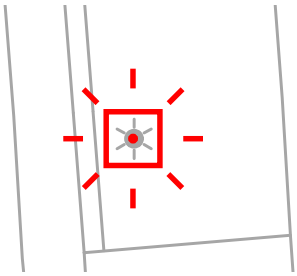

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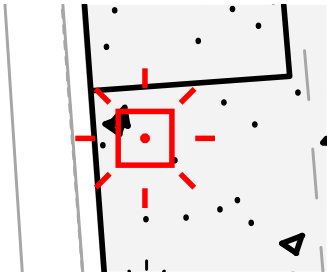
**Date:** 5/7/2025 2:15:32 PM



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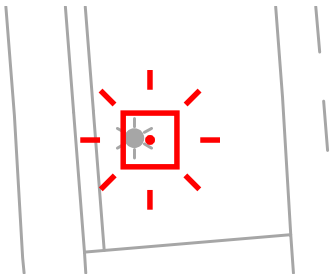
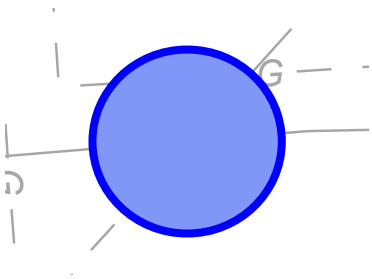
**Page Label:** C-401
**Date:** 5/7/2025 2:24:39 PM



**Subject:** Group
**Page Label:** C-401
**Date:** 5/7/2025 2:23:40 PM



**Subject:** Group
**Page Label:** C-100
**Date:** 5/23/2025 3:18:02 PM

1

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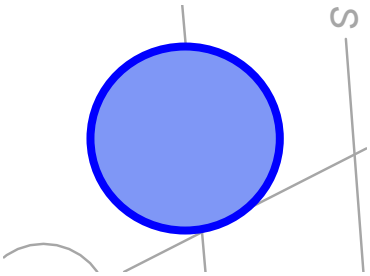
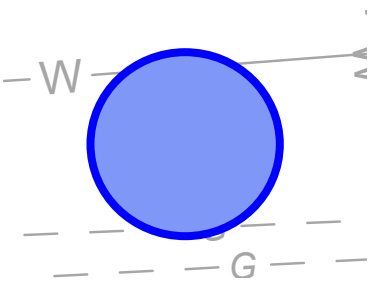


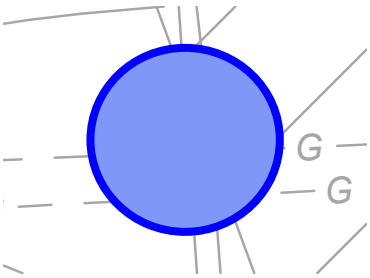

**Subject:** Group
**Page Label:** C-100
**Date:** 5/23/2025 3:17:59 PM

2



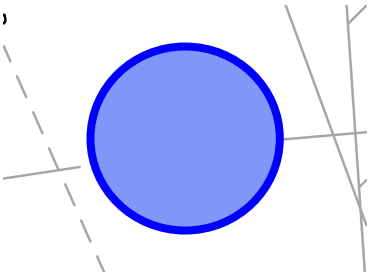

**Subject:** Group
**Page Label:** C-100
**Date:** 5/23/2025 3:19:24 PM

3




**Subject:** Group
**Page Label:** C-100
**Date:** 5/23/2025 3:16:01 PM

4



**Subject:** Group
**Page Label:** C-100
**Date:** 5/23/2025 3:16:04 PM

5

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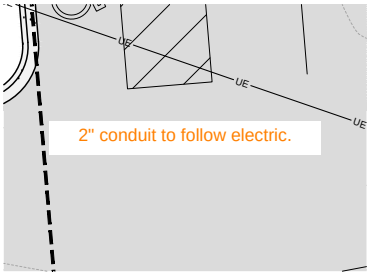
## Velocity Comment (1)




**Subject:** Velocity Comment
**Page Label:** C-100
**Date:** 5/20/2025 11:36:55 AM

2" conduit to follow electric.

201 N. Washington Street | Easton, Maryland 21601
Telephone: 410-822-6110 | Fax: 410-822-0743 | eastonutilities.com

## PROPOSED FEATURES

1. PROPERTY LINE
2. 2,538 S.F. OFFICE BUILDING
3. PERMEABLE PAVEMENT PARKING LOT. SEE DETAIL ON SHEET C-305
4. ADA COMPLIANT CONCRETE SIDEWALK. SEE DETAIL ON SHEET C-305
5. IBC COMPLIANT CONCRETE STAIRS WITH IBC COMPLIANT HANDRAILS. SEE DETAIL ON SHEET C-305
6. ADA COMPLIANT CONCRETE RAMP WITH HANDRAILS WITH ADA COMPLIANT HANDRAILS. SEE DETAIL ON SHEET C-305
7. 162 S.F. MICRO-BIORETENTION
8. WATER SERVICE LINE. SEE DETAIL ON SHEET C-404
9. SANITARY SEWER SERVICE. SEE DETAIL ON SHEET C-405
10. STANDARD 6" CURB AND GUTTER. SEE DETAIL ON SHEET C-305
11. 5' WIDE CURB OPENING. SEE DETAIL ON SHEET C-305
12. RELOCATED SIGN
13. RELOCATED LAMP POST — Any streetlight to be relocated will be at developer's expense.
14. 4' X 6' ENTRY PIT
15. ELECTRIC AND FIBER FROM POLE TO PROPOSED TRANSFORMER AND COMM PEDESTAL
16. 4' X 6' RECEIVING PIT
17. 3 PHASE TRANSFORMER
18. COMMUNICATION PEDESTAL
19. TRASH RECEPTACLE AREA
20. SANITARY SEWER CLEANOUT
21. WATER METER PIT
22. HVAC ODU
23. SIDEWALK RAMP, SEE DETAIL ON SHEET C-305
24. ADA COMPLIANT CONCRETE RAMP, WITH LANDING

TAX MAP 104, PARCEL 1461
N/F LANDS OF
VERIZON MARYLAND MERGE CO
//

TAX MAP 104, PARCEL 1466
N/F LANDS OF
FAQUIR LLC
00857/00371

TAX MAP 104, PARCEL 1513
N/F LANDS OF
GREGORY J. SHMIGEL
SUSAN A. SHMIGEL
2337/372

TAX MAP 104, PARCEL 1512
N/F LANDS OF
ANASTACIA MCCAHAN
JOHN MCCAHAN
2799/142

TAX MAP 104, PARCEL 1511
N/F LANDS OF
PRICE TODD C
1329/00026

PORT STREET
VARIABLE WIDTH PUBLIC RIGHT OF WAY

SOUTH WASHINGTON STREET
VARIABLE WIDTH PUBLIC RIGHT OF WAY

SOUTH STREET
VARIABLE WIDTH PUBLIC RIGHT OF WAY

2" conduit to follow electric.

Conduits for secondary electric. Quantity and size varies based on service requirements.

KEEP COLONIAL LAMP AS FAR NORTH AS POSSIBLE TO KEEP LIGHT SPACING EVEN AS POSSIBLE

Show Valves (1-5)

Move sewer cleanout to back of sidewalk

FRONT BRL

RIM: 31.28'
RIM: 27.05'
RIM: 30.66'
RIM: 30.53'
RIM: 30.35'
RIM: 30.39'

NAD 83

0 10' 20'

# OVERALL SITE PLAN

FOR

# FOUNDATION OF HOPE

TAX MAP 0104, ID 0000, PARCEL 1463
FIRST ELECTION DISTRICT, TALBOT COUNTY, MARYLAND
PREPARED FOR FOUNDATION OF HOPE


RAUCH INC
Engineering | Survey | Architecture | Environmental
Main Office: 106 N Harrison St - Easton, MD 21601
Web: www.rauch-inc.com | Email: design@raucheng.com
Phone: 410 770 9081 | Fax: 410 770 3887


**Professional Certification.**
I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License No. 11024
Expiration Date: July 24, 2026

6-May-25

| REVISIONS | | | |
|---|---|---|---|
| REV. # | DATE | DESCRIPTION | |

MISS UTILITY OF DELMARVA — DIAL BEFORE YOU DIG — 811

| | |
|---|---|
| DATE: | 5/6/2025 |
| SCALE: | 1" = 10' |
| DRAWN BY: | AK |
| DESIGNED BY: | AK |
| APPROVED BY: | |

SHEET NO.: C-100

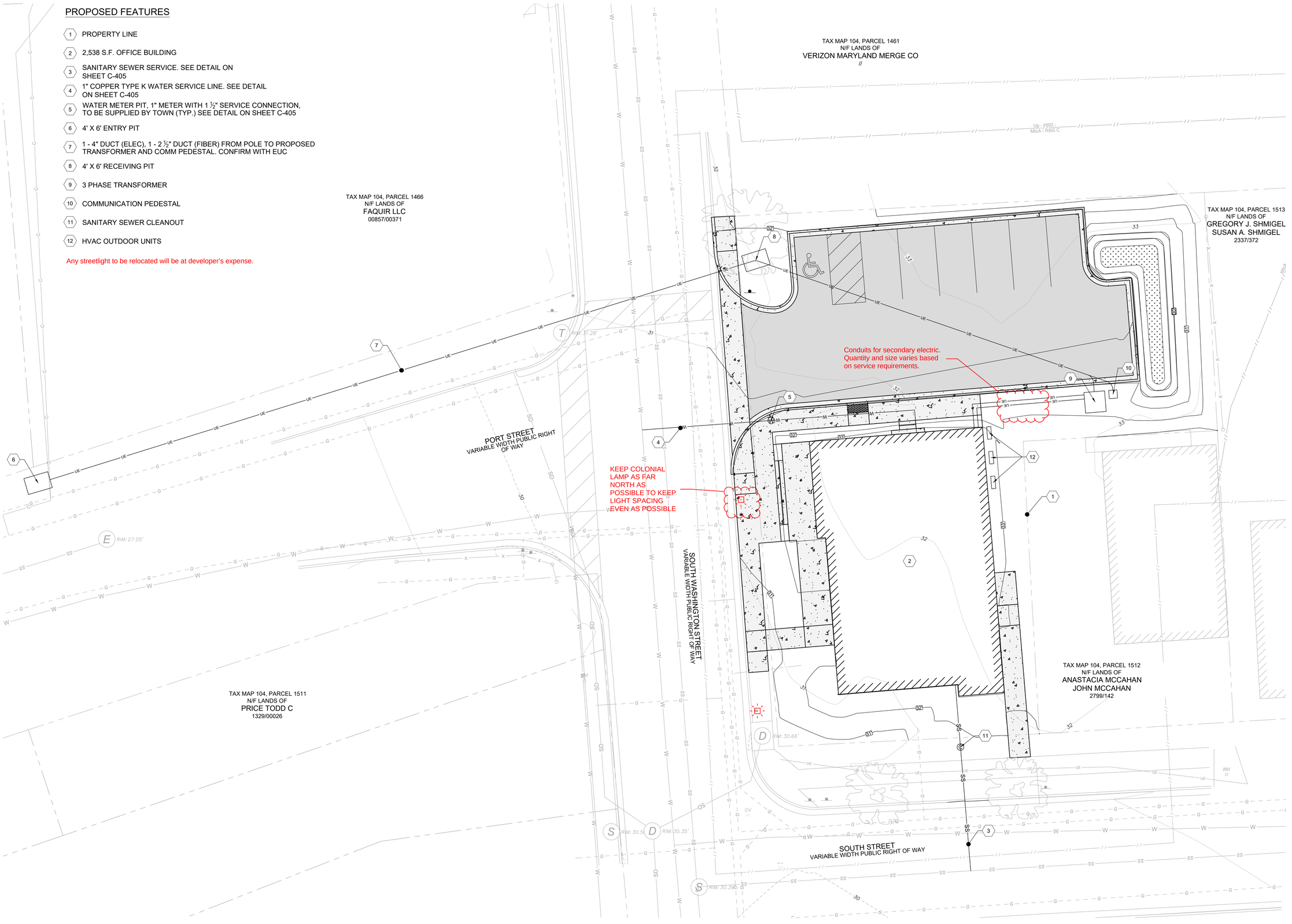
DESIGN DEVELOPMENT

Z:\FOUNDATION OF HOPE\CIVIL\PRODUCTION PLANS\FOUNDATION OF HOPE - SITE PLAN.DWG

## PROPOSED FEATURES

1. PROPERTY LINE
2. 2,538 S.F. OFFICE BUILDING
3. SANITARY SEWER SERVICE. SEE DETAIL ON SHEET C-405
4. 1" COPPER TYPE K WATER SERVICE LINE. SEE DETAIL ON SHEET C-405
5. WATER METER PIT, 1" METER WITH 1 ½" SERVICE CONNECTION, TO BE SUPPLIED BY TOWN (TYP.) SEE DETAIL ON SHEET C-405
6. 4' X 6' ENTRY PIT
7. 1 - 4" DUCT (ELEC), 1 - 2 ½" DUCT (FIBER) FROM POLE TO PROPOSED TRANSFORMER AND COMM PEDESTAL. CONFIRM WITH EUC
8. 4' X 6' RECEIVING PIT
9. 3 PHASE TRANSFORMER
10. COMMUNICATION PEDESTAL
11. SANITARY SEWER CLEANOUT
12. HVAC OUTDOOR UNITS

Any streetlight to be relocated will be at developer's expense.




# UTILITY PLAN

FOR

# FOUNDATION OF HOPE

TAX MAP 0104, ID 0000, PARCEL 1463

FIRST ELECTION DISTRICT, TALBOT COUNTY, MARYLAND

PREPARED FOR FOUNDATION OF HOPE


RAUCH inc.
Engineering | Survey | Architecture | Environmental
Main Office: 106 N Harrison St - Easton, MD 21601
Web: www.rauch-inc.com | Email: design@raucheng.com
Phone: 410 770 9081 | Fax: 410 770 3887


**Professional Certification.**
I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License No. 11024
Expiration Date: July 24, 2026

6-May-25

| REV. # | DATE | DESCRIPTION |
|---|---|---|
| | | |

REVISIONS

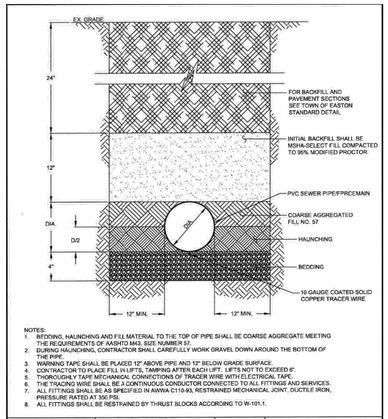
MISS UTILITY OF DELMARVA — CALL BEFORE YOU DIG — 811

| | |
|---|---|
| DATE: | 5/6/2025 |
| SCALE: | 1" = 10' |
| DRAWN BY: | AK |
| DESIGNED BY: | AK |
| APPROVED BY: | |

SHEET NO.: C-401

**DESIGN DEVELOPMENT**

Z:\FOUNDATION OF HOPE\CIVIL\PRODUCTION PLANS\FOUNDATION OF HOPE - SITE PLAN.DWG




NOTES:
1. BEDDING, HAUNCHING AND FILL MATERIAL TO THE TOP OF PIPE SHALL BE COARSE AGGREGATE MEETING THE REQUIREMENTS OF AASHTO M43, SIZE NUMBER 57.
2. DURING HAUNCHING, CONTRACTOR SHALL CAREFULLY WORK GRAVEL DOWN AROUND THE BOTTOM OF THE PIPE.
3. WARNING TAPE SHALL BE PLACED 12" ABOVE PIPE AND 12" BELOW GRADE SURFACE.
4. CONTRACTOR TO PLACE FILL IN LIFTS, TAMPING AFTER EACH LIFT. LIFTS NOT TO EXCEED 6".
5. THOROUGHLY TAPE MECHANICAL CONNECTIONS OF TRACER WIRE WITH ELECTRICAL TAPE.
6. THE TRACING WIRE SHALL BE A CONTINUOUS CONDUCTOR CONNECTED TO ALL FITTINGS AND SERVICES.
7. ALL FITTINGS SHALL BE AS SPECIFIED IN AWWA C110-93, RESTRAINED MECHANICAL JOINT, DUCTILE IRON, PRESSURE RATED AT 350 PSI.
8. ALL FITTINGS SHALL BE RESTRAINED BY THRUST BLOCKS ACCORDING TO W-101.1.

| APPROVAL | REVISED | |
|---|---|---|
| EU ENGINEERING DEPARTMENT<br>1/31/2024<br>DATE | | EASTON UTILITIES STANDARD DETAILS<br>GRAVITY SEWER FORCEMAIN TRENCH |
| ISSUED: JANUARY 2024 | | STANDARD NO.: SS-100.1 |

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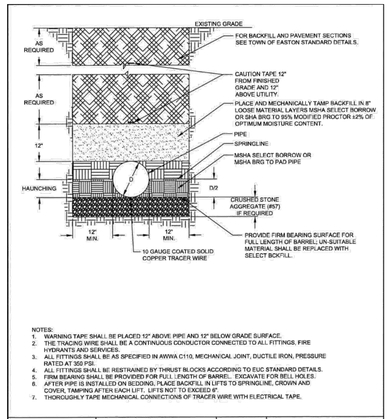


NOTES:
1. WARNING TAPE SHALL BE PLACED 12" ABOVE PIPE AND 12" BELOW GRADE SURFACE.
2. THE TRACING WIRE SHALL BE A CONTINUOUS CONDUCTOR CONNECTED TO ALL FITTINGS, FIRE HYDRANTS AND SERVICES.
3. ALL FITTINGS SHALL BE AS SPECIFIED IN AWWA C110, MECHANICAL JOINT, DUCTILE IRON, PRESSURE RATED AT 350 PSI.
4. ALL FITTINGS SHALL BE RESTRAINED BY THRUST BLOCKS ACCORDING TO EUC STANDARD DETAILS.
5. FIRM BEARING SHALL BE PROVIDED FOR FULL LENGTH OF BARREL. EXCAVATE FOR BELL HOLES.
6. AFTER PIPE IS INSTALLED ON BEDDING, PLACE BACKFILL IN LIFTS TO SPRINGLINE, CROWN AND COVER, TAMPING AFTER EACH LIFT. LIFTS NOT TO EXCEED 6".
7. THOROUGHLY TAPE MECHANICAL CONNECTIONS OF TRACER WIRE WITH ELECTRICAL TAPE.

| APPROVAL | REVISED | |
|---|---|---|
| EU ENGINEERING DEPARTMENT<br>1/31/2024<br>DATE | | EASTON UTILITIES STANDARD DETAILS<br>WATER MAIN INSTALLATION |
| ISSUED: JANUARY 2024 | | STANDARD NO.: W-100.1 |

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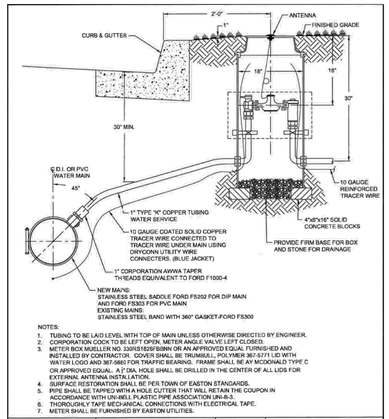


NOTES:
1. TUBING TO BE LAID LEVEL WITH TOP OF MAIN UNLESS OTHERWISE DIRECTED BY ENGINEER.
2. CORPORATION COCK TO BE LEFT OPEN, METER ANGLE VALVE LEFT CLOSED.
3. METER BOX MUELLER NO. 330R5182SF3BNN OR AN APPROVED EQUAL. FURNISHED AND INSTALLED BY CONTRACTOR. COVER SHALL BE TRUMBULL, POLYMER 367-5771 LID WITH WATER LOGO AND 367-5960 FOR TRAFFIC BEARING. FRAME SHALL BE AY MCDONALD TYPE C OR APPROVED EQUAL. A 2" DIA. HOLE SHALL BE DRILLED IN THE CENTER OF ALL LIDS FOR EXTERNAL ANTENNA INSTALLATION.
4. SURFACE RESTORATION SHALL BE PER TOWN OF EASTON STANDARDS.
5. PIPE SHALL BE TAPPED WITH A HOLE CUTTER THAT WILL RETAIN THE COUPON IN ACCORDANCE WITH UNI-WELL PLASTIC PIPE ASSOCIATION UNI-R-3.
6. THOROUGHLY TAPE MECHANICAL CONNECTIONS WITH ELECTRICAL TAPE.
7. METER SHALL BE FURNISHED BY EASTON UTILITIES.

| APPROVAL | REVISED | |
|---|---|---|
| EU ENGINEERING DEPARTMENT<br>1/31/2024<br>DATE | | EASTON UTILITIES STANDARD DETAILS<br>1" WATER SERVICE |
| ISSUED: JANUARY 2024 | | STANDARD NO.: W-103.1 |

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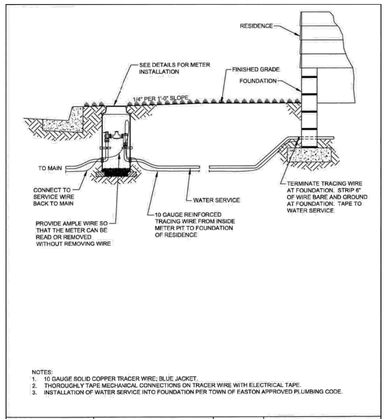


NOTES:
1. 10 GAUGE SOLID COPPER TRACER WIRE; BLUE JACKET.
2. THOROUGHLY TAPE MECHANICAL CONNECTIONS ON TRACER WIRE WITH ELECTRICAL TAPE.
3. INSTALLATION OF WATER SERVICE INTO FOUNDATION PER TOWN OF EASTON APPROVED PLUMBING CODE.

| APPROVAL | REVISED | |
|---|---|---|
| EU ENGINEERING DEPARTMENT<br>1/31/2024<br>DATE | | EASTON UTILITIES STANDARD DETAILS<br>WATER SERVICE CONNECTION |
| ISSUED: JANUARY 2024 | | STANDARD NO.: W-103.4 |

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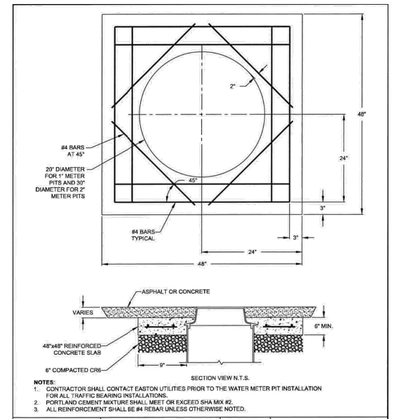


SECTION VIEW N.T.S.

NOTES:
1. CONTRACTOR SHALL CONTACT EASTON UTILITIES PRIOR TO THE WATER METER PIT INSTALLATION FOR ALL TRAFFIC BEARING INSTALLATIONS.
2. PORTLAND CEMENT MIXTURE SHALL MEET OR EXCEED SHA MIX #2.
3. ALL REINFORCEMENT SHALL BE #4 REBAR UNLESS OTHERWISE NOTED.

| APPROVAL | REVISED | |
|---|---|---|
| EU ENGINEERING DEPARTMENT<br>1/31/2024<br>DATE | | EASTON UTILITIES STANDARD DETAILS<br>WATER METER PIT INSTALLATION-TRAFFIC BEARING |
| ISSUED: JANUARY 2024 | | STANDARD NO.: W-103.6 |

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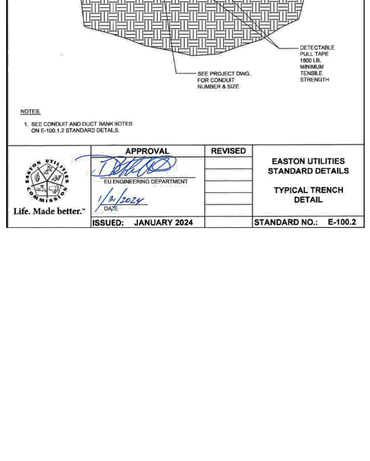


NOTES:
1. SEE CONDUIT AND DUCT BANK NOTES ON E-100.1.2 STANDARD DETAILS.

| APPROVAL | REVISED | |
|---|---|---|
| EU ENGINEERING DEPARTMENT<br>1/2/2024<br>DATE | | EASTON UTILITIES STANDARD DETAILS<br>TYPICAL TRENCH DETAIL |
| ISSUED: JANUARY 2024 | | STANDARD NO.: E-100.2 |

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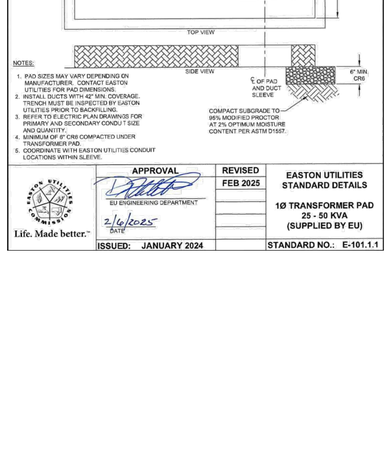


NOTES:
1. PAD SIZES MAY VARY DEPENDING ON MANUFACTURER. CONTACT EASTON UTILITIES FOR PAD DIMENSIONS.
2. INSTALL DUCTS WITH 42" MIN. COVERAGE. TRENCH MUST BE INSPECTED BY EASTON UTILITIES PRIOR TO BACKFILLING.
3. REFER TO ELECTRIC PLAN DRAWINGS FOR PRIMARY AND SECONDARY CONDUIT SIZE AND QUANTITY.
4. MINIMUM 6" CRS COMPACTED UNDER TRANSFORMER PAD.
5. COORDINATE WITH EASTON UTILITIES CONDUIT LOCATIONS WITHIN SLEEVE.

| APPROVAL | REVISED | |
|---|---|---|
| EU ENGINEERING DEPARTMENT<br>2/6/2025<br>DATE | FEB 2025 | EASTON UTILITIES STANDARD DETAILS<br>1Ø TRANSFORMER PAD 25 - 50 KVA (SUPPLIED BY EU) |
| ISSUED: JANUARY 2024 | | STANDARD NO.: E-101.1.1 |

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ADD COLONIAL STREETLIGHT DETAIL E-106.2.2

Sewer Lateral Detail

UTILITY DETAILS

FOR

# FOUNDATION OF HOPE

TAX MAP 0104, ID 0000, PARCEL 1463

FIRST ELECTION DISTRICT, TALBOT COUNTY, MARYLAND

PREPARED FOR FOUNDATION OF HOPE

RAUCH INC.
Engineering | Survey | Architecture | Environmental
Main Office: 106 N Harrison St - Easton, MD 21601
Web: www.rauch-inc.com | Email: design@raucheng.com
Phone: 410 770 9081 | Fax: 410 770 3987

**Professional Certification.** I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland. License No. 11024 Expiration Date: July 24, 2026

6-May-25

REVISIONS

| REV. # | DATE | DESCRIPTION |
|---|---|---|
| | | |

MISS UTILITY OF DELMARVA 811

| | |
|---|---|
| DATE: | 5/6/2025 |
| SCALE: | N/A |
| DRAWN BY: | AK |
| DESIGNED BY: | AK |
| APPROVED BY: | |

SHEET NO.: C-405

DESIGN DEVELOPMENT

Z:\FOUNDATION OF HOPE\CIVIL\PRODUCTION PLANS\FOUNDATION OF HOPE - SITE PLAN.DWG

# TOWN OF EASTON

PO Box 520
Easton, Maryland 21601
(410)-822-2526 Fax (410)-822-8738
**Office of Building Inspection**.


**ESDR- Building Inspection and Permit Department Comments**

**Date: May 15, 2025**

**Project**; **Foundation of Hope Training Building**
**Owner; Foundation of Hope INC**

A Town of Easton Building Permit is required for all new construction.
New construction must comply with the International Building Code and all other Town of Easton Codes adopted at time of permit application.

Contact this Department and verify current Building Codes including the Town of Easton's modifications prior to preparation of Building plans.

The following lists items required on the construction drawings in order to apply for a Building Permit.

- Construction Documents (3 sets) for any new construction will be required. Documents must be prepared by a Maryland Registered Architect, with original plans signed and sealed. A code analysis completed by the Maryland Registered Architect shall include, classification (use group), construction type, occupant loads, egress, fire separations and ADA compliance must be completed and included with the application materials.
- Items that must be addressed by the construction documents will be structural strength, means of egress (include travel distance), facilities, stability, sanitation, light and ventilation, energy conservation and safety to life and property from fire and other hazards attributed to the built environment, **Accessibility**, and other safety requirements for public access.
- If your project will be phased include a phasing plan in the Construction Documents.
- All mechanical, electrical, and plumbing permits as required must include 3 sets construction documents signed and sealed by a professional engineer and by a responsible party for the contractor receiving the permit. Be sure the Town of Easton modifications are included. Section 6-16 of the Town Code.
- **State Fire Marshal,** (410-822-7609) plan review and inspections are required. It is your responsibility to contact them and make application.

An appointment may be set up with this department to review your permit application materials prior to permit application submission.

# CODES ANALYSIS

**PROJECT DESCRIPTION**

THIS NEW BUILDING IS A 2-STORY BUSINESS OCCUPANCY THAT WILL SERVE AS THE HEADQUARTERS OF THE FOUNDATION OF HOPE, A NON-PROFIT PROVIDING LIFE SKILLS AND EMPOWERMENT TRAINING FOR MIDDLE AND HIGH SCHOOL GIRLS. SPACES WITHIN THE NEW BUILDING INCLUDE OFFICES. MEETING ROOMS. AND MULTI-PURPOSE ACTIVITY ROOMS. THE BUILDING IS WOOD FRAME CONSTRUCTION WITH BRICK EXTERIOR. AND IS IN THE FEDERAL STYLE.

THE BUILDING IS PROVIDED WITH THREE EXITS AT STREET LEVEL INCLUDING THE MAIN ENTRANCE. THE SECOND FLOOR HAS TWO STAIRS, ONE IS AN ACCESSIBLE FIRE STAIR THAT DISCHARGES DIRECTLY TO THE EXTERIOR AND THE OTHER IS A MONUMENTAL STAIR TO THE FIRST FLOOR LOBBY. THE BUILDING IS NOT SPRINKLERED AND DOES NOT HAVE A FIRE ALARM SYSTEM.

THE BUILDING IS FULLY ACCESSIBLE. AN ACCESSIBLE RAMP PROVIDES ACCESS TO THE MAIN ENTRANCE. A SECOND RAMP IS PROVIDED AS PART OF THE EGRESS FROM THE EXIT STAIR. AN ELEVATOR PROVIDES ACCESSIBLE ACCESS TO THE SECOND FLOOR. A VAN-ACCESSIBLE PARKING SPACE IS PROVIDED IN THE PAVED PARKING AREA AND AN ACCESSIBLE ROUTE TO THE BUILDING IS PROVIDED. ALL TOILETS ARE DESIGNED TO ACCESSIBLILITY STANDARDS.

| TOPIC | DESCRIPTION | CODE REFERENCES / REMARKS |
|---|---|---|
| **APPLICABLE CODES** | ALL REFERENCES ARE TO THE 2022 MARYLAND BUILDING PERFORMANCE STANDARDS ADOPTING THE FOLLOWING NATIONAL MODEL CODES: | WHERE CONFLICTS MAY EXIST BETWEEN CODES, THE DESIGN COMPLIES WITH THE MOST STRINGENT REQUIREMENTS. |
| | 2021 INTERNATIONAL BUILDING CODE (IBC)<br>STATE SAFETY GLAZING CODE<br>STATE ELEVATORS SAFETY<br>2020 NATIONAL ELECTRIC CODE (NFPA 70)<br>2020 INTERNATIONAL FUEL GAS CODE (IFGC)<br>2021 INTERNATIONAL MECHANICAL CODE (IMC)<br>2021 INTERNATIONAL PLUMBING CODE (IPC)<br>2021 INTERNATIONAL ENERGY CONSERVATION CODE (IECC) | |
| | AMERICAN BARRIERS ACT (ABA)<br>MARYLAND ACCESSIBILITY CODE | THE BUILDING IS DESIGNED TO BE IN COMPLIANCE WITH STATE &FEDERAL ACCESSIBILITY CODES & STANDARDS |
| | THE MARYLAND STATE FIRE PREVENTION CODE ADOPTING THE FOLLOWING NATIONAL MODEL CODES:<br>2021 NFPA 1, FIRE CODE<br>2021 NFPA 101, LIFE SAFETY CODE | |
| | ALSO PART OF THIS ANALYSIS IS NFPA 5000, BUILDING CONSTRUCTION AND SAFETY CODE | |
| **ENERGY DESIGN DATA** | CLIMATE ZONE: 4 (NON-MARINE) | |
| | ROOF INSULATION, ATTIC & OTHER: R49 | IECC TABLE C402.1.3 |
| | WALL INSULATION, WOOD FRAMED & OTHER: R13 + R3.8 CONTINUOUS OR R20 | IECC TABLE C402.1.3 |
| | SLAB-ON-GRADE, UNHEATED: R15 FOR 24 INCHES BELOW | IECC TABLE C402.1.3 |
| | FIXED VERTICAL FENESTRATION, U-FACTOR: 0.36 | IECC TABLE C402.4 |
| | OIPERABLE VERTICAL FENESTRATION, U-FACTOR: 0.45 | IECC TABLE C402.4 |
| | ENTRANCE DOORS, U-FACTOR: 0.63 | IECC TABLE C402.4 |
| | FIXED FENESTRATION, SOLAR HEAT GAIN COEFFICIENT: 0.36 | IECC TABLE C402.4 |
| | VERTICAL FENESTRATION OF THIS BUILDING DOES NOT EXCEED 30% OF THE GROSS ABOVE-GRADE WALL AREA | IECC C402.4.1 |
| | OPAQUE SWINGING DOORS IN THE BUILDING ENVELOPE OF THIS PROJECT COMPLY WITH TABLE C402.1.4 | IECC C402.4.5, TABLE C402.1.4 |
| **USE GROUP CLASSIFICATION** | GROUP B, BUSINESS; BUSINESS; NEW BUSINESS | IBC 306.1; NFPA 1 - 6.1.12; NFPA 101 - 6.1.12.1 |
| **HAZARD CLASSIFICATION** | ORDINARY HAZARD | NFPA 101 - 6.2.2.3 |
| **CONSTRUCTION TYPES** | TYPE VB; TYPE V (000): | IBC 602.2, TABLE 601, 704.10; NFPA 101 - 8.2.1.2; |
| | FIRE RESISTANCE RATING REQUIREMENTS: | NFPA 220 - 4.3.1; NFPA 5000 - TABLE 7.2.1.1 |
| | PRIMARY STRUCTURAL FRAME - 0 HR<br>BEARING WALLS (EXTERIOR) - 0 HR<br>BEARING WALLS (INTERIOR) - 0 HR<br>NON-BEARING WALLS & PARTITIONS (EXTERIOR) - 0 HR<br>NON-BEARING WALLS & PARTITIONS (INTERIOR) - 0 HR<br>FLOOR CONSTRUCTION - 0 HR<br>ROOF CONSTRUCTION - 0 HR | |
| **BUILDING AREA & HEIGHT LIMITATION BY OCCUPANCY & TYPE OF CONSTRUCTION** | BUILDING AREA: | IBC 506.2.1 |
| | ALLOWABLE BUILDING AREA (GROUP B, NON-SPRINKLERED NS, TYPE VB): 9,000 SQUARE FEET | IBC TABLE 506.2; NFPA 5000 - TABLE 7.4.1 |
| | ALLOWABLE BUILDING AREA WITH FRONTAGE INCREASE (GROUP B, NON-SPRINKLERED NS, TYPE VB): 13,500 SQ FT | IBC 506.2.1 |
| | ACTUAL TOTAL BUILDING AREA: 4,751 GROSS SQUARE FEET | |
| | BUILDING HEIGHT: | |
| | ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE (GROUP B, NOT SPRINKLERED NS, TYPE VB): 40 FEET | IBC TABLE 504.3; NFPA 5000 - TABLE 7.4.1 |
| | ACTUAL BUILDING HEIGHT ABOVE GRADE PLANE: 37 FEET TO RIDGE | |
| **FIRE PROTECTION REQUIREMENTS** | BUILDING IS NOT SPRINKLERED. SPRINKLERS ARE NOT REQUIRED | IBC 903.1; NFPA 101 - 38.3.5 |
| | THE BUILDING IS NOT EQUIPPED WITH AN AUTOMATIC FIRE ALARM SYSTEM; A FIRE ALARM IS NOT REQUIRED | IBC 907.2.2; NFPA 101 - 38.3.4.1 |
| | PORTABLE FIRE EXTINGUISHERS ARE REQUIRED; PORTABLE FIRE EXTINGUISHERS ARE PROVIDED | IBC 906.1, TABLE 906.1; NFPA 101 - 38.3.5 |
| **FIRE RESISTANCE REQUIREMENTS** | THERE ARE NO FIRE-RATED EXTERIOR WALLS; THE BUILDING IS SURROUNDED ON ALL SIDES BY MORE THAN 30 FEET OF OPEN SPACE (NO OTHER STRUCTURES ARE LOCATED WITHIN 30 FEET OF EXTERIOR WALLS). | IBC TABLE 705.5; NFPA 5000 - TABLE 7.3.2.1 |
| | INCIDENTAL USES: 1-HOUR OR AUTOMATIC SPRINKLER SYSTEM | |
| | INCIDENTAL USES SHALL BE SEPARATED BY A 1-HOUR FIRE RATED PARTITION | IBC 707.3.7, TABLE 509.1 |
| | CORRIDORS: FOR CORRIDORS SERVING AN OCCUPANT LOAD GREATER THAN 30, 1-HOUR FIRE FRATED PARTITIONS SHALL BE PROVIDED | IBC 1020.1, TABLE 1020.2; NFPA 101 - 7.1.3.1(2), 38.3.6.1 |
| **FIRE DEPARTMENT ACCESS ROAD** | THE BUILDING HAS EMERGENCY VEHICLE ACCESS ON TWO SIDES VIA TWO-LANE PUBLIC STREETS (S. WASHINGTON STREET AND SOUTH STREET). ACCESS IS ALSO AVAILABLE VIA THE PARKING LOT WITH 24 FOOT WIDE TRAFFIC AISLE ON THE NORTH SIDE OF THE BUILDING. | NFPA 5000 - 7.1.5.2 |
| **ACCESSIBILITY** | THERE ARE SEVEN TOTAL PARKING SPACES PROVIDED INCLUDING ONE VAN-ACCESSIBLE SPACE | IBC TABLE 1106.2, 1106.6 |
| | AN ACCESSIBLE ROUTE FROM PUBLIC SIDEWALKS AND FROM THE PARKING LOT INTO THE BUILDING IS PROVIDED | |
| | POWER-OPERATED ENTRANCE DOORS ARE NOT REQUIRED; POWER-OPERATED ENTRANCE DOORS ARE NOT PROVIDED | IBC TABLE 1105.1 |
| | AN ELEVATOR TO THE SECOND FLOOR IS NOT REQUIRED; AN ELEVATOR IS PROVIDED | |
| | RESTROOMS ARE ACCESSIBLE | |
| **OCCUPANT LOAD CALCULATIONS** | GROUP B - BUSINESS; NEW BUSINESS = 83 TOTAL BUILDING OCCUPANTS BY CALCULATION | IBC TABLE 1004.5; NFPA 101 TABLE 7.3.1.2 |
| | FIRST FLOOR: 60 TOTAL OCCUPANTS BY CALCULATION | |
| | LOBBY: 15 SF PER OCCUPANT = 278 SF / 15 SF = 18.5 = 19 OCCUPANTS | |
| | OFFICES: 150 SF PER OCCUPANT = 335 SF / 150 SF = 2.23 = 3 OCCUPANTS | |
| | ACTIVITY ROOMS & CLASSROOMS: 15 SF PER OCCUPANT = 570 SF / 20 SF = 38 OCCUPANTS | |
| | SECOND FLOOR: 23 TOTAL OCCUPANTS BY CALCULATION | |
| | LOBBY: 15 SF PER OCCUPANT = 150 SF / 15 SF = 10 OCCUPANTS | |
| | OFFICES: 150 SF PER OCCUPANT = 1,016 SF / 150 SF = 6.77 = 7 OCCUPANTS | |
| | CONFERENCE ROOM: 30 SF PER OCCUPANT = 154 SF / 30 SF = 5.13 = 6 OCCUPANTS | |
| **EGRESS CAPACITY CALCULATION** | EGRESS COMPONENT MINIMUM WIDTH CALCULATION FOR GROUP B WITHOUT SPRINKLERS & FIRE ALARM: | IBC 1005.3.2; NFPA 101 - TABLE 7.3.3.1 |
| | 83 OCCUPANTS X 0.20" PER OCCUPANT = 17" TOTAL WIDTH REQUIRED BY CALCULATION FOR LEVEL COMPONENTS | |
| | MIN. 2 EXITS REQUIRED, EXITS PROVIDED: 3 DESIGNATED EXTERIOR EXIT DOORS, EACH IS 36 INCHES WIDE | NFPA 101 - 4.5.3.1, 38.2.4.1 |
| | TOTAL 99 INCHES CLEAR WIDTH PROVIDED (3 EXTERIOR EXIT DOORS X 33 INCHES CLEAR WIDTH) | |
| | CAPACITY PER EXIT DOOR = 33 INCHES CLEAR WIDTH / 0.20 INCHES = 165 OCCUPANTS | |
| | MINIMUM CORRIDOR WIDTH REQUIRED: 44 INCHES MINIMUM CORRIDOR WIDTH PROVIDED: 60 INCHES | IBC TABLE 1020.3; NFPA 101 - 38.2.3.2 |
| **EGRESS TRAVEL DISTANCE, COMMON PATH OF TRAVEL, & DEAD END CORRIDORS** | GROUP B - BUSINESS; NEW BUSINESS (UNSPRINKLERED BUILDING) | |
| | EXIT ACCESS TRAVEL DISTANCE: 200 FEET | IBC TABLE 1017.2; NFPA - 101 38.2.6.2 |
| | COMMON PATH OF EGRESS TRAVEL: 75 FEET WITH OCCUPANT LOAD >30; 100 FEET WITH OCCUPANT LOAD <30 | IBC TABLE 1006.2.1; NFPA 101 - 38.2.5.2.3 |
| | MAXIMUM DEAD END CORRIDOR LENGTH: 20 FEET (THERE ARE NO DEAD END CORRIDORS IN THIS BUILDING) | IBC 1020.5; NFPA - 101 38.2.5.3.2 |
| **PROTECTION SYSTEMS** | GROUP B - BUSINESS; NEW BUSINESS | |
| | AUTOMATIC SPRINKLER SYSTEM IS NOT REQUIRED, SPRINKLER SYSTEM IS NOT PROVIDED | IBC 903.2; NFPA 101 - 38.3.5 |
| | MANUAL FIRE ALARM SYSTEM IS NOT REQUIRED, MANUAL ALARM SYSTEM IS NOT PROVIDED | IBC 907.2.2; NFPA 101 - 38.3.4.1 |
| | PORTABLE FIRE EXTINGUISHERS ARE REQUIRED, EXTINGUISHERS ARE PROVIDED | IBC 906.1; NFPA 101 - 38.3.5 |
| **INTERIOR FINISHES REQUIREMENTS** | GROUP B - BUSINESS; BUSINESS | |
| | INTERIOR FLOOR FINISH IN EXIT ENCLOSURES, EXIT ACCESS CORRIDORS & STAIRS: CLASS I OR CLASS II | IBC 804.4.2; NFPA 101 - 38.3.3.3.2, 10.2 |
| | INTERIOR WALL & CEILING FINISH MATERIALS IN EXITS, EXIT ACCESS CORRIDORS & STAIRS - CLASS A OR CLASS B | IBC TABLE 803.13; NFPA 101 - 38.3.3.2.1 |
| | INTERIOR WALL & CEILING FINISH MATERIALS: CLASS A, CLASS B OR CLASS C IN OTHER AREAS | IBC TABLE 803.13; NFPA 101 - 38.3.3.2.2 |
| **PLUMBING FIXTURE** | GROUP B - BUSINESS (CALCULATED OCCUPANT LOAD = 83) | IBC TABLE 2902.1; IPC TABLE 403.1 |
| | TOTAL FIXTURES REQUIRED: | |
| | WATER CLOSETS: 3 REQUIRED, 4 PROVIDED | |
| | LAVATORIES: 2 REQUIRED, 3 PROVIDED | |
| | SERVICE SINK: 1 REQUIRED, 1 PROVIDED | |
| | DRINKING FOUNTAIN: 1 REQUIRED, 1 PROVIDED | |

CROSBY & ASSOCIATES

IN-VISION

THE FOUNDATION OF HOPE

*Helping Others Prosper & Excel*

# THE FOUNDATION OF HOPE

EASTON - MARYLAND



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EASTON - MARYLAND

RAUCH inc.
engineering design & development services

# STORMWATER MANAGEMENT ANALYSIS

FOR

# *FOUNDATION OF HOPE*

PREPARED FOR

**FOUNDATION OF HOPE**

**PREPARED BY**
**RAUCH, INC**
**106 N. HARRISON STREET**
**EASTON, MD 21601**

**30th of May 2025**




PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENCED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.

ROBERT D. RAUCH, LICENCE NO. 11024 — 5/30/2025 DATE
EXPIRATION DATE 7/24/2026

**106 N. Harrison Street - Easton, MD 21601**
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RAUCH inc.
engineering design & development services

# STORMWATER MANAGEMENT ANALYSIS – NARRATIVE

## EXISTING CONDITIONS

The project site under analysis is located in the town of Easton, Maryland, in Talbot County. It is bordered by South Washington Street and South Street.

The site's existing conditions vary between its two sections. The eastern portion comprised of mostly trees and brush while the western side is comprised of grass land. 100% of the existing soils within the proposed limits of disturbance are Hydrologic Soil Type C.

## PROPOSED CONDITIONS

Foundation of Hope involves the construction of a 2,538 SF (5,135 total from two stories) office building, and a permeable pavement parking lot on a singular parcel of land. ADA-compliant sidewalks will be provided adjacent to South Washington Street. Water and sewer extensions from the existing water and sewer in adjacent roads will also be included.

The proposed impervious will be treated for quality management by the permeable pavement and the micro-bioretention area. The ponding in the bioretention areas will be used as quantity management.

Proposed conditions during the 2-, 10-, and 100-year storm events have been analyzed and show postconstruction peak flows for the 2-, and 10-year storm events are less than preconstruction peak flows at the Study Points.

The maps included with this report detail all drainage areas with times of concentration.

## WATER QUANTITY

Volume control is provided within the micro-bioretention areas and a permeable pavement parking lot and by managing/maintaining existing times of concentrations within existing and reshaped drainage areas.

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The existing curb inlet, Study Point #1, adjacent to South Washington Street will continue to take on much of the proposed site drainage on the western and southern parts of the site, Drainage Area #1. This 3,810 SF area will be comprised of roadway, sidewalk, and grass.

The remaining 8,795 SF, Drainage Area #2, which includes the roof of the office building, the permeable pavement parking lot, concrete sidewalk and grass will all ultimately finds its way into the micro-bioretention, Study Point #2. A curb opening at the southeast corner of the pavement lot will allow any water to do so. Gutter and downspouts will collect the area covered by the roof of the office building which will be piped underground to a location that will lead to the micro-bioretention.

Below is a summary of the proposed peak runoffs flows from the 2, 10, and 100-year storms compared to existing peak runoff flows from the same events.

| STUDY POINT | STORM EVENT | 2-YEAR (cfs) | 10-YEAR (cfs) | 100-YEAR (cfs) |
|---|---|---|---|---|
| STUDY POINT 1 | EXISTING | 0.20 | 0.44 | 0.97 |
| | PROPOSED | 0.10 | 0.18 | 0.35 |
| CHANGE | CHANGE | -0.10 | -0.26 | -0.62 |
| STUDY POINT 2 | EXISTING | 0.05 | 0.12 | 0.28 |
| | PROPOSED | 0.00 | 0.00 | 0.00 |
| CHANGE | CHANGE | -0.05 | -0.12 | -0.28 |

## WATER QUALITY – ESDv/WQv

Quality control is provided within the Micro-Bioretention area, the porous pavement , and by managing/maintaining existing times of concentrations within existing and reshaped drainage areas.

The summary of the calculations is shown below

**SITE REQUIRED ESDv (SEE ATTACHMENTS FOR SPECIFIC CALCULATIONS):**
**ESDv REQUIRED: 791 CF**
**ESDv PROVIDED: 845 CF**

## NATURAL AREA PRESERVATION

The stormwater management facilities for this project have been designed to preserve natural areas such as existing tree lines as best as possible.

## CONCLUSION

This report shows that all requirements of the MDE stormwater design manual have been met for this site and natural areas have been preserved in meeting these guidelines.

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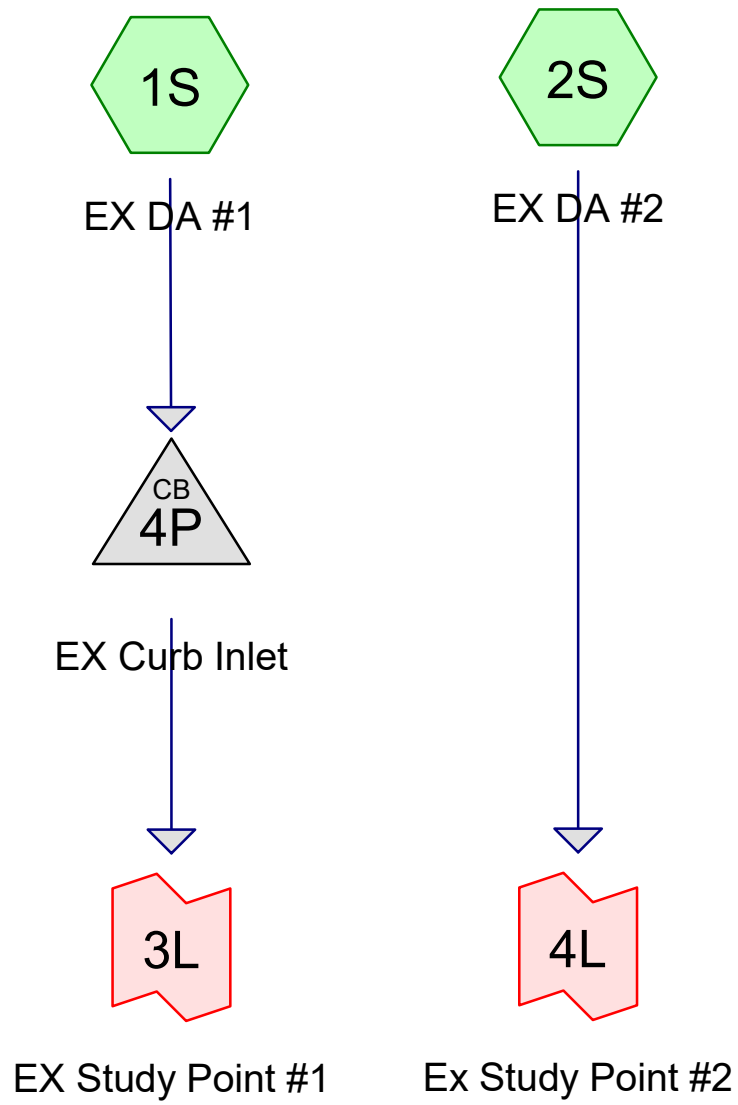
# ESD Calculations

| *Micro-Scale Practices* | Contributing Drainage Area (sf) | % Impervious Cover ---------- RV | To fully treat sub area ------ PE required ------- WQV required | Max available WQv or ESDv from CDA (cf) | Area of upstream catchment (sf) | WQv or ESDv from Up-Gradient Practices (cf) | Total catchment area ------ Total ESDv to practice | Practice Specific Parameter(s) | | | | Bed area % of direct catchement area | WQV or ESDv provided (cf) | Runoff Volume Remaining (cf) | Down-Gradient Practice and Row | SOIL TYPE | Baseline Phosphorous Removal Efficiency | Adjusted Removal Rate | P Load to Practice (lbs/yr) | Load Reduction (lbs/yr) | Remaining Load (lbs/yr) | Watershed-inches treated (PE Provided) | Annual Rainfall Treated (%) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Bed Surface Area (sf) | Top of Ponding Surface Area (sf) | Ponding Depth (ft) | Media Depth (ft) | | | | | | | | | | | | |
| | | 27% | 1.56 | | | | 8,795 | | | | | | | | | | | | | | | | |
| Micro-Bioretention 1 | 8,795 | 0.2965151 | 339 | 587 | 0 | 0 | 587 | 162 | 311 | 0.5 | 3 | 1.8% | 313 | 274 | | | #VALUE! | #VALUE! | 0.15 | #VALUE! | #VALUE! | 1.44 | 91.95% |
| Total | 10,013 | | | 847 | | 0 | | | | | | | 313 | 534 | | | #VALUE! | #VALUE! | 0.21 | #VALUE! | #VALUE! | 1.00 | 82.48% |

| *Micro-Scale Practices* | Contributing Drainage Area (sf) | % Impervious Cover ---------- RV | To fully treat sub area ------- PE required ------- WQV required | Max available WQv or ESDv from CDA (cf) | Practice Specific Parameter(s) | WQV or ESDv provided (cf) | Runoff Volume Remaining (cf) | Down-Gradient Practice and Row | Baseline Phosphorous Removal Efficiency | Adjusted Removal Rate | P Load to Practice (lbs/yr) | Load Reduction (lbs/yr) | Remaining Load (lbs/yr) | Watershed-inches treated (PE Provided) | Annual Rainfall Treated (%) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 100% | 2.18 | | Subbase Thickness (in) | | | | | | | | | | |
| Pemeable Pavement (C Soils) | 3,327 | 0.95 | 574 | 711 | 12 | 532 | 179 | | 40% | 48.79% | 0.18 | 0.09 | 0.09 | 2.02 | 100.72% |
| Total | 3,327 | | | 711 | | 532 | 179 | | 40% | 48.79% | 0.18 | 0.09 | 0.09 | 2.02 | 100.72% |

# Analysis of Existing Conditions

# Existing Conditions




Subcat Reach Pond Link

**Routing Diagram for HydoCAD - Foundation of Hope**
Prepared by Rauch Inc, Printed 5/6/2025
HydroCAD® 10.20-3h s/n 02413 © 2024 HydroCAD Software Solutions LLC

## Rainfall Events Listing (selected events)

| Event# | Event Name | Storm Type | Curve | Mode | Duration (hours) | B/B | Depth (inches) | AMC |
|---|---|---|---|---|---|---|---|---|
| 1 | 2-Year | NOAA 24-hr | C | Default | 24.00 | 1 | 3.33 | 2 |
| 2 | 10-Year | NOAA 24-hr | C | Default | 24.00 | 1 | 5.20 | 2 |
| 3 | 100-Year | NOAA 24-hr | C | Default | 24.00 | 1 | 8.98 | 2 |

## Area Listing (selected nodes)

| Area (acres) | CN | Description (subcatchment-numbers) |
|---|---|---|
| 0.259 | 74 | >75% Grass cover, Good, HSG C (1S, 2S) |
| 0.030 | 98 | Paved roads w/curbs & sewers, HSG A (1S) |
| **0.289** | **76** | **TOTAL AREA** |

## Soil Listing (selected nodes)

| Area (acres) | Soil Group | Subcatchment Numbers |
|---|---|---|
| 0.030 | HSG A | 1S |
| 0.000 | HSG B | |
| 0.259 | HSG C | 1S, 2S |
| 0.000 | HSG D | |
| 0.000 | Other | |
| **0.289** | | **TOTAL AREA** |

## Ground Covers (selected nodes)

| HSG-A (acres) | HSG-B (acres) | HSG-C (acres) | HSG-D (acres) | Other (acres) | Total (acres) | Ground Cover | Subcatchment Numbers |
|---|---|---|---|---|---|---|---|
| 0.000 | 0.000 | 0.259 | 0.000 | 0.000 | 0.259 | >75% Grass cover, Good | 1S, 2S |
| 0.030 | 0.000 | 0.000 | 0.000 | 0.000 | 0.030 | Paved roads w/curbs & sewers | 1S |
| **0.030** | **0.000** | **0.259** | **0.000** | **0.000** | **0.289** | **TOTAL AREA** | |

Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

**Subcatchment 1S: EX DA #1** Runoff Area=9,766 sf 13.35% Impervious Runoff Depth=1.31"
Flow Length=170' Tc=14.1 min CN=77 Runoff=0.20 cfs 0.024 af

**Subcatchment 2S: EX DA #2** Runoff Area=2,839 sf 0.00% Impervious Runoff Depth=1.12"
Flow Length=79' Slope=0.0150 '/' Tc=13.0 min CN=74 Runoff=0.05 cfs 0.006 af

**Pond 4P: EX Curb Inlet** Peak Elev=28.07' Inflow=0.20 cfs 0.024 af
Outflow=0.20 cfs 0.024 af

**Link 3L: EX Study Point #1** Inflow=0.20 cfs 0.024 af
Primary=0.20 cfs 0.024 af

**Link 4L: Ex Study Point #2** Inflow=0.05 cfs 0.006 af
Primary=0.05 cfs 0.006 af

**Total Runoff Area = 0.289 ac Runoff Volume = 0.030 af Average Runoff Depth = 1.26"**
**89.65% Pervious = 0.259 ac 10.35% Impervious = 0.030 ac**

## Summary for Subcatchment 1S: EX DA #1

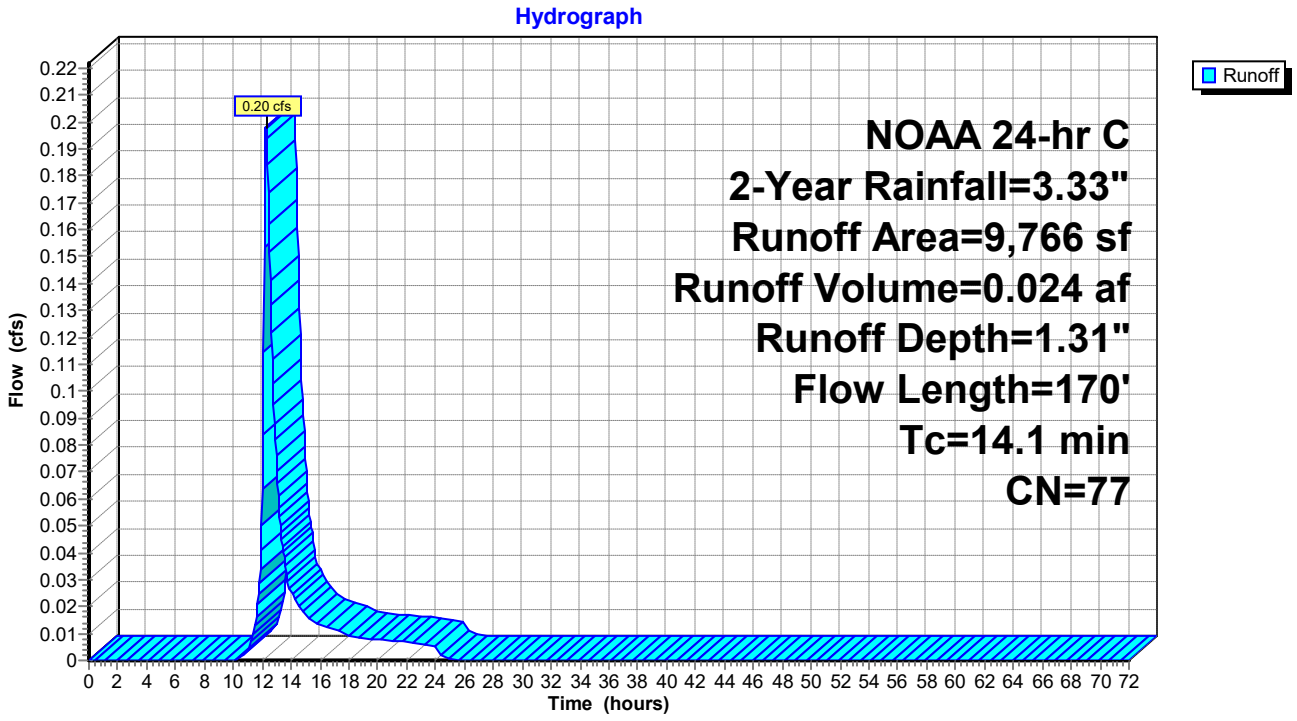
Runoff = 0.20 cfs @ 12.26 hrs, Volume= 0.024 af, Depth= 1.31"
Routed to Pond 4P : EX Curb Inlet

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C 2-Year Rainfall=3.33"

| Area (sf) | CN | Description |
|---|---|---|
| 8,462 | 74 | >75% Grass cover, Good, HSG C |
| 1,304 | 98 | Paved roads w/curbs & sewers, HSG A |
| 9,766 | 77 | Weighted Average |
| 8,462 | | 86.65% Pervious Area |
| 1,304 | | 13.35% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 13.6 | 100 | 0.0214 | 0.12 | | **Sheet Flow,** Grass: Dense n= 0.240 P2= 3.33" |
| 0.5 | 70 | 0.0114 | 2.17 | | **Shallow Concentrated Flow,** Paved Kv= 20.3 fps |
| 14.1 | 170 | Total | | | |

## Subcatchment 1S: EX DA #1



## Hydrograph for Subcatchment 1S: EX DA #1

| Time (hours) | Precip. (inches) | Excess (inches) | Runoff (cfs) |
|---|---|---|---|
| 0.00 | 0.00 | 0.00 | 0.00 |
| 1.00 | 0.04 | 0.00 | 0.00 |
| 2.00 | 0.08 | 0.00 | 0.00 |
| 3.00 | 0.12 | 0.00 | 0.00 |
| 4.00 | 0.16 | 0.00 | 0.00 |
| 5.00 | 0.21 | 0.00 | 0.00 |
| 6.00 | 0.26 | 0.00 | 0.00 |
| 7.00 | 0.32 | 0.00 | 0.00 |
| 8.00 | 0.40 | 0.00 | 0.00 |
| 9.00 | 0.49 | 0.00 | 0.00 |
| 10.00 | 0.61 | 0.00 | 0.00 |
| 11.00 | 0.80 | 0.01 | 0.00 |
| 12.00 | 1.59 | 0.25 | **0.06** |
| 13.00 | 2.53 | 0.76 | **0.07** |
| 14.00 | 2.72 | 0.88 | 0.03 |
| 15.00 | 2.84 | 0.96 | 0.02 |
| 16.00 | 2.93 | 1.02 | 0.01 |
| 17.00 | 3.01 | 1.07 | 0.01 |
| 18.00 | 3.07 | 1.12 | 0.01 |
| 19.00 | 3.12 | 1.15 | 0.01 |
| 20.00 | 3.17 | 1.19 | 0.01 |
| 21.00 | 3.21 | 1.22 | 0.01 |
| 22.00 | 3.25 | 1.25 | 0.01 |
| 23.00 | 3.29 | 1.28 | 0.01 |
| 24.00 | **3.33** | **1.31** | 0.01 |
| 25.00 | 3.33 | 1.31 | 0.00 |
| 26.00 | 3.33 | 1.31 | 0.00 |
| 27.00 | 3.33 | 1.31 | 0.00 |
| 28.00 | 3.33 | 1.31 | 0.00 |
| 29.00 | 3.33 | 1.31 | 0.00 |
| 30.00 | 3.33 | 1.31 | 0.00 |
| 31.00 | 3.33 | 1.31 | 0.00 |
| 32.00 | 3.33 | 1.31 | 0.00 |
| 33.00 | 3.33 | 1.31 | 0.00 |
| 34.00 | 3.33 | 1.31 | 0.00 |
| 35.00 | 3.33 | 1.31 | 0.00 |
| 36.00 | 3.33 | 1.31 | 0.00 |
| 37.00 | 3.33 | 1.31 | 0.00 |
| 38.00 | 3.33 | 1.31 | 0.00 |
| 39.00 | 3.33 | 1.31 | 0.00 |
| 40.00 | 3.33 | 1.31 | 0.00 |
| 41.00 | 3.33 | 1.31 | 0.00 |
| 42.00 | 3.33 | 1.31 | 0.00 |
| 43.00 | 3.33 | 1.31 | 0.00 |
| 44.00 | 3.33 | 1.31 | 0.00 |
| 45.00 | 3.33 | 1.31 | 0.00 |
| 46.00 | 3.33 | 1.31 | 0.00 |
| 47.00 | 3.33 | 1.31 | 0.00 |
| 48.00 | 3.33 | 1.31 | 0.00 |
| 49.00 | 3.33 | 1.31 | 0.00 |
| 50.00 | 3.33 | 1.31 | 0.00 |
| 51.00 | 3.33 | 1.31 | 0.00 |
| 52.00 | 3.33 | 1.31 | 0.00 |
| 53.00 | 3.33 | 1.31 | 0.00 |
| 54.00 | 3.33 | 1.31 | 0.00 |
| 55.00 | 3.33 | 1.31 | 0.00 |
| 56.00 | 3.33 | 1.31 | 0.00 |
| 57.00 | 3.33 | 1.31 | 0.00 |
| 58.00 | 3.33 | 1.31 | 0.00 |
| 59.00 | 3.33 | 1.31 | 0.00 |
| 60.00 | 3.33 | 1.31 | 0.00 |
| 61.00 | 3.33 | 1.31 | 0.00 |
| 62.00 | 3.33 | 1.31 | 0.00 |
| 63.00 | 3.33 | 1.31 | 0.00 |
| 64.00 | 3.33 | 1.31 | 0.00 |
| 65.00 | 3.33 | 1.31 | 0.00 |
| 66.00 | 3.33 | 1.31 | 0.00 |
| 67.00 | 3.33 | 1.31 | 0.00 |
| 68.00 | 3.33 | 1.31 | 0.00 |
| 69.00 | 3.33 | 1.31 | 0.00 |
| 70.00 | 3.33 | 1.31 | 0.00 |
| 71.00 | 3.33 | 1.31 | 0.00 |
| 72.00 | 3.33 | 1.31 | 0.00 |

## Summary for Subcatchment 2S: EX DA #2

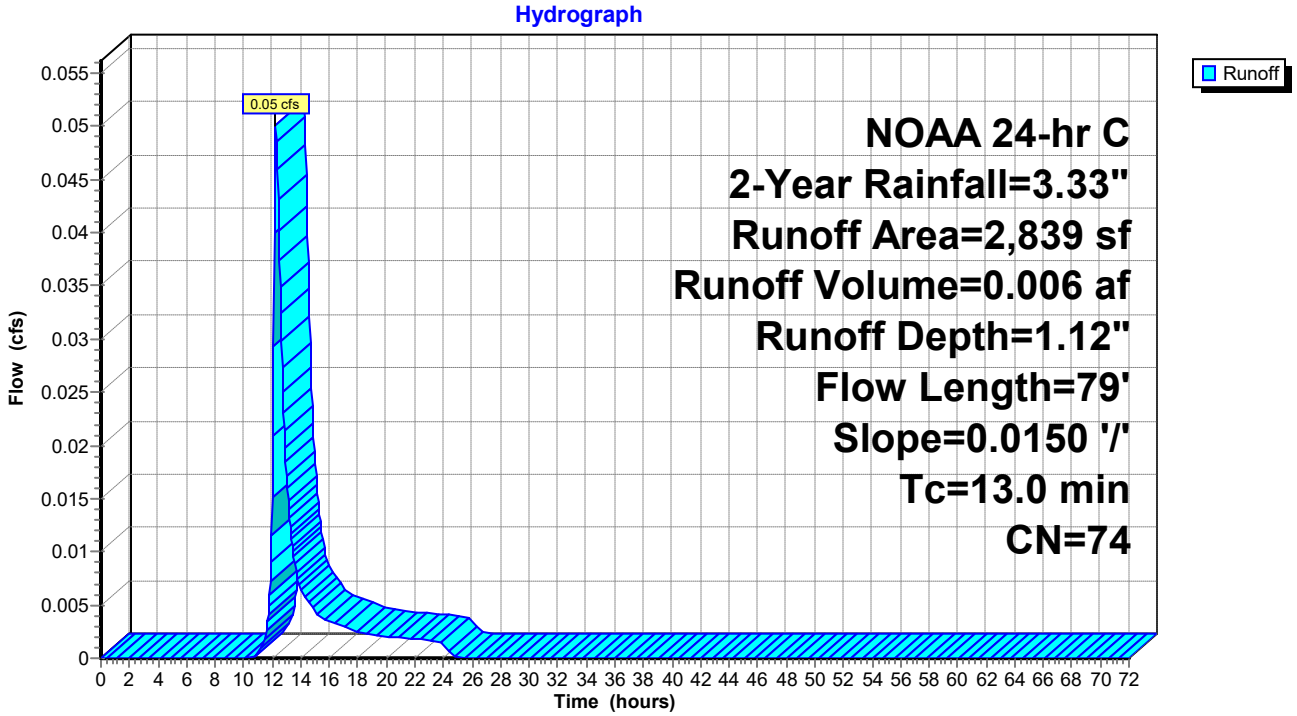
Runoff = 0.05 cfs @ 12.25 hrs, Volume= 0.006 af, Depth= 1.12"
Routed to Link 4L : Ex Study Point #2

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C 2-Year Rainfall=3.33"

| Area (sf) | CN | Description |
|---|---|---|
| 2,839 | 74 | >75% Grass cover, Good, HSG C |
| 2,839 | | 100.00% Pervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 13.0 | 79 | 0.0150 | 0.10 | | **Sheet Flow,** Grass: Dense n= 0.240 P2= 3.33" |

## Subcatchment 2S: EX DA #2



## Hydrograph for Subcatchment 2S: EX DA #2

| Time (hours) | Precip. (inches) | Excess (inches) | Runoff (cfs) |
|---|---|---|---|
| 0.00 | 0.00 | 0.00 | 0.00 |
| 1.00 | 0.04 | 0.00 | 0.00 |
| 2.00 | 0.08 | 0.00 | 0.00 |
| 3.00 | 0.12 | 0.00 | 0.00 |
| 4.00 | 0.16 | 0.00 | 0.00 |
| 5.00 | 0.21 | 0.00 | 0.00 |
| 6.00 | 0.26 | 0.00 | 0.00 |
| 7.00 | 0.32 | 0.00 | 0.00 |
| 8.00 | 0.40 | 0.00 | 0.00 |
| 9.00 | 0.49 | 0.00 | 0.00 |
| 10.00 | 0.61 | 0.00 | 0.00 |
| 11.00 | 0.80 | 0.00 | 0.00 |
| 12.00 | 1.59 | 0.18 | **0.02** |
| 13.00 | 2.53 | 0.63 | **0.02** |
| 14.00 | 2.72 | 0.74 | 0.01 |
| 15.00 | 2.84 | 0.81 | 0.00 |
| 16.00 | 2.93 | 0.86 | 0.00 |
| 17.00 | 3.01 | 0.91 | 0.00 |
| 18.00 | 3.07 | 0.95 | 0.00 |
| 19.00 | 3.12 | 0.98 | 0.00 |
| 20.00 | 3.17 | 1.02 | 0.00 |
| 21.00 | 3.21 | 1.05 | 0.00 |
| 22.00 | 3.25 | 1.07 | 0.00 |
| 23.00 | 3.29 | 1.10 | 0.00 |
| 24.00 | **3.33** | **1.12** | 0.00 |
| 25.00 | 3.33 | 1.12 | 0.00 |
| 26.00 | 3.33 | 1.12 | 0.00 |
| 27.00 | 3.33 | 1.12 | 0.00 |
| 28.00 | 3.33 | 1.12 | 0.00 |
| 29.00 | 3.33 | 1.12 | 0.00 |
| 30.00 | 3.33 | 1.12 | 0.00 |
| 31.00 | 3.33 | 1.12 | 0.00 |
| 32.00 | 3.33 | 1.12 | 0.00 |
| 33.00 | 3.33 | 1.12 | 0.00 |
| 34.00 | 3.33 | 1.12 | 0.00 |
| 35.00 | 3.33 | 1.12 | 0.00 |
| 36.00 | 3.33 | 1.12 | 0.00 |
| 37.00 | 3.33 | 1.12 | 0.00 |
| 38.00 | 3.33 | 1.12 | 0.00 |
| 39.00 | 3.33 | 1.12 | 0.00 |
| 40.00 | 3.33 | 1.12 | 0.00 |
| 41.00 | 3.33 | 1.12 | 0.00 |
| 42.00 | 3.33 | 1.12 | 0.00 |
| 43.00 | 3.33 | 1.12 | 0.00 |
| 44.00 | 3.33 | 1.12 | 0.00 |
| 45.00 | 3.33 | 1.12 | 0.00 |
| 46.00 | 3.33 | 1.12 | 0.00 |
| 47.00 | 3.33 | 1.12 | 0.00 |
| 48.00 | 3.33 | 1.12 | 0.00 |
| 49.00 | 3.33 | 1.12 | 0.00 |
| 50.00 | 3.33 | 1.12 | 0.00 |
| 51.00 | 3.33 | 1.12 | 0.00 |
| 52.00 | 3.33 | 1.12 | 0.00 |
| 53.00 | 3.33 | 1.12 | 0.00 |
| 54.00 | 3.33 | 1.12 | 0.00 |
| 55.00 | 3.33 | 1.12 | 0.00 |
| 56.00 | 3.33 | 1.12 | 0.00 |
| 57.00 | 3.33 | 1.12 | 0.00 |
| 58.00 | 3.33 | 1.12 | 0.00 |
| 59.00 | 3.33 | 1.12 | 0.00 |
| 60.00 | 3.33 | 1.12 | 0.00 |
| 61.00 | 3.33 | 1.12 | 0.00 |
| 62.00 | 3.33 | 1.12 | 0.00 |
| 63.00 | 3.33 | 1.12 | 0.00 |
| 64.00 | 3.33 | 1.12 | 0.00 |
| 65.00 | 3.33 | 1.12 | 0.00 |
| 66.00 | 3.33 | 1.12 | 0.00 |
| 67.00 | 3.33 | 1.12 | 0.00 |
| 68.00 | 3.33 | 1.12 | 0.00 |
| 69.00 | 3.33 | 1.12 | 0.00 |
| 70.00 | 3.33 | 1.12 | 0.00 |
| 71.00 | 3.33 | 1.12 | 0.00 |
| 72.00 | 3.33 | 1.12 | 0.00 |

## Summary for Pond 4P: EX Curb Inlet

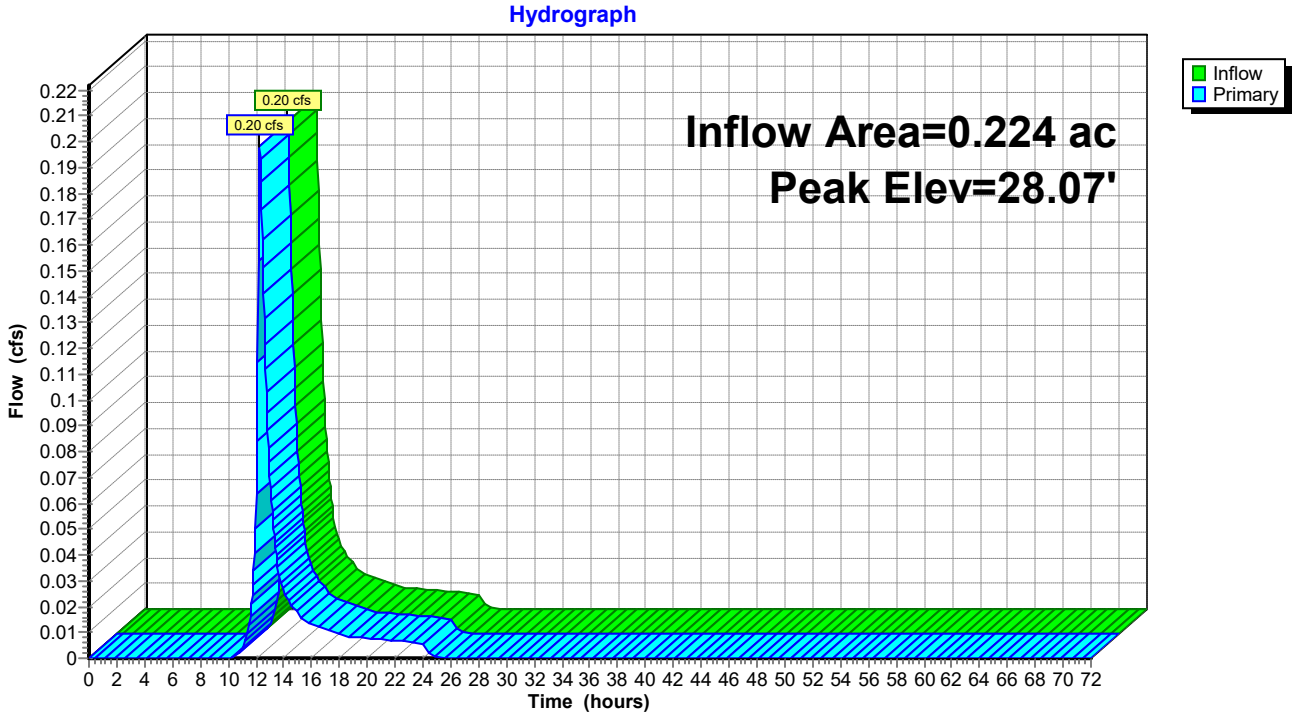
Inflow Area = 0.224 ac, 13.35% Impervious, Inflow Depth = 1.31" for 2-Year event
Inflow = 0.20 cfs @ 12.26 hrs, Volume= 0.024 af
Outflow = 0.20 cfs @ 12.26 hrs, Volume= 0.024 af, Atten= 0%, Lag= 0.0 min
Primary = 0.20 cfs @ 12.26 hrs, Volume= 0.024 af
Routed to Link 3L : EX Study Point #1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 28.07' @ 12.26 hrs

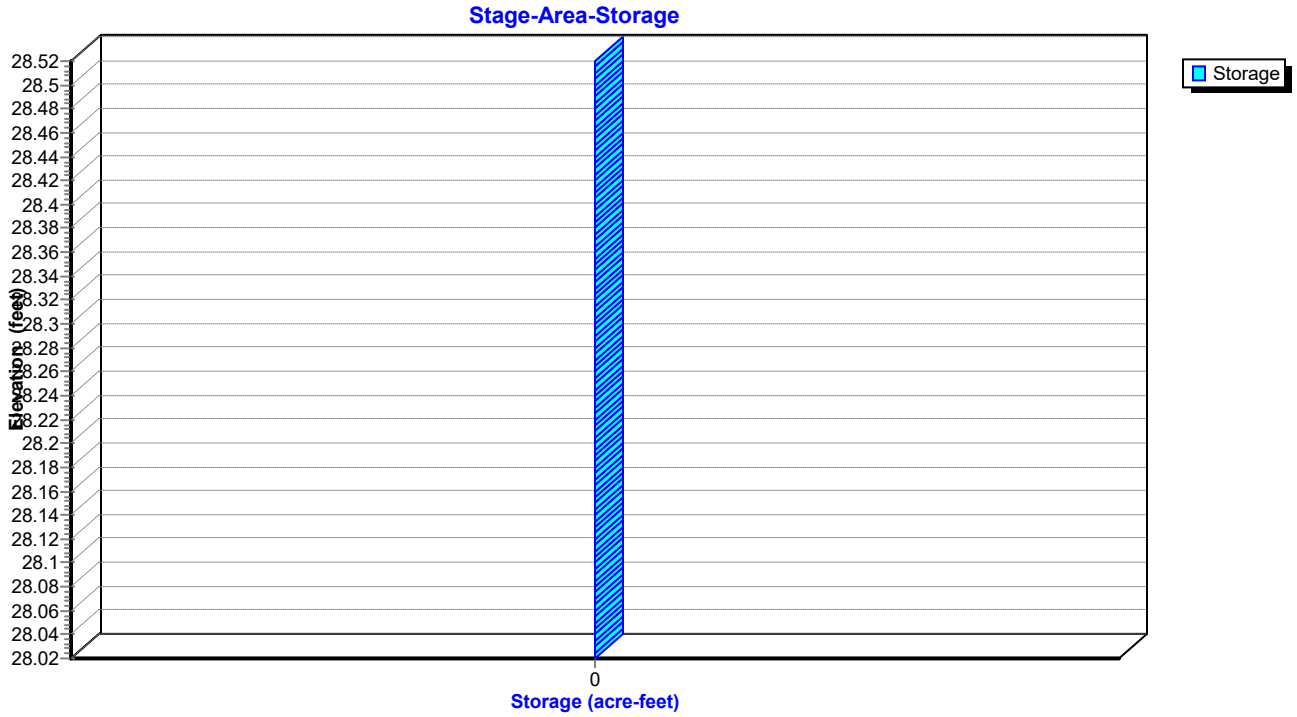
| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 28.02' | **72.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600<br>Limited to weir flow at low heads |

**Primary OutFlow** Max=0.20 cfs @ 12.26 hrs HW=28.07' TW=0.00' (Dynamic Tailwater)
**1=Orifice/Grate** (Orifice Controls 0.20 cfs @ 0.70 fps)

## Pond 4P: EX Curb Inlet



## Pond 4P: EX Curb Inlet



## Hydrograph for Pond 4P: EX Curb Inlet

| Time (hours) | Inflow (cfs) | Elevation (feet) | Primary (cfs) |
|---|---|---|---|
| 0.00 | 0.00 | 28.02 | 0.00 |
| 1.00 | 0.00 | 28.02 | 0.00 |
| 2.00 | 0.00 | 28.02 | 0.00 |
| 3.00 | 0.00 | 28.02 | 0.00 |
| 4.00 | 0.00 | 28.02 | 0.00 |
| 5.00 | 0.00 | 28.02 | 0.00 |
| 6.00 | 0.00 | 28.02 | 0.00 |
| 7.00 | 0.00 | 28.02 | 0.00 |
| 8.00 | 0.00 | 28.02 | 0.00 |
| 9.00 | 0.00 | 28.02 | 0.00 |
| 10.00 | 0.00 | 28.02 | 0.00 |
| 11.00 | 0.00 | 28.02 | 0.00 |
| 12.00 | **0.06** | **28.04** | **0.06** |
| 13.00 | **0.07** | **28.04** | **0.07** |
| 14.00 | 0.03 | 28.03 | 0.03 |
| 15.00 | 0.02 | 28.03 | 0.02 |
| 16.00 | 0.01 | 28.03 | 0.01 |
| 17.00 | 0.01 | 28.03 | 0.01 |
| 18.00 | 0.01 | 28.03 | 0.01 |
| 19.00 | 0.01 | 28.03 | 0.01 |
| 20.00 | 0.01 | 28.03 | 0.01 |
| 21.00 | 0.01 | 28.03 | 0.01 |
| 22.00 | 0.01 | 28.02 | 0.01 |
| 23.00 | 0.01 | 28.02 | 0.01 |
| 24.00 | 0.01 | 28.02 | 0.01 |
| 25.00 | 0.00 | 28.02 | 0.00 |
| 26.00 | 0.00 | 28.02 | 0.00 |
| 27.00 | 0.00 | 28.02 | 0.00 |
| 28.00 | 0.00 | 28.02 | 0.00 |
| 29.00 | 0.00 | 28.02 | 0.00 |
| 30.00 | 0.00 | 28.02 | 0.00 |
| 31.00 | 0.00 | 28.02 | 0.00 |
| 32.00 | 0.00 | 28.02 | 0.00 |
| 33.00 | 0.00 | 28.02 | 0.00 |
| 34.00 | 0.00 | 28.02 | 0.00 |
| 35.00 | 0.00 | 28.02 | 0.00 |
| 36.00 | 0.00 | 28.02 | 0.00 |
| 37.00 | 0.00 | 28.02 | 0.00 |
| 38.00 | 0.00 | 28.02 | 0.00 |
| 39.00 | 0.00 | 28.02 | 0.00 |
| 40.00 | 0.00 | 28.02 | 0.00 |
| 41.00 | 0.00 | 28.02 | 0.00 |
| 42.00 | 0.00 | 28.02 | 0.00 |
| 43.00 | 0.00 | 28.02 | 0.00 |
| 44.00 | 0.00 | 28.02 | 0.00 |
| 45.00 | 0.00 | 28.02 | 0.00 |
| 46.00 | 0.00 | 28.02 | 0.00 |
| 47.00 | 0.00 | 28.02 | 0.00 |
| 48.00 | 0.00 | 28.02 | 0.00 |
| 49.00 | 0.00 | 28.02 | 0.00 |
| 50.00 | 0.00 | 28.02 | 0.00 |
| 51.00 | 0.00 | 28.02 | 0.00 |
| 52.00 | 0.00 | 28.02 | 0.00 |
| 53.00 | 0.00 | 28.02 | 0.00 |
| 54.00 | 0.00 | 28.02 | 0.00 |
| 55.00 | 0.00 | 28.02 | 0.00 |
| 56.00 | 0.00 | 28.02 | 0.00 |
| 57.00 | 0.00 | 28.02 | 0.00 |
| 58.00 | 0.00 | 28.02 | 0.00 |
| 59.00 | 0.00 | 28.02 | 0.00 |
| 60.00 | 0.00 | 28.02 | 0.00 |
| 61.00 | 0.00 | 28.02 | 0.00 |
| 62.00 | 0.00 | 28.02 | 0.00 |
| 63.00 | 0.00 | 28.02 | 0.00 |
| 64.00 | 0.00 | 28.02 | 0.00 |
| 65.00 | 0.00 | 28.02 | 0.00 |
| 66.00 | 0.00 | 28.02 | 0.00 |
| 67.00 | 0.00 | 28.02 | 0.00 |
| 68.00 | 0.00 | 28.02 | 0.00 |
| 69.00 | 0.00 | 28.02 | 0.00 |
| 70.00 | 0.00 | 28.02 | 0.00 |
| 71.00 | 0.00 | 28.02 | 0.00 |
| 72.00 | 0.00 | 28.02 | 0.00 |

## Stage-Area-Storage for Pond 4P: EX Curb Inlet

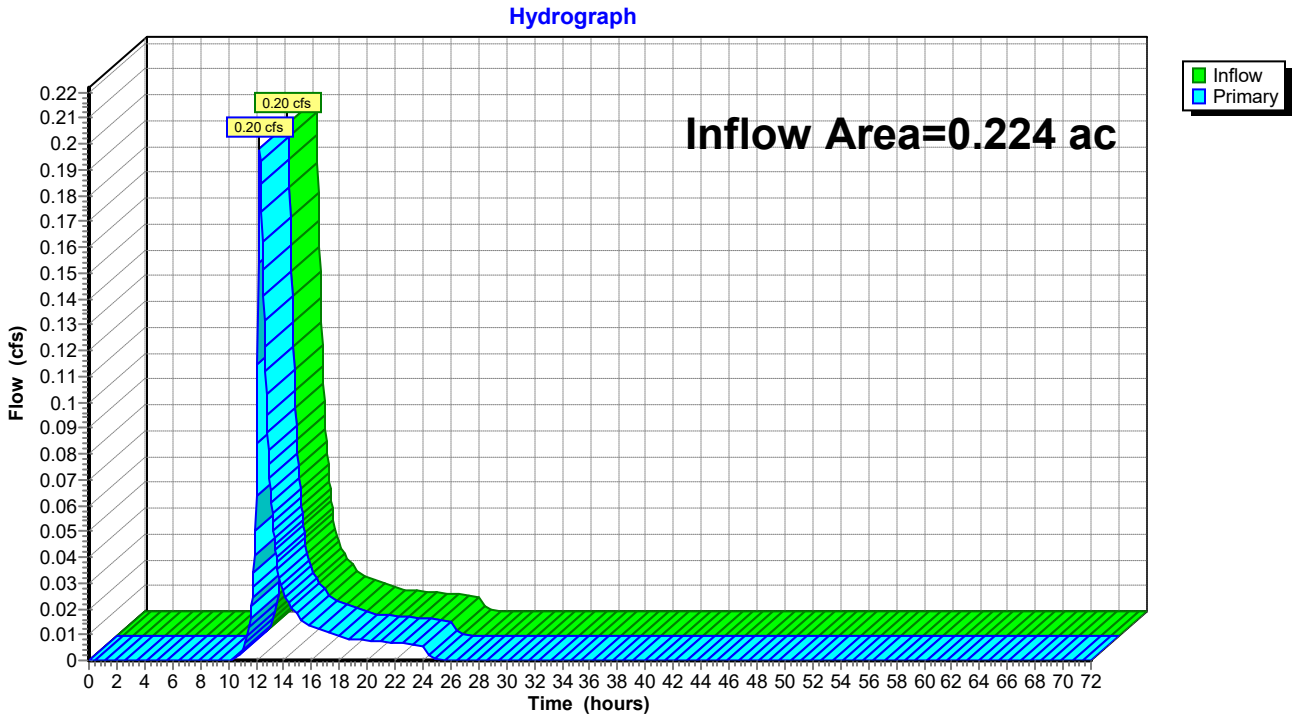
| Elevation (feet) | Storage (acre-feet) |
|---|---|
| 28.02 | **0.000** |
| 28.03 | 0.000 |
| 28.04 | 0.000 |
| 28.05 | 0.000 |
| 28.06 | 0.000 |
| 28.07 | 0.000 |
| 28.08 | 0.000 |
| 28.09 | 0.000 |
| 28.10 | 0.000 |
| 28.11 | 0.000 |
| 28.12 | 0.000 |
| 28.13 | 0.000 |
| 28.14 | 0.000 |
| 28.15 | 0.000 |
| 28.16 | 0.000 |
| 28.17 | 0.000 |
| 28.18 | 0.000 |
| 28.19 | 0.000 |
| 28.20 | 0.000 |
| 28.21 | 0.000 |
| 28.22 | 0.000 |
| 28.23 | 0.000 |
| 28.24 | 0.000 |
| 28.25 | 0.000 |
| 28.26 | 0.000 |
| 28.27 | 0.000 |
| 28.28 | 0.000 |
| 28.29 | 0.000 |
| 28.30 | 0.000 |
| 28.31 | 0.000 |
| 28.32 | 0.000 |
| 28.33 | 0.000 |
| 28.34 | 0.000 |
| 28.35 | 0.000 |
| 28.36 | 0.000 |
| 28.37 | 0.000 |
| 28.38 | 0.000 |
| 28.39 | 0.000 |
| 28.40 | 0.000 |
| 28.41 | 0.000 |
| 28.42 | 0.000 |
| 28.43 | 0.000 |
| 28.44 | 0.000 |
| 28.45 | 0.000 |
| 28.46 | 0.000 |
| 28.47 | 0.000 |
| 28.48 | 0.000 |
| 28.49 | 0.000 |
| 28.50 | 0.000 |
| 28.51 | 0.000 |
| 28.52 | 0.000 |

## Summary for Link 3L: EX Study Point #1

Inflow Area = 0.224 ac, 13.35% Impervious, Inflow Depth = 1.31" for 2-Year event
Inflow = 0.20 cfs @ 12.26 hrs, Volume= 0.024 af
Primary = 0.20 cfs @ 12.26 hrs, Volume= 0.024 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

## Link 3L: EX Study Point #1



## Hydrograph for Link 3L: EX Study Point #1

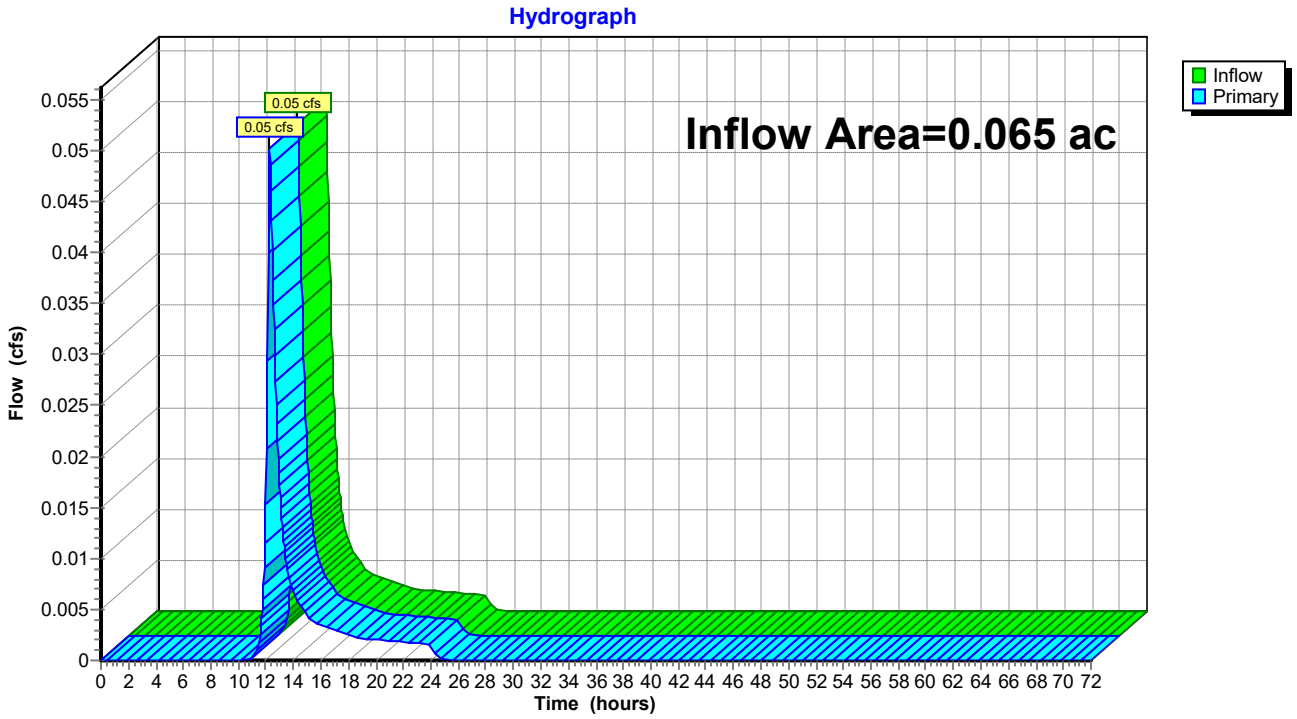
| Time (hours) | Inflow (cfs) | Elevation (feet) | Primary (cfs) |
|---|---|---|---|
| 0.00 | 0.00 | **0.00** | 0.00 |
| 1.00 | 0.00 | 0.00 | 0.00 |
| 2.00 | 0.00 | 0.00 | 0.00 |
| 3.00 | 0.00 | 0.00 | 0.00 |
| 4.00 | 0.00 | 0.00 | 0.00 |
| 5.00 | 0.00 | 0.00 | 0.00 |
| 6.00 | 0.00 | 0.00 | 0.00 |
| 7.00 | 0.00 | 0.00 | 0.00 |
| 8.00 | 0.00 | 0.00 | 0.00 |
| 9.00 | 0.00 | 0.00 | 0.00 |
| 10.00 | 0.00 | 0.00 | 0.00 |
| 11.00 | 0.00 | 0.00 | 0.00 |
| 12.00 | **0.06** | 0.00 | **0.06** |
| 13.00 | **0.07** | 0.00 | **0.07** |
| 14.00 | 0.03 | 0.00 | 0.03 |
| 15.00 | 0.02 | 0.00 | 0.02 |
| 16.00 | 0.01 | 0.00 | 0.01 |
| 17.00 | 0.01 | 0.00 | 0.01 |
| 18.00 | 0.01 | 0.00 | 0.01 |
| 19.00 | 0.01 | 0.00 | 0.01 |
| 20.00 | 0.01 | 0.00 | 0.01 |
| 21.00 | 0.01 | 0.00 | 0.01 |
| 22.00 | 0.01 | 0.00 | 0.01 |
| 23.00 | 0.01 | 0.00 | 0.01 |
| 24.00 | 0.01 | 0.00 | 0.01 |
| 25.00 | 0.00 | 0.00 | 0.00 |
| 26.00 | 0.00 | 0.00 | 0.00 |
| 27.00 | 0.00 | 0.00 | 0.00 |
| 28.00 | 0.00 | 0.00 | 0.00 |
| 29.00 | 0.00 | 0.00 | 0.00 |
| 30.00 | 0.00 | 0.00 | 0.00 |
| 31.00 | 0.00 | 0.00 | 0.00 |
| 32.00 | 0.00 | 0.00 | 0.00 |
| 33.00 | 0.00 | 0.00 | 0.00 |
| 34.00 | 0.00 | 0.00 | 0.00 |
| 35.00 | 0.00 | 0.00 | 0.00 |
| 36.00 | 0.00 | 0.00 | 0.00 |
| 37.00 | 0.00 | 0.00 | 0.00 |
| 38.00 | 0.00 | 0.00 | 0.00 |
| 39.00 | 0.00 | 0.00 | 0.00 |
| 40.00 | 0.00 | 0.00 | 0.00 |
| 41.00 | 0.00 | 0.00 | 0.00 |
| 42.00 | 0.00 | 0.00 | 0.00 |
| 43.00 | 0.00 | 0.00 | 0.00 |
| 44.00 | 0.00 | 0.00 | 0.00 |
| 45.00 | 0.00 | 0.00 | 0.00 |
| 46.00 | 0.00 | 0.00 | 0.00 |
| 47.00 | 0.00 | 0.00 | 0.00 |
| 48.00 | 0.00 | 0.00 | 0.00 |
| 49.00 | 0.00 | 0.00 | 0.00 |
| 50.00 | 0.00 | 0.00 | 0.00 |
| 51.00 | 0.00 | 0.00 | 0.00 |
| 52.00 | 0.00 | 0.00 | 0.00 |
| 53.00 | 0.00 | 0.00 | 0.00 |
| 54.00 | 0.00 | 0.00 | 0.00 |
| 55.00 | 0.00 | 0.00 | 0.00 |
| 56.00 | 0.00 | 0.00 | 0.00 |
| 57.00 | 0.00 | 0.00 | 0.00 |
| 58.00 | 0.00 | 0.00 | 0.00 |
| 59.00 | 0.00 | 0.00 | 0.00 |
| 60.00 | 0.00 | 0.00 | 0.00 |
| 61.00 | 0.00 | 0.00 | 0.00 |
| 62.00 | 0.00 | 0.00 | 0.00 |
| 63.00 | 0.00 | 0.00 | 0.00 |
| 64.00 | 0.00 | 0.00 | 0.00 |
| 65.00 | 0.00 | 0.00 | 0.00 |
| 66.00 | 0.00 | 0.00 | 0.00 |
| 67.00 | 0.00 | 0.00 | 0.00 |
| 68.00 | 0.00 | 0.00 | 0.00 |
| 69.00 | 0.00 | 0.00 | 0.00 |
| 70.00 | 0.00 | 0.00 | 0.00 |
| 71.00 | 0.00 | 0.00 | 0.00 |
| 72.00 | 0.00 | 0.00 | 0.00 |

## Summary for Link 4L: Ex Study Point #2

Inflow Area = 0.065 ac, 0.00% Impervious, Inflow Depth = 1.12" for 2-Year event
Inflow = 0.05 cfs @ 12.25 hrs, Volume= 0.006 af
Primary = 0.05 cfs @ 12.25 hrs, Volume= 0.006 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

## Link 4L: Ex Study Point #2



## Hydrograph for Link 4L: Ex Study Point #2

| Time (hours) | Inflow (cfs) | Elevation (feet) | Primary (cfs) |
|---|---|---|---|
| 0.00 | 0.00 | **0.00** | 0.00 |
| 1.00 | 0.00 | 0.00 | 0.00 |
| 2.00 | 0.00 | 0.00 | 0.00 |
| 3.00 | 0.00 | 0.00 | 0.00 |
| 4.00 | 0.00 | 0.00 | 0.00 |
| 5.00 | 0.00 | 0.00 | 0.00 |
| 6.00 | 0.00 | 0.00 | 0.00 |
| 7.00 | 0.00 | 0.00 | 0.00 |
| 8.00 | 0.00 | 0.00 | 0.00 |
| 9.00 | 0.00 | 0.00 | 0.00 |
| 10.00 | 0.00 | 0.00 | 0.00 |
| 11.00 | 0.00 | 0.00 | 0.00 |
| 12.00 | **0.02** | 0.00 | **0.02** |
| 13.00 | **0.02** | 0.00 | **0.02** |
| 14.00 | 0.01 | 0.00 | 0.01 |
| 15.00 | 0.00 | 0.00 | 0.00 |
| 16.00 | 0.00 | 0.00 | 0.00 |
| 17.00 | 0.00 | 0.00 | 0.00 |
| 18.00 | 0.00 | 0.00 | 0.00 |
| 19.00 | 0.00 | 0.00 | 0.00 |
| 20.00 | 0.00 | 0.00 | 0.00 |
| 21.00 | 0.00 | 0.00 | 0.00 |
| 22.00 | 0.00 | 0.00 | 0.00 |
| 23.00 | 0.00 | 0.00 | 0.00 |
| 24.00 | 0.00 | 0.00 | 0.00 |
| 25.00 | 0.00 | 0.00 | 0.00 |
| 26.00 | 0.00 | 0.00 | 0.00 |
| 27.00 | 0.00 | 0.00 | 0.00 |
| 28.00 | 0.00 | 0.00 | 0.00 |
| 29.00 | 0.00 | 0.00 | 0.00 |
| 30.00 | 0.00 | 0.00 | 0.00 |
| 31.00 | 0.00 | 0.00 | 0.00 |
| 32.00 | 0.00 | 0.00 | 0.00 |
| 33.00 | 0.00 | 0.00 | 0.00 |
| 34.00 | 0.00 | 0.00 | 0.00 |
| 35.00 | 0.00 | 0.00 | 0.00 |
| 36.00 | 0.00 | 0.00 | 0.00 |
| 37.00 | 0.00 | 0.00 | 0.00 |
| 38.00 | 0.00 | 0.00 | 0.00 |
| 39.00 | 0.00 | 0.00 | 0.00 |
| 40.00 | 0.00 | 0.00 | 0.00 |
| 41.00 | 0.00 | 0.00 | 0.00 |
| 42.00 | 0.00 | 0.00 | 0.00 |
| 43.00 | 0.00 | 0.00 | 0.00 |
| 44.00 | 0.00 | 0.00 | 0.00 |
| 45.00 | 0.00 | 0.00 | 0.00 |
| 46.00 | 0.00 | 0.00 | 0.00 |
| 47.00 | 0.00 | 0.00 | 0.00 |
| 48.00 | 0.00 | 0.00 | 0.00 |
| 49.00 | 0.00 | 0.00 | 0.00 |
| 50.00 | 0.00 | 0.00 | 0.00 |
| 51.00 | 0.00 | 0.00 | 0.00 |
| 52.00 | 0.00 | 0.00 | 0.00 |
| 53.00 | 0.00 | 0.00 | 0.00 |
| 54.00 | 0.00 | 0.00 | 0.00 |
| 55.00 | 0.00 | 0.00 | 0.00 |
| 56.00 | 0.00 | 0.00 | 0.00 |
| 57.00 | 0.00 | 0.00 | 0.00 |
| 58.00 | 0.00 | 0.00 | 0.00 |
| 59.00 | 0.00 | 0.00 | 0.00 |
| 60.00 | 0.00 | 0.00 | 0.00 |
| 61.00 | 0.00 | 0.00 | 0.00 |
| 62.00 | 0.00 | 0.00 | 0.00 |
| 63.00 | 0.00 | 0.00 | 0.00 |
| 64.00 | 0.00 | 0.00 | 0.00 |
| 65.00 | 0.00 | 0.00 | 0.00 |
| 66.00 | 0.00 | 0.00 | 0.00 |
| 67.00 | 0.00 | 0.00 | 0.00 |
| 68.00 | 0.00 | 0.00 | 0.00 |
| 69.00 | 0.00 | 0.00 | 0.00 |
| 70.00 | 0.00 | 0.00 | 0.00 |
| 71.00 | 0.00 | 0.00 | 0.00 |
| 72.00 | 0.00 | 0.00 | 0.00 |

Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

**Subcatchment 1S: EX DA #1** Runoff Area=9,766 sf 13.35% Impervious Runoff Depth=2.79"
Flow Length=170' Tc=14.1 min CN=77 Runoff=0.44 cfs 0.052 af

**Subcatchment 2S: EX DA #2** Runoff Area=2,839 sf 0.00% Impervious Runoff Depth=2.52"
Flow Length=79' Slope=0.0150 '/' Tc=13.0 min CN=74 Runoff=0.12 cfs 0.014 af

**Pond 4P: EX Curb Inlet** Peak Elev=28.10' Inflow=0.44 cfs 0.052 af
Outflow=0.44 cfs 0.052 af

**Link 3L: EX Study Point #1** Inflow=0.44 cfs 0.052 af
Primary=0.44 cfs 0.052 af

**Link 4L: Ex Study Point #2** Inflow=0.12 cfs 0.014 af
Primary=0.12 cfs 0.014 af

**Total Runoff Area = 0.289 ac Runoff Volume = 0.066 af Average Runoff Depth = 2.73"**
**89.65% Pervious = 0.259 ac 10.35% Impervious = 0.030 ac**

## Summary for Subcatchment 1S: EX DA #1

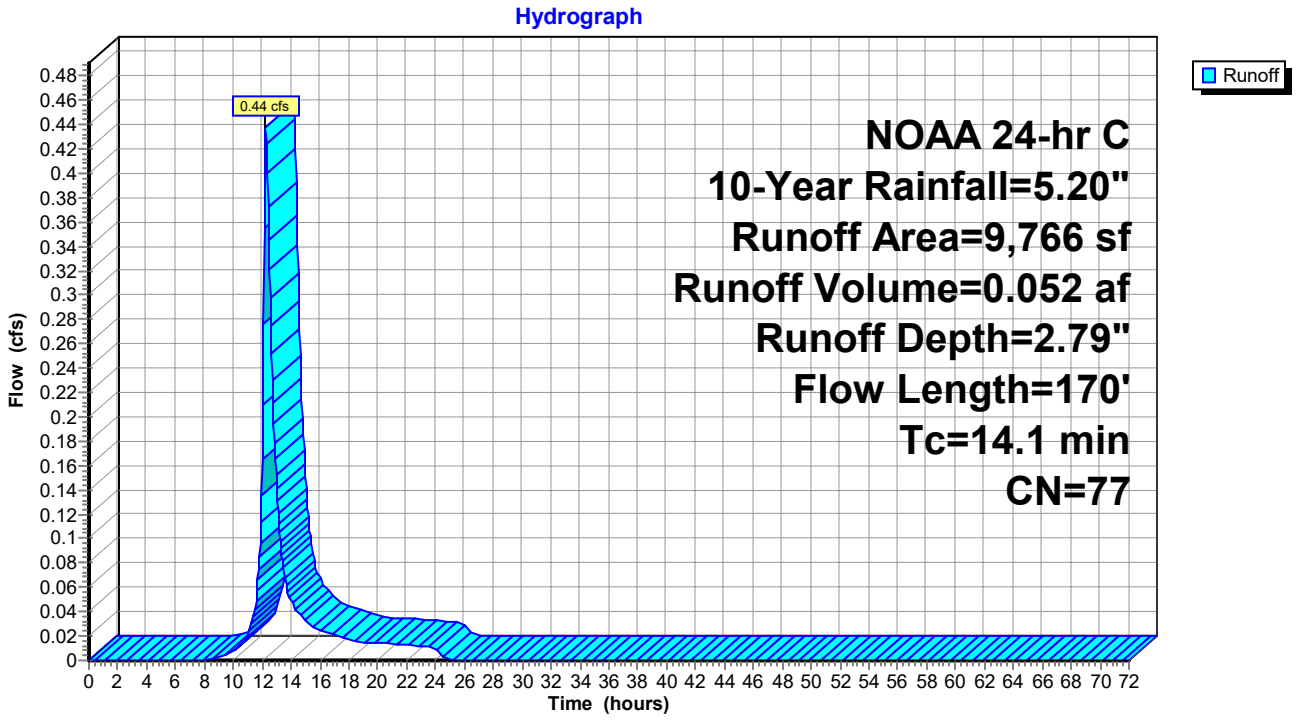
Runoff = 0.44 cfs @ 12.25 hrs, Volume= 0.052 af, Depth= 2.79"
Routed to Pond 4P : EX Curb Inlet

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C 10-Year Rainfall=5.20"

| Area (sf) | CN | Description |
|---|---|---|
| 8,462 | 74 | >75% Grass cover, Good, HSG C |
| 1,304 | 98 | Paved roads w/curbs & sewers, HSG A |
| 9,766 | 77 | Weighted Average |
| 8,462 | | 86.65% Pervious Area |
| 1,304 | | 13.35% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 13.6 | 100 | 0.0214 | 0.12 | | **Sheet Flow,** Grass: Dense n= 0.240 P2= 3.33" |
| 0.5 | 70 | 0.0114 | 2.17 | | **Shallow Concentrated Flow,** Paved Kv= 20.3 fps |
| 14.1 | 170 | Total | | | |

## Subcatchment 1S: EX DA #1



## Hydrograph for Subcatchment 1S: EX DA #1

| Time (hours) | Precip. (inches) | Excess (inches) | Runoff (cfs) |
|---|---|---|---|
| 0.00 | 0.00 | 0.00 | 0.00 |
| 1.00 | 0.06 | 0.00 | 0.00 |
| 2.00 | 0.12 | 0.00 | 0.00 |
| 3.00 | 0.18 | 0.00 | 0.00 |
| 4.00 | 0.25 | 0.00 | 0.00 |
| 5.00 | 0.33 | 0.00 | 0.00 |
| 6.00 | 0.41 | 0.00 | 0.00 |
| 7.00 | 0.51 | 0.00 | 0.00 |
| 8.00 | 0.62 | 0.00 | 0.00 |
| 9.00 | 0.76 | 0.01 | 0.00 |
| 10.00 | 0.95 | 0.04 | 0.01 |
| 11.00 | 1.25 | 0.12 | 0.02 |
| 12.00 | 2.48 | 0.73 | **0.17** |
| 13.00 | 3.95 | 1.77 | **0.14** |
| 14.00 | 4.25 | 2.01 | 0.05 |
| 15.00 | 4.44 | 2.16 | 0.03 |
| 16.00 | 4.58 | 2.27 | 0.02 |
| 17.00 | 4.69 | 2.37 | 0.02 |
| 18.00 | 4.79 | 2.45 | 0.02 |
| 19.00 | 4.87 | 2.51 | 0.02 |
| 20.00 | 4.95 | 2.58 | 0.01 |
| 21.00 | 5.02 | 2.64 | 0.01 |
| 22.00 | 5.08 | 2.69 | 0.01 |
| 23.00 | 5.14 | 2.74 | 0.01 |
| 24.00 | **5.20** | **2.79** | 0.01 |
| 25.00 | 5.20 | 2.79 | 0.00 |
| 26.00 | 5.20 | 2.79 | 0.00 |
| 27.00 | 5.20 | 2.79 | 0.00 |
| 28.00 | 5.20 | 2.79 | 0.00 |
| 29.00 | 5.20 | 2.79 | 0.00 |
| 30.00 | 5.20 | 2.79 | 0.00 |
| 31.00 | 5.20 | 2.79 | 0.00 |
| 32.00 | 5.20 | 2.79 | 0.00 |
| 33.00 | 5.20 | 2.79 | 0.00 |
| 34.00 | 5.20 | 2.79 | 0.00 |
| 35.00 | 5.20 | 2.79 | 0.00 |
| 36.00 | 5.20 | 2.79 | 0.00 |
| 37.00 | 5.20 | 2.79 | 0.00 |
| 38.00 | 5.20 | 2.79 | 0.00 |
| 39.00 | 5.20 | 2.79 | 0.00 |
| 40.00 | 5.20 | 2.79 | 0.00 |
| 41.00 | 5.20 | 2.79 | 0.00 |
| 42.00 | 5.20 | 2.79 | 0.00 |
| 43.00 | 5.20 | 2.79 | 0.00 |
| 44.00 | 5.20 | 2.79 | 0.00 |
| 45.00 | 5.20 | 2.79 | 0.00 |
| 46.00 | 5.20 | 2.79 | 0.00 |
| 47.00 | 5.20 | 2.79 | 0.00 |
| 48.00 | 5.20 | 2.79 | 0.00 |
| 49.00 | 5.20 | 2.79 | 0.00 |
| 50.00 | 5.20 | 2.79 | 0.00 |
| 51.00 | 5.20 | 2.79 | 0.00 |
| 52.00 | 5.20 | 2.79 | 0.00 |
| 53.00 | 5.20 | 2.79 | 0.00 |
| 54.00 | 5.20 | 2.79 | 0.00 |
| 55.00 | 5.20 | 2.79 | 0.00 |
| 56.00 | 5.20 | 2.79 | 0.00 |
| 57.00 | 5.20 | 2.79 | 0.00 |
| 58.00 | 5.20 | 2.79 | 0.00 |
| 59.00 | 5.20 | 2.79 | 0.00 |
| 60.00 | 5.20 | 2.79 | 0.00 |
| 61.00 | 5.20 | 2.79 | 0.00 |
| 62.00 | 5.20 | 2.79 | 0.00 |
| 63.00 | 5.20 | 2.79 | 0.00 |
| 64.00 | 5.20 | 2.79 | 0.00 |
| 65.00 | 5.20 | 2.79 | 0.00 |
| 66.00 | 5.20 | 2.79 | 0.00 |
| 67.00 | 5.20 | 2.79 | 0.00 |
| 68.00 | 5.20 | 2.79 | 0.00 |
| 69.00 | 5.20 | 2.79 | 0.00 |
| 70.00 | 5.20 | 2.79 | 0.00 |
| 71.00 | 5.20 | 2.79 | 0.00 |
| 72.00 | 5.20 | 2.79 | 0.00 |

## Summary for Subcatchment 2S: EX DA #2

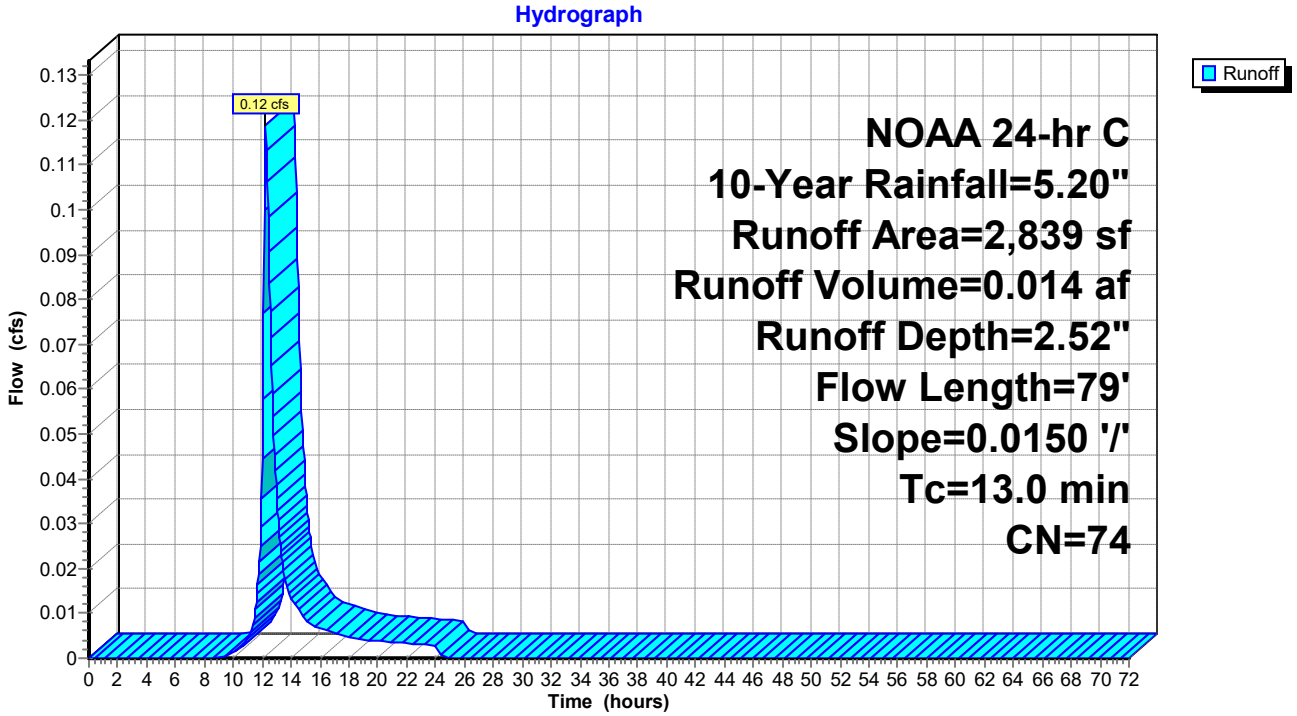
Runoff = 0.12 cfs @ 12.24 hrs, Volume= 0.014 af, Depth= 2.52"
Routed to Link 4L : Ex Study Point #2

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C 10-Year Rainfall=5.20"

| Area (sf) | CN | Description |
|---|---|---|
| 2,839 | 74 | >75% Grass cover, Good, HSG C |
| 2,839 | | 100.00% Pervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 13.0 | 79 | 0.0150 | 0.10 | | **Sheet Flow,** Grass: Dense n= 0.240 P2= 3.33" |

## Subcatchment 2S: EX DA #2



## Hydrograph for Subcatchment 2S: EX DA #2

| Time (hours) | Precip. (inches) | Excess (inches) | Runoff (cfs) |
|---|---|---|---|
| 0.00 | 0.00 | 0.00 | 0.00 |
| 1.00 | 0.06 | 0.00 | 0.00 |
| 2.00 | 0.12 | 0.00 | 0.00 |
| 3.00 | 0.18 | 0.00 | 0.00 |
| 4.00 | 0.25 | 0.00 | 0.00 |
| 5.00 | 0.33 | 0.00 | 0.00 |
| 6.00 | 0.41 | 0.00 | 0.00 |
| 7.00 | 0.51 | 0.00 | 0.00 |
| 8.00 | 0.62 | 0.00 | 0.00 |
| 9.00 | 0.76 | 0.00 | 0.00 |
| 10.00 | 0.95 | 0.02 | 0.00 |
| 11.00 | 1.25 | 0.07 | 0.00 |
| 12.00 | 2.48 | 0.60 | **0.04** |
| 13.00 | 3.95 | 1.56 | **0.04** |
| 14.00 | 4.25 | 1.78 | 0.01 |
| 15.00 | 4.44 | 1.93 | 0.01 |
| 16.00 | 4.58 | 2.03 | 0.01 |
| 17.00 | 4.69 | 2.12 | 0.01 |
| 18.00 | 4.79 | 2.20 | 0.00 |
| 19.00 | 4.87 | 2.26 | 0.00 |
| 20.00 | 4.95 | 2.32 | 0.00 |
| 21.00 | 5.02 | 2.38 | 0.00 |
| 22.00 | 5.08 | 2.43 | 0.00 |
| 23.00 | 5.14 | 2.48 | 0.00 |
| 24.00 | **5.20** | **2.52** | 0.00 |
| 25.00 | 5.20 | 2.52 | 0.00 |
| 26.00 | 5.20 | 2.52 | 0.00 |
| 27.00 | 5.20 | 2.52 | 0.00 |
| 28.00 | 5.20 | 2.52 | 0.00 |
| 29.00 | 5.20 | 2.52 | 0.00 |
| 30.00 | 5.20 | 2.52 | 0.00 |
| 31.00 | 5.20 | 2.52 | 0.00 |
| 32.00 | 5.20 | 2.52 | 0.00 |
| 33.00 | 5.20 | 2.52 | 0.00 |
| 34.00 | 5.20 | 2.52 | 0.00 |
| 35.00 | 5.20 | 2.52 | 0.00 |
| 36.00 | 5.20 | 2.52 | 0.00 |
| 37.00 | 5.20 | 2.52 | 0.00 |
| 38.00 | 5.20 | 2.52 | 0.00 |
| 39.00 | 5.20 | 2.52 | 0.00 |
| 40.00 | 5.20 | 2.52 | 0.00 |
| 41.00 | 5.20 | 2.52 | 0.00 |
| 42.00 | 5.20 | 2.52 | 0.00 |
| 43.00 | 5.20 | 2.52 | 0.00 |
| 44.00 | 5.20 | 2.52 | 0.00 |
| 45.00 | 5.20 | 2.52 | 0.00 |
| 46.00 | 5.20 | 2.52 | 0.00 |
| 47.00 | 5.20 | 2.52 | 0.00 |
| 48.00 | 5.20 | 2.52 | 0.00 |
| 49.00 | 5.20 | 2.52 | 0.00 |
| 50.00 | 5.20 | 2.52 | 0.00 |
| 51.00 | 5.20 | 2.52 | 0.00 |
| 52.00 | 5.20 | 2.52 | 0.00 |
| 53.00 | 5.20 | 2.52 | 0.00 |
| 54.00 | 5.20 | 2.52 | 0.00 |
| 55.00 | 5.20 | 2.52 | 0.00 |
| 56.00 | 5.20 | 2.52 | 0.00 |
| 57.00 | 5.20 | 2.52 | 0.00 |
| 58.00 | 5.20 | 2.52 | 0.00 |
| 59.00 | 5.20 | 2.52 | 0.00 |
| 60.00 | 5.20 | 2.52 | 0.00 |
| 61.00 | 5.20 | 2.52 | 0.00 |
| 62.00 | 5.20 | 2.52 | 0.00 |
| 63.00 | 5.20 | 2.52 | 0.00 |
| 64.00 | 5.20 | 2.52 | 0.00 |
| 65.00 | 5.20 | 2.52 | 0.00 |
| 66.00 | 5.20 | 2.52 | 0.00 |
| 67.00 | 5.20 | 2.52 | 0.00 |
| 68.00 | 5.20 | 2.52 | 0.00 |
| 69.00 | 5.20 | 2.52 | 0.00 |
| 70.00 | 5.20 | 2.52 | 0.00 |
| 71.00 | 5.20 | 2.52 | 0.00 |
| 72.00 | 5.20 | 2.52 | 0.00 |

## Summary for Pond 4P: EX Curb Inlet

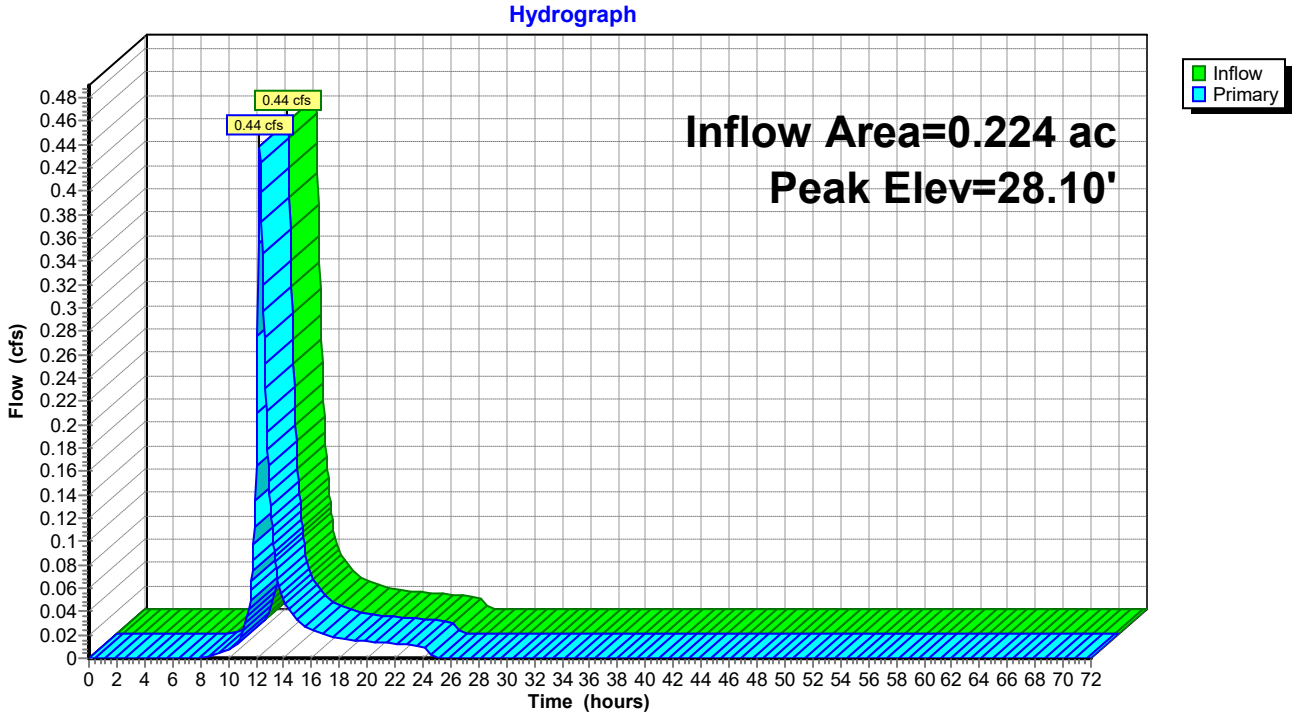
Inflow Area = 0.224 ac, 13.35% Impervious, Inflow Depth = 2.79" for 10-Year event
Inflow = 0.44 cfs @ 12.25 hrs, Volume= 0.052 af
Outflow = 0.44 cfs @ 12.25 hrs, Volume= 0.052 af, Atten= 0%, Lag= 0.0 min
Primary = 0.44 cfs @ 12.25 hrs, Volume= 0.052 af
Routed to Link 3L : EX Study Point #1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 28.10' @ 12.25 hrs

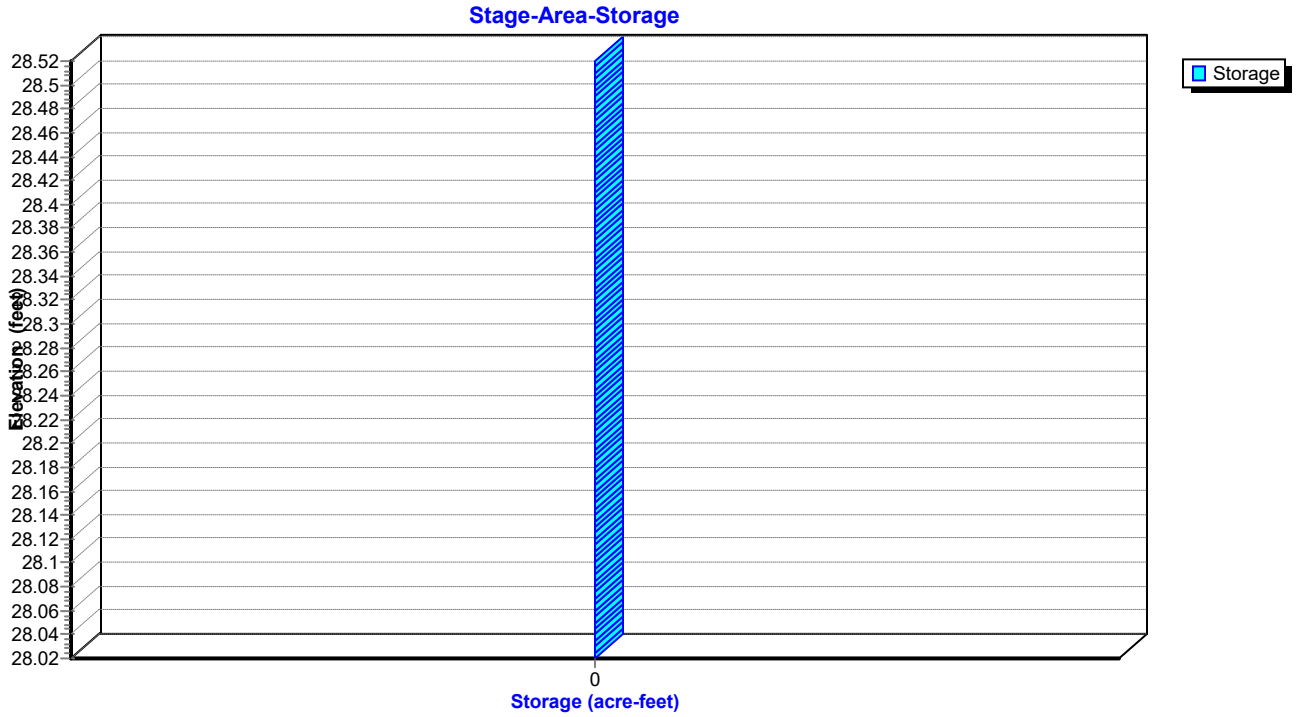
| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 28.02' | **72.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600<br>Limited to weir flow at low heads |

**Primary OutFlow** Max=0.44 cfs @ 12.25 hrs HW=28.10' TW=0.00' (Dynamic Tailwater)
**1=Orifice/Grate** (Orifice Controls 0.44 cfs @ 0.91 fps)

## Pond 4P: EX Curb Inlet



## Pond 4P: EX Curb Inlet



## Hydrograph for Pond 4P: EX Curb Inlet

| Time (hours) | Inflow (cfs) | Elevation (feet) | Primary (cfs) | Time (hours) | Inflow (cfs) | Elevation (feet) | Primary (cfs) |
|---|---|---|---|---|---|---|---|
| 0.00 | 0.00 | 28.02 | 0.00 | 52.00 | 0.00 | 28.02 | 0.00 |
| 1.00 | 0.00 | 28.02 | 0.00 | 53.00 | 0.00 | 28.02 | 0.00 |
| 2.00 | 0.00 | 28.02 | 0.00 | 54.00 | 0.00 | 28.02 | 0.00 |
| 3.00 | 0.00 | 28.02 | 0.00 | 55.00 | 0.00 | 28.02 | 0.00 |
| 4.00 | 0.00 | 28.02 | 0.00 | 56.00 | 0.00 | 28.02 | 0.00 |
| 5.00 | 0.00 | 28.02 | 0.00 | 57.00 | 0.00 | 28.02 | 0.00 |
| 6.00 | 0.00 | 28.02 | 0.00 | 58.00 | 0.00 | 28.02 | 0.00 |
| 7.00 | 0.00 | 28.02 | 0.00 | 59.00 | 0.00 | 28.02 | 0.00 |
| 8.00 | 0.00 | 28.02 | 0.00 | 60.00 | 0.00 | 28.02 | 0.00 |
| 9.00 | 0.00 | 28.02 | 0.00 | 61.00 | 0.00 | 28.02 | 0.00 |
| 10.00 | 0.01 | 28.03 | 0.01 | 62.00 | 0.00 | 28.02 | 0.00 |
| 11.00 | 0.02 | 28.03 | 0.02 | 63.00 | 0.00 | 28.02 | 0.00 |
| 12.00 | **0.17** | **28.06** | **0.17** | 64.00 | 0.00 | 28.02 | 0.00 |
| 13.00 | **0.14** | **28.06** | **0.14** | 65.00 | 0.00 | 28.02 | 0.00 |
| 14.00 | 0.05 | 28.04 | 0.05 | 66.00 | 0.00 | 28.02 | 0.00 |
| 15.00 | 0.03 | 28.03 | 0.03 | 67.00 | 0.00 | 28.02 | 0.00 |
| 16.00 | 0.02 | 28.03 | 0.02 | 68.00 | 0.00 | 28.02 | 0.00 |
| 17.00 | 0.02 | 28.03 | 0.02 | 69.00 | 0.00 | 28.02 | 0.00 |
| 18.00 | 0.02 | 28.03 | 0.02 | 70.00 | 0.00 | 28.02 | 0.00 |
| 19.00 | 0.02 | 28.03 | 0.02 | 71.00 | 0.00 | 28.02 | 0.00 |
| 20.00 | 0.01 | 28.03 | 0.01 | 72.00 | 0.00 | 28.02 | 0.00 |
| 21.00 | 0.01 | 28.03 | 0.01 | | | | |
| 22.00 | 0.01 | 28.03 | 0.01 | | | | |
| 23.00 | 0.01 | 28.03 | 0.01 | | | | |
| 24.00 | 0.01 | 28.03 | 0.01 | | | | |
| 25.00 | 0.00 | 28.02 | 0.00 | | | | |
| 26.00 | 0.00 | 28.02 | 0.00 | | | | |
| 27.00 | 0.00 | 28.02 | 0.00 | | | | |
| 28.00 | 0.00 | 28.02 | 0.00 | | | | |
| 29.00 | 0.00 | 28.02 | 0.00 | | | | |
| 30.00 | 0.00 | 28.02 | 0.00 | | | | |
| 31.00 | 0.00 | 28.02 | 0.00 | | | | |
| 32.00 | 0.00 | 28.02 | 0.00 | | | | |
| 33.00 | 0.00 | 28.02 | 0.00 | | | | |
| 34.00 | 0.00 | 28.02 | 0.00 | | | | |
| 35.00 | 0.00 | 28.02 | 0.00 | | | | |
| 36.00 | 0.00 | 28.02 | 0.00 | | | | |
| 37.00 | 0.00 | 28.02 | 0.00 | | | | |
| 38.00 | 0.00 | 28.02 | 0.00 | | | | |
| 39.00 | 0.00 | 28.02 | 0.00 | | | | |
| 40.00 | 0.00 | 28.02 | 0.00 | | | | |
| 41.00 | 0.00 | 28.02 | 0.00 | | | | |
| 42.00 | 0.00 | 28.02 | 0.00 | | | | |
| 43.00 | 0.00 | 28.02 | 0.00 | | | | |
| 44.00 | 0.00 | 28.02 | 0.00 | | | | |
| 45.00 | 0.00 | 28.02 | 0.00 | | | | |
| 46.00 | 0.00 | 28.02 | 0.00 | | | | |
| 47.00 | 0.00 | 28.02 | 0.00 | | | | |
| 48.00 | 0.00 | 28.02 | 0.00 | | | | |
| 49.00 | 0.00 | 28.02 | 0.00 | | | | |
| 50.00 | 0.00 | 28.02 | 0.00 | | | | |
| 51.00 | 0.00 | 28.02 | 0.00 | | | | |

## Stage-Area-Storage for Pond 4P: EX Curb Inlet

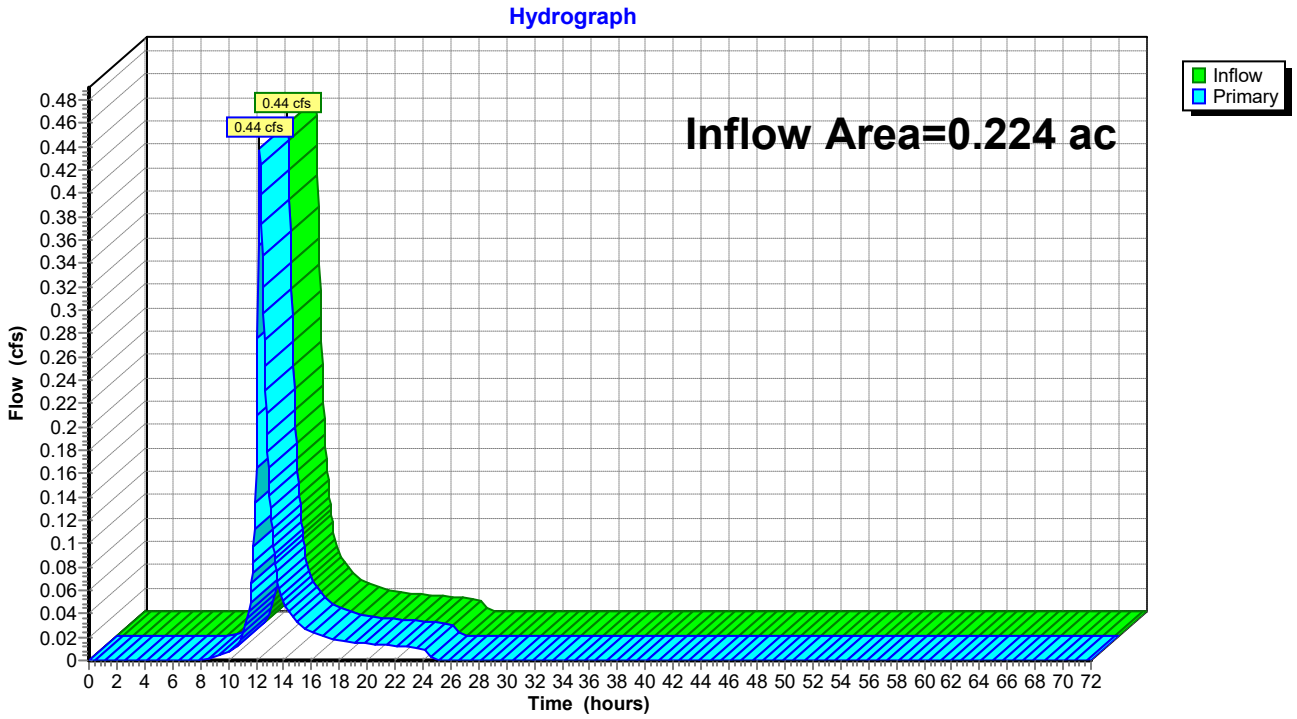
| Elevation (feet) | Storage (acre-feet) |
|---|---|
| 28.02 | **0.000** |
| 28.03 | 0.000 |
| 28.04 | 0.000 |
| 28.05 | 0.000 |
| 28.06 | 0.000 |
| 28.07 | 0.000 |
| 28.08 | 0.000 |
| 28.09 | 0.000 |
| 28.10 | 0.000 |
| 28.11 | 0.000 |
| 28.12 | 0.000 |
| 28.13 | 0.000 |
| 28.14 | 0.000 |
| 28.15 | 0.000 |
| 28.16 | 0.000 |
| 28.17 | 0.000 |
| 28.18 | 0.000 |
| 28.19 | 0.000 |
| 28.20 | 0.000 |
| 28.21 | 0.000 |
| 28.22 | 0.000 |
| 28.23 | 0.000 |
| 28.24 | 0.000 |
| 28.25 | 0.000 |
| 28.26 | 0.000 |
| 28.27 | 0.000 |
| 28.28 | 0.000 |
| 28.29 | 0.000 |
| 28.30 | 0.000 |
| 28.31 | 0.000 |
| 28.32 | 0.000 |
| 28.33 | 0.000 |
| 28.34 | 0.000 |
| 28.35 | 0.000 |
| 28.36 | 0.000 |
| 28.37 | 0.000 |
| 28.38 | 0.000 |
| 28.39 | 0.000 |
| 28.40 | 0.000 |
| 28.41 | 0.000 |
| 28.42 | 0.000 |
| 28.43 | 0.000 |
| 28.44 | 0.000 |
| 28.45 | 0.000 |
| 28.46 | 0.000 |
| 28.47 | 0.000 |
| 28.48 | 0.000 |
| 28.49 | 0.000 |
| 28.50 | 0.000 |
| 28.51 | 0.000 |
| 28.52 | 0.000 |

## Summary for Link 3L: EX Study Point #1

Inflow Area = 0.224 ac, 13.35% Impervious, Inflow Depth = 2.79" for 10-Year event
Inflow = 0.44 cfs @ 12.25 hrs, Volume= 0.052 af
Primary = 0.44 cfs @ 12.25 hrs, Volume= 0.052 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

## Link 3L: EX Study Point #1



## Hydrograph for Link 3L: EX Study Point #1

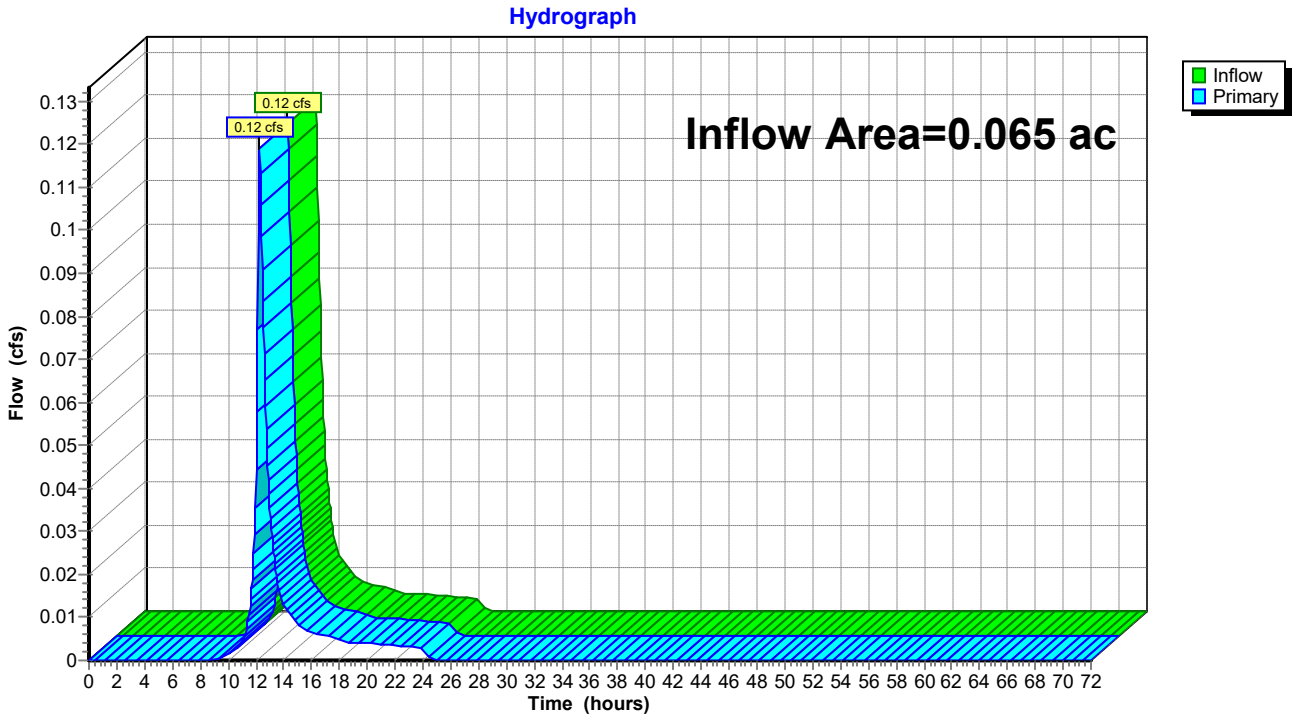
| Time (hours) | Inflow (cfs) | Elevation (feet) | Primary (cfs) | Time (hours) | Inflow (cfs) | Elevation (feet) | Primary (cfs) |
|---|---|---|---|---|---|---|---|
| 0.00 | 0.00 | **0.00** | 0.00 | 52.00 | 0.00 | 0.00 | 0.00 |
| 1.00 | 0.00 | 0.00 | 0.00 | 53.00 | 0.00 | 0.00 | 0.00 |
| 2.00 | 0.00 | 0.00 | 0.00 | 54.00 | 0.00 | 0.00 | 0.00 |
| 3.00 | 0.00 | 0.00 | 0.00 | 55.00 | 0.00 | 0.00 | 0.00 |
| 4.00 | 0.00 | 0.00 | 0.00 | 56.00 | 0.00 | 0.00 | 0.00 |
| 5.00 | 0.00 | 0.00 | 0.00 | 57.00 | 0.00 | 0.00 | 0.00 |
| 6.00 | 0.00 | 0.00 | 0.00 | 58.00 | 0.00 | 0.00 | 0.00 |
| 7.00 | 0.00 | 0.00 | 0.00 | 59.00 | 0.00 | 0.00 | 0.00 |
| 8.00 | 0.00 | 0.00 | 0.00 | 60.00 | 0.00 | 0.00 | 0.00 |
| 9.00 | 0.00 | 0.00 | 0.00 | 61.00 | 0.00 | 0.00 | 0.00 |
| 10.00 | 0.01 | 0.00 | 0.01 | 62.00 | 0.00 | 0.00 | 0.00 |
| 11.00 | 0.02 | 0.00 | 0.02 | 63.00 | 0.00 | 0.00 | 0.00 |
| 12.00 | **0.17** | 0.00 | **0.17** | 64.00 | 0.00 | 0.00 | 0.00 |
| 13.00 | **0.14** | 0.00 | **0.14** | 65.00 | 0.00 | 0.00 | 0.00 |
| 14.00 | 0.05 | 0.00 | 0.05 | 66.00 | 0.00 | 0.00 | 0.00 |
| 15.00 | 0.03 | 0.00 | 0.03 | 67.00 | 0.00 | 0.00 | 0.00 |
| 16.00 | 0.02 | 0.00 | 0.02 | 68.00 | 0.00 | 0.00 | 0.00 |
| 17.00 | 0.02 | 0.00 | 0.02 | 69.00 | 0.00 | 0.00 | 0.00 |
| 18.00 | 0.02 | 0.00 | 0.02 | 70.00 | 0.00 | 0.00 | 0.00 |
| 19.00 | 0.02 | 0.00 | 0.02 | 71.00 | 0.00 | 0.00 | 0.00 |
| 20.00 | 0.01 | 0.00 | 0.01 | 72.00 | 0.00 | 0.00 | 0.00 |
| 21.00 | 0.01 | 0.00 | 0.01 | | | | |
| 22.00 | 0.01 | 0.00 | 0.01 | | | | |
| 23.00 | 0.01 | 0.00 | 0.01 | | | | |
| 24.00 | 0.01 | 0.00 | 0.01 | | | | |
| 25.00 | 0.00 | 0.00 | 0.00 | | | | |
| 26.00 | 0.00 | 0.00 | 0.00 | | | | |
| 27.00 | 0.00 | 0.00 | 0.00 | | | | |
| 28.00 | 0.00 | 0.00 | 0.00 | | | | |
| 29.00 | 0.00 | 0.00 | 0.00 | | | | |
| 30.00 | 0.00 | 0.00 | 0.00 | | | | |
| 31.00 | 0.00 | 0.00 | 0.00 | | | | |
| 32.00 | 0.00 | 0.00 | 0.00 | | | | |
| 33.00 | 0.00 | 0.00 | 0.00 | | | | |
| 34.00 | 0.00 | 0.00 | 0.00 | | | | |
| 35.00 | 0.00 | 0.00 | 0.00 | | | | |
| 36.00 | 0.00 | 0.00 | 0.00 | | | | |
| 37.00 | 0.00 | 0.00 | 0.00 | | | | |
| 38.00 | 0.00 | 0.00 | 0.00 | | | | |
| 39.00 | 0.00 | 0.00 | 0.00 | | | | |
| 40.00 | 0.00 | 0.00 | 0.00 | | | | |
| 41.00 | 0.00 | 0.00 | 0.00 | | | | |
| 42.00 | 0.00 | 0.00 | 0.00 | | | | |
| 43.00 | 0.00 | 0.00 | 0.00 | | | | |
| 44.00 | 0.00 | 0.00 | 0.00 | | | | |
| 45.00 | 0.00 | 0.00 | 0.00 | | | | |
| 46.00 | 0.00 | 0.00 | 0.00 | | | | |
| 47.00 | 0.00 | 0.00 | 0.00 | | | | |
| 48.00 | 0.00 | 0.00 | 0.00 | | | | |
| 49.00 | 0.00 | 0.00 | 0.00 | | | | |
| 50.00 | 0.00 | 0.00 | 0.00 | | | | |
| 51.00 | 0.00 | 0.00 | 0.00 | | | | |

## Summary for Link 4L: Ex Study Point #2

Inflow Area = 0.065 ac, 0.00% Impervious, Inflow Depth = 2.52" for 10-Year event
Inflow = 0.12 cfs @ 12.24 hrs, Volume= 0.014 af
Primary = 0.12 cfs @ 12.24 hrs, Volume= 0.014 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

## Link 4L: Ex Study Point #2



## Hydrograph for Link 4L: Ex Study Point #2

| Time (hours) | Inflow (cfs) | Elevation (feet) | Primary (cfs) | Time (hours) | Inflow (cfs) | Elevation (feet) | Primary (cfs) |
|---|---|---|---|---|---|---|---|
| 0.00 | 0.00 | **0.00** | 0.00 | 52.00 | 0.00 | 0.00 | 0.00 |
| 1.00 | 0.00 | 0.00 | 0.00 | 53.00 | 0.00 | 0.00 | 0.00 |
| 2.00 | 0.00 | 0.00 | 0.00 | 54.00 | 0.00 | 0.00 | 0.00 |
| 3.00 | 0.00 | 0.00 | 0.00 | 55.00 | 0.00 | 0.00 | 0.00 |
| 4.00 | 0.00 | 0.00 | 0.00 | 56.00 | 0.00 | 0.00 | 0.00 |
| 5.00 | 0.00 | 0.00 | 0.00 | 57.00 | 0.00 | 0.00 | 0.00 |
| 6.00 | 0.00 | 0.00 | 0.00 | 58.00 | 0.00 | 0.00 | 0.00 |
| 7.00 | 0.00 | 0.00 | 0.00 | 59.00 | 0.00 | 0.00 | 0.00 |
| 8.00 | 0.00 | 0.00 | 0.00 | 60.00 | 0.00 | 0.00 | 0.00 |
| 9.00 | 0.00 | 0.00 | 0.00 | 61.00 | 0.00 | 0.00 | 0.00 |
| 10.00 | 0.00 | 0.00 | 0.00 | 62.00 | 0.00 | 0.00 | 0.00 |
| 11.00 | 0.00 | 0.00 | 0.00 | 63.00 | 0.00 | 0.00 | 0.00 |
| 12.00 | **0.04** | 0.00 | **0.04** | 64.00 | 0.00 | 0.00 | 0.00 |
| 13.00 | **0.04** | 0.00 | **0.04** | 65.00 | 0.00 | 0.00 | 0.00 |
| 14.00 | 0.01 | 0.00 | 0.01 | 66.00 | 0.00 | 0.00 | 0.00 |
| 15.00 | 0.01 | 0.00 | 0.01 | 67.00 | 0.00 | 0.00 | 0.00 |
| 16.00 | 0.01 | 0.00 | 0.01 | 68.00 | 0.00 | 0.00 | 0.00 |
| 17.00 | 0.01 | 0.00 | 0.01 | 69.00 | 0.00 | 0.00 | 0.00 |
| 18.00 | 0.00 | 0.00 | 0.00 | 70.00 | 0.00 | 0.00 | 0.00 |
| 19.00 | 0.00 | 0.00 | 0.00 | 71.00 | 0.00 | 0.00 | 0.00 |
| 20.00 | 0.00 | 0.00 | 0.00 | 72.00 | 0.00 | 0.00 | 0.00 |
| 21.00 | 0.00 | 0.00 | 0.00 | | | | |
| 22.00 | 0.00 | 0.00 | 0.00 | | | | |
| 23.00 | 0.00 | 0.00 | 0.00 | | | | |
| 24.00 | 0.00 | 0.00 | 0.00 | | | | |
| 25.00 | 0.00 | 0.00 | 0.00 | | | | |
| 26.00 | 0.00 | 0.00 | 0.00 | | | | |
| 27.00 | 0.00 | 0.00 | 0.00 | | | | |
| 28.00 | 0.00 | 0.00 | 0.00 | | | | |
| 29.00 | 0.00 | 0.00 | 0.00 | | | | |
| 30.00 | 0.00 | 0.00 | 0.00 | | | | |
| 31.00 | 0.00 | 0.00 | 0.00 | | | | |
| 32.00 | 0.00 | 0.00 | 0.00 | | | | |
| 33.00 | 0.00 | 0.00 | 0.00 | | | | |
| 34.00 | 0.00 | 0.00 | 0.00 | | | | |
| 35.00 | 0.00 | 0.00 | 0.00 | | | | |
| 36.00 | 0.00 | 0.00 | 0.00 | | | | |
| 37.00 | 0.00 | 0.00 | 0.00 | | | | |
| 38.00 | 0.00 | 0.00 | 0.00 | | | | |
| 39.00 | 0.00 | 0.00 | 0.00 | | | | |
| 40.00 | 0.00 | 0.00 | 0.00 | | | | |
| 41.00 | 0.00 | 0.00 | 0.00 | | | | |
| 42.00 | 0.00 | 0.00 | 0.00 | | | | |
| 43.00 | 0.00 | 0.00 | 0.00 | | | | |
| 44.00 | 0.00 | 0.00 | 0.00 | | | | |
| 45.00 | 0.00 | 0.00 | 0.00 | | | | |
| 46.00 | 0.00 | 0.00 | 0.00 | | | | |
| 47.00 | 0.00 | 0.00 | 0.00 | | | | |
| 48.00 | 0.00 | 0.00 | 0.00 | | | | |
| 49.00 | 0.00 | 0.00 | 0.00 | | | | |
| 50.00 | 0.00 | 0.00 | 0.00 | | | | |
| 51.00 | 0.00 | 0.00 | 0.00 | | | | |

Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

**Subcatchment 1S: EX DA #1** Runoff Area=9,766 sf 13.35% Impervious Runoff Depth=6.18"
Flow Length=170' Tc=14.1 min CN=77 Runoff=0.97 cfs 0.115 af

**Subcatchment 2S: EX DA #2** Runoff Area=2,839 sf 0.00% Impervious Runoff Depth=5.81"
Flow Length=79' Slope=0.0150 '/' Tc=13.0 min CN=74 Runoff=0.28 cfs 0.032 af

**Pond 4P: EX Curb Inlet** Peak Elev=28.16' Inflow=0.97 cfs 0.115 af
Outflow=0.97 cfs 0.115 af

**Link 3L: EX Study Point #1** Inflow=0.97 cfs 0.115 af
Primary=0.97 cfs 0.115 af

**Link 4L: Ex Study Point #2** Inflow=0.28 cfs 0.032 af
Primary=0.28 cfs 0.032 af

**Total Runoff Area = 0.289 ac Runoff Volume = 0.147 af Average Runoff Depth = 6.10"**
**89.65% Pervious = 0.259 ac 10.35% Impervious = 0.030 ac**

## Summary for Subcatchment 1S: EX DA #1

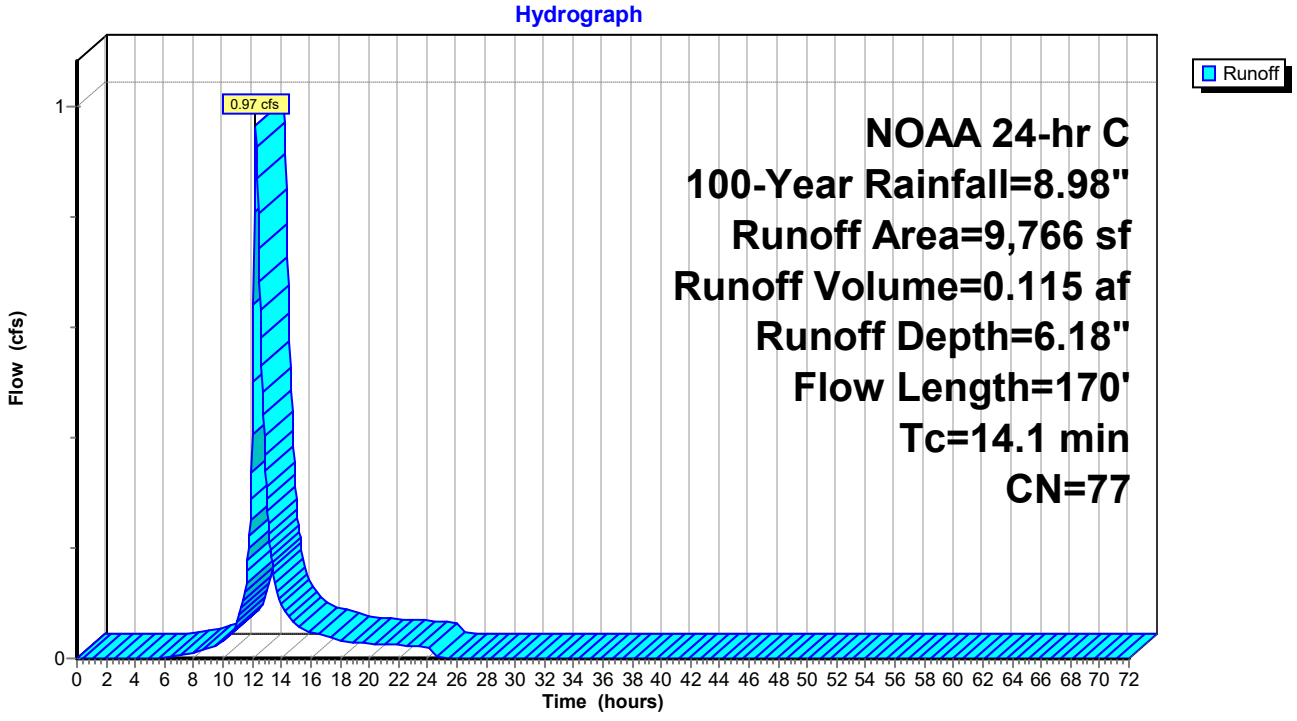
Runoff = 0.97 cfs @ 12.25 hrs, Volume= 0.115 af, Depth= 6.18"
Routed to Pond 4P : EX Curb Inlet

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C 100-Year Rainfall=8.98"

| Area (sf) | CN | Description |
|---|---|---|
| 8,462 | 74 | >75% Grass cover, Good, HSG C |
| 1,304 | 98 | Paved roads w/curbs & sewers, HSG A |
| 9,766 | 77 | Weighted Average |
| 8,462 | | 86.65% Pervious Area |
| 1,304 | | 13.35% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 13.6 | 100 | 0.0214 | 0.12 | | **Sheet Flow,** Grass: Dense n= 0.240 P2= 3.33" |
| 0.5 | 70 | 0.0114 | 2.17 | | **Shallow Concentrated Flow,** Paved Kv= 20.3 fps |
| 14.1 | 170 | Total | | | |

## Subcatchment 1S: EX DA #1



## Hydrograph for Subcatchment 1S: EX DA #1

| Time (hours) | Precip. (inches) | Excess (inches) | Runoff (cfs) |
|---|---|---|---|
| 0.00 | 0.00 | 0.00 | 0.00 |
| 1.00 | 0.10 | 0.00 | 0.00 |
| 2.00 | 0.20 | 0.00 | 0.00 |
| 3.00 | 0.32 | 0.00 | 0.00 |
| 4.00 | 0.44 | 0.00 | 0.00 |
| 5.00 | 0.57 | 0.00 | 0.00 |
| 6.00 | 0.71 | 0.00 | 0.00 |
| 7.00 | 0.88 | 0.02 | 0.01 |
| 8.00 | 1.08 | 0.07 | 0.01 |
| 9.00 | 1.31 | 0.14 | 0.02 |
| 10.00 | 1.64 | 0.27 | 0.03 |
| 11.00 | 2.16 | 0.53 | 0.07 |
| 12.00 | 4.28 | 2.03 | **0.40** |
| 13.00 | 6.82 | 4.21 | **0.29** |
| 14.00 | 7.34 | 4.68 | 0.10 |
| 15.00 | 7.67 | 4.97 | 0.06 |
| 16.00 | 7.90 | 5.19 | 0.05 |
| 17.00 | 8.10 | 5.37 | 0.04 |
| 18.00 | 8.27 | 5.52 | 0.03 |
| 19.00 | 8.41 | 5.65 | 0.03 |
| 20.00 | 8.54 | 5.77 | 0.03 |
| 21.00 | 8.66 | 5.89 | 0.03 |
| 22.00 | 8.78 | 5.99 | 0.02 |
| 23.00 | 8.88 | 6.09 | 0.02 |
| 24.00 | **8.98** | **6.18** | 0.02 |
| 25.00 | 8.98 | 6.18 | 0.00 |
| 26.00 | 8.98 | 6.18 | 0.00 |
| 27.00 | 8.98 | 6.18 | 0.00 |
| 28.00 | 8.98 | 6.18 | 0.00 |
| 29.00 | 8.98 | 6.18 | 0.00 |
| 30.00 | 8.98 | 6.18 | 0.00 |
| 31.00 | 8.98 | 6.18 | 0.00 |
| 32.00 | 8.98 | 6.18 | 0.00 |
| 33.00 | 8.98 | 6.18 | 0.00 |
| 34.00 | 8.98 | 6.18 | 0.00 |
| 35.00 | 8.98 | 6.18 | 0.00 |
| 36.00 | 8.98 | 6.18 | 0.00 |
| 37.00 | 8.98 | 6.18 | 0.00 |
| 38.00 | 8.98 | 6.18 | 0.00 |
| 39.00 | 8.98 | 6.18 | 0.00 |
| 40.00 | 8.98 | 6.18 | 0.00 |
| 41.00 | 8.98 | 6.18 | 0.00 |
| 42.00 | 8.98 | 6.18 | 0.00 |
| 43.00 | 8.98 | 6.18 | 0.00 |
| 44.00 | 8.98 | 6.18 | 0.00 |
| 45.00 | 8.98 | 6.18 | 0.00 |
| 46.00 | 8.98 | 6.18 | 0.00 |
| 47.00 | 8.98 | 6.18 | 0.00 |
| 48.00 | 8.98 | 6.18 | 0.00 |
| 49.00 | 8.98 | 6.18 | 0.00 |
| 50.00 | 8.98 | 6.18 | 0.00 |
| 51.00 | 8.98 | 6.18 | 0.00 |
| 52.00 | 8.98 | 6.18 | 0.00 |
| 53.00 | 8.98 | 6.18 | 0.00 |
| 54.00 | 8.98 | 6.18 | 0.00 |
| 55.00 | 8.98 | 6.18 | 0.00 |
| 56.00 | 8.98 | 6.18 | 0.00 |
| 57.00 | 8.98 | 6.18 | 0.00 |
| 58.00 | 8.98 | 6.18 | 0.00 |
| 59.00 | 8.98 | 6.18 | 0.00 |
| 60.00 | 8.98 | 6.18 | 0.00 |
| 61.00 | 8.98 | 6.18 | 0.00 |
| 62.00 | 8.98 | 6.18 | 0.00 |
| 63.00 | 8.98 | 6.18 | 0.00 |
| 64.00 | 8.98 | 6.18 | 0.00 |
| 65.00 | 8.98 | 6.18 | 0.00 |
| 66.00 | 8.98 | 6.18 | 0.00 |
| 67.00 | 8.98 | 6.18 | 0.00 |
| 68.00 | 8.98 | 6.18 | 0.00 |
| 69.00 | 8.98 | 6.18 | 0.00 |
| 70.00 | 8.98 | 6.18 | 0.00 |
| 71.00 | 8.98 | 6.18 | 0.00 |
| 72.00 | 8.98 | 6.18 | 0.00 |

## Summary for Subcatchment 2S: EX DA #2

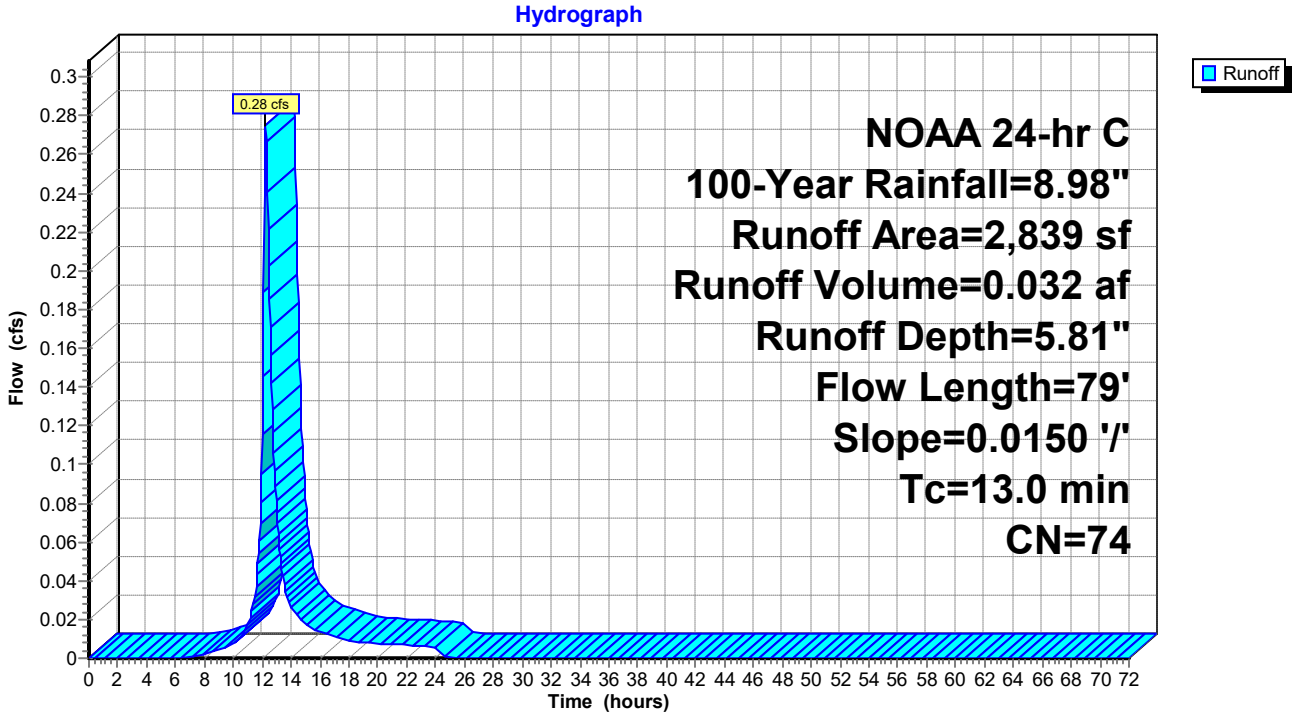
Runoff = 0.28 cfs @ 12.23 hrs, Volume= 0.032 af, Depth= 5.81"
Routed to Link 4L : Ex Study Point #2

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C 100-Year Rainfall=8.98"

| Area (sf) | CN | Description |
|---|---|---|
| 2,839 | 74 | >75% Grass cover, Good, HSG C |
| 2,839 | | 100.00% Pervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 13.0 | 79 | 0.0150 | 0.10 | | **Sheet Flow,** Grass: Dense n= 0.240 P2= 3.33" |

## Subcatchment 2S: EX DA #2



## Hydrograph for Subcatchment 2S: EX DA #2

| Time (hours) | Precip. (inches) | Excess (inches) | Runoff (cfs) |
|---|---|---|---|
| 0.00 | 0.00 | 0.00 | 0.00 |
| 1.00 | 0.10 | 0.00 | 0.00 |
| 2.00 | 0.20 | 0.00 | 0.00 |
| 3.00 | 0.32 | 0.00 | 0.00 |
| 4.00 | 0.44 | 0.00 | 0.00 |
| 5.00 | 0.57 | 0.00 | 0.00 |
| 6.00 | 0.71 | 0.00 | 0.00 |
| 7.00 | 0.88 | 0.01 | 0.00 |
| 8.00 | 1.08 | 0.04 | 0.00 |
| 9.00 | 1.31 | 0.09 | 0.00 |
| 10.00 | 1.64 | 0.20 | 0.01 |
| 11.00 | 2.16 | 0.42 | 0.02 |
| 12.00 | 4.28 | 1.80 | **0.12** |
| 13.00 | 6.82 | 3.89 | **0.08** |
| 14.00 | 7.34 | 4.34 | 0.03 |
| 15.00 | 7.67 | 4.63 | 0.02 |
| 16.00 | 7.90 | 4.84 | 0.01 |
| 17.00 | 8.10 | 5.02 | 0.01 |
| 18.00 | 8.27 | 5.17 | 0.01 |
| 19.00 | 8.41 | 5.29 | 0.01 |
| 20.00 | 8.54 | 5.41 | 0.01 |
| 21.00 | 8.66 | 5.52 | 0.01 |
| 22.00 | 8.78 | 5.63 | 0.01 |
| 23.00 | 8.88 | 5.72 | 0.01 |
| 24.00 | **8.98** | **5.81** | 0.01 |
| 25.00 | 8.98 | 5.81 | 0.00 |
| 26.00 | 8.98 | 5.81 | 0.00 |
| 27.00 | 8.98 | 5.81 | 0.00 |
| 28.00 | 8.98 | 5.81 | 0.00 |
| 29.00 | 8.98 | 5.81 | 0.00 |
| 30.00 | 8.98 | 5.81 | 0.00 |
| 31.00 | 8.98 | 5.81 | 0.00 |
| 32.00 | 8.98 | 5.81 | 0.00 |
| 33.00 | 8.98 | 5.81 | 0.00 |
| 34.00 | 8.98 | 5.81 | 0.00 |
| 35.00 | 8.98 | 5.81 | 0.00 |
| 36.00 | 8.98 | 5.81 | 0.00 |
| 37.00 | 8.98 | 5.81 | 0.00 |
| 38.00 | 8.98 | 5.81 | 0.00 |
| 39.00 | 8.98 | 5.81 | 0.00 |
| 40.00 | 8.98 | 5.81 | 0.00 |
| 41.00 | 8.98 | 5.81 | 0.00 |
| 42.00 | 8.98 | 5.81 | 0.00 |
| 43.00 | 8.98 | 5.81 | 0.00 |
| 44.00 | 8.98 | 5.81 | 0.00 |
| 45.00 | 8.98 | 5.81 | 0.00 |
| 46.00 | 8.98 | 5.81 | 0.00 |
| 47.00 | 8.98 | 5.81 | 0.00 |
| 48.00 | 8.98 | 5.81 | 0.00 |
| 49.00 | 8.98 | 5.81 | 0.00 |
| 50.00 | 8.98 | 5.81 | 0.00 |
| 51.00 | 8.98 | 5.81 | 0.00 |
| 52.00 | 8.98 | 5.81 | 0.00 |
| 53.00 | 8.98 | 5.81 | 0.00 |
| 54.00 | 8.98 | 5.81 | 0.00 |
| 55.00 | 8.98 | 5.81 | 0.00 |
| 56.00 | 8.98 | 5.81 | 0.00 |
| 57.00 | 8.98 | 5.81 | 0.00 |
| 58.00 | 8.98 | 5.81 | 0.00 |
| 59.00 | 8.98 | 5.81 | 0.00 |
| 60.00 | 8.98 | 5.81 | 0.00 |
| 61.00 | 8.98 | 5.81 | 0.00 |
| 62.00 | 8.98 | 5.81 | 0.00 |
| 63.00 | 8.98 | 5.81 | 0.00 |
| 64.00 | 8.98 | 5.81 | 0.00 |
| 65.00 | 8.98 | 5.81 | 0.00 |
| 66.00 | 8.98 | 5.81 | 0.00 |
| 67.00 | 8.98 | 5.81 | 0.00 |
| 68.00 | 8.98 | 5.81 | 0.00 |
| 69.00 | 8.98 | 5.81 | 0.00 |
| 70.00 | 8.98 | 5.81 | 0.00 |
| 71.00 | 8.98 | 5.81 | 0.00 |
| 72.00 | 8.98 | 5.81 | 0.00 |

## Summary for Pond 4P: EX Curb Inlet

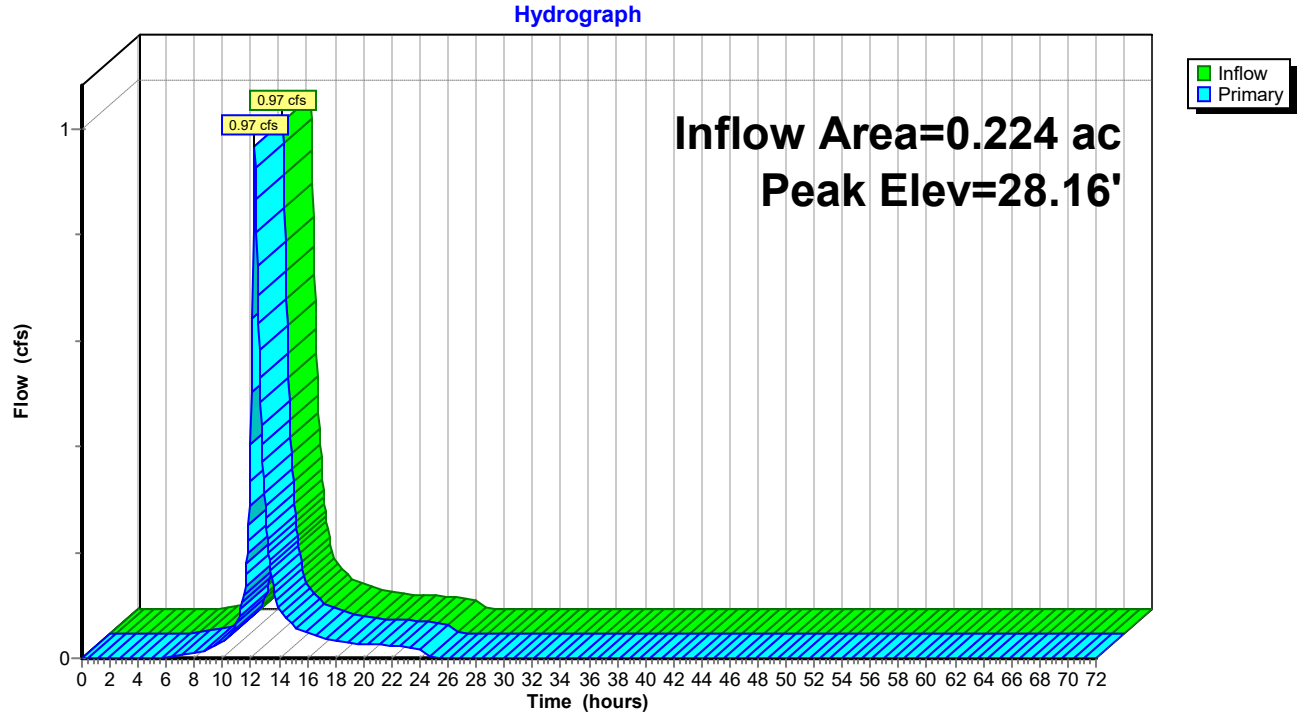
Inflow Area = 0.224 ac, 13.35% Impervious, Inflow Depth = 6.18" for 100-Year event
Inflow = 0.97 cfs @ 12.25 hrs, Volume= 0.115 af
Outflow = 0.97 cfs @ 12.25 hrs, Volume= 0.115 af, Atten= 0%, Lag= 0.0 min
Primary = 0.97 cfs @ 12.25 hrs, Volume= 0.115 af
Routed to Link 3L : EX Study Point #1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 28.16' @ 12.25 hrs

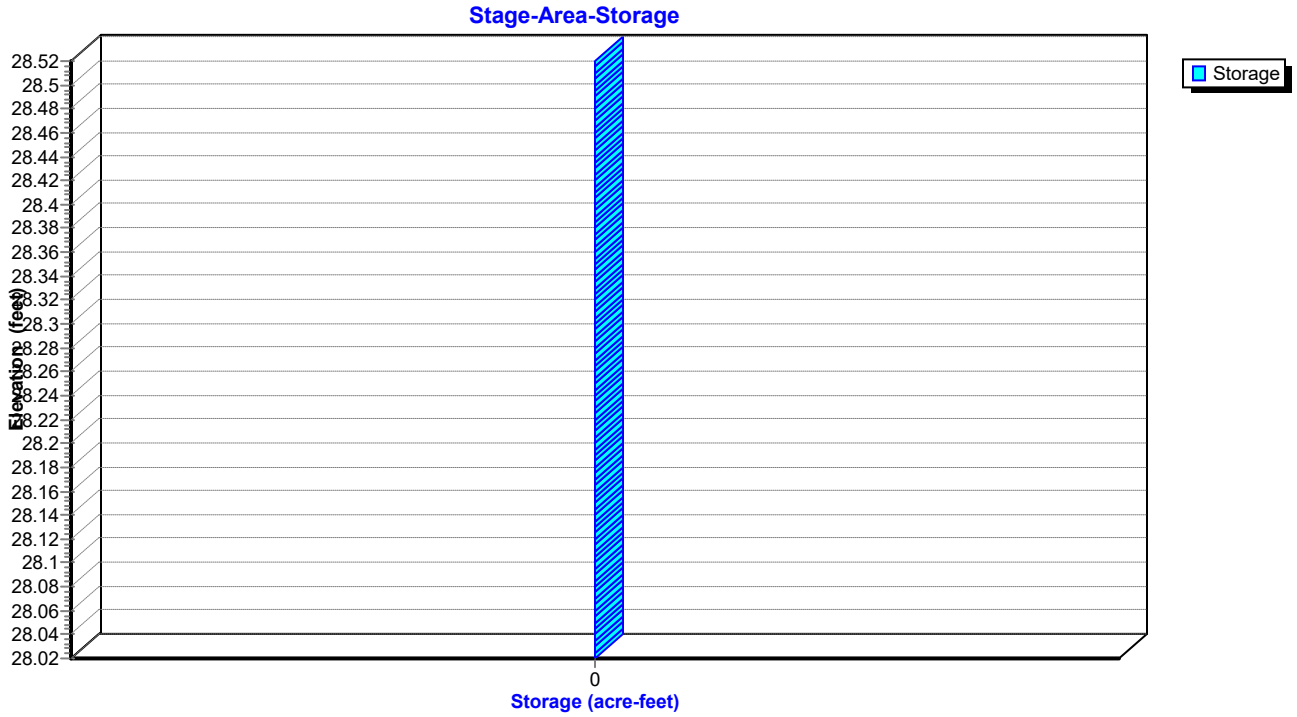
| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 28.02' | **72.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600<br>Limited to weir flow at low heads |

**Primary OutFlow** Max=0.96 cfs @ 12.25 hrs HW=28.16' TW=0.00' (Dynamic Tailwater)
**1=Orifice/Grate** (Orifice Controls 0.96 cfs @ 1.18 fps)

## Pond 4P: EX Curb Inlet



## Pond 4P: EX Curb Inlet



## Hydrograph for Pond 4P: EX Curb Inlet

| Time (hours) | Inflow (cfs) | Elevation (feet) | Primary (cfs) | Time (hours) | Inflow (cfs) | Elevation (feet) | Primary (cfs) |
|---|---|---|---|---|---|---|---|
| 0.00 | 0.00 | 28.02 | 0.00 | 52.00 | 0.00 | 28.02 | 0.00 |
| 1.00 | 0.00 | 28.02 | 0.00 | 53.00 | 0.00 | 28.02 | 0.00 |
| 2.00 | 0.00 | 28.02 | 0.00 | 54.00 | 0.00 | 28.02 | 0.00 |
| 3.00 | 0.00 | 28.02 | 0.00 | 55.00 | 0.00 | 28.02 | 0.00 |
| 4.00 | 0.00 | 28.02 | 0.00 | 56.00 | 0.00 | 28.02 | 0.00 |
| 5.00 | 0.00 | 28.02 | 0.00 | 57.00 | 0.00 | 28.02 | 0.00 |
| 6.00 | 0.00 | 28.02 | 0.00 | 58.00 | 0.00 | 28.02 | 0.00 |
| 7.00 | 0.01 | 28.02 | 0.01 | 59.00 | 0.00 | 28.02 | 0.00 |
| 8.00 | 0.01 | 28.03 | 0.01 | 60.00 | 0.00 | 28.02 | 0.00 |
| 9.00 | 0.02 | 28.03 | 0.02 | 61.00 | 0.00 | 28.02 | 0.00 |
| 10.00 | 0.03 | 28.03 | 0.03 | 62.00 | 0.00 | 28.02 | 0.00 |
| 11.00 | 0.07 | 28.04 | 0.07 | 63.00 | 0.00 | 28.02 | 0.00 |
| 12.00 | **0.40** | **28.10** | **0.40** | 64.00 | 0.00 | 28.02 | 0.00 |
| 13.00 | **0.29** | **28.08** | **0.29** | 65.00 | 0.00 | 28.02 | 0.00 |
| 14.00 | 0.10 | 28.05 | 0.10 | 66.00 | 0.00 | 28.02 | 0.00 |
| 15.00 | 0.06 | 28.04 | 0.06 | 67.00 | 0.00 | 28.02 | 0.00 |
| 16.00 | 0.05 | 28.04 | 0.05 | 68.00 | 0.00 | 28.02 | 0.00 |
| 17.00 | 0.04 | 28.04 | 0.04 | 69.00 | 0.00 | 28.02 | 0.00 |
| 18.00 | 0.03 | 28.03 | 0.03 | 70.00 | 0.00 | 28.02 | 0.00 |
| 19.00 | 0.03 | 28.03 | 0.03 | 71.00 | 0.00 | 28.02 | 0.00 |
| 20.00 | 0.03 | 28.03 | 0.03 | 72.00 | 0.00 | 28.02 | 0.00 |
| 21.00 | 0.03 | 28.03 | 0.03 | | | | |
| 22.00 | 0.02 | 28.03 | 0.02 | | | | |
| 23.00 | 0.02 | 28.03 | 0.02 | | | | |
| 24.00 | 0.02 | 28.03 | 0.02 | | | | |
| 25.00 | 0.00 | 28.02 | 0.00 | | | | |
| 26.00 | 0.00 | 28.02 | 0.00 | | | | |
| 27.00 | 0.00 | 28.02 | 0.00 | | | | |
| 28.00 | 0.00 | 28.02 | 0.00 | | | | |
| 29.00 | 0.00 | 28.02 | 0.00 | | | | |
| 30.00 | 0.00 | 28.02 | 0.00 | | | | |
| 31.00 | 0.00 | 28.02 | 0.00 | | | | |
| 32.00 | 0.00 | 28.02 | 0.00 | | | | |
| 33.00 | 0.00 | 28.02 | 0.00 | | | | |
| 34.00 | 0.00 | 28.02 | 0.00 | | | | |
| 35.00 | 0.00 | 28.02 | 0.00 | | | | |
| 36.00 | 0.00 | 28.02 | 0.00 | | | | |
| 37.00 | 0.00 | 28.02 | 0.00 | | | | |
| 38.00 | 0.00 | 28.02 | 0.00 | | | | |
| 39.00 | 0.00 | 28.02 | 0.00 | | | | |
| 40.00 | 0.00 | 28.02 | 0.00 | | | | |
| 41.00 | 0.00 | 28.02 | 0.00 | | | | |
| 42.00 | 0.00 | 28.02 | 0.00 | | | | |
| 43.00 | 0.00 | 28.02 | 0.00 | | | | |
| 44.00 | 0.00 | 28.02 | 0.00 | | | | |
| 45.00 | 0.00 | 28.02 | 0.00 | | | | |
| 46.00 | 0.00 | 28.02 | 0.00 | | | | |
| 47.00 | 0.00 | 28.02 | 0.00 | | | | |
| 48.00 | 0.00 | 28.02 | 0.00 | | | | |
| 49.00 | 0.00 | 28.02 | 0.00 | | | | |
| 50.00 | 0.00 | 28.02 | 0.00 | | | | |
| 51.00 | 0.00 | 28.02 | 0.00 | | | | |

## Stage-Area-Storage for Pond 4P: EX Curb Inlet

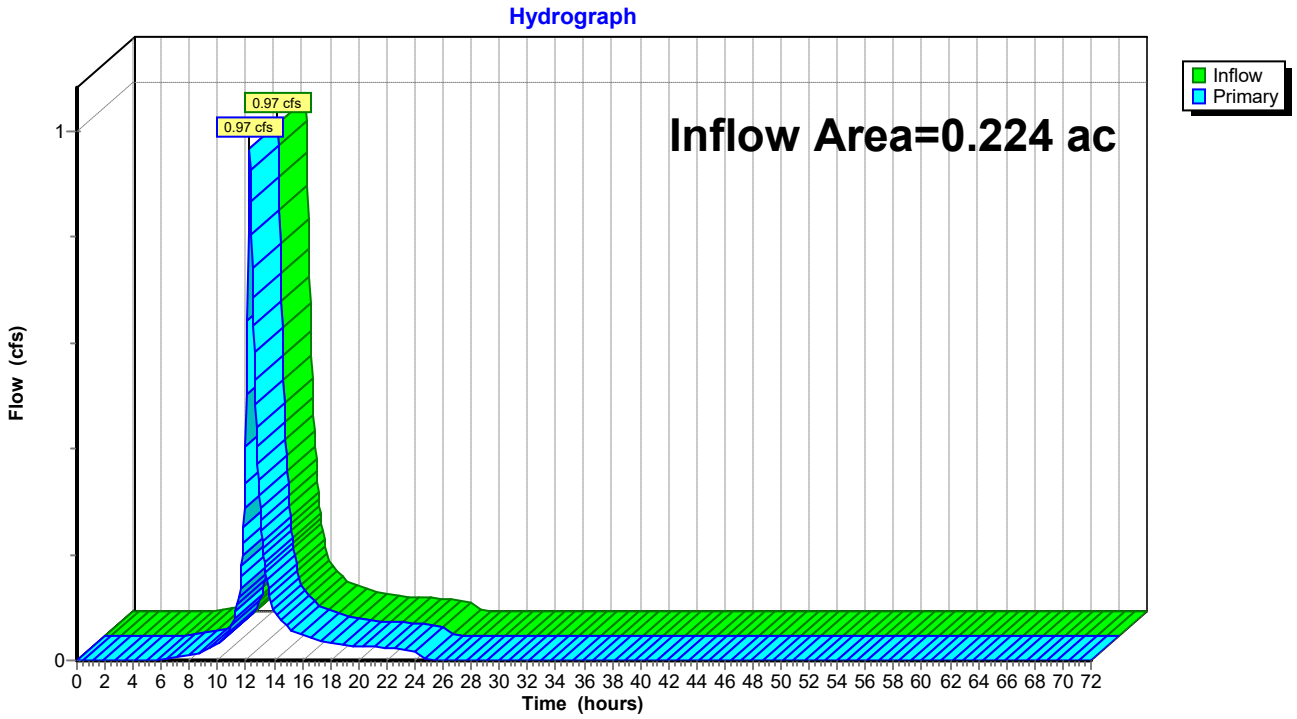
| Elevation (feet) | Storage (acre-feet) |
|---|---|
| 28.02 | **0.000** |
| 28.03 | 0.000 |
| 28.04 | 0.000 |
| 28.05 | 0.000 |
| 28.06 | 0.000 |
| 28.07 | 0.000 |
| 28.08 | 0.000 |
| 28.09 | 0.000 |
| 28.10 | 0.000 |
| 28.11 | 0.000 |
| 28.12 | 0.000 |
| 28.13 | 0.000 |
| 28.14 | 0.000 |
| 28.15 | 0.000 |
| 28.16 | 0.000 |
| 28.17 | 0.000 |
| 28.18 | 0.000 |
| 28.19 | 0.000 |
| 28.20 | 0.000 |
| 28.21 | 0.000 |
| 28.22 | 0.000 |
| 28.23 | 0.000 |
| 28.24 | 0.000 |
| 28.25 | 0.000 |
| 28.26 | 0.000 |
| 28.27 | 0.000 |
| 28.28 | 0.000 |
| 28.29 | 0.000 |
| 28.30 | 0.000 |
| 28.31 | 0.000 |
| 28.32 | 0.000 |
| 28.33 | 0.000 |
| 28.34 | 0.000 |
| 28.35 | 0.000 |
| 28.36 | 0.000 |
| 28.37 | 0.000 |
| 28.38 | 0.000 |
| 28.39 | 0.000 |
| 28.40 | 0.000 |
| 28.41 | 0.000 |
| 28.42 | 0.000 |
| 28.43 | 0.000 |
| 28.44 | 0.000 |
| 28.45 | 0.000 |
| 28.46 | 0.000 |
| 28.47 | 0.000 |
| 28.48 | 0.000 |
| 28.49 | 0.000 |
| 28.50 | 0.000 |
| 28.51 | 0.000 |
| 28.52 | 0.000 |

## Summary for Link 3L: EX Study Point #1

Inflow Area = 0.224 ac, 13.35% Impervious, Inflow Depth = 6.18" for 100-Year event
Inflow = 0.97 cfs @ 12.25 hrs, Volume= 0.115 af
Primary = 0.97 cfs @ 12.25 hrs, Volume= 0.115 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

### Link 3L: EX Study Point #1



## Hydrograph for Link 3L: EX Study Point #1

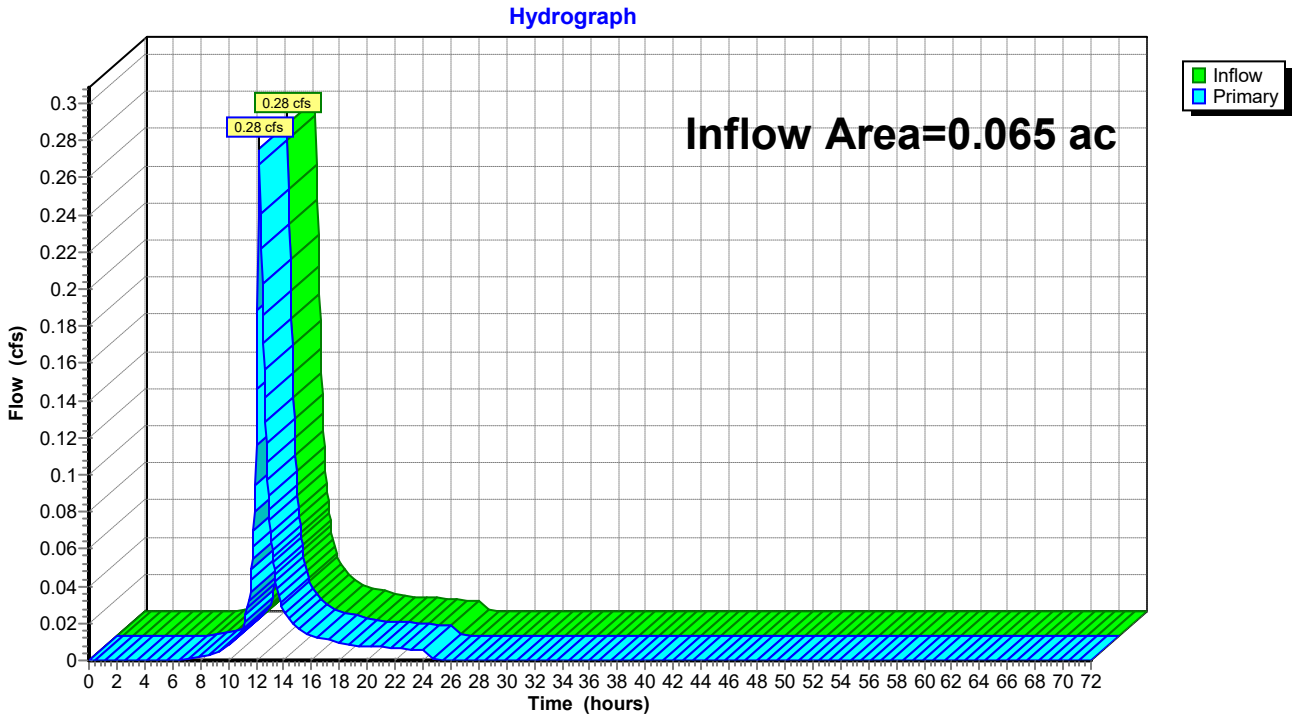
| Time (hours) | Inflow (cfs) | Elevation (feet) | Primary (cfs) | Time (hours) | Inflow (cfs) | Elevation (feet) | Primary (cfs) |
|---|---|---|---|---|---|---|---|
| 0.00 | 0.00 | **0.00** | 0.00 | 52.00 | 0.00 | 0.00 | 0.00 |
| 1.00 | 0.00 | 0.00 | 0.00 | 53.00 | 0.00 | 0.00 | 0.00 |
| 2.00 | 0.00 | 0.00 | 0.00 | 54.00 | 0.00 | 0.00 | 0.00 |
| 3.00 | 0.00 | 0.00 | 0.00 | 55.00 | 0.00 | 0.00 | 0.00 |
| 4.00 | 0.00 | 0.00 | 0.00 | 56.00 | 0.00 | 0.00 | 0.00 |
| 5.00 | 0.00 | 0.00 | 0.00 | 57.00 | 0.00 | 0.00 | 0.00 |
| 6.00 | 0.00 | 0.00 | 0.00 | 58.00 | 0.00 | 0.00 | 0.00 |
| 7.00 | 0.01 | 0.00 | 0.01 | 59.00 | 0.00 | 0.00 | 0.00 |
| 8.00 | 0.01 | 0.00 | 0.01 | 60.00 | 0.00 | 0.00 | 0.00 |
| 9.00 | 0.02 | 0.00 | 0.02 | 61.00 | 0.00 | 0.00 | 0.00 |
| 10.00 | 0.03 | 0.00 | 0.03 | 62.00 | 0.00 | 0.00 | 0.00 |
| 11.00 | 0.07 | 0.00 | 0.07 | 63.00 | 0.00 | 0.00 | 0.00 |
| 12.00 | **0.40** | 0.00 | **0.40** | 64.00 | 0.00 | 0.00 | 0.00 |
| 13.00 | **0.29** | 0.00 | **0.29** | 65.00 | 0.00 | 0.00 | 0.00 |
| 14.00 | 0.10 | 0.00 | 0.10 | 66.00 | 0.00 | 0.00 | 0.00 |
| 15.00 | 0.06 | 0.00 | 0.06 | 67.00 | 0.00 | 0.00 | 0.00 |
| 16.00 | 0.05 | 0.00 | 0.05 | 68.00 | 0.00 | 0.00 | 0.00 |
| 17.00 | 0.04 | 0.00 | 0.04 | 69.00 | 0.00 | 0.00 | 0.00 |
| 18.00 | 0.03 | 0.00 | 0.03 | 70.00 | 0.00 | 0.00 | 0.00 |
| 19.00 | 0.03 | 0.00 | 0.03 | 71.00 | 0.00 | 0.00 | 0.00 |
| 20.00 | 0.03 | 0.00 | 0.03 | 72.00 | 0.00 | 0.00 | 0.00 |
| 21.00 | 0.03 | 0.00 | 0.03 | | | | |
| 22.00 | 0.02 | 0.00 | 0.02 | | | | |
| 23.00 | 0.02 | 0.00 | 0.02 | | | | |
| 24.00 | 0.02 | 0.00 | 0.02 | | | | |
| 25.00 | 0.00 | 0.00 | 0.00 | | | | |
| 26.00 | 0.00 | 0.00 | 0.00 | | | | |
| 27.00 | 0.00 | 0.00 | 0.00 | | | | |
| 28.00 | 0.00 | 0.00 | 0.00 | | | | |
| 29.00 | 0.00 | 0.00 | 0.00 | | | | |
| 30.00 | 0.00 | 0.00 | 0.00 | | | | |
| 31.00 | 0.00 | 0.00 | 0.00 | | | | |
| 32.00 | 0.00 | 0.00 | 0.00 | | | | |
| 33.00 | 0.00 | 0.00 | 0.00 | | | | |
| 34.00 | 0.00 | 0.00 | 0.00 | | | | |
| 35.00 | 0.00 | 0.00 | 0.00 | | | | |
| 36.00 | 0.00 | 0.00 | 0.00 | | | | |
| 37.00 | 0.00 | 0.00 | 0.00 | | | | |
| 38.00 | 0.00 | 0.00 | 0.00 | | | | |
| 39.00 | 0.00 | 0.00 | 0.00 | | | | |
| 40.00 | 0.00 | 0.00 | 0.00 | | | | |
| 41.00 | 0.00 | 0.00 | 0.00 | | | | |
| 42.00 | 0.00 | 0.00 | 0.00 | | | | |
| 43.00 | 0.00 | 0.00 | 0.00 | | | | |
| 44.00 | 0.00 | 0.00 | 0.00 | | | | |
| 45.00 | 0.00 | 0.00 | 0.00 | | | | |
| 46.00 | 0.00 | 0.00 | 0.00 | | | | |
| 47.00 | 0.00 | 0.00 | 0.00 | | | | |
| 48.00 | 0.00 | 0.00 | 0.00 | | | | |
| 49.00 | 0.00 | 0.00 | 0.00 | | | | |
| 50.00 | 0.00 | 0.00 | 0.00 | | | | |
| 51.00 | 0.00 | 0.00 | 0.00 | | | | |

## Summary for Link 4L: Ex Study Point #2

Inflow Area = 0.065 ac, 0.00% Impervious, Inflow Depth = 5.81" for 100-Year event
Inflow = 0.28 cfs @ 12.23 hrs, Volume= 0.032 af
Primary = 0.28 cfs @ 12.23 hrs, Volume= 0.032 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

## Link 4L: Ex Study Point #2

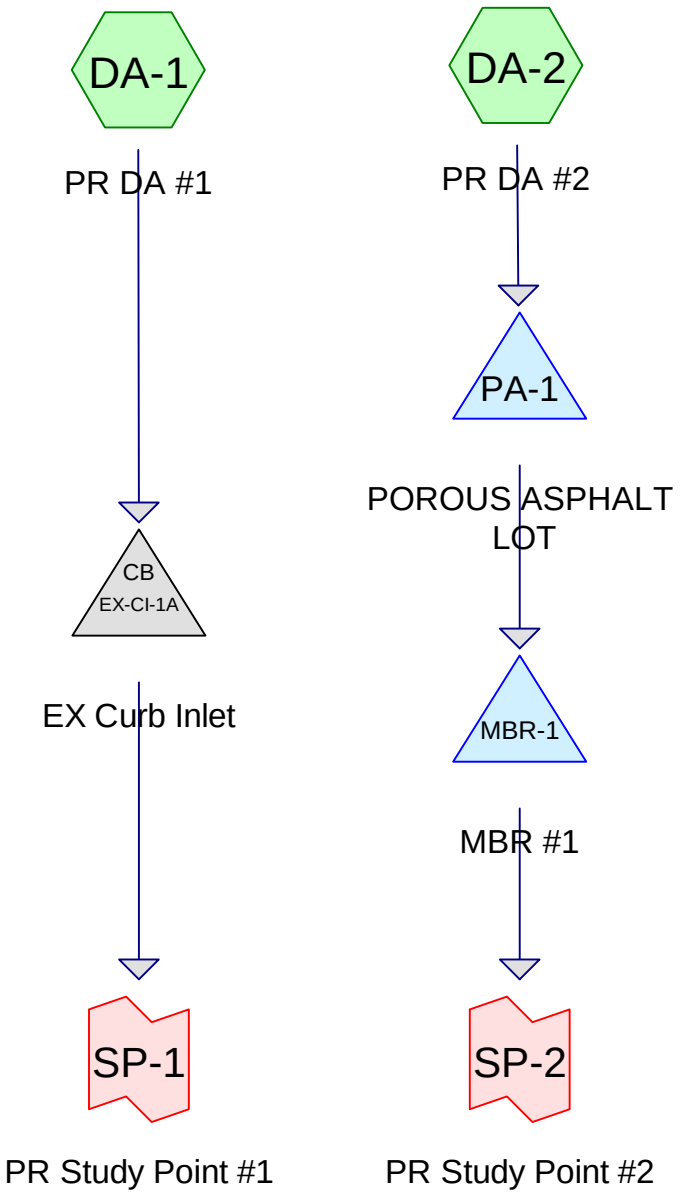


## Hydrograph for Link 4L: Ex Study Point #2

| Time (hours) | Inflow (cfs) | Elevation (feet) | Primary (cfs) | Time (hours) | Inflow (cfs) | Elevation (feet) | Primary (cfs) |
|---|---|---|---|---|---|---|---|
| 0.00 | 0.00 | **0.00** | 0.00 | 52.00 | 0.00 | 0.00 | 0.00 |
| 1.00 | 0.00 | 0.00 | 0.00 | 53.00 | 0.00 | 0.00 | 0.00 |
| 2.00 | 0.00 | 0.00 | 0.00 | 54.00 | 0.00 | 0.00 | 0.00 |
| 3.00 | 0.00 | 0.00 | 0.00 | 55.00 | 0.00 | 0.00 | 0.00 |
| 4.00 | 0.00 | 0.00 | 0.00 | 56.00 | 0.00 | 0.00 | 0.00 |
| 5.00 | 0.00 | 0.00 | 0.00 | 57.00 | 0.00 | 0.00 | 0.00 |
| 6.00 | 0.00 | 0.00 | 0.00 | 58.00 | 0.00 | 0.00 | 0.00 |
| 7.00 | 0.00 | 0.00 | 0.00 | 59.00 | 0.00 | 0.00 | 0.00 |
| 8.00 | 0.00 | 0.00 | 0.00 | 60.00 | 0.00 | 0.00 | 0.00 |
| 9.00 | 0.00 | 0.00 | 0.00 | 61.00 | 0.00 | 0.00 | 0.00 |
| 10.00 | 0.01 | 0.00 | 0.01 | 62.00 | 0.00 | 0.00 | 0.00 |
| 11.00 | 0.02 | 0.00 | 0.02 | 63.00 | 0.00 | 0.00 | 0.00 |
| 12.00 | **0.12** | 0.00 | **0.12** | 64.00 | 0.00 | 0.00 | 0.00 |
| 13.00 | **0.08** | 0.00 | **0.08** | 65.00 | 0.00 | 0.00 | 0.00 |
| 14.00 | 0.03 | 0.00 | 0.03 | 66.00 | 0.00 | 0.00 | 0.00 |
| 15.00 | 0.02 | 0.00 | 0.02 | 67.00 | 0.00 | 0.00 | 0.00 |
| 16.00 | 0.01 | 0.00 | 0.01 | 68.00 | 0.00 | 0.00 | 0.00 |
| 17.00 | 0.01 | 0.00 | 0.01 | 69.00 | 0.00 | 0.00 | 0.00 |
| 18.00 | 0.01 | 0.00 | 0.01 | 70.00 | 0.00 | 0.00 | 0.00 |
| 19.00 | 0.01 | 0.00 | 0.01 | 71.00 | 0.00 | 0.00 | 0.00 |
| 20.00 | 0.01 | 0.00 | 0.01 | 72.00 | 0.00 | 0.00 | 0.00 |
| 21.00 | 0.01 | 0.00 | 0.01 | | | | |
| 22.00 | 0.01 | 0.00 | 0.01 | | | | |
| 23.00 | 0.01 | 0.00 | 0.01 | | | | |
| 24.00 | 0.01 | 0.00 | 0.01 | | | | |
| 25.00 | 0.00 | 0.00 | 0.00 | | | | |
| 26.00 | 0.00 | 0.00 | 0.00 | | | | |
| 27.00 | 0.00 | 0.00 | 0.00 | | | | |
| 28.00 | 0.00 | 0.00 | 0.00 | | | | |
| 29.00 | 0.00 | 0.00 | 0.00 | | | | |
| 30.00 | 0.00 | 0.00 | 0.00 | | | | |
| 31.00 | 0.00 | 0.00 | 0.00 | | | | |
| 32.00 | 0.00 | 0.00 | 0.00 | | | | |
| 33.00 | 0.00 | 0.00 | 0.00 | | | | |
| 34.00 | 0.00 | 0.00 | 0.00 | | | | |
| 35.00 | 0.00 | 0.00 | 0.00 | | | | |
| 36.00 | 0.00 | 0.00 | 0.00 | | | | |
| 37.00 | 0.00 | 0.00 | 0.00 | | | | |
| 38.00 | 0.00 | 0.00 | 0.00 | | | | |
| 39.00 | 0.00 | 0.00 | 0.00 | | | | |
| 40.00 | 0.00 | 0.00 | 0.00 | | | | |
| 41.00 | 0.00 | 0.00 | 0.00 | | | | |
| 42.00 | 0.00 | 0.00 | 0.00 | | | | |
| 43.00 | 0.00 | 0.00 | 0.00 | | | | |
| 44.00 | 0.00 | 0.00 | 0.00 | | | | |
| 45.00 | 0.00 | 0.00 | 0.00 | | | | |
| 46.00 | 0.00 | 0.00 | 0.00 | | | | |
| 47.00 | 0.00 | 0.00 | 0.00 | | | | |
| 48.00 | 0.00 | 0.00 | 0.00 | | | | |
| 49.00 | 0.00 | 0.00 | 0.00 | | | | |
| 50.00 | 0.00 | 0.00 | 0.00 | | | | |
| 51.00 | 0.00 | 0.00 | 0.00 | | | | |

# Analysis of Proposed Conditions

# Proposed Conditions




Subcat Reach Pond Link

**Routing Diagram for HydroCAD - Foundation of Hope**
Prepared by Rauch Inc, Printed 5/30/2025
HydroCAD® 10.20-7a s/n 02413 © 2025 HydroCAD Software Solutions LLC

## Rainfall Events Listing (selected events)

| Event# | Event Name | Storm Type | Curve | Mode | Duration (hours) | B/B | Depth (inches) | AMC |
|---|---|---|---|---|---|---|---|---|
| 1 | 2-Year | NOAA 24-hr | C | Default | 24.00 | 1 | 3.33 | 2 |
| 2 | 10-Year | NOAA 24-hr | C | Default | 24.00 | 1 | 5.20 | 2 |
| 3 | 100-Year | NOAA 24-hr | C | Default | 24.00 | 1 | 8.98 | 2 |

## Area Listing (selected nodes)

| Area (acres) | CN | Description (subcatchment-numbers) |
|---|---|---|
| 0.110 | 74 | >75% Grass cover, Good, HSG C (DA-1, DA-2) |
| 0.121 | 98 | Paved parking, HSG A (DA-1, DA-2) |
| 0.058 | 98 | Roofs, HSG A (DA-2) |
| **0.289** | **89** | **TOTAL AREA** |

## Soil Listing (selected nodes)

| Area (acres) | Soil Group | Subcatchment Numbers |
|---|---|---|
| 0.179 | HSG A | DA-1, DA-2 |
| 0.000 | HSG B | |
| 0.110 | HSG C | DA-1, DA-2 |
| 0.000 | HSG D | |
| 0.000 | Other | |
| **0.289** | | **TOTAL AREA** |

## Ground Covers (selected nodes)

| HSG-A (acres) | HSG-B (acres) | HSG-C (acres) | HSG-D (acres) | Other (acres) | Total (acres) | Ground Cover | Subcatchment Numbers |
|---|---|---|---|---|---|---|---|
| 0.000 | 0.000 | 0.110 | 0.000 | 0.000 | 0.110 | >75% Grass cover, Good | DA-1, DA-2 |
| 0.121 | 0.000 | 0.000 | 0.000 | 0.000 | 0.121 | Paved parking | DA-1, DA-2 |
| 0.058 | 0.000 | 0.000 | 0.000 | 0.000 | 0.058 | Roofs | DA-2 |
| **0.179** | **0.000** | **0.110** | **0.000** | **0.000** | **0.289** | **TOTAL AREA** | |

Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

**Subcatchment DA-1: PR DA #1** Runoff Area=3,810 sf 54.25% Impervious Runoff Depth=2.03"
Flow Length=181' Tc=21.8 min CN=87 Runoff=0.10 cfs 0.015 af

**Subcatchment DA-2: PR DA #2** Runoff Area=8,795 sf 65.22% Impervious Runoff Depth=2.29"
Flow Length=46' Slope=0.0066 '/' Tc=8.0 min CN=90 Runoff=0.42 cfs 0.039 af

**Pond EX-CI-1A: EX Curb Inlet** Peak Elev=28.05' Inflow=0.10 cfs 0.015 af
Outflow=0.10 cfs 0.015 af

**Pond MBR-1: MBR #1** Peak Elev=26.00' Storage=0 cf Inflow=0.00 cfs 0.000 af
Outflow=0.00 cfs 0.000 af

**Pond PA-1: POROUS ASPHALT LOT** Peak Elev=28.84' Storage=831 cf Inflow=0.42 cfs 0.039 af
Discarded=0.03 cfs 0.039 af Primary=0.00 cfs 0.000 af Outflow=0.03 cfs 0.039 af

**Link SP-1: PR Study Point #1** Inflow=0.10 cfs 0.015 af
Primary=0.10 cfs 0.015 af

**Link SP-2: PR Study Point #2** Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

**Total Runoff Area = 0.289 ac Runoff Volume = 0.053 af Average Runoff Depth = 2.21"**
**38.10% Pervious = 0.110 ac 61.90% Impervious = 0.179 ac**

## Summary for Subcatchment DA-1: PR DA #1

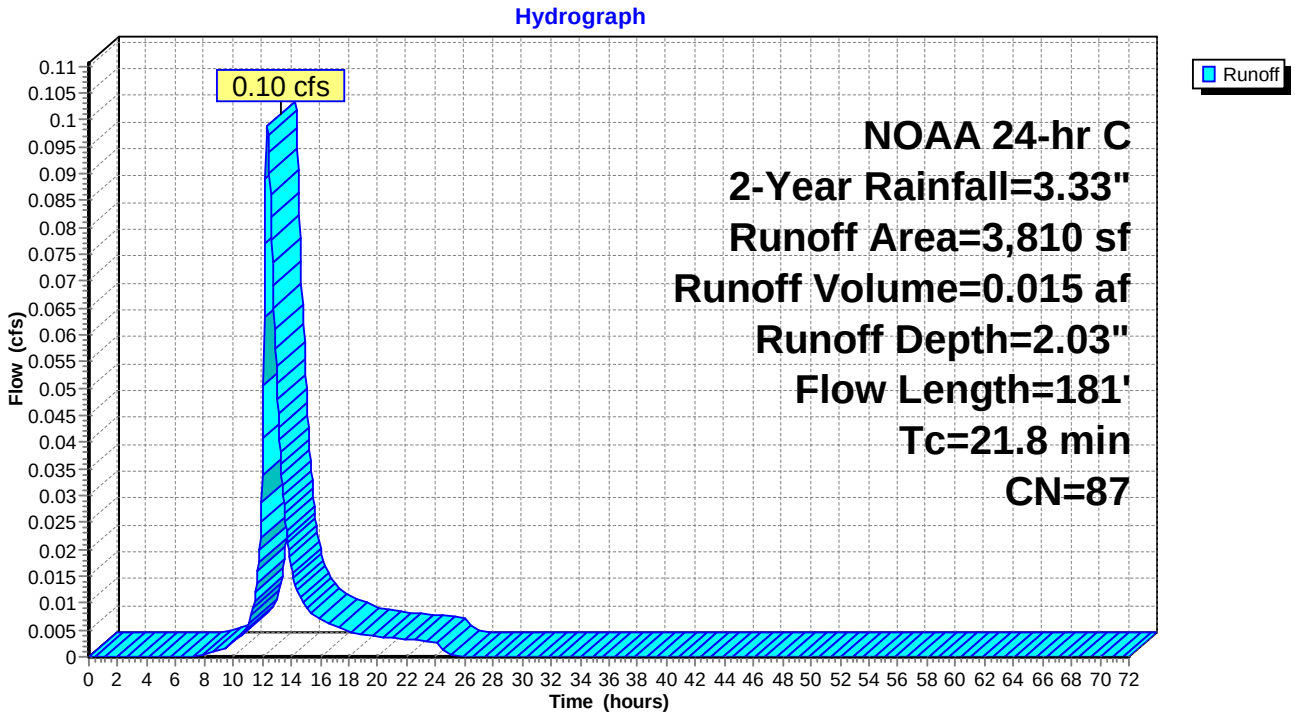
Runoff = 0.10 cfs @ 12.35 hrs, Volume= 0.015 af, Depth= 2.03"
Routed to Pond EX-CI-1A : EX Curb Inlet

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C 2-Year Rainfall=3.33"

| Area (sf) | CN | Description |
|---|---|---|
| 1,743 | 74 | >75% Grass cover, Good, HSG C |
| 2,067 | 98 | Paved parking, HSG A |
| 3,810 | 87 | Weighted Average |
| 1,743 | | 45.75% Pervious Area |
| 2,067 | | 54.25% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 20.5 | 100 | 0.0030 | 0.08 | | **Sheet Flow, Grass to East** Grass: Short n= 0.150 P2= 3.33" |
| 1.3 | 81 | 0.0028 | 1.07 | | **Shallow Concentrated Flow, Gutter** Paved Kv= 20.3 fps |
| 21.8 | 181 | Total | | | |

### Subcatchment DA-1: PR DA #1



## Summary for Subcatchment DA-2: PR DA #2

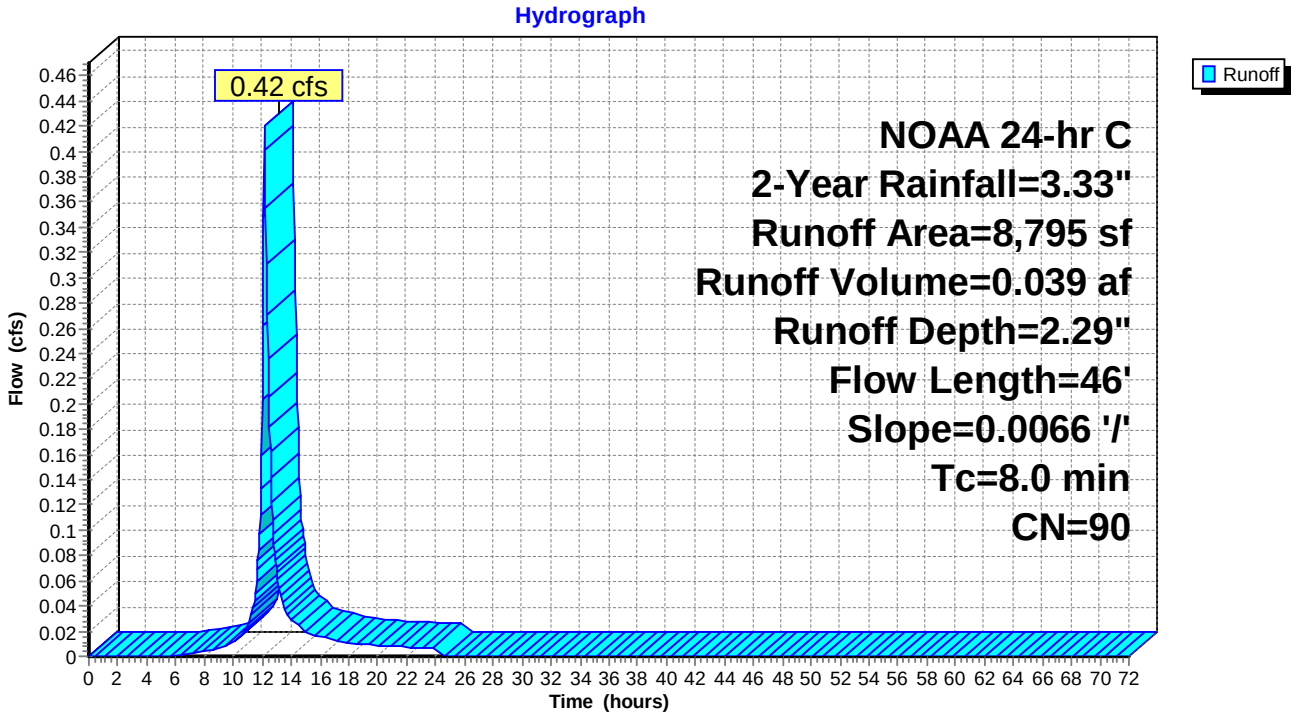
Runoff = 0.42 cfs @ 12.17 hrs, Volume= 0.039 af, Depth= 2.29"
Routed to Pond PA-1 : POROUS ASPHALT LOT

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C 2-Year Rainfall=3.33"

| Area (sf) | CN | Description |
|---|---|---|
| 2,538 | 98 | Roofs, HSG A |
| 3,059 | 74 | >75% Grass cover, Good, HSG C |
| 3,198 | 98 | Paved parking, HSG A |
| 8,795 | 90 | Weighted Average |
| 3,059 | | 34.78% Pervious Area |
| 5,736 | | 65.22% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 8.0 | 46 | 0.0066 | 0.10 | | **Sheet Flow,** Grass: Short n= 0.150 P2= 3.33" |

### Subcatchment DA-2: PR DA #2



## Summary for Pond EX-CI-1A: EX Curb Inlet

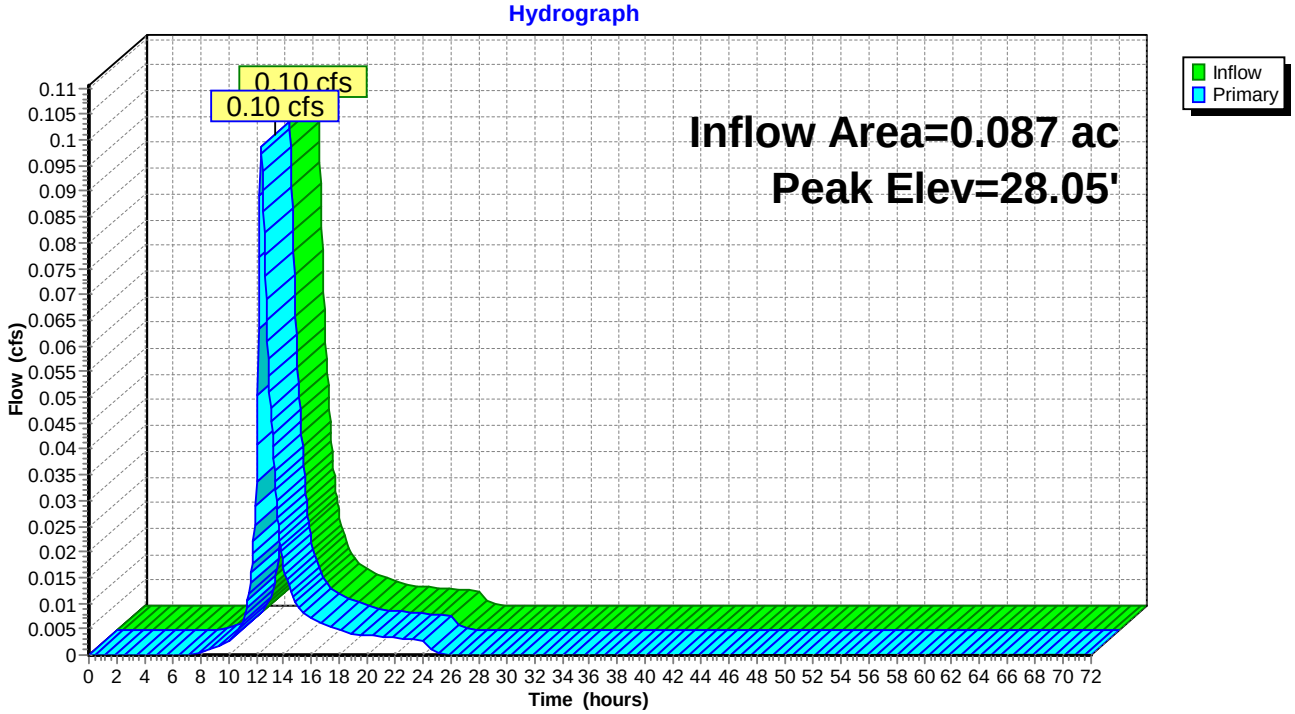
Inflow Area = 0.087 ac, 54.25% Impervious, Inflow Depth = 2.03" for 2-Year event
Inflow = 0.10 cfs @ 12.35 hrs, Volume= 0.015 af
Outflow = 0.10 cfs @ 12.35 hrs, Volume= 0.015 af, Atten= 0%, Lag= 0.0 min
Primary = 0.10 cfs @ 12.35 hrs, Volume= 0.015 af
Routed to Link SP-1 : PR Study Point #1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 28.05' @ 12.35 hrs

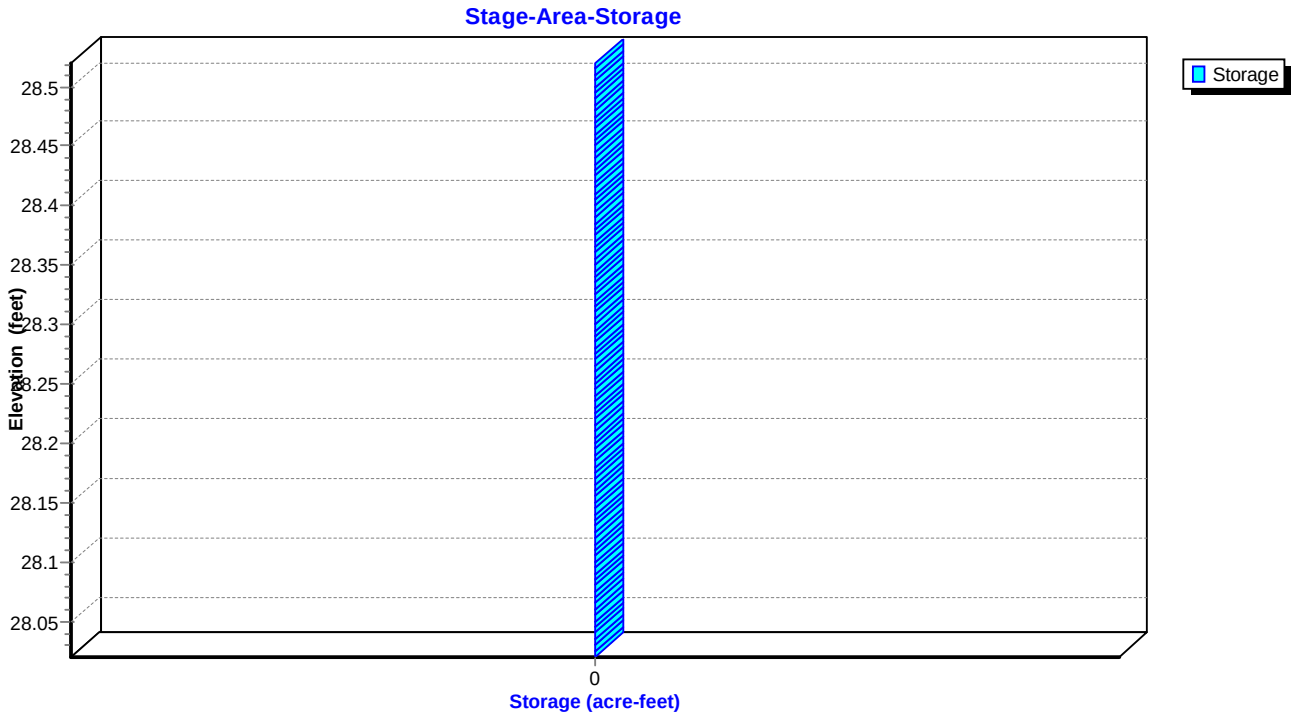
| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 28.02' | **72.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600<br>Limited to weir flow at low heads |

**Primary OutFlow** Max=0.10 cfs @ 12.35 hrs HW=28.05' TW=0.00' (Dynamic Tailwater)
**1=Orifice/Grate** (Orifice Controls 0.10 cfs @ 0.55 fps)

### Pond EX-CI-1A: EX Curb Inlet



## Pond EX-CI-1A: EX Curb Inlet



## Summary for Pond MBR-1: MBR #1

Inflow Area = 0.202 ac, 65.22% Impervious, Inflow Depth = 0.00" for 2-Year event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
Discarded = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 26.00' @ 0.00 hrs Surf.Area= 162 sf Storage= 0 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no inflow)

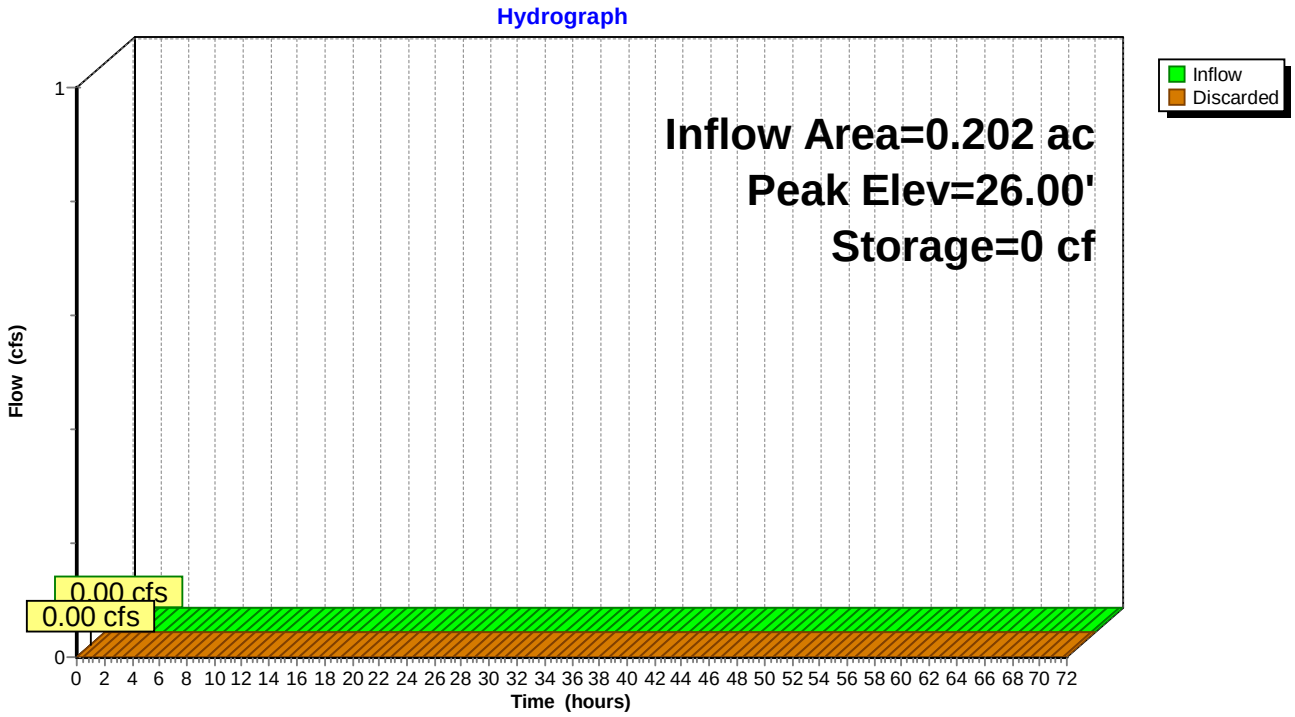
| Volume | Invert | Avail.Storage | Storage Description |
|---|---|---|---|
| #1 | 26.00' | 19,124 cf | **Custom Stage Data (Irregular)** Listed below (Recalc) |

| Elevation (feet) | Surf.Area (sq-ft) | Perim. (feet) | Voids (%) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) | Wet.Area (sq-ft) |
|---|---|---|---|---|---|---|
| 26.00 | 162 | 91.0 | 0.0 | 0 | 0 | 162 |
| 26.01 | 162 | 91.0 | 40.0 | 1 | 1 | 163 |
| 28.00 | 162 | 91.0 | 40.0 | 129 | 130 | 344 |
| 28.01 | 162 | 91.0 | 100.0 | 2 | 131 | 345 |
| 29.50 | 311 | 101.0 | 100.0 | 346 | 478 | 554 |
| 30.00 | 476 | 113.0 | 100.0 | 195 | 673 | 765 |
| 31.00 | 50,000 | 5,000.0 | 100.0 | 18,452 | 19,124 | 1,989,188 |

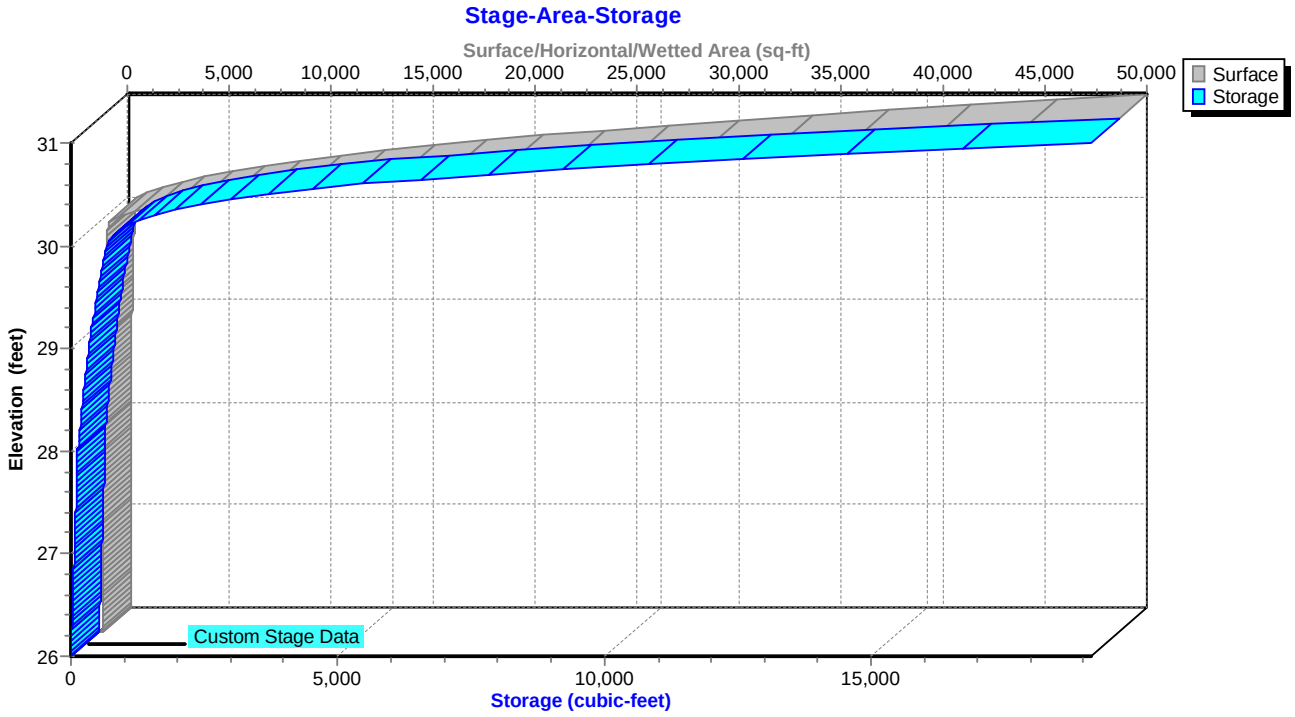
| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Discarded | 26.00' | **0.330 in/hr Exfiltration over Surface area**<br>Conductivity to Groundwater Elevation = 24.00' |

**Discarded OutFlow** Max=0.00 cfs @ 0.00 hrs HW=26.00' (Free Discharge)
↑**1=Exfiltration** (Passes 0.00 cfs of 0.00 cfs potential flow)

## Pond MBR-1: MBR #1




## Pond MBR-1: MBR #1



## Summary for Pond PA-1: POROUS ASPHALT LOT

Inflow Area = 0.202 ac, 65.22% Impervious, Inflow Depth = 2.29" for 2-Year event
Inflow = 0.42 cfs @ 12.17 hrs, Volume= 0.039 af
Outflow = 0.03 cfs @ 14.04 hrs, Volume= 0.039 af, Atten= 93%, Lag= 112.6 min
Discarded = 0.03 cfs @ 14.04 hrs, Volume= 0.039 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Pond MBR-1 : MBR #1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 28.84' @ 14.04 hrs Surf.Area= 3,327 sf Storage= 831 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 274.9 min ( 1,089.8 - 815.0 )

| Volume | Invert | Avail.Storage | Storage Description |
|---|---|---|---|
| #1 | 28.22' | 14,921 cf | **Custom Stage Data (Irregular)** Listed below (Recalc) |

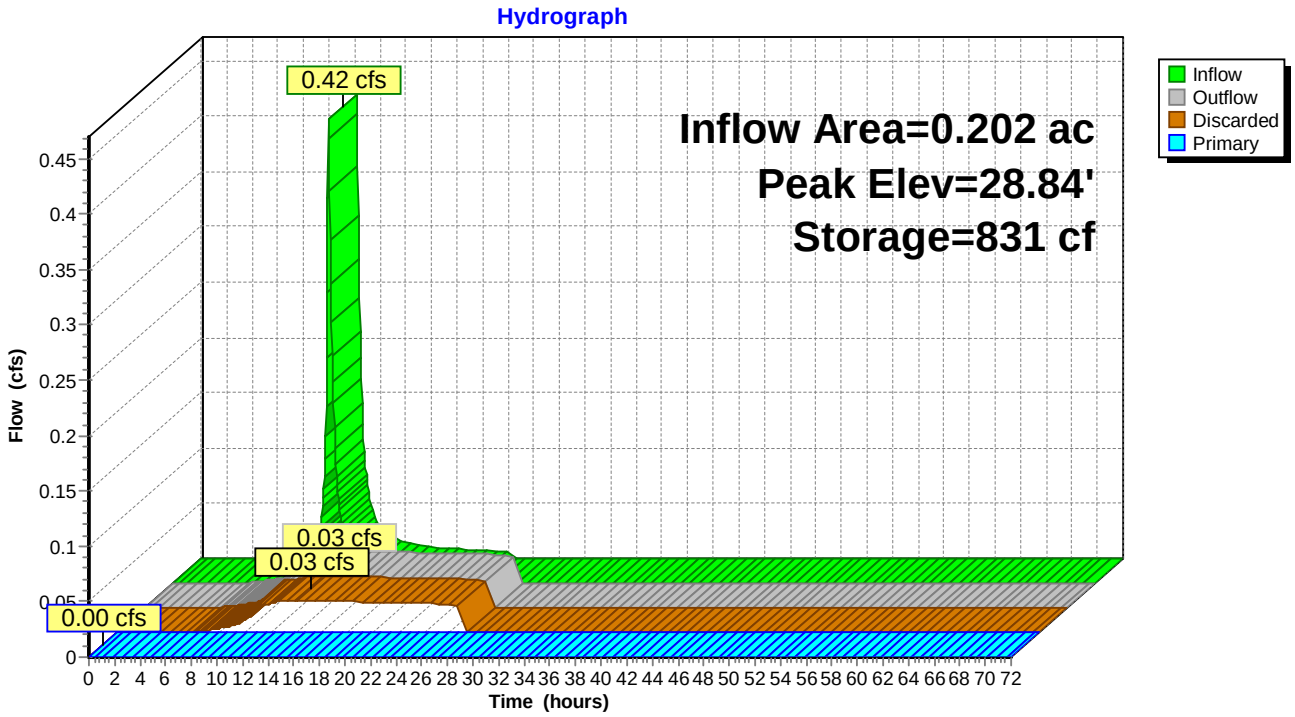
| Elevation (feet) | Surf.Area (sq-ft) | Perim. (feet) | Voids (%) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) | Wet.Area (sq-ft) |
|---|---|---|---|---|---|---|
| 28.22 | 3,327 | 269.0 | 0.0 | 0 | 0 | 3,327 |
| 28.23 | 3,327 | 269.0 | 40.0 | 13 | 13 | 3,330 |
| 28.39 | 3,327 | 269.0 | 40.0 | 213 | 226 | 3,373 |
| 28.40 | 3,327 | 269.0 | 40.0 | 13 | 240 | 3,375 |
| 30.45 | 3,327 | 269.0 | 40.0 | 2,728 | 2,968 | 3,927 |
| 30.46 | 3,327 | 269.0 | 100.0 | 33 | 3,001 | 3,930 |
| 31.00 | 50,000 | 5,000.0 | 100.0 | 11,920 | 14,921 | 1,987,609 |

| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Discarded | 28.22' | **0.330 in/hr Exfiltration over Surface area**<br>Conductivity to Groundwater Elevation = 23.00' |
| #2 | Primary | 30.45' | **2.0' long x 0.50' rise Sharp-Crested Rectangular Weir**<br>2 End Contraction(s) 0.5' Crest Height |

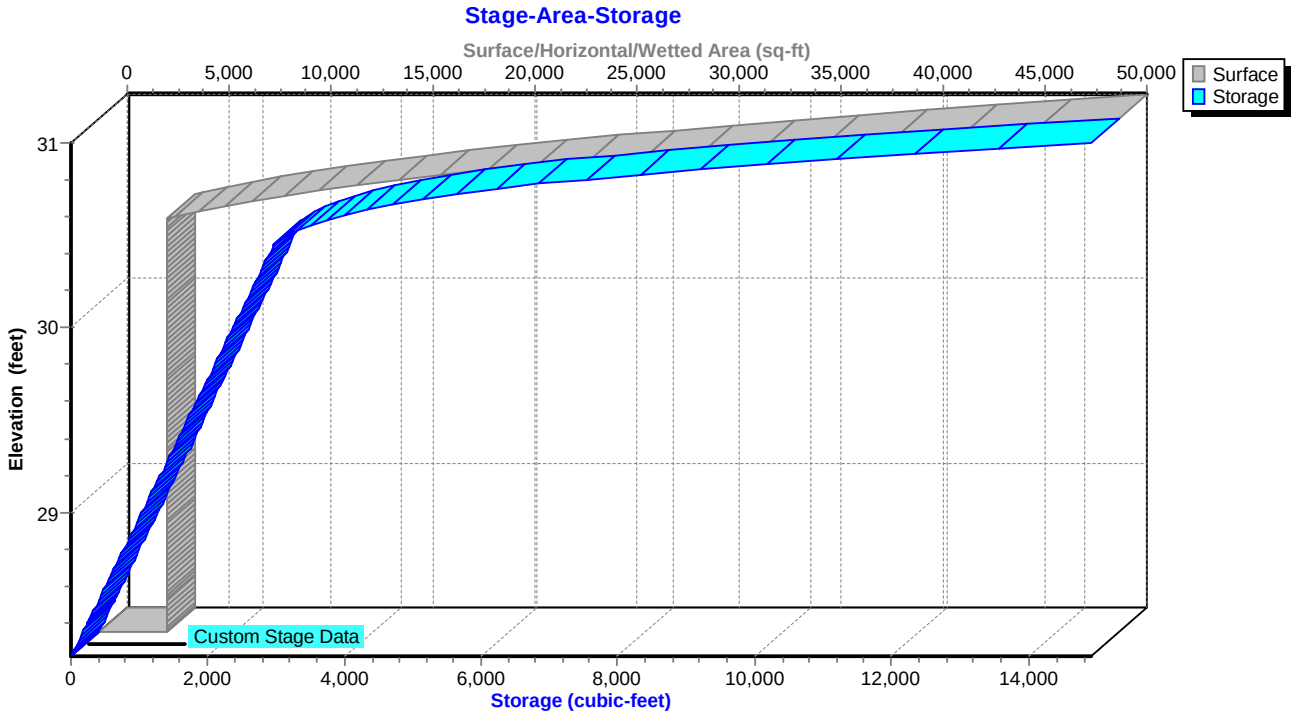
**Discarded OutFlow** Max=0.03 cfs @ 14.04 hrs HW=28.84' (Free Discharge)
↑—**1=Exfiltration** ( Controls 0.03 cfs)

**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=28.22' TW=26.00' (Dynamic Tailwater)
↑—**2=Sharp-Crested Rectangular Weir** ( Controls 0.00 cfs)

## Pond PA-1: POROUS ASPHALT LOT




## Pond PA-1: POROUS ASPHALT LOT

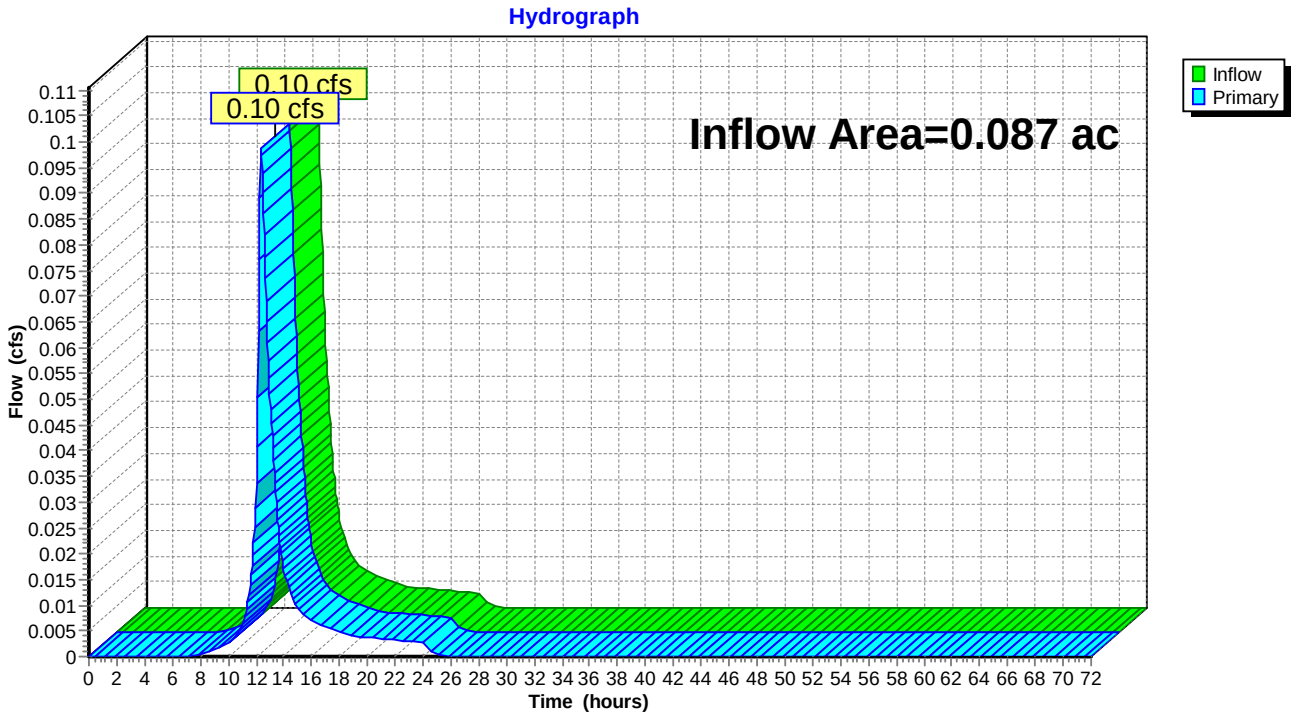


## Summary for Link SP-1: PR Study Point #1

Inflow Area = 0.087 ac, 54.25% Impervious, Inflow Depth = 2.03" for 2-Year event
Inflow = 0.10 cfs @ 12.35 hrs, Volume= 0.015 af
Primary = 0.10 cfs @ 12.35 hrs, Volume= 0.015 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

## Link SP-1: PR Study Point #1

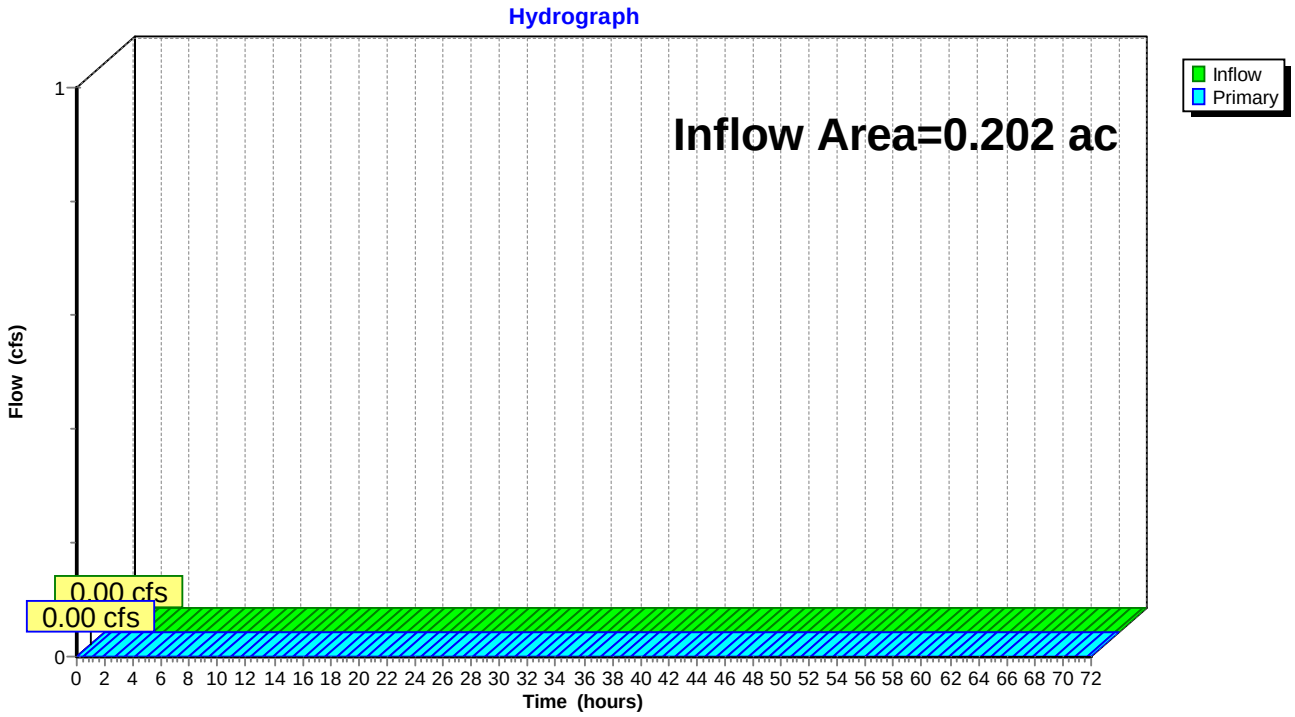


## Summary for Link SP-2: PR Study Point #2

Inflow Area = 0.202 ac, 65.22% Impervious, Inflow Depth = 0.00" for 2-Year event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

## Link SP-2: PR Study Point #2



Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

**Subcatchment DA-1: PR DA #1** Runoff Area=3,810 sf 54.25% Impervious Runoff Depth=3.76"
Flow Length=181' Tc=21.8 min CN=87 Runoff=0.18 cfs 0.027 af

**Subcatchment DA-2: PR DA #2** Runoff Area=8,795 sf 65.22% Impervious Runoff Depth=4.07"
Flow Length=46' Slope=0.0066 '/' Tc=8.0 min CN=90 Runoff=0.73 cfs 0.068 af

**Pond EX-CI-1A: EX Curb Inlet** Peak Elev=28.06' Inflow=0.18 cfs 0.027 af
Outflow=0.18 cfs 0.027 af

**Pond MBR-1: MBR #1** Peak Elev=26.00' Storage=0 cf Inflow=0.00 cfs 0.000 af
Outflow=0.00 cfs 0.000 af

**Pond PA-1: POROUS ASPHALT LOT** Peak Elev=29.51' Storage=1,715 cf Inflow=0.73 cfs 0.068 af
Discarded=0.03 cfs 0.069 af Primary=0.00 cfs 0.000 af Outflow=0.03 cfs 0.069 af

**Link SP-1: PR Study Point #1** Inflow=0.18 cfs 0.027 af
Primary=0.18 cfs 0.027 af

**Link SP-2: PR Study Point #2** Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

**Total Runoff Area = 0.289 ac Runoff Volume = 0.096 af Average Runoff Depth = 3.97"**
**38.10% Pervious = 0.110 ac 61.90% Impervious = 0.179 ac**

## Summary for Subcatchment DA-1: PR DA #1

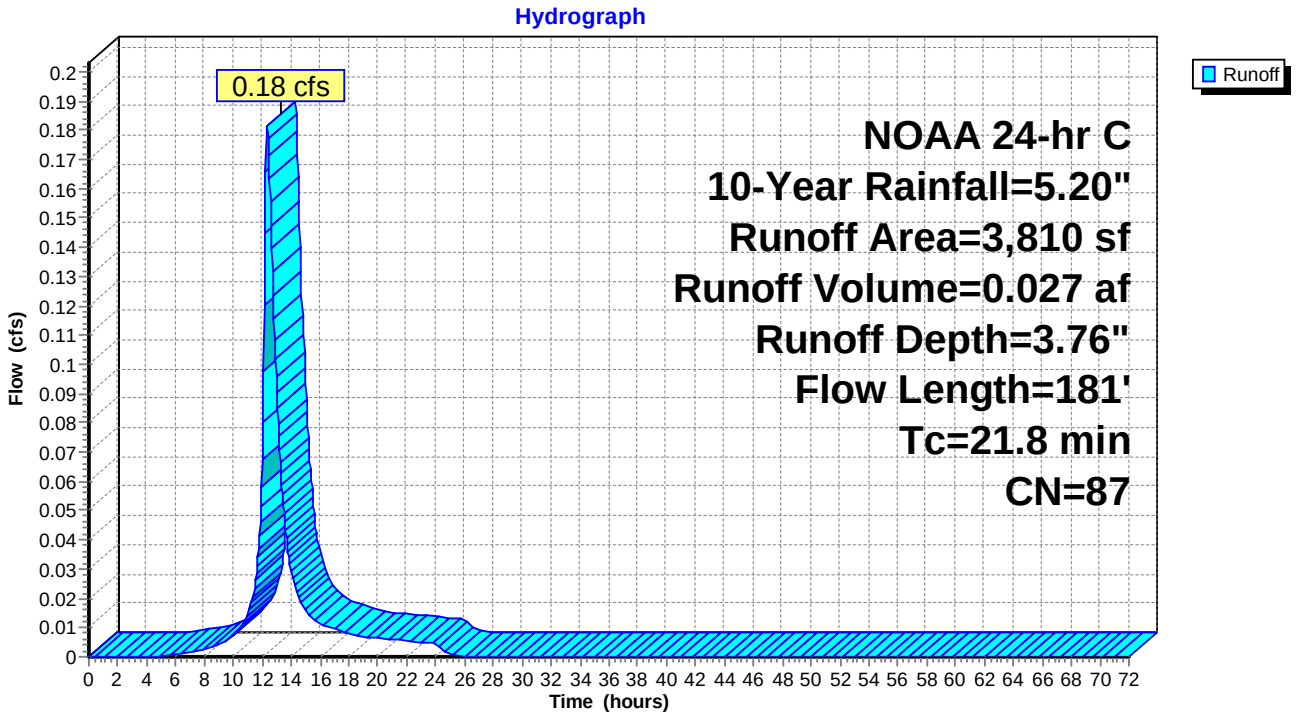
Runoff = 0.18 cfs @ 12.35 hrs, Volume= 0.027 af, Depth= 3.76"
Routed to Pond EX-CI-1A : EX Curb Inlet

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C 10-Year Rainfall=5.20"

| Area (sf) | CN | Description |
|---|---|---|
| 1,743 | 74 | >75% Grass cover, Good, HSG C |
| 2,067 | 98 | Paved parking, HSG A |
| 3,810 | 87 | Weighted Average |
| 1,743 | | 45.75% Pervious Area |
| 2,067 | | 54.25% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 20.5 | 100 | 0.0030 | 0.08 | | **Sheet Flow, Grass to East** Grass: Short n= 0.150 P2= 3.33" |
| 1.3 | 81 | 0.0028 | 1.07 | | **Shallow Concentrated Flow, Gutter** Paved Kv= 20.3 fps |
| 21.8 | 181 | Total | | | |

### Subcatchment DA-1: PR DA #1



## Summary for Subcatchment DA-2: PR DA #2

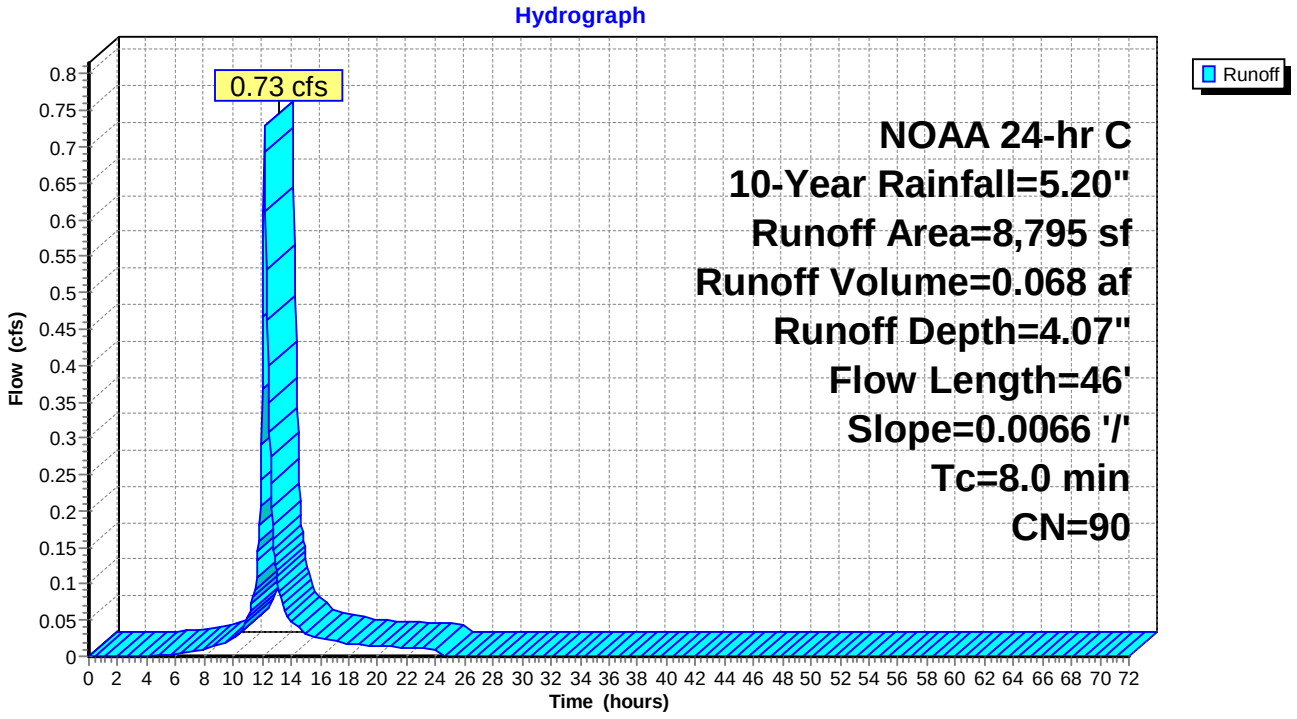
Runoff = 0.73 cfs @ 12.16 hrs, Volume= 0.068 af, Depth= 4.07"
Routed to Pond PA-1 : POROUS ASPHALT LOT

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C 10-Year Rainfall=5.20"

| Area (sf) | CN | Description |
|---|---|---|
| 2,538 | 98 | Roofs, HSG A |
| 3,059 | 74 | >75% Grass cover, Good, HSG C |
| 3,198 | 98 | Paved parking, HSG A |
| 8,795 | 90 | Weighted Average |
| 3,059 | | 34.78% Pervious Area |
| 5,736 | | 65.22% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 8.0 | 46 | 0.0066 | 0.10 | | **Sheet Flow,** Grass: Short n= 0.150 P2= 3.33" |

## Subcatchment DA-2: PR DA #2



## Summary for Pond EX-CI-1A: EX Curb Inlet

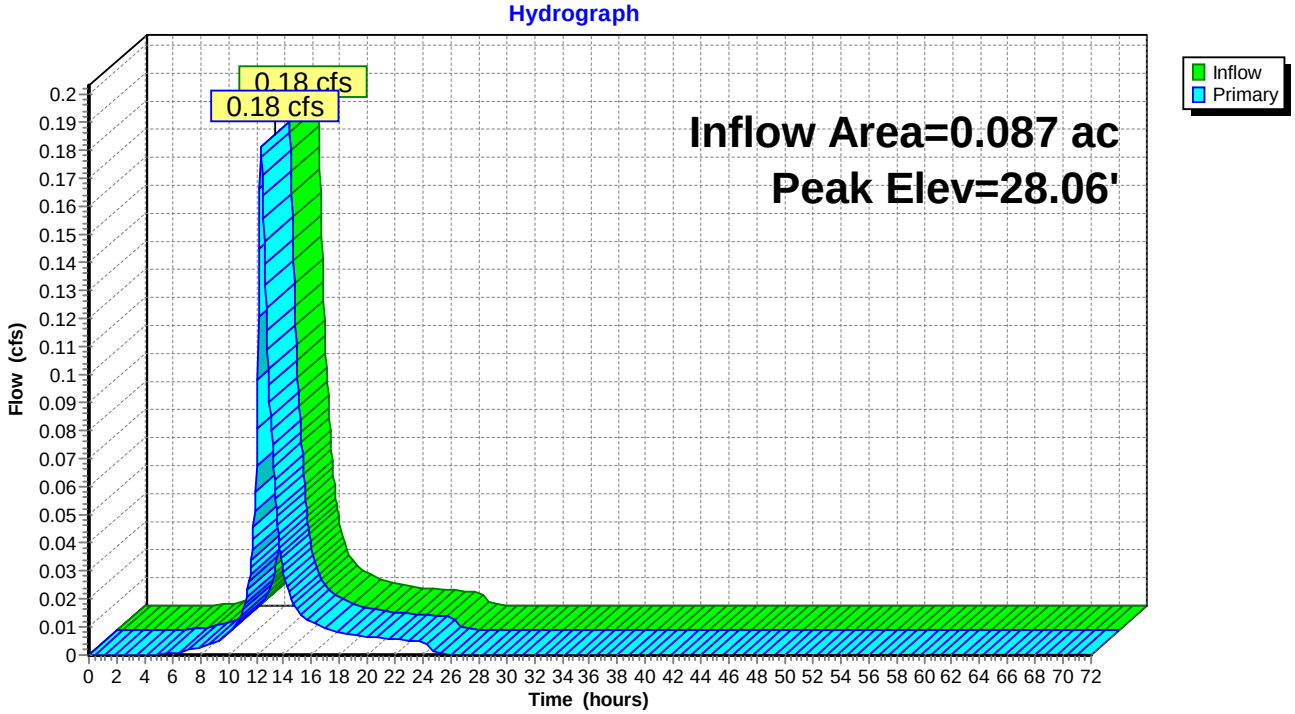
Inflow Area = 0.087 ac, 54.25% Impervious, Inflow Depth = 3.76" for 10-Year event
Inflow = 0.18 cfs @ 12.35 hrs, Volume= 0.027 af
Outflow = 0.18 cfs @ 12.35 hrs, Volume= 0.027 af, Atten= 0%, Lag= 0.0 min
Primary = 0.18 cfs @ 12.35 hrs, Volume= 0.027 af
Routed to Link SP-1 : PR Study Point #1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 28.06' @ 12.35 hrs

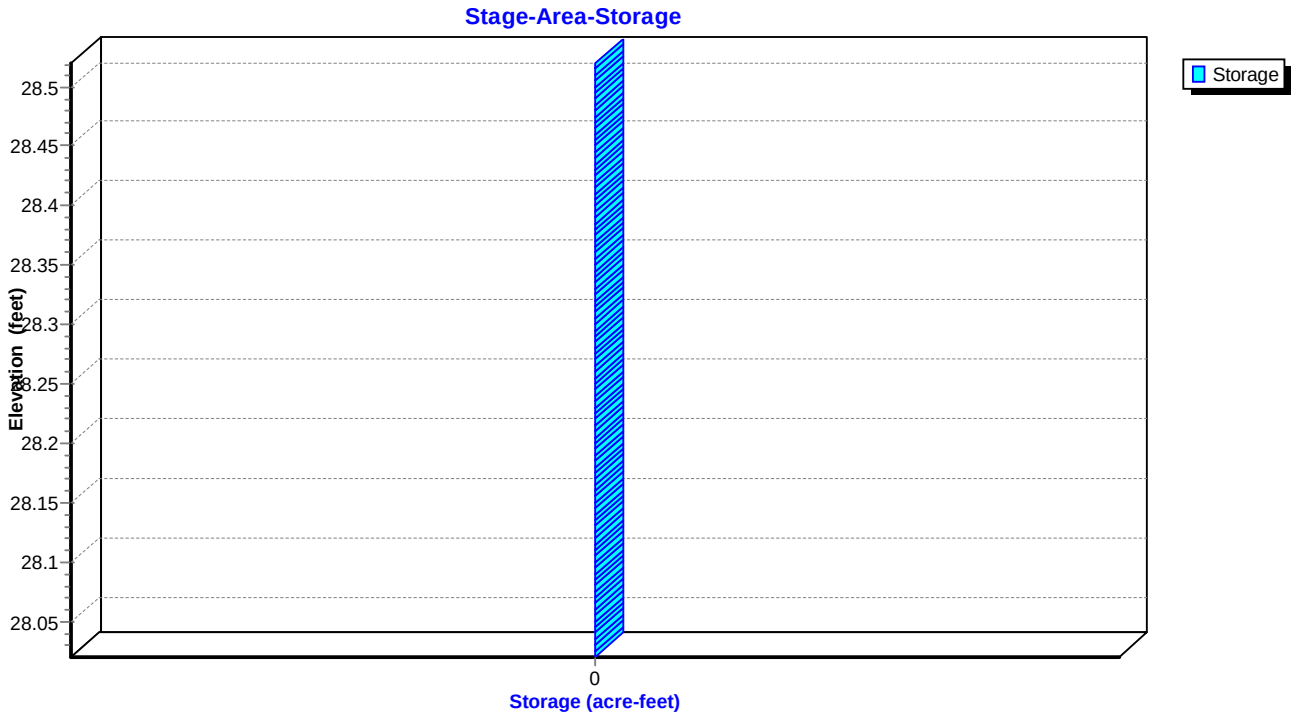
| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 28.02' | **72.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600<br>Limited to weir flow at low heads |

**Primary OutFlow** Max=0.18 cfs @ 12.35 hrs HW=28.06' TW=0.00' (Dynamic Tailwater)
**1=Orifice/Grate** (Orifice Controls 0.18 cfs @ 0.68 fps)

## Pond EX-CI-1A: EX Curb Inlet



## Pond EX-CI-1A: EX Curb Inlet



## Summary for Pond MBR-1: MBR #1

Inflow Area = 0.202 ac, 65.22% Impervious, Inflow Depth = 0.00" for 10-Year event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
Discarded = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 26.00' @ 0.00 hrs Surf.Area= 162 sf Storage= 0 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no inflow)

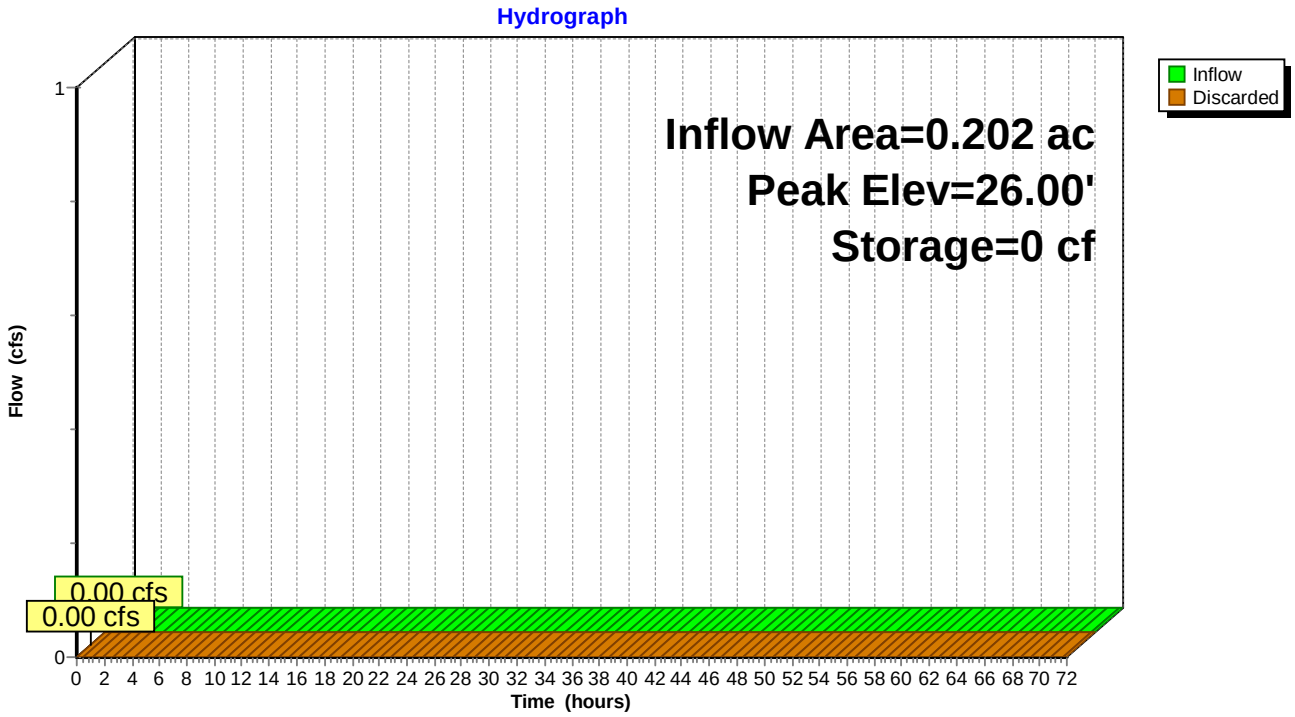
| Volume | Invert | Avail.Storage | Storage Description |
|---|---|---|---|
| #1 | 26.00' | 19,124 cf | **Custom Stage Data (Irregular)** Listed below (Recalc) |

| Elevation (feet) | Surf.Area (sq-ft) | Perim. (feet) | Voids (%) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) | Wet.Area (sq-ft) |
|---|---|---|---|---|---|---|
| 26.00 | 162 | 91.0 | 0.0 | 0 | 0 | 162 |
| 26.01 | 162 | 91.0 | 40.0 | 1 | 1 | 163 |
| 28.00 | 162 | 91.0 | 40.0 | 129 | 130 | 344 |
| 28.01 | 162 | 91.0 | 100.0 | 2 | 131 | 345 |
| 29.50 | 311 | 101.0 | 100.0 | 346 | 478 | 554 |
| 30.00 | 476 | 113.0 | 100.0 | 195 | 673 | 765 |
| 31.00 | 50,000 | 5,000.0 | 100.0 | 18,452 | 19,124 | 1,989,188 |

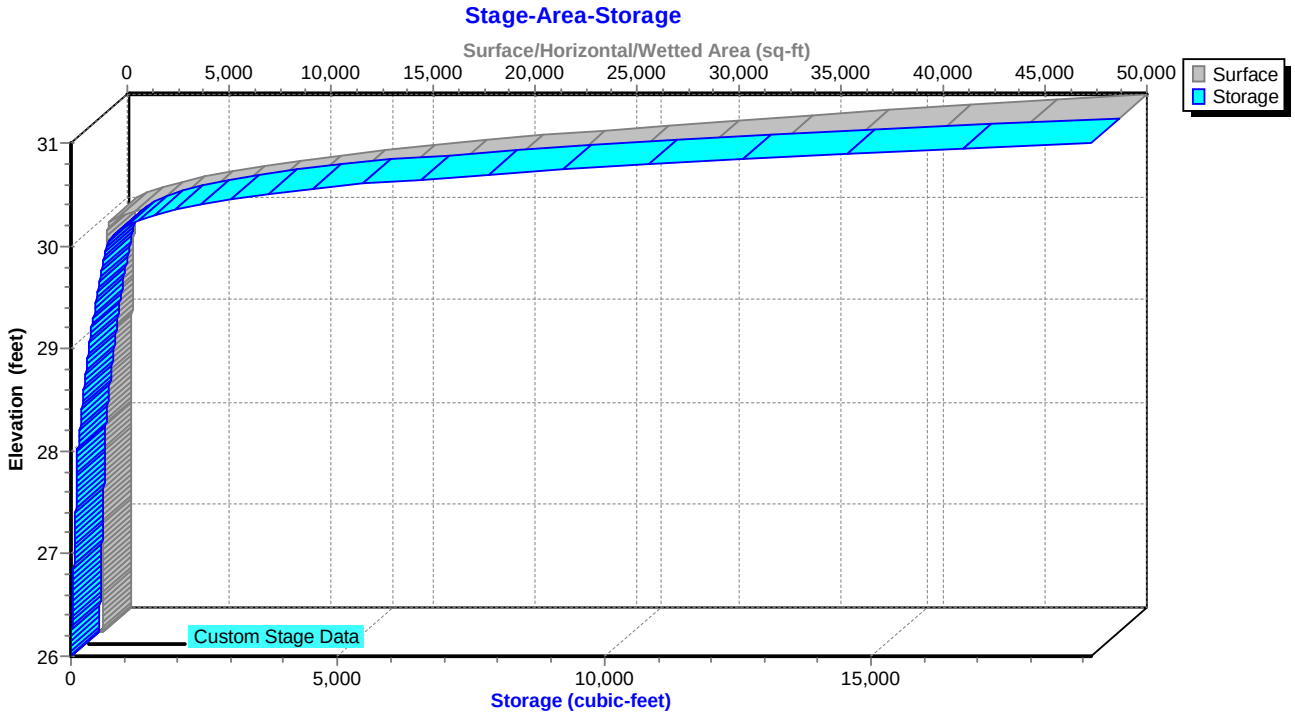
| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Discarded | 26.00' | **0.330 in/hr Exfiltration over Surface area**<br>Conductivity to Groundwater Elevation = 24.00' |

**Discarded OutFlow** Max=0.00 cfs @ 0.00 hrs HW=26.00' (Free Discharge)
↑**1=Exfiltration** (Passes 0.00 cfs of 0.00 cfs potential flow)

## Pond MBR-1: MBR #1




## Pond MBR-1: MBR #1



## Summary for Pond PA-1: POROUS ASPHALT LOT

Inflow Area = 0.202 ac, 65.22% Impervious, Inflow Depth = 4.07" for 10-Year event
Inflow = 0.73 cfs @ 12.16 hrs, Volume= 0.068 af
Outflow = 0.03 cfs @ 15.04 hrs, Volume= 0.069 af, Atten= 96%, Lag= 172.3 min
Discarded = 0.03 cfs @ 15.04 hrs, Volume= 0.069 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Pond MBR-1 : MBR #1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 29.51' @ 15.04 hrs Surf.Area= 3,327 sf Storage= 1,715 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 529.3 min ( 1,327.8 - 798.6 )

| Volume | Invert | Avail.Storage | Storage Description |
|---|---|---|---|
| #1 | 28.22' | 14,921 cf | **Custom Stage Data (Irregular)** Listed below (Recalc) |

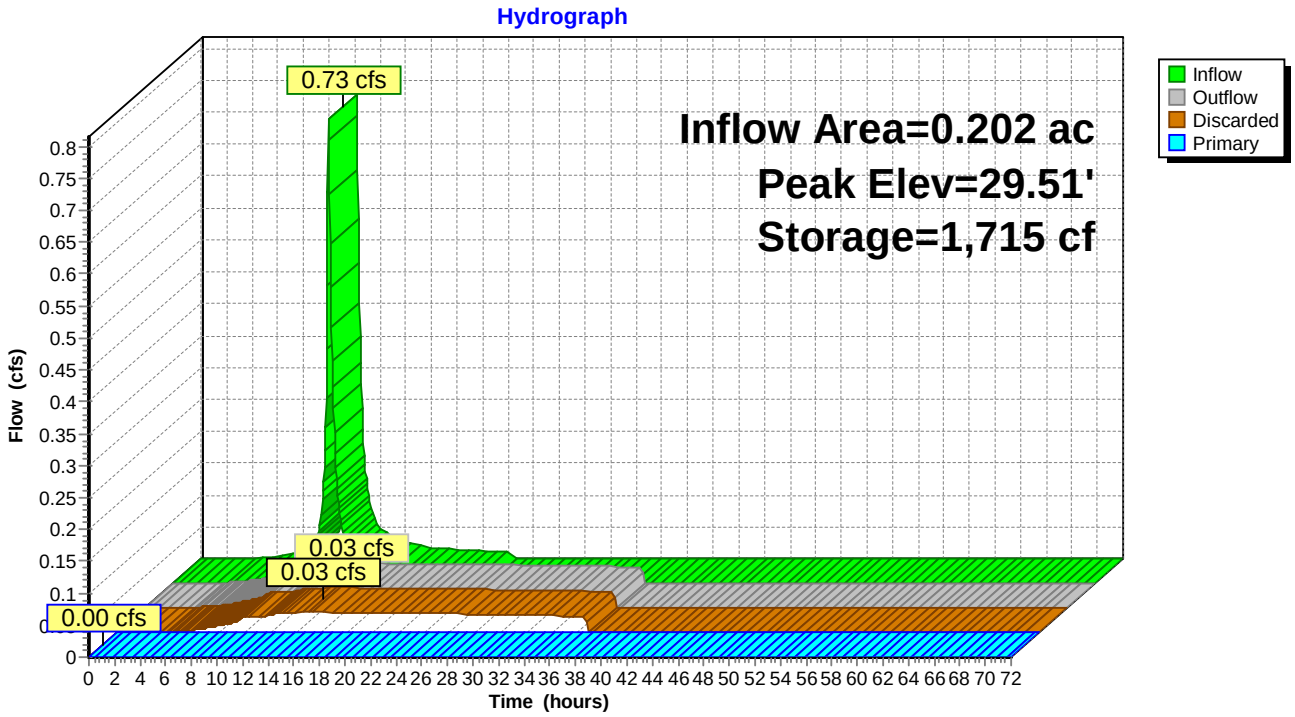
| Elevation (feet) | Surf.Area (sq-ft) | Perim. (feet) | Voids (%) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) | Wet.Area (sq-ft) |
|---|---|---|---|---|---|---|
| 28.22 | 3,327 | 269.0 | 0.0 | 0 | 0 | 3,327 |
| 28.23 | 3,327 | 269.0 | 40.0 | 13 | 13 | 3,330 |
| 28.39 | 3,327 | 269.0 | 40.0 | 213 | 226 | 3,373 |
| 28.40 | 3,327 | 269.0 | 40.0 | 13 | 240 | 3,375 |
| 30.45 | 3,327 | 269.0 | 40.0 | 2,728 | 2,968 | 3,927 |
| 30.46 | 3,327 | 269.0 | 100.0 | 33 | 3,001 | 3,930 |
| 31.00 | 50,000 | 5,000.0 | 100.0 | 11,920 | 14,921 | 1,987,609 |

| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Discarded | 28.22' | **0.330 in/hr Exfiltration over Surface area**<br>Conductivity to Groundwater Elevation = 23.00' |
| #2 | Primary | 30.45' | **2.0' long x 0.50' rise Sharp-Crested Rectangular Weir**<br>2 End Contraction(s) 0.5' Crest Height |

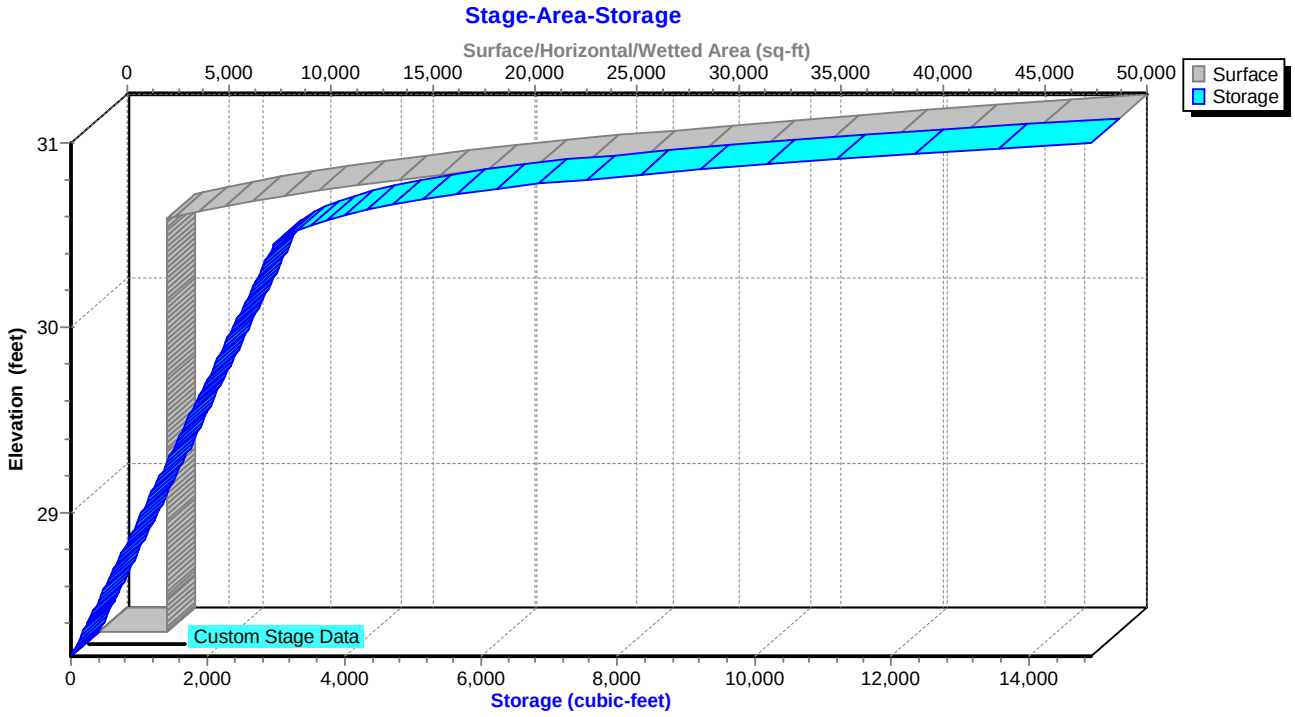
**Discarded OutFlow** Max=0.03 cfs @ 15.04 hrs HW=29.51' (Free Discharge)
↑—**1=Exfiltration** ( Controls 0.03 cfs)

**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=28.22' TW=26.00' (Dynamic Tailwater)
↑—**2=Sharp-Crested Rectangular Weir** ( Controls 0.00 cfs)

## Pond PA-1: POROUS ASPHALT LOT




## Pond PA-1: POROUS ASPHALT LOT

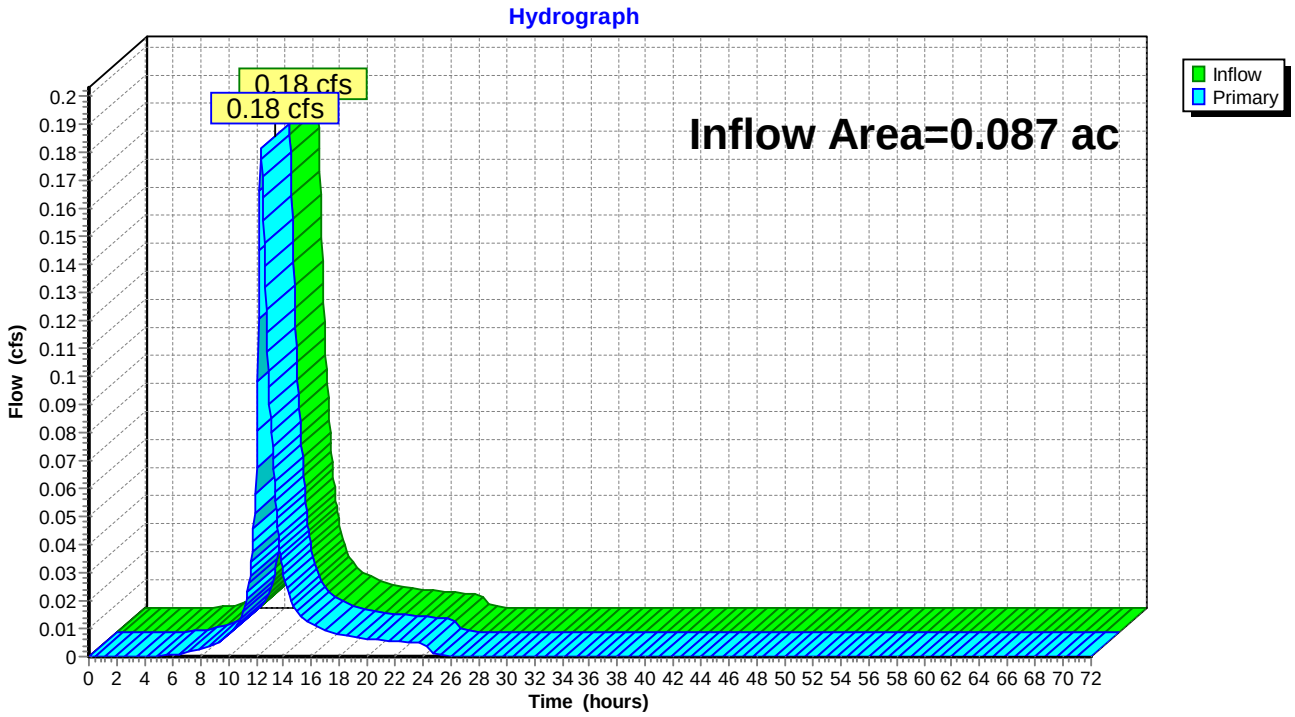


## Summary for Link SP-1: PR Study Point #1

Inflow Area = 0.087 ac, 54.25% Impervious, Inflow Depth = 3.76" for 10-Year event
Inflow = 0.18 cfs @ 12.35 hrs, Volume= 0.027 af
Primary = 0.18 cfs @ 12.35 hrs, Volume= 0.027 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

## Link SP-1: PR Study Point #1

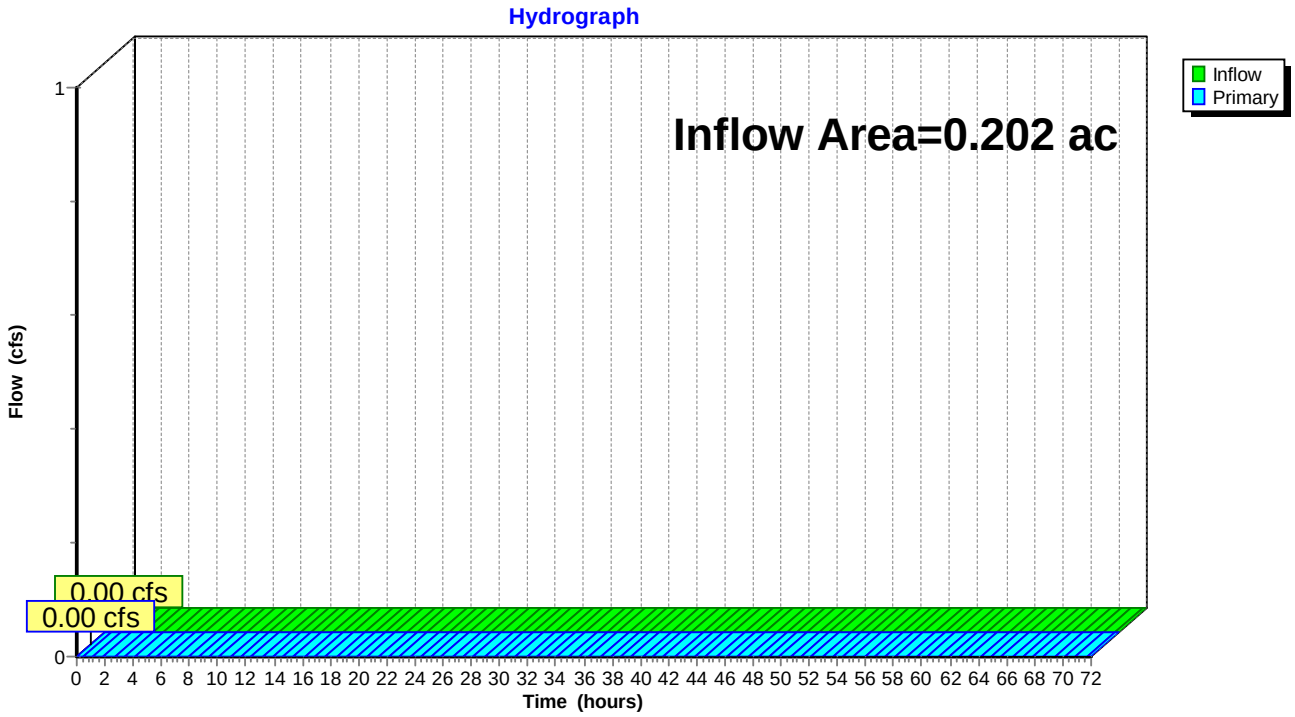


## Summary for Link SP-2: PR Study Point #2

Inflow Area = 0.202 ac, 65.22% Impervious, Inflow Depth = 0.00" for 10-Year event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

## Link SP-2: PR Study Point #2



Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

**Subcatchment DA-1: PR DA #1** Runoff Area=3,810 sf 54.25% Impervious Runoff Depth=7.41"
Flow Length=181' Tc=21.8 min CN=87 Runoff=0.35 cfs 0.054 af

**Subcatchment DA-2: PR DA #2** Runoff Area=8,795 sf 65.22% Impervious Runoff Depth=7.77"
Flow Length=46' Slope=0.0066 '/' Tc=8.0 min CN=90 Runoff=1.34 cfs 0.131 af

**Pond EX-CI-1A: EX Curb Inlet** Peak Elev=28.09' Inflow=0.35 cfs 0.054 af
Outflow=0.35 cfs 0.054 af

**Pond MBR-1: MBR #1** Peak Elev=29.81' Storage=587 cf Inflow=0.09 cfs 0.015 af
Outflow=0.01 cfs 0.015 af

**Pond PA-1: POROUS ASPHALT LOT** Peak Elev=30.51' Storage=3,211 cf Inflow=1.34 cfs 0.131 af
Discarded=0.05 cfs 0.115 af Primary=0.09 cfs 0.015 af Outflow=0.15 cfs 0.131 af

**Link SP-1: PR Study Point #1** Inflow=0.35 cfs 0.054 af
Primary=0.35 cfs 0.054 af

**Link SP-2: PR Study Point #2** Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

**Total Runoff Area = 0.289 ac Runoff Volume = 0.185 af Average Runoff Depth = 7.66"**
**38.10% Pervious = 0.110 ac 61.90% Impervious = 0.179 ac**

## Summary for Subcatchment DA-1: PR DA #1

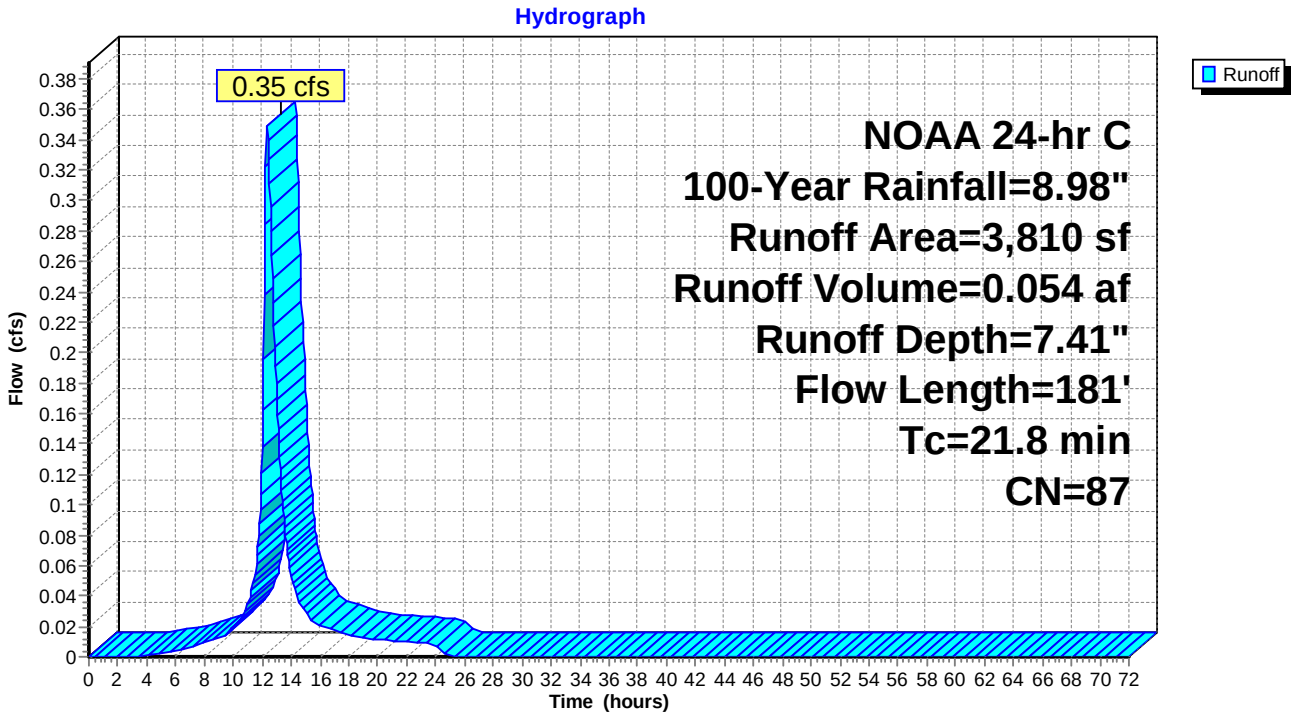
Runoff = 0.35 cfs @ 12.34 hrs, Volume= 0.054 af, Depth= 7.41"
Routed to Pond EX-CI-1A : EX Curb Inlet

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C 100-Year Rainfall=8.98"

| Area (sf) | CN | Description |
|---|---|---|
| 1,743 | 74 | >75% Grass cover, Good, HSG C |
| 2,067 | 98 | Paved parking, HSG A |
| 3,810 | 87 | Weighted Average |
| 1,743 | | 45.75% Pervious Area |
| 2,067 | | 54.25% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 20.5 | 100 | 0.0030 | 0.08 | | **Sheet Flow, Grass to East** Grass: Short n= 0.150 P2= 3.33" |
| 1.3 | 81 | 0.0028 | 1.07 | | **Shallow Concentrated Flow, Gutter** Paved Kv= 20.3 fps |
| 21.8 | 181 | Total | | | |

### Subcatchment DA-1: PR DA #1



## Summary for Subcatchment DA-2: PR DA #2

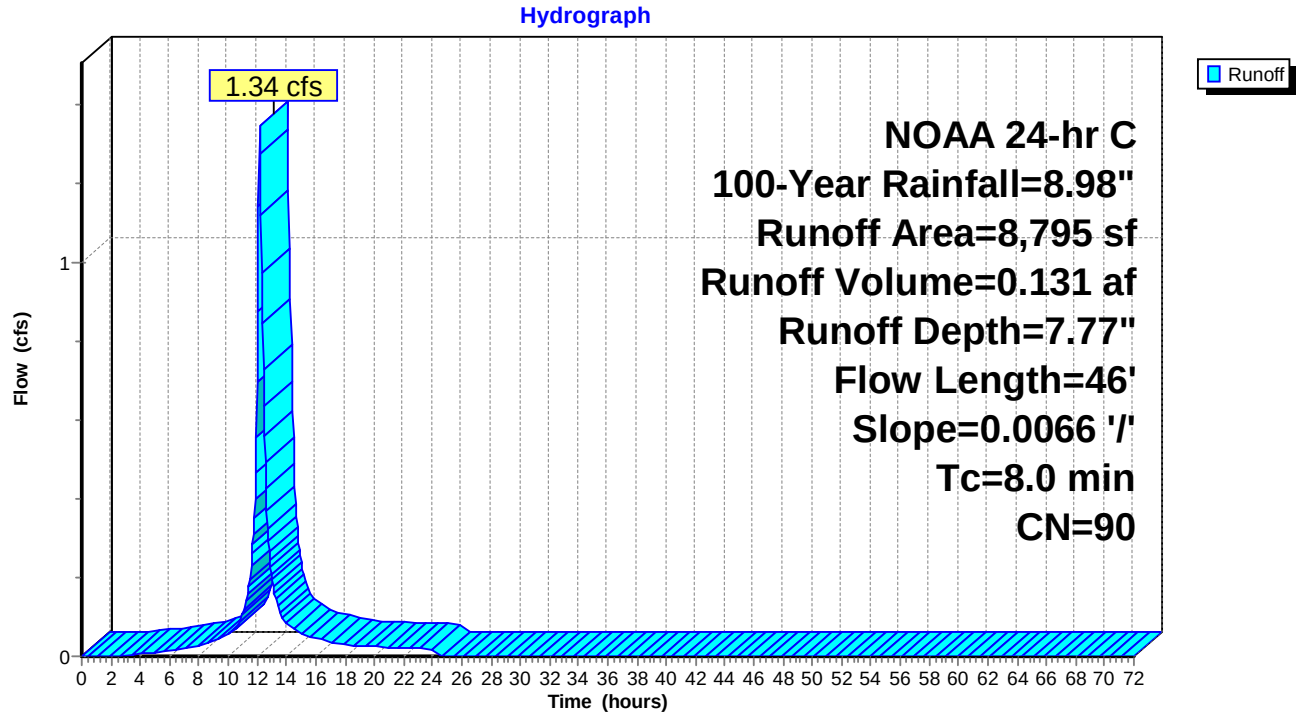
Runoff = 1.34 cfs @ 12.16 hrs, Volume= 0.131 af, Depth= 7.77"
Routed to Pond PA-1 : POROUS ASPHALT LOT

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C 100-Year Rainfall=8.98"

| Area (sf) | CN | Description |
|---|---|---|
| 2,538 | 98 | Roofs, HSG A |
| 3,059 | 74 | >75% Grass cover, Good, HSG C |
| 3,198 | 98 | Paved parking, HSG A |
| 8,795 | 90 | Weighted Average |
| 3,059 | | 34.78% Pervious Area |
| 5,736 | | 65.22% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 8.0 | 46 | 0.0066 | 0.10 | | **Sheet Flow,** Grass: Short n= 0.150 P2= 3.33" |

## Subcatchment DA-2: PR DA #2



## Summary for Pond EX-CI-1A: EX Curb Inlet

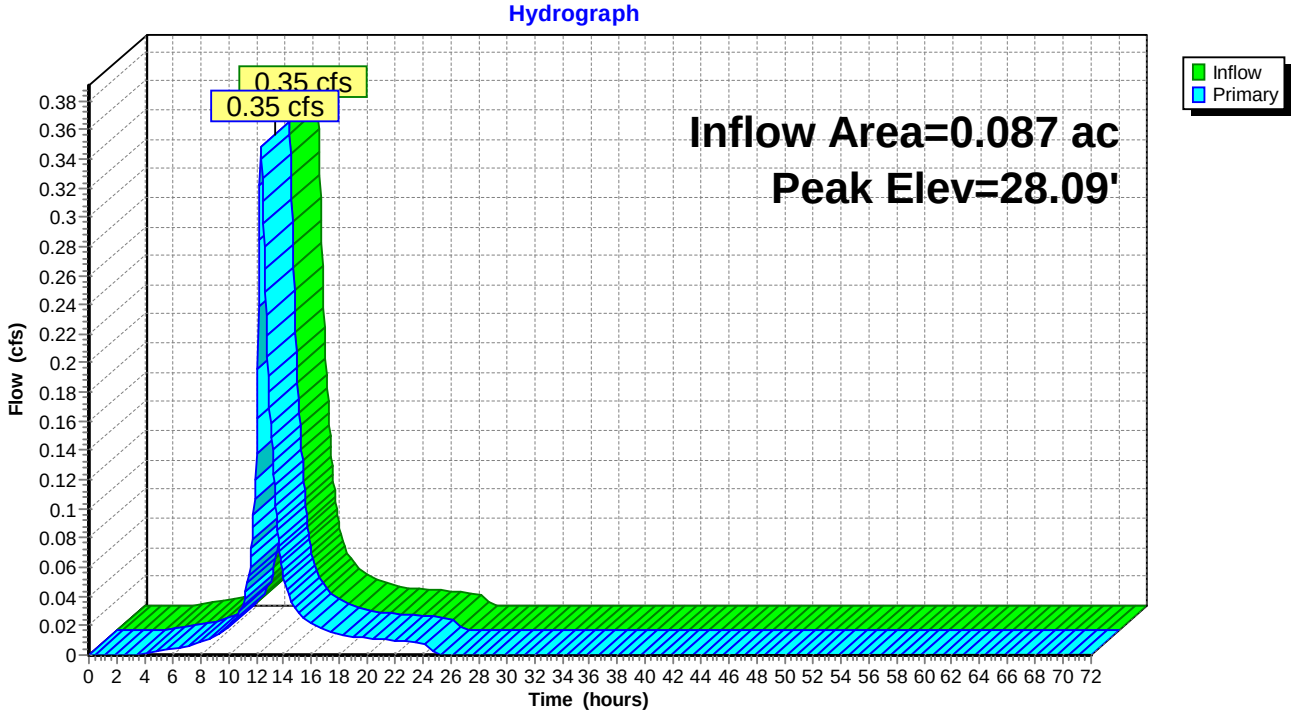
Inflow Area = 0.087 ac, 54.25% Impervious, Inflow Depth = 7.41" for 100-Year event
Inflow = 0.35 cfs @ 12.34 hrs, Volume= 0.054 af
Outflow = 0.35 cfs @ 12.34 hrs, Volume= 0.054 af, Atten= 0%, Lag= 0.0 min
Primary = 0.35 cfs @ 12.34 hrs, Volume= 0.054 af
Routed to Link SP-1 : PR Study Point #1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 28.09' @ 12.34 hrs

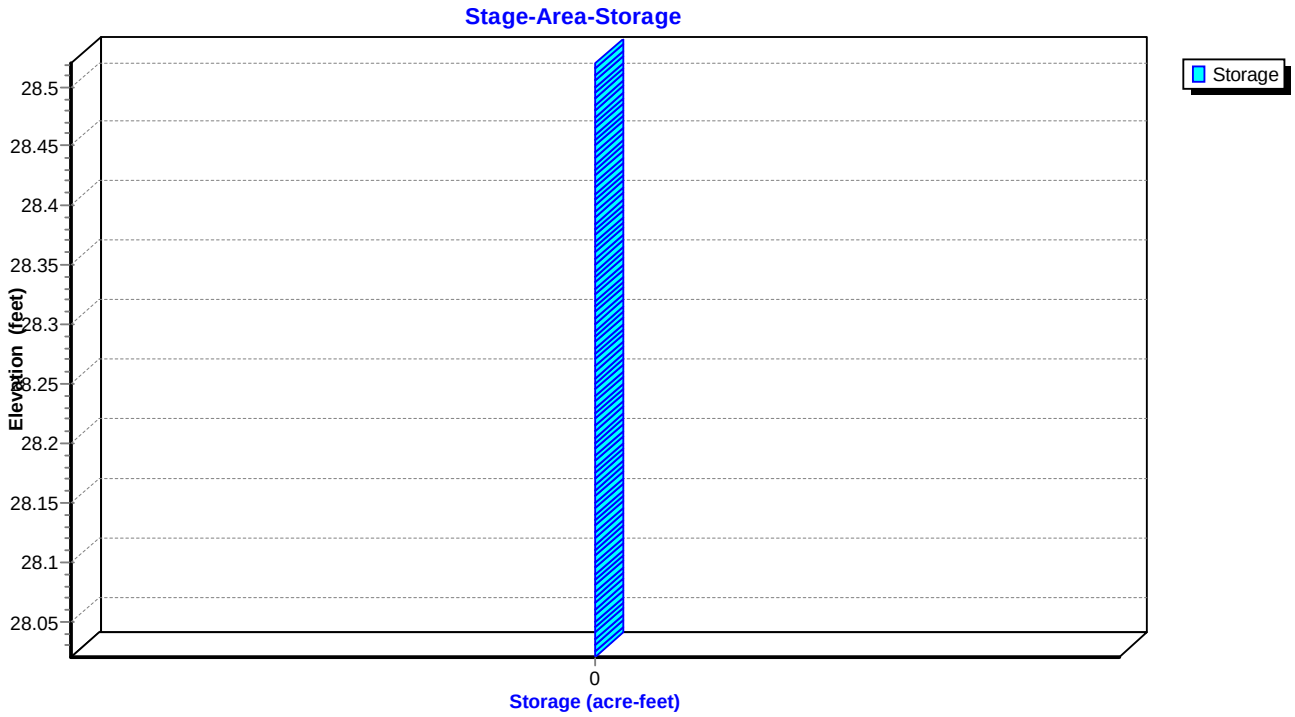
| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 28.02' | **72.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600<br>Limited to weir flow at low heads |

**Primary OutFlow** Max=0.35 cfs @ 12.34 hrs HW=28.09' TW=0.00' (Dynamic Tailwater)
**1=Orifice/Grate** (Orifice Controls 0.35 cfs @ 0.84 fps)

### Pond EX-CI-1A: EX Curb Inlet



## Pond EX-CI-1A: EX Curb Inlet



## Summary for Pond MBR-1: MBR #1

Inflow Area = 0.202 ac, 65.22% Impervious, Inflow Depth = 0.92" for 100-Year event
Inflow = 0.09 cfs @ 13.26 hrs, Volume= 0.015 af
Outflow = 0.01 cfs @ 17.23 hrs, Volume= 0.015 af, Atten= 94%, Lag= 238.0 min
Discarded = 0.01 cfs @ 17.23 hrs, Volume= 0.015 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 29.81' @ 17.23 hrs Surf.Area= 408 sf Storage= 587 cf

Plug-Flow detention time= 1,276.3 min calculated for 0.015 af (100% of inflow)
Center-of-Mass det. time= 1,277.6 min ( 2,127.3 - 849.7 )

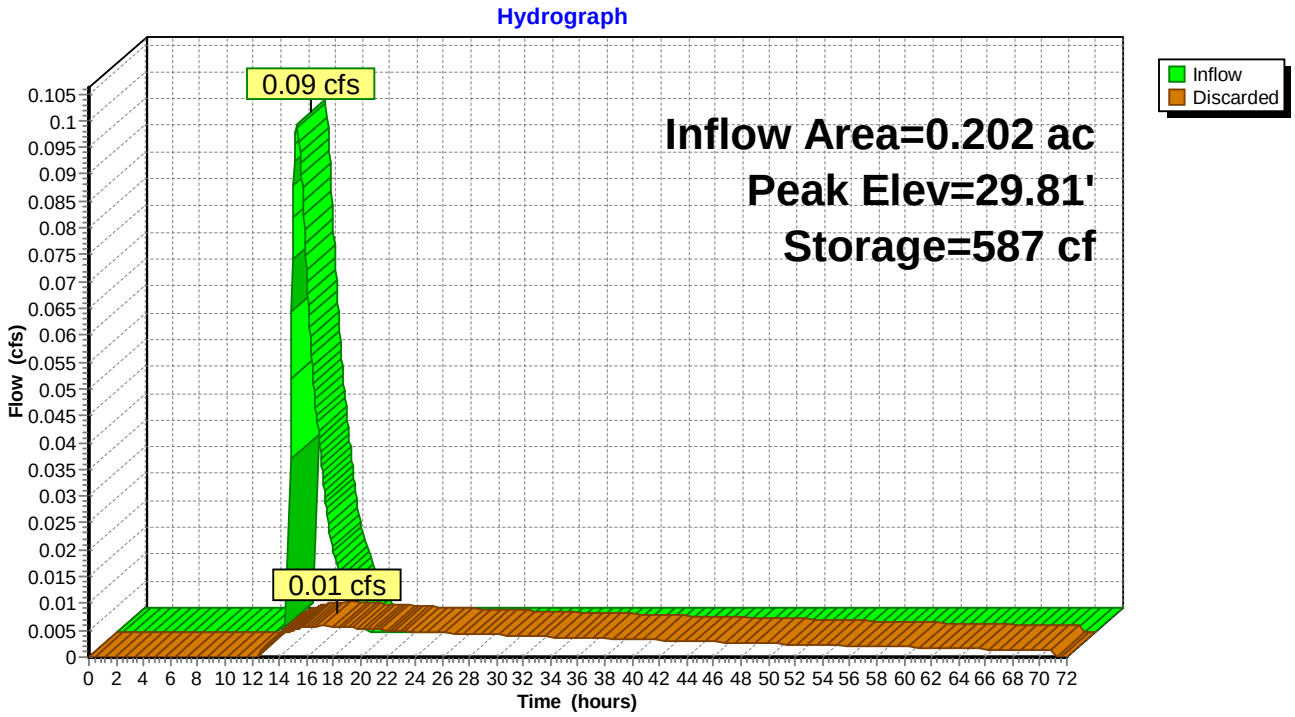
| Volume | Invert | Avail.Storage | Storage Description |
|---|---|---|---|
| #1 | 26.00' | 19,124 cf | **Custom Stage Data (Irregular)** Listed below (Recalc) |

| Elevation (feet) | Surf.Area (sq-ft) | Perim. (feet) | Voids (%) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) | Wet.Area (sq-ft) |
|---|---|---|---|---|---|---|
| 26.00 | 162 | 91.0 | 0.0 | 0 | 0 | 162 |
| 26.01 | 162 | 91.0 | 40.0 | 1 | 1 | 163 |
| 28.00 | 162 | 91.0 | 40.0 | 129 | 130 | 344 |
| 28.01 | 162 | 91.0 | 100.0 | 2 | 131 | 345 |
| 29.50 | 311 | 101.0 | 100.0 | 346 | 478 | 554 |
| 30.00 | 476 | 113.0 | 100.0 | 195 | 673 | 765 |
| 31.00 | 50,000 | 5,000.0 | 100.0 | 18,452 | 19,124 | 1,989,188 |

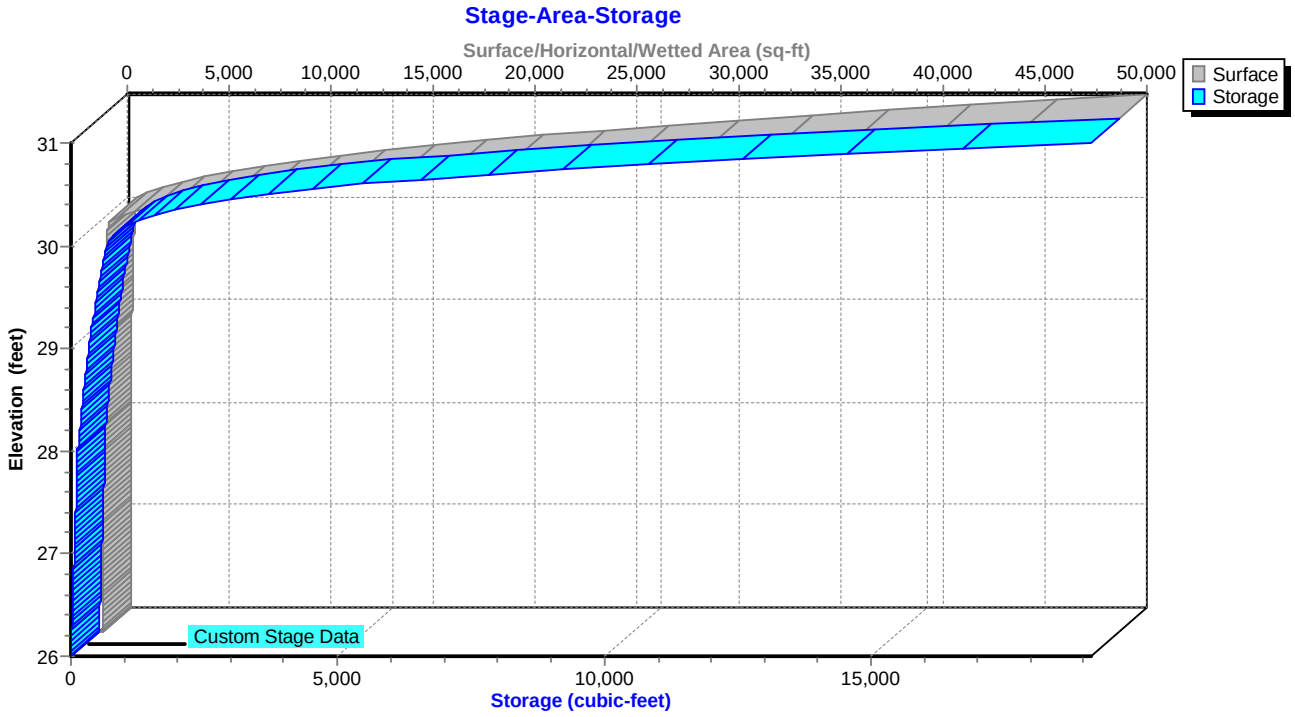
| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Discarded | 26.00' | **0.330 in/hr Exfiltration over Surface area**<br>Conductivity to Groundwater Elevation = 24.00' |

**Discarded OutFlow** Max=0.01 cfs @ 17.23 hrs HW=29.81' (Free Discharge)
**1=Exfiltration** ( Controls 0.01 cfs)

## Pond MBR-1: MBR #1




## Pond MBR-1: MBR #1



## Summary for Pond PA-1: POROUS ASPHALT LOT

Inflow Area = 0.202 ac, 65.22% Impervious, Inflow Depth = 7.77" for 100-Year event
Inflow = 1.34 cfs @ 12.16 hrs, Volume= 0.131 af
Outflow = 0.15 cfs @ 13.26 hrs, Volume= 0.131 af, Atten= 89%, Lag= 65.9 min
Discarded = 0.05 cfs @ 13.26 hrs, Volume= 0.115 af
Primary = 0.09 cfs @ 13.26 hrs, Volume= 0.015 af
Routed to Pond MBR-1 : MBR #1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 30.51' @ 13.26 hrs Surf.Area= 5,295 sf Storage= 3,211 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 722.9 min ( 1,504.0 - 781.2 )

| Volume | Invert | Avail.Storage | Storage Description |
|---|---|---|---|
| #1 | 28.22' | 14,921 cf | **Custom Stage Data (Irregular)** Listed below (Recalc) |

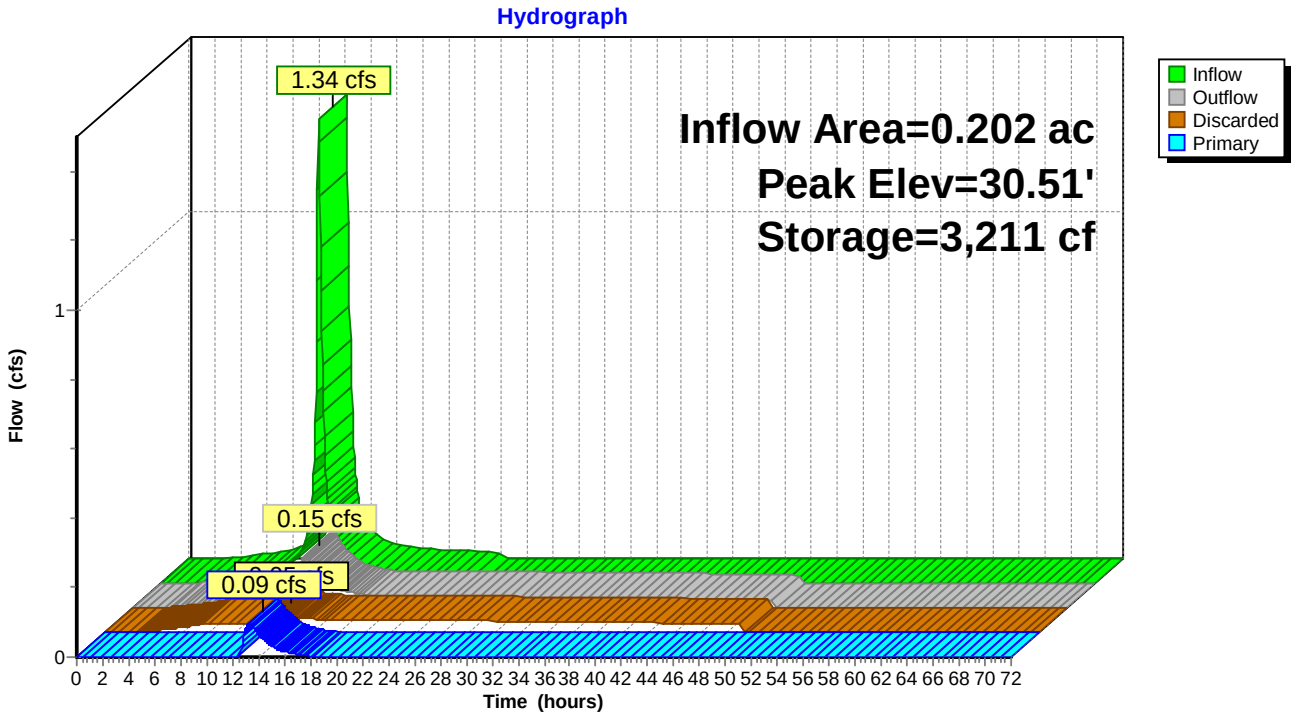
| Elevation (feet) | Surf.Area (sq-ft) | Perim. (feet) | Voids (%) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) | Wet.Area (sq-ft) |
|---|---|---|---|---|---|---|
| 28.22 | 3,327 | 269.0 | 0.0 | 0 | 0 | 3,327 |
| 28.23 | 3,327 | 269.0 | 40.0 | 13 | 13 | 3,330 |
| 28.39 | 3,327 | 269.0 | 40.0 | 213 | 226 | 3,373 |
| 28.40 | 3,327 | 269.0 | 40.0 | 13 | 240 | 3,375 |
| 30.45 | 3,327 | 269.0 | 40.0 | 2,728 | 2,968 | 3,927 |
| 30.46 | 3,327 | 269.0 | 100.0 | 33 | 3,001 | 3,930 |
| 31.00 | 50,000 | 5,000.0 | 100.0 | 11,920 | 14,921 | 1,987,609 |

| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Discarded | 28.22' | **0.330 in/hr Exfiltration over Surface area**<br>Conductivity to Groundwater Elevation = 23.00' |
| #2 | Primary | 30.45' | **2.0' long x 0.50' rise Sharp-Crested Rectangular Weir**<br>2 End Contraction(s) 0.5' Crest Height |

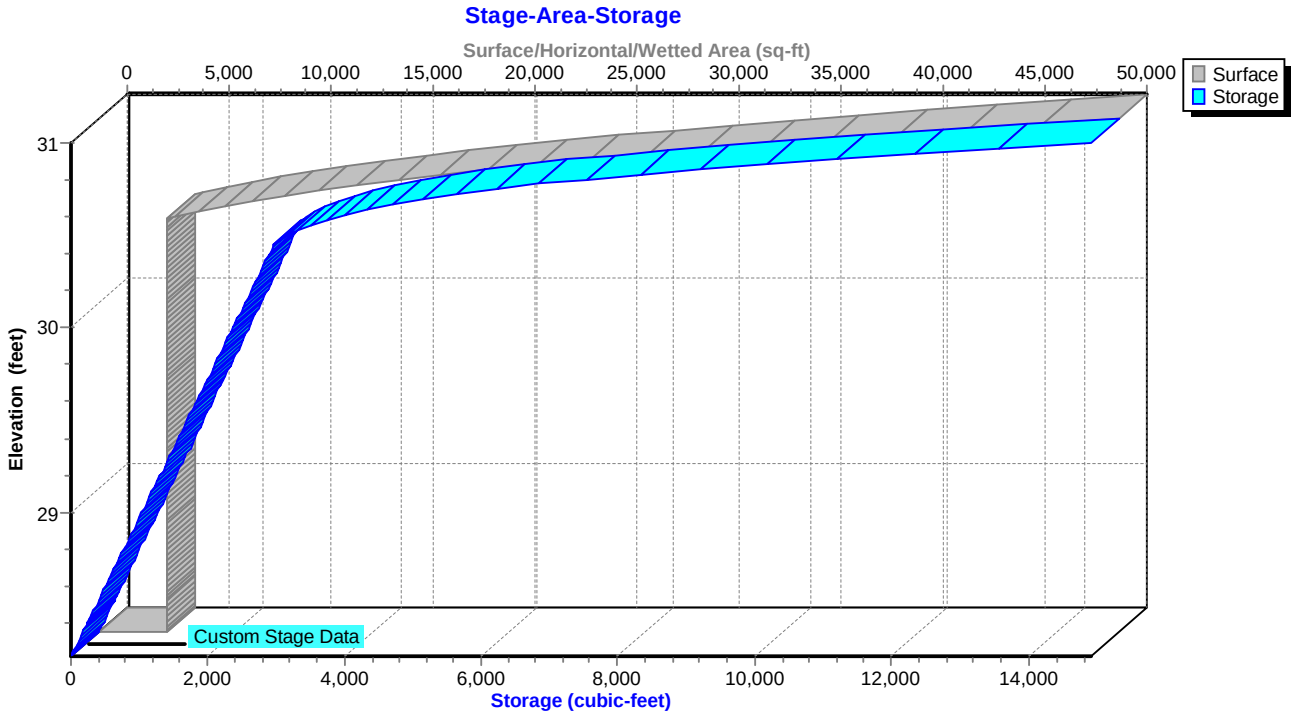
**Discarded OutFlow** Max=0.05 cfs @ 13.26 hrs HW=30.51' (Free Discharge)
↑—**1=Exfiltration** ( Controls 0.05 cfs)

**Primary OutFlow** Max=0.09 cfs @ 13.26 hrs HW=30.51' TW=28.09' (Dynamic Tailwater)
↑—**2=Sharp-Crested Rectangular Weir** (Weir Controls 0.09 cfs @ 0.81 fps)

## Pond PA-1: POROUS ASPHALT LOT




## Pond PA-1: POROUS ASPHALT LOT

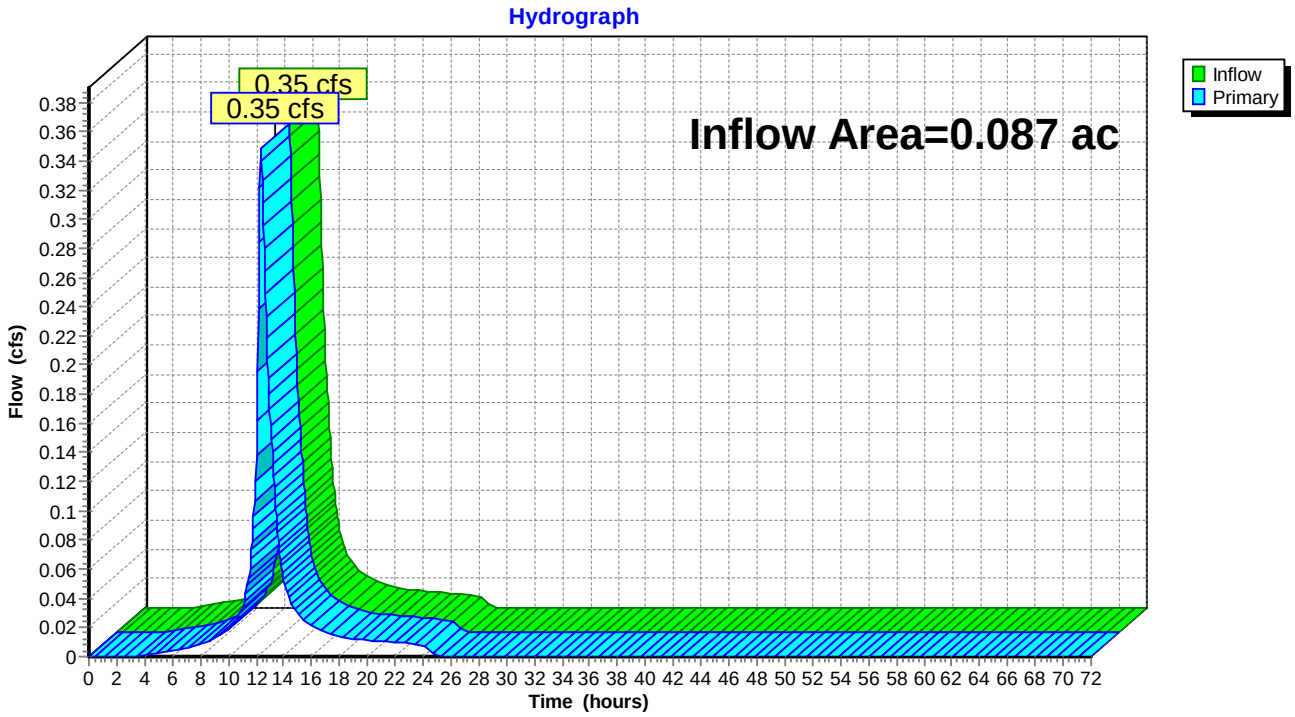


## Summary for Link SP-1: PR Study Point #1

Inflow Area = 0.087 ac, 54.25% Impervious, Inflow Depth = 7.41" for 100-Year event
Inflow = 0.35 cfs @ 12.34 hrs, Volume= 0.054 af
Primary = 0.35 cfs @ 12.34 hrs, Volume= 0.054 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

## Link SP-1: PR Study Point #1

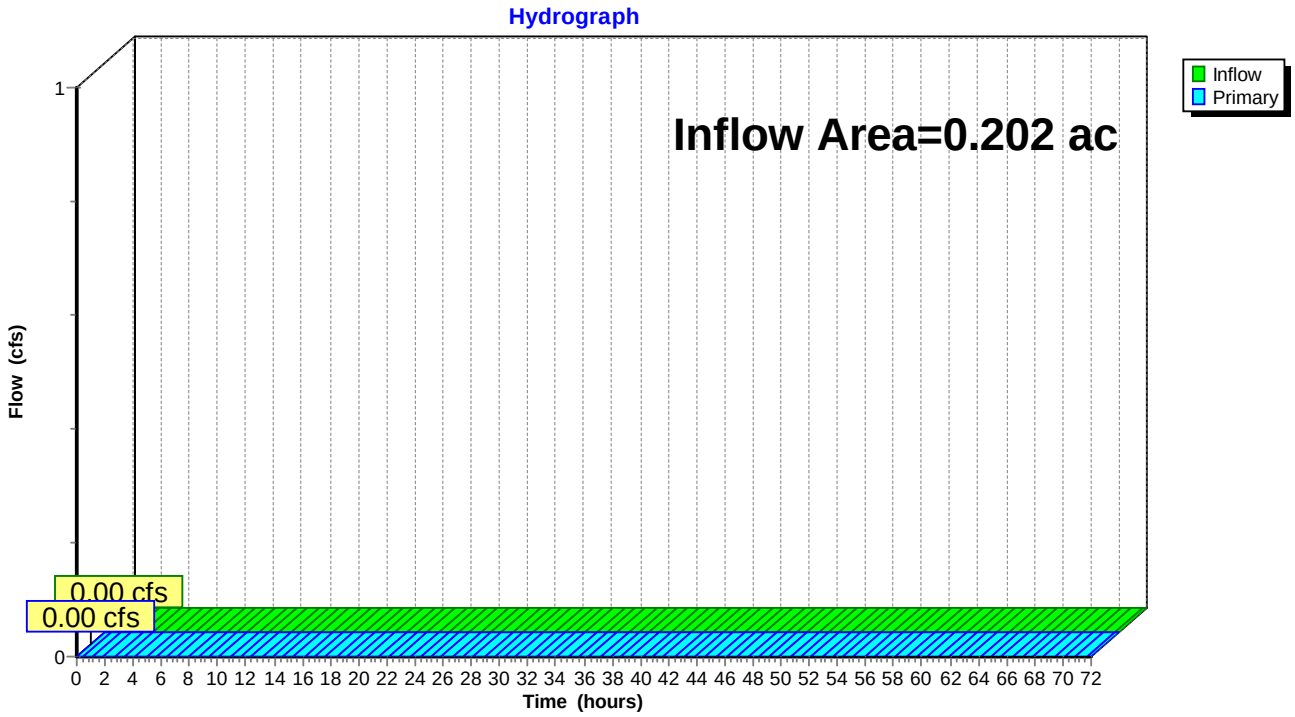


## Summary for Link SP-2: PR Study Point #2

Inflow Area = 0.202 ac, 65.22% Impervious, Inflow Depth = 0.00" for 100-Year event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

## Link SP-2: PR Study Point #2



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1 Ground Covers (selected nodes)

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1 Subcat DA-2: PR DA #2
1 Pond EX-CI-1A: EX Curb Inlet
1 Pond MBR-1: MBR #1
1 Pond PA-1: POROUS ASPHALT LOT
1 Link SP-1: PR Study Point #1
1 Link SP-2: PR Study Point #2

# Stormwater Drainage Area Maps

# EXISTING DRAINAGE AREA MAP

FOR

TAX MAP 0104, ID 0000, PARCEL 1463

FIRST ELECTION DISTRICT, TALBOT COUNTY, MARYLAND

PREPARED FOR FOUNDATION OF HOPE


RAUCH INC.
Engineering | Survey | Architecture | Environmental
Main Office: 108 N Harrison St - Easton, MD 21601
Web: www.rauch-inc.com | Email: design@raucheng.com
Phone: 410 770 9081 | Fax: 410 770 3887


EXISTING CATCHMENT FEATURES

1. CURB INLET
2. 6" CURB AND GUTTER
3. TREELINE

LEGEND

- FLOWPATH
- DRAINAGE AREA
- SOILS BOUNDARY
- STUDY POINT

DA #1
2,839 S.F.

DA #1
9,766 S.F.

79' OF SHEET FLOW
@ 1.5 SLOPE

100' OF SHEET FLOW
@ 2.14 SLOPE

SHALLOW CONCENTRATED FLOW
70' @ 1.14 SLOPE

STUDY POINT #1

STUDY POINT #2

Up - HSG - MtcA - HSG C

Up - HSG - UoB - HSG C

MtcA - HSG C
UoB - HSG C

3.00"TREE 20.00'DL

1.00"PINE 15.00'DL

3.00"TREE 45.00'DL

1.00"OAK 15.00'DL

2.00"TREE 15.00'DL

RIM: 31.28'

RIM: 30.66'

RIM: 30.5'

RIM: 30.35'

RIM: 30.39'

NAD 83

0 10' 20'

**Professional Certification.**
I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 11024
Expiration Date: July 24, 2026

6-May-25

REVISIONS

| REV. # | DATE | DESCRIPTION |
|---|---|---|

MISS UTILITY OF DELMARVA — 811

| | |
|---|---|
| DATE: | 5/6/2025 |
| SCALE: | 1" = 10' |
| DRAWN BY: | AK |
| DESIGNED BY: | AK |
| APPROVED BY: | |

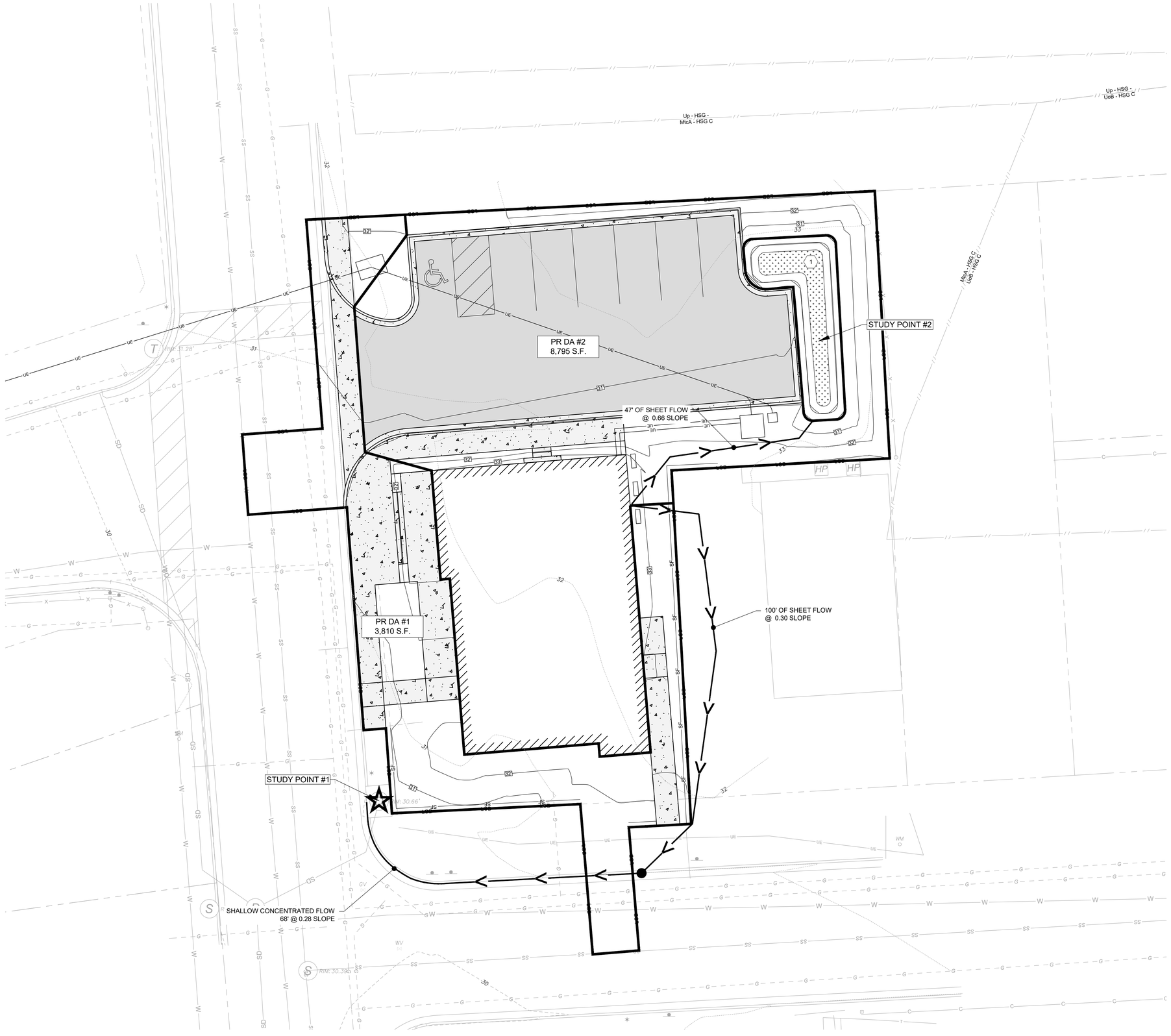
SHEET NO.: EX-DA-MAP

DESIGN DEVELOPMENT

Z:\FOUNDATION OF HOPE\CIVIL\PRODUCTION PLANS\FOUNDATION OF HOPE - DRAINAGE AREA MAP.DWG

PROPOSED CATCHMENT FEATURES

1. 162 S.F. MICRO-BIORETENTION
2. 3,327 S.F. PERMEABLE PAVEMENT PARKING LOT




## LEGEND

- FLOWPATH
- DRAINAGE AREA
- SOILS BOUNDARY
- STUDY POINT

# PROPOSED DRAINAGE AREA MAP

FOR

TAX MAP 0104, ID 0000, PARCEL 1463
FIRST ELECTION DISTRICT, TALBOT COUNTY, MARYLAND
PREPARED FOR FOUNDATION OF HOPE


RAUCH inc.
Engineering | Survey | Architecture | Environmental
Main Office: 106 N Harrison St - Easton, MD 21601
Web: www.rauch-inc.com | Email: design@raucheng.com
Phone: 410 770 9081 | Fax: 410 770 3687


**Professional Certification.**
I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 11024
Expiration Date: July 24, 2026

| REVISIONS | | |
|---|---|---|
| REV. # | DATE | DESCRIPTION |

MISS UTILITY OF DELMARVA — ONE NUMBER. YOU DIG. — 811

| | |
|---|---|
| DATE: | 5/6/2025 |
| SCALE: | 1" = 10' |
| DRAWN BY: | AK |
| DESIGNED BY: | AK |
| APPROVED BY: | |

SHEET NO.: PR-DA-MAP

DESIGN DEVELOPMENT

Z:\FOUNDATION OF HOPE\CIVIL\PRODUCTION PLANS\FOUNDATION OF HOPE - DRAINAGE AREA MAP.DWG

# Soils Report

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

# Custom Soil Resource Report for Talbot County, Maryland

## Foundation of Hope Soils Report



# Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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# How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

# Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.




Map Scale: 1:567 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 5 10 20 30

Feet
0 25 50 100 150

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

## MAP LEGEND

**Area of Interest (AOI)**
- Area of Interest (AOI)

**Soils**
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

**Special Point Features**
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

**Water Features**
- Streams and Canals

**Transportation**
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

**Background**
- Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Talbot County, Maryland
Survey Area Data: Version 21, Sep 6, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 30, 2022—Jul 4, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

# Map Unit Legend

| Map Unit Symbol | Map Unit Name | Acres in AOI | Percent of AOI |
|---|---|---|---|
| MtcA | Mattapex silt loam, 0 to 2 percent slopes, Mid-Atlantic Coastal Plain | 0.8 | 50.8% |
| UoB | Udorthents, loamy, 0 to 5 percent slopes | 0.5 | 31.2% |
| Up | Urban land | 0.3 | 18.0% |
| **Totals for Area of Interest** | | **1.6** | **100.0%** |

# Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or

landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

# Talbot County, Maryland

## MtcA—Mattapex silt loam, 0 to 2 percent slopes, Mid-Atlantic Coastal Plain

### Map Unit Setting

*National map unit symbol:* 2thwt
*Elevation:* 0 to 90 feet
*Mean annual precipitation:* 42 to 46 inches
*Mean annual air temperature:* 55 to 59 degrees F
*Frost-free period:* 190 to 260 days
*Farmland classification:* All areas are prime farmland

### Map Unit Composition

*Mattapex and similar soils:* 80 percent
*Minor components:* 20 percent
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Mattapex

#### Setting

*Landform:* Depressions, flats, swales
*Landform position (three-dimensional):* Dip, talf
*Down-slope shape:* Concave, linear
*Across-slope shape:* Concave, linear
*Parent material:* Silty eolian deposits over fluviomarine sediments

#### Typical profile

*Ap - 0 to 11 inches:* silt loam
*BE - 11 to 15 inches:* silt loam
*Bt - 15 to 36 inches:* silt loam
*2C1 - 36 to 60 inches:* fine sandy loam
*2C2 - 60 to 80 inches:* loamy sand

#### Properties and qualities

*Slope:* 0 to 2 percent
*Depth to restrictive feature:* More than 80 inches
*Drainage class:* Moderately well drained
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.57 in/hr)
*Depth to water table:* About 20 to 40 inches
*Frequency of flooding:* None
*Frequency of ponding:* None
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
*Available water supply, 0 to 60 inches:* High (about 9.6 inches)

#### Interpretive groups

*Land capability classification (irrigated):* 2w
*Land capability classification (nonirrigated):* 2w
*Hydrologic Soil Group:* C
*Ecological site:* F153CY020MD - Moist Loess Upland
*Hydric soil rating:* No

**Minor Components**

**Nassawango**
*Percent of map unit:* 10 percent
*Landform:* Terraces, flats
*Landform position (three-dimensional):* Rise
*Down-slope shape:* Linear
*Across-slope shape:* Linear
*Ecological site:* F153CY030MD - Well Drained Loess Upland
*Hydric soil rating:* No

**Othello, drained**
*Percent of map unit:* 5 percent
*Landform:* Swales, depressions, flats
*Landform position (two-dimensional):* Footslope
*Landform position (three-dimensional):* Dip
*Down-slope shape:* Concave, linear
*Across-slope shape:* Linear, concave
*Ecological site:* F149AY090NJ - Coastal Plain Hardwood Swamp
*Hydric soil rating:* Yes

**Crosiadore**
*Percent of map unit:* 5 percent
*Landform:* Flats, depressions
*Landform position (three-dimensional):* Dip
*Down-slope shape:* Linear, concave
*Across-slope shape:* Linear, concave
*Ecological site:* F153CY020MD - Moist Loess Upland
*Hydric soil rating:* No

## UoB—Udorthents, loamy, 0 to 5 percent slopes

**Map Unit Setting**
*National map unit symbol:* 1vh0v
*Elevation:* 0 to 300 feet
*Mean annual precipitation:* 42 to 48 inches
*Mean annual air temperature:* 52 to 58 degrees F
*Frost-free period:* 180 to 220 days
*Farmland classification:* Not prime farmland

**Map Unit Composition**
*Udorthents, loamy, and similar soils:* 90 percent
*Minor components:* 10 percent
*Estimates are based on observations, descriptions, and transects of the mapunit.*

**Description of Udorthents, Loamy**

**Setting**
*Landform:* Flats
*Landform position (three-dimensional):* Talf

*Down-slope shape:* Linear
*Across-slope shape:* Linear
*Parent material:* Fluviomarine deposits

**Typical profile**

*AC - 0 to 2 inches:* loam
*C - 2 to 72 inches:* gravelly loam

**Properties and qualities**

*Slope:* 0 to 5 percent
*Depth to restrictive feature:* More than 80 inches
*Drainage class:* Well drained
*Runoff class:* High
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to very high (0.01 to 19.98 in/hr)
*Depth to water table:* About 40 to 72 inches
*Frequency of flooding:* None
*Frequency of ponding:* None
*Available water supply, 0 to 60 inches:* Moderate (about 8.4 inches)

**Interpretive groups**

*Land capability classification (irrigated):* None specified
*Land capability classification (nonirrigated):* 2e
*Hydrologic Soil Group:* C
*Hydric soil rating:* No

**Minor Components**

**Urban land**

*Percent of map unit:* 10 percent
*Landform:* Flats
*Down-slope shape:* Linear
*Across-slope shape:* Linear
*Hydric soil rating:* No

## Up—Urban land

**Map Unit Setting**

*National map unit symbol:* 1vh0w
*Elevation:* 0 to 300 feet
*Mean annual precipitation:* 42 to 48 inches
*Mean annual air temperature:* 52 to 58 degrees F
*Frost-free period:* 180 to 220 days
*Farmland classification:* Not prime farmland

**Map Unit Composition**

*Urban land:* 90 percent
*Minor components:* 10 percent
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Urban Land

#### Setting

*Landform:* Flats
*Down-slope shape:* Linear
*Across-slope shape:* Linear

### Minor Components

#### Udorthents, loamy

*Percent of map unit:* 10 percent
*Landform:* Broad interstream divides
*Down-slope shape:* Linear
*Across-slope shape:* Linear
*Hydric soil rating:* No

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# TOWN OF EASTON

14 South Harrison Street
Easton, Maryland 21601

June 9, 2025

Dear Resident,

The Easton Planning Commission (Commission) will hold a public meeting on **Tuesday, June 24 2025 at 1:00 p.m**. in the Easton Town Council Chambers located on the second floor of 14 South Harrison Street. The Town of Easton Zoning Ordinance requires that owners of property located within 400 feet of a parcel on which certain types of applications are pending be given notice of upcoming meetings or hearings. If you are a tenant in or an owner of a multi-unit building, please distribute or post this notice in a visible location for all other tenants or owners to view. If you are a tenant of a rental property, please notify the property owner that this notice letter has been distributed to their property. Notice has also been sent to the Star Democrat, a sign has been posted at the subject property and the hearing agenda has been posted on the Town of Easton website: http://eastonmd.gov/.

This letter is sent to inform you that application 2025 - 1454 has been filed by Rauch Inc. (Applicant) on behalf of Foundation of Hope Inc. (Owner) to request Sketch Site Plan approval for the construction of a 5,400 square foot commercial training building with other facility improvements including the construction of an off-street parking area with seven (7) spaces. On October 28, 2024, the Town of Easton Historic District granted a Certificate of Appropriateness for the proposed development. The property is located at 52 S. Washington Street, also known as Tax Map 0104, Grid 0000, Parcel 1463.

Copies of the proposed application are on file and available for public review in the Town's Planning Office at 14 South Harrison Street between the hours of 8:30 a.m. and 4:00 p.m., Monday through Friday. **In addition, digital copies will be available for review one week prior to the scheduled meeting via the Town's website at** https://www.eastonmd.gov/129/Agendas-Minutes. If you have any questions regarding this application, please contact the Planning Office at (410) 822-1943 or via email at ssmith@eastonMD.gov.

Samantha N. Smith

Samantha N. Smith, Administrative Specialist
Planning & Zoning Department
410-822-1943 ssmith@eastonMD.gov




***Subject property posting pursuant to Section 28-901.2.H.2 of the Town of Easton Zoning Code - June 6, 2025***

**TOWN OF EASTON**
**PLANNING & ZONING**
**14 S Harrison Street, Easton MD 21601**

**Date of Hearing**: June 24, 2025

# # 4c

**PLANNING COMMISSION**
**PUBLIC HEARING**
**STAFF REPORT**

**SUBJECT**: **PUD application and Sketch Subdivision Plat Fox Chase Estates**

**ELECTION WARD**: Ward 1

**CRITICAL ACTION DATE**: At the pleasure of the Commission

**STAFF CONTACTS**: Joseph Mayer, Plan Reviewer
Miguel Salinas, Director of Planning and Zoning

**APPLICANT**: Easton Sunrise Partners, LLC % Scott Wagner

**DOCUMENT CREATED ON:** June 2, 2025

**PURPOSE**: The applicant, Easton Sunrise Partners, LLC, is seeking a sketch subdivision approval as well as a recommendation from the Planning Commission to the Town Council regarding a Planned Unit Development (PUD) request to construct sixty-one (61) single-family detached dwellings, forty-seven (47) neo-traditional single-family detached dwellings, sixty-five (65) three-story 20’ wide townhomes, seventy-two (72) three-story 22’ wide townhomes and four (4) four-story multifamily buildings with a total of 120 units, as well as two (2) two-story commercial buildings with amenities (clubhouse with pool and pickleball courts), associated parking, stormwater management facilities, and landscaping. The existing subdivision designates the land for industrial purposes. However, this proposed PUD project seeks to allow for primarily residential and some commercial development.

**RECOMMENDATION:** Should the Planning Commission approve the sketch subdivision plat as well as make a positive recommendation to the Town Council, staff recommends proposed conditions (see below).

---

| **APPLICATION INFORMATION**: | |
|---|---|
| **APPLICANT:**<br>Easton Sunrise Partners, LLC (Owner)<br>Scott Wagner | **REPRESENTATIVE:**<br>Lane Engineering, LLC (Agent): Brett Ewing<br>MDSW (Agent): Lawrence Scott, Esq. |

**PARCELS/ACREAGE:**

| Parcel Information | Acreage |
|---|---|
| Map 025, Grid 0004, Parcels 90 & 92 | 112.816 |

| | |
|---|---|
| **ACCEPTANCE DATE:**<br>June 2, 2025 | **LOCATION:**<br>9684, 9778, 9783, 9687 Technology Drive & 29001, 29004 I-Way Court |
| **EXISTING ZONING**<br>BC | **EXISTING LAND USE:**<br>Vacant |
| **HISTORIC DISTRICT:**<br>Not applicable | **FUTURE LAND USE MAP:**<br>Industrial |

**CONTEXT**:
Location/Site Access – The subject property, Lots 1 through 4, is located along Technology Drive. Lots 9 and 10 are located along I-Way Court, fronting on the North side..

Existing Conditions – The subject property is currently six vacant lots.

Surrounding Properties

- 28958, 28980 & Parcel 90 I-Way Court - BC
- 9630 & Parcel 161 Technology Drive - BC
- 29000 Information Lane - BC
- 9693 Goldsborough Neck Road - BC
- Parcel 129 Longwood Road - RH
- 29110 Airport Road - Talbot County




***Figure 1**: Vicinity Map*

**PROPOSAL**: Easton Sunrise Partners, LLC (Applicant) has applied for Sketch Subdivision Plat approval and a Planning Commission recommendation to the Town Council for a PUD. The proposed development on the site of the former Easton Technology Center Phase II Subdivision, which is zoned Business Commercial (BC), includes the following: 61 single-family detached dwellings, 47 neo-traditional single-family detached dwellings, 65 three-story 20' wide townhomes, 72 three-story 22' wide townhomes, and four four-story multifamily buildings totaling 120 units. The plan also features two two-story commercial buildings with amenities (clubhouse with pool and pickleball courts), along with associated parking, stormwater management, and landscaping.

The maximum density allowed on the property, based on the PUD (General) standards, is 16 dwelling units per acre which equals a maximum density of 1,738 dwelling units based on the property's size (108.631 acres). The total proposed density is 3.36 dwelling units per acre. The total gross area of the site (112.816 acres) requires a 30% gross floor area (33.845 acres) for open space. The applicant proposes 34.4% (38.794 acres) recreational open space.

The land has been planned for industrial uses. This PUD project is proposing a change to residential (primarily) and commercial.

**BACKGROUND**: Approved on September 10, 2021 were the Infrastructure Plans for Easton Technology Phase II. Subsequently, the Final Subdivision Plat, identified as KMD 89/148, was officially recorded on September 15, 2021. The applicant submitted an application to the Easton

Staff Development Review (ESDR) Committee on May 28, 2025 for the PUD and sketch subdivision plat (please see attached ESDR Determination Letter).

**OUTSTANDING ISSUES:**

1. **House Differentiation.** The development should provide proposed houses differing from each other in at least two (2) of the five criteria as listed in §28 – 1007.1.1.16.d of the Town Code.
2. **Connectivity.** The Town's Comprehensive Plan prioritizes connectivity for safety, accessibility, community building, and sustainability as a core principle. The Transportation Chapter specifically advocates retrofitting existing subdivisions and creating new ones with internal and external road connections to establish a more grid-like street system and improve neighborhood connectivity (p. 225). Similarly, the Community Character chapter emphasizes maximizing connectivity between neighboring properties in new developments, mirroring the desirable interconnectedness found in Easton's older sections (p. 110). These excerpts highlight the Comprehensive Plan's strong emphasis on fostering connectivity through both new and existing subdivision design. Therefore, Staff requests a standard road connection to Goldsborough Neck Road to enhance this connectivity, not just to be used as an emergency access point.

3. **County Access Permits.** The Applicant needs to coordinate with Talbot County to discuss the Access Permits that may be necessary for Airport Road and Goldsborough Neck Road (County-owned and County-maintained roads), as well as the requirements of the Traffic Impact Study.

4. **Three-Dimensional Depictions.** Per *§ Section 28-701 H(1)l* from the Town's Zoning Ordinance, *a 3-dimensional depiction of the project in a manipulatable file format (e.g., Google Sketchup or similar)* needs to be provided. The submission lacks essential components as required by the Zoning Ordinance. Instead of manipulatable 3D models, only three flat, 2D images were provided. These images depict only two housing types, townhomes and single-family dwellings, omitting the remaining proposed structures. The submitted visuals do not represent the majority of the project, including the Technology Drive entrance, a site plan-consistent streetscape, rear house views and alleys, the clubhouse, parks, wooded areas, trails, open spaces, lots 9 and 10, and the view from Goldsborough Neck. Notably, significant discrepancies exist between these images and the previously submitted elevations at ESDR and with the PC submission.

**ZONING ANALYSIS:**

**A. Purpose and Intent**

***Section 28-701 A.***

***The purpose of a PUD District is to provide for carefully planned residential, mixed use and certain commercial developments at appropriate locations within the Town of Easton. It is the***

***intent of this Section to allow all aspects of a PUD District to be subject to public review and control by the Town with specific provisions to be made on a case-by-case basis for adequate open space, architectural appearance, the height, bulk and location of buildings, required public facilities, and a variety of housing types, densities, and/or compatible commercial or industrial uses as a part of a detailed development plan.***

***Not all locations in the Town are suitable for PUD development and the nature, size, scale or intensity of proposed uses may cause a particular site not to be suitable for a specific PUD proposal. Therefore, there is no general presumption that an application for such a use at a particular location is valid, inures to the general benefit of the Town or is in compliance with the Town's Comprehensive Plan. Instead, each application will be evaluated according to its particular location and the degree to which the developer is willing or able to propose a development plan which furthers the goals and objectives of this Section and the Ordinance generally.***

## B. Location

***Section 28-701 B. The PUD is a floating zone. That means that while provisions and regulations are made to govern development within any PUD District, no such District will be pre-mapped on the Zoning Map. A PUD District may be established in any parent zoning district provided the requirements outlined in this subsection are met.***

**Analysis -** The current process of the Town of Easton Zoning Ordinance is for the Planning and Zoning Commission to review the material submitted and forward a recommendation to the Mayor and Town Council. The Commission may include recommended changes to the PUD sketch plan or recommended conditions of approval that the Commission deems necessary to better insure compliance with the Comprehensive Plan. In reaching its conclusion, the Commission shall make recommendations addressing the factors in § 28-701.H(2) (see below).

## C. Off-Street Parking

***28-1001.3 Parking Requirements***

| | Use/Activity | Minimum Vehicle Spaces | Maximum Vehicle Spaces | Minimum Bicycle Spaces | Notes |
|---|---|---|---|---|---|
| | Residential Buildings | | | | |
| 1 | Single-Family Detached | 2 per du | – | – | |
| 2 | Single-Family Attached | 2 per du | – | – | |
| 4 | Multifamily | 1 per du | 2 per du | 0.5 per du | |
| | Commercial | | | | |
| 14 | Office or Bank without Drive-Thru | 1 per 250 sf GFA | 1 per 140 sf GFA | 1 per 10 vehicle spaces | |

**Total Site Parking Required:**

| | |
|---|---|
| Single-Family Detached: | 2 Spaces per dwelling unit required-Minimum |
| | 108 units x 2 = 216 spaces required-Minimum |
| | **Total Provided: 216 spaces** |
| Single-Family Attached: | 2 Spaces per dwelling unit required-Minimum |
| (Townhomes) | 137 units x 2 = 274 spaces required-Minimum |
| | **Total Provided: 274 spaces** |
| Multifamily | 120 units x 1 = 120 spaces required-Minimum |
| | 120 units x 2 = 240 spaces required-Minimum |
| | **Total Provided: 187 spaces** |
| Commercial (Lot 9) | 1 Space /250 SF GFA; 80 Spaces Required- Minimum |
| | 1 Space /140 SF GFA; 143 Spaces Required- Maximum |
| | **Total Provided: 80 spaces** |
| Commercial (Lot 10) | 1 Space /250 SF GFA; 92 Spaces Required- Minimum |
| | 1 Space /140 SF GFA; 164 Spaces Required- Maximum |
| | **Total Provided: 106 spaces** |

| | | |
|---|---|---|
| Bike Racks Required: | Multifamily | - 0.5 Bike Space/DU; 60 Bike Spaces Required |
| | Lot 9 | - 1 Bike Space/10 Vehicle Spaces; 8 Bike Spaces Required |
| | Lot 10 | - 1 Bike Space/10 Vehicle Spaces; 11 Bike Spaces Required |

**Analysis-** The Applicant has provided adequate parking within the minimum and maximum requirements The Applicant believes the proposed parking is adequate to support the daily operation of this property. Bike spaces are required for the two commercial lots as specified above.

**D. DEVELOPMENT STANDARDS**

***Section 28-701.G.***
***Applications for any type of Planned Unit Development shall meet the following requirements:***

***(1) The area proposed for a planned unit development shall be in one (1) ownership, or, if in several ownerships, the proposal shall be filed jointly by all the owners of the property included in the development plan.***

**Analysis -** The Property is owned by a single entity.

***(2) The site shall be of a configuration suitable for the development proposed.***

**Analysis -** The site includes 112.816 acres and has direct access onto Airport Road from Technology Drive. The planned layout and proposed site design provide for a functionally designed site. However connectivity should be provided on Goldsborough Neck Road.

***(3) Public water and sewerage shall be available, although it may be made available in conjunction with the development of the PUD.***

**Analysis -** There's adequate water and sewer service on-site to serve the proposed Project. The Applicant will provide the utility extensions that are necessary to connect the Project to Town services and will work with Easton Utilities to ensure that all permits and approvals are granted.

***(4) The site shall be located adjacent to adequate transportation facilities capable of serving existing traffic and that expected to be generated by the proposed development. Private roads may only be approved in commercial and multifamily projects or portions of projects. Such roads shall be internal to the development. Private roads shall comply with any standards developed and adopted for such roads by the Town Council. The Town shall bear no responsibility for construction or maintenance of private roads. Development on private roads may not be entitled to all Town services.***

**Analysis -** The Project has one existing access point from Airport Road, a Talbot County-owned road. A Traffic Impact Study ("TIS") was conducted by Lenhart Traffic Consulting, Inc. (May 8, 2025) which is included with the submittal of this Application. The TIS demonstrates that all intersections of interest near the Project will continue to operate at a Level of Service (LOS) of "D" after the Project is completed.

***(5) The owners or developers must indicate that they plan to begin construction of the development within three (3) years after final approval. If there is no action on the part of the applicant at any point in the process for a period of three (3) years, the zoning of the site shall revert to its previous classification unless a time extension is requested by the developer and granted by the Planning and Zoning Commission. For projects constructed in parts or phases, the PUD approval applicable to any portion not improved in accordance with said PUD approval, shall expire if no development activity occurs for a period of five years.***

**Analysis -** The Applicant intends to commence construction upon approval from the Town Council, in light of the time incurred in obtaining all necessary building permits.

***(6) The setback, lot size, lot coverage, height, minimum frontage, minimum open space, and yard requirements shall be established for each individual project by the Town Council in the ordinance granting the application. The Planning and Zoning Commission shall make recommendations to the Town Council with regard to these requirements. The Town recognizes that it is necessary and encourages such uniquely established standards.***

**Analysis -** The minimum bulk requirements for the Project will remain consistent with the development standards.

***(7) Off-street parking shall be provided for each individual use in the planned unit development in accordance with the requirements of Section 1001. Mixed-use PUD's that integrate coordinated pedestrian and bicycle circulation systems throughout the development, shall be permitted to reduce the required off-street parking by 20% of the required standard without the need for a parking variance, waiver, or deferral.***

**Analysis -** Adequate off-street parking has been provided.

***(8) No more than 50% of the off-street parking area for the entire property of a major retail or shopping center use, shall be located between the front façade of the principal building(s) and the primary abutting street.***

**Analysis -** Not Applicable.

***In addition, some development standards will vary according to the type of PUD in accordance with the following Table:***

| **Standard** | **PUD Sub District** | |
|---|---|---|
| | **PUD- General** | **9684, 9778, 9783, 9687 Technology Drive & 29001, 29004 I-Way Court** |
| **Minimum Size** | **5 acres** | N/A |
| **Maximum Size** | **N/A** | 112.816 acres |
| **Maximum Residential Density (per gross residential acre)**** | **16 du/acre****** | 3.36 du/ac |
| **Minimum Open Space Requirement***** | **30% of total gross area shall be developed as recreational areas or designated for common use of the residents of the PUD.** | Required:<br>30% of total gross area = 33.845 acres.<br><br>Proposed:<br>34.4% of total gross area = 38.794 acres. |
| **Applicability** | **Lands not qualifying as infill or redevelopment.** | The property qualifies as PUD-General. |

*****The Town Council may consider projects with a density of up to 25% more than the maximum stated in this table upon a finding that such increased density is in keeping with the***

***existing or intended character of the neighborhood (as expressed in the Comprehensive Plan or, if applicable, any adopted Small Area Plans) and that any potential detrimental impacts from such increased density are ameliorated to the satisfaction of the Council. Additionally, if residential use is part of a vertically-mixed use project (i.e., non-residential uses are present on the ground floor with residential units on non-ground floors), there shall be no limit on the residential density.***

**Analysis -** As explained above, the Applicant is requesting approval of the PUD allowing a density of 3.36 dwelling units per acre, less than the potential maximum of 16 dwelling units per acre and will not result in any detriment to neighboring properties or nearby traffic patterns and public right of ways. The Property is situated between commercial, industrial and regional healthcare uses. Approval of the requested density is consistent with the goals of the Comprehensive Plan.

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******The Town Council may consider projects with less than the minimum open space required as specified in this Table, upon a finding that unique circumstances or conditions exist which warrant such a reduction and further provide that the applicant addresses the open space requirement in another acceptable means.***

**Analysis -** The required open space has been provided.

*******In the PUD General sub district, for any residential units proposed in excess of the maximum residential density permitted in base residential zoning districts (3.5 du/ac), at least 25% must be devoted to affordable housing, or the developer may contribute a fee-in-lieu to an entity to be determined by the Town.***

**Analysis -** The Applicant is requesting approval of the PUD allowing a density of 3.36 dwelling units per acre, less than the potential maximum of dwelling units per acre. The applicant's cover letter dated May 7, 2025, indicates that the proposed project will surpass the code requirement of allocating 25% of residential units to affordable housing. Based on an estimated calculation in their ESDR Comment Response Letter dated June 2, 2025, this 25% affordability target will be met using a portion of the 120 proposed condominium units and the 65 twenty-foot-wide townhomes. While the development plan incorporates a mix of housing types, including single-family homes, multi-family units, and townhomes, the inclusion of middle housing options would offer a wider variety of dwelling units for the site if incorporated into the design of the PUD.

## E. Forest Conservation

***Easton Forest Conservation Ordinance #718, Article III,* § 31-3.1 *Relevance***

***A. Any person making an application for a subdivision, project plan, grading, or sediment and erosion control approval on units of land 40,000 square feet or greater after the effective date of this Ordinance.***

**Analysis -** The development of this site has already been mitigated for Forest Conservation under the 2020 Forest Conservation Plan, recorded on record plat KMD 4/80G. Any impact into the existing Forest Conservation area would require an updated plan.

**F. Traffic Impact Analysis**

The Traffic Impact Analysis (TIA) was submitted by the applicant on May 8, 2025. The documents prepared by Lenhart Traffic Consulting, Inc. described that the primary access to the site is via Technology Drive and Airport Road. There's a proposed emergency access point along Goldsborough Neck Road which will not support regular vehicular traffic.

This TIA has been prepared in accordance with the scooping correspondence contained in Appendix A of the report. The Highway Capacity Manual (HCM) and Critical Lane Volume (CLV) methodologies were utilized to evaluate the study intersections. The key roads in the study area are:

- US 50 – a four-lane roadway classified as a principal arterial. The roadway has a posted speed limit of 55 MPH.
- Airport Road– a two-lane roadway classified as a major collector. The roadway has a posted speed limit of 35 MPH.
- Goldsborough Neck Road – a two-lane roadway classified as a local road. The roadway has a posted speed limit of 35 MPH.
- Glebe Road – a two-lane roadway classified as a local road. The roadway has a posted speed limit of 40 MPH.

**Existing Conditions**

MD 662 is closed between Airport Road and Hiners Lane for UMMS Easton Hospital construction. Peak hour traffic counts from September 2024 and April 2025 (Exhibit 3a) are adjusted in Exhibit 3b to account for rerouted traffic due to the closure. Minimal local traffic rerouting is expected upon reopening. Exhibit 3c removes construction traffic (90% of the area's traffic) using MD 662, and Exhibit 3d shows the resulting existing peak hour volumes analyzed in this study. HCM and CLV analysis results for the existing condition are in Exhibits 10a and 10b.

**Background Conditions**

Past 10-year traffic data for the Average Daily Traffic Volumes (ADT's) shows an average yearly decrease of -0.43%. For a conservative analysis, a 1% growth rate was applied for 3 years to

current peak hour volumes (Exhibit 4a). Background developments are located in Appendix C (Exhibit C-1), with trip generation (Exhibit C-2) and assignment (Exhibits C-3 to C-8). Combined background trip assignment is in Exhibit 4b. Background peak hour volumes, including regional growth and approved developments, are in Exhibit 5. HCM and CLV analysis results for the background condition are in Exhibits 10a and 10b.

**Projected Conditions with Site**

A mixed-use development is proposed for the site, with the exact plan still under review. A conservative analysis considered 137 townhouses, 108 detached single-family homes, 120 multifamily units, 33,000 sq ft of office space, and a 10,000 sq ft daycare center. Trip generation, distribution, and assignment (Exhibits 6-8) were based on the ITE Trip Generation Manual (11th ed.). Total peak hour volumes are shown in Exhibit 9.

The total peak hour traffic volumes shown on Exhibit 9 were evaluated using the CLV and HCM methodologies. The results of the CLV and HCM analyses are shown on Exhibits 10a and 10b, respectively. The results show that all intersections operate at LOS D or better under total conditions with the exception of US 50 & Airport Road (Intersection 5).

To resolve operational issues at the US 50 & Airport Rd (Intersection 5) intersection, the westbound Black Dog Alley approach shoulder is proposed to be improved and/or striped as a right turn lane for about 200 feet. This would create designated left-turn, through, and right-turn lanes. According to the CLV methodology, as illustrated in Exhibit 10a, this enhancement would result in the intersection operating at LOS D, meeting MDOT SHA standards. Exhibit 10b shows that under the HCM methodology, the intersection would operate at LOS D for all periods except the evening peak hours. Nevertheless, this improvement will significantly reduce delays compared to existing conditions and will lead to acceptable levels of service and/or fully mitigate the development's impact on the intersection.

It should also be noted that the approach to US 50 along Airport Road has limited storage area due to the road paralleling US 50 (MD 662 (Longwoods Road) / Centreville Road). It is recommended that “Do Not Block Intersection” signage and pavement markings be installed per Section 3B.17 of the MD MUTCD for this intersection. A detail from the MD MUTCD showing the potential recommended improvements is shown on Figure 3B-18.

In the conclusion of the findings contained in the report, it is recommended by Lenhart Traffic Consulting, Inc. that the proposed development be approvedBased on the analyses contained in this report:

- All study intersections operate at LOS D or better under existing, background, and total conditions using the CLV methodology with the exception of US 50 & Airport Road / Black Dog Alley (Intersection 5)

  o It is recommended the shoulder on the westbound Black Dog Alley approach be improved and/or restriped to provide three lanes (left turn/ through / right turn). With this

improvement, the results of the CLV analyses indicate that the intersection will operate at LOS D for all traffic conditions.

- All signalized study intersections operate at LOS D or better and each stop controlled approach operates with LOS C or better under existing, background, and total conditions using the HCM methodology also with the exception of US 50 & Airport Road / Black Dog Alley (Intersection 5).

  o The recommendation detailed above results in the intersection operating at LOS D and/or with lesser overall delay when compared to background conditions and therefore fully mitigates the impact of the development on the intersection and should be considered acceptable.

- It is recommended that "Do Not Block Intersection" signage and pavement markings be installed per Section 3B.17 of the MD MUTCD for Intersection 4 (Airport Road & Longwoods Road/Centreville Road).

**POLICY ANALYSIS:**

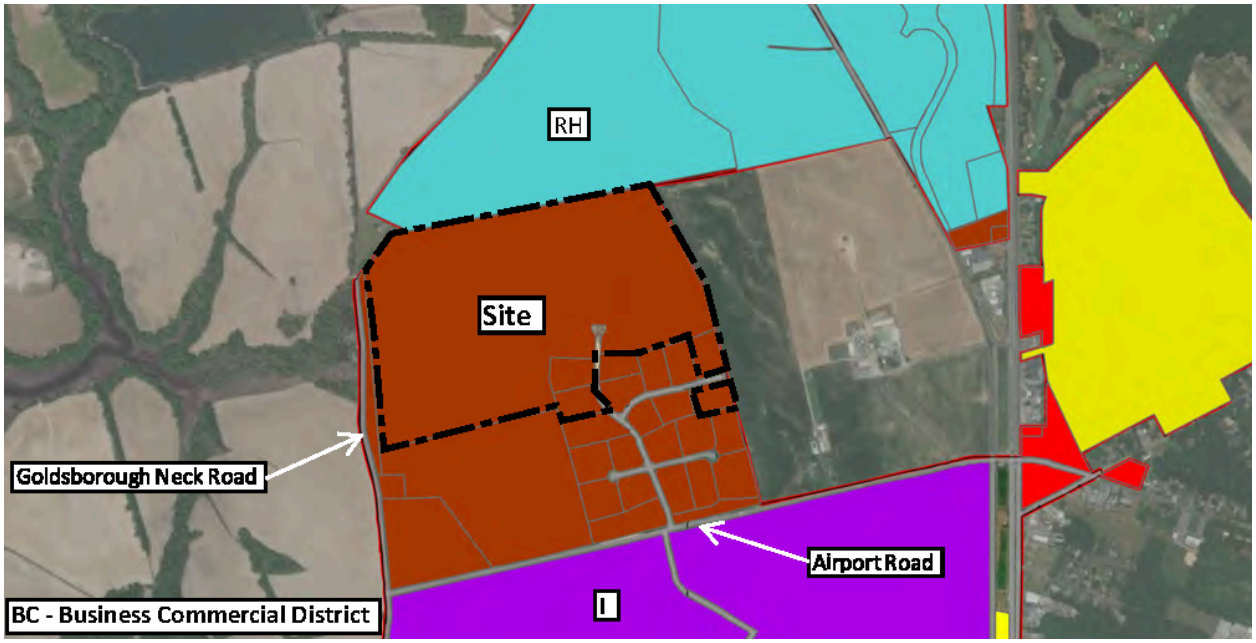


***Figure 2: Zoning Map***

***Section 28-901.2.G of the Town Code states that the submission of a site plan for a proposed use or development activity shall not be approved unless it meets the factors below:***

***1. The site plan meets the design principles and standards and required improvements set forth in this Ordinance, the Town Comprehensive Plan, the Town of Easton Subdivision Regulations, and other ordinances, regulations, and policies established by the Town of Easton.***

**Analysis** - The Comprehensive Plan promotes interconnected new subdivisions and the modification of existing ones to improve connectivity. Staff recommends a standard connection to Goldsborough Neck Road, beyond just emergency access. The applicant has proactively included potential future connections at the intersections of Technology Drive and I-Way Court. However, it should be understood that these provisions do not guarantee that those connections will ultimately be realized. The proposed subdivision adheres to the Town of Easton's design standards, including the Zoning Code and Design Guidelines. However, certain staff comments remain to be addressed, which can be resolved before the Final Record Plat is recorded.

**Town of Easton 2010 Comprehensive Plan Design Principles (Principle #1) Integrated uses are desirable-** Applicant's response: *This development proposal establishes attainable housing at a time when demand is high but is extremely low. Easton's housing market is in need of a new community with housing opportunities provided herein.*

***The Applicant's, May 7, 2025, Cover Letter states that the project will exceed the code requirement of providing 25% of the residential density being devoted to affordable housing. An estimated tabulation from the Applicant's ESDR Comment Response Letter, June 2, 2025, depicts that 25% of affordable housing will be using a certain number of the 120 condo units and the 65 twenty foot wide townhomes. The proposed development includes an integrated use of housing options, such as single-family homes, multi-family units and townhomes. However, middle housing units would create a greater selection of diverse dwelling units for this site.***

**(Principle #2) Natural features should determine design** – Applicant's response: *A perennial stream with buffers; site layout is dictated to avoid buffers by maximizing density, compliance with town zoning and subdivision design standards, reducing impacts to neighboring properties and providing ideal locations for amenity/recreational open space and mixed residential and commercial uses.*

***The property includes significant natural features, specifically Forest Conservation Areas and Stream Buffers, as noted by staff.***

**(Principle #3) Automobiles should not determine design –** Applicant's response: *Community design focuses on parks/green space as main focal points and to reduce impacts to neighboring properties. Sidewalks provided throughout to improve pedestrian circulation to accommodate and utilize the surrounding recreation and commercial spaces.*

***Staff notes that the applicant has provided adequate off-street parking interior to the site.***

**(Principle #4) Ample Open Space should be provided within & around neighborhoods** – Applicant's response: *The project complies with the town's PUD standards of 30% open space, and the Forest Conservation requirements of 25.434 acres and will provide adequate passive and active recreational opportunities for the residents.*

***Staff notes that open space requirements have been met.***

**(Principle #5) Architecture should respect Easton's Historical Development –** Applicant's response: *The application proposes architecture compatible with Easton's workforce housing, single & multifamily developments and utilizes materials and detailing commonly found through-out Easston.*

***Staff notes that elevations should provide proposed houses differing from each other in at least two (2) of the five criteria as listed in §28 – 1007.1.1.16.d of the Town Code. Upon permit review, the Town's Staff will determine whether the single-family dwelling unit is similar in appearance to any dwelling unit near the proposed building prior to permit approval.***

**(Principle #6) Signs should inform but not dominate –** Applicant's response: *Signage will comply with base zoning requirements.*

***Staff notes that any proposed monument sign will require a Signage Application to be submitted prior to installation.***

**(Principle #7) Neighborhoods should contain a diversity of housing types –** *Applicant's response: Multiple dwelling/townhome options, each with multiple extension options, are available from the developer/applicant.*

***Staff notes that the multifamily units, townhomes and single family dwellings offer a diverse pairing of housing types on the project site.***

**(Principle #8) Residential neighborhoods should be interesting places –** *Applicant's response: Community/multiuse parks integrated throughout the development to enhance the character of the neighborhood.*

**(Principle #9) Neighborhoods should connect –** *Applicant's response: Two vehicular access points for future interconnection are proposed; community provides sidewalks throughout to improve pedestrian movement and access to community park and commercial space.*

***Staff notes the Town's Comprehensive Plan emphasizes connectivity for safety, accessibility, community building, and sustainability. This is a key principle. The Town of Easton's Comprehensive Plan's Transportation Chapter states that "where possible, retrofit existing subdivisions with road connections within and between subdivisions to more closely approximate a gridded street system and increase connectivity between neighborhoods." (p. 225). The Community Character chapter of the Comprehensive Plan also states "The one new Design Principle to be added in this 2009 Plan concerns the connectivity of neighborhoods and subdivisions. In short, we believe that they should be connected to neighboring properties to the maximum extent possible. This is a fundamental characteristic of the older parts of Easton that is essential to emulate in new development projects." (p. 110). These quotes demonstrate the Comprehensive Plan's focus on creating new subdivisions and retrofitting existing subdivisions to connect. The Comprehensive Plan emphasizes the creation of new interconnected subdivisions and the retrofitting of existing ones to enhance connectivity. Staff***

***requests connectivity to Goldsborough Neck Road via a standard connection, not merely for emergency access.***

***2. The site plan avoids or minimizes adverse impacts upon features (whether on-site or off-site) of historical, cultural or ecological significance.***

**Analysis -** The site is not within the Historic District and is not within the Critical Area. This project would provide 365 residential units with improved amenities; adequate parking, stormwater management facilities and landscaping.

***3. The proposed use or development activity will not substantially increase traffic hazards due to traffic generated by the proposed use, the location of curb cuts or the layout of internal traffic circulation.***

**Analysis -** The proposed use and activity will not increase traffic hazards in the surrounding area. Adequate off-street parking is provided.

***4. The site plan and the proposed use or uses do not cause any adverse impact upon the health or safety of persons residing or working in the area surrounding the site or upon the character of the neighborhood surrounding the site; and***

**Analysis -** There would be no adverse impacts. The existing property is located within the Business Commercial zoning district. The project would provide a residential and commercial use with associated parking, stormwater management facilities and landscaping.

**5.** ***The site plan improves the water quality of the Chesapeake Bay or its tributaries.***

**Analysis -** The proposed site would meet required design practices for stormwater management.

***Section 28-701.H.2***
***The Planning and Zoning Commission shall review the material submitted and following the presentation from the applicant, shall forward a recommendation to the Mayor and Town Council. The Planning and Zoning Commission's transmittal to the Town Council may include recommended changes to the PUD Sketch Plan or recommended conditions of approval that the Commission deems necessary to better insure compliance with the Comprehensive Plan. In reaching its conclusion as to the merits of the project, the Commission shall make recommendations addressing the following:***

***a. Whether the proposed PUD development conforms to the Town of Easton Comprehensive Plan;***

**Analysis -** The proposed PUD does not conform to the future planned land use of the property. Staff requests connectivity to Goldsborough Neck Road via a standard connection, not merely for emergency access. Technology Drive and I-Way Court should extend to the property line and end at a temporary barricade.

***b. Whether the proposed PUD development conforms with all provisions of the Town of Easton Zoning Code which are not proposed for modification subject to the request;***

**Analysis -** This PUD development conforms with all provisions of the Town of Easton Zoning Code which are not proposed for modification subject to the request.

***c. Whether the proposed PUD development complies with all Town engineering and design regulations and standards;***

**Analysis -** The overall development conceptually conforms with Town engineering and design regulations and standards. Staff notes the sketch plan will still need to submit a development site plan, upon approval of the PUD, for further review of site infrastructure.

***d. Whether the proposed PUD development complies with any other applicable Town, County, State, or Federal regulations, policies or plans, except those standards proposed for modification. If the standards of any jurisdiction other than the Town of Easton are proposed for modification, any PUD project approval, should it subsequently be granted by the Town Council, shall be subject to the applicant successfully obtaining approval of said modification and demonstrating proof of such approval to the Town's satisfaction.***

**Analysis -** Currently, this PUD development generally complies with the standards of any jurisdiction other than the Town of Easton. The Applicant needs to coordinate with Talbot County to discuss the Access Permits that may be necessary for Airport Road and Goldsborough Neck Road (County-owned and County-maintained roads), as well as the requirements of the Traffic Impact Study.

***e. Whether the proposed PUD will be superior to or more innovative than conventional development and how it will provide greater public benefit without additional probable significant adverse impacts to public health, safety or the environment, than would be available through the use of conventional zoning and/or development standards.***

**Analysis -** The proposed PUD does not have homogeneous housing types, rather it's horizontally integrated with single family, multifamily and townhouse units. The development's proximity to the proposed hospital will provide greater public benefit without additional significant adverse impacts to public health, safety or the environment. The development provides a walkable design to support a pedestrian-oriented community, parking, landscaping, stormwater management and forest conservation.The applicant's cover letter dated May 7, 2025, indicates that the proposed project will surpass the zoning code's affordable housing requirement, which mandates that 25% of residential units be designated as affordable. According to estimates presented in the Applicant's ESDR Comment Response Letter dated June 2, 2025, this 25% target for affordable housing will be achieved by allocating a specific number of the 120 condominium units and the 65 twenty-foot wide townhomes.

**CHAPTER 25, ARTICLE IV-SECTION 401 SKETCH PLAT PROCEDURES**

*(f) The Planning and Zoning Commission shall not approve a sketch subdivision plan unless they determine that the proposed subdivision satisfies each of the following requirements. Failure to satisfy any single requirement shall be just cause to deny a subdivision application, even if all others are satisfied. For each subdivision, the Planning Commission shall make findings that:*

*(1) The proposed subdivision provides against such scattered or premature subdivision of land as would involve danger or injury to health, safety, or prosperity by reason of the lack of water supply, drainage, transportation, schools, fire protection, or other public services, or necessitate the excessive expenditure of public funds for the supply of such services;*

**Analysis -** The proposed project in the Business Commercial zoning district, which is outside the Critical Area, is not anticipated to pose any danger or cause injury to the surrounding environment. The development will include residential and commercial spaces, along with necessary parking, stormwater management, and landscaping. Existing water and sewer infrastructure adjacent to the property is sufficient for the project's needs. The applicant will manage all required utility extensions to connect to Town services and will collaborate with Easton Utilities to secure the necessary permits and approvals.

*(2) The proposed subdivision provides for harmonious development of the municipality and its environs;*

**Analysis -** The existing subdivision designates the land for industrial purposes. However, this proposed PUD project seeks to allow for primarily residential and some commercial development, changing the preferred land use of the property as indicated in the 2010 Comprehensive Plan. The planned subdivision fosters harmonious development by integrating diverse housing options—townhomes, multi-family, and single-family dwellings—that complement the adjacent Business Commercial District. This integrated approach is well-suited for the site and its diverse surroundings, which include commercial, healthcare, and industrial uses. The development's proximity to these varied properties enhances public benefit without likely causing significant negative impacts on public health, safety, or the environment. Its walkable design promotes a pedestrian-friendly community and incorporates parking, landscaping, and stormwater management.

*(3) The proposed subdivision requires the proper arrangement and coordination of streets within subdivisions in relation to other existing or planned streets;*

**Analysis -** The Town's Comprehensive Plan prioritizes connectivity for safety, accessibility, community building, and sustainability, as a guiding principle. The Transportation Chapter advocates retrofitting existing subdivisions with road connections to create a more gridded street system and improve neighborhood connectivity (p. 225). Similarly, the Community Character chapter emphasizes maximizing connectivity between neighboring properties in new developments, echoing a key characteristic of Easton's older areas (p. 110). These excerpts illustrate the Comprehensive Plan's dedication to fostering interconnected subdivisions, both

new and retrofitted. Therefore, staff recommends a standard connection to Goldsborough Neck Road, not just emergency access, to align with the Plan's emphasis on connectivity.

Access to the residential and commercial areas will be via Technology Drive and I-Way Court, with an exit onto Airport Road.The Traffic Impact Analysis (TIA), prepared by Lenhart Traffic Consulting, Inc., described the CLV analysis indicating that all study intersections operate at LOS D under total conditions All signalized study intersections operate at LOS D or better and each stopcontrolled approach operates with LOS C or better under existing, background, and total conditions using the HCM methodology also with the exception of US 50 & Airport Road / Black Dog Alley. It is recommended that “Do Not Block Intersection” signage and pavement markings be installed per Section 3B.17 of the MD MUTCD for Intersection 4 (Airport Road & Longwoods Road/Centreville Road).

*(4) The proposed subdivision provides for open spaces of adequate proportions (or satisfies this requirement by other acceptable means, when and as specified herein);*

**Analysis -** The proposed subdivision meets the open space requirement.

*(5) The proposed subdivision provides suitably located streets of sufficient width to accommodate existing and prospective traffic and afford adequate light, air, and access for fire fighting apparatus and equipment to buildings, and is coordinated so as to compose a convenient system; Town of Easton 9 Subdivision Regulations Effective DECEMBER 12, 2023*

**Analysis -** The proposed subdivision provides adequate street widths necessary for maneuverability and access for parking spaces and garages. The Applicant will need to work with the Easton Fire Department to ensure that access for fire fighting apparatus and equipment to buildings are adequate.

*(6) The proposed subdivision provides parks of reasonable size for neighborhood playgrounds or other recreational uses on land suitable for such uses (or satisfies this requirement by other acceptable means) in accordance with the standards of Section 708 of these Regulations;*

**Analysis -** The proposed subdivision provides *open space* to meet the park requirement by creating a tot-lot, dog park, natural trails, pickleball courts and clubhouse with pool.

*(7) The land indicated on the plats submitted to the Planning Commission is of such character that it can be used for building purposes without danger to public health, safety, or general welfare;*

**Analysis -** The proposed subdivision indicated on the Sketch Plat can be used for building purposes without danger to public health, safety, or general welfare.

*(8) The proposed subdivision prescribes minimum areas of lots in conformance with the Town's Zoning Ordinance and such additional areas as may be needed for each lot for on-site sanitary facilities (if needed);*

**Analysis -** The proposed subdivision offers adequate lot sizes with applicable utilities.

*(9) The proposed subdivision promotes the orderly growth of the Town of Easton, providing for public and other open space and for proper development of land while preventing, through the Commission's discretion, such scattered, premature and undesirable subdivision and development of land as would involve danger, or injury to health, safety or property, by reason of lack of water supply, sewage, drainage, transportation, or other public services or would necessitate in the Commission's judgment an excessive expenditure of public funds for the supply of such services, or would be injurious to maintenance of the integrity of the adopted Town Comprehensive Plan;*

**Analysis -** The proposed subdivision meets open space and park needs through the development of a tot-lot, dog park, natural trails, pickleball courts, and a clubhouse with a pool. The project anticipates no harmful impacts to the surrounding area. It will integrate residential and commercial elements, including parking, stormwater management, landscaping, and internal pedestrian connectivity. Existing and adjacent water and sewer infrastructure are sufficient for the project. The Applicant will manage the necessary utility extensions to connect to Town services and will collaborate with Easton Utilities to secure all required permits and approvals.

*(10) The proposed subdivision satisfies all technical requirements of these Regulations; and*

**Analysis -** The proposed subdivision satisfies the technical requirements, notwithstanding, the staff's outstanding comments as noted above. Those comments can be resolved prior to Final Record Plat recording.

*(11) The proposed subdivision meets all design requirements of the Town of Easton, including those described in the Town's Comprehensive Plan, Zoning Code, and any Design Guidelines as may be adopted by the Town Council. The Planning Commission may approve a sketch subdivision plat subject to conditions intended to insure compliance with these requirements.*

**Analysis -** The Comprehensive Plan emphasizes the creation of new interconnected subdivisions and the retrofitting of existing ones to enhance connectivity. Staff requests connectivity to Goldsborough Neck Road via a standard connection, not merely for emergency access. The proposed subdivision does meet the design requirements of the Town of Easton, including those described in the Town's Zoning Code, and any Design Guidelines, notwithstanding, the staff's outstanding comments as noted above. Those comments can be resolved prior to Final Record Plat recording.

**RECOMMENDED CONDITION:**
Staff recommends the Planning Commission table the Applicant's request and provide the following items necessary to return to the July 17th Planning Commission meeting:

- Address the outstanding issues noted above.

**DRAFT MOTIONS**:

1. I move that the Planning Commission table the project and the Applicant provide the items required by the staff.

OR

2. I move that the Planning Commission forward the applications to the July 17th Commission meeting for further discussion.

OR

3. I move that the Planning Commission approve the sketch plat conditioned on Council approval of the PUD with a recommendation specific to conformity of the PUD to the Comprehensive Plan. I also move that the Planning Commission forward a positive recommendation of the PUD to the Town Council, subject to staff's Outstanding Issues..

**ATTACHMENTS**:
1. 2025.06.02 Building Renderings - Fox Chase Estates, paper copy & PDF
2. 2025.06.02 CommentResponseLetter - Fox Chase Estates, paper copy & PDF
3. 2025.06.02 PUD Sketch Site Plan- Fox Chase Estates, paper copy & PDF
4. 2025.06.02 Subdivision Application - Fox Chase Estates, paper copy & PDF
5. 2025.06.06 Technology Drive - EUC Review Comments_Optimized, paper copy & PDF
6. 2025-05-07 Application - ESDR Fox Chase Estates, paper copy & PDF
7. 2025-05-07 Application - PUD Fox Chase Estates, paper copy & PDF
8. 2025-05-07 Cover Letter for PUD Application Fox Chase Estates, paper copy & PDF
9. 2025-05-07 Stormwater Mgmt Report Fox Chase Estates, paper copy & PDF
10. 2025-05-30 Fox Chase Project Status and Comments Return - ESDR, paper copy & PDF
11. 2025-06-03-Fox Chase-3D, paper copy & PDF
12. May 2025 TIS - Technology Park, paper copy & PDF

EASTON UTILITIES

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# Easton Utilities Commission

Plan Review Comments

**Date:** 06/06/25
**To:** Sierra Clem, Nancy Pinkney
**From:** Kia Gibbs on behalf of Aaron Goller, PE
**Address:** Technology Drive
**Project Name:** Fox Chase Estates
**Phase:** Sketch Site Plan
**SUBM:** 1
**Status:** **APPROVED AS NOTED**

Easton Utilities Commission has reviewed the above referenced plans and determined the plans are **"Approved As Noted".**

An **"Approved As Noted"** status means plans do not require resubmission to Easton Utilities. We ask that you implement the notes provided prior to Easton Utilities signing off on your plans. Notes are provided on the attached mark-up summary sheets.

Please contact Kia Gibbs, Engineering Administrative Support at kgibbs@eucmail.com should you have

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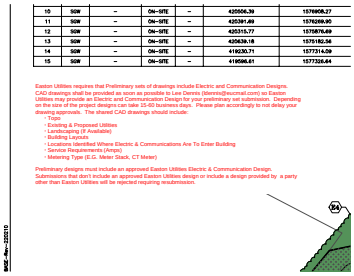
## Electric (1)



| | | | | | | |
|---|---|---|---|---|---|---|
| 10 | SGW | – | ON–SITE | – | 420606.39 | 1576806.27 |
| 11 | SGW | – | ON–SITE | – | 420391.69 | 1576269.90 |
| 12 | SGW | – | ON–SITE | – | 420215.77 | 1575879.69 |
| 13 | SGW | – | ON–SITE | – | 420630.18 | 1575182.56 |
| 14 | SGW | – | ON–SITE | – | 419230.71 | 1577314.09 |
| 15 | SGW | – | ON–SITE | – | 419586.61 | 1577326.44 |

Easton Utilities requires that Preliminary sets of drawings include Electric and Communication Designs. CAD drawings shall be provided as soon as possible to Lee Dennis (ldennis@eucmail.com) so Easton Utilities may provide an Electric and Communication Design for your preliminary set submission. Depending on the size of the project designs can take 15-60 business days. Please plan accordingly to not delay your drawing approvals. The shared CAD drawings should include:

- Topo
- Existing & Proposed Utilities
- Landscaping (If Available)
- Building Layouts
- Locations Identified Where Electric & Communications Are To Enter Building
- Service Requirements (Amps)
- Metering Type (E.G. Meter Stack, CT Meter)

Preliminary designs must include an approved Easton Utilities Electric & Communication Design. Submissions that don't include an approved Easton Utilities design or include a design provided by a party other than Easton Utilities will be rejected requiring resubmission.

**Subject:** Electric
**Page Label:** 3 OF 6
**Date:** 6/4/2025 9:24:57 AM

Easton Utilities requires that Preliminary sets of drawings include Electric and Communication Designs. CAD drawings shall be provided as soon as possible to Lee Dennis (ldennis@eucmail.com) so Easton Utilities may provide an Electric and Communication Design for your preliminary set submission. Depending on the size of the project designs can take 15-60 business days. Please plan accordingly to not delay your drawing approvals. The shared CAD drawings should include:

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## ESD SUMMARY CHART

| DRAINAGE AREA | TYPE OF ESD PRACTICE | TYPE OF ESD PRACTICE (STRUCTURE NAME) | ON-SITE OR OFF-SITE STRUCTURE | RUNOFF CURVE NUMBER (RCN) WEIGHTED | MARYLAND GRID COORDINATE NAD 83 METERS NORTHING | MARYLAND GRID COORDINATE NAD 83 METERS EASTING | ESD PRACTICE TOTAL DRAINAGE AREA (ACRES) | ESD PRACTICE IMPERVIOUS DRAINAGE AREA (ACRES) | SURFACE AREA OF ESD PRACTICE (ACRES) | TARGET PE (IN) | ACTUAL PE (IN) | TARGET ESDv ($FT^3$) | ACTUAL ESDv ($FT^3$) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | SGW | – | ON-SITE | – | 419188.37 | 1576174.97 | 13.56 | 3.77 | 0.48 | – | – | 24,893 | 33,969 |
| 7 | SGW | – | ON-SITE | – | 419856.51 | 1575073.59 | 16.94 | 7.66 | 1.30 | – | – | 46,366 | 78,668 |
| 8 | SGW | – | ON-SITE | – | 420064.31 | 1576351.18 | 9.72 | 2.95 | 0.44 | – | – | 22,060 | 31,299 |
| 9 | SGW | – | ON-SITE | – | 420049.62 | 1577135.65 | 4.54 | 1.26 | 0.44 | – | – | 8,468 | 13,821 |
| 10 | SGW | – | ON-SITE | – | 420506.39 | 1576908.27 | 6.69 | 3.05 | 0.43 | – | – | 20,131 | 31,315 |
| 11 | SGW | – | ON-SITE | – | 420391.69 | 1576269.90 | 6.90 | 2.84 | 0.46 | – | – | 18,949 | 29,477 |
| 12 | SGW | – | ON-SITE | – | 420315.77 | 1575876.69 | 4.53 | 2.11 | 0.35 | – | – | 16,985 | 21,617 |
| 13 | SGW | – | ON-SITE | – | 420639.18 | 1575182.56 | 5.15 | 1.66 | 0.39 | – | – | 13,984 | 17,797 |
| 14 | SGW | – | ON-SITE | – | 419230.71 | 1577314.09 | 2.00 | 1.01 | 0.11 | – | – | 6,559 | 8,590 |
| 15 | SGW | – | ON-SITE | – | 419596.61 | 1577326.64 | 2.18 | 1.24 | 0.15 | – | – | 8,287 | 11,960 |

## SWM QUANTITY SUMMARY CHART

| PRACTICE | DA (ACRES) | IMPERVIOUS (ACRES) | RCN | Tc (MINUTES) | PRE 2 YEAR | POST 2 YEAR | WSE | PRE 10 YEAR | POST 10 YEAR | WSE | PRE 100 YEAR | POST 100 YEAR | WSE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SWM #1 (POI #1) | 13.56 | 3.77 | – | 6.0 | 7.12 | 1.15 | – | 15.96 | 11.98 | – | – | – | – |
| SWM #2 (POI#2) | 17.27 | 7.71 | – | 6.4 | 17.49 | 0.60 | – | 38.65 | 8.73 | – | – | – | – |
| SWM #7 (POI #3) | 15.31 | 2.47 | – | 13.3 | 8.21 | 7.38 | – | 20.85 | 20.63 | – | – | – | – |
| SWM #3-6 (POI #4) | 35.03 | 10.10 | – | 11.6 | 14.56 | 0.99 | – | 36.82 | 16.48 | – | – | – | – |
| N/A (POI #5) | 1.86 | 0.29 | – | 6.8 | 3.30 | 0.22 | – | 9.16 | 2.05 | – | – | – | – |
| SWM #8 (POI #6) | 7.03 | 1.68 | – | 22.2 | 3.44 | 0.02 | – | 10.70 | 0.45 | – | – | – | – |
| SWM #9 (POI #7) | 2.00 | 1.01 | – | 6.0 | 2.43 | 0.30 | – | 4.93 | 4.07 | – | – | – | – |
| SWM #10 (POI #8) | 2.19 | 1.24 | – | 6.0 | 2.98 | 0.34 | – | 6.16 | 4.93 | – | – | – | – |

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- Topo
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- Building Layouts
- Locations Identified Where Electric & Communications Are To Enter Building
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Preliminary designs must include an approved Easton Utilities Electric & Communication Design. Submissions that don't include an approved Easton Utilities design or include a design provided by a party other than Easton Utilities will be rejected requiring resubmission.




BUFFERYARD LEGEND

(E) 10' WIDE BUFFERYARD 'E'

NOTE: PROPOSED BUFFERYARDS UTILIZE LANDSCAPE OVERLAPPING CREDITS FOR FOREST CONSERVATION

NOTE:

THE LAYOUT AS SHOWN HEREON IS CONCEPTUAL ONLY AND NOT INTENDED TO BE UTILIZED FOR DESIGN OR CONSTRUCTION PURPOSES.

REVISIONS

| No. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

WARNING!!

THE LOCATIONS OF EXISTING UTILITIES AS SHOWN ON THIS PLAN ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF EXISTING UTILITIES PRIOR TO BEGINNING CONSTRUCTION. THE QUANTITIES SHOWN ON THIS PLAN ARE FOR INFORMATIONAL AND PERMITTING PURPOSES ONLY. THE CONTRACTOR SHALL VERIFY ALL QUANTITIES TO HIS OWN SATISFACTION PRIOR TO BEGINNING CONSTRUCTION.

THE CONTRACTOR SHALL TEST PIT AND LOCATE EXISTING UNDERGROUND UTILITIES PRIOR TO THE BEGINNING OF ANY WORK ON-SITE. THE CONTRACTOR SHALL NOTIFY DEPT. OF PUBLIC WORKS OF ANY POSSIBLE CONFLICT AND REQUEST THE RELOCATION OF THE EXISTING UNDERGROUND UTILITIES BEFORE BEGINNING ANY WORK ON-SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY RELOCATION EXPENSE.

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BEFORE YOU DIG CALL
1-800-441-8355 OR 811
PROTECT YOURSELF, GIVE
TWO WORKING DAYS NOTICE


Lane Engineering, LLC
Established 1986
Civil Engineers • Land Planning • Land Surveyors
E-mail: general@leinc.com
117 Bay St. Easton, MD 21601 (410) 822-8003
15 Washington St. Cambridge, MD 21613 (410) 221-0818
354 Pennsylvania Ave. Centreville, MD 21617 (410) 758-2095


PROFESSIONAL CERTIFICATION: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 48188 , Expiration Date: 12/28/2025.

SEAL

STATE OF MARYLAND — BRADLEY C. ENGLAND — 48188 — PROFESSIONAL ENGINEER

5/30/25
DATE

# SKETCH CONCEPT PLAN

FOR

# FOX CHASE ESTATES

*IN THE TOWN OF EASTON, ELECTION WARD 1*
*TALBOT COUNTY, MARYLAND*
*TAX MAP 25 GRID 4 PARCEL 92 LOTS 1, 2, 3 & 4*

| ISSUED FOR: | DATE: | BY: |
|---|---|---|
| AGENCY REVIEW | 5/7/25 | BCE |
| AGENCY REVIEW | 6/2/25 | BCE |

SHEET No. 3 OF 6
DATE:
JOB No. 220210
SCALE: AS NOTED
FILE No. 3208


Date: 05/30/2025 - 3:43pm User: wbarnhart Project Manager: BCE
Drawing Path: J:\2022\0200\220210\Civil3D-220210\Dwg\Plats\RSK-PLTS-220210.dwg | Sheet3SketchConceptPlan
XREF File(s): RSK-BASE-220210/XRN-BASE-220210/RBS-BASE-2436-220210/VLD-BASE-220210/CSK-BASE-220210/LLP-PUD-BASE-220210/CSK-Road-BASE-220210/CSK-LOT-BASE/XRN-LOTS-BASE-220210/RAR-BASE-Rev-220210


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TALBOT COUNTY DEPARTMENT OF PUBLIC WORKS
215 BAY STREET, SUITE 6
EASTON, MARYLAND 21601
PHONE: 410-770-8170
FAX: 410-770-8176
TTY: 410-822-8735

June 20, 2025

Miguel Salinas
Director of Planning and Zoning
14 South Harrison Street
Easton, Maryland 21601

RE: Fox Chase Estates – Impacts to Airport and Goldsborough Neck Roads

Dear Mr. Salinas,

Talbot County is working with the Fox Chase Estates Developer on reviewing the impacts of the proposed development on Airport Road and possibly Goldsborough Neck Road. With the proposed change from warehouses to 365 residential structures, an estimated 33,000 square feet of office space and 10,000 square feet for a day care center, there will be additional traffic on Airport Road and Goldsborough Neck Road, and working with the Developer the County should be able to implement road improvements that mitigates future traffic.

As noted during our June 5, 2025, meeting, we have a unique challenge with the intersection of Airport Road and Goldsborough Neck Road being within the Runway Protection Zone (RPZ), and any improvements in this area will need to be reviewed and approved by the Federal Aviation Administration (FAA).

With this development project being expedited, there will be challenges in completing all the road improvements prior to 2027/2028, the expected date for construction of houses. I anticipate that the road work will need to be completed in phases, and Talbot County needs to work with the Developer, the Town of Easton and Easton Airport in securing right-of-way and scheduling the road improvements.

As the Town of Easton proceeds with its development review process, Talbot County will continue to schedule meetings with the Developer and the Town of Easton to review road improvements to Airport Road and Goldsborough Neck Road. During these meetings and other meetings with the Town, I request that the Town review any critical issues that the County may have prior to issuing any building permits.

If you have any questions concerning this matter, please contact me. Thank you.

Sincerely,

Ray Clarke, P.E.
County Engineer

cc. Clay B. Stamp, County Manager

Samantha Smith <ssmith@eastonmd.gov>

# Re: Quick Update: Technology Drive (Fox Chase Estates PUD) - June 2025 PC

1 message

**Daryl Caldwell** <1st.lieutenant@eastonvfd.org> Mon, Jun 23, 2025 at 4:36 PM
To: Samantha Smith <ssmith@eastonmd.gov>

Good afternoon

I am trying to catch up with input from the fire department on this plan for building. I have briefly gone over the plan. I will have a few suggestions at this time. Sorry again for being late on the suggestions

1. That all homes, townhomes and the (3) multi-family residential building all have smoke detectors and CO detectors. Also follow the State Fire Marshal recommendations.

2. How many stories is the Multi-Family Residential buildings?

3. The Multi-Family Residential be sprinklered. As you know, if they are more than (3) stories they must have standpipes.

4. Will the Multi-Family Residential have an elevator? Didn't see that in the plans?

5. Check with the State Fire Marshal office to confirm that the homes have to be sprinklered, cause I am not sure?

6. Water main be at least 8' inch main, if possible? But if not possible we will work with a 6' inch main.

7. By NFPA please make sure the Hydrants are every 500 ft.

8. Also make sure that if the Multi-Family building is sprinklered, that the water source is NO more than 200 ft away. Also make sure the Fire Department connection is visible.

9. Roadway wide enough for apparatus? Looking at plans, it looks like that will be NO problem.

10. IF possible access to rear of home, townhomes and multi-family dwellings.

11. Will the multi-family units have an alarm system?

12. Please make sure the multi-family building be marked, for easy identification for fire units and Ems units.

13. Are any of the units be equipped with any solar? I didn't see it in the plans? If so please put in a place so the fire department can easily identify the shut off and on switch.

If I have any more questions or suggestions I will reach out.

Thank you again for your understanding.

Assist Chief Daryl Caldwell, Easton VFD

---- On Tue, 03 Jun 2025 15:19:12 -0400 **Samantha Smith via Smartsheet <user@app.smartsheet.com>** wrote ---

Good afternoon,

Please find the June 2025 Planning Commission submission items for "Technology Drive (Fox Chase Estates PUD)". Comments are due by June 17th.

Thank you,

Sam

# Technology Drive (Fox Chase Estates PUD)

Row 31

| | |
|---|---|
| **Primary Column** | Application and Plans |
| **Date Received** | 06/02/25 |
| **Date Due** | |
| **Date Completed** | |
| **Item Status** | |
| **Item Complete** | ☐ |

## Attachments

- 2025-05-07 Application - PUD Fox Chase Estates.pdf (251k) (Row 31)
- 2025-05-07 Stormwater Mgmt Report Fox Chase Estates.pdf (4M) (Row 31)
- 2025.06.02 Building Renderings - Fox Chase Estates.pdf (21M) (Row 31)
- 2025.06.02 CommentResponseLetter - Fox Chase Estates.pdf (129k) (Row 31)
- 2025.06.02 PUD Sketch Site Plan- Fox Chase Estates.pdf (4M) (Row 31)
- 2025.06.02 Subdivision Application - Fox Chase Estates.pdf (284k) (Row 31)
- May 2025 TIS - Technology Park.pdf (10M) (Row 31)

View in Smartsheet

Sent using Smartsheet - the leading work execution platform that empowers teams and organizations to move their ideas to impact - fast.
Sent by ssmith@eastonmd.gov
File links in this email will be active until July 3, 2025
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Dear Mayor, Town Council, and Planning Commission Members:

Attached is a PUD application for the Fox Chase Estates residential community next to the new University of Maryland Shore Regional Medical Center. On the planned time-line, the Fox Chase Estates project will have homes for sale approximately six months prior to the opening of the new hospital.

This project represents a collaborative effort between the property owner, the community, elected officials and the hospital and comprises many unique and positive residential and commercial components. For example, the project offers up to six different residential unit types (with each type having multiple versions). The six types include large single family homes, medium Neo Traditional homes, 22 foot wide (double car garage) town homes and 20 foot wide (single car garage) town homes, condos and apartments (one, two and three bedroom).

And, while the Town of Easton code requires 25% of the homes be affordable (as defined by Town Code), this project exceeds that requirement.

Such a diverse offering is rare in the development world and speaks to our desire to work with the Town of Easton's goals to allow residents of diverse economic abilities to live together in the same community. In addition, Fox Chase estates is priced to attract non-traditional first time home buyers and allow them to create wealth and to move up to a larger homes (if so desired) without leaving the community.

In addition, community amenities, such as the club house, pool and pickleball courts, will allow all residents of the Fox Chase Estates to live and recreate together. Other amenities include 1.5 miles of wooded walking paths, a dog park and a two additional parks for elementary and pre-school aged youth (tot lots). These amenities will be overseen by a single HOA.

The PUD application also includes commercial and mixed use areas where a daycare center can be located (which was requested by the hospital) as well as a coffee shop, restaurant, dry cleaner, etc., so that residents will not need to travel as much outside the development.

Other unique highlights of the plan include future road stubs to neighboring properties (including the hospital), a secondary emergency access point and parking areas that exceed the code requirements.

Finally, per Article 7, Section 2 (Planning and Zoning Commission Review and Action) of the PUD code, the proposed PUD development conforms to the Town of Easton's Comprehensive Plan (*see* Sub-section (a)) and the Zoning Code (*see* Sub-section (b)); and complies with all Town engineering and design regulations and standards (*see* Sub-section (c)) and all Town, County, State and or Federal regulations, polices and plans (*see* Sub-section (d)); and for the reasons discussed above and additionally shown within the plans,

the proposed PUD project is superior and more innovative than conventional developments in the Town and provides greater public benefit without additional adverse impacts to public health, safety and the environment (*see* Sub-section (e)).

And, per Article 7, Section 3 (Mayor and Town Council Action), the proposed PUD development conforms to all applicable standards (*see* Sub-section (A1)); does not interfere with the adequate and orderly provision of the public services to the area (since the services are already at or on the site) (*see* Sub-section (A5)); and does not cause unacceptable traffic congestion or hazard either in or near the site or elsewhere in the Town or Talbot County (*see* Sub-section (A6)).

In addition, the proposed PUD development includes 25.43 acres of protected forestation land as well as a100 ft buffer around the perennial stream. The development also includes existing mature screening landscapes on roughly 90% of the residential portion of community from contiguous properties (*see* sub-section (A7-8)). Finally, the development will raise the value of surrounding properties. (sub-section (A9)).[1]

I would also like to point out that the development will have no more than 365 residential units, which is over 1,400 fewer units than what is otherwise allowed under the PUD density rules. Our team did not want to go higher than 365 units so that the socio-economic diversity of the project could be maintained.

In conclusion, the proposed PUD development directly supports the current and future needs of the Town by (1) partnering with the new hospital to ensure its success by providing nearby quality and affordable housing, (2) providing much-needed starter homes that meet the affordable housing requirements which will allow public safety employees, teachers and others (like our children) to live in the Town of Easton, and (3) provide socio-economic diversity.

Thank you for attention to this application and our team looks forward to working with you and answering all of your questions, concerns and or recommendations.

/s/

[1] Subsections A2 through A4 are addressed in the preceding paragraphs in relation to Section 2 requirements.

**Town of Easton**
Engineering, Planning and Zoning
14 South Harrison Street, Easton, MD 21601

RECEIVED
MAY 07 2025
TOWN OF EASTON

# Site Plan, PUD, Planned Healthcare Application

## Application Type

Planned Unit Development ☒ Amendment ☐ Health Care (HC) ☐ Site Plan ☒

## Subdivision Information

| | | | | | |
|---|---|---|---|---|---|
| Name | Fox Chase Estates | | | | |
| Original Property Size | Acres | 112.816 AC± | Square Feet | 4,914,265 SF± | |
| Telephone No. | | Email | | | |

## Site Plan Information

| | | | | | |
|---|---|---|---|---|---|
| Property Size | Acres | 112.816 AC± | Square Feet | 4,914,265 SF± | |
| Structure's Floor Area | 408,261 SF± | Footprint | Structure's Square Feet | 731,098 SF± | GFA |
| Area of Disturbance | 76 AC± | | Number of Dwelling Units | 365 | |

## Property Information

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Address | 9684, 9778, 9783, 9687 Technology Drive & 29001, 29004 I-Way Court, Easton, MD 21601 | | | | | | |
| Tax Map | 25 | Grid | 4 | Parcel | 92, 90 | Lot | 1 - 4, 9, 10 |
| Deed Refernce: | Liber | 2754, 2804 | Folio | 19, 456 | | | |
| Plat Reference: | Liber | 89, 4 | Folio | 149, 80G | | | |
| Base Zoning District | BC | Historic | Y ☐ | N ☒ | Planned Redevelopment | Y ☐ | N ☒ |
| Source of Electricity | Easton | | | | | | |

## Owner

| | | | |
|---|---|---|---|
| Name | Easton Sunrise Partners, LLC c/o Scott Wagner | | |
| Mailing Address | 928 Riverview Terrace, St Michaels, MD 21663 | | |
| Telephone No. | 717-577-5984 | Email | srw@comcast.net |

## Applicant or Agent

| | | | |
|---|---|---|---|
| Name | Lane Engineering, LLC c/o Brett Ewing, AICP | | |
| Mailing Address | 117 Bay Street, Easton, MD 21601 | | |
| Telephone No. | 410-822-8003 | Email | bewing@leinc.com |

## Surveyor / Engineer

| | | | | | |
|---|---|---|---|---|---|
| Name | Jarret Beyer, P.E. | License No. | 48188 | Expiration Date | 12/28/2025 |
| Mailing Address | Lane Engineering, LLC, 117 Bay Street, Easton, MD 21601 | | | | |
| Telephone No. | 410-822-8003 | Email | jbeyer@leinc.com | | |

**Any modifications during review shall warrant an updated application.**

***I hereby certify that I have reviewed and satisfied the Town of Easton Development Standards and that submission of an incomplete application will be returned for correction prior to processing.***

Signature of Applicant or Agent 

Date 5/7/2025

Printed Name of Applicant or Agent Brett Ewing, AICP, Lane Engineering, LLC

*For Office Use Only*

| | | | |
|---|---|---|---|
| Planning Commission Required | Y ☒ N ☐ | | |
| Planning Commission Meeting Date | **06/24/2025** | | |
| Sketch Approval Date | | Project No. | **PUD 25-01** |
| Prelim/Dev. Approval Date | | Application No. | **2025-1456** |
| Final Approval Date | | Sketch Fee Paid | **05/07/2025** |
| Recordation Date | | Develop. Fee Paid | |

*Revised 02-2019*

**Town of Easton**
Engineering, Planning and Zoning
13 South Harrison Street, Easton, MD 21601

RECEIVED
JUN 02 2025
TOWN OF EASTON

# Subdivision & Property Line Adjustment Application

## Application Type

Subdivision ☒ Minor Subdivision ☐ Lot Line Revision ☐

## Subdivision Information

| | | | | | |
|---|---|---|---|---|---|
| Name | Fox Chase Estates | | | | |
| Property Size | Acres | 108.631 AC± | Square Feet | 4,731,966 SF± | |
| Number of Lots Proposed | 247 Proposed Lots | | | | |

## Property Information

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Address | 9684, 9778, 9783, 9687 Technology Drive, Easton, MD 21601 | | | | | | |
| Tax Map | 25 | Grid | 4 | Parcel | 92 | Lot | 1 - 4 |
| Deed Refernce: | Liber | 2754, 2804 | Folio | 19, 456 | | | |
| Plat Reference: | Liber | 89, 4 | Folio | 149, 80G | | | |
| Zoning District | BC | Planned Redevelopment Y ☐ N ☒ | Historic District Y ☐ N ☒ | | | | |
| Source of Electricity | Easton | | | | | | |

## Owner

| | | | |
|---|---|---|---|
| Name | Easton Sunrise Partners, LLC c/o Scott Wagner | | |
| Mailing Address | 928 Riverview Terrace, St Michaels, MD 21663 | | |
| Telephone No. | 717-577-5984 | Email | srw@comcast.net |

## Surveyor / Engineer

| | | | | | |
|---|---|---|---|---|---|
| Name | Jarret Beyer, P.E. | License No. | 48188 | Expiration Date | 12/28/2025 |
| Mailing Address | Lane Engineering, LLC, 117 Bay Street, Easton, MD 21601 | | | | |
| Telephone No. | 410-822-8003 | Email | jbeyer@leinc.com | | |

## Applicant or Agent

| | | | |
|---|---|---|---|
| Name | Lane Engineering, LLC c/o Brett Ewing, AICP | | |
| Mailing Address | 117 Bay Street, Easton, MD 21601 | | |
| Telephone No. | 410-822-8003 | Email | bewing@leinc.com |

***Additional Comments:***

| | | | |
|---|---|---|---|
| Minimum Lot Size | See PUD | Minimum Lot Frontage | See PUD |
| Minimum Lot Envelope | See PUD | Existing Lot Coverage | TBD |
| | | Proposed Lot Coverage | TBD |

☐ ESDR Letter
☐ $200 Per Subdivided Lot Fee
☐ $500 Lot Line Revision Fee

***Any modifications during review shall warrant an updated application.***

***I hereby certify that I have reviewed and satisfied the Town of Easton Subdivision Regulations Article 4, Procedures and Requirements and that submission of an incomplete application will be returned for correction prior to processing.***

Signature of Applicant or Agent 

Date 6/2/2025

Printed Name of Applicant or Agent Brett Ewing, Lane Engineering, LLC

*For Office Use Only*

| | | | |
|---|---|---|---|
| Planning Commission Y ☒ N ☐ | | | |
| Planning Commission Meeting Date | **06/24/2025** | | |
| PC Approval Date | | Subdivision No. | **SD - 501** |
| Conditions? Y / N | | Application No. | **2025 - 1456** |
| Recordation Date | | Fee Amount | |
| ESDR Y / N Date | **05/28/2025** | Review Fee Paid | |
| | | | *Revised 02-2019* |

**Town of Easton**
Engineering, Planning and Zoning
14 South Harrison Street, Easton, MD 21601

RECEIVED
MAY 07 2025
TOWN OF EASTON

# Easton Staff Development Review

## Property Information

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Address | 9684, 9778, 9783, 9687 Technology Drive & 29001, 29004 I-Way Court, Easton, MD 21601 | | | | | | |
| Tax Map | 25 | Grid | 4 | Parcel | 92, 90 | Lot | 1 - 4, 9, 10 |
| Deed Refernce: | Liber | 2754, 2804 | Folio | 19, 456 | | | |
| Plat Reference: | Liber | 89, 4 | Folio | 149, 80G | | | |
| Base Zoning District | BC | Historic District Y ☐ N ☒ | | Planning Redevelopment Y ☐ N ☒ | | | |

Purpose of Application / Description of Work:

Proposed Fox Chase Estates development includes 365 residential units including single-family detached, town-home, and multifamily, as well as 2 commercial buildings and amenities. See enclosed narrative.

## Owner

| | | | |
|---|---|---|---|
| Name | Easton Sunrise Partners, LLC c/o Scott Wagner | | |
| Mailing Address | 928 Riverview Terrace, St Michaels, MD 21663 | | |
| Telephone No. | 717-577-5984 | Email | srw@comcast.net |

## Applicant / Agent

| | | | |
|---|---|---|---|
| Name | Lane Engineering, LLC c/o Brett Ewing, AICP | | |
| Mailing Address | 117 Bay Street, Easton, MD 21601 | | |
| Telephone No. | 410-822-8003 | Email | bewing@leinc.com |

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|---|---|---|---|---|---|
| Name | Jarret Beyer, P.E. | License No. | 48188 | Expiration Date | 12/28/2025 |
| Mailing Address | Lane Engineering, LLC, 117 Bay Street, Easton, MD 21601 | | | | |
| Telephone No. | 410-822-8003 | Email | jbeyer@leinc.com | | |

***Any modifications during review shall warrant an updated application.***

***I do hereby solemnly declare and affirm that the information provided by this application and the documents attached hereto accurately represent the conditions of the request and that submission of an incomplete application will be returned for correction prior to processing.***

Signature of Applicant or Agent 

Date 5/7/2025

Printed Name of Applicant or Agent Brett Ewing, AICP, Lane Engineering, LLC

*For Office Use Only*

Easton Staff Development Review Meeting Required Y [X] N [ ]

Easton Staff Development Review Meeting Date **05/28/2025**

Completeness Check Date **05/07/2025**

**2025-1456 / ESDR 25-06**

Revisions/Resubmissions Required Y [ ] N [ ] **TBD**

Resubmission Date

Documents Received Y [ ] N [ ]

Staff Determination

**Scheduled for May 28, 2025 Easton Staff Development Review**

Planning Commission Requir( Y [X] N [ ]

BOZA Required Y [ ] N [ ] **TBD**

Historic District Commission Required Y [ ] N [X]

Resubmission for ESDR Required Y [ ] N [ ] **TBD**

Staff Signature Samantha N. Smith Date **05/07/2025**

Revised 02-2019

**TOWN OF EASTON**
**Planning & Zoning Department**
14 South Harrison Street
P.O. Box 520
Easton, Maryland 21601

## Easton Staff Development Review Worksheet

**Date**: May 29, 2025
**Project:** 9684, 9778, 9783, 9687 Technology Drive & 29001, 29004 I-Way Court - PUD Fox Chase Estates
**To**: Brett Ewing – Lane Engineering, LLC (Agent)
**CC:** Scott Wagner - % Easton Sunrise Partners, LLC (Owner)
**CC:** Lawrence Scott, Esq. – MDSW
**CC:** Jarret Beyer – Lane Engineering, LLC
**CC:** Michael Lenhart, Lenhart Traffic Consulting, Inc.

The Easton Staff Development Review (ESDR) Committee meeting was held on May 28th at 11:00 am. Staff reviewed the proposed Planned Unit Development application for 365 residential units. The site includes single-family detached dwellings (61 units), neo-traditional single-family detached dwellings (47 units), three-story 20' wide townhomes (65 units) , three-story 22' wide townhomes (72 units) and four (4) four-story multifamily buildings (120 units total), as well as two (2) two-story commercial buildings and amenities on the property located at 9684, 9778, 9783, 9687 Technology Drive & 29001, 29004 I-Way Court, also known as Tax Map 25, Grid 4, Parcel 92 & 90.

The Committee determined that the project will need to address all agency comments as specified in the attached review letters and at ESDR. It was determined by the Committee that the Applicant will first need to coordinate with Talbot County to schedule a Pre-Application meeting to discuss the Access Permit for Airport Road and Goldsborough Neck Road, as well as the requirements of the Traffic Impact Study.

At this time, based on the ESDR sketch plan submission, Staff did not identify any constraints which would require action by the Board of Zoning Appeals.

Submission of an application for the Planning Commission is to be determined.

Please contact the Planning & Zoning Department at 410 822-1943 with any questions.
Sincerely,

Joseph A. Mayer
Plan Reviewer

# TOWN OF EASTON
## PLANNING & ZONING DEPARTMENT

P.O. Box 520
Easton, Maryland 21601
410-822-1943
www.EastonMD.gov


**DATE:** **May 14, 2025**
**TO:** **Brett Ewing & Jarret Beyer –** Lane Engineering, LLC (Agent)
**Scott Wagner** - % Easton Sunrise Partners, LLC (Owner)
**Cc:** **Miguel Salinas –** Director of Planning & Zoning Department
**Rick VanEmburgh –** Town Engineer

**FROM:** **Joseph A. Mayer -** Plan Reviewer, Planning & Zoning Department
**SUBJECT:** **9684, 9778, 9783, 9687 Technology Drive & 29001, 29004 I-Way Court - PUD Fox Chase Estates**

We reviewed the **May 7, 2025** Sketch Plan Submittal for the Subject Project and have the following comments:

## PLANNING & ZONING COMMENTS

**Sketch Site Plan Review #1**

1. Please submit a *Subdivision & Property Line Adjustment Application* with the required fee for Subdivision Major Review ($600 Base fee plus $400 per lot).

2. Per § Section 28-701 H(1)l from the Town's Zoning Ordinance, provide a 3-dimensional depiction of the project in a manipulatible file format (e.g., Google Sketchup).

3. The Town's Comprehensive Plan emphasizes connectivity for safety, accessibility, community building, and sustainability. This is a key principle. The Town of Easton's Comprehensive Plan's Transportation Chapter states that "*where possible, retrofit existing subdivisions with road connections within and between subdivisions to more closely approximate a gridded street system and increase connectivity between neighborhoods*." (p. 225).The Community Character chapter of the Comprehensive Plan also states "*The one new Design Principle to be added in this 2009 Plan concerns the connectivity of neighborhoods and subdivisions. In short, we believe that they should be connected to neighboring properties to the maximum extent possible. This is a fundamental characteristic of the older parts of Easton that is essential to emulate in new development projects.*" (p. 110). These quotes demonstrate the Comprehensive Plan's focus on creating new subdivisions and retrofitting existing subdivisions to connect. The Comprehensive Plan emphasizes the creation of new interconnected subdivisions and the retrofitting of existing ones to enhance connectivity. Staff requests

connectivity to Goldsborough Neck Road via a standard connection, not merely for emergency access.

4. The Cover Letter states that the project will exceed the code requirement of providing 25% of the residential density being devoted to affordable housing. Provide an estimated tabulation that depicts the type and number of dwelling units devoted to affordable housing.

5. Per Appendix B, Sketch Plan Submittal Checklist requires, *general location and description (r.e. Intended function, proposed species. etc.) of proposed landscaping.* List the proposed native species on a plan view and a Landscape Legend. Include proposed landscaping within the Sketch Site Plan. In addition, provide a basic list of native plant species.

6. Check the bufferyard requirements along Goldsborough Neck Road. There's no recorded Forest Conservation Easement adjacent to lots 153 through 158 to satisfy the bufferyard requirements. Please revise the bufferyard for "E6".

7. Lots 108 and 199-203, which are adjacent to the residential collector, shall include a bufferyard. **See attached mark up below.**

8. Complete the required number of street trees adjacent to the existing 150' Right-of-Way. **See attached mark up below.**

9. On sheet 5 of 6, revise the Typical Single Family Corner Lot Detail (Front Loaded). The proposed house on this lot extends beyond the Building Restriction Line. **See attached mark up below.**

10. Revise the Legend on sheet 4 of 6 to include the proposed *5' Wide Mulched Walking/Nature Trail*.

11. Sheet 6 of 6 designates Technology Drive and I-Way Court as a residential collector. Technology Drive terminates between lots 37 & 38. That road should extend to the property line and end at a temporary barricade. Same for the "Future Road Connection" between lots 9 & 10 adjacent to I-Way Court.

12. Label the total number of units for each proposed four-story muti-family building on all applicable plan views.

13. The cover letter and Traffic Impact Study mention a proposed daycare center, coffee shop, restaurant and dry cleaner. Consequently, please revise the parking requirements on sheet 1 of 6.

14. Will the wooded walking paths, dog park and two additional parks for elementary and pre-school aged youth (tot lots) be available to the public? If so, please indicate on sheet 1 of 6.

15. Label existing I-Way Court on all plan views.

16. Provide E.V. Charging Station Stalls for the multifamily units. E.V. Charging Station Stalls will need to have one available stall for ADA access within each parking facility. Please note within the Site Plan Data that new home construction with a garage, carport, or driveway must include a Level 2 EV charger or pre-wiring for one. For outdoor and indoor EV charging stations, they must be permanently connected and fastened, listed by an approved agency, rated for indoor/outdoor use, and installed according to manufacturer specifications. Additionally, cords must not cross sidewalks or driveways, and a clear path must be maintained.

17. Please clarify if sidewalk connections are included in the plan between the proposed residential units and the commercial buildings on Lots 9 and 10.

18. Add the zoning requirements for the BC - Business Commercial District and the proposed Planned Unit Development District (“PUD”) within the Site Pan Data on sheet 1 of 6.

19. Provide dimensions between the multi-family building units.

20. Indicate the locations of ADA-compliant spaces on the sketch plan for the multi-family buildings.

21. Illustrate pedestrian connectivity from the multi-family units to the residential sub-collector boulevard and the amenities area, including the clubhouse, pool, and pickleball courts.

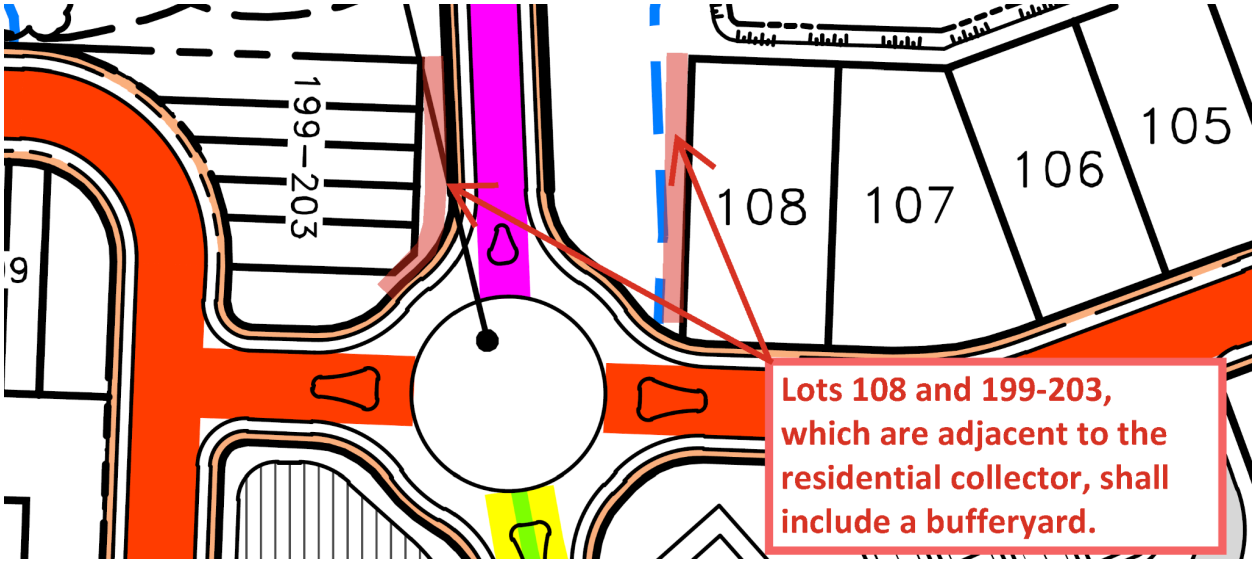
22. Dimension the existing road widths on all applicable plan views.

23. **Prior to Development Site Plan approval,** verify and add slope information for all ADA spaces, ramps, access aisles and landing areas. Check all ADA related spot elevations and obtain approval from the Building Inspection Department.

24. **Prior to Development Site Plan approval,** dumpster areas are to be ADA compliant. When new construction or alterations occur, ADA requires that the altered portion of the facility, including dumpster areas, be accessible to individuals with disabilities. This includes providing accessible routes to the dumpster, ensuring clear access to the dumpster itself, and providing proper signage.

25. **Prior to Development Site Plan approval,** provide Van Accessible ADA Parking Sign Detail to include the sign "*No Parking in Access Aisle*" with an arrow pointing to the access aisle.

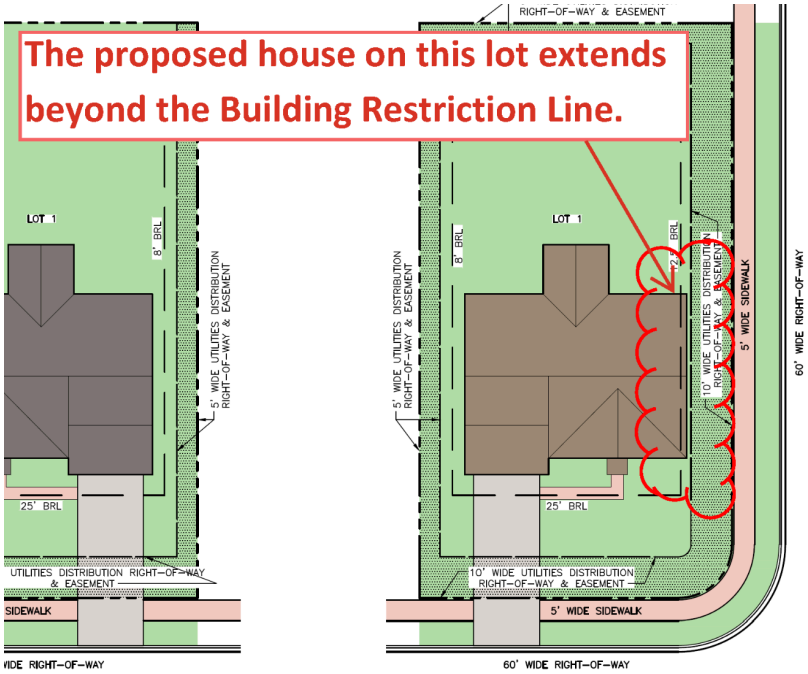
**Review Comment #7**

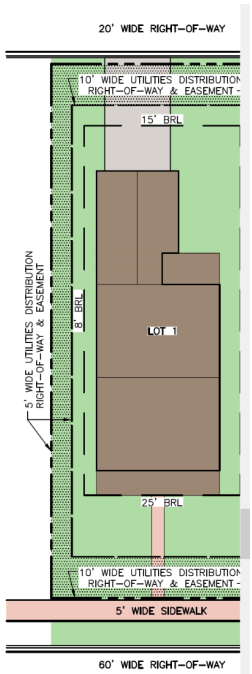



**Review Comment #8**



**Review Comment #9**




LE FAMILY LOT DETAIL
ONT LOADED)
ALE: 1" = 20'

TYPICAL SINGLE FAMILY CORNER LOT DETAIL
(FRONT LOADED)
SCALE: 1" = 20'

TYPICAL NEO-TRADITIONAL LOT
(REAR LOADED)
SCALE: 1" = 20'

**Plan Review Status**

| Sketch Site Plan Review | | | Comments |
|---|---|---|---|
| **Plans Approved** | ☐Y | ☒ N | Please review the comments above. Revise and resubmit. |
| **Forest Stand Delineation & Forest Conservation Plan** | | | |
| ☐ Required<br>☐ Submitted<br>☒ **Approved**<br>☐ Exempt | | | ***The development of this site has already been mitigated for Forest Conservation under the 2020 Forest Conservation Plan, recorded on record plat KMD 4/80G. Any impact into the existing Forest Conservation area would require an updated plan.*** |
| **Other** | | | |
| ☒ **Required**<br>☐ Submitted<br>☐ Approved | | | **PARK DEVELOPMENT FEES**<br>**Please note, there will be a required Park Development Fee for the proposed residential units. The Fee shall be due and payable at the time of the approval of the final plat, or final site plan as the case may be, containing such dwelling units.**<br><br>**IMPACT FEES**<br>**Please note, there will be a required Impact Fee for the proposed dwelling units. The Town's Impact Fees and Inspection Fees are to be paid upon the time you pick up your Building Permit. Please provide building square footage with appropriate use for calculation of Impact Fee.**<br><br>**Talbot County Impact Fees are due prior to obtaining your Building Permit. Please provide receipt of payment to the Town's Building Inspection Division.**<br><br>**Please add estimated Town Impact Fee calculations to cover sheet and add note below calculations; "*Note: The Impact Fee indicated in this notation shall not be construed as vested and until submission of the building application.*"**<br><br>**Demolition Permit Application**<br>**To be submitted to the Building Inspection Division for review.**<br><br>**Fence Permit Application**<br>**To be submitted to the Building Inspection Division for review.**<br><br>**Sign Permit Application**<br>**To be submitted to the Building Inspection Division for review.**<br><br>**The Applicant is to provide FAA Determination of no hazard to air that shall be required prior to site plan approval.** |

Please contact me if you have any questions. Thank you.

EASTON UTILITIES

Life. Made better.™

# Easton Utilities Commission

Plan Review Comments

**Date:** 05/28/25
**To:** Sierra Clem, Nancy Pinkney
**From:** Kia Gibbs on behalf of Aaron Goller, PE
**Address:** Technology & I-Way Court
**Project Name:** Fox Chase Estates
**Phase:** Sketch Site Plan
**SUBM:** 1
**Status:** **APPROVED AS NOTED**

Easton Utilities Commission has reviewed the above referenced plans and determined the plans are **"Approved As Noted".**

An **"Approved As Noted"** status means plans do not require resubmission to Easton Utilities. We ask that you implement the notes provided prior to Easton Utilities signing off on your plans. Notes are provided on the attached mark-up summary sheets.

Please contact Kia Gibbs, Engineering Administrative Support at kgibbs@eucmail.com should you have

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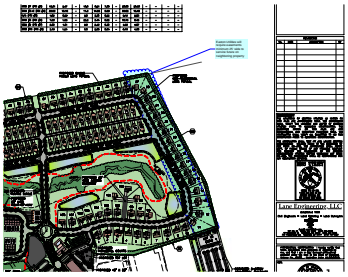
# 2025-05-07 Site Plan - Sketch PUD Fox Chase Estates (1).pdf Markup Summary

## Engineer (3)



**Subject:** Engineer
**Page Label:** 3 OF 6
**Date:** 5/28/2025 9:38:46 AM

Easton Utilities will require easements minimum 25' wide to service future on neighboring property

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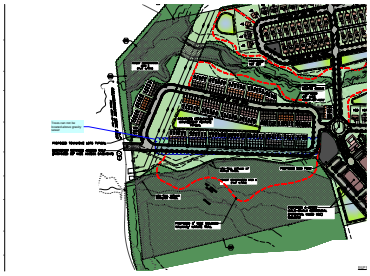
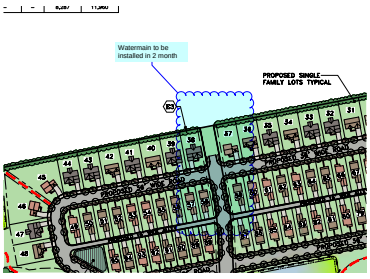


**Subject:** Engineer
**Page Label:** 3 OF 6
**Date:** 5/28/2025 9:39:41 AM

Trees can not be located above gravity sewer

---




**Subject:** Engineer
**Page Label:** 3 OF 6
**Date:** 5/28/2025 9:40:35 AM

Watermain to be installed in 2 month

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## Engineering (3)

**Subject:** Engineering
**Page Label:** 1 OF 6
**Date:** 5/28/2025 9:43:15 AM

Capital Charges Required 365 EDU's + commercial lots - 6 existing EDU's

Capital Charges Required 365 EDU's + commercial lots - 6 existing EDU's

NDSCAPE REQUIREMENTS SUMMARY
'R ZONING ORDINANCE (ALL NATIVE SPECIES):

---

**Subject:** Engineering
**Page Label:** 2 OF 6
**Date:** 5/28/2025 9:37:16 AM

Show existing utility easements and indicate what would be abandoned with plat

Show existing utility easements and indicate what would be abandoned with plat

---

**Subject:** Engineering
**Page Label:** 3 OF 6
**Date:** 5/28/2025 9:41:30 AM

Show existing utilities

**Show existing utilities**

## Velocity Text Box (1)

**Subject:** Velocity Text Box
**Page Label:** 1 OF 6
**Date:** 5/20/2025 11:42:03 AM

Refer to EU communications standards for Single family or Multi Family dwellings. C-3.08 and/or C-3.09

Refer to EU communications standards for Single family or Multi Family dwellings. C-3.08 and/or C-3.09

# PUD SKETCH PLAN
## FOR
# FOX CHASE ESTATES
## IN THE TOWN OF EASTON
## TALBOT COUNTY, MD

Capital Charges Required 365 EDU's + commercial lots - 6 existing EDU's

**SITE PLAN DATA**

PROPERTY OWNER: EASTON SUNRISE PARTNERS, LLC

TAX PARCEL 92 (108.631 ACRES)
LOT 1 PROPERTY ADDRESS: 9684 TECHNOLOGY DRIVE, EASTON, MD 21601
LOT 2 PROPERTY ADDRESS: 9778 TECHNOLOGY DRIVE, EASTON, MD 21601
LOT 3 PROPERTY ADDRESS: 9783 TECHNOLOGY DRIVE, EASTON, MD 21601
LOT 4 PROPERTY ADDRESS: 9687 TECHNOLOGY DRIVE, EASTON, MD 21601
DEED REFERENCE: 2754/19
PLAT REFERENCE: 89/149

TAX PARCEL 90 (4.185 ACRES)
LOT 9 PROPERTY ADDRESS: 29001 I-WAY COURT, EASTON, MD 21601
LOT 10 PROPERTY ADDRESS: 29004 I-WAY COURT, EASTON, MD 21601
DEED REFERENCE: 2804/456
PLAT REFERENCE: 4/80G

CURRENT ZONING: BC

PROPOSED ZONING: PUD

SITE AREA: 112.816 ACRES TOTAL

EXISTING DEVELOPMENT: THE PARCEL IS CURRENTLY AGRICULTURAL TILLED FARM LAND WITH SOME WOODLANDS.

PROPOSED DEVELOPMENT: MIXED USE RESIDENTIAL & COMMERCIAL

| | |
|---|---|
| SINGLE FAMILY: | 61 LOTS |
| NEO-TRADITIONAL: | 47 LOTS |
| TOWNHOUSES: | |
| 20' WIDE UNITS: | 65 LOTS |
| 22' WIDE UNITS: | 72 LOTS |
| MULTI-FAMILY: | 120 UNITS |
| TOTAL DWELLING UNITS: | 365 UNITS |

2-STORY COMMERCIAL BUILDING (LOT 9): 20,000 SF GFA

2-STORY COMMERCIAL BUILDING (LOT 10): 23,000 SF GFA

RESIDENTIAL SETBACKS PROPOSED:

FRONT: 25'
SIDE: 8'
REAR: 15'

PARKING REQUIRED:

| | |
|---|---|
| SINGLE FAMILY DETACHED DWELLING: | 2 SPACES/DWELLING; 108 X 2 = 216 SPACES REQUIRED; 216 PROVIDED |
| TOWNHOME UNIT: | 2 SPACES/TOWNHOME; 137 X 2 = 274 SPACES REQUIRED; 274 PROVIDED |
| MULTIFAMILY: | MINIMUM (1 SPACE/PER DWELLING UNIT); 120 X 1 = 120 SPACES REQUIRED<br>MAXIMUM (2 SPACE/PER DWELLING UNIT); 120 X 2 = 240 SPACES REQUIRED<br>PROVIDED: 190 SPACES (1.58 SPACES/ UNIT)<br>BIKE SPACES (0.5 SPACES/ DU): 120 / 0.5 = 60 BIKE SPACES REQUIRED |
| COMMERCIAL BUILDING: | |
| LOT 9 (20,000 SF) | MINIMUM (1 SPACE/250 SF); 20,000/250 = 80 SPACES REQUIRED<br>MAXIMUM (1 SPACE/140 SF); 20,000/140 = 143 SPACES REQUIRED<br>PROVIDED: 80 SPACES<br>BIKE SPACES (1/ 10 PARKING SPACES): 80/ 10 = 8 BIKE SPACES REQUIRED |
| LOT 10 (23,000 SF) | MINIMUM (1 SPACE/250 SF); 23,000/250 = 92 SPACES REQUIRED<br>MAXIMUM (1 SPACE/140 SF); 23,000/140 = 164 SPACES REQUIRED<br>PROVIDED: 106 SPACES<br>BIKE SPACES (1/ 10 PARKING SPACES): 106/ 10 = 11 BIKE SPACES REQUIRED |

SITE LIGHTING; ALL PROPOSED SITE LIGHTING SHALL BE SHARP CUTOFF LUMINAIRES ON MAXIMUM 18' HIGH POLES RESULTING IN NO MORE THAN 1-FOOT-CANDLE OF LIGHT AT PROPERTY PERIMETER.

AMENITY RECREATIONAL OPEN SPACE: 30% (33.845 AC.) REQUIRED; 34.4% (38.794 AC.) PROVIDED (EXCLUDING STORMWATER MANAGEMENT AREAS)

STORMWATER MANAGEMENT: QUANTITY CONTROL IS ADDRESSED. QUALITY TREATMENT ADDRESSED BY PROVIDING ENVIRONMENTAL SITE DESIGN IN ACCORDANCE WITH CHAPTER 5 OF THE MARYLAND STORMWATER DESIGN MANUAL, PROVIDING ESDV TO THE MAXIMUM EXTENT PRACTICABLE (MEP).

**APPLICATION COMPLIANCE: SEC. 28-701 (H)(1) (A) THROUGH (H)**

A. PROPOSED DEVELOPMENT LAYOUT - SHOWN HEREIN.

B. 0.760 ACRES TO BE AMENITY PARCEL, 0.630 ACRES± TO BE USED FOR DOG PARK, 0.410 ACRES TO BE USED FOR TOT LOTS, 0.210 ACRES TO BE USED FOR TRAIL, 36.784 ACRES± TO BE USED FOR FOREST CONSERVATION EASEMENT AREA & STREAM BUFFER.

C. THE PROPOSED LAYOUT SHOWS 4.185 AC± OF COMMERCIAL AREA.

D. TYPE OF DWELLING UNITS ARE DESCRIBED ON SHEET 4.

E. RESIDENTIAL LOTS ARE SHOWN ON THE PROPOSED LAYOUT.

F. LAND USE TABULATIONS ARE AS FOLLOWS:

| | |
|---|---|
| – SINGLE FAMILY DETACHED DWELLINGS: | 16.449 AC (14.58% OF SITE) |
| – NEO-TRADITIONAL SINGLE FAMILY DETACHED DWELLINGS: | 7.704 AC (6.83% OF SITE) |
| – TOWNHOUSE UNITS: | 8.411 AC (7.46% OF SITE) |
| – MULTIFAMILY: | 4.912 AC (4.35% OF SITE) |
| – AMENITY/ RECREATIONAL OPEN SPACE: | 38.794 AC (34.39% OF SITE) |
| – STORMWATER MANAGEMENT/ OPEN LANDSCAPE AREAS (ISLANDS, MEDIANS, TRAFFIC CIRCLE, ETC.): | 19.222 AC (17.04% OF SITE) |
| – INTERNAL RIGHT-OF-WAYS & WIDENING: | 13.139 AC (11.65% OF SITE) |
| – COMMERCIAL AREAS (LOTS 9 & 10): | 4.185 AC (3.70% OF SITE) |
| – FOREST CONSERVATION EASEMENT AREA: | 25.434 AC± (INCLUDED IN OTHER AREAS) |
| – BUFFERYARDS: | 2.006 AC± (INCLUDED IN OTHER AREAS) |

G. RESIDENTIAL DENSITY TABULATION: (3.5 SFD DU/AC ALLOWED) (5 MULTIFAMILY DU/AC ALLOWED)

– SINGLE FAMILY DETACHED DWELLINGS: 61 LOTS
– NEO-TRADITIONAL DETACHED DWELLINGS: 47
– TOWNHOMES: 137 UNITS
– MULTIFAMILY: 120 UNITS

THE MAXIMUM DENSITY PERMITTED IN THE PUD DISTRICT IS 16 DU/ACRE.
THE PROPOSED DENSITY IS 3.36 DU/ACRE CONSISTENT WITH MDP GUIDELINES FOR SMART GROWTH.

H. CONCEPTUAL DWELLING & COMMERCIAL ELEVATIONS ARE INCLUDED WITH THIS SUBMITTAL.

I. PROPOSED VEHICULAR, PEDESTRIAN, AND BICYCLE CIRCULATION PROVIDED ON PLAN AND COMPLIANT WITH TOWN STANDARDS.

J. FOREST CONSERVATION HAS BEEN PREVIOUSLY SATISFIED FOR THIS SITE. REFER TO THE FOREST CONSERVATION PLAN INCLUDED AS PART OF A FINAL PLAT, PHASE 1, "EASTON TECHNOLOGY CENTER" PREPARED BY LANE ENGINEERING, INC., DATED MAY, 1997, RECORDED AMONG THE LAN RECORDS OF TALBOT COUNTY, MARYLAND, IN PLAT LIBER 4, BEGINNING AT FOLIO 80G.

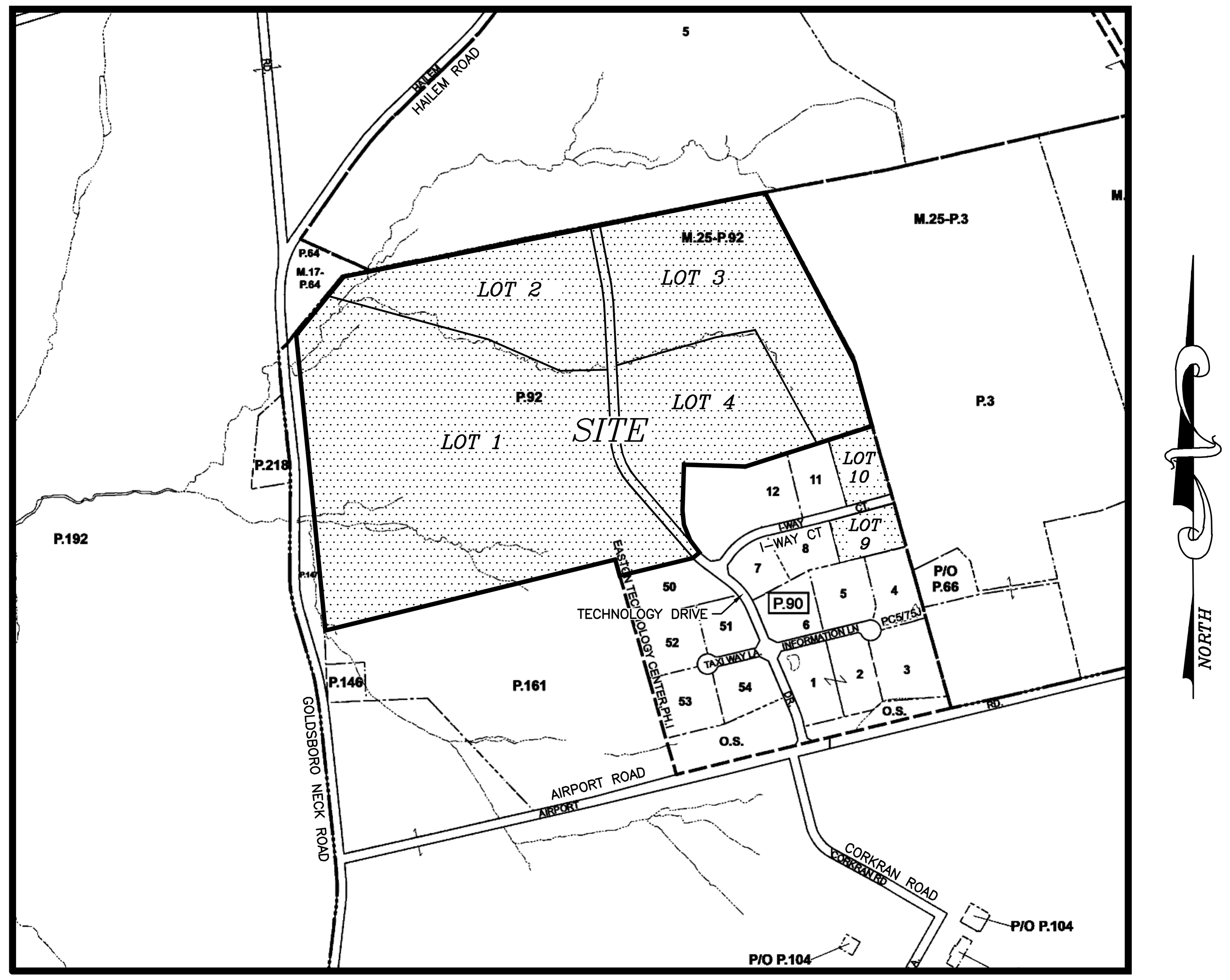
K. METES AND BOUNDS DESCRIPTION INCLUDED WITH THIS SUBMITTAL.

L. SITE & BUILDING ILLUSTRATIVES ENCLOSED.

M. SEE PUD COMPLIANCE NARRATIVE ENCLOSED.

N. ESTABLISHED DEVELOPMENT STANDARDS:

| | |
|---|---|
| – RESIDENTIAL SETBACKS: | SEE ABOVE |
| – PARKING LOT SETBACKS FROM PROPERTY LINES: | 1' PROPOSED |
| – MULTIFAMILY BUILDING HEIGHT: | 58'± PROPOSED |
| – MULTIFAMILY FRONT SETBACK PROPOSED: | 15' PROPOSED |




VICINITY MAP

600' 300' 0' 300' 600' 1,200'
SCALE IN FEET

**INDEX OF SHEETS**



| SHEET No. | TITLE |
|---|---|
| 1 | TITLE SHEET & PROJECT NOTES |
| 2 | EXISTING CONDITIONS AND LINE REVISION |
| 3 | SKETCH CONCEPT PLAN |
| 4 | SUBDIVISION PLAT SKETCH & LOT EXHIBIT |
| 5 | LOT DETAILS |
| 6 | TRANSPORTATION EXHIBIT & STREET DETAILS |



Refer to EU communications standards for Single family or Multi Family dwellings. C-3.08 and/or C-3.09

**LANDSCAPE REQUIREMENTS SUMMARY**
**PER ZONING ORDINANCE (ALL NATIVE SPECIES):**

**SECTION 1014.6.A.:**

1. STREET TREES @ 1 TREE/25' OF STREET CENTERLINE LENGTH
10,085 LF / 25 = 404 TREES REQUIRED

**LANDSCAPE BUFFERYARD REQUIREMENTS (SECTION 1014.7.E.)**

10' WIDE LANDSCAPE BUFFERYARD 'E' (E1-E3)
4,249 LF LESS RIGHT-OF-WAY (60 LF) = 4,189 LF / 50' = 83.8 PLANT UNITS (PU)

1 SHADE/ CANOPY TREE X 83.8 PU = 84 SHADE/ CANOPY TREES REQUIRED
3 EVERGREEN TREES X 83.8 PU = 251 EVERGREEN TREES REQUIRED

10' WIDE LANDSCAPE BUFFERYARD 'E' (E4-E7)
3,665 LF LESS DELMARVA UTILITY EASEMENT & EMERGENCY ACCESS EASEMENT (275 LF)= 3,665 LF
3,665 LF / 50' = 73.3 PLANT UNITS (PU)

1 SHADE/ CANOPY TREE X 73.3 PU = 74 SHADE/ CANOPY TREES REQUIRED
3 EVERGREEN TREES X 73.3 PU = 220 EVERGREEN TREES REQUIRED

THE EXISTING FOREST CONSERVATION EASEMENT ALONG THESE AREAS MEETS OR EXCEEDS BUFFER YARD REQUIREMENT.

10' WIDE LANDSCAPE BUFFERYARD 'E' (E8)
405 LF / 50' = 8.1 PLANT UNITS (PU)

1 SHADE/ CANOPY TREE X 8.1 PU = 8 SHADE/ CANOPY TREES REQUIRED
3 EVERGREEN TREES X 8.1 PU = 24 EVERGREEN TREES REQUIRED

10' WIDE LANDSCAPE BUFFERYARD 'E' (E9)
482 LF / 50' = 8.1 PLANT UNITS (PU)

FENCE WITH 3 LARGE EVERGREEN SHRUBS X 8.1 PU = PRIVACY FENCE & 24 LARGE EVERGREEN SHRUBS REQUIRED

**COMPREHENSIVE PLAN DESIGN PRINCIPLES RESPONSE NARRATIVE**

PRINCIPLE #1- INTEGRATED USES ARE DESIRABLE- THIS DEVELOPMENT PROPOSAL ESTABLISHES ATTAINABLE HOUSING AT A TIME WHEN DEMAND IS HIGH BUT SUPPLY IS EXTREMELY LOW. EASTON'S HOUSING MARKET IS IN NEED OF A NEW COMMUNITY WITH HOUSING OPPORTUNITIES PROVIDED HEREIN.

PRINCIPLE #2- NATURAL FEATURES SHOULD DETERMINE DESIGN- A PERENNIAL STREAM WITH BUFFERS; SITE LAYOUT IS DICTATED TO AVOID BUFFERS BY MAXIMIZING DENSITY, COMPLIANCE WITH TOWN ZONING AND SUBDIVISION DESIGN STANDARDS, REDUCING IMPACTS TO NEIGHBORING PROPERTIES AND PROVIDING IDEAL LOCATIONS FOR AMENITY/ RECREATIONAL OPEN SPACE AND MIXED RESIDENTIAL AND COMMERCIAL USES.

PRINCIPLE #3- AUTOMOBILES SHOULD NOT DETERMINE DESIGN- COMMUNITY DESIGN FOCUSES ON PARKS/GREEN SPACE AS MAIN FOCAL POINTS AND TO REDUCE IMPACTS TO NEIGHBORING PROPERTIES. SIDEWALKS PROVIDED THROUGHOUT TO IMPROVE PEDESTRIAN CIRCULATION TO ACCOMMODATE AND UTILIZE THE SURROUNDING RECREATION AND COMMERCIAL SPACES.

PRINCIPLE #4- AMPLE OPEN SPACE SHOULD BE PROVIDED- THE PROJECT COMPLIES WITH THE TOWN'S PUD STANDARDS OF 30% OPEN SPACE, AND THE FOREST CONSERVATION REQUIREMENTS OF 25.434 ACRES AND WILL PROVIDE ADEQUATE PASSIVE AND ACTIVE RECREATIONAL OPPORTUNITIES FOR THE RESIDENTS.

PRINCIPLE #5- ARCHITECTURE SHOULD RESPECT EASTON'S HISTORICAL DEVELOPMENT- THIS APPLICATION PROPOSES ARCHITECTURE COMPATIBLE WITH EASTON'S WORKFORCE HOUSING, SINGLE & MULTIFAMILY DEVELOPMENTS AND UTILIZES MATERIALS AND DETAILING COMMONLY FOUND THROUGH-OUT EASTON.

PRINCIPLE #6- SIGNS SHOULD INFORM BUT NOT DOMINATE- SIGNAGE WILL COMPLY WITH BASE ZONING REQUIREMENTS.

PRINCIPLE #7- NEIGHBORHOODS SHOULD CONTAIN A DIVERSITY OF HOUSING TYPES- MULTIPLE DWELLING/TOWNHOME OPTIONS, EACH WITH MULTIPLE EXTENSION OPTIONS, ARE AVAILABLE FROM THE DEVELOPER/APPLICANT.

PRINCIPLE #8 RESIDENTIAL NEIGHBORHOODS SHOULD BE INTERESTING PLACES- COMMUNITY/ MULTIUSE PARKS INTEGRATED THROUGHOUT THE DEVELOPMENT TO ENHANCE THE CHARACTER OF THE NEIGHBORHOOD.

PRINCIPLE #9- NEIGHBORHOODS SHOULD CONNECT- TWO VEHICULAR ACCESS POINTS FOR FUTURE INTERCONNECTION ARE PROPOSED; COMMUNITY PROVIDES SIDEWALKS THROUGHOUT TO IMPROVE PEDESTRIAN MOVEMENT AND ACCESS TO COMMUNITY PARK AND COMMERCIAL SPACE.

**STATEMENT OF PURPOSE & INTENT**

THE PURPOSE OF THESE PLANS IS TO OBTAIN PUD SKETCH SITE PLAN APPROVAL FOR A PROPOSED MIXED USE RESIDENTIAL AND COMMERCIAL DEVELOPMENT.

**SITE ADDRESS**

TECHNOLOGY DRIVE
EASTON, MD 21601

**OWNER**

EASTON SUNRISE PARTNERS, LLC
928 RIVERVIEW TERRACE
ST. MICHAELS, MD 21663

**LAND PLANNER/CIVIL ENGINEER**

LANE ENGINEERING, LLC
C/O BRETT C. EWING, AICP
C/O JARRET BEYER, PE
117 BAY STREET
EASTON, MD 21601
(410) 822-8003

REVISIONS

| No. | DATE | DESCRIPTION | BY |
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WARNING!!
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TWO WORKING DAYS NOTICE


Lane Engineering, LLC
Established 1986
Civil Engineers • Land Planning • Land Surveyors
E-mail: general@leinc.com
117 Bay St. Easton, MD 21601 (410) 822-8003
15 Washington St. Cambridge, MD 21613 (410) 221-0818
354 Pennsylvania Ave. Centreville, MD 21617 (410) 758-2095


PROFESSIONAL CERTIFICATION: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 48188 , Expiration Date: 12/28/2025.

SEAL
STATE OF MARYLAND · JARRET J. BEYER · 48188 · PROFESSIONAL ENGINEER
5/7/25
DATE

TITLE SHEET
& PROJECT NOTES

FOR
FOX CHASE ESTATES

*IN THE TOWN OF EASTON, ELECTION WARD 1*
*TALBOT COUNTY, MARYLAND*
*TAX MAP 25 GRID 4 PARCEL 92 LOTS 1, 2, 3 & 4*

| ISSUED FOR: | DATE: | BY: |
|---|---|---|
| AGENCY REVIEW | 5/7/25 | BCE |

| | |
|---|---|
| SHEET No. 1 OF 6 | DATE: |
| | JOB No. 220210 |
| SCALE: AS NOTED | FILE No. 3208 |

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Date: 05/07/2025 - 8:39am User: wbarnhart Project Manager: BCE
Drawing Path: C:\swap\AcPublish_25408\RSK-PLTS-220210.dwg | Sheet1TitleSheet
XREF File(s): RSK-BASE-220210/XRN-BASE-220210/RBS-BASE-2436-220210/VLD-BASE-220210/CSK-BASE-220210/LLP-PUD-BASE-220210/CSK-Road-BASE-220210/CSK-LOT-BASE/XRN-LOTS-BASE-220210/RAR-BASE-Rev-220210

## SITE NOTES

EXISTING ZONING CLASSIFICATION: BC (BUSINESS COMMERCIAL)
EXISTING SETBACKS:
FRONT– 40'
SIDE– 10'
REAR– 30'

THE PROPERTY SHOWN HEREON LIES ENTIRELY OUTSIDE OF THE CHESAPEAKE BAY CRITICAL AREA AS SHOWN ON THE TALBOT COUNTY CRITICAL AREA MAPS IN ACCORDANCE WITH TALBOT COUNTY BILL No. 1295, ENACTED AUGUST 12, 2014.

THE NONTIDAL WETLANDS AND ASSOCIATED BUFFERS SHOWN HEREON WERE TAKEN FROM A JURISDICTIONAL DETERMINATION PLAT, PREPARED BY LANE ENGINEERING, LLC, DATED 10–20–20.

THE STREAMS AND ASSOCIATED BUFFERS SHOWN HEREON WERE TAKEN FROM A JURISDICTIONAL DETERMINATION PLAT, PREPARED BY LANE ENGINEERING, LLC, DATED 10–20–20.

THE IMPROVEMENTS SHOWN HEREON WERE FIELD LOCATED BY LANE ENGINEERING, LLC ON 03–01–24.

THE DIMENSIONS OF BUILDINGS, STRUCTURES AND SETBACKS WERE MEASURED TO THE NEAREST 0.1 FOOT.

THE TREE LINE SHOWN HEREON WAS TAKEN FROM THE 2022 TALBOT COUNTY AERIALS AND IS APPROXIMATE ONLY.

THE CONTOURS SHOWN HEREON WERE TAKEN FROM FIELD RUN TOPOGRAPHY BY LANE ENGINEERING, LLC ON 03–01–24.

THE ELEVATIONS SHOWN HEREON ARE NAVD 1988 DATUM AS ESTABLISHED BY GPS METHODOLOGY TO CORS STATIONS MDNM (NGS CERTIFICATE PENDING) AND LOYF (PID DK7414) COMBINED FACTOR: 0.99995360.

THE COORDINATES SHOWN HEREON ARE BASED ON THE MARYLAND COORDINATE SYSTEM NAD83 (2011), AS ESTABLISHED BY GPS METHODOLOGY TO CORS STATIONS MDNM (NGS CERTIFICATE PENDING) AND LOYF (PID DK7414) COMBINED FACTOR: 0.99995360. THE DISTANCES SHOWN HEREON ARE GROUND BASED.

NO ABSTRACT OF TITLE, TITLE COMMITMENT, NOR RESULTS OF A TITLE SEARCH HAVE BEEN FURNISHED TO LANE ENGINEERING, LLC. THE BUILDING RESTRICTION LINES AS SHOWN HEREON ARE BASED SOLELY ON THE CURRENT TOWN OF EASTON COUNTY ZONING ORDINANCE APPLICABLE TO THE PROPERTY SHOWN HEREON AND ARE SUBJECT TO CHANGE WITH THE REVISION OF ZONING LAWS. OTHER DOCUMENTS OF RECORD MAY EXIST THAT MAY AFFECT THE SURVEYED PROPERTY REFLECTED HEREON, INCLUDING BUT NOT LIMITED TO EASEMENTS, ENCUMBRANCES, RESTRICTIVE COVENANTS, PLAT RESTRICTIONS OR ANY OTHER FACTS THAT AN ACCURATE, COMPLETE AND CURRENT TITLE SEARCH MAY DISCLOSE.

## FLOOD DATA

A PORTION OF THE PROPERTY SHOWN HEREON IS LOCATED IN THE NATIONAL FLOOD INSURANCE PROGRAM (NFIP) SPECIAL FLOOD HAZARD AREA (SFHA) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD. THE PROPERTY IS MAPPED IN THE "AE" (EL 5) AND "X" FLOOD ZONES AS SHOWN ON THE FLOOD INSURANCE RATE MAPS FOR COMMUNITY NO. 240067, MAP NO. 24041C0180D FOR THE TOWN OF EASTON, MARYLAND. THE 1% ANNUAL CHANCE FLOOD (100–YEAR FLOOD), ALSO KNOWN AS THE BASE FLOOD, IS THE FLOOD THAT HAS A 1% CHANCE OF BEING EQUALED OR EXCEEDED IN ANY GIVEN YEAR. THE SFHA IS THE AREA SUBJECT TO FLOODING BY THE 1% ANNUAL CHANCE FLOOD. THE SFHA INCLUDES ZONES A, AE, AH, AO, AR, A99, V & VE. THE BASE FLOOD ELEVATION (BFE) IS THE WATER SURFACE ELEVATION OF THE 1% ANNUAL CHANCE FLOOD. FLOOD INSURANCE MAY BE REQUIRED FOR STRUCTURES LOCATED IN THE SPECIAL FLOOD HAZARD AREA.

FLOOD ZONE LEGEND
ZONES A, AE, AH, AO, AR, A99, V & VE – 1% ANNUAL CHANCE FLOOD
ZONE X – AREA OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD

THE FLOOD DATA SHOWN HEREON IS BASED ON AVAILABLE MAPPED AND/OR DIGITAL INFORMATION AND IS DEPICTED AS DIRECTED AND REQUIRED BY FEDERAL, STATE AND LOCAL REGULATIONS. IT IS SUBJECT TO DATA INACCURACIES AND REGULATORY CHANGE AND SHOULD BE VERIFIED PRIOR TO FINALIZING DEVELOPMENT OR IMPROVEMENT PLANS FOR THE SUBJECT LANDS.

## *ADJACENT PROPERTY OWNERS*

*TAX MAP 25, PARCEL 90*

| *LOT #* | *CURRENT OWNER* | *DEED* | *PLAT* | *ZONING* | *USE* |
|---|---|---|---|---|---|
| *LOT 4* | *29000 INFORMATION LANE, LLC* | *2412/251* | *4/80* | *BC* | *INDUSTRIAL* |
| *LOT 5* | *29000 INFORMATION LANE, LLC* | *2412/251* | *4/80* | *BC* | *INDUSTRIAL* |
| *LOT 8* | *DAVIS M. RICHARDSON & BARBI B. RICHARDSON* | *2256/350* | *4/80* | *BC* | *INDUSTRIAL* |
| *LOT 11* | *ZIG, LLC* | *2529/336* | *4/80* | *BC* | *INDUSTRIAL* |
| *LOT 12* | *EASTON SUNRISE PARTNERS, LLC* | *2705/413* | *91/51* | *BC* | *INDUSTRIAL* |
| *LOT 13* | *EASTON SUNRISE PARTNERS, LLC* | *2705/413* | *91/51* | *BC* | *INDUSTRIAL* |
| *LOT 50* | *AVAS 5150 TECHNOLOGY, LLC* | *2935/500* | *4/80* | *BC* | *INDUSTRIAL* |

### PROPERTY BOUNDARY CURVE TABLE

| CURVE | RADIUS | ARC LENGTH | TANGENT | CHD. BEARING | CHD. LENGTH |
|---|---|---|---|---|---|
| C1 | 725.00' | 108.11' | 54.16' | S 06°39'18" E | 108.01' |
| C2 | 775.00' | 115.57' | 57.89' | N 06°39'18" W | 115.46' |
| C3 | 525.00' | 360.93' | 187.93' | S 22°04'42" E | 353.87' |
| C4 | 475.00' | 326.56' | 170.03' | N 22°04'42" W | 320.17' |
| C7 | 325.00' | 248.80' | 130.86' | S 19°50'30" E | 242.77' |
| C8 | 375.00' | 14.08' | 7.04' | N 42°50'55" W | 14.08' |

Show existing utility easements and indicate what would be abandoned with plat




| REVISIONS | | | |
|---|---|---|---|
| No. | DATE | DESCRIPTION | BY |
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Civil Engineers • Land Planning • Land Surveyors
E–mail: general@lane.com
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15 Washington St. Cambridge, MD 21613 (410) 221–0818
354 Pennsylvania Ave. Centreville, MD 21617 (410) 758–2095


PROFESSIONAL CERTIFICATION: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 48188 , Expiration Date: 12/28/2025.

SEAL

STATE OF MARYLAND — BRIAN C. ENGLAND — 48188 — PROFESSIONAL ENGINEER

5/7/25
DATE

# EXISTING CONDITIONS & LINE REVISION PLAN

FOR
FOX CHASE ESTATES

*IN THE TOWN OF EASTON, ELECTION WARD 1*
*TALBOT COUNTY, MARYLAND*
*TAX MAP 25 GRID 4 PARCEL 92 LOTS 1, 2, 3 & 4*

| ISSUED FOR: | DATE: | BY: |
|---|---|---|
| AGENCY REVIEW | 5/7/25 | BCE |

SHEET No. 2 OF 6
DATE:
JOB No. 220210
SCALE: AS NOTED
FILE No. 3208

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Date: 05/07/2025 – 8:39am User: wbarnhart Project Manager: BCE
Drawing Path: C:\swap\XuPublish_25408\RSK–PLTS–220210.dwg | Sheet2ExistingConditions
XREF File(s): RSK–BASE–220210/XRH–BASE–220210/RBS–BASE–2438–220210/WLD–BASE–220210/CSK–BASE–220210/LLP–PUD–BASE–220210/CSK–Road–BASE–220210/CSK–LOT–BASE/XRN–LOTS–BASE–220210

## ESD SUMMARY CHART

| DRAINAGE AREA | TYPE OF ESD PRACTICE | TYPE OF ESD PRACTICE (STRUCTURE NAME) | ON-SITE OR OFF-SITE STRUCTURE | RUNOFF CURVE NUMBER (RCN) WEIGHTED | MARYLAND GRID COORDINATE NAD 83 METERS NORTHING | MARYLAND GRID COORDINATE NAD 83 METERS EASTING | ESD PRACTICE TOTAL DRAINAGE AREA (ACRES) | ESD PRACTICE IMPERVIOUS DRAINAGE AREA (ACRES) | SURFACE AREA OF ESD PRACTICE (ACRES) | TARGET PE (IN) | ACTUAL PE (IN) | TARGET ESDv ($FT^3$) | ACTUAL ESDv ($FT^3$) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | SGW | – | ON-SITE | – | 419188.37 | 1576174.97 | 13.56 | 3.77 | 0.48 | – | – | 24,893 | 33,969 |
| 7 | SGW | – | ON-SITE | – | 419856.51 | 1575073.59 | 16.94 | 7.66 | 1.30 | – | – | 46,366 | 78,668 |
| 8 | SGW | – | ON-SITE | – | 420064.31 | 1576351.18 | 9.72 | 2.95 | 0.44 | – | – | 22,060 | 31,299 |
| 9 | SGW | – | ON-SITE | – | 420049.62 | 1577135.65 | 4.54 | 1.26 | 0.44 | – | – | 8,468 | 13,821 |
| 10 | SGW | – | ON-SITE | – | 420506.39 | 1576908.27 | 6.69 | 3.05 | 0.43 | – | – | 20,131 | 31,315 |
| 11 | SGW | – | ON-SITE | – | 420391.69 | 1576269.90 | 6.90 | 2.84 | 0.46 | – | – | 18,949 | 29,477 |
| 12 | SGW | – | ON-SITE | – | 420315.77 | 1575876.69 | 4.53 | 2.11 | 0.35 | – | – | 16,985 | 21,617 |
| 13 | SGW | – | ON-SITE | – | 420639.18 | 1575182.56 | 5.15 | 1.66 | 0.39 | – | – | 13,984 | 17,797 |
| 14 | SGW | – | ON-SITE | – | 419230.71 | 1577314.09 | 2.00 | 1.01 | 0.11 | – | – | 6,559 | 8,590 |
| 15 | SGW | – | ON-SITE | – | 419596.61 | 1577326.64 | 2.18 | 1.24 | 0.15 | – | – | 8,287 | 11,960 |

## SWM QUANTITY SUMMARY CHART

| PRACTICE | DA (ACRES) | IMPERVIOUS (ACRES) | RCN | Tc (MINUTES) | PRE 2 YEAR | POST 2 YEAR | WSE | PRE 10 YEAR | POST 10 YEAR | WSE | PRE 100 YEAR | POST 100 YEAR | WSE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SWM #1 (POI #1) | 13.56 | 3.77 | – | 6.0 | 7.12 | 1.15 | – | 15.96 | 11.98 | – | – | – | – |
| SWM #2 (POI#2) | 17.27 | 7.71 | – | 6.4 | 17.49 | 0.60 | – | 38.65 | 8.73 | – | – | – | – |
| SWM #7 (POI #3) | 15.31 | 2.47 | – | 13.3 | 8.21 | 7.38 | – | 20.85 | 20.63 | – | – | – | – |
| SWM #3-6 (POI #4) | 35.03 | 10.10 | – | 11.6 | 14.56 | 0.99 | – | 36.82 | 16.48 | – | – | – | – |
| N/A (POI #5) | 1.86 | 0.29 | – | 6.8 | 3.30 | 0.22 | – | 9.16 | 2.05 | – | – | – | – |
| SWM #8 (POI #6) | 7.03 | 1.68 | – | 22.2 | 3.44 | 0.02 | – | 10.70 | 0.45 | – | – | – | – |
| SWM #9 (POI #7) | 2.00 | 1.01 | – | 6.0 | 2.43 | 0.30 | – | 4.93 | 4.07 | – | – | – | – |
| SWM #10 (POI #8) | 2.19 | 1.24 | – | 6.0 | 2.98 | 0.34 | – | 6.16 | 4.93 | – | – | – | – |




BUFFERYARD LEGEND

(E) 10' WIDE BUFFERYARD 'E'

NOTE: PROPOSED BUFFERYARDS UTILIZE LANDSCAPE OVERLAPPING CREDITS FOR FOREST CONSERVATION

150' 75' 0' 75' 150' 300'

SCALE IN FEET

NAD 83 (2011) MD COORDINATE SYSTEM

NOTE:

THE LAYOUT AS SHOWN HEREON IS CONCEPTUAL ONLY AND NOT INTENDED TO BE UTILIZED FOR DESIGN OR CONSTRUCTION PURPOSES.

REVISIONS

| No. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

WARNING!!

THE LOCATIONS OF EXISTING UTILITIES AS SHOWN ON THIS PLAN ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF EXISTING UTILITIES PRIOR TO BEGINNING CONSTRUCTION. THE QUANTITIES SHOWN ON THIS PLAN ARE FOR INFORMATIONAL AND PERMITTING PURPOSES ONLY. THE CONTRACTOR SHALL VERIFY ALL QUANTITIES TO HIS OWN SATISFACTION PRIOR TO BEGINNING CONSTRUCTION.

THE CONTRACTOR SHALL TEST PIT AND LOCATE EXISTING UNDERGROUND UTILITIES PRIOR TO THE BEGINNING OF ANY WORK ON-SITE. THE CONTRACTOR SHALL NOTIFY DEPT. OF PUBLIC WORKS OF ANY POSSIBLE CONFLICT AND REQUEST THE RELOCATION OF THE EXISTING UNDERGROUND UTILITIES BEFORE BEGINNING ANY WORK ON-SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY RELOCATION EXPENSE.

MISS UTILITY
DIG WITH CARE
BEFORE YOU DIG CALL 1-800-441-8355 OR 811
PROTECT YOURSELF, GIVE TWO WORKING DAYS NOTICE


Lane Engineering, LLC
Established 1986
Civil Engineers • Land Planning • Land Surveyors
E-mail: general@lanei nc.com
117 Bay St. Easton, MD 21601 (410) 822-8003
15 Washington St. Cambridge, MD 21613 (410) 221-0818
354 Pennsylvania Ave. Centreville, MD 21617 (410) 758-2095


PROFESSIONAL CERTIFICATION: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 48188 , Expiration Date: 12/28/2025.

SEAL

STATE OF MARYLAND · BRENT C. ENGLAND · 48188 · PROFESSIONAL ENGINEER

5/7/25
DATE

# SKETCH CONCEPT PLAN

FOR

## FOX CHASE ESTATES

*IN THE TOWN OF EASTON, ELECTION WARD 1*
*TALBOT COUNTY, MARYLAND*
*TAX MAP 25 GRID 4 PARCEL 92 LOTS 1, 2, 3 & 4*

| ISSUED FOR: | DATE: | BY: |
|---|---|---|
| AGENCY REVIEW | 5/7/25 | BCE |

SHEET No. 3 OF 6

SCALE: AS NOTED

DATE:

JOB No. 220210

FILE No. 3208


Date: 05/07/2025 – 8:39am User: wbarnhart Project Manager: BCE
Drawing Path: C:\swap\AcPublish_25408\RSK-PLTS-220210.dwg | Sheet3SketchConceptPlan
XREF File(s): RSK-BASE-220210/XRN-BASE-220210/RBS-BASE-2438-220210/VLD-BASE-220210/CSK-BASE-220210/LUP-PUD-BASE-220210/CSK-Road-BASE-220210/CSK-LOT-BASE/XRN-LOTS-BASE-220210/RAR-BASE-Rev-220210
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TOWN OF
**EASTON**
ENGINEERING DEPARTMENT

**DATE:** **May 17, 2025**

**TO:** **Brett Ewing - Lane Engineering**

**cc:** **Sierra Clem - Town of Easton**

**FROM:** **Rick Van Emburgh, P.E. – Town Engineer**

**SUBJECT:** **Fox Chase**
**Sketch Site Plan & Sketch Stormwater Management Plan Review**

I reviewed the Application for the Subject project received on 5/7/2025 and the Traffic Impact Study received on 5/14/2025.

The **Sketch Plan** is **Acceptable to the Engineering Department with the following conditions** and **Sketch Stormwater Management Plan** is **Approved with the following conditions:**

1. **SHEET 3 OF 6 -** The EMERGENCY SERVICES ACCESS on Goldsborough Neck Road is located on Town of Easton Property. I support this connectivity to Goldsborough Neck Road, but prefer a full entrance rather than emergency only. The Town Council will need to agree to this connection because it is proposed on Town property.
2. **SHEET 3 OF 6 - ESD SUMMARY CHART -** Provide Total values as last row in the Chart.
3. **SHEET 3 OF 6 -** Provide adequate width between Lots 45 and 46 to provide access for construction vehicles/equipment to construct and maintain the proposed stormwater management feature behind Lot 46.
4. **SHEET 3 OF 6 -** Maintain proposed ROW between Lots 37 and 38, but continue curb and gutter across the ROW stub and do not provide asphalt north of the proposed intersection.
5. **SHEET 3 OF 6 -** Extend/connect proposed sidewalk around proposed 4-story multi-family residential buildings to proposed boulevard sidewalks.
6. **SHEET 5 OF 6 -** Dimension the length of the driveway from back of sidewalk to face of garage, or edge of alley pavement to face of garage. This should be at least 18 feet (the length of a parking space) but Town Zoning Code requires 10 feet wide and 35 feet long (28-1001.2.J).
7. **SHEET 5 OF 6** - Provide Visibility Triangles per TOE-R-2.05 (where proposed easements are shown).
8. **SHEET 6 OF 6 - RESIDENTIAL SUB-COLLECTOR (BOULEVARD) -** Provide 18 feet (12’ Travel Lane and 6’ Shoulders) for paved areas to allow safe passage of emergency vehicles or work vehicles.

P.O. Box 520, Easton, Maryland 21601
410-820-8822
Engineering@EastonMD.gov - www.EastonMD.gov

9. **SHEET 6 OF 6 - RESIDENTIAL COLLECTOR -** Provide at least 27 feet between curbs (30 feet is preferred) to allow safe passage of emergency vehicles or work vehicles.
10. **SWM -** Ponds or other BMPs in Chapter 3 of the Design Manual may be proposed in lieu of Submerged Gravel Wetlands.
11. **SWM -** Provide 100-year storm calculations.
12. **PARKS -** The project should be presented to the Park Advisory Board for a recommendation on the proposed park improvements.
13. **TRAFFIC IMPACT STUDY** - Provide the existing and proposed number of trips at each study point/intersection as well as the % increase. The Traffic Impact may need to be updated if full access is provided on Goldsborough Neck Road.

Please contact me if you have any questions. Thank you.

EASTON AIRPORT
AVIATION GATEWAY TO THE EASTERN SHORE

410-770-8055
www.EastonAirport.com
29051 Corkran Road, Easton, MD 21601

May 14, 2025

Easton Sunrise Partners, LLC c/o Scott Wagner
928 Riverview Terrace
St. Michaels, MD 21663

Re: Fox Chase Estates

Dear Mr. Wagner,

In our initial review, it appears this project proposes to remove trees that are considered obstructions to the navigable airspace under 14 CFR Part 77 (See Graphic on Page 2). Easton Airport supports the removal of all trees that obstruct the airspace. We recommend not 'retaining' forest areas that are also obstructions to airspace, as presently planned.

Due to the project's proximity to Easton Airport, it meets the requirements to have an Aeronautical Study completed by the Federal Aviation Administration (FAA). As the project sponsor, you must file a Notice of Proposed Construction or Alteration (FAA Form 7460-1) with the FAA. Given multiple buildings are proposed, I recommend each grouping of homes could be filed for the point closest to the airport instead of 365 individual per structure.

Please follow the guidance on the FAA's Obstruction Evaluation / Airport Airspace Analysis website (https://oeaaa.faa.gov).

Additionally, as this development will be close to the airport, and future homeowners will be subjected to high levels of aircraft noise, I recommend that a new avigation easement over the entire property be granted to Easton Airport to ensure the airspace is protected

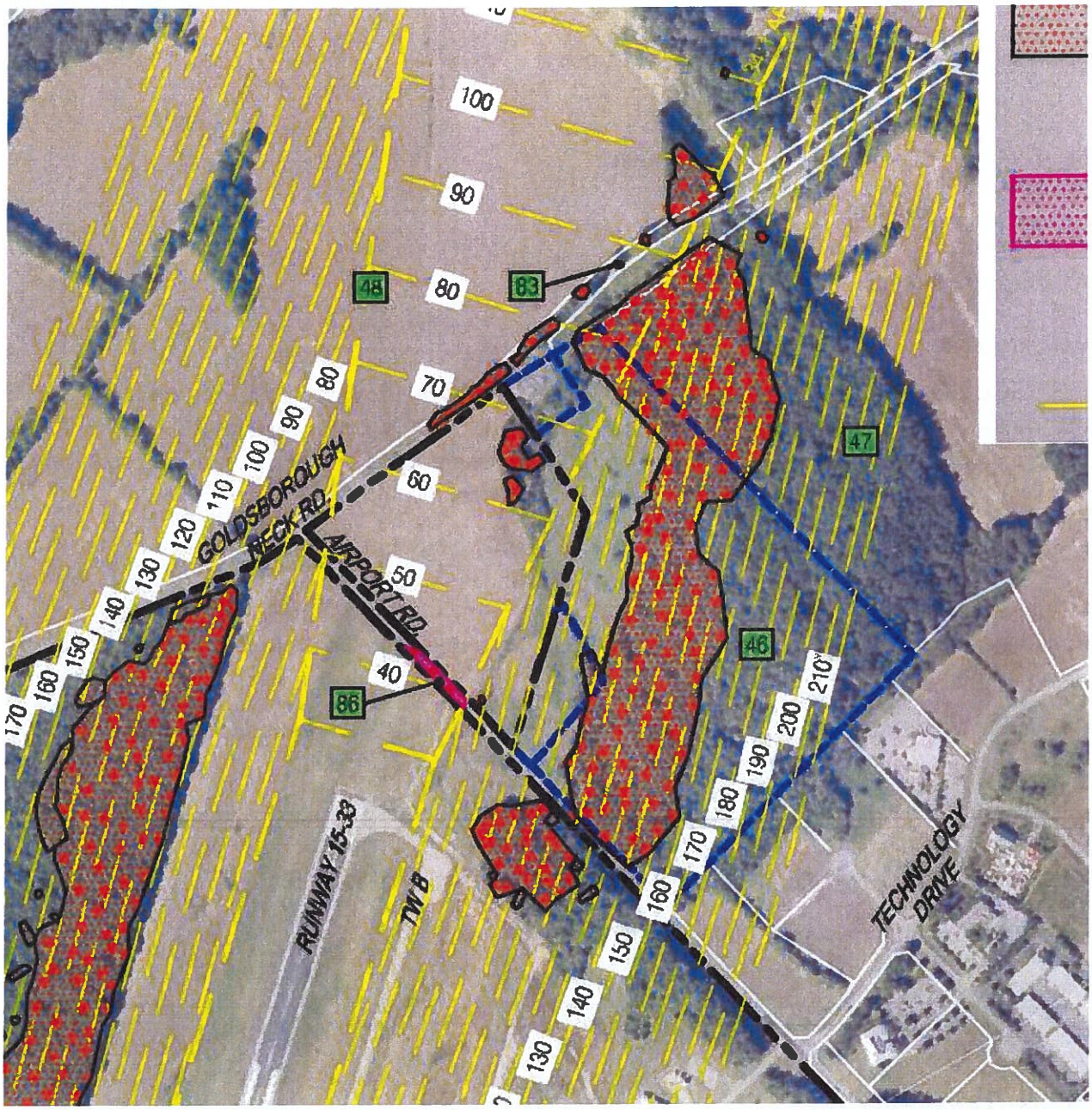
Please feel free to contact me if you have any questions.

Thank you,

Micah Risher
Manager, Easton Airport
410-770-8055
mrisher@talbotcountymd.gov

CC: Town of Easton - Engineering, Planning and Zoning

Parcel 47 identifies the location of the proposed development in relation to the approach course for Runway 15 at Easton Airport. The orange groupings of trees indicate obstructions to 14 CFR Part 77 and should be removed. The most critical of these trees are at the corner of the parcel (nearest the blue line) as they impact the 20:1 approach into the runway.



TALBOT COUNTY HEALTH DEPARTMENT

OFFICE OF ENVIRONMENTAL HEALTH
215 BAY STREET, SUITE 4, EASTON, MD 21601
Fahmi Fahmi, MD, Health Officer
Brennan E. Greene, LEHS, Director

PHONE: (410) 770-6880

FAX: (410) 770-6888

# MEMORANDUM

TO: Samantha Smith
Town of Easton, Planning Department

FROM: Brennan E. Greene, LEHS BEG
Director of Environmental Health

DATE: May 20, 2025

SUBJECT: Fox Chase Estates Preliminary Plan (May ESDR)
Technology Drive, Easton, MD 21601
Tax Map: 25, Parcel: 92, Lots 1, 2, 3, 4, 9, & 10.

RE: May 2025 Review and Comments

Based on review of the above referenced preliminary plan that has been completed by this office, the following comments are provided for the applicant:

1. A subdivision plat will have to be submitted to this office for the creation of new lots associated with the preliminary subdivision. The current review fee rate as of this writing is $100 per created lot on community sewer.
2. A written verification will have to be provided by the owner of the property from Easton Utilities indicating that there is adequate capacity within the wastewater treatment plant and community water supply system to serve the lots that are being verified in compliance with the above. The written notification must also indicate that an allocation of sewage has been secured for each lot.

Please contact this office with any questions concerning the above referenced comments.

# TOWN OF EASTON

PO Box 520
Easton, Maryland 21601
(410)-822-2526 Fax (410)-822-8738
**Office of Building Inspection**.


**ESDR- Building Inspection and Permit Department Comments**

**Date:** May 15, 2025

## Project; Fox Chase Estates
## Owner; Easton Sunrise Partners, LLC

A Town of Easton Building Permit is required for all new construction.
New home construction (R3) will comply with the current International Residential Code adopted at time of permit application. Other buildings will comply with the International Building Code adopted at time of permit application.

Contact this Department and verify current Building Codes including the Town of Easton's modifications prior to preparation of Building plans.

The following lists items required on the construction drawings in order to apply for a Building Permit.

- Construction Documents (3 sets) for any new construction will be required. Documents must be prepared by a Maryland Registered Architect, with original plans signed and sealed. A code analysis completed by the Maryland Registered Architect shall include, classification (use group), construction type, occupant loads, egress, fire separations and ADA compliance must be completed and included with the application materials.
- Items that must be addressed by the construction documents will be structural strength, means of egress (include travel distance), facilities, stability, sanitation, light and ventilation, energy conservation and safety to life and property from fire and other hazards attributed to the built environment, **Accessibility**, and other safety requirements for public access.
- If your project will be phased include a phasing plan in the Construction Documents.
- All mechanical, electrical, and plumbing permits as required must include 3 sets construction documents signed and sealed by a professional engineer and by a responsible party for the contractor receiving the permit. Be sure the Town of Easton modifications are included. Section 6-16 of the Town Code.
- **State Fire Marshal,** (410-822-7609) plan review and inspections are required. It is your responsibility to contact them and make application.

An appointment may be set up with this department to review your permit application materials prior to permit application submission.

# Lane Engineering, LLC

Established 1986

Civil Engineering • Land Planning • Land Surveyors

15 Washington Street
Cambridge, Maryland 21613
Tel 410-221-0818
Fax 410-476-9942

**117 Bay Street**
**P.O. Box 1767**
**Easton, Maryland 21601**
**Tel 410-822-8003**
**Fax 410-822-2024**

354 Pennsylvania Avenue
Centreville, Maryland 21617
Tel 410-758-2095
Fax 410-758-4422


June 2, 2025

Joe Mayer
Town of Easton
14 S. Harrison Street
Easton, MD 21601

**Subject :** ESDR Comment Response Letter – Fox Chase Estates PUD

Dear Joe,

We have reviewed the Town's ESDR review comments dated May 30, 2025 and have updated the sketch site plan accordingly. Our responses are in order with your comment letters as follows:

**Planning & Zoning**

1. Application and fee to be provided prior to PC.
2. 3-D depiction of the proposed project will be provided no later than Wednesday, June 4th.
3. We believe the project meets the goals of the Town Comprehensive Plan by providing future connection points to the hospital to the north and to the Gannon property to the east. The Goldsborough Neck Rd connection will be used for emergency services and if need be during an emergency event, a secondary access for residents in the community.
4. The 25% affordable will be provided using a certain number of the 120 condo units and the 65 – 20' wide townhomes.
5. Species added the landscape requirement summary, sheet 1.
6. Due to existing utility easements, the bufferyard requirements cannot be met in this location. Although a waiver of this is requested, we believe the existing vegetation will provide adequate screening in this location.
7. 20' wide bufferyard "C" will be provided adjacent to the collector on the subject lots.
8. The total number of required street trees for the project are provided onsite. We are avoiding conflict with the existing overhead power line in this location by not planting.
9. Plan updated per comment.

10. Legend updated.
11. Per discussion with Town Engineering, we will remove road stub and only leave the ROW to the property line; this will eliminate the need for the barricade. No improvements to the property line will be proposed at either location.
12. Condo building unit total added.
13. The specific and number of uses in each building are unknown at this time; the uses identified in the cover letter are potential only, just to provide the town an example. We are providing parking consistent with most general commercial activities.
14. No, these areas will be owned, maintained and used only by the HOA.
15. Label provided.
16. This can be addressed at time of site construction plan design if it is a Town Code requirement.
17. Sidewalks are not proposed at this time; we are happy to discuss the need with the PC.
18. BC zoning requirements added to the site plan notes.
19. Dimensions provided.
20. ADA spaces for multifamily provided.
21. The request for the Mid-block crosswalk will be reviewed with the Town Engineering office.

**Engineering Department**

1. Comments to be addressed at time of site construction plan submission.

**Easton Utilities**

1. Acknowledged.

Thank you for your review of this project. Should you have any questions or need additional information, please contact me directly at 410-822-8003.

Sincerely,



Brett C. Ewing, AICP
Principal

PRODUCT ANALYSIS SHEET
















# Roanoke

## GENERAL FEATURES

**Home Type:** Single Family Detached

**Series:** Ryan Core

**Footprint Min:** 50′ x 41′-0″

**Footprint Max:** 62′-8″ x 53′-8″

**Mean Roof Height:** 24′-4 1/8″

**Ceiling Height:** 9′-1 1/8″ First Floor
7′-11″ Basement & 8′-1 1/8″Second Floor

**Base Square Footage:** 2756
1st Floor: 1272
2nd Floor: 1484

**Available Foundations:** Basement; Crawl, Slab

**Garage Type:** 2-car front or side entry; 3-car front entry

**Veneers Available:** Traditional full siding or full brick, partial brick & partial stone; Craftsman with stone or brick water table

**RNK00-01**

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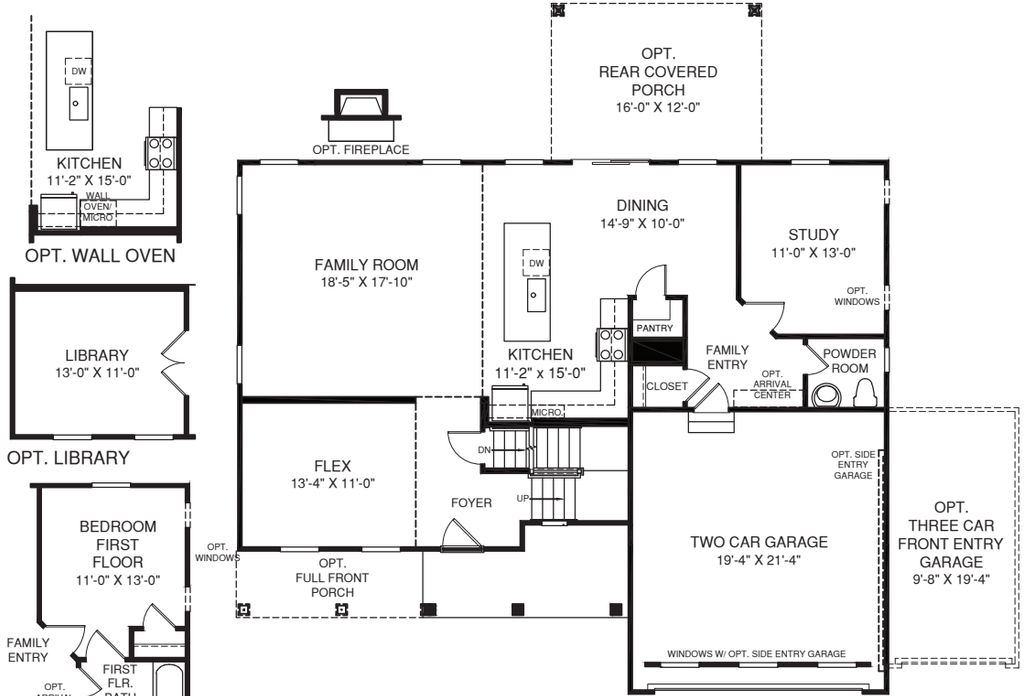
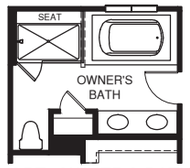
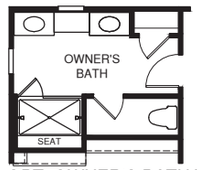
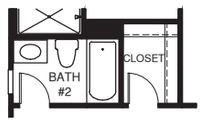


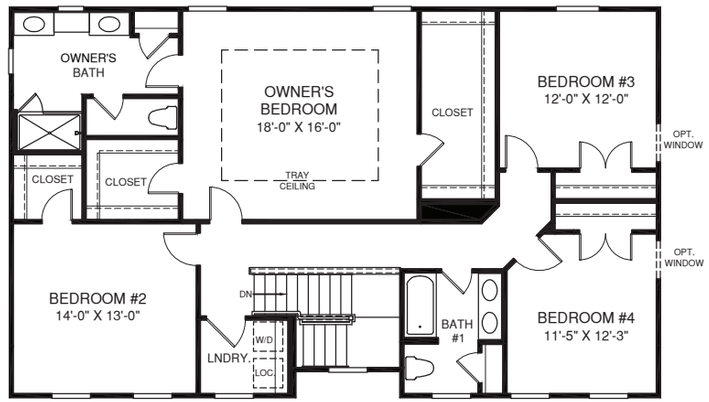
OPT. OWNER'S BATH W/ SOAKING TUB & SHOWER

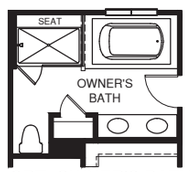


OPT. OWNER'S BATH W/ ROMAN SHOWER

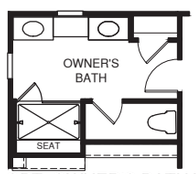


OPT. BATH #2

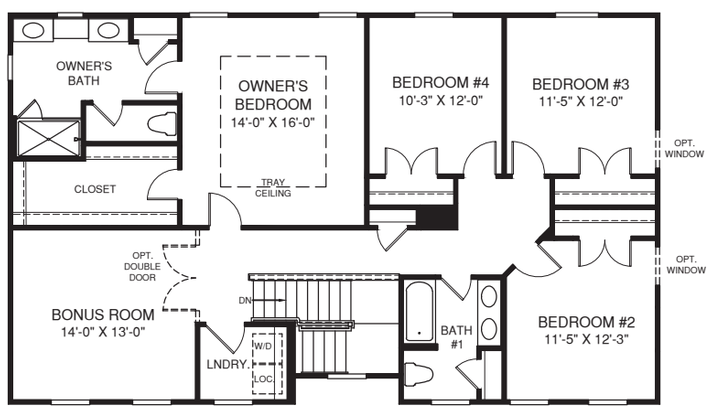


OPT. OWNER'S BATH W/ SOAKING TUB & SHOWER

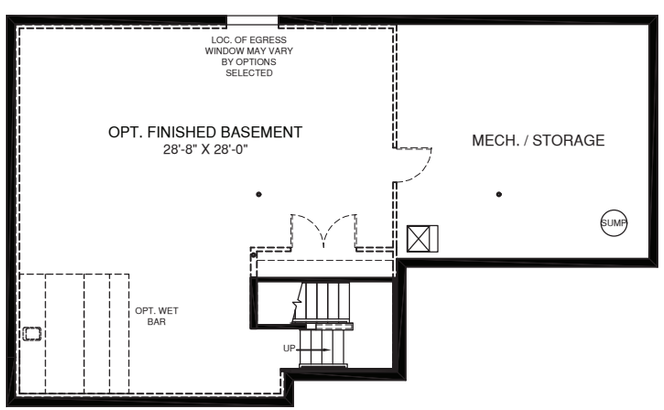


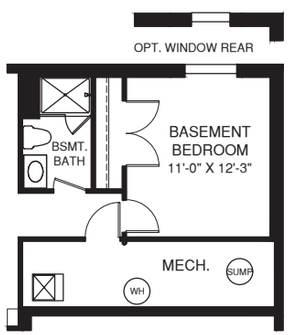
OPT. OWNER'S BATH W/ ROMAN SHOWER



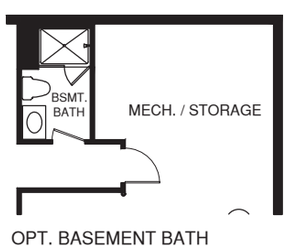






OPT. BASEMENT BEDROOM



OPT. BASEMENT BATH

**RNK00-01 Roanoke**

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PRODUCT ANALYSIS SHEET
















# Powell

## GENERAL FEATURES

**Home Type:** Single Family Detached

**Series:** Ryan Core

**Footprint Min:** 50′ x 36′

**Footprint Max:** 62′-4″ x 43′

**Mean Roof Height:** 24′-1 7/16″

**Ceiling Height:** 9′-1″ First Floor
7′-11″ Basement, 8′-1″ Second Floor

**Base Square Footage:** 2454
1st Floor: 1074
2nd Floor: 1380

**Available Foundations:** Basement; Crawl, Slab

**Garage Type:** 2-car front or side entry, 3-car front entry

**Veneers Available:** Traditional full siding & full brick or partial brick & partial stone; Craftsman with stone or brick water table

**PWL00-01**

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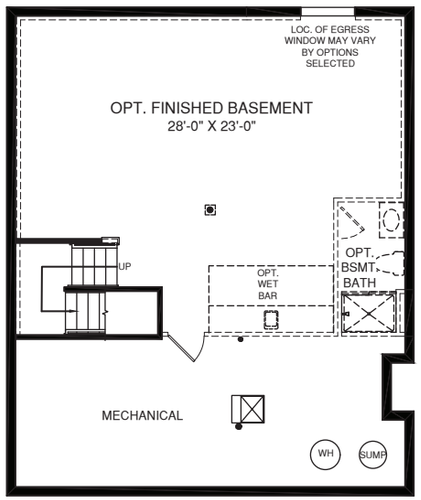
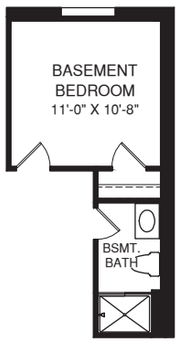
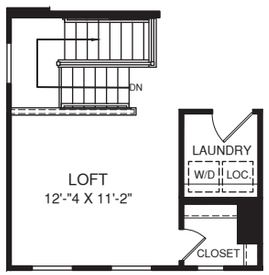
OPT. SLIDING GLASS DOOR SHOWN W/ OPT. WINDOW

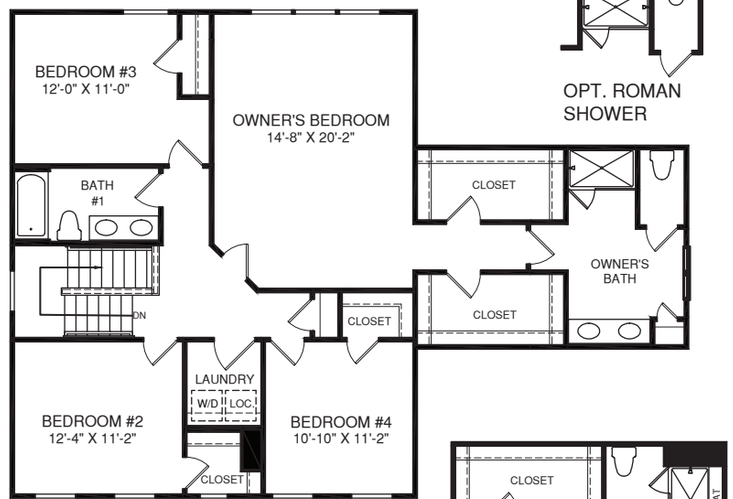



OPT. BASEMENT BEDROOM



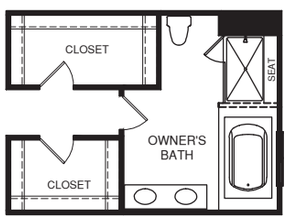

OPT. LOFT





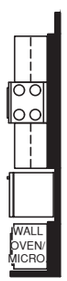


OPT. ROMAN SHOWER

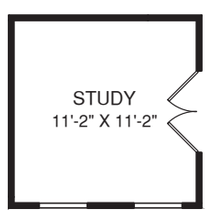



OPT. OWNER'S BATH W/ SOAKING TUB & SHOWER

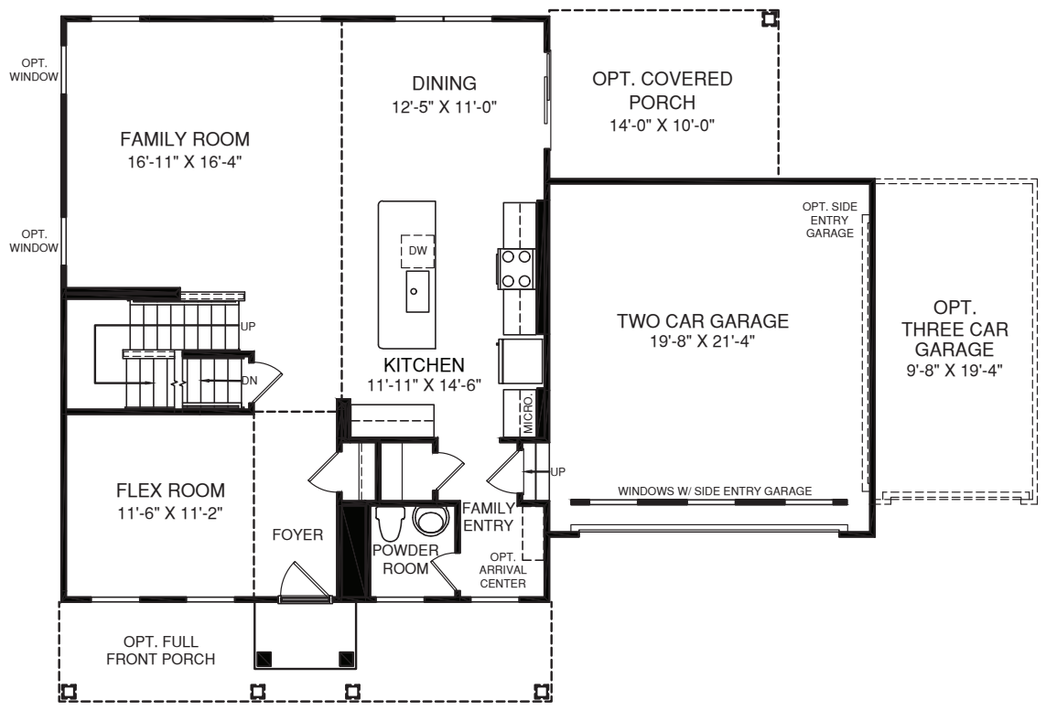



OPT. KITCHEN W/ RANGE AND WALL OVEN




OPT. STUDY




**PWL00-01 Powell**

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PRODUCT ANALYSIS SHEET
















# Normandy

## GENERAL FEATURES

**Home Type:** Single Family Detached

**Series:** Ryan Core

**Footprint Min:** 54′ x 44′

**Footprint Max:** 66′-4″ x 56′-4″

**Mean Roof Height:** 26′-2″

**Ceiling Height:** 9′-1 1/8″ First Floor
7′-11″ Basement & 8′-1 1/8″Second Floor

**Base Square Footage:** 3765
1st Floor: 1780
2nd Floor: 1985

**Available Foundations:** Basement; Crawl, Slab

**Garage Type:** 2-car front or side entry; 3-car front; 3-car side with bolt on

**Veneers Available:** Traditional full siding, full brick, or stone watertable; Craftsman with stone water table or partial brick;

**NRM00-01**

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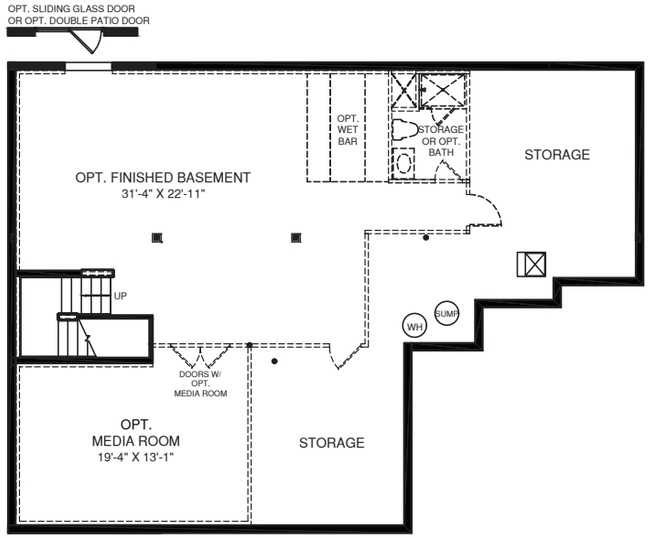
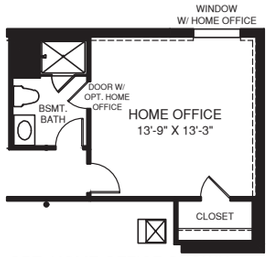
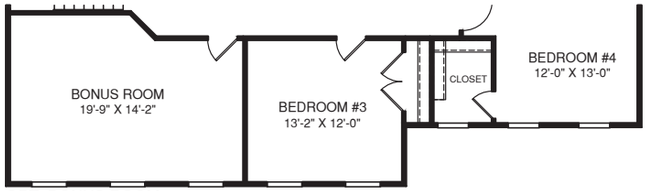
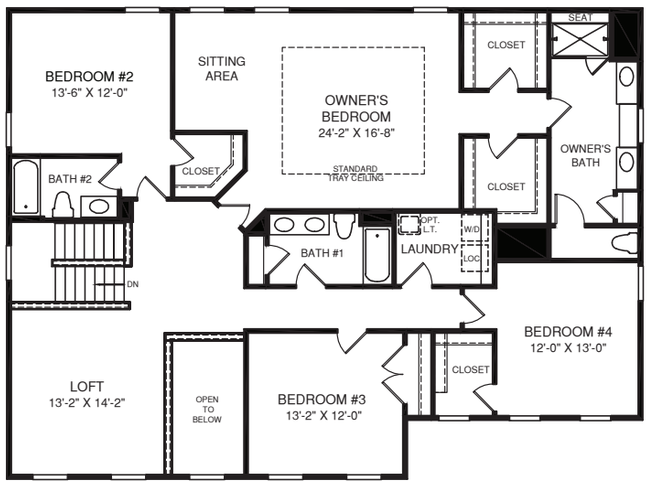



OPT. HOME OFFICE SHOWN
W/ OPT. BATH




OPT. BONUS ROOM

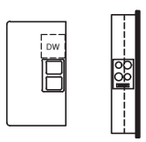






OPT. OWNER'S
BATH W/ TUB &
SHOWER



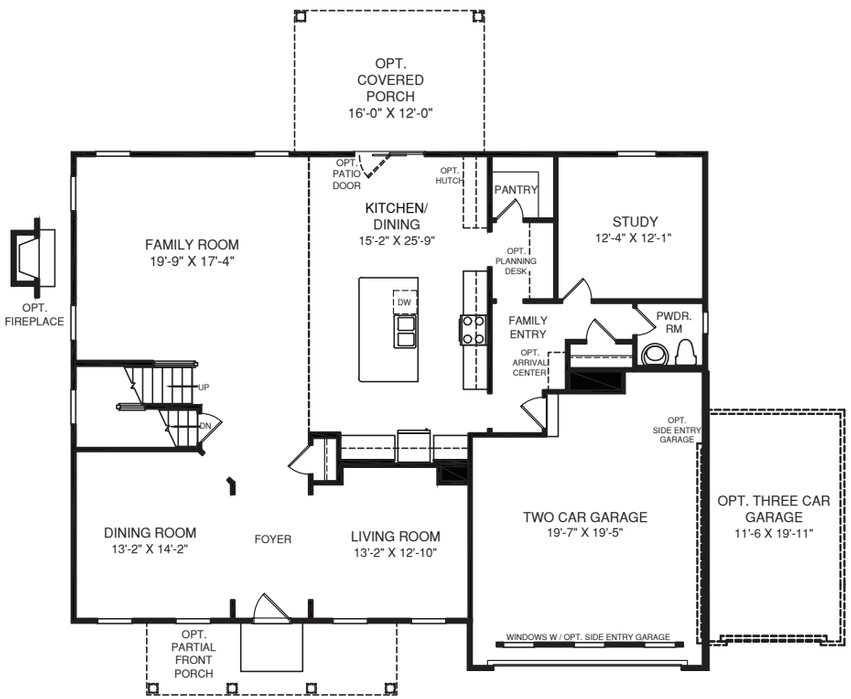


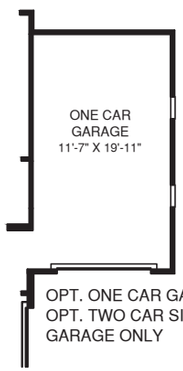


OPT. UPGRADE KITCHEN

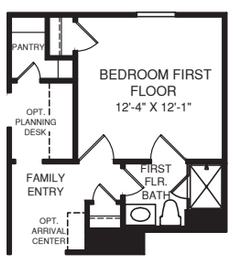



OPT. LIBRARY IN LIEU
OF LIVING ROOM




OPT. ONE CAR GARAGE W/
OPT. TWO CAR SIDE ENTRY
GARAGE ONLY




OPT. BEDROOM FIRST
FLOOR

**NRM00-01 Normandy**

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PRODUCT ANALYSIS SHEET
















# Mitchell

## GENERAL FEATURES

**Home Type:** Single Family Detached

**Series:** Ryan Core

**Footprint Min:** 30’ x 49’-0”

**Footprint Max:** 30’-4’’ x 73’-4”

**Mean Roof Height:** 27’-10 11/16”

**Ceiling Height:** 9’ First Floor
8’ Basement & 9’ Second Floor

**Base Square Footage:** 2748
1st Floor: 1358
2nd Floor: 1390

**Available Foundations:** Basement; Crawl, Slab

**Garage Type:** 2-car rear attached; 2-car detached

**Veneers Available:** Traditional full siding, partial brick & partial stone

**MIT00-01**
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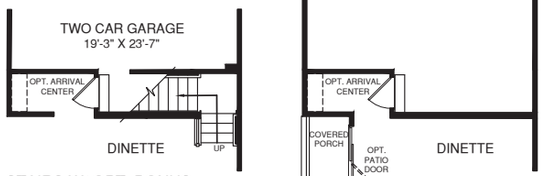
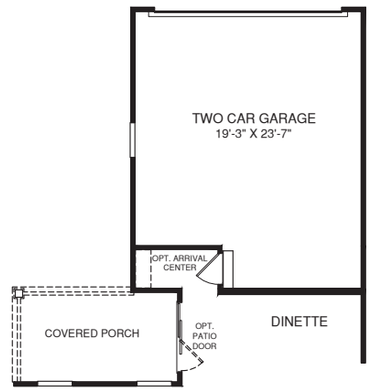


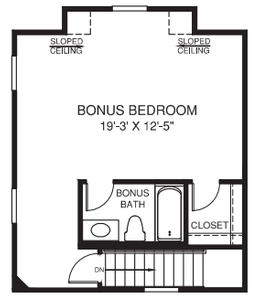

STAIRS W/ OPT. BONUS ROOM OR BONUS BEDROOM ABOVE REAR GARAGE



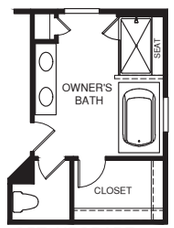

OPT. REAR ATTACHED GARAGE



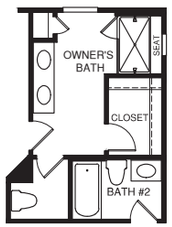

OPT. REAR ATTACHED GARAGE W/ OPT. EXPANDED REAR COVERED PORCH



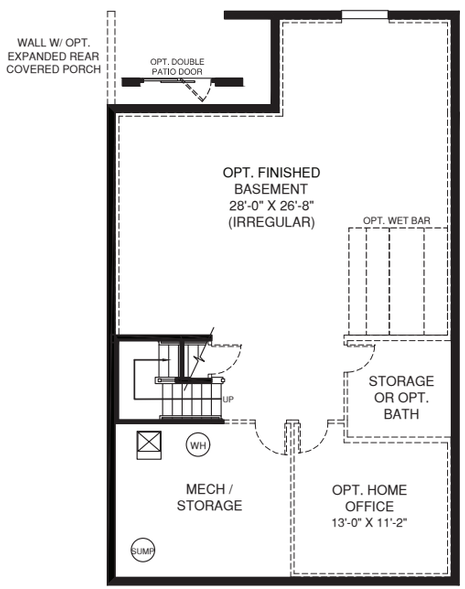

OPT. BONUS BEDROOM




OPT. UPGRADE OWNER'S BATH



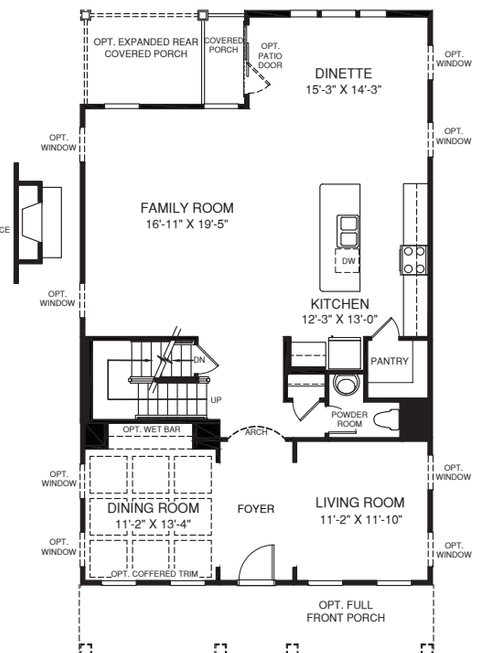

OPT. BATH #2

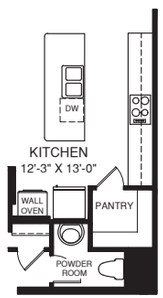




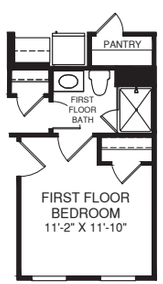


OPT. BASEMENT BATH

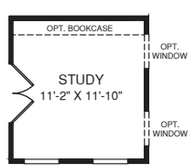


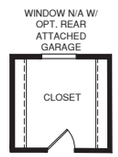

OPT. UPGRADE KITCHEN



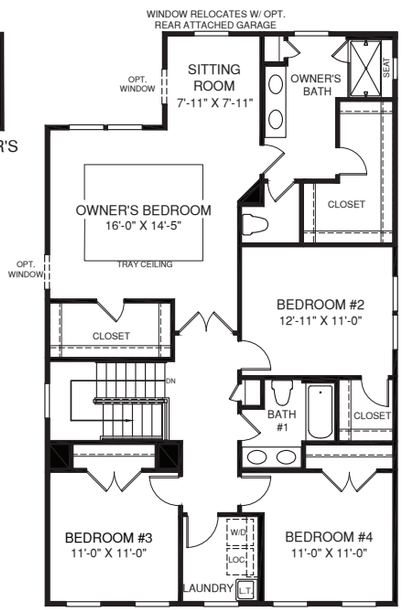

OPT. FIRST FLOOR BEDROOM

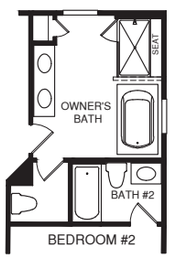



OPT. STUDY




OPT. OWNER'S CLOSET




OPT. UPGRADE OWNER'S BATH W/ OPT. BATH #2

## MIT00-01 Mitchell

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PRODUCT ANALYSIS SHEET
















# Corsica

## GENERAL FEATURES

**Home Type:** Single Family Detached

**Series:** Ryan Core

**Footprint Min:** 54′ x 40′

**Footprint Max:** 68′ x 54′

**Mean Roof Height:** 25′-3 9/16″

**Ceiling Height:** 9′-1 1/8″First Floor
7′-11″ Basement & 8′-1 1/8″ Second Floor

**Base Square Footage:** 3371
1st Floor: 1525
2nd Floor: 1846

**Available Foundations:** Basement; Crawl, Slab

**Garage Type:** 2-car front or side entry; 3-car front; 3-car side with bolt on

**Veneers Available:** Traditional full siding, partial brick & partial stone; Craftsman with partial brick & partial stone

**COR00-01**

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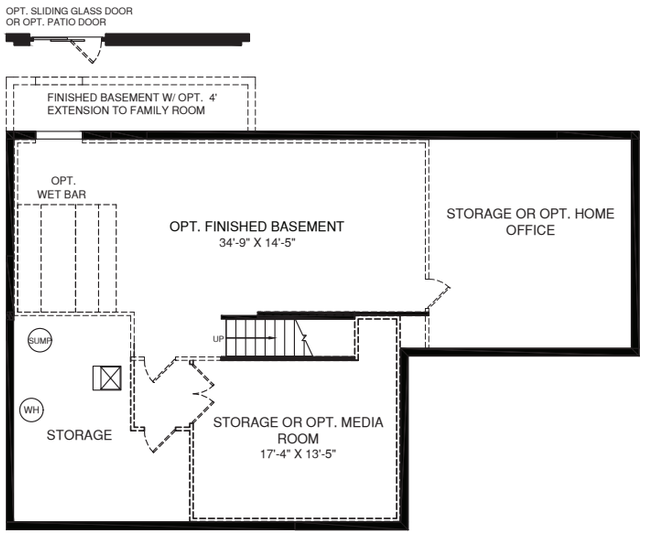
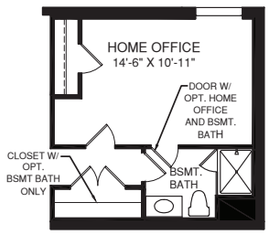
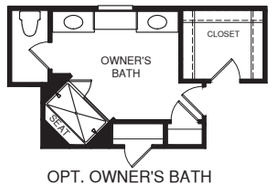
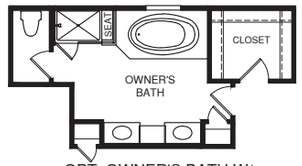


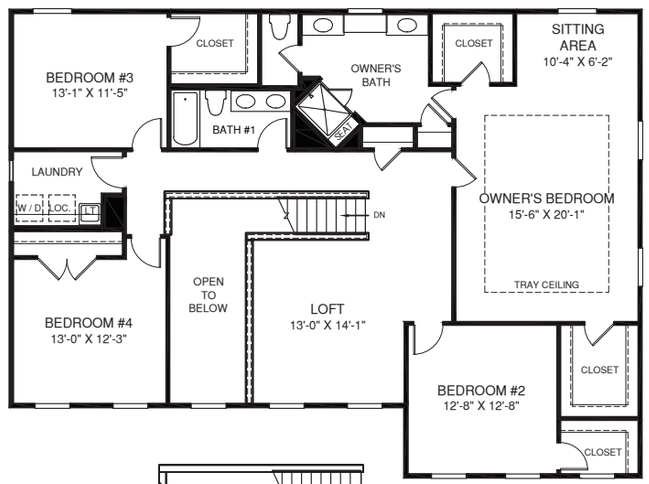

OPT. HOME OFFICE AND OPT.
BSMT BATH

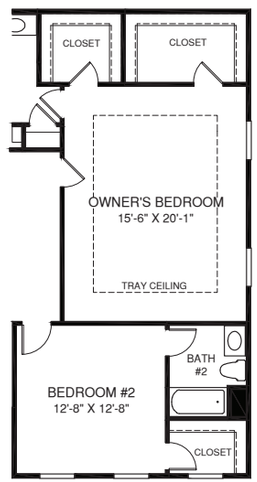



OPT. OWNER'S BATH
W/ ROMAN SHOWER

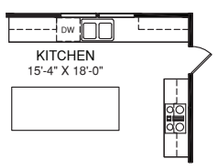



OPT. OWNER'S BATH W/
SOAKING TUB & SHOWER

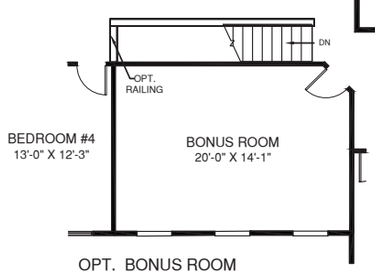


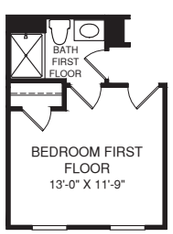

OPT. BATH #2




OPT. UPGRADE KITCHEN

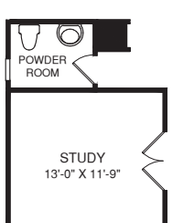



OPT. BONUS ROOM

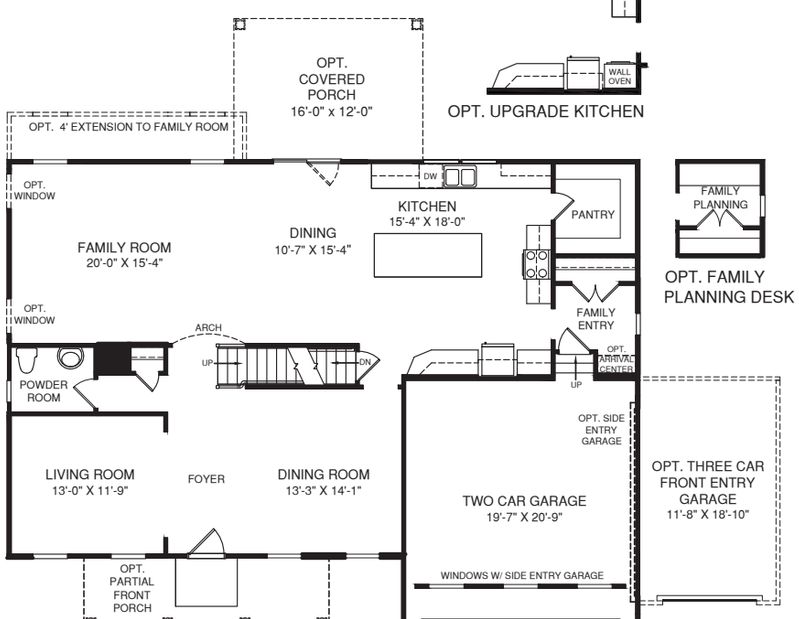



OPT. BEDROOM
FIRST FLOOR



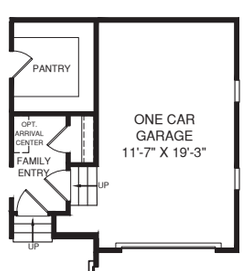

OPT. STUDY







OPT. FAMILY
PLANNING DESK




OPT. ONE CAR GARAGE W/
OPT. TWO CAR SIDE ENTRY
GARAGE

## COR00-01 Corsica

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PRODUCT ANALYSIS SHEET










# Sonata (Symphony II Series)

## GENERAL FEATURES

**Home Type:** Single Family Attached

**Series:** Ryan Core

**Footprint Min:** 22′ x 40′

**Footprint Max:** 22′ x 40′-4″
(Includes Upper Level Cantilever)

**Mean Roof Height:** 32′-10 3/8″

**Ceiling Height:** 9′-1 1/8″ Second Floor, 7′-11″ First Floor, & 8′-1 1/8″ Third Floor

**Base Square Footage:** 2233
1st Floor: 429
2nd Floor: 880
3rd Floor: 924

**Available Foundations:** Slab

**Garage Type:** 2-car front garage

**Veneers Available:** Traditional full siding or partial brick; Cottage in part stone, and Farmhouse.

**Sonata QSOND_00**
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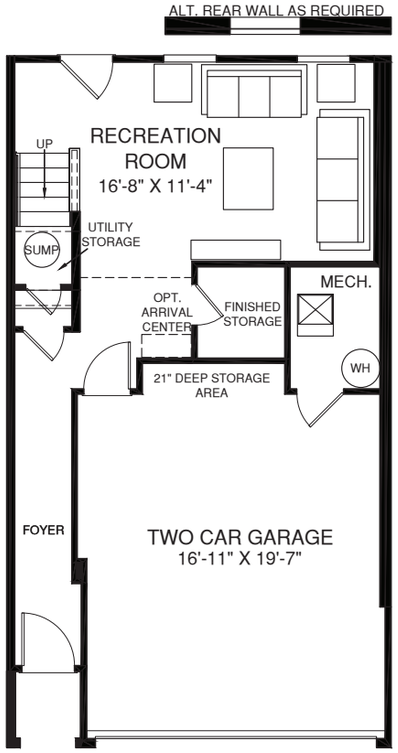
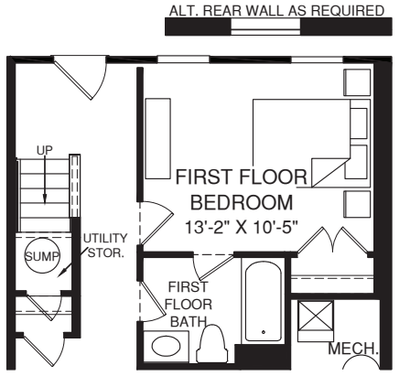
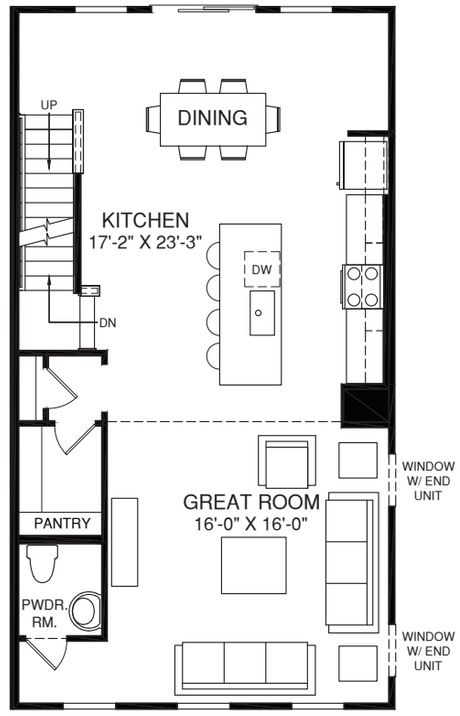
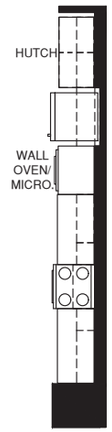
OPT. POWDER ROOM



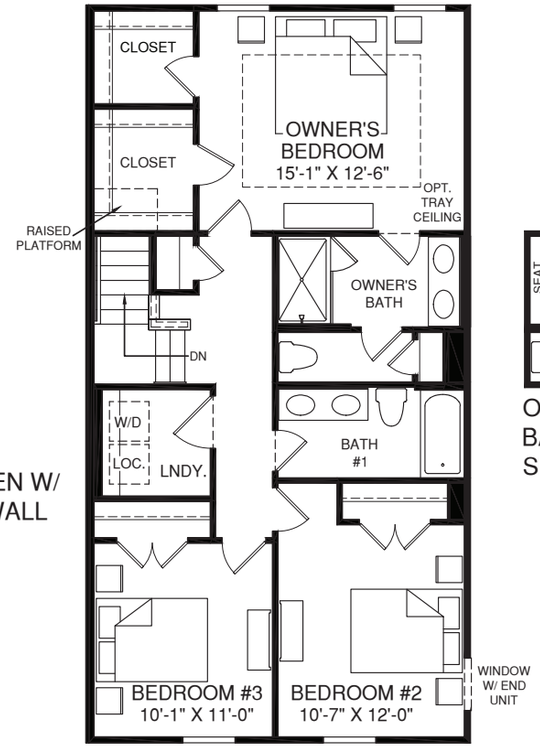



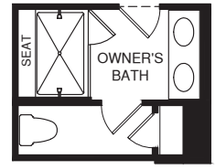

OPT. FIRST FLOOR BEDROOM




KITCHEN W/ OPT. WALL OVEN




OPT. OWNER'S BATH W/ ROMAN SHOWER




**Sonata QSOND_00**

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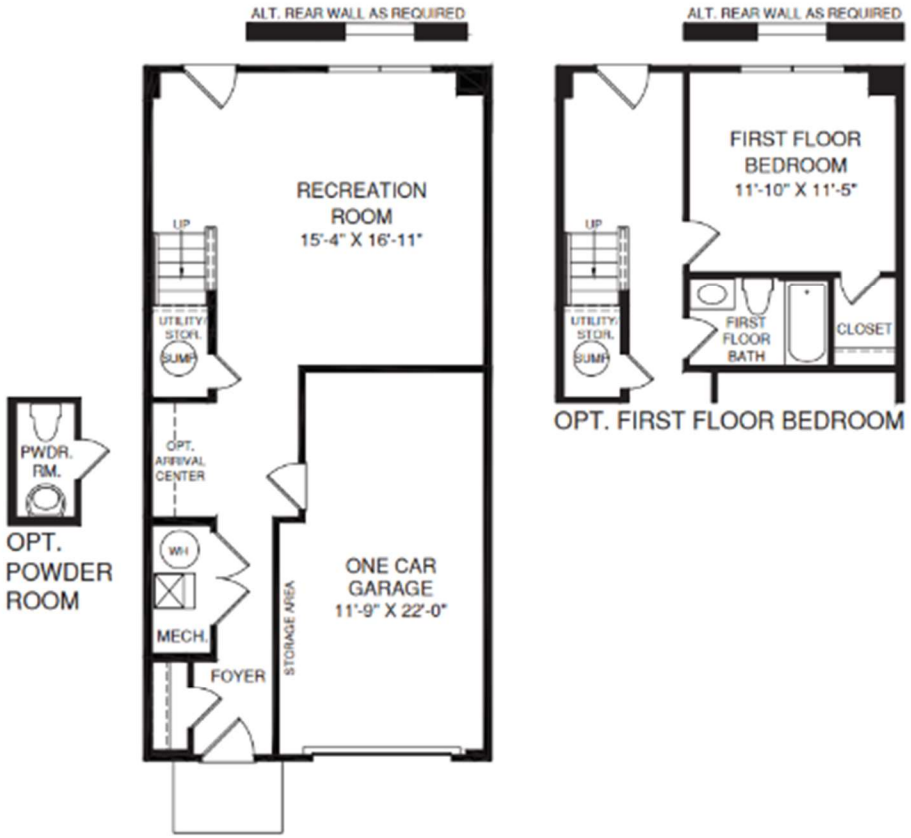
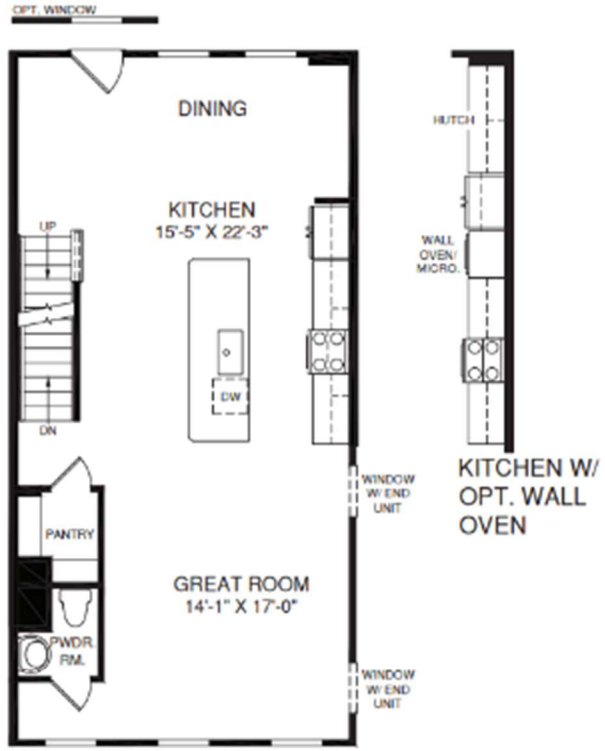
**Cadence**
**20' TH**






## First Floor Features

**Standard:**

- 8' Ceiling
- 1 Car Garage
- Foyer
- Covered Entry
- Recreation Room
- Coat Closet
- Utility/ Storage under stair

**Optional:**

- Powder Room
- Lower Level Bedroom w/ Lower Level Bath
  - (1) 30" Vanity
  - Walk in closet

## Second Floor Features

**Standard:**

- 9' Ceiling
- Great Room
- Kitchen
  - Range/Oven
  - Walk-in Pantry
  - 10' Island
- Dining
- Finished Storage
- Powder Room

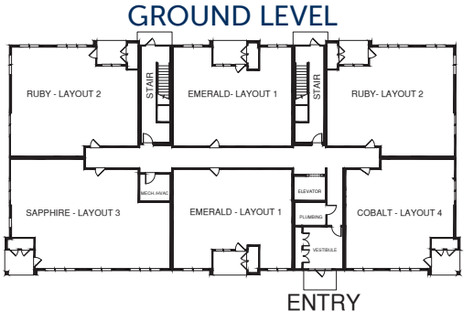
**Optional:**

- Kitchen w/ Range/ Wall Oven/ Hutch

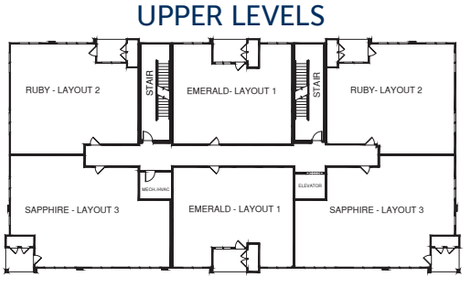
# MOSAIC

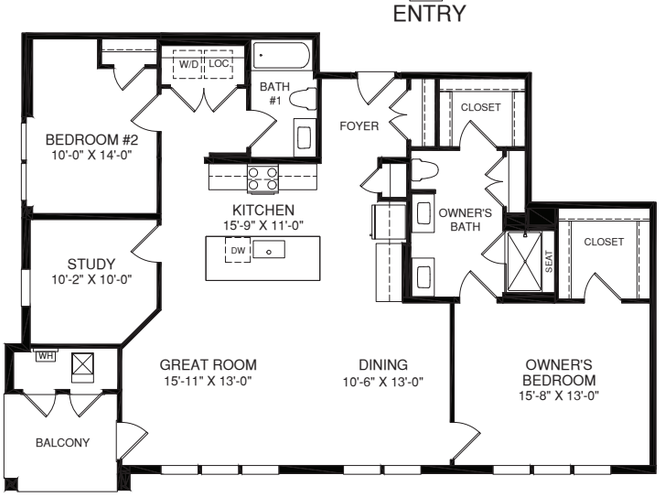


## GROUND LEVEL

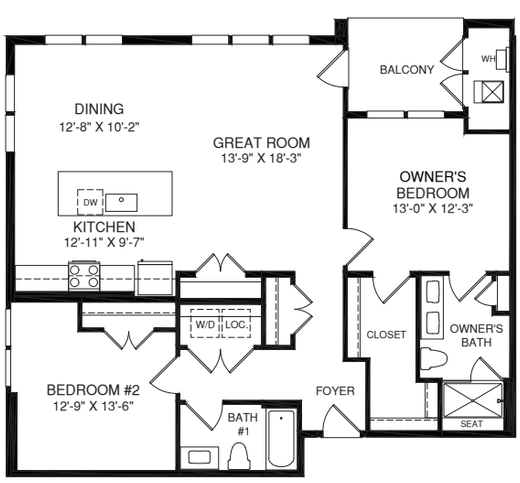



## UPPER LEVELS

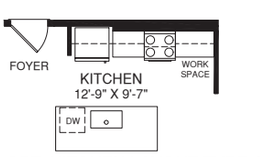


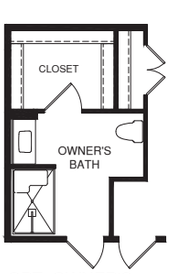

## THE SAPPHIRE

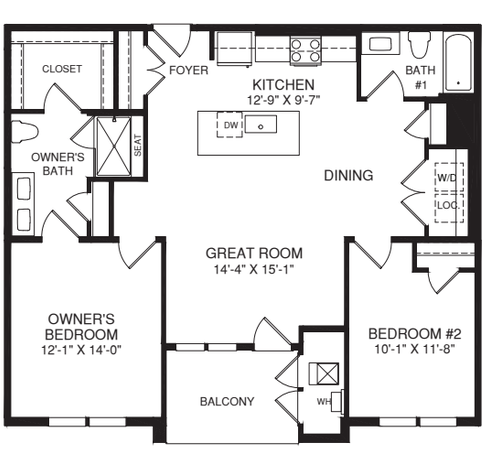



## THE RUBY

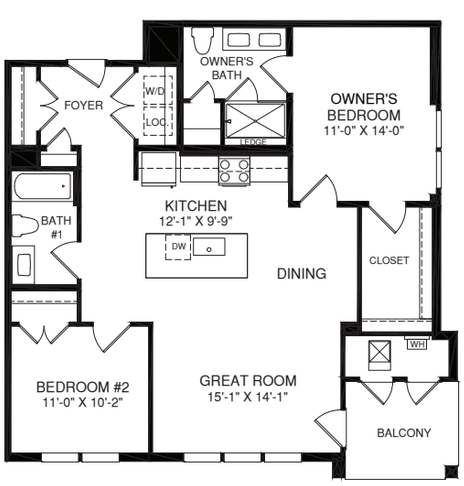



OPT. KITCHEN LAYOUT TYPE A




## THE EMERALD




## THE COBALT

EQUAL HOUSING OPPORTUNITY

Although all illustrations and specifications are believed correct at the time of publication, the right is reserved to make changes, without notice or obligation. Windows, doors, ceilings, and room sizes may vary depending on the options and elevations selected. Optional items indicated are available at additional cost. This brochure is for illustrative purposes only and not part of a legal contract. It is recommended that the architectural blueprints be reserved for further clarification of features. Not all features are shown. Please ask our Sales and Marketing Representative for complete information.

Elevations shown are artist's concepts. Floor plans may vary per elevation. Ryan Homes reserves the right to make changes without notice or prior obligation.

RY1021MSC0Av00 RHWTW

Ryan Homes

















# PUD SKETCH PLAN
## FOR
# FOX CHASE ESTATES
## IN THE TOWN OF EASTON
## TALBOT COUNTY, MD

**SITE PLAN DATA**

PROPERTY OWNER: EASTON SUNRISE PARTNERS, LLC

TAX PARCEL 92 (108.631 ACRES)
LOT 1 PROPERTY ADDRESS: 9684 TECHNOLOGY DRIVE, EASTON, MD 21601
LOT 2 PROPERTY ADDRESS: 9778 TECHNOLOGY DRIVE, EASTON, MD 21601
LOT 3 PROPERTY ADDRESS: 9783 TECHNOLOGY DRIVE, EASTON, MD 21601
LOT 4 PROPERTY ADDRESS: 9687 TECHNOLOGY DRIVE, EASTON, MD 21601
DEED REFERENCE: 2754/19
PLAT REFERENCE: 89/149

TAX PARCEL 90 (4.185 ACRES)
LOT 9 PROPERTY ADDRESS: 29001 I-WAY COURT, EASTON, MD 21601
LOT 10 PROPERTY ADDRESS: 29004 I-WAY COURT, EASTON, MD 21601
DEED REFERENCE: 2804/456
PLAT REFERENCE: 4/80G

CURRENT ZONING: BC

SETBACKS:

FRONT: 40'
SIDE: 10'
REAR: 30'

HEIGHT LIMITATIONS: 35'
LOT COVERAGE (BUILDINGS & STRUCTURE): SHALL NOT EXCEED 50% OF LOT AREA

PROPOSED ZONING: PUD

SITE AREA: 112.816 ACRES TOTAL

EXISTING DEVELOPMENT: THE PARCEL IS CURRENTLY AGRICULTURAL TILLED FARM LAND WITH SOME WOODLANDS.

PROPOSED DEVELOPMENT: MIXED USE RESIDENTIAL & COMMERCIAL
- SINGLE FAMILY: 61 LOTS
- NEO-TRADITIONAL: 47 LOTS
- TOWNHOUSES:
  - 20' WIDE UNITS: 65 LOTS
  - 22' WIDE UNITS: 72 LOTS
- MULTI-FAMILY: 120 UNITS

TOTAL DWELLING UNITS: 365 UNITS

2-STORY COMMERCIAL BUILDING (LOT 9): 20,000 SF GFA
2-STORY COMMERCIAL BUILDING (LOT 10): 23,000 SF GFA

RESIDENTIAL SETBACKS PROPOSED:

FRONT: 25'
SIDE: 8'
REAR: 15'

PARKING REQUIRED:

| | |
|---|---|
| SINGLE FAMILY DETACHED DWELLING: | 2 SPACES/DWELLING; 108 X 2 = 216 SPACES REQUIRED; 216 PROVIDED |
| TOWNHOME UNIT: | 2 SPACES/TOWNHOME; 137 X 2 = 274 SPACES REQUIRED; 274 PROVIDED |
| MULTIFAMILY: | MINIMUM (1 SPACE/PER DWELLING UNIT); 120 X 1 = 120 SPACES REQUIRED<br>MAXIMUM (2 SPACE/PER DWELLING UNIT); 120 X 2 = 240 SPACES REQUIRED<br>PROVIDED: 187 SPACES (1.56 SPACES/ UNIT)<br>BIKE SPACES (0.5 SPACES/ DU): 120 / 0.5 = 60 BIKE SPACES REQUIRED |
| COMMERCIAL BUILDING: | |
| LOT 9 (20,000 SF) | MINIMUM (1 SPACE/250 SF); 20,000/250 = 80 SPACES REQUIRED<br>MAXIMUM (1 SPACE/140 SF); 20,000/140 = 143 SPACES REQUIRED<br>PROVIDED: 80 SPACES<br>BIKE SPACES (1/ 10 PARKING SPACES): 80/ 10 = 8 BIKE SPACES REQUIRED |
| LOT 10 (23,000 SF) | MINIMUM (1 SPACE/250 SF); 23,000/250 = 92 SPACES REQUIRED<br>MAXIMUM (1 SPACE/140 SF); 23,000/140 = 164 SPACES REQUIRED<br>PROVIDED: 106 SPACES<br>BIKE SPACES (1/ 10 PARKING SPACES): 106/ 10 = 11 BIKE SPACES REQUIRED |

SITE LIGHTING; ALL PROPOSED SITE LIGHTING SHALL BE SHARP CUTOFF LUMINAIRES ON MAXIMUM 18' HIGH POLES RESULTING IN NO MORE THAN 1-FOOT-CANDLE OF LIGHT AT PROPERTY PERIMETER.

AMENITY RECREATIONAL OPEN SPACE: 30% (33.845 AC.) REQUIRED; 34.4% (38.794 AC.) PROVIDED (EXCLUDING STORMWATER MANAGEMENT AREAS)

STORMWATER MANAGEMENT: QUANTITY CONTROL IS ADDRESSED. QUALITY TREATMENT ADDRESSED BY PROVIDING ENVIRONMENTAL SITE DESIGN IN ACCORDANCE WITH CHAPTER 5 OF THE MARYLAND STORMWATER DESIGN MANUAL, PROVIDING ESDV TO THE MAXIMUM EXTENT PRACTICABLE (MEP).

**APPLICATION COMPLIANCE: SEC. 28-701 (H)(1) (A) THROUGH (H)**

A. PROPOSED DEVELOPMENT LAYOUT – SHOWN HEREIN.

B. 0.760 ACRES TO BE AMENITY PARCEL, 0.630 ACRES± TO BE USED FOR DOG PARK, 0.410 ACRES TO BE USED FOR TOT LOTS, 0.210 ACRES TO BE USED FOR TRAIL, 36.784 ACRES± TO BE USED FOR FOREST CONSERVATION EASEMENT AREA & STREAM BUFFER.

C. THE PROPOSED LAYOUT SHOWS 4.185 AC± OF COMMERCIAL AREA.

D. TYPE OF DWELLING UNITS ARE DESCRIBED ON SHEET 4.

E. RESIDENTIAL LOTS ARE SHOWN ON THE PROPOSED LAYOUT.

F. LAND USE TABULATIONS ARE AS FOLLOWS:

| | |
|---|---|
| – SINGLE FAMILY DETACHED DWELLINGS: | 16.449 AC (14.58% OF SITE) |
| – NEO-TRADITIONAL SINGLE FAMILY DETACHED DWELLINGS: | 7.704 AC (6.83% OF SITE) |
| – TOWNHOUSE UNITS: | 8.411 AC (7.46% OF SITE) |
| – MULTIFAMILY: | 4.912 AC (4.35% OF SITE) |
| – AMENITY/ RECREATIONAL OPEN SPACE: | 38.794 AC (34.39% OF SITE) |
| – STORMWATER MANAGEMENT/ OPEN LANDSCAPE AREAS (ISLANDS, MEDIANS, TRAFFIC CIRCLE, ETC.): | 19.222 AC (17.04% OF SITE) |
| – INTERNAL RIGHT-OF-WAYS & WIDENING: | 13.139 AC (11.65% OF SITE) |
| – COMMERCIAL AREAS (LOTS 9 & 10): | 4.185 AC (3.70% OF SITE) |
| – FOREST CONSERVATION EASEMENT AREA: | 25.434 AC± (INCLUDED IN OTHER AREAS) |
| – BUFFERYARDS: | 2.006 AC± (INCLUDED IN OTHER AREAS) |

G. RESIDENTIAL DENSITY TABULATION: (3.5 SFD DU/AC ALLOWED) (5 MULTIFAMILY DU/AC ALLOWED)
- SINGLE FAMILY DETACHED DWELLINGS: 61 LOTS
- NEO-TRADITIONAL DETACHED DWELLINGS: 47
- TOWNHOMES: 137 UNITS
- MULTIFAMILY: 120 UNITS

THE MAXIMUM DENSITY PERMITTED IN THE PUD DISTRICT IS 16 DU/ACRE.
THE PROPOSED DENSITY IS 3.36 DU/ACRE CONSISTENT WITH MDP GUIDELINES FOR SMART GROWTH.

H. CONCEPTUAL DWELLING & COMMERCIAL ELEVATIONS ARE INCLUDED WITH THIS SUBMITTAL.

I. PROPOSED VEHICULAR, PEDESTRIAN, AND BICYCLE CIRCULATION PROVIDED ON PLAN AND COMPLIANT WITH TOWN STANDARDS.

J. FOREST CONSERVATION HAS BEEN PREVIOUSLY SATISFIED FOR THIS SITE. REFER TO THE FOREST CONSERVATION PLAN INCLUDED AS PART OF A FINAL PLAT, PHASE 1, "EASTON TECHNOLOGY CENTER" PREPARED BY LANE ENGINEERING, INC., DATED MAY, 1997, RECORDED AMONG THE LAN RECORDS OF TALBOT COUNTY, MARYLAND, IN PLAT LIBER 4, BEGINNING AT FOLIO 80G.

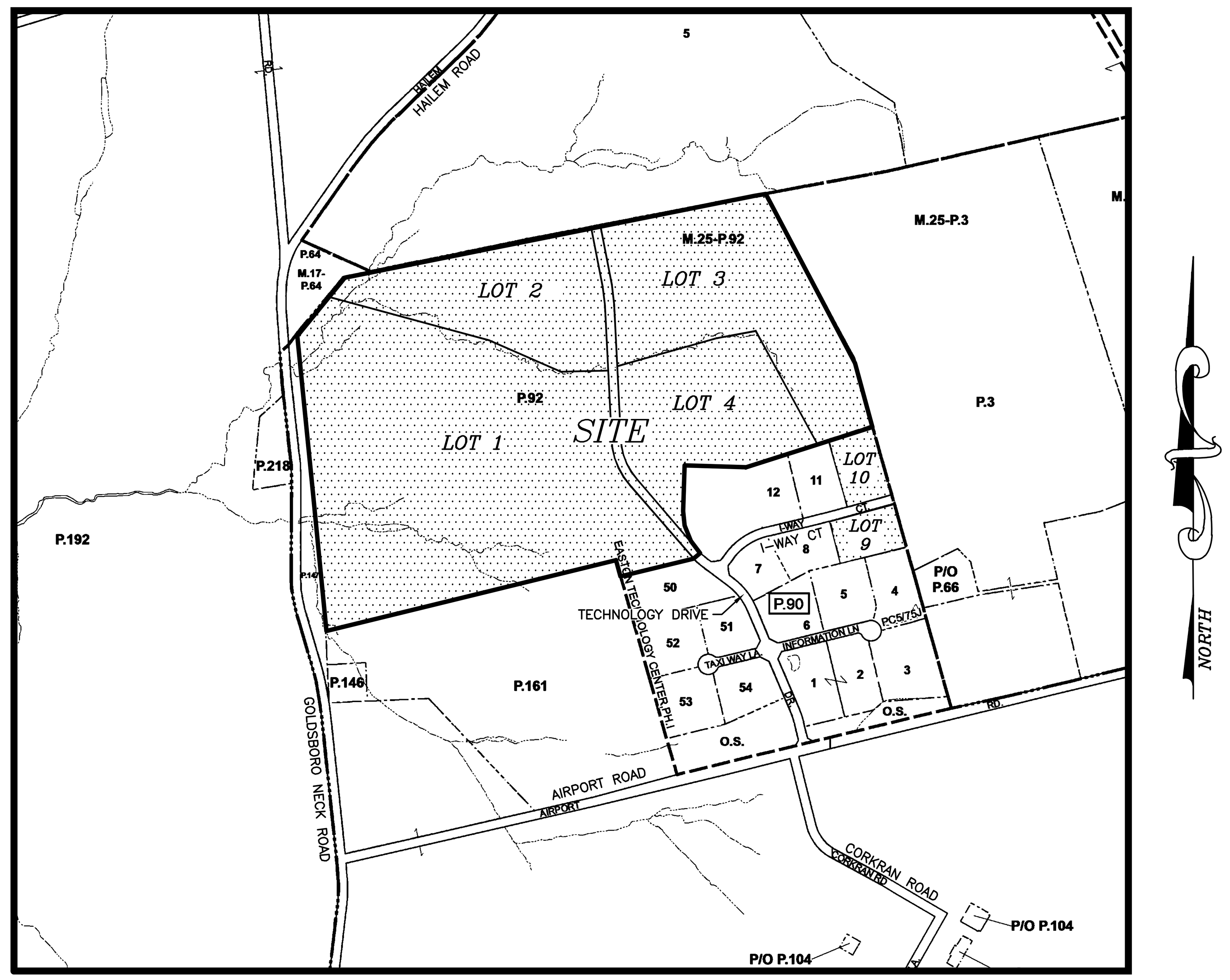
K. METES AND BOUNDS DESCRIPTION INCLUDED WITH THIS SUBMITTAL.

L. SITE & BUILDING ILLUSTRATIVES ENCLOSED.

M. SEE PUD COMPLIANCE NARRATIVE ENCLOSED.

N. ESTABLISHED DEVELOPMENT STANDARDS:

| | |
|---|---|
| – RESIDENTIAL SETBACKS: | SEE ABOVE |
| – PARKING LOT SETBACKS FROM PROPERTY LINES: | 1' PROPOSED |
| – MULTIFAMILY BUILDING HEIGHT: | 58'± PROPOSED |
| – MULTIFAMILY FRONT SETBACK PROPOSED: | 15' PROPOSED |




VICINITY MAP

600' 300' 0' 300' 600' 1,200'
SCALE IN FEET

**INDEX OF SHEETS**



| SHEET No. | TITLE |
|---|---|
| 1 | TITLE SHEET & PROJECT NOTES |
| 2 | EXISTING CONDITIONS AND LINE REVISION |
| 3 | SKETCH CONCEPT PLAN |
| 4 | SUBDIVISION PLAT SKETCH & LOT EXHIBIT |
| 5 | LOT DETAILS |
| 6 | TRANSPORTATION EXHIBIT & STREET DETAILS |



**LANDSCAPE REQUIREMENTS SUMMARY PER ZONING ORDINANCE (ALL NATIVE SPECIES):**

**SECTION 1014.6.A.:**

1. STREET TREES @ 1 TREE/25' OF STREET CENTERLINE LENGTH
10,085 LF / 25 = 404 TREES REQUIRED; 404 TREES PROPOSED
(MAPLE, OAK, SYCAMORE, TYPICAL)

**LANDSCAPE BUFFERYARD REQUIREMENTS (SECTION 1014.7.E.)**

10' WIDE LANDSCAPE BUFFERYARD 'E' (E1–E3)

4,249 LF LESS RIGHT-OF-WAY (60 LF) = 4,189 LF / 50' = 83.8 PLANT UNITS (PU)

1 SHADE/ CANOPY TREE X 83.8 PU = 84 SHADE/ CANOPY TREES REQUIRED
3 EVERGREEN TREES X 83.8 PU = 251 EVERGREEN TREES REQUIRED
(MAPLE, OAK, SYCAMORE, WHITE PINE, AMERICAN ARBORVITAE, HOLLY, TYPICAL)

10' WIDE LANDSCAPE BUFFERYARD 'E' (E4–E7)

3,665 LF LESS DELMARVA UTILITY EASEMENT & EMERGENCY ACCESS EASEMENT (275 LF)= 3,665 LF
3,665 LF / 50' = 73.3 PLANT UNITS (PU)

1 SHADE/ CANOPY TREE X 73.3 PU = 74 SHADE/ CANOPY TREES REQUIRED
3 EVERGREEN TREES X 73.3 PU = 220 EVERGREEN TREES REQUIRED

THE EXISTING FOREST CONSERVATION EASEMENT ALONG THESE AREAS MEETS OR EXCEEDS BUFFER YARD REQUIREMENT.

10' WIDE LANDSCAPE BUFFERYARD 'E' (E8)

405 LF / 50' = 8.1 PLANT UNITS (PU)

1 SHADE/ CANOPY TREE X 8.1 PU = 8 SHADE/ CANOPY TREES REQUIRED
3 EVERGREEN TREES X 8.1 PU = 24 EVERGREEN TREES REQUIRED
(MAPLE, OAK, SYCAMORE, WHITE PINE, AMERICAN ARBORVITAE, HOLLY, TYPICAL)

10' WIDE LANDSCAPE BUFFERYARD 'E' (E9)

482 LF / 50' = 8.1 PLANT UNITS (PU)

FENCE WITH 3 LARGE EVERGREEN SHRUBS X 8.1 PU = PRIVACY FENCE & 24 LARGE EVERGREEN SHRUBS REQUIRED
(INKBERRY, WINTERBERRY HOLLY, BAYBERRY, VIBURNUM, TYPICAL)

20' WIDE LANDSCAPE BUFFERYARD 'C' (C1–C2)

245 LF / 50' = 4.9 PLANT UNITS (PU)

1 SHADE/ CANOPY TREE X 4.9 PU = 5 SHADE/ CANOPY TREES REQUIRED
2 EVERGREEN TREES X 4.9 PU = 10 EVERGREEN TREES REQUIRED
5 LARGE SHRUBS X 4.9 PU = 25 EVERGREEN TREES REQUIRED
(MAPLE, OAK, SYCAMORE, WHITE PINE, AMERICAN ARBORVITAE, HOLLY, INKBERRY, BAYBERRY TYPICAL)

**COMPREHENSIVE PLAN DESIGN PRINCIPLES RESPONSE NARRATIVE**

PRINCIPLE #1– INTEGRATED USES ARE DESIRABLE– THIS DEVELOPMENT PROPOSAL ESTABLISHES ATTAINABLE HOUSING AT A TIME WHEN DEMAND IS HIGH BUT SUPPLY IS EXTREMELY LOW. EASTON'S HOUSING MARKET IS IN NEED OF A NEW COMMUNITY WITH HOUSING OPPORTUNITIES PROVIDED HEREIN.

PRINCIPLE #2– NATURAL FEATURES SHOULD DETERMINE DESIGN– A PERENNIAL STREAM WITH BUFFERS; SITE LAYOUT IS DICTATED TO AVOID BUFFERS BY MAXIMIZING DENSITY, COMPLIANCE WITH TOWN ZONING AND SUBDIVISION DESIGN STANDARDS, REDUCING IMPACTS TO NEIGHBORING PROPERTIES AND PROVIDING IDEAL LOCATIONS FOR AMENITY/ RECREATIONAL OPEN SPACE AND MIXED RESIDENTIAL AND COMMERCIAL USES.

PRINCIPLE #3– AUTOMOBILES SHOULD NOT DETERMINE DESIGN– COMMUNITY DESIGN FOCUSES ON PARKS/GREEN SPACE AS MAIN FOCAL POINTS AND TO REDUCE IMPACTS TO NEIGHBORING PROPERTIES. SIDEWALKS PROVIDED THROUGHOUT TO IMPROVE PEDESTRIAN CIRCULATION TO ACCOMMODATE AND UTILIZE THE SURROUNDING RECREATION AND COMMERCIAL SPACES.

PRINCIPLE #4– AMPLE OPEN SPACE SHOULD BE PROVIDED– THE PROJECT COMPLIES WITH THE TOWN'S PUD STANDARDS OF 30% OPEN SPACE, AND THE FOREST CONSERVATION REQUIREMENTS OF 25.434 ACRES AND WILL PROVIDE ADEQUATE PASSIVE AND ACTIVE RECREATIONAL OPPORTUNITIES FOR THE RESIDENTS.

PRINCIPLE #5– ARCHITECTURE SHOULD RESPECT EASTON'S HISTORICAL DEVELOPMENT– THIS APPLICATION PROPOSES ARCHITECTURE COMPATIBLE WITH EASTON'S WORKFORCE HOUSING, SINGLE & MULTIFAMILY DEVELOPMENTS AND UTILIZES MATERIALS AND DETAILING COMMONLY FOUND THROUGH-OUT EASTON.

PRINCIPLE #6– SIGNS SHOULD INFORM BUT NOT DOMINATE– SIGNAGE WILL COMPLY WITH BASE ZONING REQUIREMENTS.

PRINCIPLE #7– NEIGHBORHOODS SHOULD CONTAIN A DIVERSITY OF HOUSING TYPES– MULTIPLE DWELLING/TOWNHOME OPTIONS, EACH WITH MULTIPLE EXTENSION OPTIONS, ARE AVAILABLE FROM THE DEVELOPER/APPLICANT.

PRINCIPLE #8 RESIDENTIAL NEIGHBORHOODS SHOULD BE INTERESTING PLACES– COMMUNITY/ MULTIUSE PARKS INTEGRATED THROUGHOUT THE DEVELOPMENT TO ENHANCE THE CHARACTER OF THE NEIGHBORHOOD.

PRINCIPLE #9– NEIGHBORHOODS SHOULD CONNECT– TWO VEHICULAR ACCESS POINTS FOR FUTURE INTERCONNECTION ARE PROPOSED; COMMUNITY PROVIDES SIDEWALKS THROUGHOUT TO IMPROVE PEDESTRIAN MOVEMENT AND ACCESS TO COMMUNITY PARK AND COMMERCIAL SPACE.

**STATEMENT OF PURPOSE & INTENT**

THE PURPOSE OF THESE PLANS IS TO OBTAIN PUD SKETCH SITE PLAN APPROVAL FOR A PROPOSED MIXED USE RESIDENTIAL AND COMMERCIAL DEVELOPMENT.

**SITE ADDRESS**

TECHNOLOGY DRIVE
EASTON, MD 21601

**OWNER**

EASTON SUNRISE PARTNERS, LLC
928 RIVERVIEW TERRACE
ST. MICHAELS, MD 21663

**LAND PLANNER/CIVIL ENGINEER**

LANE ENGINEERING, LLC
C/O BRETT C. EWING, AICP
C/O JARRET BEYER, PE
117 BAY STREET
EASTON, MD 21601
(410) 822-8003

| REVISIONS | | | |
|---|---|---|---|
| No. | DATE | DESCRIPTION | BY |

WARNING!!
THE LOCATIONS OF EXISTING UTILITIES AS SHOWN ON THIS PLAN ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF EXISTING UTILITIES PRIOR TO BEGINNING CONSTRUCTION. THE QUANTITIES SHOWN ON THIS PLAN ARE FOR INFORMATIONAL AND PERMITTING PURPOSES ONLY. THE CONTRACTOR SHALL VERIFY ALL QUANTITIES TO HIS OWN SATISFACTION PRIOR TO BEGINNING CONSTRUCTION.

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Established 1986
Civil Engineers • Land Planning • Land Surveyors
E-mail: general@leinc.com
117 Bay St. Easton, MD 21601 (410) 822-8003
15 Washington St. Cambridge, MD 21613 (410) 221-0818
354 Pennsylvania Ave. Centreville, MD 21617 (410) 758-2095


PROFESSIONAL CERTIFICATION: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 48188 , Expiration Date: 12/28/2025.

SEAL
STATE OF MARYLAND – JARRET J. BEYER – No. 48188 – REGISTERED PROFESSIONAL ENGINEER
5/30/25
DATE

TITLE SHEET & PROJECT NOTES
FOR
FOX CHASE ESTATES
*IN THE TOWN OF EASTON, ELECTION WARD 1*
*TALBOT COUNTY, MARYLAND*
*TAX MAP 25 GRID 4 PARCEL 92 LOTS 1, 2, 3 & 4*

| ISSUED FOR: | DATE: | BY: |
|---|---|---|
| AGENCY REVIEW | 5/7/25 | BCE |
| AGENCY REVIEW | 6/2/25 | BCE |

SHEET No. 1 OF 6
SCALE: AS NOTED
DATE:
JOB No. 220210
FILE No. 3208

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Date: 05/30/2025 – 3:43pm User: wbarnhart Project Manager: BCE
Drawing Path: J:\2022\0200\220210\Civil3D-220210\Dwg\Plots\RSK-PLTS-220210.dwg | Sheet1TitleSheet
XREF File(s): RSK-BASE-220210/XRN-BASE-220210/RBS-BASE-2436-220210/VLD-BASE-220210/CSK-BASE-220210/LLP-PUD-BASE-220210/CSK-Road-BASE-220210/CSK-LOT-BASE/XRN-LOTS-BASE-220210/RAR-BASE-Rev-220210

## SITE NOTES

EXISTING ZONING CLASSIFICATION: BC (BUSINESS COMMERCIAL)
EXISTING SETBACKS:
FRONT– 40'
SIDE– 10'
REAR– 30'

THE PROPERTY SHOWN HEREON LIES ENTIRELY OUTSIDE OF THE CHESAPEAKE BAY CRITICAL AREA AS SHOWN ON THE TALBOT COUNTY CRITICAL AREA MAPS IN ACCORDANCE WITH TALBOT COUNTY BILL No. 1295, ENACTED AUGUST 12, 2014.

THE NONTIDAL WETLANDS AND ASSOCIATED BUFFERS SHOWN HEREON WERE TAKEN FROM A JURISDICTIONAL DETERMINATION PLAT, PREPARED BY LANE ENGINEERING, LLC, DATED 10–20–20.

THE STREAMS AND ASSOCIATED BUFFERS SHOWN HEREON WERE TAKEN FROM A JURISDICTIONAL DETERMINATION PLAT, PREPARED BY LANE ENGINEERING, LLC, DATED 10–20–20.

THE IMPROVEMENTS SHOWN HEREON WERE FIELD LOCATED BY LANE ENGINEERING, LLC ON 03–01–24.

THE DIMENSIONS OF BUILDINGS, STRUCTURES AND SETBACKS WERE MEASURED TO THE NEAREST 0.1 FOOT.

THE TREE LINE SHOWN HEREON WAS TAKEN FROM THE 2022 TALBOT COUNTY AERIALS AND IS APPROXIMATE ONLY.

THE CONTOURS SHOWN HEREON WERE TAKEN FROM FIELD RUN TOPOGRAPHY BY LANE ENGINEERING, LLC ON 03–01–24.

THE ELEVATIONS SHOWN HEREON ARE NAVD 1988 DATUM AS ESTABLISHED BY GPS METHODOLOGY TO CORS STATIONS MDNM (NGS CERTIFICATE PENDING) AND LOYF (PID DK7414) COMBINED FACTOR: 0.99995360.

THE COORDINATES SHOWN HEREON ARE BASED ON THE MARYLAND COORDINATE SYSTEM NAD83 (2011), AS ESTABLISHED BY GPS METHODOLOGY TO CORS STATIONS MDNM (NGS CERTIFICATE PENDING) AND LOYF (PID DK7414) COMBINED FACTOR: 0.99995360. THE DISTANCES SHOWN HEREON ARE GROUND BASED.

NO ABSTRACT OF TITLE, TITLE COMMITMENT, NOR RESULTS OF A TITLE SEARCH HAVE BEEN FURNISHED TO LANE ENGINEERING, LLC. THE BUILDING RESTRICTION LINES AS SHOWN HEREON ARE BASED SOLELY ON THE CURRENT TOWN OF EASTON COUNTY ZONING ORDINANCE APPLICABLE TO THE PROPERTY SHOWN HEREON AND ARE SUBJECT TO CHANGE WITH THE REVISION OF ZONING LAWS. OTHER DOCUMENTS OF RECORD MAY EXIST THAT MAY AFFECT THE SURVEYED PROPERTY REFLECTED HEREON, INCLUDING BUT NOT LIMITED TO EASEMENTS, ENCUMBRANCES, RESTRICTIVE COVENANTS, PLAT RESTRICTIONS OR ANY OTHER FACTS THAT AN ACCURATE, COMPLETE AND CURRENT TITLE SEARCH MAY DISCLOSE.

## FLOOD DATA

A PORTION OF THE PROPERTY SHOWN HEREON IS LOCATED IN THE NATIONAL FLOOD INSURANCE PROGRAM (NFIP) SPECIAL FLOOD HAZARD AREA (SFHA) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD. THE PROPERTY IS MAPPED IN THE "AE" (EL 5) AND "X" FLOOD ZONES AS SHOWN ON THE FLOOD INSURANCE RATE MAPS FOR COMMUNITY NO. 240067, MAP NO. 24041C0180D FOR THE TOWN OF EASTON, MARYLAND. THE 1% ANNUAL CHANCE FLOOD (100–YEAR FLOOD), ALSO KNOWN AS THE BASE FLOOD, IS THE FLOOD THAT HAS A 1% CHANCE OF BEING EQUALED OR EXCEEDED IN ANY GIVEN YEAR. THE SFHA IS THE AREA SUBJECT TO FLOODING BY THE 1% ANNUAL CHANCE FLOOD. THE SFHA INCLUDES ZONES A, AE, AH, AO, AR, A99, V & VE. THE BASE FLOOD ELEVATION (BFE) IS THE WATER SURFACE ELEVATION OF THE 1% ANNUAL CHANCE FLOOD. FLOOD INSURANCE MAY BE REQUIRED FOR STRUCTURES LOCATED IN THE SPECIAL FLOOD HAZARD AREA.

FLOOD ZONE LEGEND
ZONES A, AE, AH, AO, AR, A99, V & VE – 1% ANNUAL CHANCE FLOOD
ZONE X – AREA OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD

THE FLOOD DATA SHOWN HEREON IS BASED ON AVAILABLE MAPPED AND/OR DIGITAL INFORMATION AND IS DEPICTED AS DIRECTED AND REQUIRED BY FEDERAL, STATE AND LOCAL REGULATIONS. IT IS SUBJECT TO DATA INACCURACIES AND REGULATORY CHANGE AND SHOULD BE VERIFIED PRIOR TO FINALIZING DEVELOPMENT OR IMPROVEMENT PLANS FOR THE SUBJECT LANDS.

## ADJACENT PROPERTY OWNERS

TAX MAP 25, PARCEL 90

| LOT # | CURRENT OWNER | DEED | PLAT | ZONING | USE |
|---|---|---|---|---|---|
| LOT 4 | 29000 INFORMATION LANE, LLC | 2412/251 | 4/80 | BC | INDUSTRIAL |
| LOT 5 | 29000 INFORMATION LANE, LLC | 2412/251 | 4/80 | BC | INDUSTRIAL |
| LOT 8 | DAVIS M. RICHARDSON & BARBI B. RICHARDSON | 2256/350 | 4/80 | BC | INDUSTRIAL |
| LOT 11 | ZIG, LLC | 2529/336 | 4/80 | BC | INDUSTRIAL |
| LOT 12 | EASTON SUNRISE PARTNERS, LLC | 2705/413 | 91/51 | BC | INDUSTRIAL |
| LOT 13 | EASTON SUNRISE PARTNERS, LLC | 2705/413 | 91/51 | BC | INDUSTRIAL |
| LOT 50 | AVAS 5150 TECHNOLOGY, LLC | 2935/500 | 4/80 | BC | INDUSTRIAL |

### PROPERTY BOUNDARY CURVE TABLE

| CURVE | RADIUS | ARC LENGTH | TANGENT | CHD. BEARING | CHD. LENGTH |
|---|---|---|---|---|---|
| C1 | 725.00' | 108.11' | 54.16' | S 06°39'18" E | 108.01' |
| C2 | 775.00' | 115.57' | 57.89' | N 06°39'18" W | 115.46' |
| C3 | 525.00' | 360.93' | 187.93' | S 22°04'42" E | 353.87' |
| C4 | 475.00' | 326.56' | 170.03' | N 22°04'42" W | 320.17' |
| C7 | 325.00' | 248.80' | 130.86' | S 19°50'30" E | 242.77' |
| C8 | 375.00' | 14.08' | 7.04' | N 42°50'55" W | 14.08' |




| REVISIONS | | | |
|---|---|---|---|
| No. | DATE | DESCRIPTION | BY |
| | | | |

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Civil Engineers • Land Planning • Land Surveyors
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117 Bay St. Easton, MD 21601 (410) 822–8003
15 Washington St. Cambridge, MD 21613 (410) 221–0818
354 Pennsylvania Ave. Centreville, MD 21617 (410) 758–2095


PROFESSIONAL CERTIFICATION: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 48188 , Expiration Date: 12/28/2025.

SEAL
STATE OF MARYLAND
BRIAN C. CROSBY
48188
PROFESSIONAL ENGINEER
5/30/25
DATE

# EXISTING CONDITIONS & LINE REVISION PLAN

FOR
FOX CHASE ESTATES

IN THE TOWN OF EASTON, ELECTION WARD 1
TALBOT COUNTY, MARYLAND
TAX MAP 25 GRID 4 PARCEL 92 LOTS 1, 2, 3 & 4

| ISSUED FOR: | DATE: | BY: |
|---|---|---|
| AGENCY REVIEW | 5/7/25 | BCE |
| AGENCY REVIEW | 6/2/25 | BCE |

SHEET No. 2 OF 6
DATE:
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LANE ENGINEERING, LLC

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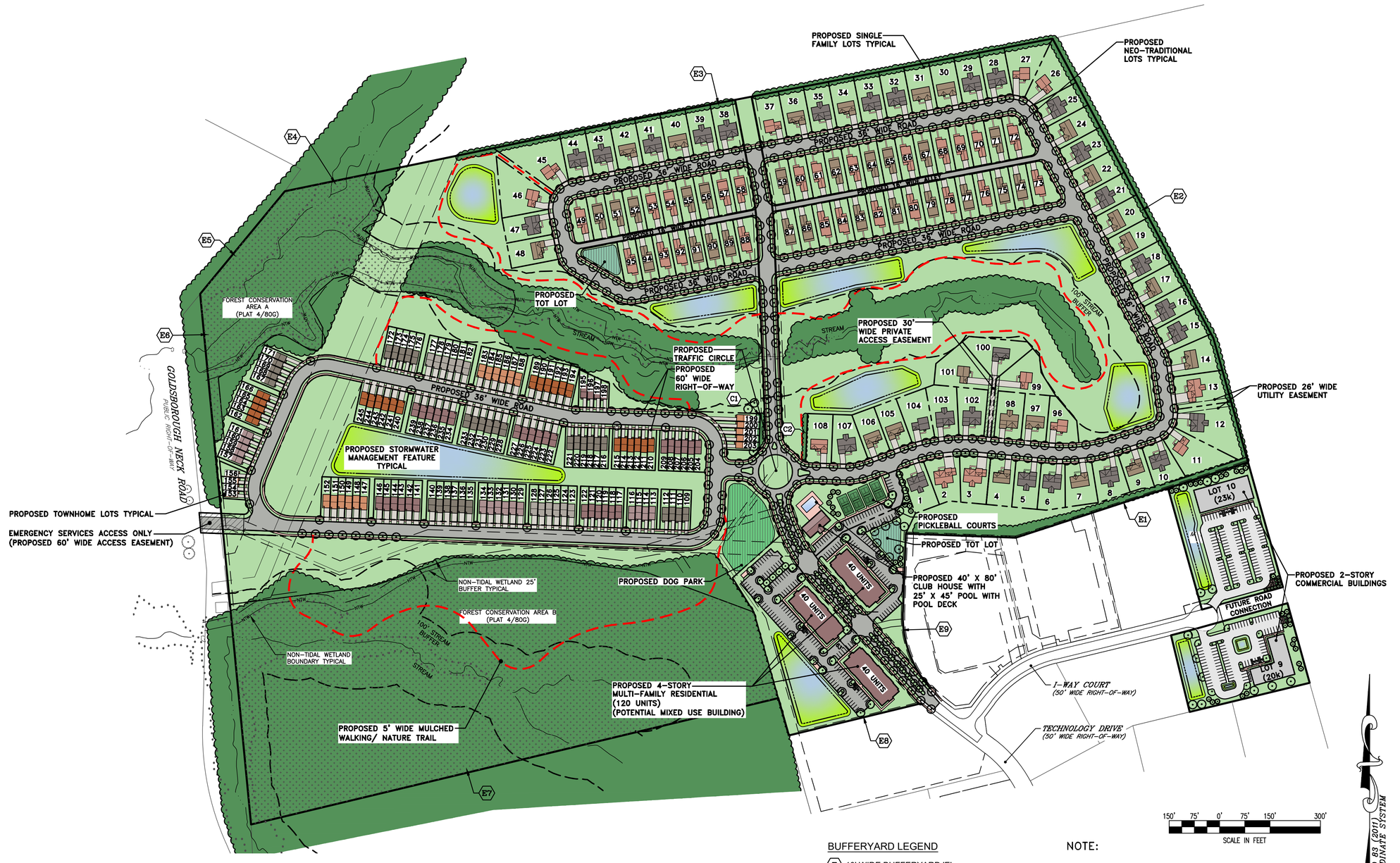
## ESD SUMMARY CHART

| DRAINAGE AREA | TYPE OF ESD PRACTICE | TYPE OF ESD PRACTICE (STRUCTURE NAME) | ON-SITE OR OFF-SITE STRUCTURE | RUNOFF CURVE NUMBER (RCN) WEIGHTED | MARYLAND GRID COORDINATE NAD 83 METERS NORTHING | MARYLAND GRID COORDINATE NAD 83 METERS EASTING | ESD PRACTICE TOTAL DRAINAGE AREA (ACRES) | ESD PRACTICE IMPERVIOUS DRAINAGE AREA (ACRES) | SURFACE AREA OF ESD PRACTICE (ACRES) | TARGET PE (IN) | ACTUAL PE (IN) | TARGET ESDv ($FT^3$) | ACTUAL ESDv ($FT^3$) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | SGW | – | ON-SITE | – | 419188.37 | 1576174.97 | 13.56 | 3.77 | 0.48 | – | – | 24,893 | 33,969 |
| 7 | SGW | – | ON-SITE | – | 419856.51 | 1575073.59 | 16.94 | 7.66 | 1.30 | – | – | 46,366 | 78,668 |
| 8 | SGW | – | ON-SITE | – | 420064.31 | 1576351.18 | 9.72 | 2.95 | 0.44 | – | – | 22,060 | 31,299 |
| 9 | SGW | – | ON-SITE | – | 420049.62 | 1577135.65 | 4.54 | 1.26 | 0.44 | – | – | 8,468 | 13,821 |
| 10 | SGW | – | ON-SITE | – | 420506.39 | 1576908.27 | 6.69 | 3.05 | 0.43 | – | – | 20,131 | 31,315 |
| 11 | SGW | – | ON-SITE | – | 420391.69 | 1576269.90 | 6.90 | 2.84 | 0.46 | – | – | 18,949 | 29,477 |
| 12 | SGW | – | ON-SITE | – | 420315.77 | 1575876.69 | 4.53 | 2.11 | 0.35 | – | – | 16,985 | 21,617 |
| 13 | SGW | – | ON-SITE | – | 420639.18 | 1575182.56 | 5.15 | 1.66 | 0.39 | – | – | 13,984 | 17,797 |
| 14 | SGW | – | ON-SITE | – | 419230.71 | 1577314.09 | 2.00 | 1.01 | 0.11 | – | – | 6,559 | 8,590 |
| 15 | SGW | – | ON-SITE | – | 419596.61 | 1577326.64 | 2.18 | 1.24 | 0.15 | – | – | 8,287 | 11,960 |

## SWM QUANTITY SUMMARY CHART

| PRACTICE | DA (ACRES) | IMPERVIOUS (ACRES) | RCN | Tc (MINUTES) | PRE 2 YEAR | POST 2 YEAR | WSE | PRE 10 YEAR | POST 10 YEAR | WSE | PRE 100 YEAR | POST 100 YEAR | WSE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SWM #1 (POI #1) | 13.56 | 3.77 | – | 6.0 | 7.12 | 1.15 | – | 15.96 | 11.98 | – | – | – | – |
| SWM #2 (POI#2) | 17.27 | 7.71 | – | 6.4 | 17.49 | 0.60 | – | 38.65 | 8.73 | – | – | – | – |
| SWM #7 (POI #3) | 15.31 | 2.47 | – | 13.3 | 8.21 | 7.38 | – | 20.85 | 20.63 | – | – | – | – |
| SWM #3-6 (POI #4) | 35.03 | 10.10 | – | 11.6 | 14.56 | 0.99 | – | 36.82 | 16.48 | – | – | – | – |
| N/A (POI #5) | 1.86 | 0.29 | – | 6.8 | 3.30 | 0.22 | – | 9.16 | 2.05 | – | – | – | – |
| SWM #8 (POI #6) | 7.03 | 1.68 | – | 22.2 | 3.44 | 0.02 | – | 10.70 | 0.45 | – | – | – | – |
| SWM #9 (POI #7) | 2.00 | 1.01 | – | 6.0 | 2.43 | 0.30 | – | 4.93 | 4.07 | – | – | – | – |
| SWM #10 (POI #8) | 2.19 | 1.24 | – | 6.0 | 2.98 | 0.34 | – | 6.16 | 4.93 | – | – | – | – |




BUFFERYARD LEGEND

(E) 10' WIDE BUFFERYARD 'E'

NOTE: PROPOSED BUFFERYARDS UTILIZE LANDSCAPE OVERLAPPING CREDITS FOR FOREST CONSERVATION

NOTE:

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| No. | DATE | DESCRIPTION | BY |
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SEAL

STATE OF MARYLAND — MARKET W. LANE — 48188 — PROFESSIONAL ENGINEER

5/30/25
DATE

# SKETCH CONCEPT PLAN

FOR

## FOX CHASE ESTATES

*IN THE TOWN OF EASTON, ELECTION WARD 1*
*TALBOT COUNTY, MARYLAND*
*TAX MAP 25 GRID 4 PARCEL 92 LOTS 1, 2, 3 & 4*

| ISSUED FOR: | DATE: | BY: |
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| AGENCY REVIEW | 6/2/25 | BCE |

SHEET No. 3 OF 6
DATE:
JOB No. 220210
SCALE: AS NOTED
FILE No. 3208


Date: 05/30/2025 - 3:43pm User: wbarnhart Project Manager: BCE
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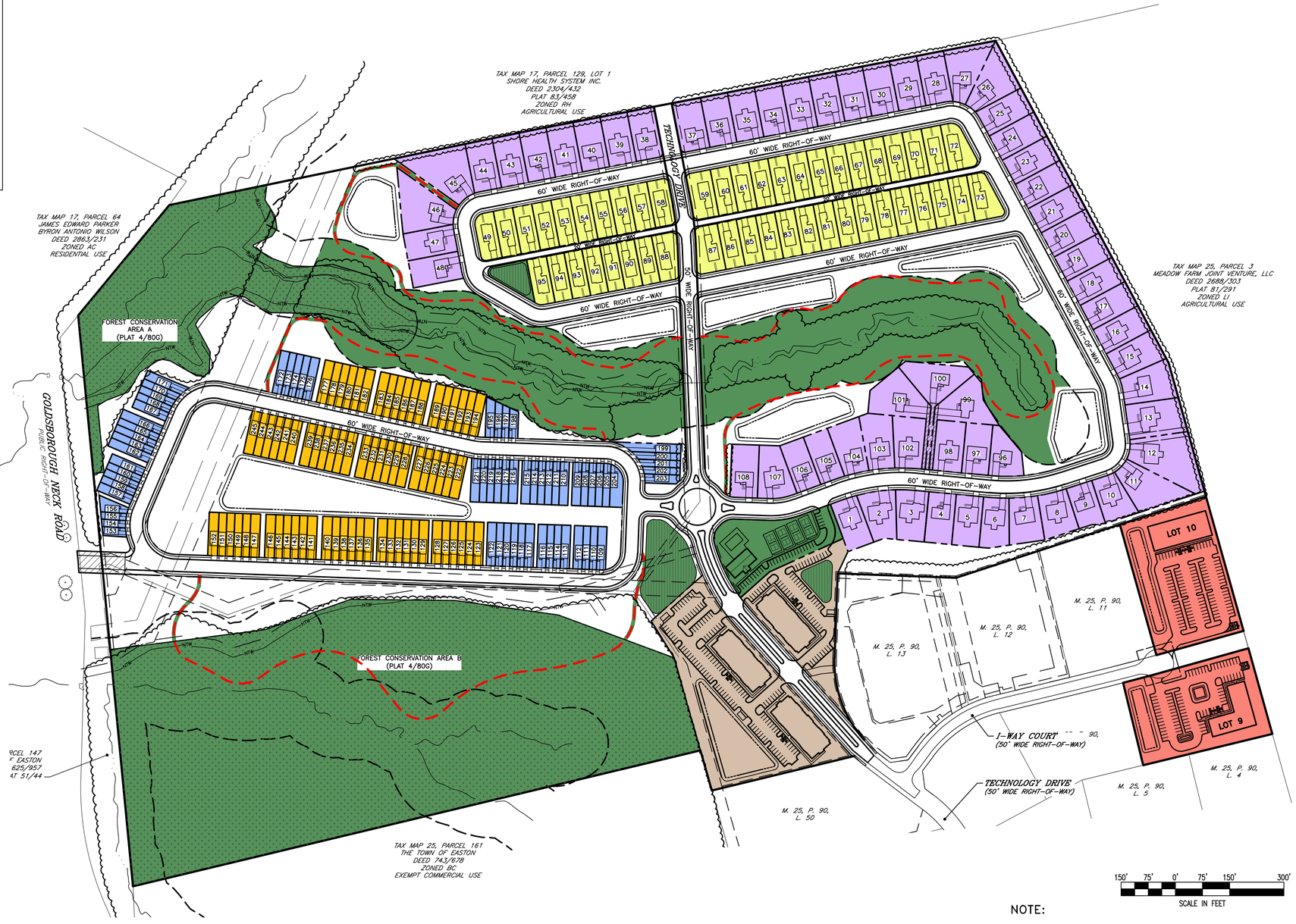
LEGEND

- SINGLE FAMILY LOT
- NEO-TRADITIONAL LOT
- 20' WIDE TOWNHOUSE LOT
- 22' WIDE TOWNHOUSE LOT
- MULTI-FAMILY PARCEL
- COMMERCIAL
- AMENITY/ RECREATIONAL OPEN SPACE
- EXISTING FOREST CONSERVATION
- 5' WIDE MULCHED WALKING/ NATURE TRAIL

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SEAL

STATE OF MARYLAND
BRADLEY C. EASTON
48188
REGISTERED
PROFESSIONAL ENGINEER

5/30/25
DATE

# SUBDIVISION PLAT SKETCH & LOT EXHIBIT

FOR

## FOX CHASE ESTATES

*IN THE TOWN OF EASTON, ELECTION WARD 1*
*TALBOT COUNTY, MARYLAND*
*TAX MAP 25 GRID 4 PARCEL 92 LOTS 1, 2, 3 & 4*

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| SCALE: AS NOTED | JOB No. 220210 |
| | FILE No. 3208 |

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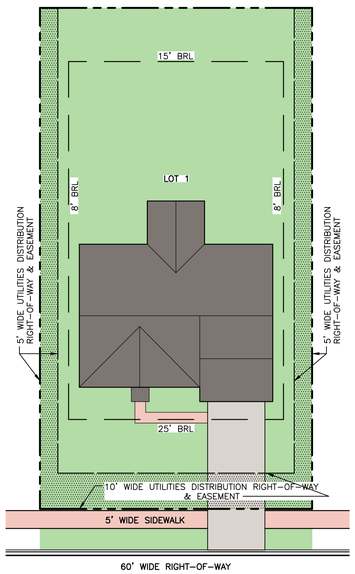
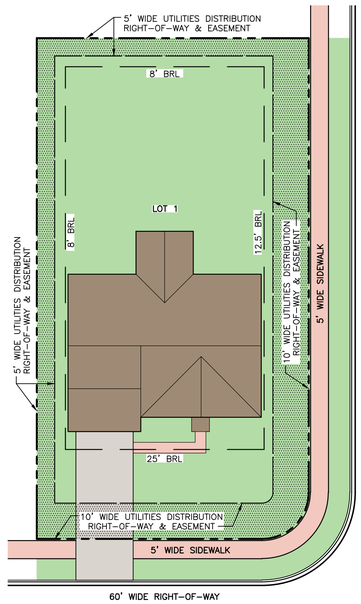



TYPICAL SINGLE FAMILY LOT DETAIL
(FRONT LOADED)
SCALE: 1" = 20'

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(FRONT LOADED)
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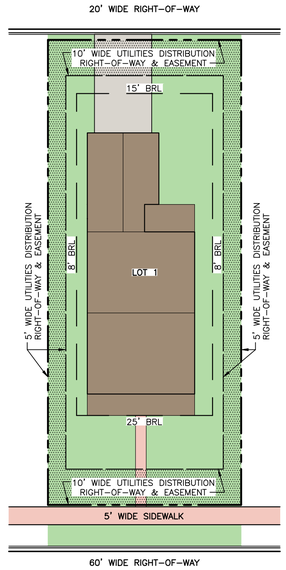
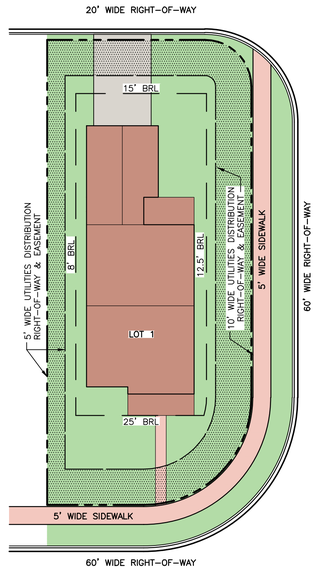



TYPICAL NEO-TRADITIONAL LOT DETAIL
(REAR LOADED)
SCALE: 1" = 20'




TYPICAL NEO-TRADITIONAL CORNER LOT DETAIL
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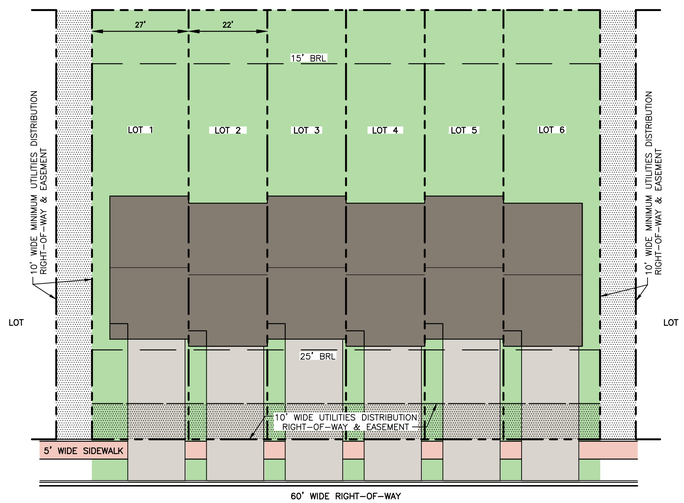


TYPICAL 22' WIDE TOWNHOUSE BLOCK DETAIL
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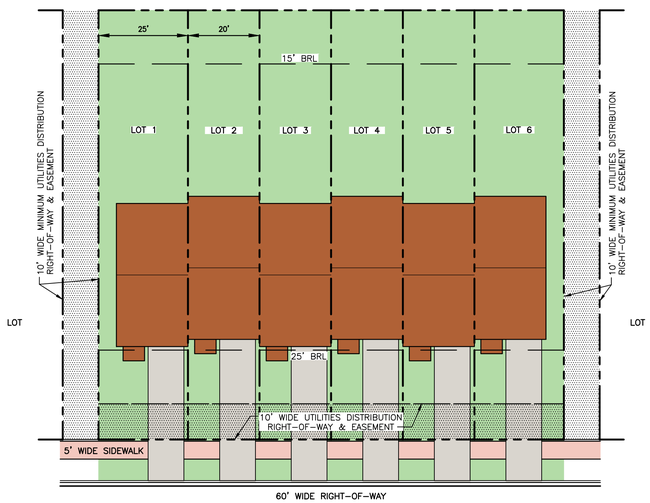


TYPICAL 20' WIDE TOWNHOUSE BLOCK DETAIL
SCALE: 1" = 20'

20' 10' 0' 10' 20' 40'
SCALE IN FEET

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SEAL

STATE OF MARYLAND
BRADLEY C. ENGLAR
No. 48188
PROFESSIONAL ENGINEER

5/30/25
DATE

# LOT DETAILS

FOR
FOX CHASE ESTATES

*IN THE TOWN OF EASTON, ELECTION WARD 1*
*TALBOT COUNTY, MARYLAND*
*TAX MAP 25 GRID 4 PARCEL 92 LOTS 1, 2, 3 & 4*

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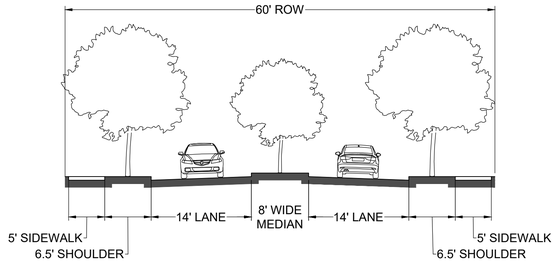
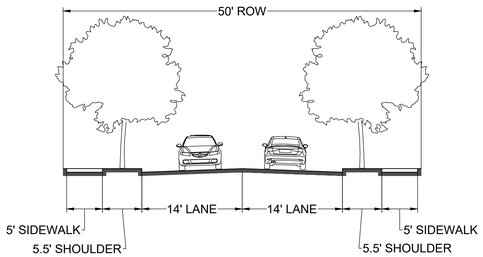



RESIDENTIAL SUB-COLLECTOR (BOULEVARD)
NOT TO SCALE

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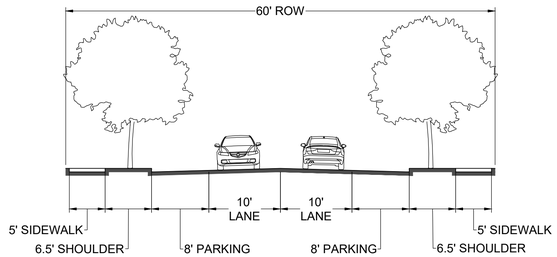


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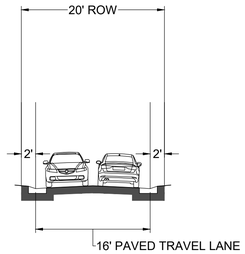
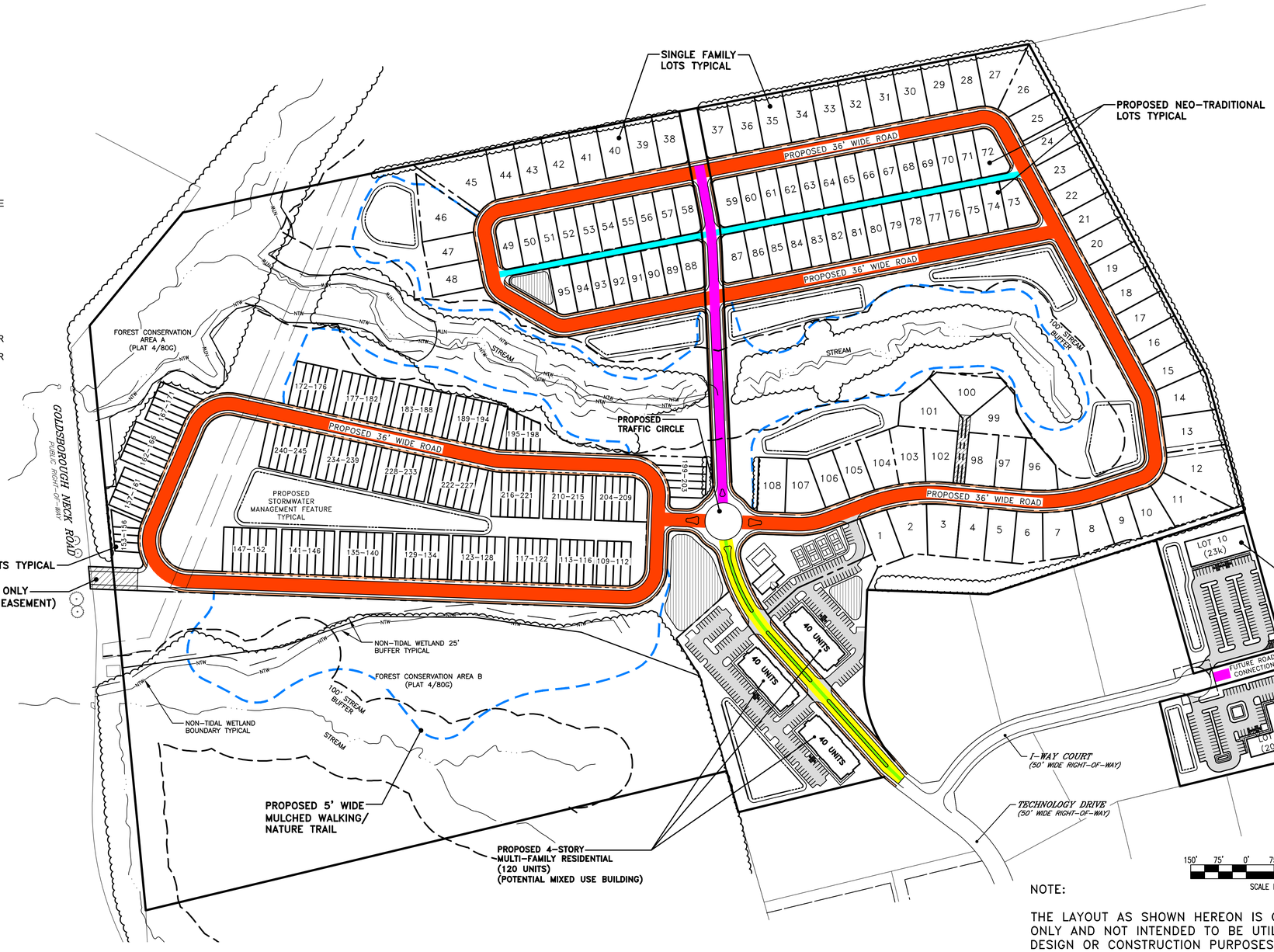
NOT TO SCALE




RESIDENTIAL ALLEY
NOT TO SCALE

LEGEND

- RESIDENTIAL COLLECTOR
- RESIDENTIAL SUB-COLLECTOR
- RESIDENTIAL SUB-COLLECTOR BOULEVARD
- RESIDENTIAL ALLEY
- 5' MULCH PATH
- 5' PEDESTRIAN SIDEWALK
- PARKING AREAS

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SEAL

STATE OF MARYLAND — ROBERT CHRISTOPHER SPEARS — 48188 — PROFESSIONAL ENGINEER

5/30/25
DATE

# TRANSPORTATION EXHIBIT & STREET DETAILS

FOR

# FOX CHASE ESTATES

*IN THE TOWN OF EASTON, ELECTION WARD 1*
*TALBOT COUNTY, MARYLAND*
*TAX MAP 25 GRID 4 PARCEL 92 LOTS 1, 2, 3 & 4*

| ISSUED FOR: | DATE: | BY: |
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| AGENCY REVIEW | 6/2/25 | BCE |

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|---|---|
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| SCALE: AS NOTED | JOB No. 220210 |
| | FILE No. 3208 |

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Lane Engineering, LLC

# CONCEPT STORMWATER MANAGEMENT REPORT

## FOX CHASE ESTATES

EASTON, TALBOT COUNTY, MARYLAND

**PREPARED FOR:**

Easton Sunrise Partners, LLC
c/o Scott Wagner
928 Riverview Terrace
St. Michaels, Maryland 21663

**PREPARED BY:**

Jarret J. Beyer, P.E.

**DATE PREPARED:**

May 6, 2025




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**LANE ENGINEERING, LLC**
**117 BAY STREET**
**EASTON, MARYLAND 21601**
**410-822-8003**

# Table of Contents

Introduction ..... 3
General Site Information ..... 3
Proposed Project ..... 4
Stormwater Management ..... 4
Stormwater Quality Treatment ..... 4
Stormwater Quantity Management ..... 5
Conclusion ..... 5

# Appendices

APPENDIX A : Stormwater Quality (ESD) Calculations
APPENDIX B : Stormwater Quantity Calculations
APPENDIX C: Pre-development Drainage Area Map
APPENDIX D: Post-development Drainage Area Map

# Introduction

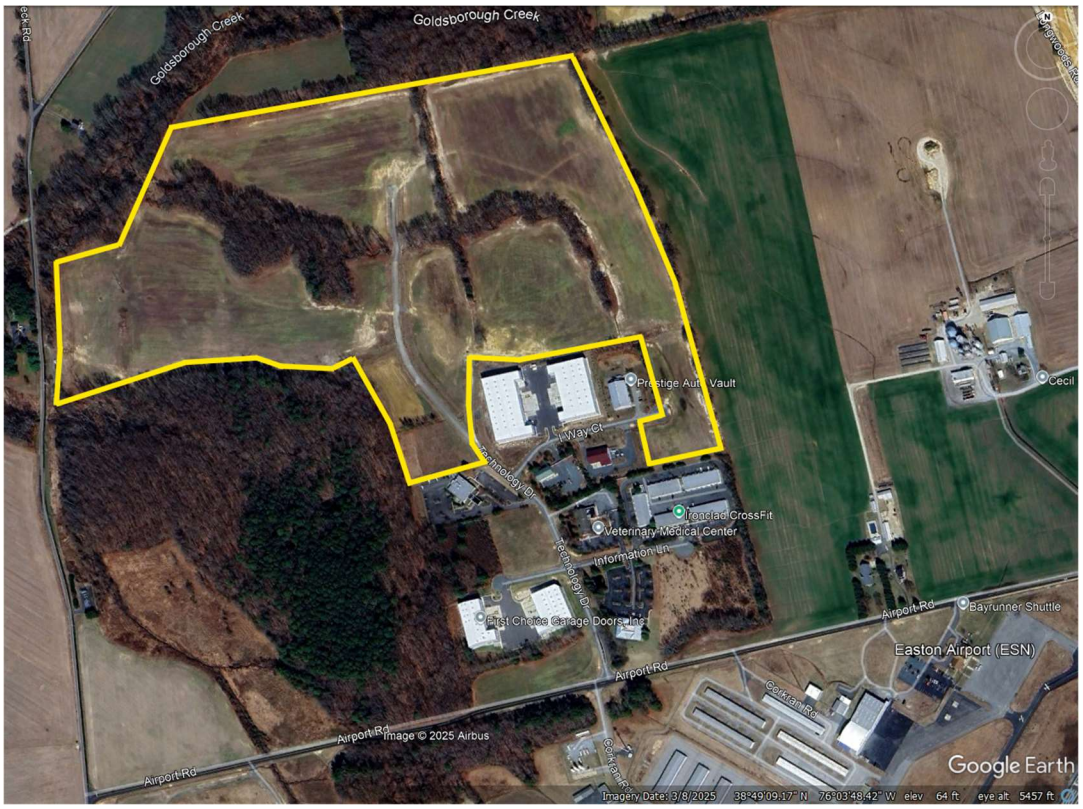
This report addresses the impacts of stormwater runoff resulting from the proposed development of this site located in Easton, MD. This stormwater management plan incorporates the requirements of the 2000 Maryland Stormwater Design Manual Volumes I and II (Manual) as currently updated. Development projects are required to be reviewed during the concept, preliminary site development, and final design stages. This report addresses stormwater requirements pertaining to the concept design stage and meets the intent of the guidelines and methodologies presented in the MDE document Environmental Site Design (ESD) Process & Computations dated July 2010.

# General Site Information

The site is 112.8 acres and located in Easton Technology Park at the north end of Technology Drive. The site is currently in agricultural use and has some woodlands. Surrounding lands consist of commercial development, farmland, and the future hospital to the north. Included in this concept stormwater management plan are two commercial parcels in the park, lots 9 and 10. These two parcels are also in agricultural use with some woodland. They are located at the east end of I Way Court, fronting the cul-de-sac.

The main site discharges to six main points and the two commercial parcels discharge to single point each. Soils are a mix of silts, sands, and loams. There is a heavy concentration of sandy loam on the north side of the main site and silts on the south side of the  main site and the two commercial parcels.

**Figure 1: Aerial View of Site**



# Proposed Project

The proposed development will consist of residential single-family homes, townhouses, and multi-family units. Two commercial parcels are included as well as residential community amenities such as a club house, pool, sport courts, tot lots, mulched walking/nature trail, and a dog park. The commercial parcels and community amenities are at concept level design currently. Two large forest conservation areas border the northwest and southwest sides of the development. Ten stormwater management features are proposed (eight on the main site and one each on the commercial parcels.)

# Stormwater Management

Stormwater management is conceptual currently but has been analyzed to meet quality and quantity requirements. There are thirteen drainage areas on the main site and each commercial parcel is its own drainage area. Treatment volumes have been calculated based on ponding volume only. We believe this is a conservative approach giving us a good starting point for discussion and refinement. Additional soils testing and discussion with the Town Engineer will potentially lead to different stormwater features coming in future submissions.

## Stormwater Quality Treatment

ESD requirements must be addressed for the project's entire limits of disturbance (LOD.) Calculations for this concept level analysis are based on the entirety of each individual drainage area. Please see Appendix A for calculations. Results of this analysis follow:

| ***Drainage Area*** | ***SWM Feature*** | ***Total Area (sf)*** | ***Impervious Area (sf)*** | ***Target $ESD_v$ (cf)*** | ***Provided $ESD_v$ (cf)*** |
|---|---|---|---|---|---|
| *1* | SWM #1 | 590,473 | 164,013 | 24,893 | 33,969 |
| *7* | SWM #2 | 738,117 | 333,604 | 46,366 | 78,668 |
| *8* | SWM #3 | 423,347 | 128,661 | 22,060 | 31,299 |
| *9* | SWM #4 | 197,851 | 54,821 | 8,468 | 13,821 |
| *10* | SWM #5 | 291,246 | 132,939 | 20,131 | 31,315 |
| *11* | SWM #6 | 300,706 | 123,660 | 18,949 | 29,477 |
| *12* | SWM #7 | 197,225 | 91,982 | 16,985 | 21,617 |
| *13* | SWM #8 | 224,335 | 72,286 | 13,984 | 17,797 |
| *14* | SWM #9 | 87,116 | 44,048 | 6,559 | 8,590 |
| *15* | SWM #10 | 95,173 | 53,816 | 8,287 | 11,960 |

Drainage areas 2, 3, 5, and 6 have small roof areas included. These roof areas are on the rear of the buildings, and it is not feasible to direct this runoff towards the street. These roof areas can be adequately treated by disconnect. Drainage area 4 does not have any contributing impervious area.

## Stormwater Quantity Management

Water quantity management is required for the 2 and 10-year peak storms, and safe conveyance is required for the 100-year peak storm. The existing and proposed site conditions were analyzed using HydroCAD software. Please see Appendix B. Results of this analysis follow:

| ***Study Point*** | ***Peak Runoff (cfs)*** | | | |
|---|---|---|---|---|
| | ***2-year*** | | ***10-year*** | |
| | ***Pre*** | ***Post*** | ***Pre*** | ***Post*** |
| *1* | 7.12 | 1.15 | 15.96 | 11.98 |
| *2* | 17.49 | 0.60 | 38.65 | 8.73 |
| *3* | 8.21 | 7.38 | 20.85 | 20.63 |
| *4* | 14.56 | 0.99 | 36.82 | 16.48 |
| *5* | 3.30 | 0.22 | 9.16 | 2.05 |
| *6* | 3.44 | 0.02 | 10.70 | 0.45 |
| *7* | 2.43 | 0.30 | 4.93 | 4.07 |
| *8* | 2.98 | 0.34 | 6.16 | 4.93 |

As seen above, the peak runoff leaving the project site at all study points will be reduced for all storm events.

Please see appendices C and D for pre- and post-development drainage area maps.

# Conclusion

This stormwater management analysis indicates that the proposed design will successfully meet and exceed stormwater quality and quantity requirements. Planning and design analysis indicates that stormwater quality and quantity management can be achieved as described above.

# APPENDIX A

STORMWATER QUALITY (ESD) CALCULATIONS

**SWM #1 - Drainage Area 1**

| | | | | |
|---|---|---|---|---|
| Total Area - B soils | 427,177 | sf | Target ESDv = | $\frac{(P_F)(Rv)(A)}{12}$ |
| Impervious Area | 145,136 | sf | | |
| Percent Impervious (I) | 34 | % | = | 22,797 cf |
| Pe = | 1.8 | " | | |
| Rv = 0.05 +0.009(I) | 0.36 | | | |

| | | | | |
|---|---|---|---|---|
| Total Area - C soils | 129,927 | sf | Target ESDv = | $\frac{(P_F)(Rv)(A)}{12}$ |
| Impervious Area | 18,877 | sf | | |
| Percent Impervious (I) | 15 | % | = | 1,957 cf |
| Pe = | 1.0 | " | | |
| Rv = 0.05 +0.009(I) | 0.18 | | | |

| | | | | |
|---|---|---|---|---|
| Total Area - D soils | 33,369 | sf | Target ESDv = | $\frac{(P_F)(Rv)(A)}{12}$ |
| Impervious Area | 0 | sf | | |
| Percent Impervious (I) | 0 | % | = | 139 cf |
| Pe = | 1.0 | " | | |
| Rv = 0.05 +0.009(I) | 0.05 | | | |

| | | |
|---|---|---|
| **Total Target ESDv =** | **24,893** | **cf** |
| 75% of target = | 18,670 | cf |
| 10% of target = | 2,489 | cf |

*Site Development Design - Submerged Gravel Wetland (M-2):*

Based on the Cpv storm (2.8 in.): Max allowable ESDv that can be used:

V - B soils = $\frac{(P)(Rv)(A)}{12}$ = **35,462 cf**

V - C soils = $\frac{(P)(Rv)(A)}{12}$ = **5,480 cf**

V - D soils = $\frac{(P)(Rv)(A)}{12}$ = **389 cf**

**V - Total = 41,332 cf**

The computed ESDv provided is:

| | | |
|---|---|---|
| ESDv= | **33,969** | **cf** |
| Pretreatment= | **0** | **cf** |

| | | |
|---|---|---|
| Forebay Surface Area= | | sf |
| Forebay Ponding Area= | | sf |
| Forebay Ponding Depth= | | ft |
| Surface Area= | 20,975 | sf |
| Ponding Area= | 24,317 | sf |
| Ponding Depth= | 1.5 | ft |

Therefore, when assessing compliance with the MEP standard, the volume of runoff treated by this submerged gravel wetland practice is **33,969 cf.**

**SWM #2 - Drainage Area 7**

| | | | | |
|---|---|---|---|---|
| Total Area - B soils | 312,013 | sf | Target ESDv = | $\frac{(P_F)(Rv)(A)}{12}$ |
| Impervious Area | 151,342 | sf | | |
| Percent Impervious (I) | 49 | % | = | 22,771 cf |
| Pe = | 1.8 | " | | |
| Rv = 0.05 +0.009(I) | 0.49 | | | |

| | | | | |
|---|---|---|---|---|
| Total Area - C soils | 305,695 | sf | Target ESDv = | $\frac{(P_F)(Rv)(A)}{12}$ |
| Impervious Area | 114,513 | sf | | |
| Percent Impervious (I) | 37 | % | = | 15,780 cf |
| Pe = | 1.6 | " | | |
| Rv = 0.05 +0.009(I) | 0.39 | | | |

| | | | | |
|---|---|---|---|---|
| Total Area - D soils | 120,409 | sf | Target ESDv = | $\frac{(P_F)(Rv)(A)}{12}$ |
| Impervious Area | 67,749 | sf | | |
| Percent Impervious (I) | 56 | % | = | 7,816 cf |
| Pe = | 1.4 | " | | |
| Rv = 0.05 +0.009(I) | 0.56 | | | |

| | | |
|---|---|---|
| **Total Target ESDv =** | **46,366** | **cf** |
| 75% of target = | 34,775 | cf |
| 10% of target = | 4,637 | cf |

*Site Development Design - Submerged Gravel Wetland (M-2):*

Based on the Cpv storm (2.8 in.): Max allowable ESDv that can be used:

| | | | | |
|---|---|---|---|---|
| V - B soils = | $\frac{(P)(Rv)(A)}{12}$ | = | 35,422 | cf |
| V - C soils = | $\frac{(P)(Rv)(A)}{12}$ | = | 27,614 | cf |
| V - D soils = | $\frac{(P)(Rv)(A)}{12}$ | = | 15,632 | cf |
| **V - Total =** | **78,668** | | **cf** | |

The computed ESDv provided is:

| | | |
|---|---|---|
| ESDv= | **90,132** | **cf** |
| Pretreatment= | **0** | **cf** |

| | | |
|---|---|---|
| Forebay Surface Area= | | sf |
| Forebay Ponding Area= | | sf |
| Forebay Ponding Depth= | | ft |
| Surface Area= | 56,734 | sf |
| Ponding Area= | 63,442 | sf |
| Ponding depth= | 1.5 | ft |

Therefore, when assessing compliance with the MEP standard, the volume of runoff treated by this submerged gravel wetland practice is **78,668 cf.**

**SWM #3 - Drainage Area 8**

| | | | | |
|---|---|---|---|---|
| Total Area - B Soils | 180,357 | sf | Target ESDv = | $\frac{(P_F)(Rv)(A)}{12}$ |
| Impervious Area | 40,163 | sf | | |
| Percent Impervious (I) | 22 | % | = | 6,775 cf |
| Pe = | 1.8 | " | | |
| Rv = 0.05 +0.009(I) | 0.25 | | | |

| | | | | |
|---|---|---|---|---|
| Total Area - C Soils | 241,588 | sf | Target ESDv = | $\frac{(P_F)(Rv)(A)}{12}$ |
| Impervious Area | 87,592 | sf | | |
| Percent Impervious (I) | 36 | % | = | 15,152 cf |
| Pe = | 2.0 | " | | |
| Rv = 0.05 +0.009(I) | 0.38 | | | |

| | | | | |
|---|---|---|---|---|
| Total Area - D Soils | 1,402 | sf | Target ESDv = | $\frac{(P_F)(Rv)(A)}{12}$ |
| Impervious Area | 906 | sf | | |
| Percent Impervious (I) | 65 | % | = | 133 cf |
| Pe = | 1.8 | " | | |
| Rv = 0.05 +0.009(I) | 0.63 | | | |

| | |
|---|---|
| **Total Target ESDv =** | **22,060 cf** |
| 75% of target = | 16,545 cf |
| 10% of target = | 2,206 cf |

*Site Development Design - Submerged Gravel Wetland (M-2):*

Based on the Cpv storm (2.8 in.): Max allowable ESDv that can be used:

V - B soils = $\frac{(P)(Rv)(A)}{12}$ = 10,538 cf

V - C soils = $\frac{(P)(Rv)(A)}{12}$ = 21,213 cf

V - D soils = $\frac{(P)(Rv)(A)}{12}$ = 207 cf

**V - Total = 31,958 cf**

The computed ESDv provided is:

| | | |
|---|---|---|
| ESDv= | **31,299** | **cf** |
| Pretreatment= | **0** | **cf** |

| | | |
|---|---|---|
| Forebay Surface Area= | 0 | sf |
| Forebay Ponding Area= | 0 | sf |
| Forebay Ponding Depth= | 0.00 | ft |
| Surface Area= | 19,263 | sf |
| Ponding Area= | 22,469 | sf |
| Ponding depth= | 1.5 | ft |

Therefore, when assessing compliance with the MEP standard, the volume of runoff treated by this submerged gravel wetland practice is **31,299 cf.**

**SWM #4 - Drainage Area 9**

| | | | | |
|---|---|---|---|---|
| Total Area - A Soils | 11,749 | sf | Target ESDv = | $\frac{(P_F)(Rv)(A)}{12}$ |
| Impervious Area | 295 | sf | | |
| Percent Impervious (I) | 3 | % | = | 71 cf |
| Pe = | 1.0 | " | | |
| Rv = 0.05 +0.009(I) | 0.07 | | | |

| | | | | |
|---|---|---|---|---|
| Total Area - B Soils | 112,983 | sf | Target ESDv = | $\frac{(P_F)(Rv)(A)}{12}$ |
| Impervious Area | 34,575 | sf | | |
| Percent Impervious (I) | 31 | % | = | 5,515 cf |
| Pe = | 1.8 | " | | |
| Rv = 0.05 +0.009(I) | 0.33 | | | |

| | | | | |
|---|---|---|---|---|
| Total Area - C Soils | 34,786 | sf | Target ESDv = | $\frac{(P_F)(Rv)(A)}{12}$ |
| Impervious Area | 9,534 | sf | | |
| Percent Impervious (I) | 27 | % | = | 1,376 cf |
| Pe = | 1.6 | " | | |
| Rv = 0.05 +0.009(I) | 0.30 | | | |

| | | | | |
|---|---|---|---|---|
| Total Area - D Soils | 38,333 | sf | Target ESDv = | $\frac{(P_F)(Rv)(A)}{12}$ |
| Impervious Area | 10,417 | sf | | |
| Percent Impervious (I) | 27 | % | = | 1,506 cf |
| Pe = | 1.6 | " | | |
| Rv = 0.05 +0.009(I) | 0.29 | | | |

| | | |
|---|---|---|
| **Total Target ESDv =** | **8,468** | **cf** |
| 75% of target = | 6,351 | cf |
| 10% of target = | 847 | cf |

*Site Development Design - Submerged Gravel Wetland (M-2):*

Based on the Cpv storm (2.8 in.): Max allowable ESDv that can be used:

| | | | | |
|---|---|---|---|---|
| V - A soils = | $\frac{(P)(Rv)(A)}{12}$ | = | 199 | cf |
| V - B soils = | $\frac{(P)(Rv)(A)}{12}$ | = | 8,579 | cf |
| V - C soils = | $\frac{(P)(Rv)(A)}{12}$ | = | 2,408 | cf |
| V - D soils = | $\frac{(P)(Rv)(A)}{12}$ | = | 2,635 | cf |
| **V - Total =** | **13,821** | **cf** | | |

The computed ESDv provided is: (SEE NEXT PAGE)

| | | |
|---|---|---|
| ESDv= | **30,832** | **cf** |
| Pretreatment= | **0** | **cf** |

| | | |
|---|---|---|
| Forebay Surface Area= | 0 | sf |
| Forebay Ponding Area= | 0 | sf |
| Forebay Ponding Depth= | 0.00 | ft |
| Surface Area= | 19,294 | sf |
| Ponding Area= | 21,815 | sf |
| Ponding depth= | 1.5 | ft |

Therefore, when assessing compliance with the MEP standard, the volume of runoff treated by this submerged gravel wetland practice is **13,821 cf.**

**SWM #5 - Drainage Area 10**

| | | | | |
|---|---|---|---|---|
| Total Area - A Soils | 175,719 | sf | Target ESDv = | $\frac{(P_F)(Rv)(A)}{12}$ |
| Impervious Area | 81,275 | sf | | |
| Percent Impervious (I) | 46 | % | = | 12,290 cf |
| Pe = | 1.8 | " | | |
| Rv = 0.05 +0.009(I) | 0.47 | | | |

| | | | | |
|---|---|---|---|---|
| Total Area - B Soils | 30,705 | sf | Target ESDv = | $\frac{(P_F)(Rv)(A)}{12}$ |
| Impervious Area | 10,273 | sf | | |
| Percent Impervious (I) | 33 | % | = | 1,617 cf |
| Pe = | 1.8 | " | | |
| Rv = 0.05 +0.009(I) | 0.35 | | | |

| | | | | |
|---|---|---|---|---|
| Total Area - C Soils | 84,822 | sf | Target ESDv = | $\frac{(P_F)(Rv)(A)}{12}$ |
| Impervious Area | 41,391 | sf | | |
| Percent Impervious (I) | 49 | % | = | 6,224 cf |
| Pe = | 1.8 | " | | |
| Rv = 0.05 +0.009(I) | 0.49 | | | |

| | | |
|---|---|---|
| **Total Target ESDv =** | **20,131** | **cf** |
| 75% of target = | 15,098 | cf |
| 10% of target = | 2,013 | cf |

*Site Development Design - Submerged Gravel Wetland (M-2):*

Based on the Cpv storm (2.8 in.): Max allowable ESDv that can be used:

| | | | | |
|---|---|---|---|---|
| V - A soils = | $\frac{(P)(Rv)(A)}{12}$ | = | 19,118 | cf |
| V - B soils = | $\frac{(P)(Rv)(A)}{12}$ | = | 2,516 | cf |
| V - C soils = | $\frac{(P)(Rv)(A)}{12}$ | = | 9,682 | cf |
| **V - Total =** | **31,315** | | | **cf** |

The computed ESDv provided is:

| | | |
|---|---|---|
| ESDv= | **31,435** | **cf** |
| Pretreatment= | **0** | **cf** |

| | | |
|---|---|---|
| Forebay Surface Area= | 0 | sf |
| Forebay Ponding Area= | 0 | sf |
| Forebay Ponding Depth= | 0.00 | ft |
| Surface Area= | 18,903 | sf |
| Ponding Area= | 23,010 | sf |
| Ponding depth= | 1.5 | ft |

Therefore, when assessing compliance with the MEP standard, the volume of runoff treated by this submerged gravel wetland practice is **31,315 cf.**

**SWM #6 - Drainage Area 11**

| | | | | |
|---|---|---|---|---|
| Total Area - A Soils | 278,365 | sf | Target ESDv = | $\frac{(P_F)(Rv)(A)}{12}$ |
| Impervious Area | 111,785 | sf | | |
| Percent Impervious (I) | 40 | % | = | 17,179 cf |
| Pe = | 1.8 | " | | |
| Rv = 0.05 +0.009(I) | 0.41 | | | |

| | | | | |
|---|---|---|---|---|
| Total Area - C Soils | 22,341 | sf | Target ESDv = | $\frac{(P_F)(Rv)(A)}{12}$ |
| Impervious Area | 11,875 | sf | | |
| Percent Impervious (I) | 53 | % | = | 1,771 cf |
| Pe = | 1.8 | " | | |
| Rv = 0.05 +0.009(I) | 0.53 | | | |

| | | |
|---|---|---|
| **Total Target ESDv =** | **18,949** | **cf** |
| 75% of target = | 14,212 | cf |
| 10% of target = | 1,895 | cf |

*Site Development Design - Submerged Gravel Wetland (M-2):*

Based on the Cpv storm (2.8 in.): Max allowable ESDv that can be used:

V - A soils = $\frac{(P)(Rv)(A)}{12}$ = 26,722 cf

V - C soils = $\frac{(P)(Rv)(A)}{12}$ = 2,754 cf

**V - Total = 29,477 cf**

The computed ESDv provided is:

| | | |
|---|---|---|
| ESDv= | **33,116** | **cf** |
| Pretreatment= | **0** | **cf** |

| | | |
|---|---|---|
| Forebay Surface Area= | 0 | sf |
| Forebay Ponding Area= | 0 | sf |
| Forebay Ponding Depth= | 0.00 | ft |
| Surface Area= | 20,178 | sf |
| Ponding Area= | 23,976 | sf |
| Ponding depth= | 1.5 | ft |

Therefore, when assessing compliance with the MEP standard, the volume of runoff treated by this submerged gravel wetland practice is **29,477 cf.**

**SWM #7 - Drainage Area 12**

| | | | | |
|---|---|---|---|---|
| Total Area - A Soils | 102,584 | sf | Target ESDv = | $\frac{(P_F)(Rv)(A)}{12}$ |
| Impervious Area | 52,349 | sf | | |
| Percent Impervious (I) | 51 | % | = | 9,578 cf |
| Pe = | 1.8 | " | | |
| Rv = 0.05 +0.009(I) | 0.51 | | | |

| | | | | |
|---|---|---|---|---|
| Total Area - B Soils | 23,522 | sf | Target ESDv = | $\frac{(P_F)(Rv)(A)}{12}$ |
| Impervious Area | 13,027 | sf | | |
| Percent Impervious (I) | 55 | % | = | 2,365 cf |
| Pe = | 1.8 | " | | |
| Rv = 0.05 +0.009(I) | 0.55 | | | |

| | | | | |
|---|---|---|---|---|
| Total Area - C Soils | 71,119 | sf | Target ESDv = | $\frac{(P_F)(Rv)(A)}{12}$ |
| Impervious Area | 26,606 | sf | | |
| Percent Impervious (I) | 37 | % | = | 5,042 cf |
| Pe = | 1.6 | " | | |
| Rv = 0.05 +0.009(I) | 0.39 | | | |

| | | |
|---|---|---|
| **Total Target ESDv =** | **16,985** | **cf** |
| 75% of target = | 12,739 | cf |
| 10% of target = | 1,698 | cf |

*Site Development Design - Submerged Gravel Wetland (M-2):*

Based on the Cpv storm (2.8 in.): Max allowable ESDv that can be used:

V - A soils = $\frac{(P)(Rv)(A)}{12}$ = 12,190 cf

V - B soils = $\frac{(P)(Rv)(A)}{12}$ = 3,010 cf

V - C soils = $\frac{(P)(Rv)(A)}{12}$ = 6,417 cf

**V - Total = 21,617 cf**

The computed ESDv provided is:

| | | |
|---|---|---|
| ESDv= | **25,466** | **cf** |
| Pretreatment= | **0** | **cf** |

| | | |
|---|---|---|
| Forebay Surface Area= | 0 | sf |
| Forebay Ponding Area= | 0 | sf |
| Forebay Ponding Depth= | 0.00 | ft |
| Surface Area= | 15,417 | sf |
| Ponding Area= | 18,538 | sf |
| Ponding depth= | 1.5 | ft |

Therefore, when assessing compliance with the MEP standard, the volume of runoff treated by this submerged gravel wetland practice is **21,617 cf.**

**SWM #8 - Drainage Area 13**

| | | | | |
|---|---|---|---|---|
| Total Area - A Soils | 146,888 | sf | Target ESDv = | $\frac{(P_F)(Rv)(A)}{12}$ |
| Impervious Area | 52,940 | sf | | |
| Percent Impervious (I) | 36 | % | = | 10,082 cf |
| Pe = | 1.8 | " | | |
| Rv = 0.05 +0.009(I) | 0.37 | | | |

| | | | | |
|---|---|---|---|---|
| Total Area - B Soils | 36,945 | sf | Target ESDv = | $\frac{(P_F)(Rv)(A)}{12}$ |
| Impervious Area | 14,694 | sf | | |
| Percent Impervious (I) | 40 | % | = | 2,763 cf |
| Pe = | 1.8 | " | | |
| Rv = 0.05 +0.009(I) | 0.41 | | | |

| | | | | |
|---|---|---|---|---|
| Total Area - C Soils | 40,502 | sf | Target ESDv = | $\frac{(P_F)(Rv)(A)}{12}$ |
| Impervious Area | 4,652 | sf | | |
| Percent Impervious (I) | 11 | % | = | 1,139 cf |
| Pe = | 1.6 | " | | |
| Rv = 0.05 +0.009(I) | 0.15 | | | |

| | | |
|---|---|---|
| **Total Target ESDv =** | **13,984** | **cf** |
| 75% of target = | 10,488 | cf |
| 10% of target = | 1,398 | cf |

*Site Development Design - Submerged Gravel Wetland (M-2):*

Based on the Cpv storm (2.8 in.): Max allowable ESDv that can be used:

V - A soils = $\frac{(P)(Rv)(A)}{12}$ = 12,831 cf

V - B soils = $\frac{(P)(Rv)(A)}{12}$ = 3,517 cf

V - C soils = $\frac{(P)(Rv)(A)}{12}$ = 1,449 cf

**V - Total = 17,797 cf**

The computed ESDv provided is:

| | | |
|---|---|---|
| ESDv= | **27,092** | **cf** |
| Pretreatment= | **0** | **cf** |

| | | |
|---|---|---|
| Forebay Surface Area= | 0 | sf |
| Forebay Ponding Area= | 0 | sf |
| Forebay Ponding Depth= | 0.00 | ft |
| Surface Area= | 16,926 | sf |
| Ponding Area= | 19,196 | sf |
| Ponding depth= | 1.5 | ft |

Therefore, when assessing compliance with the MEP standard, the volume of runoff treated by this submerged gravel wetland practice is **17,797 cf.**

**SWM #9 - Drainage Area 14**

| | | | | |
|---|---|---|---|---|
| Total Area - B Soils | 8,733 | sf | Target ESDv = | $\frac{(P_F)(Rv)(A)}{12}$ |
| Impervious Area | 2,236 | sf | | |
| Percent Impervious (I) | 26 | % | = | 327 cf |
| Pe = | 1.6 | " | | |
| Rv = 0.05 +0.009(I) | 0.28 | | | |

| | | | | |
|---|---|---|---|---|
| Total Area - C Soils | 61,466 | sf | Target ESDv = | $\frac{(P_F)(Rv)(A)}{12}$ |
| Impervious Area | 34,045 | sf | | |
| Percent Impervious (I) | 55 | % | = | 5,057 cf |
| Pe = | 1.8 | " | | |
| Rv = 0.05 +0.009(I) | 0.55 | | | |

| | | | | |
|---|---|---|---|---|
| Total Area - D Soils | 16,917 | sf | Target ESDv = | $\frac{(P_F)(Rv)(A)}{12}$ |
| Impervious Area | 7,767 | sf | | |
| Percent Impervious (I) | 46 | % | = | 1,175 cf |
| Pe = | 1.8 | " | | |
| Rv = 0.05 +0.009(I) | 0.46 | | | |

| | |
|---|---|
| **Total Target ESDv =** | **6,559 cf** |
| 75% of target = | 4,919 cf |
| 10% of target = | 656 cf |

*Site Development Design - Submerged Gravel Wetland (M-2):*

Based on the Cpv storm (2.8 in.): Max allowable ESDv that can be used:

V - B soils = $\frac{(P)(Rv)(A)}{12}$ = 571 cf

V - C soils = $\frac{(P)(Rv)(A)}{12}$ = 7,867 cf

V - D soils = $\frac{(P)(Rv)(A)}{12}$ = 1,828 cf

**V - Total = 10,266 cf**

The computed ESDv provided is:

| | | |
|---|---|---|
| ESDv= | **8,590** | **cf** |
| Pretreatment= | **0** | **cf** |

| | | |
|---|---|---|
| Forebay Surface Area= | 0 | sf |
| Forebay Ponding Area= | 0 | sf |
| Forebay Ponding Depth= | 0.00 | ft |
| Surface Area= | 4,816 | sf |
| Ponding Area= | 6,637 | sf |
| Ponding depth= | 1.5 | ft |

Therefore, when assessing compliance with the MEP standard, the volume of runoff treated by this submerged gravel wetland practice is **8,590 cf.**

**SWM #10 - Drainage Area 15**

| | | | | |
|---|---|---|---|---|
| Total Area - B Soils | 12,454 | sf | Target ESDv = | $\frac{(P_F)(Rv)(A)}{12}$ |
| Impervious Area | 7,822 | sf | | |
| Percent Impervious (I) | 63 | % | = | 1,277 cf |
| Pe = | 2.0 | " | | |
| Rv = 0.05 +0.009(I) | 0.62 | | | |

| | | | | |
|---|---|---|---|---|
| Total Area - C Soils | 38,146 | sf | Target ESDv = | $\frac{(P_F)(Rv)(A)}{12}$ |
| Impervious Area | 29,180 | sf | | |
| Percent Impervious (I) | 76 | % | = | 4,695 cf |
| Pe = | 2.0 | " | | |
| Rv = 0.05 +0.009(I) | 0.74 | | | |

| | | | | |
|---|---|---|---|---|
| Total Area - D Soils | 44,573 | sf | Target ESDv = | $\frac{(P_F)(Rv)(A)}{12}$ |
| Impervious Area | 16,814 | sf | | |
| Percent Impervious (I) | 38 | % | = | 2,315 cf |
| Pe = | 1.6 | " | | |
| Rv = 0.05 +0.009(I) | 0.39 | | | |

| | | |
|---|---|---|
| **Total Target ESDv =** | **8,287** | **cf** |
| 75% of target = | 6,215 | cf |
| 10% of target = | 829 | cf |

*Site Development Design - Submerged Gravel Wetland (M-2):*

Based on the Cpv storm (2.8 in.): Max allowable ESDv that can be used:

| | | | | |
|---|---|---|---|---|
| V - B soils = | $\frac{(P)(Rv)(A)}{12}$ | = | 1,788 | cf |
| V - C soils = | $\frac{(P)(Rv)(A)}{12}$ | = | 6,573 | cf |
| V - D soils = | $\frac{(P)(Rv)(A)}{12}$ | = | 4,051 | cf |
| **V - Total =** | **12,412** | | **cf** | |

The computed ESDv provided is:

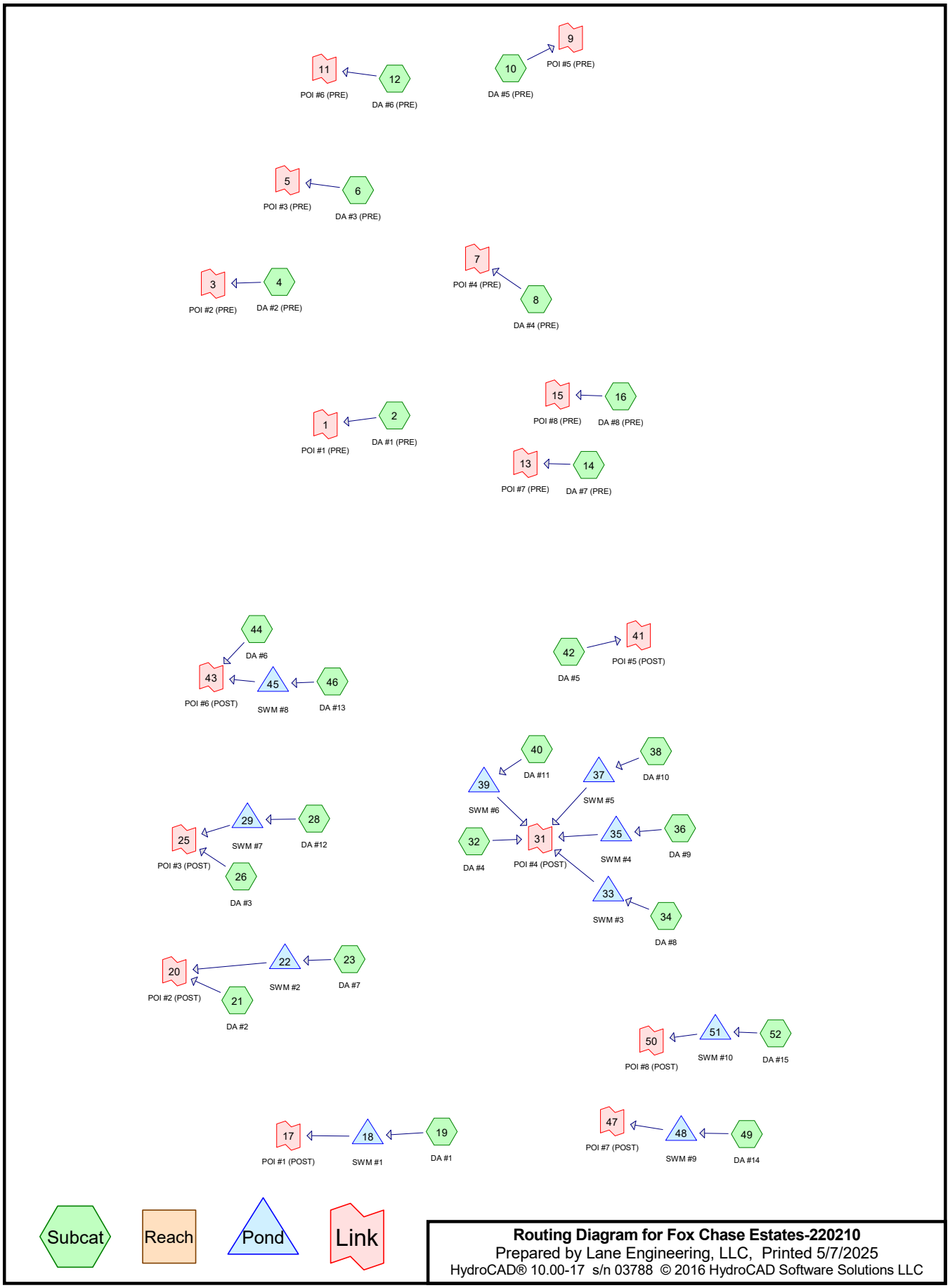
| | | |
|---|---|---|
| ESDv= | **11,960** | **cf** |
| Pretreatment= | **0** | **cf** |

| | | |
|---|---|---|
| Forebay Surface Area= | 0 | sf |
| Forebay Ponding Area= | 0 | sf |
| Forebay Ponding Depth= | 0.00 | ft |
| Surface Area= | 6,574 | sf |
| Ponding Area= | 9,372 | sf |
| Ponding depth= | 1.5 | ft |

Therefore, when assessing compliance with the MEP standard, the volume of runoff treated by this submerged gravel wetland practice is **11,960 cf.**

# APPENDIX B

STORMWATER QUANTITY CALCULATIONS


11
POI #6 (PRE)
12
DA #6 (PRE)
9
10
POI #5 (PRE)
DA #5 (PRE)
5
POI #3 (PRE)
6
DA #3 (PRE)
3
POI #2 (PRE)
4
DA #2 (PRE)
7
POI #4 (PRE)
8
DA #4 (PRE)
1
POI #1 (PRE)
2
DA #1 (PRE)
15
POI #8 (PRE)
16
DA #8 (PRE)
13
POI #7 (PRE)
14
DA #7 (PRE)
44
DA #6
43
POI #6 (POST)
45
SWM #8
46
DA #13
42
DA #5
41
POI #5 (POST)
40
DA #11
38
DA #10
39
SWM #6
37
SWM #5
29
28
25
SWM #7
DA #12
POI #3 (POST)
26
DA #3
32
DA #4
31
POI #4 (POST)
35
SWM #4
36
DA #9
33
SWM #3
34
DA #8
22
23
20
SWM #2
DA #7
POI #2 (POST)
21
DA #2
50
POI #8 (POST)
51
SWM #10
52
DA #15
17
POI #1 (POST)
18
SWM #1
19
DA #1
47
POI #7 (POST)
48
SWM #9
49
DA #14
Subcat
Reach
Pond
Link
Routing Diagram for Fox Chase Estates-220210
Prepared by Lane Engineering, LLC, Printed 5/7/2025
HydroCAD® 10.00-17 s/n 03788 © 2016 HydroCAD Software Solutions LLC

## Summary for Link 1: POI #1 (PRE)

Inflow Area = 6.678 ac, 18.09% Impervious, Inflow Depth > 1.28" for 2-Yr event
Inflow = 7.12 cfs @ 12.11 hrs, Volume= 0.714 af
Primary = 7.12 cfs @ 12.11 hrs, Volume= 0.714 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

## Summary for Subcatchment 2: DA #1 (PRE)

Runoff = 7.12 cfs @ 12.11 hrs, Volume= 0.714 af, Depth> 1.28"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-Yr Rainfall=3.40"

| | Area (sf) | CN | Description |
|---|---|---|---|
| * | 52,628 | 98 | Paved parking & Bldgs, HSG B |
| | 95,669 | 75 | Row crops, SR + CR, Good, HSG B |
| | 78,521 | 61 | >75% Grass cover, Good, HSG B |
| | 17,669 | 70 | Woods, Good, HSG C |
| | 42,219 | 82 | Row crops, SR + CR, Good, HSG C |
| | 4,179 | 74 | >75% Grass cover, Good, HSG C |
| | 290,885 | 76 | Weighted Average |
| | 238,257 | | 81.91% Pervious Area |
| | 52,628 | | 18.09% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 12.5 | 150 | 0.0290 | 0.20 | | **Sheet Flow, A-B**<br>Cultivated: Residue>20% n= 0.170 P2= 3.40" |
| 0.5 | 43 | 0.0310 | 1.58 | | **Shallow Concentrated Flow, B-C**<br>Cultivated Straight Rows Kv= 9.0 fps |
| 2.4 | 120 | 0.0270 | 0.82 | | **Shallow Concentrated Flow, C-POI**<br>Woodland Kv= 5.0 fps |
| 15.4 | 313 | Total | | | |

## Summary for Link 3: POI #2 (PRE)

Inflow Area = 19.343 ac, 1.97% Impervious, Inflow Depth > 1.34" for 2-Yr event
Inflow = 17.49 cfs @ 12.17 hrs, Volume= 2.163 af
Primary = 17.49 cfs @ 12.17 hrs, Volume= 2.163 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

## Summary for Subcatchment 4: DA #2 (PRE)

Runoff = 17.49 cfs @ 12.17 hrs, Volume= 2.163 af, Depth> 1.34"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-Yr Rainfall=3.40"

| Area (sf) | CN | Description |
|---|---|---|
| 16,626 | 98 | Paved parking, HSG B |
| 51,570 | 55 | Woods, Good, HSG B |
| 343,838 | 75 | Row crops, SR + CR, Good, HSG B |
| 16,699 | 70 | Woods, Good, HSG C |
| 280,845 | 82 | Row crops, SR + CR, Good, HSG C |
| 132,997 | 80 | >75% Grass cover, Good, HSG D |
| 842,575 | 77 | Weighted Average |
| 825,949 | | 98.03% Pervious Area |
| 16,626 | | 1.97% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 12.2 | 150 | 0.0310 | 0.20 | | **Sheet Flow, A-B** Cultivated: Residue>20% n= 0.170 P2= 3.40" |
| 0.8 | 75 | 0.0330 | 1.63 | | **Shallow Concentrated Flow, B-C** Cultivated Straight Rows Kv= 9.0 fps |
| 8.3 | 449 | 0.0100 | 0.90 | | **Shallow Concentrated Flow, C-POI** Cultivated Straight Rows Kv= 9.0 fps |
| 21.3 | 674 | Total | | | |

## Summary for Link 5: POI #3 (PRE)

Inflow Area = 18.457 ac, 1.69% Impervious, Inflow Depth > 1.03" for 2-Yr event
Inflow = 8.21 cfs @ 12.36 hrs, Volume= 1.589 af
Primary = 8.21 cfs @ 12.36 hrs, Volume= 1.589 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

## Summary for Subcatchment 6: DA #3 (PRE)

Runoff = 8.21 cfs @ 12.36 hrs, Volume= 1.589 af, Depth> 1.03"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-Yr Rainfall=3.40"

| Area (sf) | CN | Description |
|---|---|---|
| 5,800 | 98 | Paved parking, HSG A |
| 8,627 | 30 | Woods, Good, HSG A |
| 94,796 | 64 | Row crops, SR + CR, Good, HSG A |
| 2,886 | 98 | Paved parking, HSG B |
| 74,323 | 55 | Woods, Good, HSG B |
| 204,185 | 75 | Row crops, SR + CR, Good, HSG B |
| 4,921 | 98 | Paved parking, HSG C |
| 203,245 | 70 | Woods, Good, HSG C |
| 175,364 | 82 | Row crops, SR + CR, Good, HSG C |
| 18,225 | 77 | Woods, Good, HSG D |
| 11,600 | 85 | Row crops, SR + CR, Good, HSG D |
| 803,972 | 72 | Weighted Average |
| 790,365 | | 98.31% Pervious Area |
| 13,607 | | 1.69% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 14.0 | 150 | 0.0220 | 0.18 | | **Sheet Flow, A-B** Cultivated: Residue>20% n= 0.170 P2= 3.40" |
| 3.9 | 165 | 0.0200 | 0.71 | | **Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps |
| 6.6 | 451 | 0.0160 | 1.14 | | **Shallow Concentrated Flow, C-D** Cultivated Straight Rows Kv= 9.0 fps |
| 4.9 | 277 | 0.0110 | 0.94 | | **Shallow Concentrated Flow, D-E** Cultivated Straight Rows Kv= 9.0 fps |
| 2.9 | 215 | 0.0190 | 1.24 | | **Shallow Concentrated Flow, E-F** Cultivated Straight Rows Kv= 9.0 fps |
| 3.8 | 204 | 0.0100 | 0.90 | | **Shallow Concentrated Flow, F-POI** Cultivated Straight Rows Kv= 9.0 fps |
| 36.1 | 1,462 | Total | | | |

## Summary for Link 7: POI #4 (PRE)

Inflow Area = 25.115 ac, 0.00% Impervious, Inflow Depth > 1.04" for 2-Yr event
Inflow = 14.56 cfs @ 12.25 hrs, Volume= 2.177 af
Primary = 14.56 cfs @ 12.25 hrs, Volume= 2.177 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

## Summary for Subcatchment 8: DA #4 (PRE)

Runoff = 14.56 cfs @ 12.25 hrs, Volume= 2.177 af, Depth> 1.04"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-Yr Rainfall=3.40"

| Area (sf) | CN | Description |
|---|---|---|
| 280,581 | 64 | Row crops, SR + CR, Good, HSG A |
| 29,286 | 30 | Woods, Good, HSG A |
| 344,253 | 75 | Row crops, SR + CR, Good, HSG B |
| 77,974 | 55 | Woods, Good, HSG B |
| 298,671 | 82 | Row crops, SR + CR, Good, HSG C |
| 22,136 | 70 | Woods, Good, HSG C |
| 36,346 | 85 | Row crops, SR + CR, Good, HSG D |
| 4,764 | 77 | Woods, Good, HSG D |
| 1,094,011 | 72 | Weighted Average |
| 1,094,011 | | 100.00% Pervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 17.8 | 150 | 0.0120 | 0.14 | | **Sheet Flow, A-B** Cultivated: Residue>20% n= 0.170 P2= 3.40" |
| 2.0 | 171 | 0.0260 | 1.45 | | **Shallow Concentrated Flow, B-C** Cultivated Straight Rows Kv= 9.0 fps |
| 1.5 | 83 | 0.0360 | 0.95 | | **Shallow Concentrated Flow, C-D** Woodland Kv= 5.0 fps |
| 4.0 | 418 | 0.0380 | 1.75 | | **Shallow Concentrated Flow, D-POI** Cultivated Straight Rows Kv= 9.0 fps |
| 25.3 | 822 | Total | | | |

## Summary for Link 9: POI #5 (PRE)

Inflow Area = 7.160 ac, 0.00% Impervious, Inflow Depth > 0.88" for 2-Yr event
Inflow = 3.30 cfs @ 12.23 hrs, Volume= 0.525 af
Primary = 3.30 cfs @ 12.23 hrs, Volume= 0.525 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

## Summary for Subcatchment 10: DA #5 (PRE)

Runoff = 3.30 cfs @ 12.23 hrs, Volume= 0.525 af, Depth> 0.88"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-Yr Rainfall=3.40"

| Area (sf) | CN | Description |
|---|---|---|
| 13,229 | 30 | Woods, Good, HSG A |
| 161,378 | 64 | Row crops, SR + CR, Good, HSG A |
| 7,458 | 55 | Woods, Good, HSG B |
| 28,591 | 75 | Row crops, SR + CR, Good, HSG B |
| 101,230 | 82 | Row crops, SR + CR, Good, HSG C |
| 311,886 | 69 | Weighted Average |
| 311,886 | | 100.00% Pervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 21.0 | 150 | 0.0080 | 0.12 | | **Sheet Flow, A-B** Cultivated: Residue>20% n= 0.170 P2= 3.40" |
| 4.6 | 330 | 0.0180 | 1.21 | | **Shallow Concentrated Flow, B-POI** Cultivated Straight Rows Kv= 9.0 fps |
| 25.6 | 480 | Total | | | |

## Summary for Link 11: POI #6 (PRE)

Inflow Area = 13.293 ac, 0.00% Impervious, Inflow Depth > 0.73" for 2-Yr event
Inflow = 3.44 cfs @ 12.43 hrs, Volume= 0.805 af
Primary = 3.44 cfs @ 12.43 hrs, Volume= 0.805 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

## Summary for Subcatchment 12: DA #6 (PRE)

Runoff = 3.44 cfs @ 12.43 hrs, Volume= 0.805 af, Depth> 0.73"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-Yr Rainfall=3.40"

| Area (sf) | CN | Description |
|---|---|---|
| 37,107 | 30 | Woods, Good, HSG A |
| 371,149 | 64 | Row crops, SR + CR, Good, HSG A |
| 3,606 | 55 | Woods, Good, HSG B |
| 56,861 | 75 | Row crops, SR + CR, Good, HSG B |
| 7,529 | 70 | Woods, Good, HSG C |
| 102,783 | 82 | Row crops, SR + CR, Good, HSG C |
| 579,035 | 66 | Weighted Average |
| 579,035 | | 100.00% Pervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 15.5 | 150 | 0.0170 | 0.16 | | **Sheet Flow, A-B** Cultivated: Residue>20% n= 0.170 P2= 3.40" |
| 1.7 | 119 | 0.0160 | 1.14 | | **Shallow Concentrated Flow, B-C** Cultivated Straight Rows Kv= 9.0 fps |
| 2.5 | 48 | 0.0040 | 0.32 | | **Shallow Concentrated Flow, C-D** Woodland Kv= 5.0 fps |
| 3.7 | 125 | 0.0040 | 0.57 | | **Shallow Concentrated Flow, D-E** Cultivated Straight Rows Kv= 9.0 fps |
| 1.3 | 125 | 0.0320 | 1.61 | | **Shallow Concentrated Flow, E-F** Cultivated Straight Rows Kv= 9.0 fps |
| 1.6 | 90 | 0.0110 | 0.94 | | **Shallow Concentrated Flow, F-G** Cultivated Straight Rows Kv= 9.0 fps |
| 1.2 | 149 | 0.0540 | 2.09 | | **Shallow Concentrated Flow, G-H** Cultivated Straight Rows Kv= 9.0 fps |
| 1.3 | 132 | 0.0380 | 1.75 | | **Shallow Concentrated Flow, H-I** Cultivated Straight Rows Kv= 9.0 fps |
| 4.8 | 420 | 0.0260 | 1.45 | | **Shallow Concentrated Flow, I-J** Cultivated Straight Rows Kv= 9.0 fps |
| 5.5 | 361 | 0.0150 | 1.10 | | **Shallow Concentrated Flow, J-POI** Cultivated Straight Rows Kv= 9.0 fps |
| 39.1 | 1,719 | Total | | | |

## Summary for Link 13: POI #7 (PRE)

Inflow Area = 2.000 ac, 0.82% Impervious, Inflow Depth > 1.61" for 2-Yr event
Inflow = 2.43 cfs @ 12.14 hrs, Volume= 0.269 af
Primary = 2.43 cfs @ 12.14 hrs, Volume= 0.269 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

## Summary for Subcatchment 14: DA #7 (PRE)

Runoff = 2.43 cfs @ 12.14 hrs, Volume= 0.269 af, Depth> 1.61"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-Yr Rainfall=3.40"

| | Area (sf) | CN | Description |
|---|---|---|---|
| * | 710 | 98 | Paved parking & Bldgs, HSG C |
| | 1,400 | 55 | Woods, Good, HSG B |
| | 2,754 | 70 | Woods, Good, HSG C |
| | 3,353 | 77 | Woods, Good, HSG D |
| | 7,333 | 75 | Row crops, SR + CR, Good, HSG B |
| | 58,002 | 82 | Row crops, SR + CR, Good, HSG C |
| | 13,564 | 85 | Row crops, SR + CR, Good, HSG D |
| | 87,116 | 81 | Weighted Average |
| | 86,406 | | 99.18% Pervious Area |
| | 710 | | 0.82% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 18.9 | 147 | 0.0100 | 0.13 | | **Sheet Flow, A-POI** Cultivated: Residue>20% n= 0.170 P2= 3.40" |

## Summary for Link 15: POI #8 (PRE)

Inflow Area = 2.185 ac, 0.37% Impervious, Inflow Depth > 1.55" for 2-Yr event
Inflow = 2.98 cfs @ 12.10 hrs, Volume= 0.282 af
Primary = 2.98 cfs @ 12.10 hrs, Volume= 0.282 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

## Summary for Subcatchment 16: DA #8 (PRE)

Runoff = 2.98 cfs @ 12.10 hrs, Volume= 0.282 af, Depth> 1.55"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-Yr Rainfall=3.40"

| | Area (sf) | CN | Description |
|---|---|---|---|
| * | 356 | 98 | Paved parking & Bldgs, HSG C |
| | 8,938 | 55 | Woods, Good, HSG B |
| | 5,129 | 70 | Woods, Good, HSG C |
| | 5,975 | 77 | Woods, Good, HSG D |
| | 3,516 | 75 | Row crops, SR + CR, Good, HSG B |
| | 32,661 | 82 | Row crops, SR + CR, Good, HSG C |
| | 38,598 | 85 | Row crops, SR + CR, Good, HSG D |
| | 95,173 | 80 | Weighted Average |
| | 94,817 | | 99.63% Pervious Area |
| | 356 | | 0.37% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 12.9 | 150 | 0.0270 | 0.19 | | **Sheet Flow, A-B**<br>Cultivated: Residue>20% n= 0.170 P2= 3.40" |
| 0.8 | 64 | 0.0210 | 1.30 | | **Shallow Concentrated Flow, B-C**<br>Cultivated Straight Rows Kv= 9.0 fps |
| 0.9 | 85 | 0.0100 | 1.50 | | **Shallow Concentrated Flow, C-POI**<br>Grassed Waterway Kv= 15.0 fps |
| 14.6 | 299 | Total | | | |

## Summary for Link 17: POI #1 (POST)

Inflow Area = 13.555 ac, 27.78% Impervious, Inflow Depth > 0.51" for 2-Yr event
Inflow = 1.15 cfs @ 14.01 hrs, Volume= 0.576 af
Primary = 1.15 cfs @ 14.01 hrs, Volume= 0.576 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

## Summary for Pond 18: SWM #1

Inflow Area = 13.555 ac, 27.78% Impervious, Inflow Depth > 1.23" for 2-Yr event
Inflow = 23.12 cfs @ 11.99 hrs, Volume= 1.387 af
Outflow = 1.15 cfs @ 14.01 hrs, Volume= 0.576 af, Atten= 95%, Lag= 121.2 min
Primary = 1.15 cfs @ 14.01 hrs, Volume= 0.576 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 36.62' @ 14.01 hrs Surf.Area= 24,545 sf Storage= 36,944 cf

Plug-Flow detention time= 328.8 min calculated for 0.576 af (42% of inflow)
Center-of-Mass det. time= 192.6 min ( 1,046.2 - 853.6 )

| Volume | Invert | Avail.Storage | Storage Description |
|---|---|---|---|
| #1 | 35.00' | 100,688 cf | **Custom Stage Data (Irregular)** Listed below (Recalc) |

| Elevation (feet) | Surf.Area (sq-ft) | Perim. (feet) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) | Wet.Area (sq-ft) |
|---|---|---|---|---|---|
| 35.00 | 20,975 | 728.5 | 0 | 0 | 20,975 |
| 38.00 | 27,786 | 785.0 | 72,902 | 72,902 | 28,149 |
| 39.00 | 27,786 | 785.0 | 27,786 | 100,688 | 28,934 |

| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 34.67' | **18.0" Round Culvert** L= 26.0' Ke= 0.500<br>Inlet / Outlet Invert= 34.67' / 32.00' S= 0.1027 '/' Cc= 0.900<br>n= 0.012, Flow Area= 1.77 sf |
| #2 | Device 1 | 36.50' | **8.0' long Sharp-Crested Rectangular Weir** 0 End Contraction(s) |
| #3 | Secondary | 38.00' | **185.0' long x 2.0' breadth Broad-Crested Rectangular Weir**<br>Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50<br>Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32 |

**Primary OutFlow** Max=1.15 cfs @ 14.01 hrs HW=36.62' TW=0.00' (Dynamic Tailwater)
└**1=Culvert** (Passes 1.15 cfs of 9.34 cfs potential flow)
└**2=Sharp-Crested Rectangular Weir** (Weir Controls 1.15 cfs @ 1.16 fps)

**Secondary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=35.00' (Free Discharge)
└**3=Broad-Crested Rectangular Weir** ( Controls 0.00 cfs)

## Summary for Subcatchment 19: DA #1

Runoff = 23.12 cfs @ 11.99 hrs, Volume= 1.387 af, Depth> 1.23"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-Yr Rainfall=3.40"

| Area (sf) | CN | Description |
|---|---|---|
| 164,015 | 98 | Paved parking, HSG C |
| 282,040 | 61 | >75% Grass cover, Good, HSG B |
| 111,049 | 74 | >75% Grass cover, Good, HSG C |
| 33,369 | 80 | >75% Grass cover, Good, HSG D |
| 590,473 | 75 | Weighted Average |
| 426,458 | | 72.22% Pervious Area |
| 164,015 | | 27.78% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 6.0 | | | | | **Direct Entry, Min Tc per TR-55** |

## Summary for Link 20: POI #2 (POST)

Inflow Area = 17.266 ac, 44.68% Impervious, Inflow Depth > 0.22" for 2-Yr event
Inflow = 0.60 cfs @ 21.02 hrs, Volume= 0.312 af
Primary = 0.60 cfs @ 21.02 hrs, Volume= 0.312 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

## Summary for Subcatchment 21: DA #2

Runoff = 0.58 cfs @ 11.99 hrs, Volume= 0.034 af, Depth> 1.29"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-Yr Rainfall=3.40"

| | Area (sf) | CN | Description |
|---|---|---|---|
| * | 2,400 | 98 | Buildings, HSG C |
| | 2,613 | 61 | >75% Grass cover, Good, HSG B |
| | 8,956 | 74 | >75% Grass cover, Good, HSG C |
| | 13,969 | 76 | Weighted Average |
| | 11,569 | | 82.82% Pervious Area |
| | 2,400 | | 17.18% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 6.0 | | | | | **Direct Entry, Min Tc per TR-55** |

## Summary for Pond 22: SWM #2

Inflow Area = 16.945 ac, 45.20% Impervious, Inflow Depth > 1.70" for 2-Yr event
Inflow = 39.63 cfs @ 11.99 hrs, Volume= 2.394 af
Outflow = 0.59 cfs @ 21.05 hrs, Volume= 0.278 af, Atten= 99%, Lag= 543.2 min
Primary = 0.59 cfs @ 21.05 hrs, Volume= 0.278 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 23.58' @ 21.05 hrs Surf.Area= 60,220 sf Storage= 92,373 cf

Plug-Flow detention time= 582.2 min calculated for 0.278 af (12% of inflow)
Center-of-Mass det. time= 430.3 min ( 1,263.0 - 832.7 )

| Volume | Invert | Avail.Storage | Storage Description |
|---|---|---|---|
| #1 | 22.00' | 247,001 cf | **Custom Stage Data (Irregular)** Listed below (Recalc) |

| Elevation (feet) | Surf.Area (sq-ft) | Perim. (feet) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) | Wet.Area (sq-ft) |
|---|---|---|---|---|---|
| 22.00 | 56,734 | 1,476.5 | 0 | 0 | 56,734 |
| 25.00 | 63,442 | 1,504.8 | 180,170 | 180,170 | 64,801 |
| 26.00 | 70,277 | 1,533.0 | 66,830 | 247,001 | 71,785 |

| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 21.67' | **18.0" Round Culvert** L= 356.0' Ke= 0.500<br>Inlet / Outlet Invert= 21.67' / 17.50' S= 0.0117 '/' Cc= 0.900<br>n= 0.012, Flow Area= 1.77 sf |
| #2 | Device 1 | 23.50' | **8.0' long Sharp-Crested Rectangular Weir** 0 End Contraction(s) |
| #3 | Secondary | 25.00' | **185.0' long x 2.0' breadth Broad-Crested Rectangular Weir**<br>Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50<br>Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32 |

**Primary OutFlow** Max=0.59 cfs @ 21.05 hrs HW=23.58' TW=0.00' (Dynamic Tailwater)
└**1=Culvert** (Passes 0.59 cfs of 9.16 cfs potential flow)
└**2=Sharp-Crested Rectangular Weir** (Weir Controls 0.59 cfs @ 0.92 fps)

**Secondary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=22.00' (Free Discharge)
└**3=Broad-Crested Rectangular Weir** ( Controls 0.00 cfs)

## Summary for Subcatchment 23: DA #7

Runoff = 39.63 cfs @ 11.99 hrs, Volume= 2.394 af, Depth> 1.70"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-Yr Rainfall=3.40"

| | Area (sf) | CN | Description |
|---|---|---|---|
| * | 333,607 | 98 | Buildings & Pvmt |
| | 160,671 | 61 | >75% Grass cover, Good, HSG B |
| | 191,181 | 74 | >75% Grass cover, Good, HSG C |
| | 52,659 | 80 | >75% Grass cover, Good, HSG D |
| | 738,118 | 82 | Weighted Average |
| | 404,511 | | 54.80% Pervious Area |
| | 333,607 | | 45.20% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 5.9 | 1,014 | 0.0200 | 2.87 | | **Shallow Concentrated Flow, A-B** Paved Kv= 20.3 fps |
| 0.5 | 182 | 0.0050 | 5.52 | 17.33 | **Pipe Channel, B-C** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.012 |
| 6.4 | 1,196 | Total | | | |

## Summary for Link 25: POI #3 (POST)

Inflow Area = 15.308 ac, 16.12% Impervious, Inflow Depth > 0.59" for 2-Yr event
Inflow = 7.38 cfs @ 12.09 hrs, Volume= 0.752 af
Primary = 7.38 cfs @ 12.09 hrs, Volume= 0.752 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

## Summary for Subcatchment 26: DA #3

Runoff = 7.38 cfs @ 12.09 hrs, Volume= 0.752 af, Depth> 0.84"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-Yr Rainfall=3.40"

| | Area (sf) | CN | Description |
|---|---|---|---|
| * | 15,495 | 98 | Buildings, HSG C |
| | 36,656 | 39 | >75% Grass cover, Good, HSG A |
| | 145,878 | 61 | >75% Grass cover, Good, HSG B |
| | 262,508 | 74 | >75% Grass cover, Good, HSG C |
| | 9,050 | 80 | >75% Grass cover, Good, HSG D |
| | 469,587 | 68 | Weighted Average |
| | 454,092 | | 96.70% Pervious Area |
| | 15,495 | | 3.30% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 13.3 | 1,555 | 0.0170 | 1.96 | | **Shallow Concentrated Flow, A-B** Grassed Waterway Kv= 15.0 fps |

## Summary for Subcatchment 28: DA #12

Runoff = 8.15 cfs @ 11.99 hrs, Volume= 0.486 af, Depth> 1.29"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-Yr Rainfall=3.40"

| | Area (sf) | CN | Description |
|---|---|---|---|
| * | 91,981 | 98 | Buildings & Pvmt |
| | 50,235 | 39 | >75% Grass cover, Good, HSG A |
| | 10,495 | 61 | >75% Grass cover, Good, HSG B |
| | 44,513 | 74 | >75% Grass cover, Good, HSG C |
| | 197,224 | 76 | Weighted Average |
| | 105,243 | | 53.36% Pervious Area |
| | 91,981 | | 46.64% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 6.0 | | | | | **Direct Entry, Min Tc per TR-55** |

## Summary for Pond 29: SWM #7

Inflow Area = 4.528 ac, 46.64% Impervious, Inflow Depth > 1.29" for 2-Yr event
Inflow = 8.15 cfs @ 11.99 hrs, Volume= 0.486 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 31.27' @ 24.00 hrs Surf.Area= 17,979 sf Storage= 21,187 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

| Volume | Invert | Avail.Storage | Storage Description |
|---|---|---|---|
| #1 | 30.00' | 77,316 cf | **Custom Stage Data (Irregular)** Listed below (Recalc) |

| Elevation (feet) | Surf.Area (sq-ft) | Perim. (feet) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) | Wet.Area (sq-ft) |
|---|---|---|---|---|---|
| 30.00 | 15,417 | 679.4 | 0 | 0 | 15,417 |
| 33.00 | 21,786 | 736.0 | 55,530 | 55,530 | 22,136 |
| 34.00 | 21,786 | 736.0 | 21,786 | 77,316 | 22,872 |

| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 29.67' | **24.0" Round Culvert** L= 60.0' Ke= 0.500<br>Inlet / Outlet Invert= 29.67' / 29.00' S= 0.0112 '/' Cc= 0.900<br>n= 0.012, Flow Area= 3.14 sf |
| #2 | Device 1 | 31.50' | **4.0" Vert. Orifice/Grate** C= 0.600 |
| #3 | Device 1 | 32.00' | **8.0' long Sharp-Crested Rectangular Weir** 0 End Contraction(s) |
| #4 | Secondary | 33.00' | **54.0' long x 2.0' breadth Broad-Crested Rectangular Weir**<br>Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50<br>Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32 |

**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=30.00' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.00 cfs of 0.66 cfs potential flow)
  ├─**2=Orifice/Grate** ( Controls 0.00 cfs)
  └─**3=Sharp-Crested Rectangular Weir** ( Controls 0.00 cfs)

**Secondary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=30.00' (Free Discharge)
└─**4=Broad-Crested Rectangular Weir** ( Controls 0.00 cfs)

## Summary for Link 31: POI #4 (POST)

Inflow Area = 35.026 ac, 28.84% Impervious, Inflow Depth > 0.18" for 2-Yr event
Inflow = 0.99 cfs @ 12.10 hrs, Volume= 0.538 af
Primary = 0.99 cfs @ 12.10 hrs, Volume= 0.538 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

## Summary for Subcatchment 32: DA #4

Runoff = 0.99 cfs @ 12.10 hrs, Volume= 0.185 af, Depth> 0.31"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-Yr Rainfall=3.40"

| Area (sf) | CN | Description |
|---|---|---|
| 122,451 | 39 | >75% Grass cover, Good, HSG A |
| 138,263 | 61 | >75% Grass cover, Good, HSG B |
| 50,514 | 74 | >75% Grass cover, Good, HSG C |
| 1,374 | 80 | >75% Grass cover, Good, HSG D |
| 312,602 | 55 | Weighted Average |
| 312,602 | | 100.00% Pervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 11.6 | 1,440 | 0.0190 | 2.07 | | **Shallow Concentrated Flow, A-B** Grassed Waterway Kv= 15.0 fps |

## Summary for Pond 33: SWM #3

Inflow Area = 9.719 ac, 30.39% Impervious, Inflow Depth > 1.35" for 2-Yr event
Inflow = 18.43 cfs @ 11.99 hrs, Volume= 1.095 af
Outflow = 0.66 cfs @ 15.28 hrs, Volume= 0.354 af, Atten= 96%, Lag= 197.2 min
Primary = 0.66 cfs @ 15.28 hrs, Volume= 0.354 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 39.59' @ 15.28 hrs Surf.Area= 22,602 sf Storage= 33,169 cf

Plug-Flow detention time= 382.9 min calculated for 0.354 af (32% of inflow)
Center-of-Mass det. time= 247.4 min ( 1,094.9 - 847.5 )

| Volume | Invert | Avail.Storage | Storage Description |
|---|---|---|---|
| #1 | 38.00' | 93,163 cf | **Custom Stage Data (Irregular)** Listed below (Recalc) |

| Elevation (feet) | Surf.Area (sq-ft) | Perim. (feet) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) | Wet.Area (sq-ft) |
|---|---|---|---|---|---|
| 38.00 | 19,263 | 698.4 | 0 | 0 | 19,263 |
| 41.00 | 25,803 | 755.0 | 67,360 | 67,360 | 26,163 |
| 42.00 | 25,803 | 755.0 | 25,803 | 93,163 | 26,918 |

| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 37.67' | **18.0" Round Culvert** L= 120.0' Ke= 0.500<br>Inlet / Outlet Invert= 37.67' / 35.00' S= 0.0223 '/' Cc= 0.900<br>n= 0.012, Flow Area= 1.77 sf |
| #2 | Device 1 | 39.50' | **8.0' long Sharp-Crested Rectangular Weir** 0 End Contraction(s) |
| #3 | Secondary | 41.00' | **122.0' long x 2.0' breadth Broad-Crested Rectangular Weir**<br>Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50<br>Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32 |

**Primary OutFlow** Max=0.66 cfs @ 15.28 hrs HW=39.59' TW=0.00' (Dynamic Tailwater)
└**1=Culvert** (Passes 0.66 cfs of 9.19 cfs potential flow)
└**2=Sharp-Crested Rectangular Weir** (Weir Controls 0.66 cfs @ 0.96 fps)

**Secondary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=38.00' (Free Discharge)
└**3=Broad-Crested Rectangular Weir** ( Controls 0.00 cfs)

## Summary for Subcatchment 34: DA #8

Runoff = 18.43 cfs @ 11.99 hrs, Volume= 1.095 af, Depth> 1.35"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-Yr Rainfall=3.40"

| | Area (sf) | CN | Description |
|---|---|---|---|
| * | 128,661 | 98 | Buildings & Pvmt |
| | 140,194 | 61 | >75% Grass cover, Good, HSG B |
| | 153,996 | 74 | >75% Grass cover, Good, HSG C |
| | 496 | 80 | >75% Grass cover, Good, HSG D |
| | 423,347 | 77 | Weighted Average |
| | 294,686 | | 69.61% Pervious Area |
| | 128,661 | | 30.39% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 6.0 | | | | | **Direct Entry, Min Tc per TR-55** |

## Summary for Pond 35: SWM #4

Inflow Area = 4.542 ac, 27.71% Impervious, Inflow Depth > 1.17" for 2-Yr event
Inflow = 7.32 cfs @ 11.99 hrs, Volume= 0.442 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 51.96' @ 24.00 hrs Surf.Area= 20,879 sf Storage= 19,249 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

| Volume | Invert | Avail.Storage | Storage Description |
|---|---|---|---|
| #1 | 51.00' | 89,943 cf | **Custom Stage Data (Irregular)** Listed below (Recalc) |

| Elevation (feet) | Surf.Area (sq-ft) | Perim. (feet) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) | Wet.Area (sq-ft) |
|---|---|---|---|---|---|
| 51.00 | 19,294 | 545.9 | 0 | 0 | 19,294 |
| 54.00 | 24,462 | 602.5 | 65,481 | 65,481 | 24,746 |
| 55.00 | 24,462 | 602.5 | 24,462 | 89,943 | 25,348 |

| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 50.67' | **12.0" Round Culvert** L= 123.0' Ke= 0.500<br>Inlet / Outlet Invert= 50.67' / 50.00' S= 0.0054 '/' Cc= 0.900<br>n= 0.012, Flow Area= 0.79 sf |
| #2 | Device 1 | 52.50' | **8.0' long Sharp-Crested Rectangular Weir** 0 End Contraction(s) |
| #3 | Secondary | 54.00' | **230.0' long x 2.0' breadth Broad-Crested Rectangular Weir**<br>Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50<br>Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32 |

**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=51.00' TW=0.00' (Dynamic Tailwater)
└**1=Culvert** (Passes 0.00 cfs of 0.37 cfs potential flow)
└**2=Sharp-Crested Rectangular Weir** ( Controls 0.00 cfs)

**Secondary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=51.00' (Free Discharge)
└**3=Broad-Crested Rectangular Weir** ( Controls 0.00 cfs)

## Summary for Subcatchment 36: DA #9

Runoff = 7.32 cfs @ 11.99 hrs, Volume= 0.442 af, Depth> 1.17"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-Yr Rainfall=3.40"

| | Area (sf) | CN | Description |
|---|---|---|---|
| * | 54,821 | 98 | Buildings & Pvmt |
| | 11,454 | 39 | >75% Grass cover, Good, HSG A |
| | 78,408 | 61 | >75% Grass cover, Good, HSG B |
| | 25,252 | 74 | >75% Grass cover, Good, HSG C |
| | 27,916 | 80 | >75% Grass cover, Good, HSG D |
| | 197,851 | 74 | Weighted Average |
| | 143,030 | | 72.29% Pervious Area |
| | 54,821 | | 27.71% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 6.0 | | | | | **Direct Entry, Min Tc per TR-55** |

## Summary for Pond 37: SWM #5

Inflow Area = 6.686 ac, 45.65% Impervious, Inflow Depth > 1.11" for 2-Yr event
Inflow = 10.17 cfs @ 12.00 hrs, Volume= 0.618 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 51.31' @ 24.00 hrs Surf.Area= 22,349 sf Storage= 26,919 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

| Volume | Invert | Avail.Storage | Storage Description |
|---|---|---|---|
| #1 | 50.00' | 96,082 cf | **Custom Stage Data (Irregular)** Listed below (Recalc) |

| Elevation (feet) | Surf.Area (sq-ft) | Perim. (feet) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) | Wet.Area (sq-ft) |
|---|---|---|---|---|---|
| 50.00 | 18,903 | 898.4 | 0 | 0 | 18,903 |
| 53.00 | 27,243 | 954.9 | 68,839 | 68,839 | 27,687 |
| 54.00 | 27,243 | 954.9 | 27,243 | 96,082 | 28,642 |

| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 49.67' | **24.0" Round Culvert** L= 131.0' Ke= 0.500<br>Inlet / Outlet Invert= 49.67' / 48.00' S= 0.0127 '/' Cc= 0.900<br>n= 0.012, Flow Area= 3.14 sf |
| #2 | Device 1 | 51.50' | **8.0' long Sharp-Crested Rectangular Weir** 0 End Contraction(s) |
| #3 | Secondary | 53.00' | **350.0' long x 2.0' breadth Broad-Crested Rectangular Weir**<br>Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50<br>Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32 |

**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=50.00' TW=0.00' (Dynamic Tailwater)
└**1=Culvert** (Passes 0.00 cfs of 0.66 cfs potential flow)
└**2=Sharp-Crested Rectangular Weir** ( Controls 0.00 cfs)

**Secondary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=50.00' (Free Discharge)
└**3=Broad-Crested Rectangular Weir** ( Controls 0.00 cfs)

## Summary for Subcatchment 38: DA #10

Runoff = 10.17 cfs @ 12.00 hrs, Volume= 0.618 af, Depth> 1.11"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-Yr Rainfall=3.40"

| | Area (sf) | CN | Description |
|---|---|---|---|
| * | 132,941 | 98 | Buildings & Pvmt |
| | 94,443 | 39 | >75% Grass cover, Good, HSG A |
| | 20,432 | 61 | >75% Grass cover, Good, HSG B |
| | 43,430 | 74 | >75% Grass cover, Good, HSG C |
| | 291,246 | 73 | Weighted Average |
| | 158,305 | | 54.35% Pervious Area |
| | 132,941 | | 45.65% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 6.0 | | | | | **Direct Entry, Min Tc per TR-55** |

## Summary for Pond 39: SWM #6

Inflow Area = 6.903 ac, 41.12% Impervious, Inflow Depth > 0.65" for 2-Yr event
Inflow = 5.35 cfs @ 12.01 hrs, Volume= 0.375 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 42.77' @ 24.00 hrs Surf.Area= 22,052 sf Storage= 16,346 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

| Volume | Invert | Avail.Storage | Storage Description |
|---|---|---|---|
| #1 | 42.00' | 99,705 cf | **Custom Stage Data (Irregular)** Listed below (Recalc) |

| Elevation (feet) | Surf.Area (sq-ft) | Perim. (feet) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) | Wet.Area (sq-ft) |
|---|---|---|---|---|---|
| 42.00 | 20,178 | 829.7 | 0 | 0 | 20,178 |
| 45.00 | 27,900 | 886.3 | 71,805 | 71,805 | 28,324 |
| 46.00 | 27,900 | 886.3 | 27,900 | 99,705 | 29,211 |

| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 41.67' | **24.0" Round Culvert** L= 32.0' Ke= 0.500<br>Inlet / Outlet Invert= 41.67' / 38.50' S= 0.0991 '/' Cc= 0.900<br>n= 0.012, Flow Area= 3.14 sf |
| #2 | Device 1 | 43.50' | **8.0' long Sharp-Crested Rectangular Weir** 0 End Contraction(s) |
| #3 | Secondary | 45.00' | **200.0' long x 2.0' breadth Broad-Crested Rectangular Weir**<br>Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50<br>Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32 |

**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=42.00' TW=0.00' (Dynamic Tailwater)
└**1=Culvert** (Passes 0.00 cfs of 0.66 cfs potential flow)
└**2=Sharp-Crested Rectangular Weir** ( Controls 0.00 cfs)

**Secondary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=42.00' (Free Discharge)
└**3=Broad-Crested Rectangular Weir** ( Controls 0.00 cfs)

## Summary for Subcatchment 40: DA #11

Runoff = 5.35 cfs @ 12.01 hrs, Volume= 0.375 af, Depth> 0.65"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-Yr Rainfall=3.40"

| | Area (sf) | CN | Description |
|---|---|---|---|
| * | 123,660 | 98 | Buildings & Pvmt |
| | 166,580 | 39 | >75% Grass cover, Good, HSG A |
| | 10,466 | 74 | >75% Grass cover, Good, HSG C |
| | 300,706 | 64 | Weighted Average |
| | 177,046 | | 58.88% Pervious Area |
| | 123,660 | | 41.12% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 6.0 | | | | | **Direct Entry, Min Tc per TR-55** |

## Summary for Link 41: POI #5 (POST)

Inflow Area = 1.861 ac, 15.38% Impervious, Inflow Depth > 0.25" for 2-Yr event
Inflow = 0.22 cfs @ 12.05 hrs, Volume= 0.039 af
Primary = 0.22 cfs @ 12.05 hrs, Volume= 0.039 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

## Summary for Subcatchment 42: DA #5

Runoff = 0.22 cfs @ 12.05 hrs, Volume= 0.039 af, Depth> 0.25"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-Yr Rainfall=3.40"

| Area (sf) | CN | Description |
|---|---|---|
| 12,470 | 98 | Roofs, HSG B |
| 51,410 | 39 | >75% Grass cover, Good, HSG A |
| 17,184 | 61 | >75% Grass cover, Good, HSG B |
| 81,064 | 53 | Weighted Average |
| 68,594 | | 84.62% Pervious Area |
| 12,470 | | 15.38% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 6.8 | 66 | 0.0200 | 0.16 | | **Sheet Flow, A-POI** Grass: Short n= 0.150 P2= 3.40" |

## Summary for Link 43: POI #6 (POST)

Inflow Area = 7.029 ac, 23.94% Impervious, Inflow Depth > 0.03" for 2-Yr event
Inflow = 0.02 cfs @ 13.66 hrs, Volume= 0.016 af
Primary = 0.02 cfs @ 13.66 hrs, Volume= 0.016 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

## Summary for Subcatchment 44: DA #6

Runoff = 0.02 cfs @ 13.66 hrs, Volume= 0.016 af, Depth> 0.10"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-Yr Rainfall=3.40"

| | Area (sf) | CN | Description |
|---|---|---|---|
| | 64,881 | 39 | >75% Grass cover, Good, HSG A |
| | 15,954 | 74 | >75% Grass cover, Good, HSG C |
| * | 1,011 | 98 | Roofs, HSG C |
| | 81,846 | 47 | Weighted Average |
| | 80,835 | | 98.76% Pervious Area |
| | 1,011 | | 1.24% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 7.1 | 70 | 0.0200 | 0.16 | | **Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40" |
| 11.8 | 80 | 0.0190 | 0.11 | | **Sheet Flow, B-C** Grass: Dense n= 0.240 P2= 3.40" |
| 3.3 | 362 | 0.0670 | 1.81 | | **Shallow Concentrated Flow, C-POI** Short Grass Pasture Kv= 7.0 fps |
| 22.2 | 512 | Total | | | |

## Summary for Pond 45: SWM #8

Inflow Area = 5.150 ac, 32.22% Impervious, Inflow Depth > 0.74" for 2-Yr event
Inflow = 4.78 cfs @ 12.00 hrs, Volume= 0.319 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 23.79' @ 24.00 hrs Surf.Area= 18,105 sf Storage= 13,900 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

| Volume | Invert | Avail.Storage | Storage Description |
|---|---|---|---|
| #1 | 23.00' | 79,228 cf | **Custom Stage Data (Irregular)** Listed below (Recalc) |

| Elevation (feet) | Surf.Area (sq-ft) | Perim. (feet) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) | Wet.Area (sq-ft) |
|---|---|---|---|---|---|
| 23.00 | 16,925 | 490.4 | 0 | 0 | 16,925 |
| 26.00 | 21,593 | 546.9 | 57,635 | 57,635 | 21,842 |
| 27.00 | 21,593 | 546.9 | 21,593 | 79,228 | 22,388 |

| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 22.67' | **24.0" Round Culvert** L= 37.0' Ke= 0.500<br>Inlet / Outlet Invert= 22.67' / 20.00' S= 0.0722 '/' Cc= 0.900<br>n= 0.012, Flow Area= 3.14 sf |
| #2 | Device 1 | 24.50' | **8.0' long Sharp-Crested Rectangular Weir** 0 End Contraction(s) |
| #3 | Secondary | 26.00' | **134.0' long x 2.0' breadth Broad-Crested Rectangular Weir**<br>Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50<br>Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32 |

**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=23.00' TW=0.00' (Dynamic Tailwater)
└**1=Culvert** (Passes 0.00 cfs of 0.66 cfs potential flow)
└**2=Sharp-Crested Rectangular Weir** ( Controls 0.00 cfs)

**Secondary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=23.00' (Free Discharge)
└**3=Broad-Crested Rectangular Weir** ( Controls 0.00 cfs)

## Summary for Subcatchment 46: DA #13

Runoff = 4.78 cfs @ 12.00 hrs, Volume= 0.319 af, Depth> 0.74"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-Yr Rainfall=3.40"

| | Area (sf) | CN | Description |
|---|---|---|---|
| * | 72,288 | 98 | Buildings & Pvmt |
| | 93,948 | 39 | >75% Grass cover, Good, HSG A |
| | 22,250 | 61 | >75% Grass cover, Good, HSG B |
| | 35,849 | 74 | >75% Grass cover, Good, HSG C |
| | 224,335 | 66 | Weighted Average |
| | 152,047 | | 67.78% Pervious Area |
| | 72,288 | | 32.22% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 6.0 | | | | | **Direct Entry, Min Tc per TR-55** |

## Summary for Link 47: POI #7 (POST)

Inflow Area = 2.000 ac, 50.56% Impervious, Inflow Depth > 0.79" for 2-Yr event
Inflow = 0.30 cfs @ 13.46 hrs, Volume= 0.132 af
Primary = 0.30 cfs @ 13.46 hrs, Volume= 0.132 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

## Summary for Pond 48: SWM #9

Inflow Area = 2.000 ac, 50.56% Impervious, Inflow Depth > 2.01" for 2-Yr event
Inflow = 5.65 cfs @ 11.99 hrs, Volume= 0.334 af
Outflow = 0.30 cfs @ 13.46 hrs, Volume= 0.132 af, Atten= 95%, Lag= 88.2 min
Primary = 0.30 cfs @ 13.46 hrs, Volume= 0.132 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 57.63' @ 13.46 hrs Surf.Area= 6,730 sf Storage= 9,362 cf

Plug-Flow detention time= 310.6 min calculated for 0.132 af (39% of inflow)
Center-of-Mass det. time= 189.1 min ( 1,008.0 - 819.0 )

| Volume | Invert | Avail.Storage | Storage Description |
|---|---|---|---|
| #1 | 56.00' | 28,421 cf | **Custom Stage Data (Irregular)** Listed below (Recalc) |

| Elevation (feet) | Surf.Area (sq-ft) | Perim. (feet) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) | Wet.Area (sq-ft) |
|---|---|---|---|---|---|
| 56.00 | 4,816 | 389.8 | 0 | 0 | 4,816 |
| 59.00 | 8,587 | 447.2 | 19,834 | 19,834 | 8,840 |
| 60.00 | 8,587 | 447.2 | 8,587 | 28,421 | 9,287 |

| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 55.67' | **12.0" Round Culvert** L= 25.0' Ke= 0.500<br>Inlet / Outlet Invert= 55.67' / 55.50' S= 0.0068 '/' Cc= 0.900<br>n= 0.012, Flow Area= 0.79 sf |
| #2 | Device 1 | 57.50' | **2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s) |
| #3 | Device 1 | 58.00' | **8.0' long Sharp-Crested Rectangular Weir** 0 End Contraction(s) |
| #4 | Secondary | 59.00' | **42.0' long x 2.0' breadth Broad-Crested Rectangular Weir**<br>Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50<br>Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32 |

**Primary OutFlow** Max=0.30 cfs @ 13.46 hrs HW=57.63' TW=0.00' (Dynamic Tailwater)
└**1=Culvert** (Passes 0.30 cfs of 4.55 cfs potential flow)
  ├**2=Sharp-Crested Rectangular Weir** (Weir Controls 0.30 cfs @ 1.18 fps)
  └**3=Sharp-Crested Rectangular Weir** ( Controls 0.00 cfs)

**Secondary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=56.00' (Free Discharge)
└**4=Broad-Crested Rectangular Weir** ( Controls 0.00 cfs)

## Summary for Subcatchment 49: DA #14

Runoff = 5.65 cfs @ 11.99 hrs, Volume= 0.334 af, Depth> 2.01"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-Yr Rainfall=3.40"

| | Area (sf) | CN | Description |
|---|---|---|---|
| * | 44,048 | 98 | Buildings & Parking, HSG C |
| | 6,497 | 61 | >75% Grass cover, Good, HSG B |
| | 27,421 | 74 | >75% Grass cover, Good, HSG C |
| | 9,150 | 80 | >75% Grass cover, Good, HSG D |
| | 87,116 | 86 | Weighted Average |
| | 43,068 | | 49.44% Pervious Area |
| | 44,048 | | 50.56% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 6.0 | | | | | **Direct Entry, Min Tc per TR-55** |

## Summary for Link 50: POI #8 (POST)

Inflow Area = 2.185 ac, 56.55% Impervious, Inflow Depth > 0.75" for 2-Yr event
Inflow = 0.34 cfs @ 13.52 hrs, Volume= 0.137 af
Primary = 0.34 cfs @ 13.52 hrs, Volume= 0.137 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

## Summary for Pond 51: SWM #10

Inflow Area = 2.185 ac, 56.55% Impervious, Inflow Depth > 2.26" for 2-Yr event
Inflow = 6.87 cfs @ 11.99 hrs, Volume= 0.411 af
Outflow = 0.34 cfs @ 13.52 hrs, Volume= 0.137 af, Atten= 95%, Lag= 92.2 min
Primary = 0.34 cfs @ 13.52 hrs, Volume= 0.137 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 57.05' @ 13.52 hrs Surf.Area= 9,318 sf Storage= 12,294 cf

Plug-Flow detention time= 340.8 min calculated for 0.137 af (33% of inflow)
Center-of-Mass det. time= 213.7 min ( 1,021.5 - 807.8 )

| Volume | Invert | Avail.Storage | Storage Description |
|---|---|---|---|
| #1 | 55.50' | 40,157 cf | **Custom Stage Data (Irregular)** Listed below (Recalc) |

| Elevation (feet) | Surf.Area (sq-ft) | Perim. (feet) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) | Wet.Area (sq-ft) |
|---|---|---|---|---|---|
| 55.50 | 6,574 | 607.5 | 0 | 0 | 6,574 |
| 58.50 | 12,296 | 664.0 | 27,861 | 27,861 | 12,601 |
| 59.50 | 12,296 | 664.0 | 12,296 | 40,157 | 13,265 |

| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 55.17' | **12.0" Round Culvert** L= 14.0' Ke= 0.500<br>Inlet / Outlet Invert= 55.17' / 55.00' S= 0.0121 '/' Cc= 0.900<br>n= 0.012, Flow Area= 0.79 sf |
| #2 | Device 1 | 57.00' | **8.0' long Sharp-Crested Rectangular Weir** 0 End Contraction(s) |
| #3 | Secondary | 58.50' | **271.0' long x 2.0' breadth Broad-Crested Rectangular Weir**<br>Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50<br>Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32 |

**Primary OutFlow** Max=0.34 cfs @ 13.52 hrs HW=57.05' TW=0.00' (Dynamic Tailwater)
**1=Culvert** (Passes 0.34 cfs of 4.45 cfs potential flow)
**2=Sharp-Crested Rectangular Weir** (Weir Controls 0.34 cfs @ 0.77 fps)

**Secondary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=55.50' (Free Discharge)
**3=Broad-Crested Rectangular Weir** ( Controls 0.00 cfs)

## Summary for Subcatchment 52: DA #15

Runoff = 6.87 cfs @ 11.99 hrs, Volume= 0.411 af, Depth> 2.26"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-Yr Rainfall=3.40"

| | Area (sf) | CN | Description |
|---|---|---|---|
| * | 53,816 | 98 | Buildings & Parking, HSG C |
| | 4,632 | 61 | >75% Grass cover, Good, HSG B |
| | 8,966 | 74 | >75% Grass cover, Good, HSG C |
| | 27,759 | 80 | >75% Grass cover, Good, HSG D |
| | 95,173 | 89 | Weighted Average |
| | 41,357 | | 43.45% Pervious Area |
| | 53,816 | | 56.55% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 6.0 | | | | | **Direct Entry, Min Tc per TR-55** |

## Summary for Link 1: POI #1 (PRE)

Inflow Area = 6.678 ac, 18.09% Impervious, Inflow Depth > 2.77" for 10-Yr event
Inflow = 15.96 cfs @ 12.09 hrs, Volume= 1.539 af
Primary = 15.96 cfs @ 12.09 hrs, Volume= 1.539 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

## Summary for Link 3: POI #2 (PRE)

Inflow Area = 19.343 ac, 1.97% Impervious, Inflow Depth > 2.85" for 10-Yr event
Inflow = 38.65 cfs @ 12.16 hrs, Volume= 4.592 af
Primary = 38.65 cfs @ 12.16 hrs, Volume= 4.592 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

## Summary for Link 5: POI #3 (PRE)

Inflow Area = 18.457 ac, 1.69% Impervious, Inflow Depth > 2.39" for 10-Yr event
Inflow = 20.85 cfs @ 12.36 hrs, Volume= 3.673 af
Primary = 20.85 cfs @ 12.36 hrs, Volume= 3.673 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

## Summary for Link 7: POI #4 (PRE)

Inflow Area = 25.115 ac, 0.00% Impervious, Inflow Depth > 2.40" for 10-Yr event
Inflow = 36.82 cfs @ 12.20 hrs, Volume= 5.026 af
Primary = 36.82 cfs @ 12.20 hrs, Volume= 5.026 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

## Summary for Link 9: POI #5 (PRE)

Inflow Area = 7.160 ac, 0.00% Impervious, Inflow Depth > 2.15" for 10-Yr event
Inflow = 9.16 cfs @ 12.23 hrs, Volume= 1.282 af
Primary = 9.16 cfs @ 12.23 hrs, Volume= 1.282 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

## Summary for Link 11: POI #6 (PRE)

Inflow Area = 13.293 ac, 0.00% Impervious, Inflow Depth > 1.89" for 10-Yr event
Inflow = 10.70 cfs @ 12.42 hrs, Volume= 2.097 af
Primary = 10.70 cfs @ 12.42 hrs, Volume= 2.097 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

## Summary for Link 13: POI #7 (PRE)

Inflow Area = 2.000 ac, 0.82% Impervious, Inflow Depth > 3.23" for 10-Yr event
Inflow = 4.93 cfs @ 12.14 hrs, Volume= 0.538 af
Primary = 4.93 cfs @ 12.14 hrs, Volume= 0.538 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

## Summary for Link 15: POI #8 (PRE)

Inflow Area = 2.185 ac, 0.37% Impervious, Inflow Depth > 3.14" for 10-Yr event
Inflow = 6.16 cfs @ 12.07 hrs, Volume= 0.571 af
Primary = 6.16 cfs @ 12.07 hrs, Volume= 0.571 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

## Summary for Link 17: POI #1 (POST)

Inflow Area = 13.555 ac, 27.78% Impervious, Inflow Depth > 1.96" for 10-Yr event
Inflow = 11.98 cfs @ 12.30 hrs, Volume= 2.209 af
Primary = 11.98 cfs @ 12.30 hrs, Volume= 2.209 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

## Summary for Pond 18: SWM #1

Inflow Area = 13.555 ac, 27.78% Impervious, Inflow Depth > 2.69" for 10-Yr event
Inflow = 51.56 cfs @ 11.99 hrs, Volume= 3.036 af
Outflow = 11.98 cfs @ 12.30 hrs, Volume= 2.209 af, Atten= 77%, Lag= 18.9 min
Primary = 11.98 cfs @ 12.30 hrs, Volume= 2.209 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 37.40' @ 12.30 hrs Surf.Area= 26,352 sf Storage= 56,717 cf

Plug-Flow detention time= 166.1 min calculated for 2.209 af (73% of inflow)
Center-of-Mass det. time= 67.6 min ( 898.6 - 831.0 )

| Volume | Invert | Avail.Storage | Storage Description |
|---|---|---|---|
| #1 | 35.00' | 100,688 cf | **Custom Stage Data (Irregular)** Listed below (Recalc) |

| Elevation (feet) | Surf.Area (sq-ft) | Perim. (feet) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) | Wet.Area (sq-ft) |
|---|---|---|---|---|---|
| 35.00 | 20,975 | 728.5 | 0 | 0 | 20,975 |
| 38.00 | 27,786 | 785.0 | 72,902 | 72,902 | 28,149 |
| 39.00 | 27,786 | 785.0 | 27,786 | 100,688 | 28,934 |

| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 34.67' | **18.0" Round Culvert** L= 26.0' Ke= 0.500<br>Inlet / Outlet Invert= 34.67' / 32.00' S= 0.1027 '/' Cc= 0.900<br>n= 0.012, Flow Area= 1.77 sf |
| #2 | Device 1 | 36.50' | **8.0' long Sharp-Crested Rectangular Weir** 0 End Contraction(s) |
| #3 | Secondary | 38.00' | **185.0' long x 2.0' breadth Broad-Crested Rectangular Weir**<br>Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50<br>Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32 |

**Primary OutFlow** Max=11.98 cfs @ 12.30 hrs HW=37.40' TW=0.00' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 11.98 cfs @ 6.78 fps)
└**2=Sharp-Crested Rectangular Weir** (Passes 11.98 cfs of 22.41 cfs potential flow)

**Secondary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=35.00' (Free Discharge)
└**3=Broad-Crested Rectangular Weir** ( Controls 0.00 cfs)

## Summary for Link 20: POI #2 (POST)

Inflow Area = 17.266 ac, 44.68% Impervious, Inflow Depth > 1.83" for 10-Yr event
Inflow = 8.73 cfs @ 12.56 hrs, Volume= 2.628 af
Primary = 8.73 cfs @ 12.56 hrs, Volume= 2.628 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

## Summary for Pond 22: SWM #2

Inflow Area = 16.945 ac, 45.20% Impervious, Inflow Depth > 3.34" for 10-Yr event
Inflow = 77.37 cfs @ 11.99 hrs, Volume= 4.717 af
Outflow = 8.59 cfs @ 12.57 hrs, Volume= 2.554 af, Atten= 89%, Lag= 35.0 min
Primary = 8.59 cfs @ 12.57 hrs, Volume= 2.554 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 23.98' @ 12.57 hrs Surf.Area= 61,110 sf Storage= 116,401 cf

Plug-Flow detention time= 245.6 min calculated for 2.553 af (54% of inflow)
Center-of-Mass det. time= 134.5 min ( 948.0 - 813.5 )

| Volume | Invert | Avail.Storage | Storage Description |
|---|---|---|---|
| #1 | 22.00' | 247,001 cf | **Custom Stage Data (Irregular)** Listed below (Recalc) |

| Elevation (feet) | Surf.Area (sq-ft) | Perim. (feet) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) | Wet.Area (sq-ft) |
|---|---|---|---|---|---|
| 22.00 | 56,734 | 1,476.5 | 0 | 0 | 56,734 |
| 25.00 | 63,442 | 1,504.8 | 180,170 | 180,170 | 64,801 |
| 26.00 | 70,277 | 1,533.0 | 66,830 | 247,001 | 71,785 |

| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 21.67' | **18.0" Round Culvert** L= 356.0' Ke= 0.500<br>Inlet / Outlet Invert= 21.67' / 17.50' S= 0.0117 '/' Cc= 0.900<br>n= 0.012, Flow Area= 1.77 sf |
| #2 | Device 1 | 23.50' | **8.0' long Sharp-Crested Rectangular Weir** 0 End Contraction(s) |
| #3 | Secondary | 25.00' | **185.0' long x 2.0' breadth Broad-Crested Rectangular Weir**<br>Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50<br>Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32 |

**Primary OutFlow** Max=8.59 cfs @ 12.57 hrs HW=23.98' TW=0.00' (Dynamic Tailwater)
└**1=Culvert** (Passes 8.59 cfs of 10.61 cfs potential flow)
└**2=Sharp-Crested Rectangular Weir** (Weir Controls 8.59 cfs @ 2.26 fps)

**Secondary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=22.00' (Free Discharge)
└**3=Broad-Crested Rectangular Weir** ( Controls 0.00 cfs)

## Summary for Link 25: POI #3 (POST)

Inflow Area = 15.308 ac, 16.12% Impervious, Inflow Depth > 1.66" for 10-Yr event
Inflow = 20.63 cfs @ 12.08 hrs, Volume= 2.117 af
Primary = 20.63 cfs @ 12.08 hrs, Volume= 2.117 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

## Summary for Pond 29: SWM #7

Inflow Area = 4.528 ac, 46.64% Impervious, Inflow Depth > 2.78" for 10-Yr event
Inflow = 17.79 cfs @ 11.99 hrs, Volume= 1.048 af
Outflow = 0.37 cfs @ 17.86 hrs, Volume= 0.247 af, Atten= 98%, Lag= 352.4 min
Primary = 0.37 cfs @ 17.86 hrs, Volume= 0.247 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 32.03' @ 17.86 hrs Surf.Area= 19,601 sf Storage= 35,410 cf

Plug-Flow detention time= 431.0 min calculated for 0.247 af (24% of inflow)
Center-of-Mass det. time= 296.5 min ( 1,125.0 - 828.5 )

| Volume | Invert | Avail.Storage | Storage Description |
|---|---|---|---|
| #1 | 30.00' | 77,316 cf | **Custom Stage Data (Irregular)** Listed below (Recalc) |

| Elevation (feet) | Surf.Area (sq-ft) | Perim. (feet) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) | Wet.Area (sq-ft) |
|---|---|---|---|---|---|
| 30.00 | 15,417 | 679.4 | 0 | 0 | 15,417 |
| 33.00 | 21,786 | 736.0 | 55,530 | 55,530 | 22,136 |
| 34.00 | 21,786 | 736.0 | 21,786 | 77,316 | 22,872 |

| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 29.67' | **24.0" Round Culvert** L= 60.0' Ke= 0.500<br>Inlet / Outlet Invert= 29.67' / 29.00' S= 0.0112 '/' Cc= 0.900<br>n= 0.012, Flow Area= 3.14 sf |
| #2 | Device 1 | 31.50' | **4.0" Vert. Orifice/Grate** C= 0.600 |
| #3 | Device 1 | 32.00' | **8.0' long Sharp-Crested Rectangular Weir** 0 End Contraction(s) |
| #4 | Secondary | 33.00' | **54.0' long x 2.0' breadth Broad-Crested Rectangular Weir**<br>Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50<br>Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32 |

**Primary OutFlow** Max=0.37 cfs @ 17.86 hrs HW=32.03' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.37 cfs of 17.62 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 0.25 cfs @ 2.89 fps)
  └─**3=Sharp-Crested Rectangular Weir** (Weir Controls 0.12 cfs @ 0.54 fps)

**Secondary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=30.00' (Free Discharge)
└─**4=Broad-Crested Rectangular Weir** ( Controls 0.00 cfs)

## Summary for Link 31: POI #4 (POST)

Inflow Area = 35.026 ac, 28.84% Impervious, Inflow Depth > 1.16" for 10-Yr event
Inflow = 16.48 cfs @ 12.17 hrs, Volume= 3.385 af
Primary = 16.48 cfs @ 12.17 hrs, Volume= 3.385 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

## Summary for Pond 33: SWM #3

Inflow Area = 9.719 ac, 30.39% Impervious, Inflow Depth > 2.87" for 10-Yr event
Inflow = 39.42 cfs @ 11.99 hrs, Volume= 2.323 af
Outflow = 11.00 cfs @ 12.26 hrs, Volume= 1.569 af, Atten= 72%, Lag= 16.0 min
Primary = 11.00 cfs @ 12.26 hrs, Volume= 1.569 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 40.09' @ 12.26 hrs Surf.Area= 23,719 sf Storage= 44,841 cf

Plug-Flow detention time= 181.9 min calculated for 1.569 af (68% of inflow)
Center-of-Mass det. time= 77.4 min ( 903.4 - 826.0 )

| Volume | Invert | Avail.Storage | Storage Description |
|---|---|---|---|
| #1 | 38.00' | 93,163 cf | **Custom Stage Data (Irregular)** Listed below (Recalc) |

| Elevation (feet) | Surf.Area (sq-ft) | Perim. (feet) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) | Wet.Area (sq-ft) |
|---|---|---|---|---|---|
| 38.00 | 19,263 | 698.4 | 0 | 0 | 19,263 |
| 41.00 | 25,803 | 755.0 | 67,360 | 67,360 | 26,163 |
| 42.00 | 25,803 | 755.0 | 25,803 | 93,163 | 26,918 |

| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 37.67' | **18.0" Round Culvert** L= 120.0' Ke= 0.500<br>Inlet / Outlet Invert= 37.67' / 35.00' S= 0.0223 '/' Cc= 0.900<br>n= 0.012, Flow Area= 1.77 sf |
| #2 | Device 1 | 39.50' | **8.0' long Sharp-Crested Rectangular Weir** 0 End Contraction(s) |
| #3 | Secondary | 41.00' | **122.0' long x 2.0' breadth Broad-Crested Rectangular Weir**<br>Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50<br>Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32 |

**Primary OutFlow** Max=11.00 cfs @ 12.26 hrs HW=40.09' TW=0.00' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 11.00 cfs @ 6.22 fps)
└**2=Sharp-Crested Rectangular Weir** (Passes 11.00 cfs of 11.86 cfs potential flow)

**Secondary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=38.00' (Free Discharge)
└**3=Broad-Crested Rectangular Weir** ( Controls 0.00 cfs)

## Summary for Pond 35: SWM #4

Inflow Area = 4.542 ac, 27.71% Impervious, Inflow Depth > 2.60" for 10-Yr event
Inflow = 16.70 cfs @ 11.99 hrs, Volume= 0.984 af
Outflow = 0.47 cfs @ 15.85 hrs, Volume= 0.255 af, Atten= 97%, Lag= 231.7 min
Primary = 0.47 cfs @ 15.85 hrs, Volume= 0.255 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 52.57' @ 15.85 hrs Surf.Area= 21,920 sf Storage= 32,310 cf

Plug-Flow detention time= 421.3 min calculated for 0.255 af (26% of inflow)
Center-of-Mass det. time= 288.3 min ( 1,121.7 - 833.4 )

| Volume | Invert | Avail.Storage | Storage Description |
|---|---|---|---|
| #1 | 51.00' | 89,943 cf | **Custom Stage Data (Irregular)** Listed below (Recalc) |

| Elevation (feet) | Surf.Area (sq-ft) | Perim. (feet) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) | Wet.Area (sq-ft) |
|---|---|---|---|---|---|
| 51.00 | 19,294 | 545.9 | 0 | 0 | 19,294 |
| 54.00 | 24,462 | 602.5 | 65,481 | 65,481 | 24,746 |
| 55.00 | 24,462 | 602.5 | 24,462 | 89,943 | 25,348 |

| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 50.67' | **12.0" Round Culvert** L= 123.0' Ke= 0.500<br>Inlet / Outlet Invert= 50.67' / 50.00' S= 0.0054 '/' Cc= 0.900<br>n= 0.012, Flow Area= 0.79 sf |
| #2 | Device 1 | 52.50' | **8.0' long Sharp-Crested Rectangular Weir** 0 End Contraction(s) |
| #3 | Secondary | 54.00' | **230.0' long x 2.0' breadth Broad-Crested Rectangular Weir**<br>Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50<br>Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32 |

**Primary OutFlow** Max=0.47 cfs @ 15.85 hrs HW=52.57' TW=0.00' (Dynamic Tailwater)
└**1=Culvert** (Passes 0.47 cfs of 3.61 cfs potential flow)
└**2=Sharp-Crested Rectangular Weir** (Weir Controls 0.47 cfs @ 0.86 fps)

**Secondary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=51.00' (Free Discharge)
└**3=Broad-Crested Rectangular Weir** ( Controls 0.00 cfs)

## Summary for Pond 37: SWM #5

Inflow Area = 6.686 ac, 45.65% Impervious, Inflow Depth > 2.51" for 10-Yr event
Inflow = 23.75 cfs @ 11.99 hrs, Volume= 1.399 af
Outflow = 1.69 cfs @ 13.07 hrs, Volume= 0.652 af, Atten= 93%, Lag= 64.8 min
Primary = 1.69 cfs @ 13.07 hrs, Volume= 0.652 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 51.66' @ 13.07 hrs Surf.Area= 23,333 sf Storage= 35,013 cf

Plug-Flow detention time= 279.2 min calculated for 0.652 af (47% of inflow)
Center-of-Mass det. time= 155.6 min ( 991.4 - 835.8 )

| Volume | Invert | Avail.Storage | Storage Description |
|---|---|---|---|
| #1 | 50.00' | 96,082 cf | **Custom Stage Data (Irregular)** Listed below (Recalc) |

| Elevation (feet) | Surf.Area (sq-ft) | Perim. (feet) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) | Wet.Area (sq-ft) |
|---|---|---|---|---|---|
| 50.00 | 18,903 | 898.4 | 0 | 0 | 18,903 |
| 53.00 | 27,243 | 954.9 | 68,839 | 68,839 | 27,687 |
| 54.00 | 27,243 | 954.9 | 27,243 | 96,082 | 28,642 |

| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 49.67' | **24.0" Round Culvert** L= 131.0' Ke= 0.500<br>Inlet / Outlet Invert= 49.67' / 48.00' S= 0.0127 '/' Cc= 0.900<br>n= 0.012, Flow Area= 3.14 sf |
| #2 | Device 1 | 51.50' | **8.0' long Sharp-Crested Rectangular Weir** 0 End Contraction(s) |
| #3 | Secondary | 53.00' | **350.0' long x 2.0' breadth Broad-Crested Rectangular Weir**<br>Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50<br>Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32 |

**Primary OutFlow** Max=1.69 cfs @ 13.07 hrs HW=51.66' TW=0.00' (Dynamic Tailwater)
└**1=Culvert** (Passes 1.69 cfs of 15.09 cfs potential flow)
└**2=Sharp-Crested Rectangular Weir** (Weir Controls 1.69 cfs @ 1.31 fps)

**Secondary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=50.00' (Free Discharge)
└**3=Broad-Crested Rectangular Weir** ( Controls 0.00 cfs)

## Summary for Pond 39: SWM #6

Inflow Area = 6.903 ac, 41.12% Impervious, Inflow Depth > 1.77" for 10-Yr event
Inflow = 16.84 cfs @ 12.00 hrs, Volume= 1.020 af
Outflow = 0.45 cfs @ 17.72 hrs, Volume= 0.235 af, Atten= 97%, Lag= 343.8 min
Primary = 0.45 cfs @ 17.72 hrs, Volume= 0.235 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 43.57' @ 17.72 hrs Surf.Area= 24,054 sf Storage= 34,600 cf

Plug-Flow detention time= 470.5 min calculated for 0.235 af (23% of inflow)
Center-of-Mass det. time= 325.0 min ( 1,183.3 - 858.3 )

| Volume | Invert | Avail.Storage | Storage Description |
|---|---|---|---|
| #1 | 42.00' | 99,705 cf | **Custom Stage Data (Irregular)** Listed below (Recalc) |

| Elevation (feet) | Surf.Area (sq-ft) | Perim. (feet) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) | Wet.Area (sq-ft) |
|---|---|---|---|---|---|
| 42.00 | 20,178 | 829.7 | 0 | 0 | 20,178 |
| 45.00 | 27,900 | 886.3 | 71,805 | 71,805 | 28,324 |
| 46.00 | 27,900 | 886.3 | 27,900 | 99,705 | 29,211 |

| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 41.67' | **24.0" Round Culvert** L= 32.0' Ke= 0.500<br>Inlet / Outlet Invert= 41.67' / 38.50' S= 0.0991 '/' Cc= 0.900<br>n= 0.012, Flow Area= 3.14 sf |
| #2 | Device 1 | 43.50' | **8.0' long Sharp-Crested Rectangular Weir** 0 End Contraction(s) |
| #3 | Secondary | 45.00' | **200.0' long x 2.0' breadth Broad-Crested Rectangular Weir**<br>Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50<br>Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32 |

**Primary OutFlow** Max=0.45 cfs @ 17.72 hrs HW=43.57' TW=0.00' (Dynamic Tailwater)
└**1=Culvert** (Passes 0.45 cfs of 14.44 cfs potential flow)
└**2=Sharp-Crested Rectangular Weir** (Weir Controls 0.45 cfs @ 0.84 fps)

**Secondary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=42.00' (Free Discharge)
└**3=Broad-Crested Rectangular Weir** ( Controls 0.00 cfs)

## Summary for Link 41: POI #5 (POST)

Inflow Area = 1.861 ac, 15.38% Impervious, Inflow Depth > 1.00" for 10-Yr event
Inflow = 2.05 cfs @ 12.01 hrs, Volume= 0.155 af
Primary = 2.05 cfs @ 12.01 hrs, Volume= 0.155 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

## Summary for Link 43: POI #6 (POST)

Inflow Area = 7.029 ac, 23.94% Impervious, Inflow Depth > 0.49" for 10-Yr event
Inflow = 0.45 cfs @ 12.24 hrs, Volume= 0.288 af
Primary = 0.45 cfs @ 12.24 hrs, Volume= 0.288 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

## Summary for Pond 45: SWM #8

Inflow Area = 5.150 ac, 32.22% Impervious, Inflow Depth > 1.93" for 10-Yr event
Inflow = 13.81 cfs @ 11.99 hrs, Volume= 0.828 af
Outflow = 0.36 cfs @ 17.47 hrs, Volume= 0.188 af, Atten= 97%, Lag= 328.8 min
Primary = 0.36 cfs @ 17.47 hrs, Volume= 0.188 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 24.56' @ 17.47 hrs Surf.Area= 19,278 sf Storage= 28,175 cf

Plug-Flow detention time= 467.2 min calculated for 0.188 af (23% of inflow)
Center-of-Mass det. time= 324.8 min ( 1,177.9 - 853.1 )

| Volume | Invert | Avail.Storage | Storage Description |
|---|---|---|---|
| #1 | 23.00' | 79,228 cf | **Custom Stage Data (Irregular)** Listed below (Recalc) |

| Elevation (feet) | Surf.Area (sq-ft) | Perim. (feet) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) | Wet.Area (sq-ft) |
|---|---|---|---|---|---|
| 23.00 | 16,925 | 490.4 | 0 | 0 | 16,925 |
| 26.00 | 21,593 | 546.9 | 57,635 | 57,635 | 21,842 |
| 27.00 | 21,593 | 546.9 | 21,593 | 79,228 | 22,388 |

| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 22.67' | **24.0" Round Culvert** L= 37.0' Ke= 0.500<br>Inlet / Outlet Invert= 22.67' / 20.00' S= 0.0722 '/' Cc= 0.900<br>n= 0.012, Flow Area= 3.14 sf |
| #2 | Device 1 | 24.50' | **8.0' long Sharp-Crested Rectangular Weir** 0 End Contraction(s) |
| #3 | Secondary | 26.00' | **134.0' long x 2.0' breadth Broad-Crested Rectangular Weir**<br>Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50<br>Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32 |

**Primary OutFlow** Max=0.36 cfs @ 17.47 hrs HW=24.56' TW=0.00' (Dynamic Tailwater)
**1=Culvert** (Passes 0.36 cfs of 14.37 cfs potential flow)
**2=Sharp-Crested Rectangular Weir** (Weir Controls 0.36 cfs @ 0.79 fps)

**Secondary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=23.00' (Free Discharge)
**3=Broad-Crested Rectangular Weir** ( Controls 0.00 cfs)

## Summary for Link 47: POI #7 (POST)

Inflow Area = 2.000 ac, 50.56% Impervious, Inflow Depth > 2.51" for 10-Yr event
Inflow = 4.07 cfs @ 12.17 hrs, Volume= 0.418 af
Primary = 4.07 cfs @ 12.17 hrs, Volume= 0.418 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

## Summary for Pond 48: SWM #9

Inflow Area = 2.000 ac, 50.56% Impervious, Inflow Depth > 3.74" for 10-Yr event
Inflow = 10.31 cfs @ 11.98 hrs, Volume= 0.623 af
Outflow = 4.07 cfs @ 12.17 hrs, Volume= 0.418 af, Atten= 61%, Lag= 11.3 min
Primary = 4.07 cfs @ 12.17 hrs, Volume= 0.418 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 58.12' @ 12.17 hrs Surf.Area= 7,368 sf Storage= 12,816 cf

Plug-Flow detention time= 182.4 min calculated for 0.418 af (67% of inflow)
Center-of-Mass det. time= 83.3 min ( 884.7 - 801.4 )

| Volume | Invert | Avail.Storage | Storage Description |
|---|---|---|---|
| #1 | 56.00' | 28,421 cf | **Custom Stage Data (Irregular)** Listed below (Recalc) |

| Elevation (feet) | Surf.Area (sq-ft) | Perim. (feet) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) | Wet.Area (sq-ft) |
|---|---|---|---|---|---|
| 56.00 | 4,816 | 389.8 | 0 | 0 | 4,816 |
| 59.00 | 8,587 | 447.2 | 19,834 | 19,834 | 8,840 |
| 60.00 | 8,587 | 447.2 | 8,587 | 28,421 | 9,287 |

| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 55.67' | **12.0" Round Culvert** L= 25.0' Ke= 0.500<br>Inlet / Outlet Invert= 55.67' / 55.50' S= 0.0068 '/' Cc= 0.900<br>n= 0.012, Flow Area= 0.79 sf |
| #2 | Device 1 | 57.50' | **2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s) |
| #3 | Device 1 | 58.00' | **8.0' long Sharp-Crested Rectangular Weir** 0 End Contraction(s) |
| #4 | Secondary | 59.00' | **42.0' long x 2.0' breadth Broad-Crested Rectangular Weir**<br>Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50<br>Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32 |

**Primary OutFlow** Max=4.07 cfs @ 12.17 hrs HW=58.12' TW=0.00' (Dynamic Tailwater)
└**1=Culvert** (Passes 4.07 cfs of 5.28 cfs potential flow)
  ├**2=Sharp-Crested Rectangular Weir** (Weir Controls 2.99 cfs @ 2.57 fps)
  └**3=Sharp-Crested Rectangular Weir** (Weir Controls 1.08 cfs @ 1.13 fps)

**Secondary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=56.00' (Free Discharge)
└**4=Broad-Crested Rectangular Weir** ( Controls 0.00 cfs)

## Summary for Link 50: POI #8 (POST)

Inflow Area = 2.185 ac, 56.55% Impervious, Inflow Depth > 2.53" for 10-Yr event
Inflow = 4.93 cfs @ 12.16 hrs, Volume= 0.461 af
Primary = 4.93 cfs @ 12.16 hrs, Volume= 0.461 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

## Summary for Pond 51: SWM #10

Inflow Area = 2.185 ac, 56.55% Impervious, Inflow Depth > 4.05" for 10-Yr event
Inflow = 11.99 cfs @ 11.98 hrs, Volume= 0.738 af
Outflow = 4.93 cfs @ 12.16 hrs, Volume= 0.461 af, Atten= 59%, Lag= 10.7 min
Primary = 4.93 cfs @ 12.16 hrs, Volume= 0.461 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 57.37' @ 12.16 hrs Surf.Area= 9,932 sf Storage= 15,326 cf

Plug-Flow detention time= 188.2 min calculated for 0.461 af (62% of inflow)
Center-of-Mass det. time= 86.4 min ( 877.9 - 791.5 )

| Volume | Invert | Avail.Storage | Storage Description |
|---|---|---|---|
| #1 | 55.50' | 40,157 cf | **Custom Stage Data (Irregular)** Listed below (Recalc) |

| Elevation (feet) | Surf.Area (sq-ft) | Perim. (feet) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) | Wet.Area (sq-ft) |
|---|---|---|---|---|---|
| 55.50 | 6,574 | 607.5 | 0 | 0 | 6,574 |
| 58.50 | 12,296 | 664.0 | 27,861 | 27,861 | 12,601 |
| 59.50 | 12,296 | 664.0 | 12,296 | 40,157 | 13,265 |

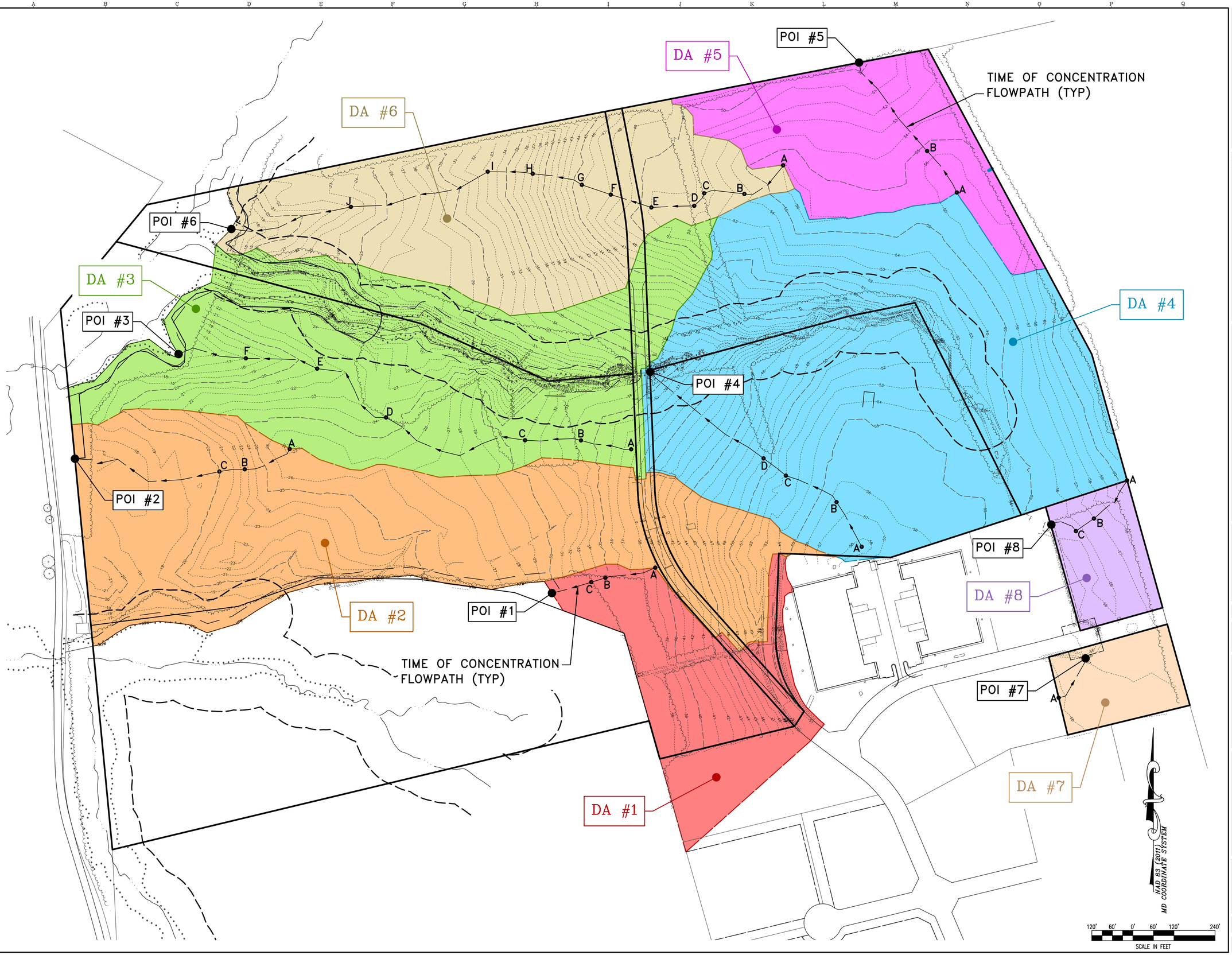
| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 55.17' | **12.0" Round Culvert** L= 14.0' Ke= 0.500<br>Inlet / Outlet Invert= 55.17' / 55.00' S= 0.0121 '/' Cc= 0.900<br>n= 0.012, Flow Area= 0.79 sf |
| #2 | Device 1 | 57.00' | **8.0' long Sharp-Crested Rectangular Weir** 0 End Contraction(s) |
| #3 | Secondary | 58.50' | **271.0' long x 2.0' breadth Broad-Crested Rectangular Weir**<br>Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50<br>Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32 |

**Primary OutFlow** Max=4.93 cfs @ 12.16 hrs HW=57.37' TW=0.00' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 4.93 cfs @ 6.28 fps)
└**2=Sharp-Crested Rectangular Weir** (Passes 4.93 cfs of 5.89 cfs potential flow)

**Secondary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=55.50' (Free Discharge)
└**3=Broad-Crested Rectangular Weir** ( Controls 0.00 cfs)

# APPENDIX C

PRE-DEVELOPMENT DRAINAGE AREA MAP

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PLANS ARE NOT APPROVED FOR CONSTRUCTION

REVISIONS TO APPROVED PLANS

| No. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

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PROFESSIONAL CERTIFICATION: I hereby certify that this document was prepared or approved by me, and that I am a duly licensed Professional Engineer under the laws of the State of Maryland, License No. 48188, Expiration Date: 12/28/2025.

SEAL

STATE OF MARYLAND
JARRET D. BEYER
48188
REGISTERED
PROFESSIONAL ENGINEER

DATE

# PRE-DEVELOPMENT DRAINAGE AREA MAP

FOX CHASE ESTATES

*IN THE TOWN OF EASTON, ELECTION WARD 1*
*TALBOT COUNTY, MARYLAND*
*T.M. 25 GRID 4 P. 92 LOTS 1, 2, 3 & 4*

ISSUED/REVISED FOR: DATE: BY:

SHEET No. APPENDIX C

JOB No. 220210

SCALE: AS NOTED

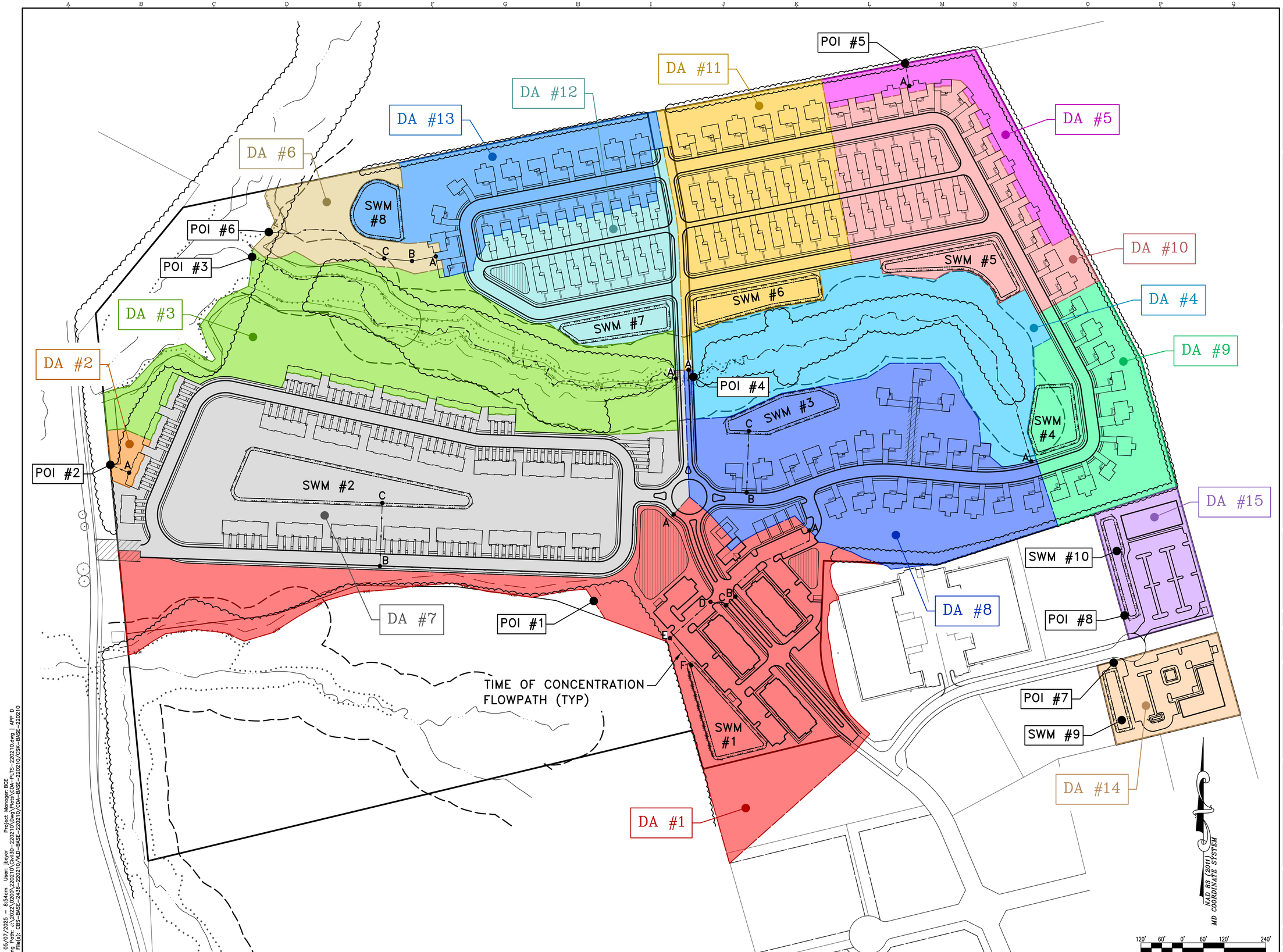
FILE No. 3208

Date: 05/07/2025 - 9:01am User: jbeyer Project Manager: BCE
Drawing Path: J:\2022\0200\220210\Civil3D-220210\Dwg\Plots\VDA-PLTS-220210.dwg | APP C
XREF File(s): CBS-BASE-2436-220210/XLD-BASE-220210/VSF-BASE-210099/VDA-BASE-220210

Land Desktop Inc.

# APPENDIX D

POST-DEVELOPMENT DRAINAGE AREA MAP

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REVISIONS TO APPROVED PLANS

| No. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

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354 Pennsylvania Ave. Centreville, MD 21617 (410) 758-2095


PROFESSIONAL CERTIFICATION: I hereby certify that this document was prepared or approved by me, and that I am a duly licensed Professional Engineer under the laws of the State of Maryland, License No. 48188 , Expiration Date: 12/28/2025.

SEAL

STATE OF MARYLAND — JANICE J. BOYER — 48188 — REGISTERED PROFESSIONAL ENGINEER

DATE

# POST-DEVELOPMENT DRAINAGE AREA MAP

## FOX CHASE ESTATES

*IN THE TOWN OF EASTON, ELECTION WARD 1*
*TALBOT COUNTY, MARYLAND*
*T.M. 25 GRID 4 P. 92 LOTS 1, 2, 3 & 4*

ISSUED/REVISED FOR: DATE: BY:

SHEET No. APPENDIX D

JOB No. 220210

SCALE: AS NOTED

FILE No. 3208

Date: 05/07/2025 - 8:54am User: jboyer Project Manager: BCE
Drawing Path: J:\2022\0200\220210\Civil3D-220210\Dwg\Plots\CDA-PLTS-220210.dwg | APP D
XREF File(s): CBS-BASE-2438-220210/MLD-BASE-220210/CDA-BASE-220210/CSK-BASE-220210

# TRAFFIC IMPACT ANALYSIS

# FOR

# TECHNOLOGY PARK

Prepared by:

**LENHART TRAFFIC CONSULTING, INC.**

*TRAFFIC ENGINEERING & TRANSPORTATION PLANNING*

**May 8, 2025**



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B Level of Service (LOS) Worksheets
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# Section 1 Introduction

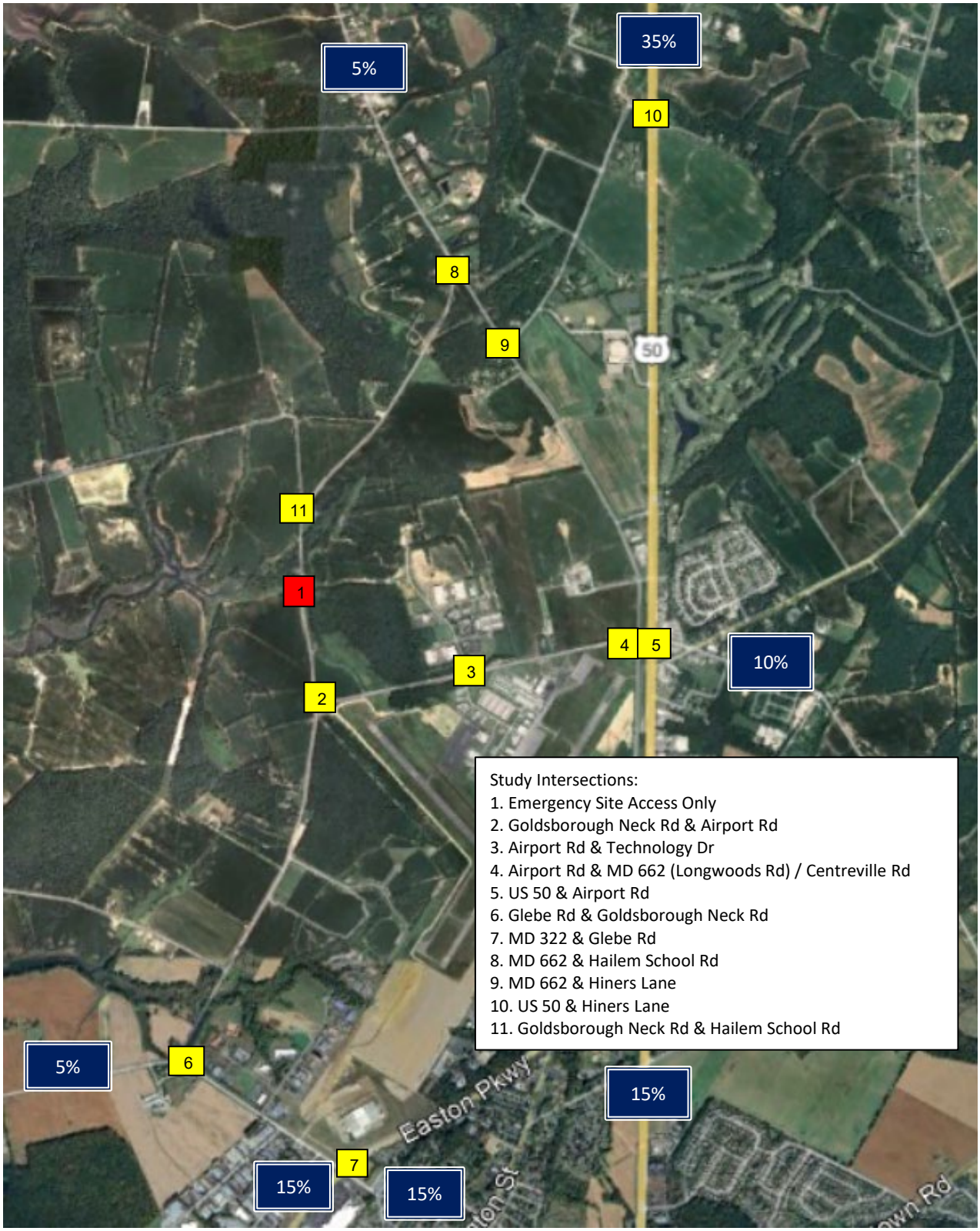
## 1.1 Project Description

This Traffic Impact Analysis (TIA) has been prepared for the proposed Technology Park development. The subject site is located in Easton, Maryland, and is proposed to be accessed via Technology Drive via Airport Road. **Exhibit 1** shows the location of the site. There is a proposed emergency access point along Goldsborough Neck Road which will not support typical vehicular traffic.

The site is proposed to be developed with a mix of uses and the exact proposed development is still being determined. For the purpose of this study, the most conservative potential development was analyzed which includes 137 single family attached (townhouse) units, 108 single family detached units. In addition, there are multiple proposed multilevel buildings that are anticipated to be developed with 120 multifamily units, 33,000 square feet of office space, and a 10,000 square foot day care center. A concept plan is provided in Appendix A.

## 1.2 Scope of Study

This TIA has been prepared in accordance with the scooping correspondence contained in Appendix A of the report. The Highway Capacity Manual (HCM) and Critical Lane Volume (CLV) methodologies were utilized to evaluate the study intersections.




| | | |
|---|---|---|
| Traffic Impact Analysis | Site Location Map | **Exhibit 1** |
| LENHART TRAFFIC CONSULTING, INC.<br>645 BALTIMORE ANNAPOLIS BLVD, SUITE 214<br>SEVERNA PARK, MD 21146<br>www.lenharttraffic.com | | |

# Section 2 Existing Conditions

## 2.1 Description of Road Network

The key roads in the study area are:

- US 50 – a four-lane roadway classified as a principal arterial. The roadway has a posted speed limit of 55 MPH.
- Airport Road– a two-lane roadway classified as a major collector. The roadway has a posted speed limit of 35 MPH.
- Goldsborough Neck Road – a two-lane roadway classified as a local road. The roadway has a posted speed limit of 35 MPH.
- Glebe Road – a two-lane roadway classified as a local road. The roadway has a posted speed limit of 40 MPH.

## 2.2 Existing Lane Configurations

The Lane Use & Traffic Control Devices are shown on **Exhibit 2**. As discussed in this report, MD 662 (Longwoods Road) is currently closed between Airport Road and Hiners Lane due to ongoing construction for the UMMS Easton Hospital.

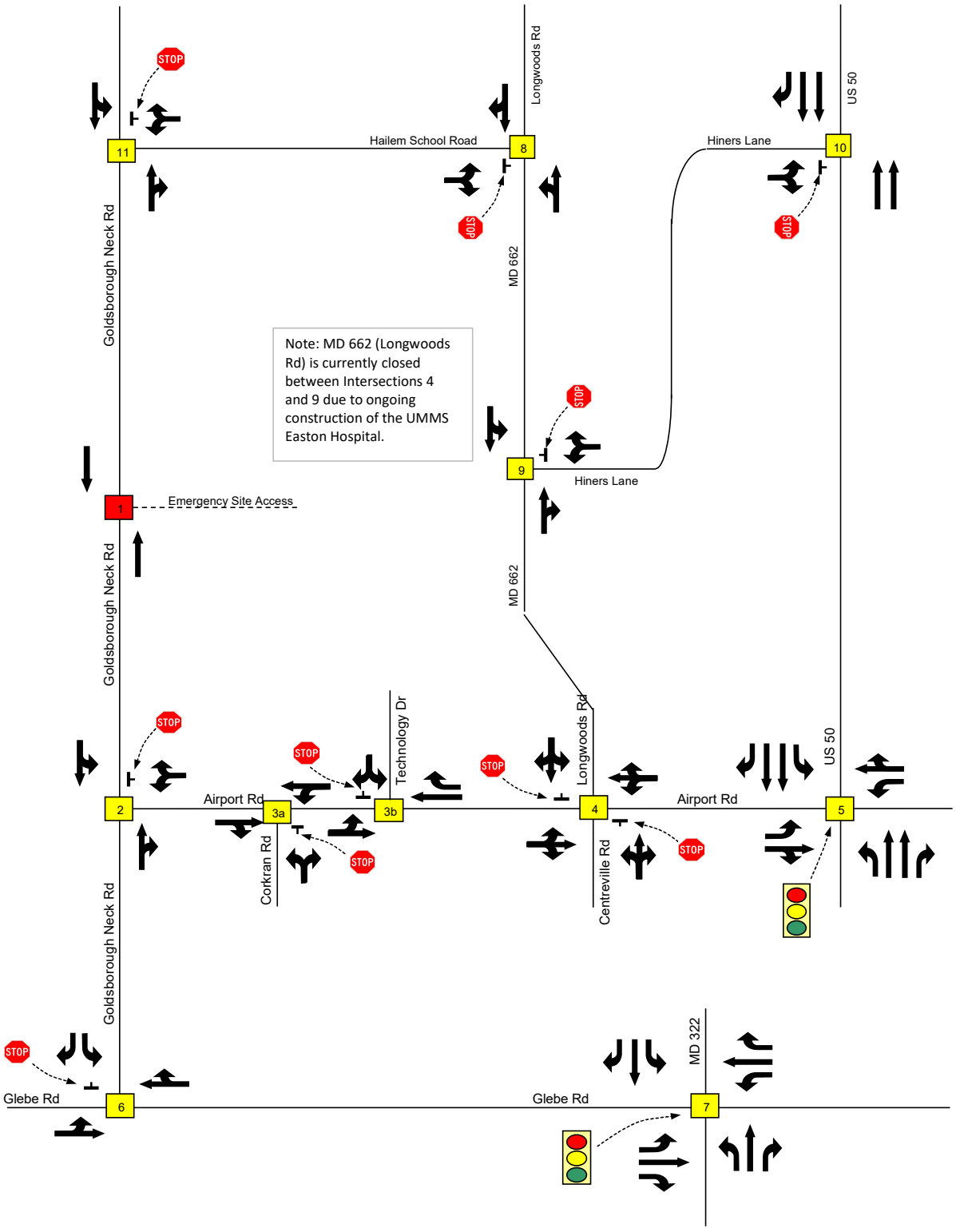
## 2.3 Existing Traffic Counts

Peak hour turning movement counts were conducted on Friday, September 13, 2024, and Saturday, September 14, 2024, and Wednesday, April 30, 2025 and are shown on **Exhibit 3a.**

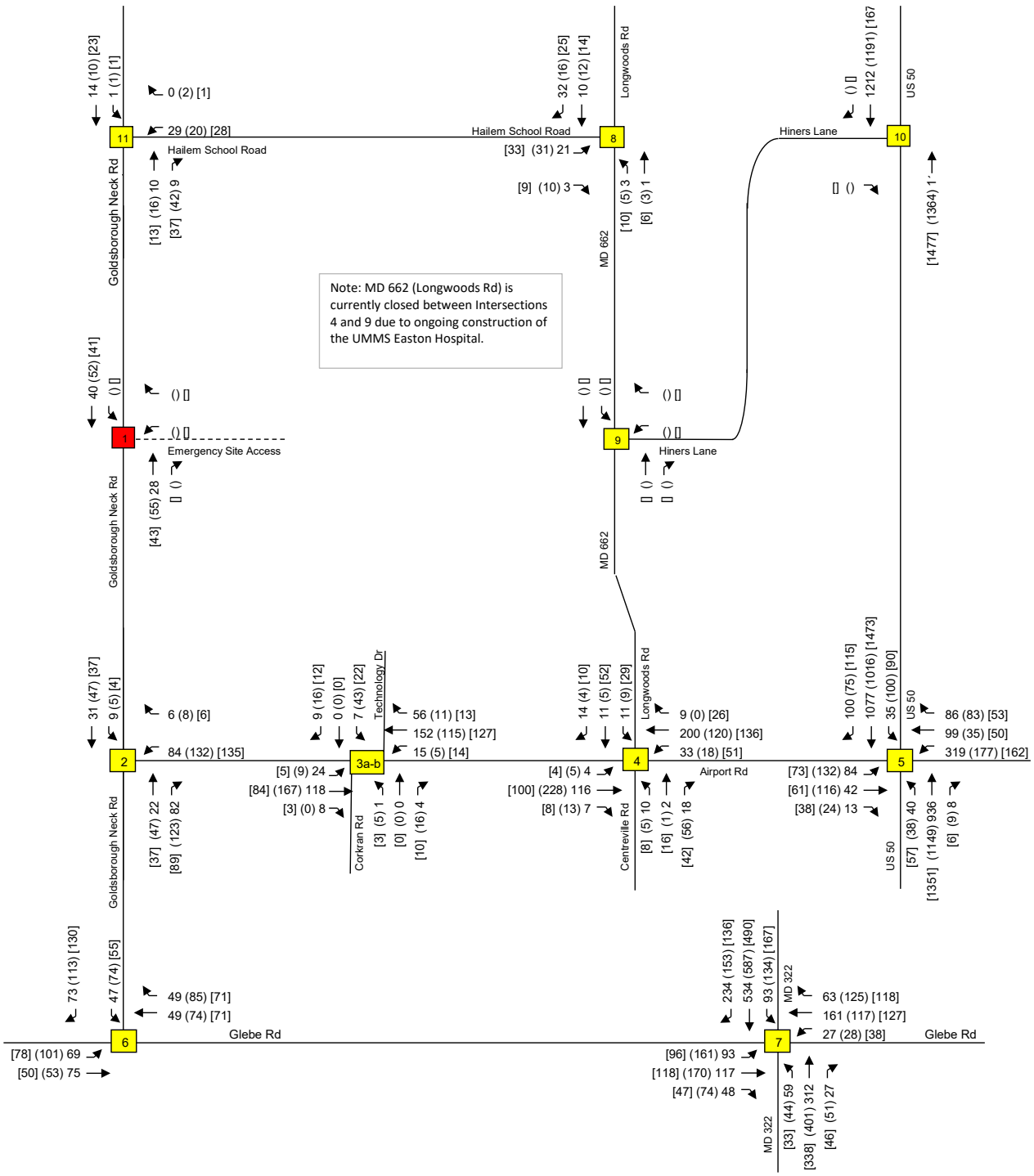
Given the current closure along MD 662, **Exhibit 3b** details assumed reroute of vehicles to utilize this connection for existing traffic. There are minimal residences and development along this stretch of roadway and therefore minimal vehicles are anticipated to reroute through this portion of MD 662 when the connection is reopened.

**Exhibit 3c** details the removal of construction traffic associated with the UMMS Easton Hospital which is currently exclusively utilizing MD 662 (Longwoods Road) for access to / from the site and US 50. Given the lack of other development along this stretch, it is assumed that 90% of traffic to/from this area is construction traffic and has been credited from studying Intersections 4 and 5 as shown on the Exhibit.

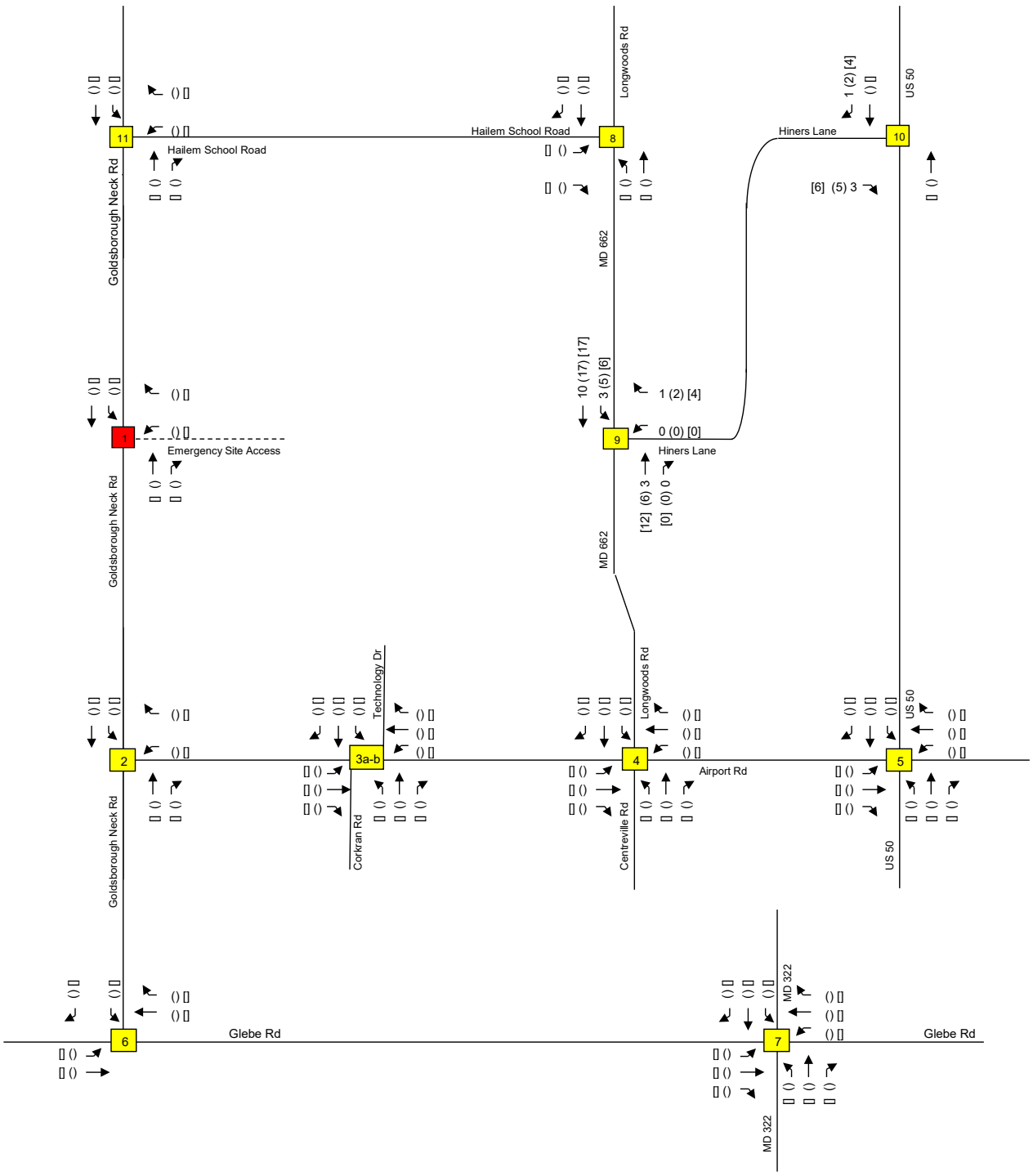
The resulting existing peak hour volumes are shown on **Exhibit 3d** and represent the existing volumes analyzed for the purposes of this study. Results of the HCM and CLV analyses for the existing condition are shown on Exhibit 10a and 10b.



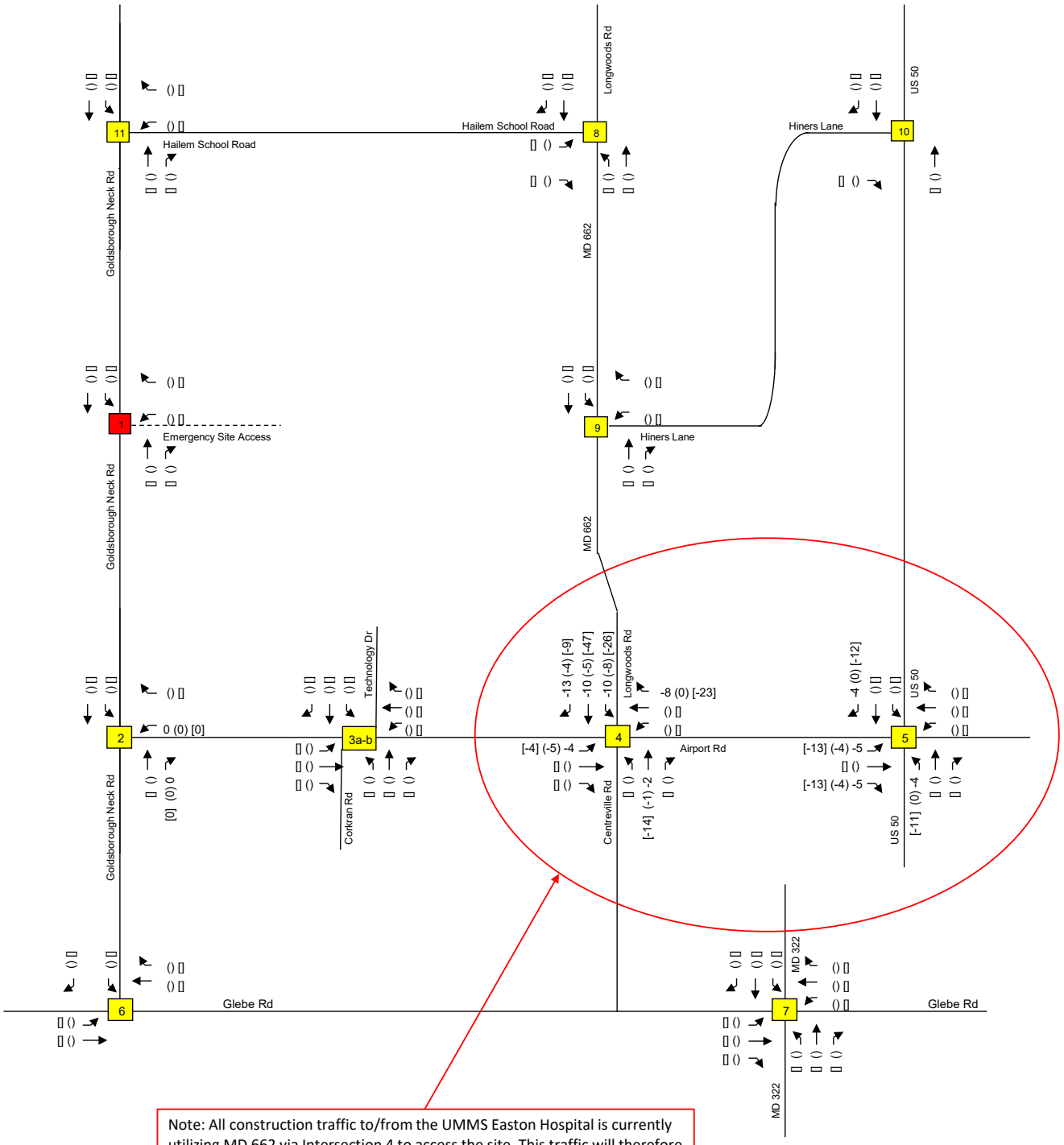

| Traffic Impact Analysis | Lane Use & Traffic Control Devices | **Exhibit 2** |
|---|---|---|
| LENHART TRAFFIC CONSULTING, INC.<br>645 BALTIMORE ANNAPOLIS BLVD, SUITE 214<br>SEVERNA PARK, MD 21146<br>www.lenharttraffic.com | Existing Lane Use ⟹ Proposed Lane Use | |



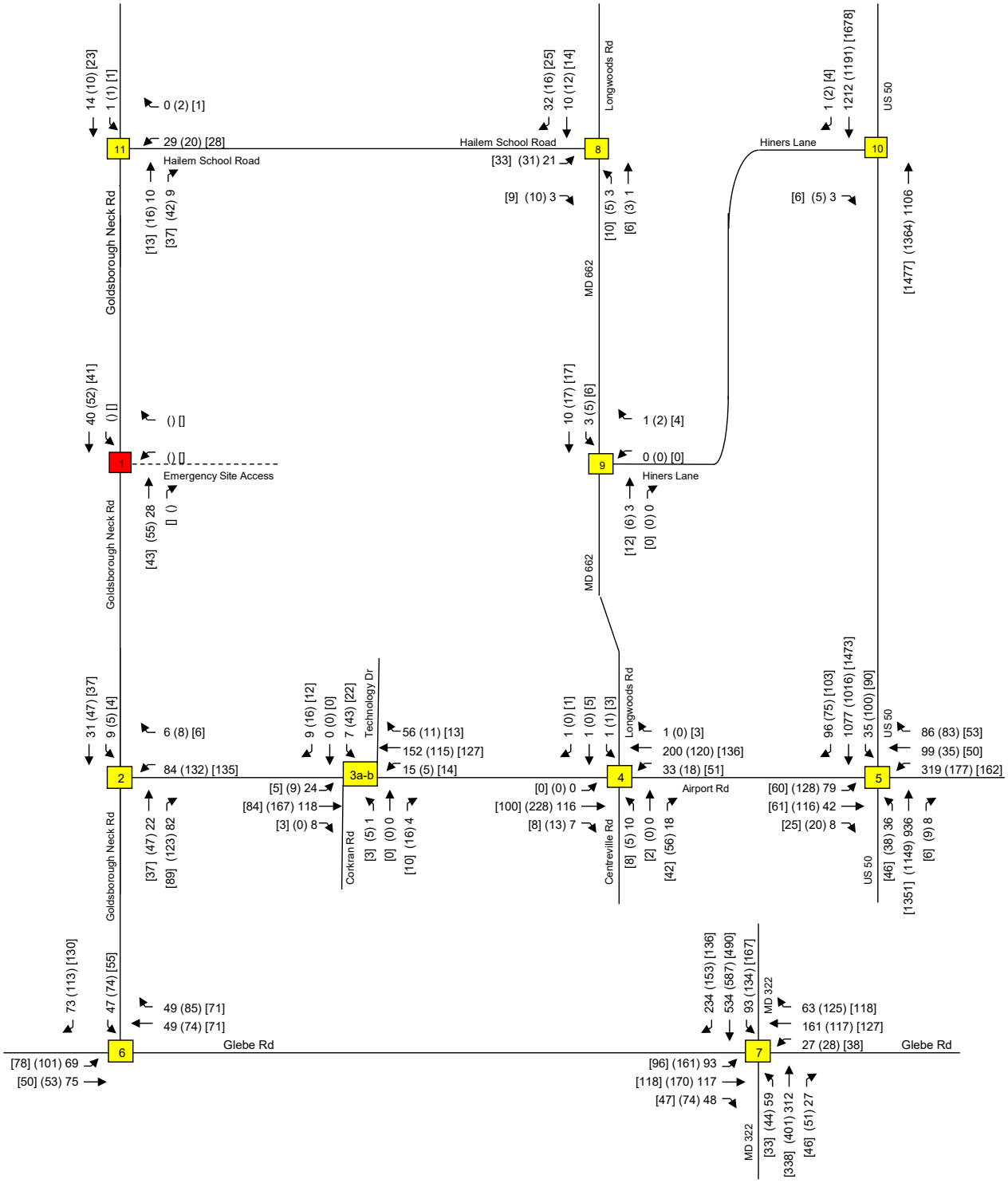

| Traffic Impact Analysis | Existing Peak Hour Volumes (Traffic Counts) | **Exhibit 3a** |
|---|---|---|
| LENHART TRAFFIC CONSULTING, INC.<br>645 BALTIMORE ANNAPOLIS BLVD, SUITE 214<br>SEVERNA PARK, MD 21146<br>www.lenharttraffic.com | Key: xx = AM Peak Vol's (xx) = PM Peak Vol's [xx] = Sat Peak Vol's | |




| | | |
|---|---|---|
| Traffic Impact Analysis<br>LENHART TRAFFIC CONSULTING, INC.<br>645 BALTIMORE ANNAPOLIS BLVD, SUITE 214<br>SEVERNA PARK, MD 21146<br>www.lenharttraffic.com | Assumed Diversions due to<br>Closure of Longwoods Road (UMMS Hospital)<br>Key: xx = AM Peak Vol's (xx) = PM Peak Vol's [xx] = Sat Peak Vol's | **Exhibit 3b** |




| | | |
|---|---|---|
| Traffic Impact Analysis<br>LENHART TRAFFIC CONSULTING, INC.<br>645 BALTIMORE ANNAPOLIS BLVD, SUITE 214<br>SEVERNA PARK, MD 21146<br>www.lenharttraffic.com | Removal of Hospital Construction Traffic<br>Key: xx = AM Peak Vol's (xx) = PM Peak Vol's [xx] = Sat Peak Vol's | **Exhibit 3c** |




| | | |
|---|---|---|
| Traffic Impact Analysis | Existing<br>Peak Hour Volumes | **Exhibit 3d** |
| LENHART TRAFFIC CONSULTING, INC.<br>645 BALTIMORE ANNAPOLIS BLVD, SUITE 214<br>SEVERNA PARK, MD 21146<br>www.lenharttraffic.com | Key: xx = AM Peak Vol's (xx) = PM Peak Vol's [xx] = Sat Peak Vol's | |

# Section 3 Background Conditions

## 3.1 Annual Growth

The Maryland Department of Transportation State Highway Administration's Average Daily Traffic Volumes (ADT's) have been reviewed for the past ten years and it was determined that average yearly growth in the area is approximately -0.43%. To provide a conservative analysis, a growth rate of 1% was applied for 3 years to the existing peak hour volumes and the resulting base peak hour volumes are shown on **Exhibit 4a.**

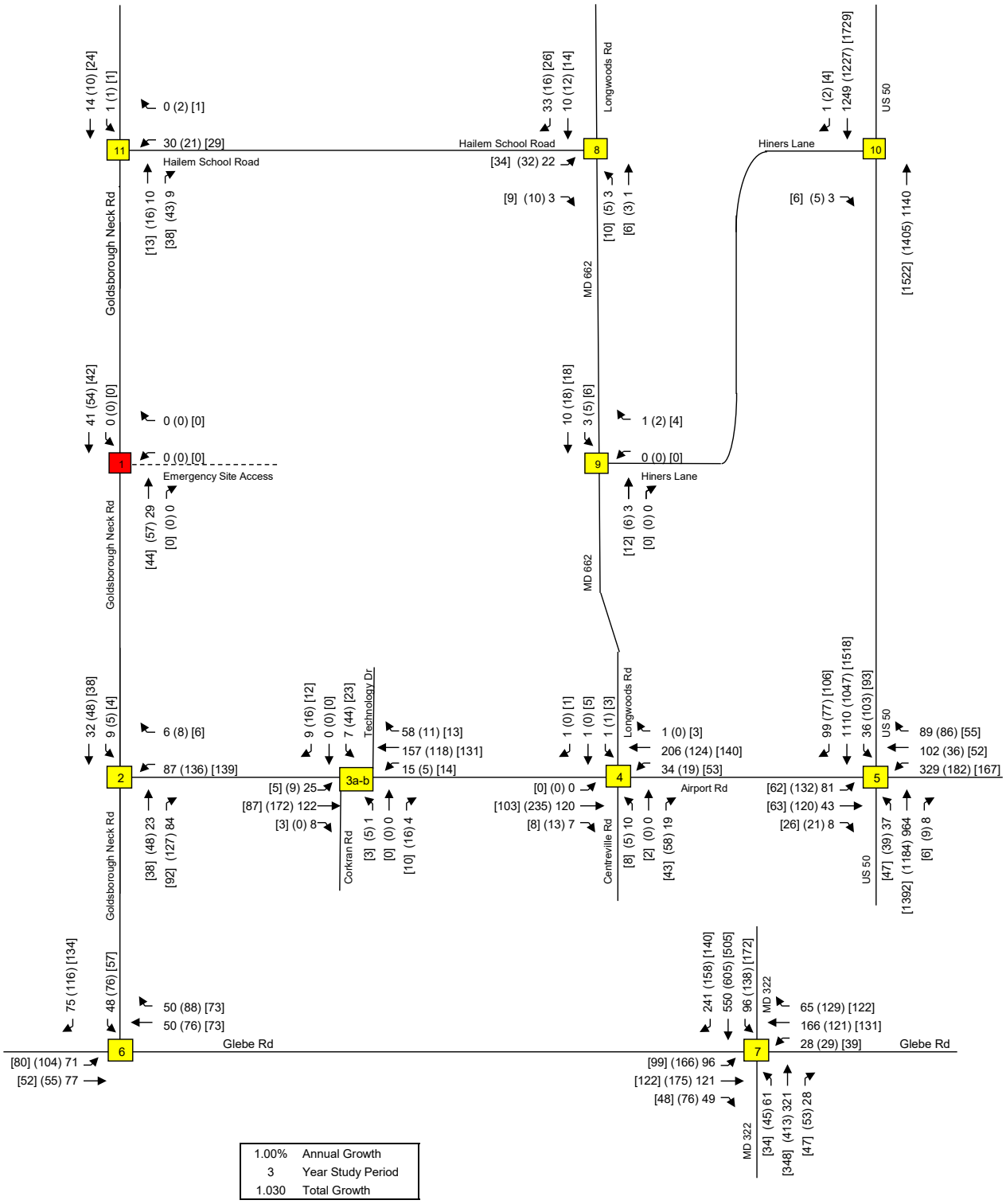
## 3.2 Background Developments

Background developments were identified through the scoping process. The location of each background development is shown in Appendix C (Exhibit C-1), along with background trip generation (Exhibit C-2) and assignment (Exhibits C-3 through C-8). **Exhibit 4b** shows the combined trip assignment due to the background developments.

## 3.3 Background Peak Hour Volumes

Background peak hour volumes, including regional growth and trips from approved developments, are shown on **Exhibit 5**.

Results of the HCM and CLV analyses for the background condition are shown on Exhibit 10a and 10b.




Traffic Impact Analysis

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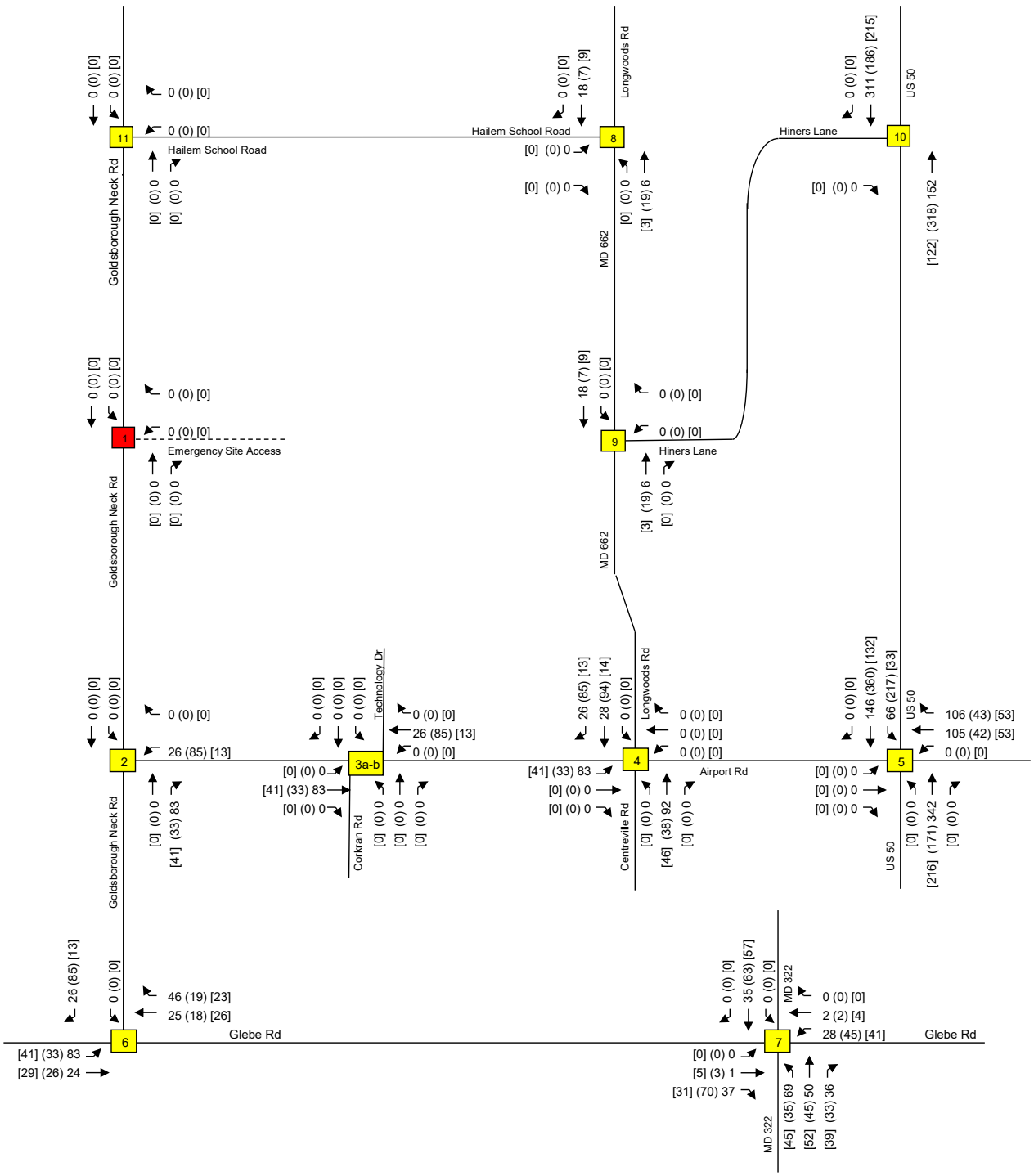
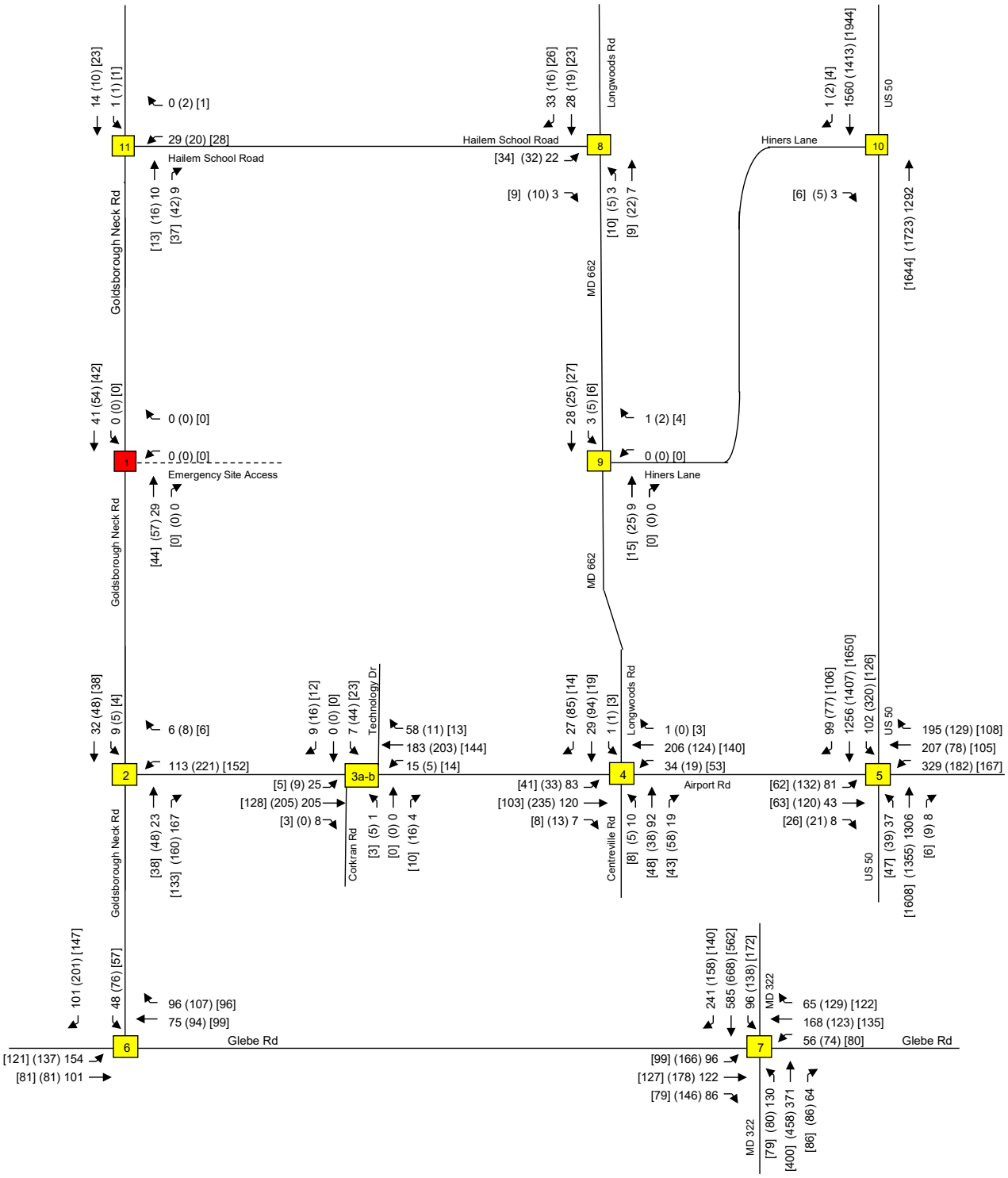
# Base
# Peak Hour Volumes

Key: xx = AM Peak Vol's (xx) = PM Peak Vol's [xx] = Sat Peak Vol's

**Exhibit 4a**




| Traffic Impact Analysis | Combined Trips from Background Developments | **Exhibit 4b** |
|---|---|---|
| LENHART TRAFFIC CONSULTING, INC.<br>645 BALTIMORE ANNAPOLIS BLVD, SUITE 214<br>SEVERNA PARK, MD 21146<br>www.lenharttraffic.com | Key: xx = AM Peak Vol's (xx) = PM Peak Vol's [xx] = Sat Peak Vol's | |




| | | |
|---|---|---|
| Traffic Impact Analysis | Background<br>Peak Hour Volumes | **Exhibit 5** |
| LENHART TRAFFIC CONSULTING, INC.<br>645 BALTIMORE ANNAPOLIS BLVD, SUITE 214<br>SEVERNA PARK, MD 21146<br>www.lenharttraffic.com | Key: xx = AM Peak Vol's (xx) = PM Peak Vol's [xx] = Sat Peak Vol's | |

# Section 4 Projected Conditions with Site

## 4.1 Site Trip Generation

The site is proposed to be developed with a mix of uses and the exact proposed development is still being determined. For the purpose of this study, the most conservative potential development was analyzed which includes 137 single family attached (townhouse) units, 108 single family detached units. In addition, there are multiple proposed multilevel buildings that are anticipated to be developed with 120 multifamily units, 33,000 square feet of office space, and a 10,000 square foot day care center.

The trip generation for the proposed development is detailed on **Exhibit 6**. Trip generation rates and pass-by percentages were obtained from the ITE Trip Generation Manual, 11th Edition.

## 4.2 Site Trip Distribution & Trip Assignment

The primary and pass-by trip distribution and assignment is shown on **Exhibits 7a-7g,** and the combined site trip assignment is shown on **Exhibit 8** (sum of all vehicles shown on Exhibits 7a-7g).

## 4.3 Total Traffic Volumes

The Total Peak Hour Volumes are shown on **Exhibit 9**.

## 4.4 Project Level of Service

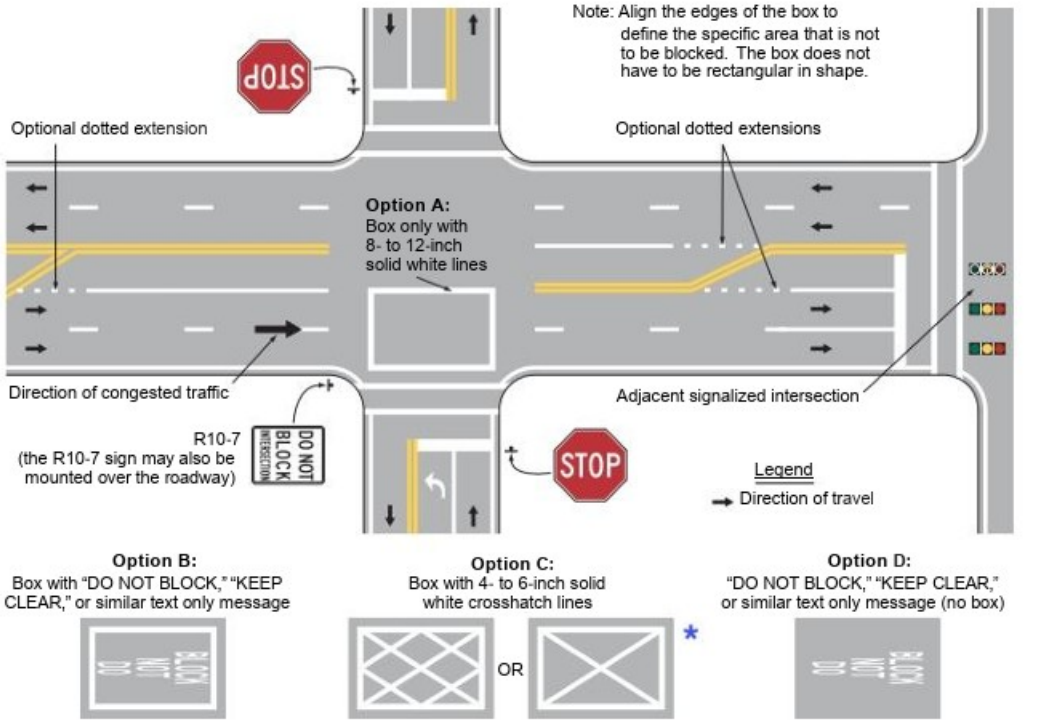
The total peak hour traffic volumes shown on Exhibit 9 were evaluated using the CLV and HCM methodologies. The results of the CLV and HCM analyses are shown on **Exhibits 10a and 10b**, respectively. The results show that all intersections operate at LOS D or better under total conditions with the exception of US 50 & Airport Road (Intersection 5).

In order to address operational concerns for US 50 & Airport Rd (Intersection 5), it is proposed that the shoulder on the westbound Black Dog Alley approach be improved and/or striped as a right turn lane for a distance of approximately 200 feet, resulting in a designated left turn, through, and right turn lane. As shown on Exhibit 10a, this improvement results in the intersection operating at LOS D via the CLV methodology thereby meeting MDOT SHA standards. As shown on Exhibit 10b, this improvement results in the intersection operating at LOS D via the HCM

methodology for all periods except for the evening peak hours. However, the improvement will substantially improve the intersection to a better delay than under background conditions. This improvement results in acceptable levels of service and/or fully mitigates the impact of the development at the intersection.

It should also be noted that the approach to US 50 along Airport Road has limited storage area due to the road paralleling US 50 (MD 662 (Longwoods Road) / Centreville Road). It is recommended that "Do Not Block Intersection" signage and pavement markings be installed per Section 3B.17 of the MD MUTCD for this intersection. A detail from the MD MUTCD showing the potential recommended improvements is shown below.

**Figure 3B-18. Do Not Block Intersection Markings**




* For State owned, operated, and maintained intersections, this marking shall be used with 10 inch solid white box lines and 5 inch solid white crosshatch lines.

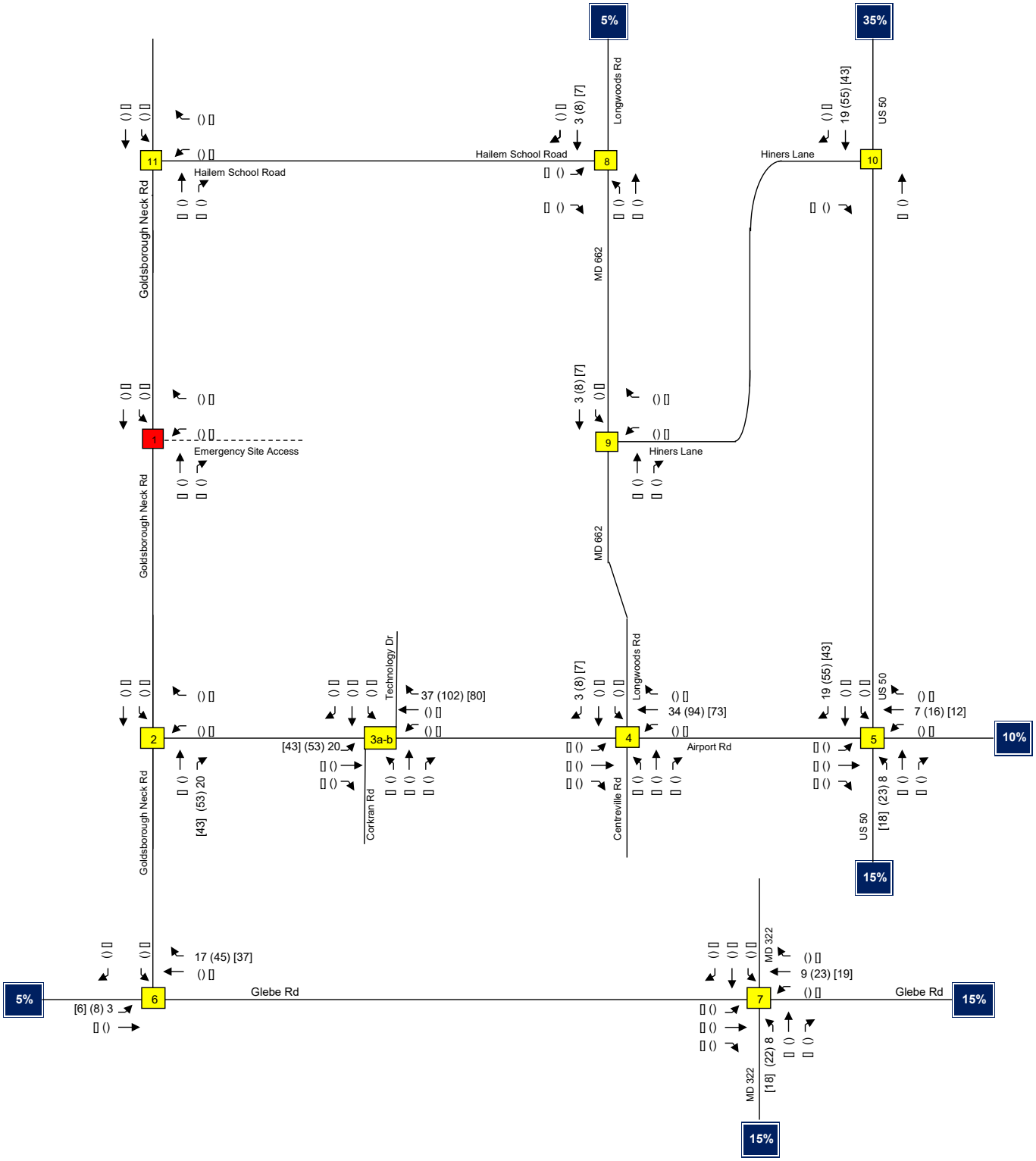
## Trip Generation Rates

| | Trip Distribution (In/Out) |
|---|---|
| **Single-Family Attached Housing (ITE-215, Units)** | |
| Morning Trips = 0.52 x Units - 5.70 | 31/69 |
| Evening Trips = 0.60 x Units - 3.93 | 57/43 |
| Ln(Midday Sat. Trips) = 0.82 x Ln(Units) + 0.43 | 48/52 |
| **Single-Family Detached Housing (ITE-210, Units)** | |
| Ln(Morning Trips) = 0.91 x Ln(Units) + 0.12 | 26/74 |
| Ln(Evening Trips) = 0.94 x Ln(Units) + 0.27 | 63/37 |
| Midday Sat. Trips = 0.84 x Units + 17.99 | 54/46 |
| **Multifamily Housing, Low-Rise (ITE-220, Units) [Not Close to Rail Transit]** | |
| Morning Trips = 0.31 x Units + 22.85 | 24/76 |
| Evening Trips = 0.43 x Units + 20.55 | 63/37 |
| Midday Sat. Trips = 0.41 x Units | 50/50 |
| **General Office (ksf, ITE-710)** | |
| Ln(Morning Trips) = 0.86 x Ln(ksf) + 1.16 | 88/12 |
| Ln(Evening Trips) = 0.83 x Ln(ksf) + 1.29 | 17/83 |
| Midday Sat. Trips = 0.52 x ksf | 54/46 |
| **Day Care Center (ksf, ITE-565)** | |
| Morning Trips = 11.00 x ksf | 53/47 |
| Evening Trips = 11.12 x ksf | 47/53 |
| Midday Sat. Trips = 1.70 x ksf | 50/50 |

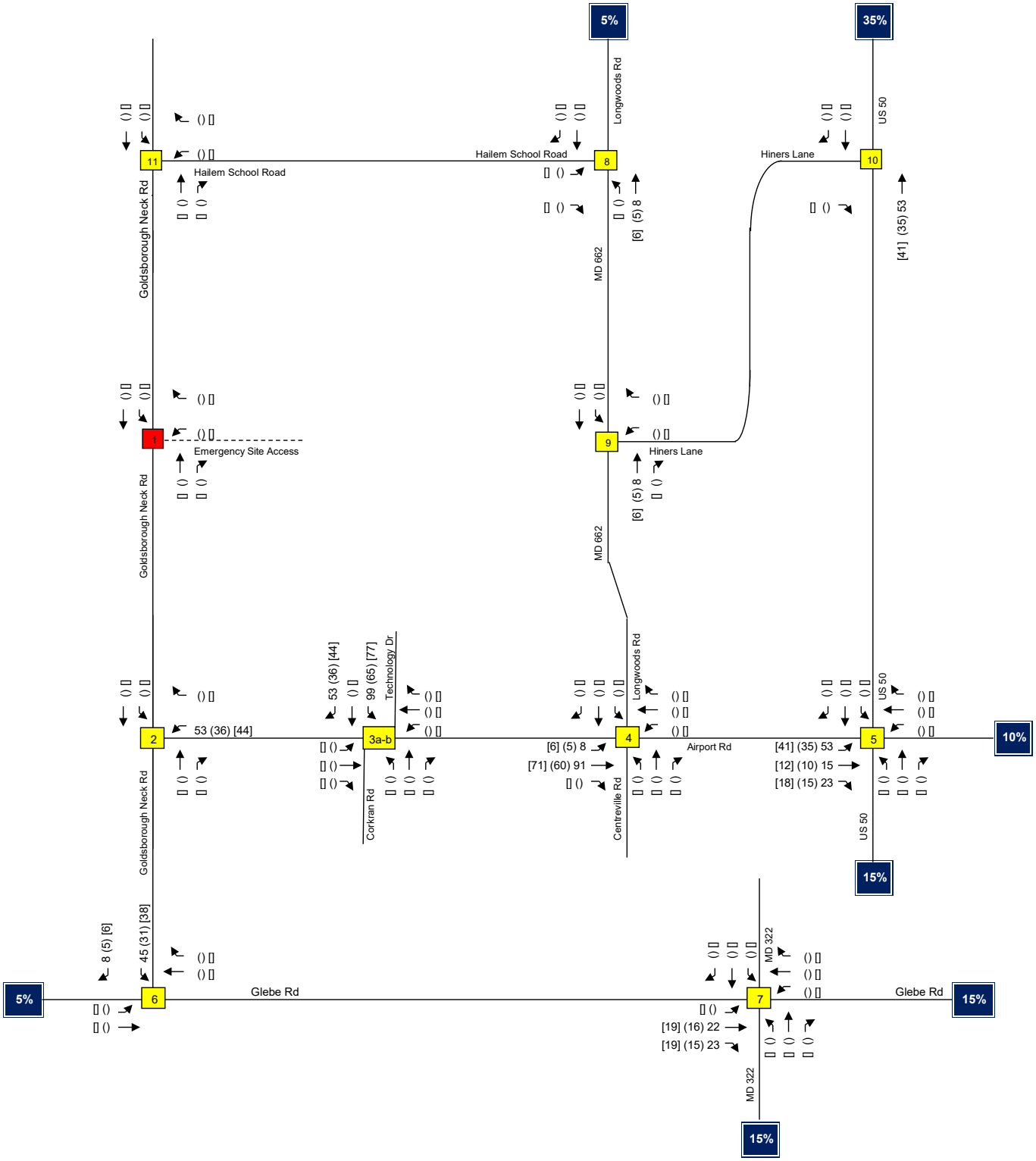
## Trip Generation Totals

| | | | | AM Peak | | | PM Peak | | | Sat. Mid-Day Peak | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | In | Out | Total | In | Out | Total | In | Out | Total |
| | Single-Family Attached Housing (ITE-215, Units) | 137 | units | 20 | 46 | 66 | 44 | 34 | 78 | 42 | 45 | 87 |
| | Single-Family Detached Housing (ITE-210, Units) | 108 | units | 21 | 59 | 80 | 67 | 40 | 107 | 56 | 47 | 103 |
| | Multifamily Housing, Low-Rise (ITE-220, Units) [Not Close to Rail Transit] | 120 | units | 14 | 46 | 60 | 45 | 27 | 72 | 24 | 25 | 49 |
| Lots 9 & 10 | General Office (ksf, ITE-710) | 33,000 | sq.ft. | 57 | 8 | 65 | 11 | 55 | 66 | 9 | 8 | 17 |
| | Day Care Center (ksf, ITE-565) | 10,000 | sq.ft. | 58 | 52 | 110 | 52 | 59 | 111 | 8 | 9 | 17 |
| | Passby Rates: AM Peak Hour = 44% (Assumed 1/2 of PM Rate) and PM Peak Hour = 44% | | | -26 | -22 | -48 | -23 | -26 | -49 | -4 | -3 | -7 |
| | | | **Total:** | **144** | **189** | **333** | **196** | **189** | **385** | **135** | **131** | **266** |

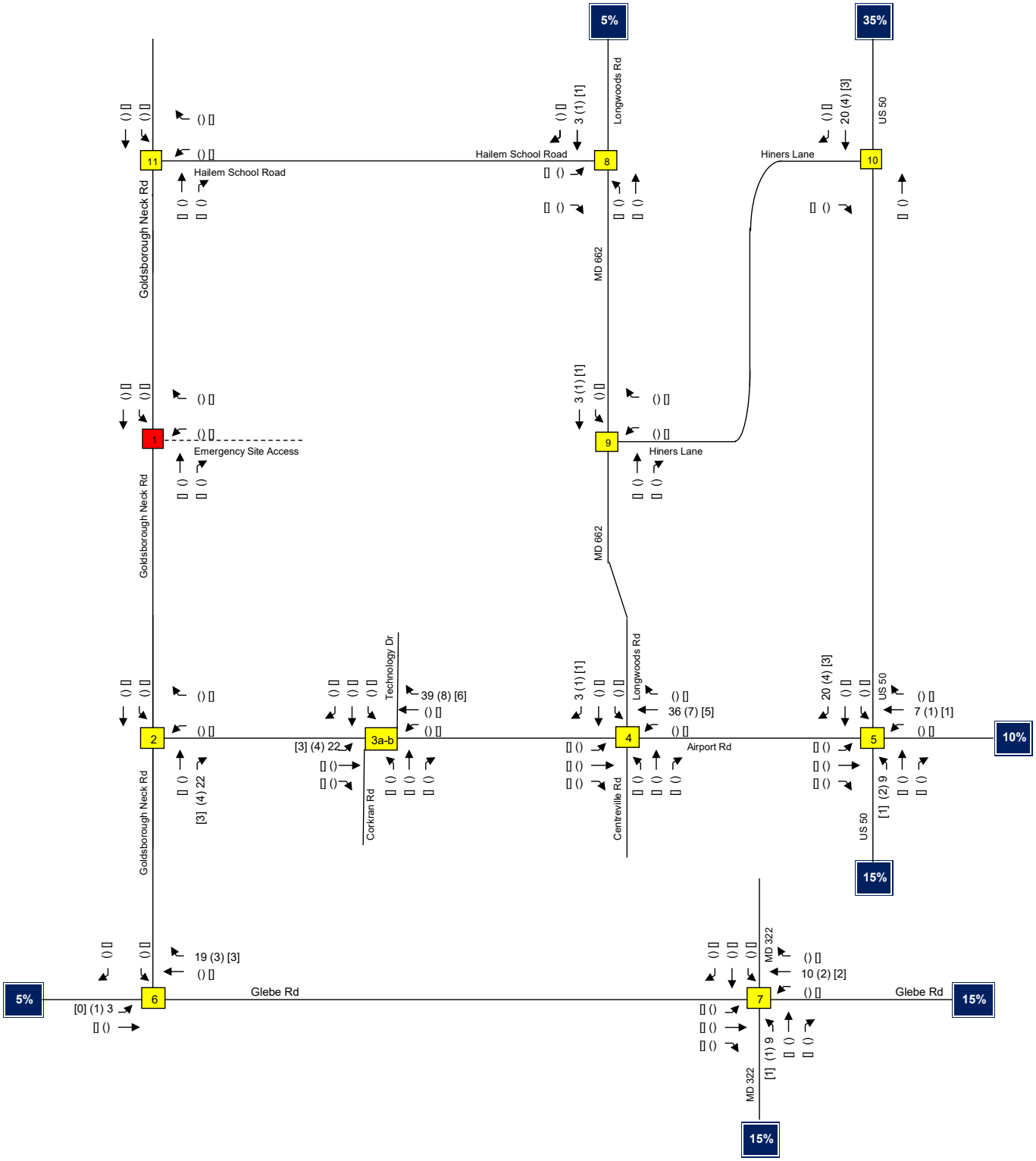
**NOTE: Trip Generation Rates obtained from the ITE Trip Generation Manual, 11th Edition**



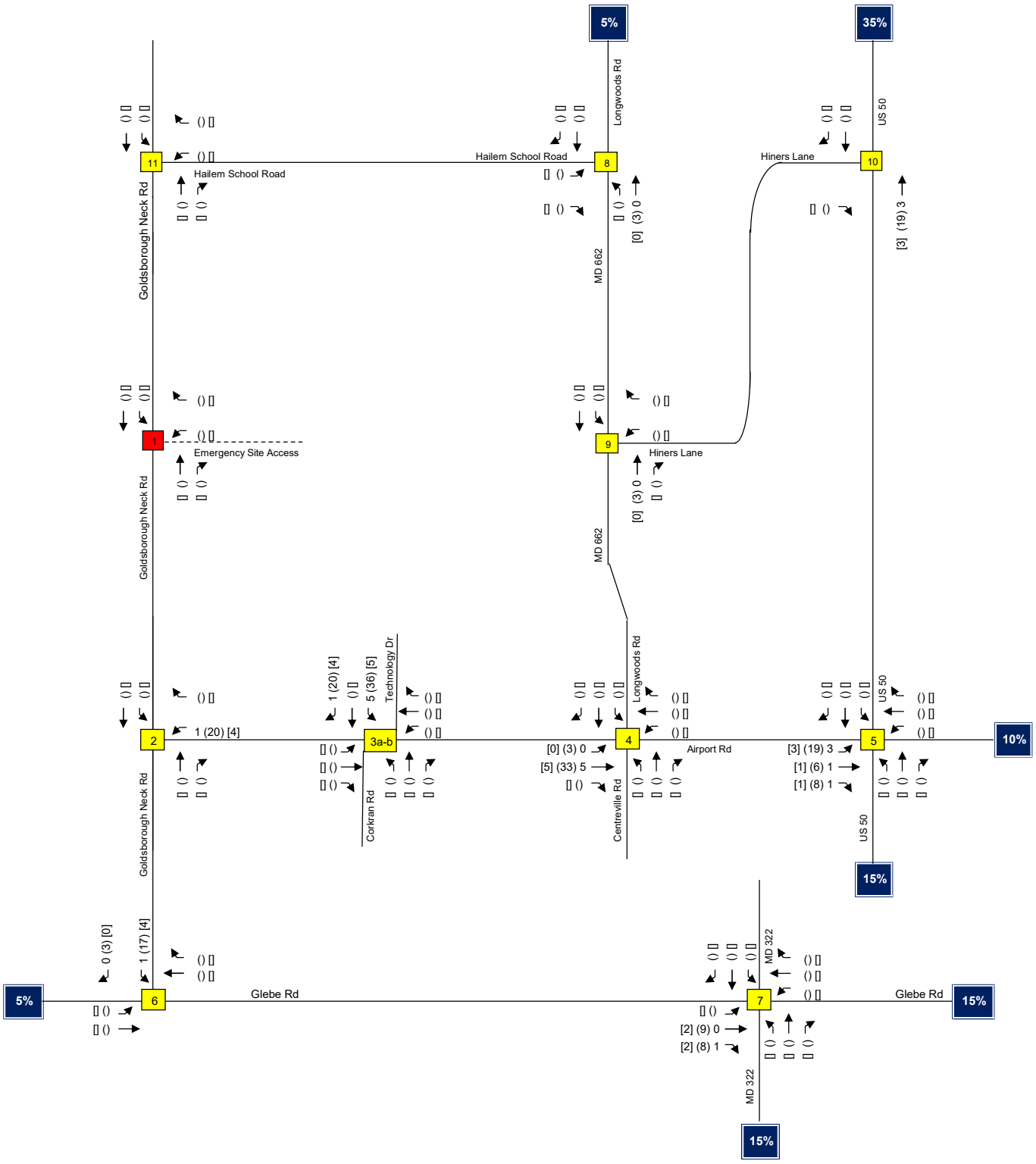

| Traffic Impact Analysis | Trip Assignment for Site<br>Residential Trips - Inbound | **Exhibit 7a** |
|---|---|---|
| LENHART TRAFFIC CONSULTING, INC.<br>645 BALTIMORE ANNAPOLIS BLVD, SUITE 214<br>SEVERNA PARK, MD 21146<br>www.lenharttraffic.com | Key: xx = AM Peak Vol's (xx) = PM Peak Vol's [xx] = Sat Peak Vol's | |



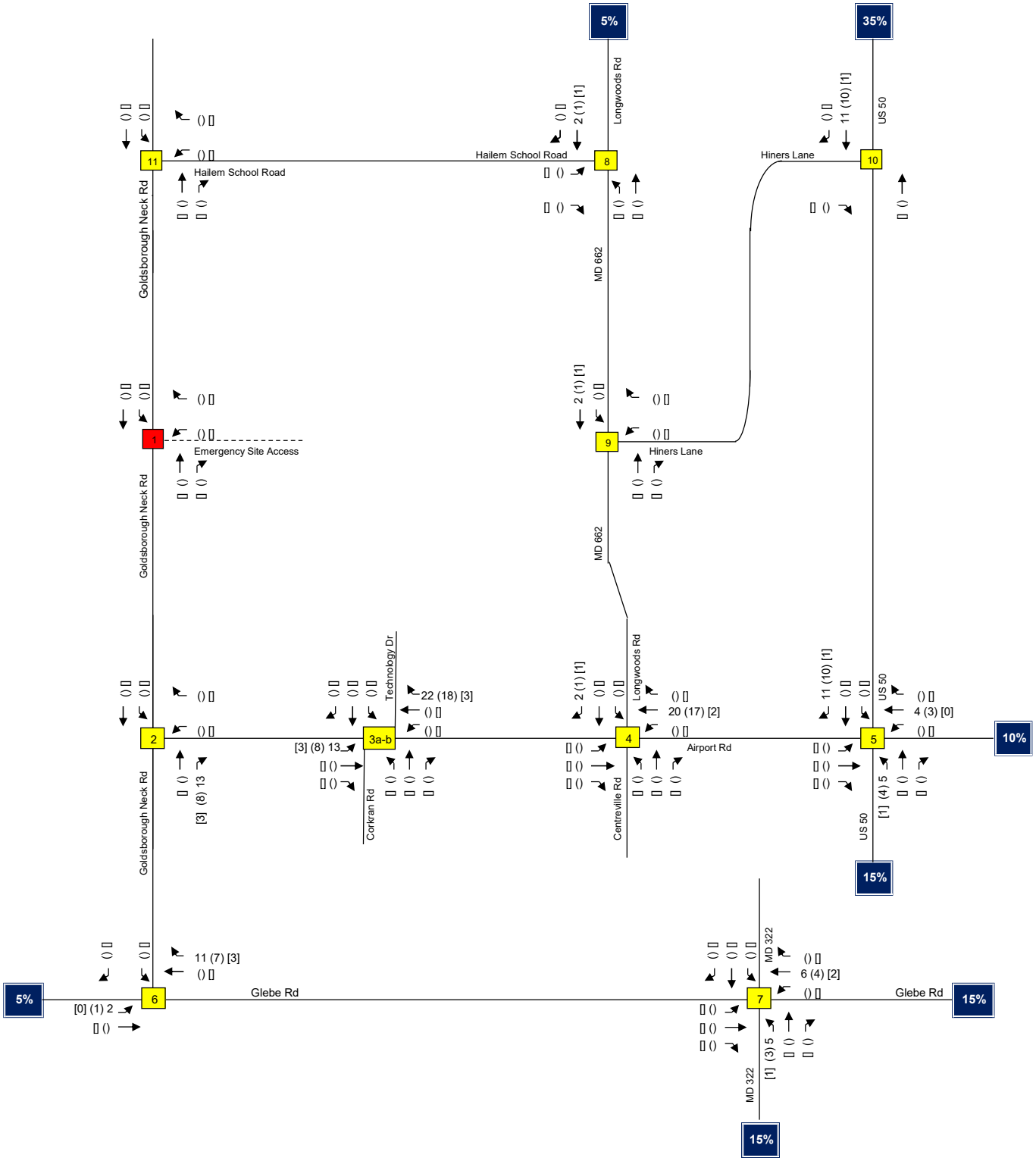

| Traffic Impact Analysis | Trip Assignment for Site<br>Residential Trips - Outbound | **Exhibit 7b** |
|---|---|---|
| LENHART TRAFFIC CONSULTING, INC.<br>645 BALTIMORE ANNAPOLIS BLVD, SUITE 214<br>SEVERNA PARK, MD 21146<br>www.lenharttraffic.com | Key: xx = AM Peak Vol's (xx) = PM Peak Vol's [xx] = Sat Peak Vol's | |



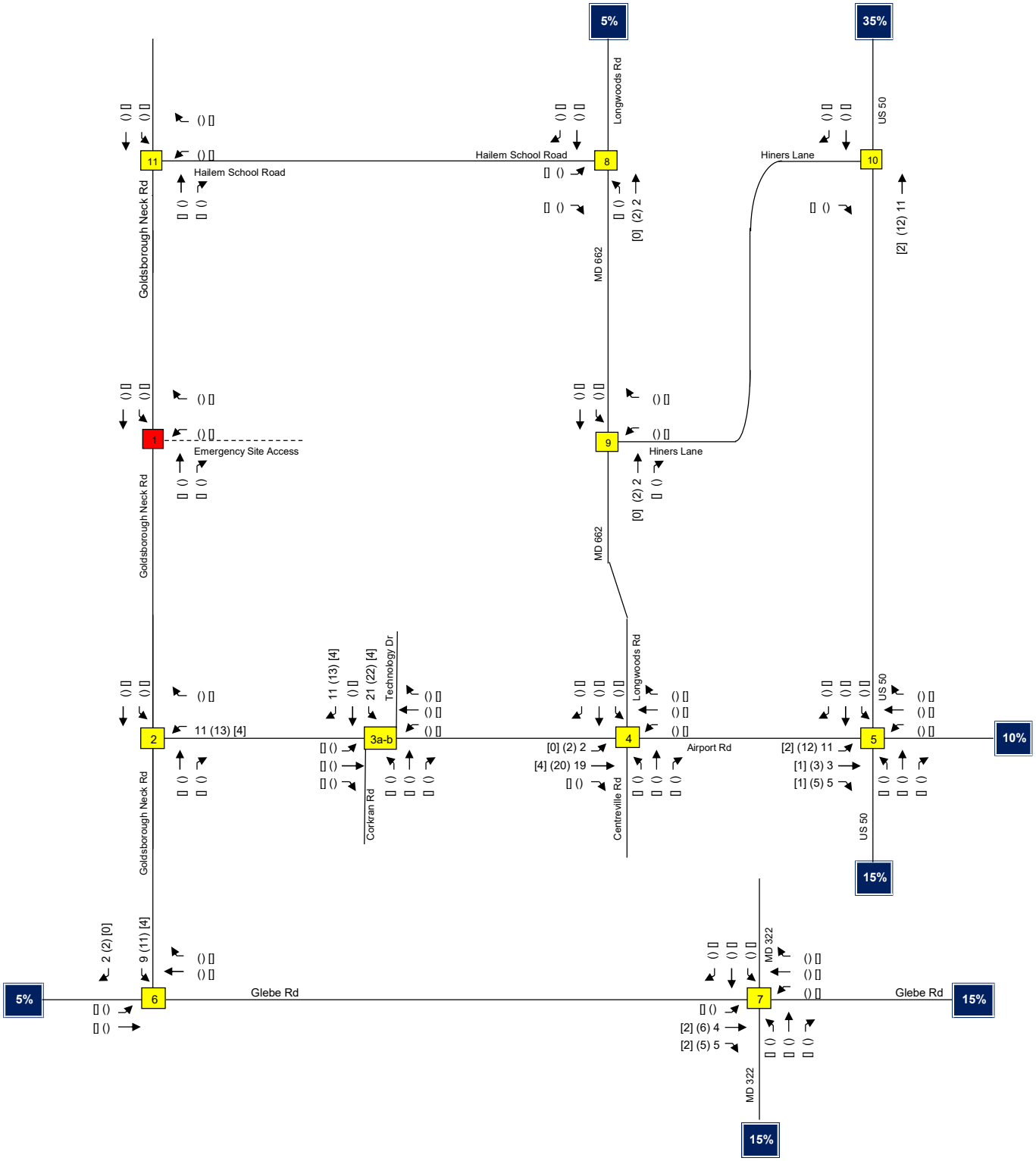

| | | |
|---|---|---|
| Traffic Impact Analysis<br>LENHART TRAFFIC CONSULTING, INC.<br>645 BALTIMORE ANNAPOLIS BLVD, SUITE 214<br>SEVERNA PARK, MD 21146<br>www.lenharttraffic.com | Trip Assignment for Site<br>General Office Trips - Inbound<br>Key: xx = AM Peak Vol's (xx) = PM Peak Vol's [xx] = Sat Peak Vol's | **Exhibit 7c** |



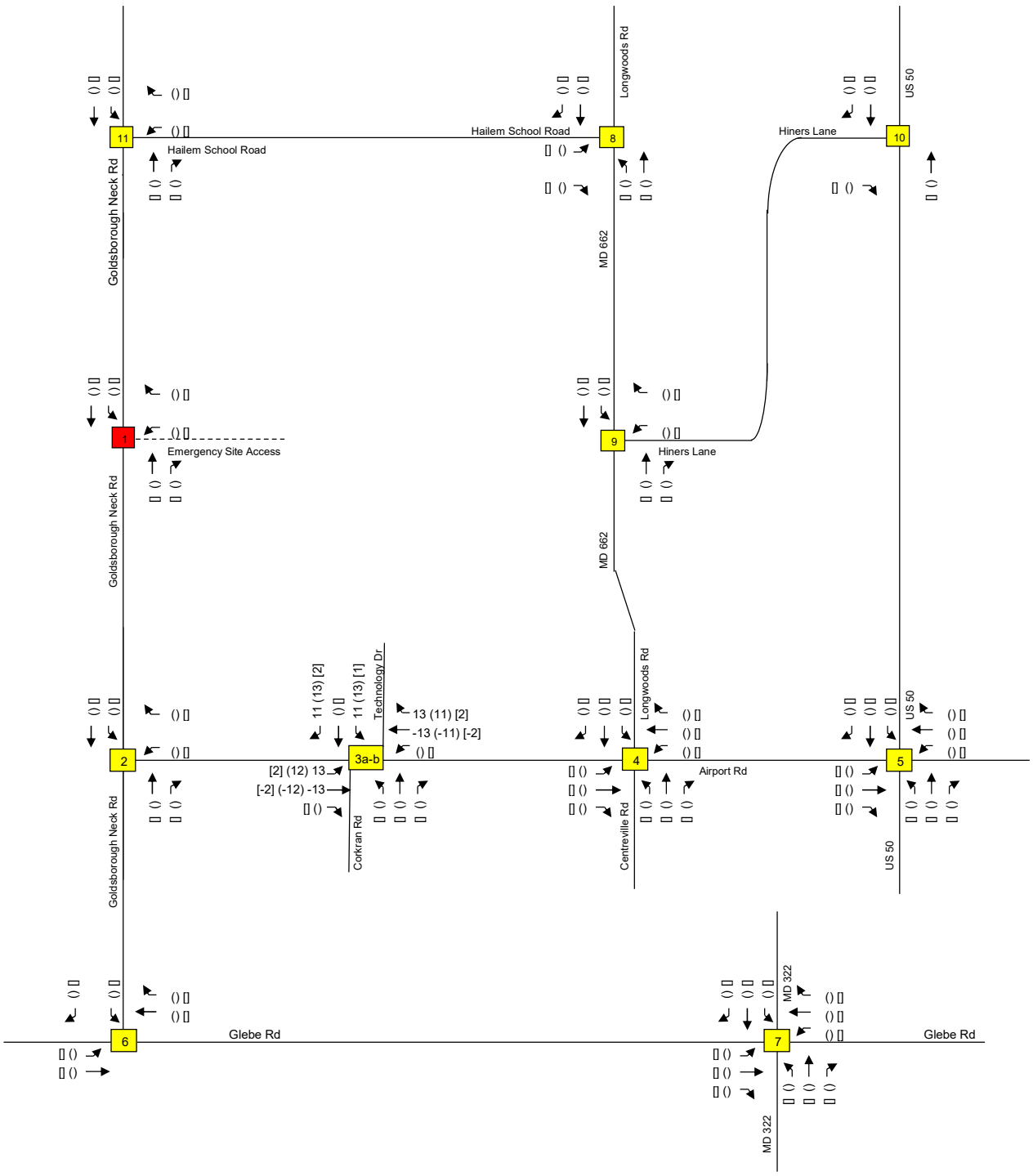

| | | |
|---|---|---|
| Traffic Impact Analysis<br>LENHART TRAFFIC CONSULTING, INC.<br>645 BALTIMORE ANNAPOLIS BLVD, SUITE 214<br>SEVERNA PARK, MD 21146<br>www.lenharttraffic.com | Trip Assignment for Site<br>General Office Trips - Outbound<br>Key: xx = AM Peak Vol's (xx) = PM Peak Vol's [xx] = Sat Peak Vol's | **Exhibit 7d** |



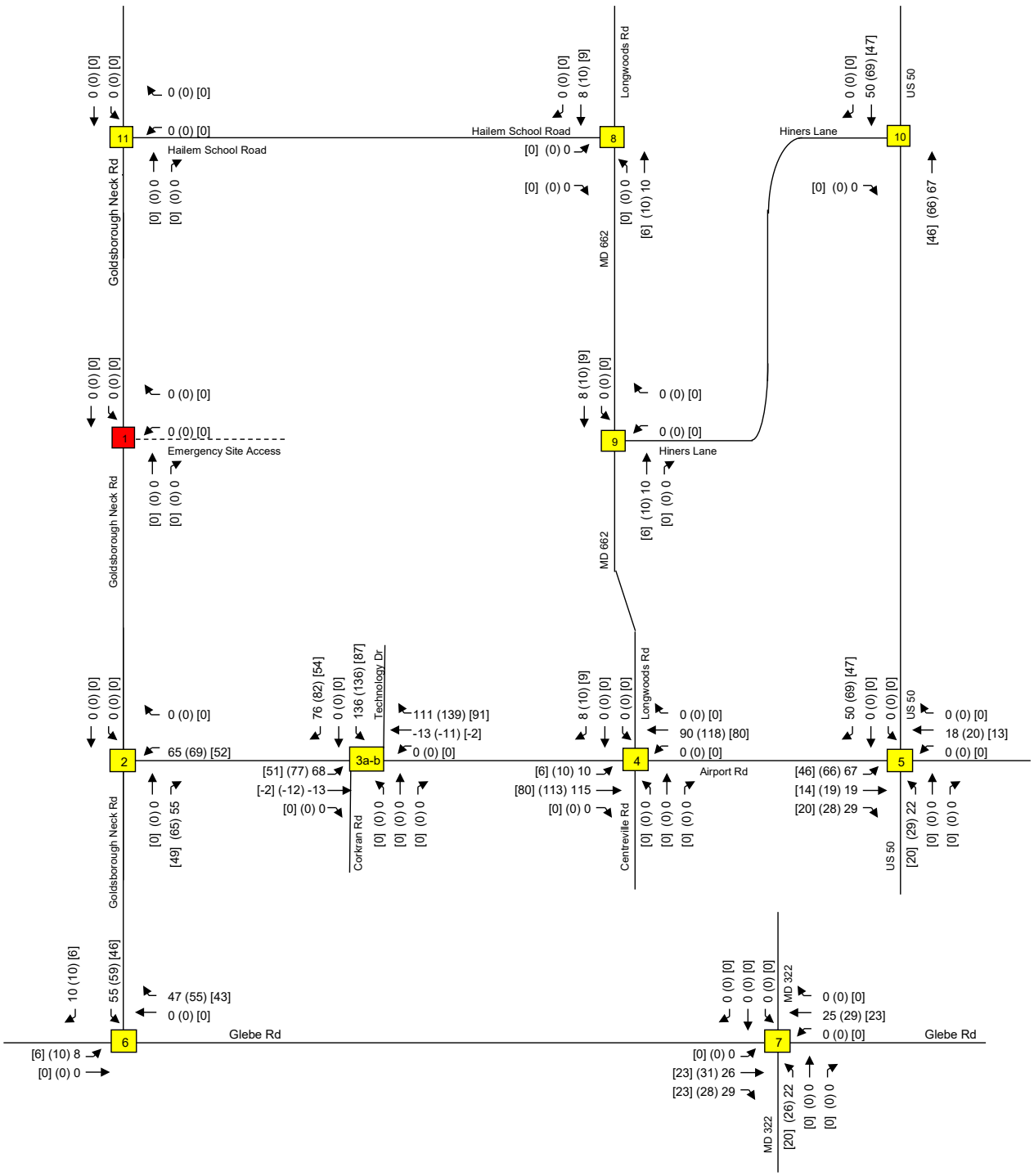

| Traffic Impact Analysis | Trip Assignment for Site<br>Daycare Trips - Inbound | **Exhibit 7e** |
|---|---|---|
| LENHART TRAFFIC CONSULTING, INC.<br>645 BALTIMORE ANNAPOLIS BLVD, SUITE 214<br>SEVERNA PARK, MD 21146<br>www.lenharttraffic.com | Key: xx = AM Peak Vol's (xx) = PM Peak Vol's [xx] = Sat Peak Vol's | |



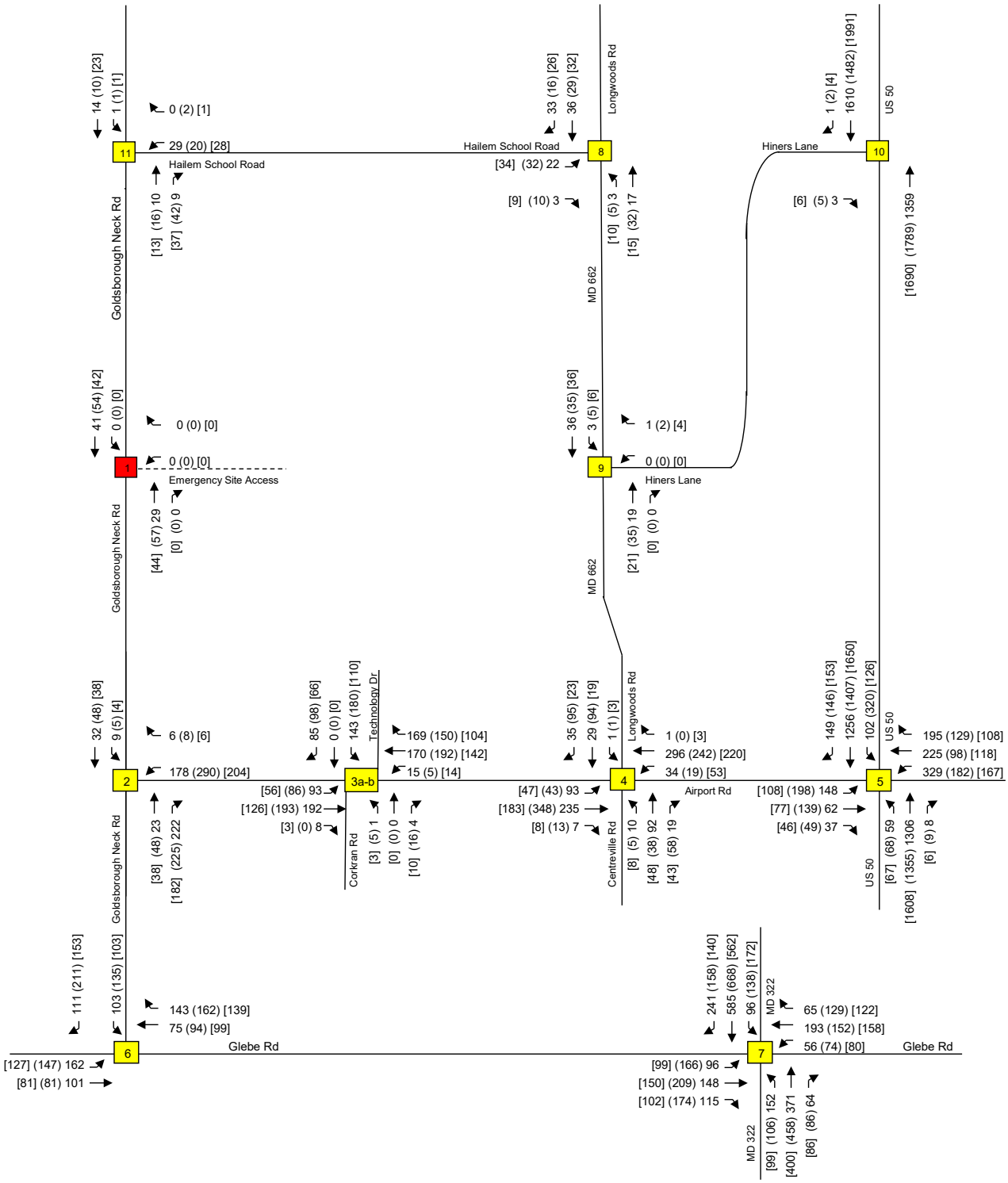

| | | |
|---|---|---|
| Traffic Impact Analysis<br>LENHART TRAFFIC CONSULTING, INC.<br>645 BALTIMORE ANNAPOLIS BLVD, SUITE 214<br>SEVERNA PARK, MD 21146<br>www.lenharttraffic.com | Trip Assignment for Site<br>Daycare Trips - Outbound<br>Key: xx = AM Peak Vol's (xx) = PM Peak Vol's [xx] = Sat Peak Vol's | **Exhibit 7f** |




| Traffic Impact Analysis | Trip Assignment for Site<br>Daycare Trips - Passby | **Exhibit 7g** |
|---|---|---|
| LENHART TRAFFIC CONSULTING, INC.<br>645 BALTIMORE ANNAPOLIS BLVD, SUITE 214<br>SEVERNA PARK, MD 21146<br>www.lenharttraffic.com | Key: xx = AM Peak Vol's (xx) = PM Peak Vol's [xx] = Sat Peak Vol's | |




| | | |
|---|---|---|
| Traffic Impact Analysis<br>LENHART TRAFFIC CONSULTING, INC.<br>645 BALTIMORE ANNAPOLIS BLVD, SUITE 214<br>SEVERNA PARK, MD 21146<br>www.lenharttraffic.com | Total Site<br>Trip Assignment<br>Key: xx = AM Peak Vol's (xx) = PM Peak Vol's [xx] = Sat Peak Vol's | **Exhibit 8** |




Traffic Impact Analysis

LENHART TRAFFIC CONSULTING, INC.
645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com

# Total Peak Hour Volumes

Key: xx = AM Peak Vol's (xx) = PM Peak Vol's [xx] = Sat Peak Vol's

**Exhibit 9**

## Level-of-Service Results

| Morning Peak Hour | Existing LOS | Background LOS | Total LOS | LOS D or better? |
|---|---|---|---|---|
| 2). Golsdborough Neck Rd & Airport Rd | A / 203 | A / 318 | A / 438 | Y |
| 3). Airport Rd & Technology Dr | A / 267 | A / 314 | A / 705 | Y |
| 4). Airport Rd & MD 662 (Longwoods Rd)/Centreville Rd | A / 267 | A / 450 | A / 585 | Y |
| 5). US 50 & Airport Rd | A / 997 | D / 1303 | D / 1388 | Y |
| *w/ proposed improvements* | | | C / 1248 | Y |
| 6). Glebe Rd & Goldsborough Neck Rd | A / 214 | A / 373 | A / 528 | Y |
| 7). MD 322 & Glebe Rd | A / 847 | A / 979 | B / 1026 | Y |
| 8). MD 662 & Hailem School Rd | A / 69 | A / 89 | A / 97 | Y |
| 9). MD 662 & Hiners Ln | A / 14 | A / 32 | A / 40 | Y |
| 10). US 50 & Hiners Ln | A / 670 | A / 670 | A / 889 | Y |
| 11). Goldsborough Neck Rd & Hailem School Rd | A / 49 | A / 49 | A / 49 | Y |

| Evening Peak Hour | Existing LOS | Background LOS | Total LOS | LOS D or better? |
|---|---|---|---|---|
| 2). Golsdborough Neck Rd & Airport Rd | A / 315 | A / 442 | A / 576 | Y |
| 3). Airport Rd & Technology Dr | A / 250 | A / 302 | A / 735 | Y |
| 4). Airport Rd & MD 662 (Longwoods Rd)/Centreville Rd | A / 322 | A / 488 | A / 661 | Y |
| 5). US 50 & Airport Rd | B / 1045 | D / 1404 | E / 1490 | N |
| *w/ proposed improvements* | | | D / 1435 | Y |
| 6). Glebe Rd & Goldsborough Neck Rd | A / 334 | A / 431 | A / 538 | Y |
| 7). MD 322 & Glebe Rd | A / 909 | B / 1037 | B / 1092 | Y |
| 8). MD 662 & Hailem School Rd | A / 74 | A / 82 | A / 92 | Y |
| 9). MD 662 & Hiners Ln | A / 25 | A / 33 | A / 43 | Y |
| 10). US 50 & Hiners Ln | A / 755 | A / 755 | A / 989 | Y |
| 11). Goldsborough Neck Rd & Hailem School Rd | A / 81 | A / 81 | A / 81 | Y |

| Saturday Mid-Day Peak Hour | Existing LOS | Background LOS | Total LOS | LOS D or better? |
|---|---|---|---|---|
| 2). Golsdborough Neck Rd & Airport Rd | A / 271 | A / 333 | A / 434 | Y |
| 3). Airport Rd & Technology Dr | A / 199 | A / 217 | A / 507 | Y |
| 4). Airport Rd & MD 662 (Longwoods Rd)/Centreville Rd | A / 251 | A / 345 | A / 441 | Y |
| 5). US 50 & Airport Rd | B / 1104 | C / 1285 | D / 1344 | Y |
| *w/ proposed improvements* | | | C / 1300 | Y |
| 6). Glebe Rd & Goldsborough Neck Rd | A / 275 | A / 373 | A / 468 | Y |
| 7). MD 322 & Glebe Rd | A / 746 | A / 875 | A / 918 | Y |
| 8). MD 662 & Hailem School Rd | A / 91 | A / 102 | A / 111 | Y |
| 9). MD 662 & Hiners Ln | A / 28 | A / 38 | A / 47 | Y |
| 10). US 50 & Hiners Ln | A / 929 | B / 1075 | B / 1101 | Y |
| 11). Goldsborough Neck Rd & Hailem School Rd | A / 80 | A / 80 | A / 80 | Y |

## Level-of-Service Results

| Morning Peak Hour | | Existing LOS | Background LOS | Total LOS | LOS D or better? |
|---|---|---|---|---|---|
| 1). Goldsborough Neck Rd & Site Access (Emergency Only) | (unsignalized) | n/a | n/a | n/a | |
| Westbound Approach | | n/a | n/a | n/a | |
| 2). Golsdborough Neck Rd & Airport Rd | (unsignalized) | | | | |
| Westbound Approach | | A / 9.6 | B / 10.2 | B / 11.1 | Y |
| 3a). Airport Rd & Corkran Road (see Note 1) | (unsignalized) | | | | |
| Northbound Approach | | A / 9.3 | A / 9.9 | A / 9.9 | Y |
| 3b). Airport Rd & Technology Dr (see Note 1) | (unsignalized) | | | | |
| Southbound Approach | | B / 10.1 | B / 10.8 | C / 21.4 | Y |
| 4). Airport Rd & MD 662 (Longwoods Rd)/Centreville Rd | (unsignalized) | | | | |
| Northbound Approach | | B / 10.1 | C / 18.2 | D / 28.0 | Y |
| Southbound Approach | | B / 11.2 | B / 13.4 | C / 16.2 | Y |
| 5). US 50 & Airport Rd | (signalized) | D / 39.9 | E / 66.2 | F / 97.4 | Y |
| w/ Improvements | | | | D / 54.1 | Y |
| 6). Glebe Rd & Goldsborough Neck Rd | (unsignalized) | | | | |
| Southbound Approach | | A / 9.8 | B / 11.2 | B / 13.6 | Y |
| 7). MD 322 & Glebe Rd | (signalized) | B / 17.9 | B / 18.1 | B / 19.7 | Y |
| 8). MD 662 (Longwoods Rd) & Hailem School Road | (unsignalized) | | | | |
| Eastbound Approach | | A / 8.8 | A / 8.9 | A / 9.0 | Y |
| 9). MD 662 (Longwoods Rd) & Hiners Lane | (unsignalized) | | | | |
| Westbound Approach | | A / 8.3 | A / 8.4 | A / 8.4 | Y |
| 10). US 50 & Hiners Ln | (unsignalized) | | | | |
| Eastbound Approach (Free Rigl` | | B / 13.9 | C / 16.9 | C / 17.4 | Y |
| 11). Goldsborough Neck Rd & Hailem School Rd | (unsignalized) | | | | |
| Westbound Approach | | A / 8.8 | A / 8.8 | A / 8.8 | Y |

| Evening Peak Hour | | Existing LOS | Background LOS | Total LOS | LOS D or better? |
|---|---|---|---|---|---|
| 1). Goldsborough Neck Rd & Site Access (Emergency Only) | (unsignalized) | n/a | n/a | n/a | |
| Westbound Approach | | n/a | n/a | n/a | |
| 2). Golsdborough Neck Rd & Airport Rd | (unsignalized) | | | | |
| Westbound Approach | | B / 10.4 | B / 11.7 | B / 13.4 | Y |
| 3a). Airport Rd & Corkran Road (see Note 1) | (unsignalized) | | | | |
| Northbound Approach | | A / 9.6 | B / 10.0 | B / 10.1 | Y |
| 3b). Airport Rd & Technology Dr (see Note 1) | (unsignalized) | | | | |
| Southbound Approach | | B / 10.7 | B / 11.9 | D / 27.7 | Y |
| 4). Airport Rd & MD 662 (Longwoods Rd)/Centreville Rd | (unsignalized) | | | | |
| Northbound Approach | | B / 10.2 | B / 12.8 | C / 16.7 | Y |
| Southbound Approach | | B / 13.1 | B / 14.2 | C / 20.4 | Y |
| 5). US 50 & Airport Rd | (signalized) | D / 42.9 | F / 83.7 | F / 196.5 | N |
| w/ Improvements | | | | E / 62.8 | N |
| 6). Glebe Rd & Goldsborough Neck Rd | (unsignalized) | | | | |
| Southbound Approach | | B / 10.7 | B / 11.7 | B / 13.9 | Y |
| 7). MD 322 & Glebe Rd | (signalized) | C / 20.4 | C / 21.4 | C / 23.2 | Y |
| 8). MD 662 (Longwoods Rd) & Hailem School Road | (unsignalized) | | | | |
| Eastbound Approach | | A / 8.8 | A / 8.9 | A / 9.0 | Y |
| 9). MD 662 (Longwoods Rd) & Hiners Lane | (unsignalized) | | | | |
| Westbound Approach | | A / 8.4 | A / 8.4 | A / 8.5 | Y |
| 10). US 50 & Hiners Ln | (unsignalized) | | | | |
| Eastbound Approach (Free Right) | | B / 13.8 | C / 15.6 | C / 16.2 | Y |
| 11). Goldsborough Neck Rd & Hailem School Rd | (unsignalized) | | | | |
| Westbound Approach | | A / 8.8 | A / 8.8 | A / 8.8 | Y |

| Saturday Mid-Day Peak Hour | | Existing LOS | Background LOS | Total LOS | LOS D or better? |
|---|---|---|---|---|---|
| 1). Goldsborough Neck Rd & Site Access (Emergency Only) | (unsignalized) | n/a | n/a | n/a | |
| Westbound Approach | | n/a | n/a | n/a | |
| 2). Golsdborough Neck Rd & Airport Rd | (unsignalized) | | | | |
| Westbound Approach | | B / 10.1 | B / 10.5 | B / 11.3 | Y |
| 3a). Airport Rd & Corkran Road (see Note 1) | (unsignalized) | | | | |
| Northbound Approach | | A / 9.1 | A / 9.4 | A / 9.5 | Y |
| 3b). Airport Rd & Technology Dr (see Note 1) | (unsignalized) | | | | |
| Southbound Approach | | A / 9.8 | B / 10.2 | B / 13.7 | Y |
| 4). Airport Rd & MD 662 (Longwoods Rd)/Centreville Rd | (unsignalized) | | | | |
| Northbound Approach | | A / 9.7 | B / 12.6 | C / 15.1 | Y |
| Southbound Approach | | B / 11.7 | B / 12.1 | B / 13.4 | Y |
| 5). US 50 & Airport Rd | (signalized) | C / 33.5 | D / 40.2 | D / 48.5 | Y |
| w/ Improvements | | | | D / 43.6 | Y |
| 6). Glebe Rd & Goldsborough Neck Rd | (unsignalized) | | | | |
| Southbound Approach | | B / 10.1 | B / 11.0 | B / 12.4 | Y |
| 7). MD 322 & Glebe Rd | (signalized) | B / 17.4 | B / 18.0 | B / 19.6 | Y |
| 8). MD 662 (Longwoods Rd) & Hailem School Road | (unsignalized) | | | | |
| Eastbound Approach | | A / 8.8 | A / 8.9 | A / 9.0 | Y |
| 9). MD 662 (Longwoods Rd) & Hiners Lane | (unsignalized) | | | | |
| Westbound Approach | | A / 8.3 | A / 8.4 | A / 8.4 | Y |
| 10). US 50 & Hiners Ln | (unsignalized) | | | | |
| Eastbound Approach (Free Right) | | B / 13.9 | C / 16.9 | C / 17.4 | Y |
| 11). Goldsborough Neck Rd & Hailem School Rd | (unsignalized) | | | | |
| Westbound Approach | | A / 8.8 | A / 8.8 | A / 8.8 | Y |

Note:

1. Intersections 3a and 3b are labeled as 31 and 32, respectively, in the HCS output files.

# Section 5 Conclusions / Recommendations

## 5.1 Results of Analyses

This Traffic Impact Analysis (TIA) has been prepared for the proposed Technology Park development. The subject site is located in Easton, Maryland, and will be located off of Goldsborough Neck Road, just north of Airport Rd. **Exhibit 1** shows the location of the site.

The site is proposed to be developed with a mix of uses and the exact proposed development is still being determined. For the purpose of this study, the most conservative potential development was analyzed which includes 137 single family attached (townhouse) units, 108 single family detached units. In addition, there are multiple proposed multilevel buildings that are anticipated to be developed with 120 multifamily units, 33,000 square feet of office space, and a 10,000 square foot day care center.

Based on the analyses contained in this report:

- All study intersections operate at LOS D or better under existing, background, and total conditions using the CLV methodology with the exception of US 50 & Airport Road / Black Dog Alley (Intersection 5)
    - It is recommended the shoulder on the westbound Black Dog Alley approach be improved and/or restriped to provide three lanes (left turn/ through / right turn). With this improvement, the results of the CLV analyses indicate that the intersection will operate at LOS D for all traffic conditions.
- All signalized study intersections operate at LOS D or better and each stop-controlled approach operates with LOS C or better under existing, background, and total conditions using the HCM methodology also with the exception of US 50 & Airport Road / Black Dog Alley (Intersection 5).
    - The recommendation detailed above results in the intersection operating at LOS D and/or with lesser overall delay when compared to background conditions and therefore fully mitigates the impact of the development on the intersection and should be considered acceptable.
- It is recommended that “Do Not Block Intersection” signage and pavement markings be installed per Section 3B.17 of the MD MUTCD for Intersection 4 (Airport Road & Longwoods Road/Centreville Road).

In light of the findings contained in this report and the improvement to Intersection 5 detailed above, it is recommended that the proposed development be approved.

# Appendixx A

Supplemental Information
Turning Movement Counts




BUFFERYARD LEGEND

(E) 10' WIDE BUFFERYARD 'E'

NOTE: PROPOSED BUFFERYARDS UTILIZE LANDSCAPE OVERLAPPING CREDITS FOR FOREST CONSERVATION

NOTE:

THE LAYOUT AS SHOWN HEREON IS CONCEPTUAL ONLY AND NOT INTENDED TO BE UTILIZED FOR DESIGN OR CONSTRUCTION PURPOSES.

REVISIONS

| No. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

WARNING!!

THE LOCATIONS OF EXISTING UTILITIES AS SHOWN ON THIS PLAN ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF EXISTING UTILITIES PRIOR TO BEGINNING CONSTRUCTION. THE QUANTITIES SHOWN ON THIS PLAN ARE FOR INFORMATIONAL AND PERMITTING PURPOSES ONLY. THE CONTRACTOR SHALL VERIFY ALL QUANTITIES TO HIS OWN SATISFACTION PRIOR TO BEGINNING CONSTRUCTION.

THE CONTRACTOR SHALL TEST PIT AND LOCATE EXISTING UNDERGROUND UTILITIES PRIOR TO THE BEGINNING OF ANY WORK ON-SITE. THE CONTRACTOR SHALL NOTIFY DEPT. OF PUBLIC WORKS OF ANY POSSIBLE CONFLICT AND REQUEST THE RELOCATION OF THE EXISTING UNDERGROUND UTILITIES BEFORE BEGINNING ANY WORK ON-SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY RELOCATION EXPENSE.

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PROTECT YOURSELF, GIVE TWO WORKING DAYS NOTICE


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15 Washington St. Cambridge, MD 21613 (410) 221-0818
354 Pennsylvania Ave. Centreville, MD 21617 (410) 758-2095


PROFESSIONAL CERTIFICATION: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 48188 , Expiration Date: 12/28/2025.

SEAL

STATE OF MARYLAND · JARRET J. BRYTER · 48188 · REGISTERED PROFESSIONAL ENGINEER

DATE

# SKETCH CONCEPT PLAN

FOR

## EASTON TECHNOLOGY CENTER

*IN THE TOWN OF EASTON, ELECTION WARD 1*
*TALBOT COUNTY, MARYLAND*
*TAX MAP 25 GRID 4 PARCEL 92 LOTS 1, 2, 3 & 4*

ISSUED FOR: AGENCY REVIEW — DATE: 5/7/25 BY: BCE

SHEET No. 3 OF 6

SCALE: AS NOTED

DATE:

JOB No. 220210

FILE No. 3208

© LANE ENGINEERING, LLC


Date: 05/06/2025 - 11:22am User: wbarnhart Project Manager: BCE
Drawing Path: C:\swap\AcPublish_19868\RSK-PLTS-220210.dwg | Sheet:3SketchConceptPlan
XREF File(s): RSK-BASE-220210/XRN-BASE-220210/RBS-BASE-2438-220210/VLD-BASE-220210/CSK-BASE-220210/LUP-PUD-BASE-220210/CSK-Road-BASE-220210/CSK-LOT-BASE/XRN-LOTS-BASE-220210/RAR-BASE-Rev-220210

| | |
|---|---|
| **From:** | mlenhart |
| **To:** | Henry Dierker; Rick VanEmburgh |
| **Cc:** | Richard Baker (SHA); Stephanie McFaden (Consultant); Nick Driban; Dylan McAndrew; Ryan Wingate; mlenhart |
| **Subject:** | RE: TIA Scoping Materials for Technology park |
| **Date:** | Wednesday, December 4, 2024 3:03:05 PM |
| **Attachments:** | image001.png |

Hi Henry,

Thank you for the response. I do have a few questions/comments regarding the additional intersections and the requested times of counts.

1. We will include the Eastern Region Medical Center as requested. I see online that it will have 147 licensed beds plus an adjacent 60 ksf building for offices and outpatient services. Do you have any other information on that project you can share? If not, we'll just use a 147 bed hospital plus 60 ksf MOB.
2. We have already conducted the intersection turning movement counts at our proposed intersections. They were counted from 6:30-9:30 AM, 4-7 PM, and 10-2 on a Saturday. We've looked at other SHA counts in the area and these timeframes will cover the peak periods.
3. The medical center is being relocated to the northeast of this site with access along Longwoods Road. However, Longwoods Road in the vicinity of Hiners and Hailem School Road has an existing ADT of 1,195 vehicles per day, with peak hour volumes of less than 100 vehicles per hour in each direction. The proposed residential units in the Technology Park will generate very few trips up through those intersections (5% or less based on the assignment we provided in the scoping documents). Also, the US 50 at Hiners Lane intersection is a right-in and right-out only, with full accel and decel lanes. We project less than 10 peak hour trips from this site through any of those intersections that were requested in your email below. I understand that the medical center will add trips to the additional intersections you requested below, but the residential units proposed in the Technology Park will send very few trips through those. Based on this information, we'd request eliminating those intersections from the requested scope below as this site will have a negligible impact on those.

Thanks,
Mike

**Mike Lenhart, P.E., PTOE**
President

Office: (410) 216-3333 (Ext. 1)
Mobile: (410) 980-2367

LENHART TRAFFIC CONSULTING, INC.
645 BALTIMORE ANNAPOLIS BOULEVARD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com

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**From:** Henry Dierker <HDierker@mdot.maryland.gov>
**Sent:** Wednesday, December 4, 2024 2:13 PM
**To:** mlenhart <mlenhart@LENHARTTRAFFIC.COM>; Rick VanEmburgh <rvanemburgh@eastonmd.gov>
**Cc:** Richard Baker (SHA) <RBaker@mdot.maryland.gov>; Stephanie McFaden (Consultant) <SMcFaden.consultant@mdot.maryland.gov>; Nick Driban <ndriban@LENHARTTRAFFIC.COM>; Dylan McAndrew <DMcAndrew@LENHARTTRAFFIC.COM>; Ryan Wingate <rwingate@LENHARTTRAFFIC.COM>; Henry Dierker <HDierker@mdot.maryland.gov>
**Subject:** RE: TIA Scoping Materials for Technology park

Mike,

SHA requests the following intersections to be included:
Longwoods Road (MD 662) @ Hailem School Road
Longwoods Road (MD 662) @ Hiners Lane
Ocean Gateway (US 50) @ Hiners Lane

Please include the background development of Eastern Regional Medical Center.

SHA requests the following TIS Study Times:
6:00 am to 9:00 am
3:00 pm to 6:00 pm
(Schools Nearby) 2:00 pm to 6:00 pm

**Henry R. Dierker III**
*Access Permits Regional Engineer*
District Two Traffic
410.810.3244 **office**
410-708-0013 **mobile**
Hdierker@mdot.maryland.gov
**Maryland State Highway Administration-District Two**
615 Morgnec Road, Chestertown, MD 21620

**From:** mlenhart <mlenhart@LENHARTTRAFFIC.COM>

**Sent:** Friday, November 22, 2024 3:47 PM
**To:** Henry Dierker <HDierker@mdot.maryland.gov>; Rick VanEmburgh <rvanemburgh@eastonmd.gov>
**Cc:** Richard Baker (SHA) <RBaker@mdot.maryland.gov>; Stephanie McFaden (Consultant) <SMcFaden.consultant@mdot.maryland.gov>; mlenhart <mlenhart@LENHARTTRAFFIC.COM>; Nick Driban <ndriban@LENHARTTRAFFIC.COM>; Dylan McAndrew <DMcAndrew@LENHARTTRAFFIC.COM>; Ryan Wingate <rwingate@LENHARTTRAFFIC.COM>
**Subject:** TIA Scoping Materials for Technology park

Hi Rick and Henry,

I am working with Lane Engineering on a master plan for the Technology Park located along the north side of Airport Road.

They have identified two concepts for the development which are attached for your information. One of the concepts includes 90 single family homes, 89 townhomes, and 24,000 sq ft of service or commercial based use. The other concept is very similar but includes an assisted living facility and slightly fewer residential units.

I've attached a pdf containing scoping documents for the TIA:

- Site location map and study intersections
- Trip generation for the two scenarios
- Background developments to be included in the TIA
- Traffic growth along US 50 and MD 322

We propose the following analyses:

1. AM, PM, and Saturday mid-day traffic counts/analyses
2. CLV and HCS analyses
3. 1.5% growth rate in traffic

Please let us know if this is ok or you have any questions/comments.

Thanks,
Mike

**Mike Lenhart, P.E., PTOE**
President

Office: (410) 216-3333 (Ext. 1)
Mobile: (410) 980-2367

| | |
|---|---|
| **From:** | mlenhart |
| **To:** | Mike Mertaugh |
| **Cc:** | Nick Driban; Dylan McAndrew; Brett Ewing; Jarret Beyer; Wayde Barnhart; Megan Phillips; Ray Clarke; Rick Van Emburgh; msalinas@eastonmd.gov; mlenhart; Lawrence Scott |
| **Subject:** | RE: TIA Scoping Materials for Technology park |
| **Date:** | Tuesday, January 21, 2025 2:53:58 PM |
| **Attachments:** | image001.png<br>image002.png |

Hi Mike,

Thank you for the feedback below. I believe we have received all of the scoping requests from SHA, the County, and the Town.

I'm not sure a scoping meeting is necessary but would be happy to hop on a virtual meeting with you and Rick to discuss any issues as needed.

Please confirm if you would like to meet. Otherwise, we are capturing the additional intersection you requested and will include that along with the two intersections requested by SHA.

Thanks,
Mike

**Mike Lenhart, P.E., PTOE**
President

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**From:** Mike Mertaugh <MMertaugh@talbotcountymd.gov>
**Sent:** Monday, December 30, 2024 3:18 PM
**To:** mlenhart <mlenhart@LENHARTTRAFFIC.COM>
**Cc:** Nick Driban <ndriban@LENHARTTRAFFIC.COM>; Dylan McAndrew <DMcAndrew@LENHARTTRAFFIC.COM>; Brett Ewing <bewing@leinc.com>; Jarret Beyer

<jbeyer@leinc.com>; Wayde Barnhart <wbarnhart@leinc.com>; Megan Phillips <mphillips@leinc.com>; Ray Clarke <rclarke@talbotcountymd.gov>; Rick Van Emburgh <rvanemburgh@eastonmd.gov>; msalinas@eastonmd.gov
**Subject:** RE: TIA Scoping Materials for Technology park

Mike-

Good to hear from you, it has certainly been a long time. Pretty busy here, which is evidenced by my delayed response.

The County has a few concerns related to traffic around and from this site and proposed development. In no particular order…

- Airport Road is also a County road, which is a significant concern to the County.

- Goldsborough Neck Road is a minor County road, which would be significantly impacted by additional traffic. If the County were to allow a new access/intersection on this corridor, we would anticipate some reconstruction and widening of that corridor.

- Traffic impacts to Airport Road from the Easton Technology Center development were only approved by the County for Phase 1 of this project (plat MAS PC4-80G).

- The Talbot County Roads Ordinance requires that development within any town impacting County roads must have a "Municipal Review" with the County (County Roads Ordinance Section 134-6.1.C.).

- For whatever reason, this Municipal Review with the County was not pursued by the developer of Lots created since the Phase 1 subdivision plat referenced above.

- The County has made efforts to resolve traffic impacts with this development which is still pending.

- Since the creation of the post phase 1 lots of Easton Technology Center, the County has been pursuing the design of upgrades to Airport Road due in part from anticipated traffic impact of further development of this business park.

- Talbot County agrees with the State that the Hailem School Road and Hiners Lane intersections with MD Route 662 should be evaluated, particularly with respect to your clients proposed project and the new regional medical center that is currently under construction on MD Route 662.

- Additionally, the Goldsboro Neck Road and Hailem School Road intersection should be evaluated. This may be particularly important if geometric reconfiguration is necessary

from traffic impacts.

We recommend that a pre-application/scoping meeting be held with the Town and the County to further discuss access and traffic related concerns associated with this project.

Thanks,

-Mike

**Michael L. Mertaugh, P.E.**
*Assistant County Engineer*
Development Review & Roads
410-770-8170
Talbot County Department of Public Works
215 Bay Street, Suite 6
Easton, Maryland 21601
Fax: 410-770-8176
TTY: 410-822-8735
E-Mail: mmertaugh@talbgov.org

---

**From:** mlenhart <mlenhart@LENHARTTRAFFIC.COM>
**Sent:** Friday, December 6, 2024 12:14 PM
**To:** Mike Mertaugh <MMertaugh@talbotcountymd.gov>
**Cc:** Nick Driban <ndriban@LENHARTTRAFFIC.COM>; Dylan McAndrew <DMcAndrew@LENHARTTRAFFIC.COM>; mlenhart <mlenhart@LENHARTTRAFFIC.COM>; Brett Ewing <bewing@leinc.com>; Jarret Beyer <jbeyer@leinc.com>; Wayde Barnhart <wbarnhart@leinc.com>; Megan Phillips <mphillips@leinc.com>
**Subject:** RE: TIA Scoping Materials for Technology park

Hi Mike,
It's been a while and I hope you are doing well.

I am working with Lane Engineering on a master plan for the Technology Park located along the north side of Airport Road. The project is located in the Town and as such we've provided a scoping email to the SHA and Town to confirm the scope of the traffic impact study.

Brett Ewing at Lane pointed out that the site will have access to Goldsborough Neck Road which is a County road, so I wanted to send this to you as well to get you engaged early in the process. Ultimately, we'll need a permit for the entrance onto Goldsborough Neck Road.

There are currently two potential concepts for the development which are attached for your information. One of the concepts includes 90 single family homes, 89 townhomes, and 24,000 sq ft of service or commercial based use. The other concept is very similar but includes an assisted living facility and slightly fewer residential units.

I've attached a pdf containing scoping documents for the TIA:

- Site location map and study intersections
- Trip generation for the two scenarios
- Background developments to be included in the TIA
- Traffic growth along US 50 and MD 322

We propose the following analyses:

1. AM, PM, and Saturday mid-day traffic counts/analyses
2. CLV and HCS analyses
3. 1.5% growth rate in traffic

SHA has responded that they are ok with the scoping as identified above and in the attached exhibits, but initially requested the addition of the following study intersections.

- Longwoods Road (MD 662) @ Hailem School Road
- Longwoods Road (MD 662) @ Hiners Lane
- Ocean Gateway (US 50) @ Hiners Lane

We've responded to SHA asking for elimination of these intersections for the following reasons:

1. Longwoods Road is currently closed at Hiners Lane for construction of the medical center. Therefore traffic patterns are temporarily inaccurate.
2. The proposed Technology Park will mostly be oriented to and from US 50 or to and from the Town via Goldsborough Neck Road to Glebe Road to MD 322. We have only 5% of the site trips going up to Longwoods Road which equates to less than 10 peak hour trips, therefore the project would not have a significant impact on those intersections.

Please let us know if this is ok or you have any questions/comments.

Thanks,
Mike

**Mike Lenhart, P.E., PTOE**
President

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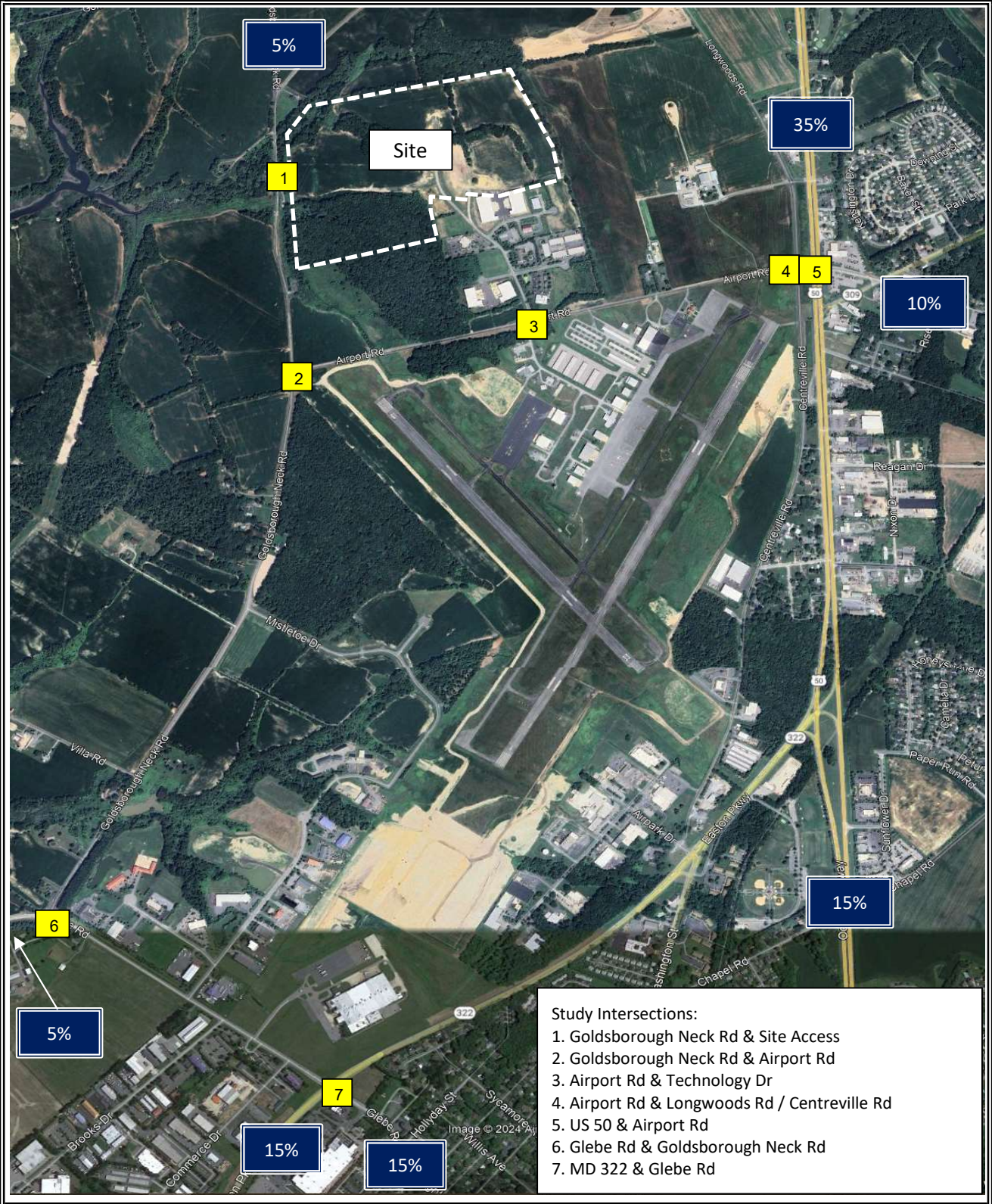



Study Intersections:
1. Goldsborough Neck Rd & Site Access
2. Goldsborough Neck Rd & Airport Rd
3. Airport Rd & Technology Dr
4. Airport Rd & Longwoods Rd / Centreville Rd
5. US 50 & Airport Rd
6. Glebe Rd & Goldsborough Neck Rd
7. MD 322 & Glebe Rd

| | | |
|---|---|---|
| Traffic Impact Analysis | Site Location Map | **Exhibit 1** |
| **LENHART TRAFFIC CONSULTING, INC.**<br>645 BALTIMORE ANNAPOLIS BLVD, SUITE 214<br>SEVERNA PARK, MD 21146<br>www.lenharttraffic.com | | |

## Trip Generation Rates

| | Trip Distribution (In/Out) |
|---|---|
| **Single-Family Attached Housing (ITE-215, Units)** | |
| Morning Trips = 0.52 x Units - 5.70 | 31/69 |
| Evening Trips = 0.60 x Units - 3.93 | 57/43 |
| Ln(Midday Sat. Trips) = 0.82 x Ln(Units) + 0.43 | 48/52 |
| **Single-Family Detached Housing (ITE-210, Units)** | |
| Ln(Morning Trips) = 0.91 x Ln(Units) + 0.12 | 26/74 |
| Ln(Evening Trips) = 0.94 x Ln(Units) + 0.27 | 63/37 |
| Midday Sat. Trips = 0.84 x Units + 17.99 | 54/46 |
| **General Office (ksf, ITE-710)** | |
| Ln(Morning Trips) = 0.86 x Ln(ksf) + 1.16 | 88/12 |
| Ln(Evening Trips) = 0.83 x Ln(ksf) + 1.29 | 17/83 |
| Midday Sat. Trips = 0.52 x ksf | 54/46 |
| **Assisted Living (ITE-254, Beds)** | |
| Morning Trips = 0.18 x Beds | 60/40 |
| Evening Trips = 0.24 x Beds | 39/61 |
| Midday Sat. Trips = 0.27 x Beds | 46/54 |

## Trip Generation Totals

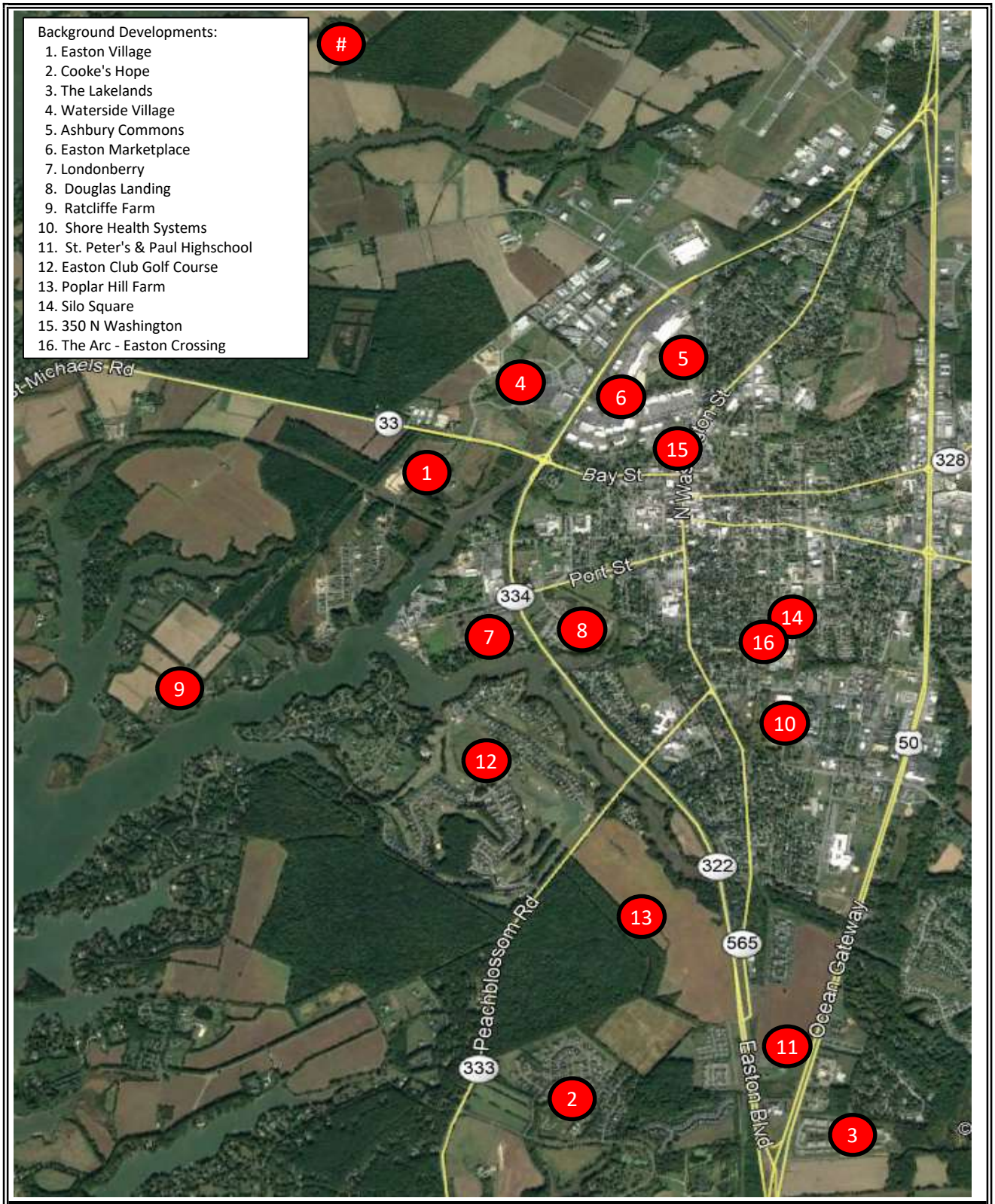
### Option A

| | | AM Peak | | | PM Peak | | | Sat. Mid-Day Peak | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | In | Out | Total | In | Out | Total | In | Out | Total |
| Single-Family Attached Housing (ITE-215, Units) | 89 units | 13 | 28 | 41 | 28 | 21 | 49 | 29 | 32 | 61 |
| Single-Family Detached Housing (ITE-210, Units) | 90 units | 18 | 50 | 68 | 57 | 33 | 90 | 47 | 40 | 87 |
| General Office (ksf, ITE-710) | 24,000 sq.ft. | 43 | 6 | 49 | 9 | 42 | 51 | 6 | 6 | 12 |
| | **Total:** | **74** | **84** | **158** | **94** | **96** | **190** | **82** | **78** | **160** |

### Option B

| | | AM Peak | | | PM Peak | | | Sat. Mid-Day Peak | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | In | Out | Total | In | Out | Total | In | Out | Total |
| Single-Family Attached Housing (ITE-215, Units) | 89 units | 13 | 28 | 41 | 28 | 21 | 49 | 29 | 32 | 61 |
| Single-Family Detached Housing (ITE-210, Units) | 72 units | 14 | 41 | 55 | 46 | 27 | 73 | 39 | 33 | 72 |
| Assisted Living (ITE-254, Beds) | 64 beds | 7 | 5 | 12 | 6 | 9 | 15 | 8 | 9 | 17 |
| General Office (ksf, ITE-710) | 24,000 sq.ft. | 43 | 6 | 49 | 9 | 42 | 51 | 6 | 6 | 12 |
| | **Total:** | **77** | **80** | **157** | **89** | **99** | **188** | **82** | **80** | **162** |

**NOTE: Trip Generation Rates obtained from the ITE Trip Generation Manual, 11th Edition**




| | | |
|---|---|---|
| Traffic Impact Analysis | Location of Background Devs. | **Exhibit C1** |
| **LENHART TRAFFIC CONSULTING, INC.**<br>645 BALTIMORE ANNAPOLIS BLVD, SUITE 214<br>SEVERNA PARK, MD 21146<br>www.lenharttraffic.com | | |

## Trip Generation for Background Developments

| | | | AM Peak | | | PM Peak | | | Sat Mid-day Peak | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | In | Out | Total | In | Out | Total | In | Out | Total |
| 1 - Easton Village | 250 Single-Family Units Less 146 Built | 104 units remaining | 19 | 58 | 77 | 65 | 38 | 103 | 52 | 45 | 97 |
| 2 - Cookes Hope | 288 Single-Family Units Less 185 Built | 103 units remaining | 19 | 57 | 76 | 64 | 38 | 102 | 52 | 44 | 96 |
| 3 - The Lakelands | 158 Townhouse Units (All Built) | 0 units remaining | Built | | | | | | | | |
| 4. Waterside Village | Phase 1 - 203,878 SF of Retail (All Built) | 0 square feet remaining | Built | | | | | | | | |
| | Phase 1 - 38,157 SF of Office (All Built) | 0 square feet remaining | Built | | | | | | | | |
| | Phase 1 - 24,901 SF of Restaurant (Approx. 50% Built) | 12,451 square feet remaining | 68 | 56 | 124 | 76 | 46 | 122 | 71 | 68 | 139 |
| | Pass-by Trips for Phase 1 Restaurant (0% AM, 49% PM, 49% Saturday): | | 0 | 0 | 0 | -37 | -23 | -60 | -35 | -33 | -68 |
| | Primary Off-Site Trips for Phase 1 Restaurant: | | 68 | 56 | 124 | 39 | 23 | 62 | 36 | 35 | 71 |
| | Phase 1 - 3,651 SF of Bank (All Built) | 0 square feet remaining | Built | | | | | | | | |
| | Phase 2A - 40,000 SF of Retail (All Built) | 0 square feet remaining | Built | | | | | | | | |
| | Phase 2B - 60 Mid-rise Multifamily Units (Not Built) | 60 units | 6 | 16 | 22 | 16 | 10 | 26 | 13 | 13 | 26 |
| | Phase 2C - 37,500 SF of Retail (Not Built) | 37,500 square feet | 22 | 13 | 35 | 69 | 74 | 143 | 88 | 81 | 169 |
| | Pass-by Trips for Phase 2C Retail (0% AM, 34% PM, 34% Saturday): | | 0 | 0 | 0 | -23 | -25 | -48 | -30 | -28 | -58 |
| | Primary Off-Site Trips for Phase 2 Retail: | | 22 | 13 | 35 | 46 | 49 | 95 | 58 | 53 | 111 |
| | Phase 2D - 81,500 SF of Retail Less 76,500 SF Built | 5,000 square feet remaining | 3 | 2 | 5 | 9 | 10 | 19 | 12 | 11 | 23 |
| | Pass-by Trips for Phase 2D Retail (0% AM, 34% PM, 34% Saturday): | | 0 | 0 | 0 | -3 | -3 | -6 | -4 | -4 | -8 |
| | Primary Off-Site Trips for Phase 2D Retail: | | 3 | 2 | 5 | 6 | 7 | 13 | 8 | 7 | 15 |
| 5. Ashbury Commons | 64 Townhouse Units Less 40 Built | 24 units remaining | 3 | 8 | 11 | 8 | 5 | 13 | 8 | 9 | 17 |
| | 26 Single-Family Units Less 13 built | 13 units remaining | 2 | 8 | 10 | 8 | 5 | 13 | 6 | 6 | 12 |
| 6. Easton Marketplace | 15,000 SF Pharmacy (Not Built) | 15,000 square feet | 31 | 27 | 58 | 77 | 77 | 154 | 64 | 67 | 131 |
| | Pass-by Trips for Pharmacy (0% AM, 53% PM, 53% Saturday): | | 0 | 0 | 0 | -41 | -41 | -82 | -34 | -36 | -70 |
| | Primary Off-Site Trips for Pharmacy: | | 31 | 27 | 58 | 36 | 36 | 72 | 30 | 31 | 61 |
| 7. Londonberry | 41 Single-Family Units Less 38 Built | 3 units remaining | 0 | 2 | 2 | 2 | 1 | 3 | 2 | 1 | 3 |
| 8. Douglas Landing | 91 Townhouse Units Less 64 Built | 27 units remaining | 3 | 9 | 12 | 9 | 6 | 15 | 9 | 10 | 19 |
| | 48 Single-Family Units Less 43 built | 5 units remaining | 1 | 3 | 4 | 3 | 2 | 5 | 3 | 2 | 5 |
| 9 - Ratcliffe Farm | 15 Single-Family Units (All Built) | 0 units remaining | Built | | | | | | | | |
| 10 - Shore Health Systems Medical Campus | 352,000 SF of Hospital (All Built) | 0 square feet remaining | Built | | | | | | | | |
| 11. St. Peters and Paul | 500 Student Private School | 500 students | 244 | 156 | 400 | 37 | 48 | 85 | 0 | 0 | 0 |
| | 6 Field Soccer Complex | 6 fields | 4 | 2 | 6 | 65 | 34 | 99 | 116 | 125 | 241 |
| | 18,000 SF Family Life Center | 18,000 square feet | 4 | 2 | 6 | 4 | 5 | 9 | 29 | 21 | 50 |
| 12. Easton Club Golf Course | 18 Hole Golf Course | 18 holes | 25 | 7 | 32 | 28 | 24 | 52 | 27 | 28 | 55 |
| 13. Poplar Hill Farm | Single-Family Detached (ITE-210, Units) | 119 units | 22 | 67 | 89 | 76 | 44 | 120 | 64 | 54 | 118 |
| 14. Silo Square | Single-Family Attached Housing (ITE-215, Units) | 28 units | 3 | 6 | 9 | 7 | 6 | 13 | 12 | 12 | 24 |
| 15. 350 N Washington | Multifamily Housing, Low-Rise (ITE-220, Units) | 16 units | 1 | 5 | 6 | 5 | 3 | 8 | 3 | 4 | 7 |
| 16. The Arc - Easton Crossing (see note) | Multifamily Housing, Mid-Rise (ITE-221, Urban/Suburban, Units) [Not Close to Rail Transit] | 130 units | 11 | 35 | 46 | 31 | 20 | 51 | 27 | 25 | 52 |
| | Fast Casual Restaurant (ksf, ITE-930) | 3,000 sq.ft. | 2 | 2 | 4 | 21 | 17 | 38 | 54 | 44 | 98 |
| | **Total Primary Trips for All Background Developments:** | | 548 | 550 | 1098 | 584 | 461 | 1045 | 620 | 579 | 1199 |

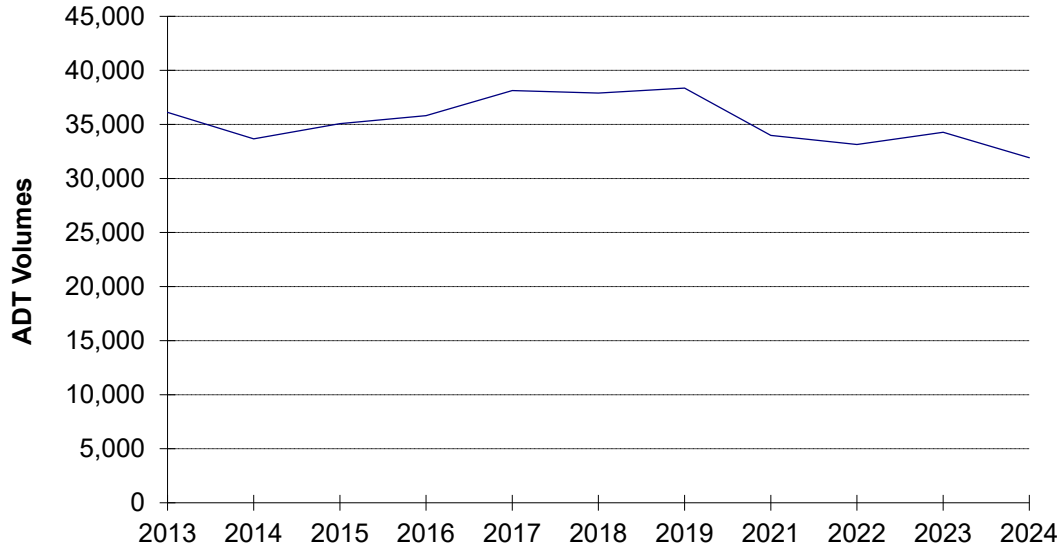
**Notes:**

1.
2. The size and type of restaurant within The Arc - Easton Crossing development is still TBD and will be updated as additional information becomes available.

# TRAFFIC GROWTH PROJECTION

**LOCATION:** **US 50, South of Airport Rd**
**REPORT DATE:** 09-Oct-24
**AVERAGE GROWTH:** -1.08%
**MATHEMATICAL GROWTH:** -1.23%

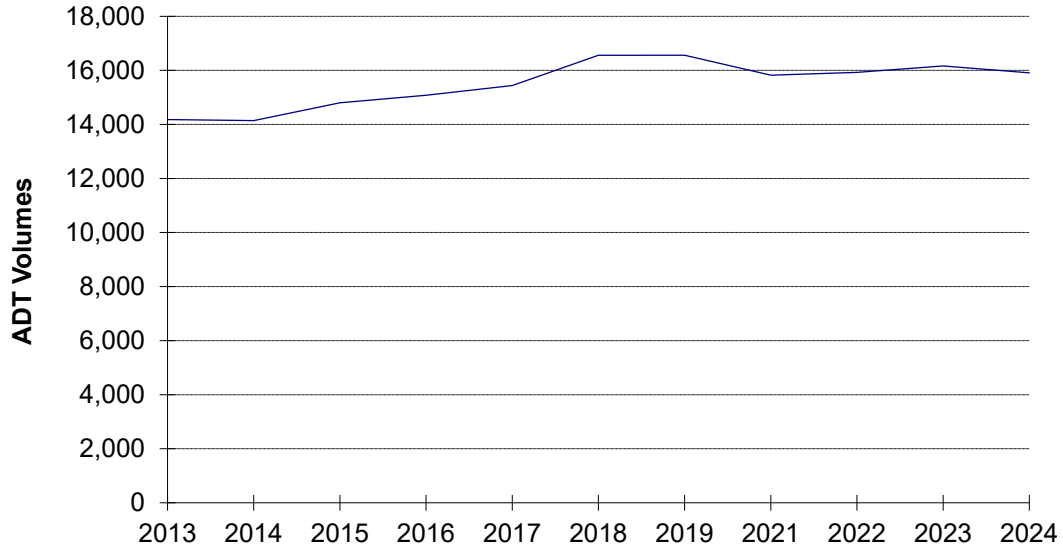
| Year | ADT Volume | Vol. increase | % increase | Average % |
|---|---|---|---|---|
| 2013 | 36,122 | | | |
| 2014 | 33,660 | -2,462 | -6.82% | -6.82% |
| 2015 | 35,071 | 1,411 | 4.19% | -1.31% |
| 2016 | 35,812 | 741 | 2.11% | -0.17% |
| 2017 | 38,130 | 2,318 | 6.47% | 1.49% |
| 2018 | 37,901 | -229 | -0.60% | 1.07% |
| 2019 | 38,362 | 461 | 1.22% | 1.10% |
| 2021 | 33,990 | -4,372 | -11.40% | -0.69% |
| 2022 | 33,141 | -849 | -2.50% | -0.91% |
| 2023 | 34,272 | 1,131 | 3.41% | -0.43% |
| 2024 | 31,920 | -2,352 | -6.86% | -1.08% |



# TRAFFIC GROWTH PROJECTION

**LOCATION:** **Easton Pkwy**
**REPORT DATE:** 09-Oct-24
**AVERAGE GROWTH:** 1.20%
**MATHEMATICAL GROWTH:** 1.16%

| Year | ADT Volume | Vol. increase | % increase | Average % |
|---|---|---|---|---|
| 2013 | 14,181 | | | |
| 2014 | 14,142 | -39 | -0.28% | -0.28% |
| 2015 | 14,800 | 658 | 4.65% | 2.19% |
| 2016 | 15,081 | 281 | 1.90% | 2.09% |
| 2017 | 15,442 | 361 | 2.39% | 2.17% |
| 2018 | 16,560 | 1,118 | 7.24% | 3.18% |
| 2019 | 16,561 | 1 | 0.01% | 2.65% |
| 2021 | 15,823 | -738 | -4.46% | 1.64% |
| 2022 | 15,924 | 101 | 0.64% | 1.51% |
| 2023 | 16,165 | 241 | 1.51% | 1.51% |
| 2024 | 15,910 | -255 | -1.58% | 1.20% |



## Weekday Morning Peak Hour (6:30 am - 9:30 am)

| | Goldsborough Neck Rd Northbound | | | | | Goldsborough Neck Rd Southbound | | | | | N/A Eastbound | | | | | Airport Rd Westbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Time: | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | Total |
| 6:30-6:45 | 0 | 0 | 0 | 10 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14 | 0 | 1 | 0 | 32 |
| 6:45-7:00 | 0 | 0 | 4 | 12 | 0 | 0 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 0 | 2 | 0 | 34 |
| 7:00-7:15 | 0 | 0 | 6 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23 | 0 | 2 | 0 | 40 |
| 7:15-7:30 | 0 | 0 | 8 | 23 | 0 | 0 | 2 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22 | 0 | 3 | 0 | 64 |
| 7:30-7:45 | 0 | 0 | 3 | 14 | 0 | 0 | 1 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 29 | 0 | 2 | 0 | 59 |
| 7:45-8:00 | 0 | 0 | 10 | 17 | 0 | 0 | 1 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 21 | 0 | 0 | 0 | 52 |
| 8:00-8:15 | 0 | 0 | 5 | 10 | 0 | 0 | 1 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 15 | 0 | 1 | 0 | 40 |
| 8:15-8:30 | 0 | 0 | 2 | 12 | 0 | 0 | 2 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 28 | 0 | 2 | 0 | 50 |
| 8:30-8:45 | 0 | 0 | 10 | 22 | 0 | 0 | 2 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 0 | 3 | 0 | 67 |
| 8:45-9:00 | 0 | 0 | 3 | 28 | 0 | 0 | 3 | 12 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 0 | 1 | 0 | 67 |
| 9:00-9:15 | 0 | 0 | 7 | 20 | 0 | 0 | 2 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16 | 0 | 0 | 1 | 50 |
| 9:15-9:30 | 0 | 0 | 4 | 25 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14 | 0 | 1 | 1 | 47 |
| **Hourly Totals** | | | | | | | | | | | | | | | | | | | | | |
| 6:30-7:30 | 0 | 0 | 18 | 54 | 0 | 0 | 4 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 70 | 0 | 8 | 0 | 170 |
| 6:45-7:45 | 0 | 0 | 21 | 58 | 0 | 0 | 5 | 19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 85 | 0 | 9 | 0 | 197 |
| 7:00-8:00 | 0 | 0 | 27 | 63 | 0 | 0 | 4 | 19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 95 | 0 | 7 | 0 | 215 |
| 7:15-8:15 | 0 | 0 | 26 | 64 | 0 | 0 | 5 | 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 87 | 0 | 6 | 0 | 215 |
| 7:30-8:30 | 0 | 0 | 20 | 53 | 0 | 0 | 5 | 24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 93 | 0 | 5 | 0 | 201 |
| 7:45-8:45 | 0 | 0 | 27 | 61 | 0 | 0 | 6 | 24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 84 | 0 | 6 | 0 | 209 |
| 8:00-9:00 | 0 | 0 | 20 | 72 | 0 | 0 | 8 | 33 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 1 | 83 | 0 | 7 | 0 | 228 |
| 8:15-9:15 | 0 | 0 | 22 | 82 | 0 | 0 | 9 | 31 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 84 | 0 | 6 | 1 | 239 |
| 8:30-9:30 | 0 | 0 | 24 | 95 | 0 | 0 | 8 | 29 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 70 | 0 | 5 | 2 | 237 |
| **AM** | **Northbound** | | | | | **Southbound** | | | | | **Eastbound** | | | | | **Westbound** | | | | | |
| **Peak Hour** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **Total** |
| **8:15-9:15** | **0** | **0** | **22** | **82** | **0** | **0** | **9** | **31** | **0** | **4** | **0** | **0** | **0** | **0** | **0** | **0** | **84** | **0** | **6** | **1** | **239** |

## Weekday Evening Peak Hour (4 pm - 7 pm)

| | Goldsborough Neck Rd Northbound | | | | | Goldsborough Neck Rd Southbound | | | | | N/A Eastbound | | | | | Airport Rd Westbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Time: | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | Total |
| 4:00-4:15 | 0 | 0 | 12 | 30 | 0 | 0 | 1 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 37 | 0 | 4 | 0 | 95 |
| 4:15-4:30 | 0 | 0 | 12 | 43 | 0 | 0 | 0 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 26 | 0 | 2 | 0 | 100 |
| 4:30-4:45 | 0 | 0 | 13 | 28 | 0 | 0 | 4 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 35 | 0 | 1 | 0 | 88 |
| 4:45-5:00 | 0 | 0 | 10 | 22 | 0 | 0 | 0 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 34 | 0 | 1 | 0 | 79 |
| 5:00-5:15 | 0 | 0 | 14 | 29 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 25 | 0 | 0 | 0 | 77 |
| 5:15-5:30 | 0 | 0 | 8 | 23 | 0 | 0 | 2 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 41 | 0 | 0 | 0 | 86 |
| 5:30-5:45 | 0 | 0 | 6 | 25 | 0 | 0 | 2 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 25 | 0 | 2 | 0 | 65 |
| 5:45-6:00 | 0 | 0 | 3 | 17 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 27 | 0 | 0 | 0 | 56 |
| 6:00-6:15 | 0 | 0 | 9 | 17 | 0 | 0 | 2 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 29 | 0 | 0 | 0 | 64 |
| 6:15-6:30 | 0 | 0 | 9 | 15 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 27 | 0 | 1 | 0 | 55 |
| 6:30-6:45 | 0 | 0 | 6 | 15 | 0 | 0 | 1 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17 | 0 | 1 | 0 | 44 |
| 6:45-7:00 | 0 | 0 | 2 | 5 | 0 | 0 | 1 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19 | 0 | 2 | 0 | 32 |
| **Hourly Totals** | | | | | | | | | | | | | | | | | | | | | |
| 4:00-5:00 | 0 | 0 | 47 | 123 | 0 | 0 | 5 | 47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 132 | 0 | 8 | 0 | 362 |
| 4:15-5:15 | 0 | 0 | 49 | 122 | 0 | 0 | 4 | 45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 120 | 0 | 4 | 0 | 344 |
| 4:30-5:30 | 0 | 0 | 45 | 102 | 0 | 0 | 6 | 40 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 135 | 0 | 2 | 0 | 330 |
| 4:45-5:45 | 0 | 0 | 38 | 99 | 0 | 0 | 4 | 38 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 125 | 0 | 3 | 0 | 307 |
| 5:00-6:00 | 0 | 0 | 31 | 94 | 0 | 0 | 4 | 35 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 118 | 0 | 2 | 0 | 284 |
| 5:15-6:15 | 0 | 0 | 26 | 82 | 0 | 0 | 6 | 33 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 122 | 0 | 2 | 0 | 271 |
| 5:30-6:30 | 0 | 0 | 27 | 74 | 0 | 0 | 5 | 23 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 108 | 0 | 3 | 0 | 240 |
| 5:45-6:45 | 0 | 0 | 27 | 64 | 0 | 0 | 4 | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 | 0 | 2 | 0 | 219 |
| 6:00-7:00 | 0 | 0 | 26 | 52 | 0 | 0 | 5 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 92 | 0 | 4 | 0 | 195 |
| **PM** | **Northbound** | | | | | **Southbound** | | | | | **Eastbound** | | | | | **Westbound** | | | | | |
| **Peak Hour** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **Total** |
| **4:00-5:00** | **0** | **0** | **47** | **123** | **0** | **0** | **5** | **47** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **132** | **0** | **8** | **0** | **362** |

Peak Hour
Turning Movement Count


**LENHART TRAFFIC CONSULTING, INC.**
645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com


**Intersection:** Goldsborough Neck Rd & Airport Rd
**Weather:** Clear
**Count by:** Count Cam DSS
**Count Day/Date:** Friday, September 13, 2024
**Jurisdiction:** Talbot County

Weekend Peak Hour (10:00 am - 3:00 pm)

| | Goldsborough Neck Rd Northbound | | | | | Goldsborough Neck Rd Southbound | | | | | N/A Eastbound | | | | | Airport Rd Westbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Time: | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | Total |
| 10:00-10:15 | 0 | 0 | 6 | 23 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17 | 0 | 1 | 0 | 48 |
| 10:15-10:30 | 0 | 0 | 9 | 33 | 0 | 0 | 3 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 31 | 0 | 2 | 0 | 83 |
| 10:30-10:45 | 0 | 0 | 13 | 25 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19 | 0 | 3 | 0 | 69 |
| 10:45-11:00 | 0 | 0 | 6 | 30 | 0 | 0 | 2 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 28 | 0 | 3 | 0 | 81 |
| 11:00-11:15 | 0 | 0 | 10 | 17 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 36 | 0 | 3 | 0 | 72 |
| 11:15-11:30 | 0 | 0 | 7 | 19 | 0 | 0 | 3 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 33 | 0 | 3 | 0 | 73 |
| 11:30-11:45 | 0 | 0 | 13 | 24 | 0 | 0 | 3 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 31 | 0 | 0 | 0 | 74 |
| 11:45-12:00 | 0 | 0 | 8 | 18 | 0 | 0 | 2 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 37 | 0 | 3 | 0 | 75 |
| 12:00-12:15 | 0 | 0 | 6 | 22 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 24 | 0 | 0 | 0 | 58 |
| 12:15-12:30 | 0 | 0 | 10 | 22 | 0 | 0 | 2 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 43 | 0 | 1 | 0 | 89 |
| 12:30-12:45 | 0 | 0 | 2 | 20 | 0 | 0 | 1 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 29 | 0 | 1 | 0 | 58 |
| 12:45-1:00 | 0 | 0 | 8 | 25 | 0 | 0 | 1 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 35 | 0 | 1 | 0 | 83 |
| 1:00-1:15 | 0 | 0 | 9 | 16 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 34 | 0 | 1 | 0 | 68 |
| 1:15-1:30 | 0 | 0 | 12 | 24 | 0 | 0 | 1 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 29 | 0 | 2 | 0 | 78 |
| 1:30-1:45 | 0 | 0 | 8 | 24 | 0 | 0 | 2 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 37 | 0 | 2 | 0 | 79 |
| 1:45-2:00 | 0 | 0 | 11 | 20 | 0 | 0 | 1 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 28 | 0 | 1 | 0 | 65 |

| Hourly Totals | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10:00-11:00 | 0 | 0 | 34 | 111 | 0 | 0 | 6 | 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 95 | 0 | 9 | 0 | 281 |
| 10:15-11:15 | 0 | 0 | 38 | 105 | 0 | 0 | 5 | 32 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 114 | 0 | 11 | 0 | 305 |
| 10:30-11:30 | 0 | 0 | 36 | 91 | 0 | 0 | 5 | 35 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 116 | 0 | 12 | 0 | 295 |
| 10:45-11:45 | 0 | 0 | 36 | 90 | 0 | 0 | 8 | 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 128 | 0 | 9 | 0 | 300 |
| 11:00-12:00 | 0 | 0 | 38 | 78 | 0 | 0 | 8 | 24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 137 | 0 | 9 | 0 | 294 |
| 11:15-12:15 | 0 | 0 | 34 | 83 | 0 | 0 | 8 | 24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 125 | 0 | 6 | 0 | 280 |
| 11:30-12:30 | 0 | 0 | 37 | 86 | 0 | 0 | 7 | 27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 135 | 0 | 4 | 0 | 296 |
| 11:45-12:45 | 0 | 0 | 26 | 82 | 0 | 0 | 5 | 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 133 | 0 | 5 | 0 | 280 |
| 12:00-1:00 | 0 | 0 | 26 | 89 | 0 | 0 | 4 | 35 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 131 | 0 | 3 | 0 | 288 |
| 12:15-1:15 | 0 | 0 | 29 | 83 | 0 | 0 | 4 | 37 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 141 | 0 | 4 | 0 | 298 |
| 12:30-1:30 | 0 | 0 | 31 | 85 | 0 | 0 | 3 | 36 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 127 | 0 | 5 | 0 | 287 |
| 12:45-1:45 | 0 | 0 | 37 | 89 | 0 | 0 | 4 | 37 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 135 | 0 | 6 | 0 | 308 |
| 1:00-2:00 | 0 | 0 | 40 | 84 | 0 | 0 | 4 | 28 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 128 | 0 | 6 | 0 | 290 |

| PM | Northbound | | | | | Southbound | | | | | Eastbound | | | | | Westbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Peak Hour** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **Total** |
| **12:45-1:45** | **0** | **0** | **37** | **89** | **0** | **0** | **4** | **37** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **135** | **0** | **6** | **0** | **308** |

Peak Hour
Turning Movement Count

LENHART TRAFFIC CONSULTING, INC.
645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com

Intersection: Goldsborough Neck Rd & Airport Rd
Weather: Clear
Count by: Count Cam DSS
Count Day/Date: Saturday, September 14, 2024
County: Talbot County

## Weekday Morning Peak Hour (6:30 am - 9:30 am)

| | Corkran Rd Northbound | | | | | Technology Dr Southbound | | | | | Airport Rd Eastbound | | | | | Airport Rd Westbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Time: | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | Total |
| 6:30-6:45 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 1 | 21 | 0 | 0 | 0 | 3 | 30 | 3 | 0 | 62 |
| 6:45-7:00 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 2 | 0 | 0 | 6 | 17 | 1 | 0 | 0 | 5 | 33 | 12 | 0 | 79 |
| 7:00-7:15 | 0 | 2 | 0 | 4 | 0 | 0 | 2 | 0 | 5 | 0 | 0 | 2 | 21 | 0 | 0 | 0 | 3 | 30 | 10 | 0 | 79 |
| 7:15-7:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 27 | 0 | 0 | 0 | 0 | 30 | 2 | 0 | 63 |
| 7:30-7:45 | 0 | 1 | 0 | 1 | 0 | 0 | 3 | 0 | 1 | 0 | 0 | 6 | 28 | 2 | 0 | 0 | 5 | 46 | 14 | 0 | 107 |
| 7:45-8:00 | 0 | 0 | 0 | 1 | 0 | 0 | 3 | 0 | 6 | 0 | 0 | 5 | 24 | 2 | 0 | 0 | 3 | 41 | 16 | 0 | 101 |
| 8:00-8:15 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 6 | 28 | 2 | 0 | 0 | 3 | 32 | 13 | 0 | 86 |
| 8:15-8:30 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 7 | 38 | 2 | 0 | 0 | 4 | 33 | 13 | 0 | 100 |
| 8:30-8:45 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 1 | 0 | 0 | 5 | 32 | 1 | 0 | 0 | 5 | 36 | 14 | 0 | 97 |
| 8:45-9:00 | 0 | 2 | 0 | 1 | 0 | 0 | 2 | 0 | 2 | 0 | 0 | 3 | 24 | 1 | 0 | 0 | 0 | 32 | 13 | 0 | 80 |
| 9:00-9:15 | 0 | 1 | 0 | 4 | 0 | 0 | 9 | 1 | 4 | 0 | 0 | 4 | 16 | 2 | 0 | 0 | 2 | 29 | 10 | 0 | 82 |
| 9:15-9:30 | 0 | 2 | 0 | 0 | 0 | 0 | 4 | 0 | 2 | 0 | 0 | 2 | 19 | 0 | 0 | 0 | 4 | 18 | 12 | 0 | 63 |

| Hourly Totals | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6:30-7:30 | 0 | 2 | 0 | 4 | 0 | 0 | 9 | 1 | 8 | 0 | 0 | 11 | 86 | 1 | 0 | 0 | 11 | 123 | 27 | 0 | 283 |
| 6:45-7:45 | 0 | 3 | 0 | 5 | 0 | 0 | 8 | 1 | 9 | 0 | 0 | 16 | 93 | 3 | 0 | 0 | 13 | 139 | 38 | 0 | 328 |
| 7:00-8:00 | 0 | 3 | 0 | 6 | 0 | 0 | 8 | 1 | 13 | 0 | 0 | 15 | 100 | 4 | 0 | 0 | 11 | 147 | 42 | 0 | 350 |
| 7:15-8:15 | 0 | 1 | 0 | 3 | 0 | 0 | 6 | 1 | 9 | 0 | 0 | 19 | 107 | 6 | 0 | 0 | 11 | 149 | 45 | 0 | 357 |
| 7:30-8:30 | 0 | 1 | 0 | 4 | 0 | 0 | 7 | 0 | 9 | 0 | 0 | 24 | 118 | 8 | 0 | 0 | 15 | 152 | 56 | 0 | 394 |
| 7:45-8:45 | 0 | 0 | 0 | 3 | 0 | 0 | 7 | 0 | 9 | 0 | 0 | 23 | 122 | 7 | 0 | 0 | 15 | 142 | 56 | 0 | 384 |
| 8:00-9:00 | 0 | 2 | 0 | 3 | 0 | 0 | 6 | 0 | 5 | 0 | 0 | 21 | 122 | 6 | 0 | 0 | 12 | 133 | 53 | 0 | 363 |
| 8:15-9:15 | 0 | 3 | 0 | 6 | 0 | 0 | 15 | 1 | 8 | 0 | 0 | 19 | 110 | 6 | 0 | 0 | 11 | 130 | 50 | 0 | 359 |
| 8:30-9:30 | 0 | 5 | 0 | 5 | 0 | 0 | 18 | 1 | 9 | 0 | 0 | 14 | 91 | 4 | 0 | 0 | 11 | 115 | 49 | 0 | 322 |

| AM | Northbound | | | | | Southbound | | | | | Eastbound | | | | | Westbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Peak Hour | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | Total |
| **7:30-8:30** | **0** | **1** | **0** | **4** | **0** | **0** | **7** | **0** | **9** | **0** | **0** | **24** | **118** | **8** | **0** | **0** | **15** | **152** | **56** | **0** | **394** |

## Weekday Evening Peak Hour (4 pm - 7 pm)

| | Corkran Rd Northbound | | | | | Technology Dr Southbound | | | | | Airport Rd Eastbound | | | | | Airport Rd Westbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Time: | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | Total |
| 4:00-4:15 | 0 | 2 | 0 | 6 | 0 | 0 | 14 | 0 | 3 | 0 | 0 | 3 | 48 | 0 | 1 | 0 | 0 | 32 | 3 | 0 | 111 |
| 4:15-4:30 | 0 | 1 | 0 | 2 | 0 | 0 | 8 | 0 | 6 | 0 | 0 | 2 | 42 | 0 | 0 | 0 | 1 | 28 | 2 | 0 | 92 |
| 4:30-4:45 | 0 | 1 | 0 | 7 | 0 | 0 | 14 | 0 | 5 | 0 | 0 | 3 | 39 | 0 | 0 | 0 | 2 | 30 | 0 | 1 | 101 |
| 4:45-5:00 | 0 | 1 | 0 | 1 | 0 | 0 | 7 | 0 | 2 | 0 | 0 | 1 | 38 | 0 | 0 | 1 | 1 | 25 | 6 | 0 | 83 |
| 5:00-5:15 | 0 | 0 | 0 | 0 | 0 | 0 | 15 | 0 | 8 | 0 | 0 | 1 | 44 | 0 | 0 | 0 | 1 | 28 | 10 | 0 | 107 |
| 5:15-5:30 | 0 | 2 | 0 | 2 | 0 | 0 | 11 | 0 | 3 | 0 | 1 | 4 | 36 | 0 | 0 | 0 | 0 | 16 | 2 | 0 | 77 |
| 5:30-5:45 | 0 | 0 | 0 | 6 | 0 | 0 | 5 | 0 | 2 | 0 | 0 | 0 | 28 | 0 | 0 | 0 | 0 | 16 | 4 | 0 | 61 |
| 5:45-6:00 | 0 | 0 | 0 | 2 | 0 | 0 | 8 | 0 | 2 | 0 | 0 | 1 | 23 | 2 | 0 | 0 | 0 | 16 | 0 | 0 | 54 |
| 6:00-6:15 | 0 | 1 | 0 | 2 | 0 | 0 | 3 | 0 | 3 | 0 | 0 | 2 | 24 | 0 | 0 | 0 | 0 | 9 | 1 | 0 | 45 |
| 6:15-6:30 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 2 | 0 | 0 | 1 | 16 | 0 | 0 | 0 | 1 | 10 | 8 | 0 | 44 |
| 6:30-6:45 | 0 | 0 | 0 | 1 | 0 | 0 | 9 | 0 | 2 | 0 | 0 | 2 | 20 | 2 | 0 | 0 | 0 | 24 | 3 | 0 | 63 |
| 6:45-7:00 | 0 | 0 | 0 | 1 | 0 | 0 | 4 | 0 | 2 | 0 | 0 | 1 | 18 | 1 | 0 | 0 | 0 | 10 | 1 | 0 | 38 |

| Hourly Totals | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4:00-5:00 | 0 | 5 | 0 | 16 | 0 | 0 | 43 | 0 | 16 | 0 | 0 | 9 | 167 | 0 | 1 | 1 | 4 | 115 | 11 | 1 | 389 |
| 4:15-5:15 | 0 | 3 | 0 | 10 | 0 | 0 | 44 | 0 | 21 | 0 | 0 | 7 | 163 | 0 | 0 | 1 | 5 | 111 | 18 | 1 | 384 |
| 4:30-5:30 | 0 | 4 | 0 | 10 | 0 | 0 | 47 | 0 | 18 | 0 | 1 | 9 | 157 | 0 | 0 | 1 | 4 | 99 | 18 | 1 | 369 |
| 4:45-5:45 | 0 | 3 | 0 | 9 | 0 | 0 | 38 | 0 | 15 | 0 | 1 | 6 | 146 | 0 | 0 | 1 | 2 | 85 | 22 | 0 | 328 |
| 5:00-6:00 | 0 | 2 | 0 | 10 | 0 | 0 | 39 | 0 | 15 | 0 | 1 | 6 | 131 | 2 | 0 | 0 | 1 | 76 | 16 | 0 | 299 |
| 5:15-6:15 | 0 | 3 | 0 | 12 | 0 | 0 | 27 | 0 | 10 | 0 | 1 | 7 | 111 | 2 | 0 | 0 | 0 | 57 | 7 | 0 | 237 |
| 5:30-6:30 | 0 | 1 | 0 | 10 | 0 | 0 | 22 | 0 | 9 | 0 | 0 | 4 | 91 | 2 | 0 | 0 | 1 | 51 | 13 | 0 | 204 |
| 5:45-6:45 | 0 | 1 | 0 | 5 | 0 | 0 | 26 | 0 | 9 | 0 | 0 | 6 | 83 | 4 | 0 | 0 | 1 | 59 | 12 | 0 | 206 |
| 6:00-7:00 | 0 | 1 | 0 | 4 | 0 | 0 | 22 | 0 | 9 | 0 | 0 | 6 | 78 | 3 | 0 | 0 | 1 | 53 | 13 | 0 | 190 |

| PM | Northbound | | | | | Southbound | | | | | Eastbound | | | | | Westbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Peak Hour | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | Total |
| **4:00-5:00** | **0** | **5** | **0** | **16** | **0** | **0** | **43** | **0** | **16** | **0** | **0** | **9** | **167** | **0** | **1** | **1** | **4** | **115** | **11** | **1** | **389** |

Peak Hour
Turning Movement Count


**LENHART TRAFFIC CONSULTING, INC.**
645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com


**Intersection:** Airport Rd & Technology Dr
**Weather:** Clear
**Count by:** Count Cam DSS
**Count Day/Date:** Wednesday, April 30, 2025
**Jurisdiction:** Talbot County

Weekend Peak Hour (10:00 am - 2:00 pm)

| | Cokran Rd Northbound | | | | | Technology Dr Southbound | | | | | Airport Rd Eastbound | | | | | Airport Rd Westbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Time: | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | Total |
| 10:00-10:15 | 0 | 1 | 1 | 2 | 0 | 0 | 4 | 0 | 1 | 0 | 0 | 2 | 20 | 1 | 0 | 0 | 3 | 10 | 4 | 0 | 49 |
| 10:15-10:30 | 0 | 0 | 0 | 2 | 0 | 0 | 4 | 0 | 1 | 0 | 0 | 6 | 31 | 0 | 0 | 0 | 4 | 35 | 13 | 0 | 96 |
| 10:30-10:45 | 0 | 0 | 0 | 1 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 1 | 23 | 0 | 0 | 0 | 1 | 20 | 3 | 0 | 53 |
| 10:45-11:00 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 28 | 2 | 0 | 0 | 1 | 29 | 2 | 0 | 65 |
| 11:00-11:15 | 0 | 0 | 0 | 4 | 0 | 0 | 2 | 0 | 2 | 0 | 0 | 2 | 14 | 2 | 0 | 0 | 0 | 39 | 2 | 0 | 67 |
| 11:15-11:30 | 0 | 1 | 0 | 0 | 0 | 0 | 3 | 0 | 2 | 0 | 0 | 1 | 20 | 0 | 0 | 0 | 3 | 32 | 1 | 0 | 63 |
| 11:30-11:45 | 0 | 1 | 0 | 2 | 0 | 0 | 3 | 0 | 2 | 0 | 0 | 3 | 24 | 2 | 0 | 0 | 3 | 29 | 0 | 0 | 69 |
| 11:45-12:00 | 0 | 0 | 0 | 2 | 0 | 0 | 12 | 0 | 9 | 0 | 0 | 0 | 20 | 0 | 0 | 0 | 4 | 30 | 1 | 0 | 78 |
| 12:00-12:15 | 0 | 1 | 0 | 4 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 2 | 19 | 0 | 0 | 0 | 4 | 27 | 7 | 0 | 68 |
| 12:15-12:30 | 0 | 1 | 0 | 2 | 0 | 0 | 3 | 0 | 1 | 0 | 0 | 0 | 21 | 1 | 0 | 0 | 3 | 41 | 5 | 0 | 78 |
| 12:30-12:45 | 0 | 0 | 0 | 8 | 0 | 0 | 4 | 0 | 1 | 0 | 0 | 3 | 21 | 0 | 0 | 0 | 0 | 27 | 5 | 0 | 69 |
| 12:45-1:00 | 0 | 1 | 0 | 1 | 0 | 0 | 5 | 0 | 1 | 0 | 0 | 0 | 22 | 2 | 0 | 0 | 1 | 34 | 4 | 0 | 71 |
| 1:00-1:15 | 0 | 1 | 0 | 4 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 15 | 0 | 0 | 0 | 4 | 33 | 5 | 0 | 65 |
| 1:15-1:30 | 0 | 2 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 24 | 1 | 0 | 0 | 3 | 30 | 1 | 0 | 65 |
| 1:30-1:45 | 0 | 0 | 0 | 2 | 0 | 0 | 3 | 0 | 1 | 0 | 0 | 1 | 19 | 2 | 0 | 0 | 0 | 39 | 0 | 0 | 67 |
| 1:45-2:00 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 25 | 1 | 0 | 0 | 3 | 28 | 4 | 0 | 67 |

| Hourly Totals | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10:00-11:00 | 0 | 2 | 1 | 5 | 0 | 0 | 13 | 0 | 2 | 0 | 0 | 10 | 102 | 3 | 0 | 0 | 9 | 94 | 22 | 0 | 263 |
| 10:15-11:15 | 0 | 1 | 0 | 7 | 0 | 0 | 11 | 0 | 3 | 0 | 0 | 10 | 96 | 4 | 0 | 0 | 6 | 123 | 20 | 0 | 281 |
| 10:30-11:30 | 0 | 2 | 0 | 5 | 0 | 0 | 10 | 0 | 4 | 0 | 0 | 5 | 85 | 4 | 0 | 0 | 5 | 120 | 8 | 0 | 248 |
| 10:45-11:45 | 0 | 3 | 0 | 6 | 0 | 0 | 9 | 0 | 6 | 0 | 0 | 7 | 86 | 6 | 0 | 0 | 7 | 129 | 5 | 0 | 264 |
| 11:00-12:00 | 0 | 2 | 0 | 8 | 0 | 0 | 20 | 0 | 15 | 0 | 0 | 6 | 78 | 4 | 0 | 0 | 10 | 130 | 4 | 0 | 277 |
| 11:15-12:15 | 0 | 3 | 0 | 8 | 0 | 0 | 22 | 0 | 13 | 0 | 0 | 6 | 83 | 2 | 0 | 0 | 14 | 118 | 9 | 0 | 278 |
| 11:30-12:30 | 0 | 3 | 0 | 10 | 0 | 0 | 22 | 0 | 12 | 0 | 0 | 5 | 84 | 3 | 0 | 0 | 14 | 127 | 13 | 0 | 293 |
| 11:45-12:45 | 0 | 2 | 0 | 16 | 0 | 0 | 23 | 0 | 11 | 0 | 0 | 5 | 81 | 1 | 0 | 0 | 11 | 125 | 18 | 0 | 293 |
| 12:00-1:00 | 0 | 3 | 0 | 15 | 0 | 0 | 16 | 0 | 3 | 0 | 0 | 5 | 83 | 3 | 0 | 0 | 8 | 129 | 21 | 0 | 286 |
| 12:15-1:15 | 0 | 3 | 0 | 15 | 0 | 0 | 13 | 0 | 5 | 0 | 0 | 3 | 79 | 3 | 0 | 0 | 8 | 135 | 19 | 0 | 283 |
| 12:30-1:30 | 0 | 4 | 0 | 14 | 0 | 0 | 11 | 0 | 4 | 0 | 0 | 5 | 82 | 3 | 0 | 0 | 8 | 124 | 15 | 0 | 270 |
| 12:45-1:45 | 0 | 4 | 0 | 8 | 0 | 0 | 10 | 0 | 4 | 0 | 0 | 3 | 80 | 5 | 0 | 0 | 8 | 136 | 10 | 0 | 268 |
| 1:00-2:00 | 0 | 4 | 0 | 9 | 0 | 0 | 5 | 0 | 6 | 0 | 0 | 3 | 83 | 4 | 0 | 0 | 10 | 130 | 10 | 0 | 264 |
| **PM** | **Northbound** | | | | | **Southbound** | | | | | **Eastbound** | | | | | **Westbound** | | | | | |
| **Peak Hour** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **Total** |
| **11:30-12:30** | **0** | **3** | **0** | **10** | **0** | **0** | **22** | **0** | **12** | **0** | **0** | **5** | **84** | **3** | **0** | **0** | **14** | **127** | **13** | **0** | **293** |

Peak Hour
Turning Movement Count

**LENHART TRAFFIC CONSULTING, INC.**
645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com

**Intersection:** Cokran Rd & Airport Rd
**Weather:** Clear
**Count by:** Count Cam DSS
**Count Day/Date:** Saturday, September 14, 2024
**County:** Talbot County

## Weekday Morning Peak Hour (6:30 am - 9:30 am)

| | Centreville Rd Northbound | | | | | Longwoods Rd Southbound | | | | | Airport Rd Eastbound | | | | | Airport Rd Westbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Time: | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | Total |
| 6:30-6:45 | 0 | 0 | 0 | 4 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 3 | 26 | 0 | 0 | 0 | 10 | 35 | 5 | 0 | 86 |
| 6:45-7:00 | 0 | 2 | 1 | 3 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 2 | 18 | 0 | 0 | 0 | 4 | 56 | 1 | 0 | 90 |
| 7:00-7:15 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 3 | 18 | 1 | 0 | 0 | 8 | 37 | 5 | 0 | 76 |
| 7:15-7:30 | 0 | 0 | 1 | 4 | 0 | 0 | 1 | 1 | 2 | 0 | 0 | 1 | 26 | 0 | 0 | 0 | 4 | 35 | 5 | 0 | 80 |
| 7:30-7:45 | 0 | 2 | 0 | 8 | 0 | 0 | 2 | 2 | 4 | 0 | 0 | 0 | 33 | 0 | 0 | 0 | 10 | 58 | 2 | 0 | 121 |
| 7:45-8:00 | 0 | 1 | 0 | 4 | 0 | 0 | 4 | 3 | 3 | 0 | 0 | 1 | 22 | 3 | 0 | 0 | 6 | 60 | 2 | 0 | 109 |
| 8:00-8:15 | 0 | 2 | 2 | 2 | 0 | 0 | 3 | 2 | 3 | 0 | 0 | 2 | 25 | 1 | 0 | 0 | 8 | 39 | 3 | 0 | 92 |
| 8:15-8:30 | 0 | 5 | 0 | 4 | 0 | 0 | 2 | 4 | 4 | 0 | 0 | 1 | 36 | 3 | 0 | 0 | 9 | 43 | 2 | 0 | 113 |
| 8:30-8:45 | 0 | 6 | 3 | 7 | 0 | 0 | 4 | 2 | 3 | 0 | 0 | 1 | 30 | 2 | 0 | 0 | 5 | 41 | 2 | 0 | 106 |
| 8:45-9:00 | 0 | 4 | 1 | 13 | 0 | 0 | 2 | 4 | 2 | 0 | 0 | 0 | 26 | 1 | 0 | 0 | 8 | 43 | 3 | 0 | 107 |
| 9:00-9:15 | 0 | 1 | 0 | 4 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 26 | 3 | 0 | 0 | 11 | 43 | 5 | 0 | 95 |
| 9:15-9:30 | 0 | 8 | 0 | 8 | 0 | 0 | 1 | 1 | 2 | 0 | 0 | 0 | 22 | 1 | 0 | 0 | 4 | 26 | 2 | 0 | 75 |
| **Hourly Totals** | | | | | | | | | | | | | | | | | | | | | |
| 6:30-7:30 | 0 | 3 | 3 | 11 | 0 | 0 | 5 | 2 | 5 | 0 | 0 | 9 | 88 | 1 | 0 | 0 | 26 | 163 | 16 | 0 | 332 |
| 6:45-7:45 | 0 | 5 | 3 | 15 | 0 | 0 | 5 | 3 | 9 | 0 | 0 | 6 | 95 | 1 | 0 | 0 | 26 | 186 | 13 | 0 | 367 |
| 7:00-8:00 | 0 | 4 | 2 | 16 | 0 | 0 | 8 | 6 | 10 | 0 | 0 | 5 | 99 | 4 | 0 | 0 | 28 | 190 | 14 | 0 | 386 |
| 7:15-8:15 | 0 | 5 | 3 | 18 | 0 | 0 | 10 | 8 | 12 | 0 | 0 | 4 | 106 | 4 | 0 | 0 | 28 | 192 | 12 | 0 | 402 |
| 7:30-8:30 | 0 | 10 | 2 | 18 | 0 | 0 | 11 | 11 | 14 | 0 | 0 | 4 | 116 | 7 | 0 | 0 | 33 | 200 | 9 | 0 | 435 |
| 7:45-8:45 | 0 | 14 | 5 | 17 | 0 | 0 | 13 | 11 | 13 | 0 | 0 | 5 | 113 | 9 | 0 | 0 | 28 | 183 | 9 | 0 | 420 |
| 8:00-9:00 | 0 | 17 | 6 | 26 | 0 | 0 | 11 | 12 | 12 | 0 | 0 | 4 | 117 | 7 | 0 | 0 | 30 | 166 | 10 | 0 | 418 |
| 8:15-9:15 | 0 | 16 | 4 | 28 | 0 | 0 | 9 | 10 | 9 | 0 | 0 | 3 | 118 | 9 | 0 | 0 | 33 | 170 | 12 | 0 | 421 |
| 8:30-9:30 | 0 | 19 | 4 | 32 | 0 | 0 | 8 | 7 | 7 | 0 | 0 | 2 | 104 | 7 | 0 | 0 | 28 | 153 | 12 | 0 | 383 |
| **AM** | **Northbound** | | | | | **Southbound** | | | | | **Eastbound** | | | | | **Westbound** | | | | | |
| **Peak Hour** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **Total** |
| **7:30-8:30** | **0** | **10** | **2** | **18** | **0** | **0** | **11** | **11** | **14** | **0** | **0** | **4** | **116** | **7** | **0** | **0** | **33** | **200** | **9** | **0** | **435** |

## Weekday Evening Peak Hour (4 pm - 7 pm)

| | Centreville Rd Northbound | | | | | Longwoods Rd Southbound | | | | | Airport Rd Eastbound | | | | | Airport Rd Westbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Time: | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | Total |
| 4:00-4:15 | 0 | 2 | 0 | 14 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 74 | 4 | 0 | 0 | 3 | 31 | 0 | 0 | 131 |
| 4:15-4:30 | 0 | 0 | 1 | 13 | 0 | 0 | 2 | 1 | 1 | 0 | 0 | 0 | 53 | 3 | 0 | 0 | 5 | 32 | 0 | 0 | 111 |
| 4:30-4:45 | 0 | 0 | 0 | 16 | 0 | 0 | 2 | 3 | 1 | 0 | 0 | 1 | 58 | 4 | 0 | 0 | 4 | 29 | 0 | 0 | 118 |
| 4:45-5:00 | 0 | 3 | 0 | 13 | 0 | 0 | 5 | 0 | 1 | 0 | 0 | 3 | 43 | 2 | 0 | 0 | 6 | 28 | 0 | 0 | 104 |
| 5:00-5:15 | 0 | 4 | 0 | 8 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 1 | 52 | 3 | 0 | 0 | 0 | 33 | 0 | 0 | 104 |
| 5:15-5:30 | 0 | 1 | 1 | 8 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 50 | 2 | 0 | 0 | 4 | 18 | 0 | 0 | 86 |
| 5:30-5:45 | 0 | 0 | 0 | 4 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 41 | 4 | 0 | 0 | 3 | 18 | 0 | 0 | 73 |
| 5:45-6:00 | 0 | 1 | 0 | 3 | 0 | 0 | 9 | 1 | 1 | 0 | 0 | 0 | 30 | 2 | 0 | 0 | 3 | 13 | 1 | 0 | 64 |
| 6:00-6:15 | 0 | 1 | 0 | 2 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 26 | 2 | 0 | 0 | 1 | 10 | 0 | 0 | 44 |
| 6:15-6:30 | 0 | 1 | 1 | 7 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 27 | 0 | 0 | 0 | 1 | 17 | 1 | 0 | 56 |
| 6:30-6:45 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 1 | 3 | 0 | 0 | 0 | 29 | 1 | 0 | 0 | 0 | 24 | 1 | 0 | 64 |
| 6:45-7:00 | 0 | 1 | 1 | 3 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 22 | 1 | 0 | 0 | 0 | 11 | 1 | 0 | 43 |
| **Hourly Totals** | | | | | | | | | | | | | | | | | | | | | |
| 4:00-5:00 | 0 | 5 | 1 | 56 | 0 | 0 | 9 | 5 | 4 | 0 | 0 | 5 | 228 | 13 | 0 | 0 | 18 | 120 | 0 | 0 | 464 |
| 4:15-5:15 | 0 | 7 | 1 | 50 | 0 | 0 | 10 | 4 | 5 | 0 | 0 | 5 | 206 | 12 | 0 | 0 | 15 | 122 | 0 | 0 | 437 |
| 4:30-5:30 | 0 | 8 | 1 | 45 | 0 | 0 | 8 | 4 | 5 | 0 | 0 | 5 | 203 | 11 | 0 | 0 | 14 | 108 | 0 | 0 | 412 |
| 4:45-5:45 | 0 | 8 | 1 | 33 | 0 | 0 | 8 | 1 | 5 | 0 | 0 | 4 | 186 | 11 | 0 | 0 | 13 | 97 | 0 | 0 | 367 |
| 5:00-6:00 | 0 | 6 | 1 | 23 | 0 | 0 | 12 | 2 | 5 | 0 | 0 | 1 | 173 | 11 | 0 | 0 | 10 | 82 | 1 | 0 | 327 |
| 5:15-6:15 | 0 | 3 | 1 | 17 | 0 | 0 | 12 | 3 | 3 | 0 | 0 | 0 | 147 | 10 | 0 | 0 | 11 | 59 | 1 | 0 | 267 |
| 5:30-6:30 | 0 | 3 | 1 | 16 | 0 | 0 | 13 | 2 | 2 | 0 | 0 | 0 | 124 | 8 | 0 | 0 | 8 | 58 | 2 | 0 | 237 |
| 5:45-6:45 | 0 | 3 | 1 | 17 | 0 | 0 | 11 | 3 | 4 | 0 | 0 | 0 | 112 | 5 | 0 | 0 | 5 | 64 | 3 | 0 | 228 |
| 6:00-7:00 | 0 | 3 | 2 | 17 | 0 | 0 | 4 | 3 | 3 | 0 | 0 | 0 | 104 | 4 | 0 | 0 | 2 | 62 | 3 | 0 | 207 |
| **PM** | **Northbound** | | | | | **Southbound** | | | | | **Eastbound** | | | | | **Westbound** | | | | | |
| **Peak Hour** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **Total** |
| **4:00-5:00** | **0** | **5** | **1** | **56** | **0** | **0** | **9** | **5** | **4** | **0** | **0** | **5** | **228** | **13** | **0** | **0** | **18** | **120** | **0** | **0** | **464** |

Peak Hour
Turning Movement Count


**LENHART TRAFFIC CONSULTING, INC.**
645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com


**Intersection:** Airport Rd & Centreville Rd
**Weather:** Clear
**Count by:** Count Cam DSS
**Count Day/Date:** Wednesday, April 30, 2025
**Jurisdiction:** Talbot County

Weekend Peak Hour (10:00 am - 2:00 pm)

| | Centerville Rd Northbound | | | | | Longwoods Rd Southbound | | | | | N/A Eastbound | | | | | Airport Rd Westbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Time: | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | Total |
| 10:00-10:15 | 0 | 1 | 10 | 12 | 0 | 0 | 5 | 15 | 2 | 0 | 0 | 6 | 19 | 2 | 0 | 0 | 6 | 19 | 11 | 0 | 108 |
| 10:15-10:30 | 0 | 2 | 3 | 4 | 0 | 0 | 7 | 15 | 10 | 0 | 0 | 4 | 27 | 5 | 0 | 0 | 9 | 39 | 9 | 0 | 134 |
| 10:30-10:45 | 0 | 3 | 7 | 8 | 0 | 0 | 4 | 9 | 2 | 0 | 0 | 3 | 21 | 3 | 0 | 0 | 11 | 21 | 8 | 0 | 100 |
| 10:45-11:00 | 0 | 1 | 6 | 8 | 0 | 0 | 7 | 4 | 1 | 0 | 0 | 1 | 28 | 6 | 0 | 0 | 13 | 32 | 5 | 0 | 112 |
| 11:00-11:15 | 0 | 0 | 5 | 8 | 0 | 0 | 8 | 15 | 5 | 0 | 0 | 0 | 20 | 1 | 0 | 1 | 16 | 35 | 7 | 0 | 121 |
| 11:15-11:30 | 0 | 2 | 6 | 12 | 0 | 0 | 7 | 9 | 2 | 0 | 0 | 1 | 24 | 1 | 0 | 1 | 13 | 29 | 5 | 0 | 112 |
| 11:30-11:45 | 0 | 2 | 3 | 9 | 0 | 0 | 5 | 9 | 3 | 0 | 0 | 1 | 21 | 3 | 0 | 2 | 16 | 33 | 6 | 0 | 113 |
| 11:45-12:00 | 0 | 1 | 2 | 7 | 0 | 0 | 4 | 8 | 0 | 0 | 0 | 2 | 33 | 3 | 0 | 0 | 5 | 36 | 10 | 0 | 111 |
| 12:00-12:15 | 0 | 3 | 5 | 14 | 0 | 0 | 13 | 26 | 5 | 0 | 0 | 0 | 22 | 1 | 0 | 0 | 14 | 38 | 5 | 0 | 146 |
| 12:15-12:30 | 0 | 3 | 1 | 5 | 0 | 0 | 1 | 4 | 5 | 0 | 0 | 0 | 29 | 1 | 0 | 1 | 5 | 36 | 5 | 0 | 96 |
| 12:30-12:45 | 0 | 0 | 5 | 11 | 0 | 0 | 5 | 6 | 2 | 0 | 0 | 0 | 31 | 2 | 0 | 0 | 4 | 33 | 5 | 0 | 104 |
| 12:45-1:00 | 0 | 1 | 5 | 5 | 0 | 0 | 5 | 5 | 6 | 0 | 0 | 1 | 28 | 3 | 0 | 0 | 8 | 27 | 5 | 0 | 99 |
| 1:00-1:15 | 0 | 2 | 3 | 12 | 0 | 0 | 3 | 2 | 2 | 0 | 0 | 0 | 16 | 0 | 0 | 0 | 13 | 37 | 1 | 0 | 91 |
| 1:15-1:30 | 0 | 0 | 3 | 9 | 0 | 0 | 3 | 4 | 2 | 0 | 0 | 0 | 26 | 1 | 0 | 0 | 4 | 33 | 1 | 0 | 86 |
| 1:30-1:45 | 0 | 0 | 1 | 5 | 0 | 0 | 2 | 1 | 2 | 0 | 0 | 1 | 20 | 1 | 0 | 1 | 4 | 35 | 3 | 0 | 76 |
| 1:45-2:00 | 0 | 2 | 2 | 8 | 0 | 0 | 4 | 5 | 6 | 0 | 0 | 1 | 22 | 2 | 0 | 0 | 5 | 28 | 6 | 0 | 91 |

| Hourly Totals | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10:00-11:00 | 0 | 7 | 26 | 32 | 0 | 0 | 23 | 43 | 15 | 0 | 0 | 14 | 95 | 16 | 0 | 6 | 39 | 111 | 33 | 0 | 460 |
| 10:15-11:15 | 0 | 6 | 21 | 28 | 0 | 0 | 26 | 43 | 18 | 0 | 0 | 8 | 96 | 15 | 0 | 1 | 49 | 127 | 29 | 0 | 467 |
| 10:30-11:30 | 0 | 6 | 24 | 36 | 0 | 0 | 26 | 37 | 10 | 0 | 0 | 5 | 93 | 11 | 0 | 2 | 53 | 117 | 25 | 0 | 445 |
| 10:45-11:45 | 0 | 5 | 20 | 37 | 0 | 0 | 27 | 37 | 11 | 0 | 0 | 3 | 93 | 11 | 0 | 4 | 58 | 129 | 23 | 0 | 458 |
| 11:00-12:00 | 0 | 5 | 16 | 36 | 0 | 0 | 24 | 41 | 10 | 0 | 0 | 4 | 98 | 8 | 0 | 4 | 50 | 133 | 28 | 0 | 457 |
| 11:15-12:15 | 0 | 8 | 16 | 42 | 0 | 0 | 29 | 52 | 10 | 0 | 0 | 4 | 100 | 8 | 0 | 3 | 48 | 136 | 26 | 0 | 482 |
| 11:30-12:30 | 0 | 9 | 11 | 35 | 0 | 0 | 23 | 47 | 13 | 0 | 0 | 3 | 105 | 8 | 0 | 3 | 40 | 143 | 26 | 0 | 466 |
| 11:45-12:45 | 0 | 7 | 13 | 37 | 0 | 0 | 23 | 44 | 12 | 0 | 0 | 2 | 115 | 7 | 0 | 1 | 28 | 143 | 25 | 0 | 457 |
| 12:00-1:00 | 0 | 7 | 16 | 35 | 0 | 0 | 24 | 41 | 18 | 0 | 0 | 1 | 110 | 7 | 0 | 1 | 31 | 134 | 20 | 0 | 445 |
| 12:15-1:15 | 0 | 6 | 14 | 33 | 0 | 0 | 14 | 17 | 15 | 0 | 0 | 1 | 104 | 6 | 0 | 1 | 30 | 133 | 16 | 0 | 390 |
| 12:30-1:30 | 0 | 3 | 16 | 37 | 0 | 0 | 16 | 17 | 12 | 0 | 0 | 1 | 101 | 6 | 0 | 0 | 29 | 130 | 12 | 0 | 380 |
| 12:45-1:45 | 0 | 3 | 12 | 31 | 0 | 0 | 13 | 12 | 12 | 0 | 0 | 2 | 90 | 5 | 0 | 1 | 29 | 132 | 10 | 0 | 352 |
| 1:00-2:00 | 0 | 4 | 9 | 34 | 0 | 0 | 12 | 12 | 12 | 0 | 0 | 2 | 84 | 4 | 0 | 1 | 26 | 133 | 11 | 0 | 344 |

| PM | Northbound | | | | | Southbound | | | | | Eastbound | | | | | Westbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Peak Hour** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **Total** |
| **11:15-12:15** | **0** | **8** | **16** | **42** | **0** | **0** | **29** | **52** | **10** | **0** | **0** | **4** | **100** | **8** | **0** | **3** | **48** | **136** | **26** | **0** | **482** |

Peak Hour
Turning Movement Count

LENHART TRAFFIC CONSULTING, INC.
645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com

Intersection: Centerville Rd & Airport Rd
Weather: Clear
Count by: Count Cam DSS
Count Day/Date: Saturday, September 14, 2024
County: Talbot County

## Weekday Morning Peak Hour (6:30 am - 9:30 am)

| | US 50 Northbound | | | | | US 50 Southbound | | | | | Airport Rd Eastbound | | | | | Airport Rd Westbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Time: | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | Total |
| 6:30-6:45 | 1 | 7 | 207 | 0 | 0 | 0 | 9 | 217 | 24 | 0 | 0 | 23 | 6 | 7 | 0 | 0 | 48 | 19 | 16 | 0 | 584 |
| 6:45-7:00 | 1 | 11 | 178 | 1 | 0 | 0 | 12 | 203 | 23 | 0 | 0 | 9 | 5 | 6 | 0 | 0 | 63 | 27 | 16 | 0 | 555 |
| 7:00-7:15 | 1 | 10 | 223 | 0 | 0 | 0 | 10 | 216 | 19 | 0 | 0 | 12 | 4 | 1 | 0 | 0 | 65 | 21 | 23 | 0 | 605 |
| 7:15-7:30 | 1 | 7 | 235 | 4 | 0 | 1 | 9 | 256 | 15 | 0 | 0 | 23 | 9 | 1 | 0 | 0 | 75 | 22 | 19 | 0 | 677 |
| 7:30-7:45 | 0 | 11 | 256 | 2 | 0 | 0 | 7 | 250 | 30 | 0 | 0 | 23 | 17 | 4 | 0 | 0 | 74 | 29 | 24 | 0 | 727 |
| 7:45-8:00 | 3 | 6 | 215 | 1 | 0 | 0 | 7 | 309 | 32 | 0 | 0 | 15 | 7 | 5 | 0 | 0 | 96 | 29 | 24 | 0 | 749 |
| 8:00-8:15 | 3 | 9 | 230 | 1 | 1 | 0 | 11 | 262 | 23 | 0 | 0 | 23 | 9 | 3 | 0 | 0 | 74 | 19 | 19 | 0 | 686 |
| 8:15-8:30 | 3 | 11 | 255 | 1 | 1 | 0 | 10 | 229 | 18 | 0 | 0 | 21 | 12 | 4 | 0 | 0 | 51 | 25 | 14 | 0 | 654 |
| 8:30-8:45 | 6 | 9 | 248 | 1 | 0 | 0 | 11 | 225 | 26 | 0 | 0 | 28 | 7 | 6 | 0 | 0 | 52 | 13 | 12 | 0 | 644 |
| 8:45-9:00 | 1 | 9 | 206 | 2 | 0 | 0 | 10 | 234 | 25 | 0 | 0 | 26 | 12 | 5 | 0 | 0 | 85 | 22 | 16 | 0 | 653 |
| 9:00-9:15 | 4 | 18 | 220 | 3 | 0 | 1 | 7 | 168 | 18 | 0 | 0 | 12 | 11 | 9 | 0 | 0 | 51 | 23 | 15 | 0 | 560 |
| 9:15-9:30 | 0 | 8 | 269 | 0 | 0 | 0 | 8 | 287 | 14 | 0 | 0 | 13 | 10 | 7 | 0 | 0 | 34 | 9 | 13 | 0 | 672 |
| **Hourly Totals** | | | | | | | | | | | | | | | | | | | | | |
| 6:30-7:30 | 4 | 35 | 843 | 5 | 0 | 1 | 40 | 892 | 81 | 0 | 0 | 67 | 24 | 15 | 0 | 0 | 251 | 89 | 74 | 0 | 2421 |
| 6:45-7:45 | 3 | 39 | 892 | 7 | 0 | 1 | 38 | 925 | 87 | 0 | 0 | 67 | 35 | 12 | 0 | 0 | 277 | 99 | 82 | 0 | 2564 |
| 7:00-8:00 | 5 | 34 | 929 | 7 | 0 | 1 | 33 | 1031 | 96 | 0 | 0 | 73 | 37 | 11 | 0 | 0 | 310 | 101 | 90 | 0 | 2758 |
| 7:15-8:15 | 7 | 33 | 936 | 8 | 1 | 1 | 34 | 1077 | 100 | 0 | 0 | 84 | 42 | 13 | 0 | 0 | 319 | 99 | 86 | 0 | 2840 |
| 7:30-8:30 | 9 | 37 | 956 | 5 | 2 | 0 | 35 | 1050 | 103 | 0 | 0 | 82 | 45 | 16 | 0 | 0 | 295 | 102 | 81 | 0 | 2818 |
| 7:45-8:45 | 15 | 35 | 948 | 4 | 2 | 0 | 39 | 1025 | 99 | 0 | 0 | 87 | 35 | 18 | 0 | 0 | 273 | 86 | 69 | 0 | 2735 |
| 8:00-9:00 | 13 | 38 | 939 | 5 | 2 | 0 | 42 | 950 | 92 | 0 | 0 | 98 | 40 | 18 | 0 | 0 | 262 | 79 | 61 | 0 | 2639 |
| 8:15-9:15 | 14 | 47 | 929 | 7 | 1 | 1 | 38 | 856 | 87 | 0 | 0 | 87 | 42 | 24 | 0 | 0 | 239 | 83 | 57 | 0 | 2512 |
| 8:30-9:30 | 11 | 44 | 943 | 6 | 0 | 1 | 36 | 914 | 83 | 0 | 0 | 79 | 40 | 27 | 0 | 0 | 222 | 67 | 56 | 0 | 2529 |
| **AM** | **Northbound** | | | | | **Southbound** | | | | | **Eastbound** | | | | | **Westbound** | | | | | |
| **Peak Hour** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **Total** |
| **7:15-8:15** | **7** | **33** | **936** | **8** | **1** | **1** | **34** | **1077** | **100** | **0** | **0** | **84** | **42** | **13** | **0** | **0** | **319** | **99** | **86** | **0** | **2840** |

## Weekday Evening Peak Hour (4 pm - 7 pm)

| | US 50 Northbound | | | | | US 50 Southbound | | | | | Airport Rd Eastbound | | | | | Airport Rd Westbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Time: | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | Total |
| 4:00-4:15 | 3 | 5 | 282 | 0 | 0 | 0 | 31 | 229 | 22 | 0 | 0 | 29 | 41 | 18 | 0 | 0 | 45 | 7 | 16 | 0 | 728 |
| 4:15-4:30 | 5 | 9 | 258 | 3 | 0 | 0 | 30 | 241 | 17 | 0 | 0 | 36 | 31 | 7 | 0 | 0 | 46 | 11 | 19 | 0 | 713 |
| 4:30-4:45 | 1 | 3 | 283 | 0 | 0 | 0 | 21 | 254 | 22 | 0 | 0 | 40 | 31 | 6 | 0 | 0 | 41 | 8 | 19 | 0 | 729 |
| 4:45-5:00 | 4 | 6 | 298 | 2 | 0 | 0 | 22 | 262 | 20 | 0 | 0 | 33 | 26 | 4 | 0 | 0 | 39 | 9 | 30 | 0 | 755 |
| 5:00-5:15 | 1 | 9 | 310 | 4 | 0 | 0 | 27 | 259 | 16 | 0 | 0 | 23 | 28 | 7 | 0 | 0 | 51 | 7 | 15 | 0 | 757 |
| 5:15-5:30 | 3 | 4 | 269 | 0 | 0 | 0 | 14 | 198 | 15 | 0 | 0 | 28 | 27 | 7 | 0 | 0 | 52 | 5 | 12 | 0 | 634 |
| 5:30-5:45 | 2 | 4 | 239 | 1 | 0 | 0 | 22 | 195 | 8 | 0 | 0 | 25 | 10 | 10 | 0 | 0 | 29 | 8 | 14 | 0 | 567 |
| 5:45-6:00 | 1 | 1 | 177 | 0 | 0 | 0 | 12 | 169 | 9 | 0 | 0 | 20 | 14 | 11 | 0 | 0 | 34 | 7 | 6 | 0 | 461 |
| 6:00-6:15 | 2 | 1 | 206 | 1 | 0 | 0 | 17 | 151 | 3 | 0 | 0 | 15 | 13 | 1 | 0 | 0 | 29 | 7 | 8 | 0 | 454 |
| 6:15-6:30 | 9 | 1 | 181 | 0 | 0 | 0 | 17 | 153 | 8 | 0 | 0 | 20 | 5 | 7 | 0 | 0 | 27 | 11 | 7 | 0 | 446 |
| 6:30-6:45 | 1 | 5 | 204 | 1 | 0 | 0 | 12 | 183 | 13 | 0 | 0 | 11 | 17 | 6 | 0 | 0 | 22 | 6 | 9 | 0 | 490 |
| 6:45-7:00 | 2 | 2 | 154 | 1 | 0 | 0 | 19 | 162 | 6 | 0 | 0 | 16 | 10 | 4 | 0 | 0 | 30 | 4 | 11 | 0 | 421 |
| **Hourly Totals** | | | | | | | | | | | | | | | | | | | | | |
| 4:00-5:00 | 13 | 23 | 1121 | 5 | 0 | 0 | 104 | 986 | 81 | 0 | 0 | 138 | 129 | 35 | 0 | 0 | 171 | 35 | 84 | 0 | 2925 |
| 4:15-5:15 | 11 | 27 | 1149 | 9 | 0 | 0 | 100 | 1016 | 75 | 0 | 0 | 132 | 116 | 24 | 0 | 0 | 177 | 35 | 83 | 0 | 2954 |
| 4:30-5:30 | 9 | 22 | 1160 | 6 | 0 | 0 | 84 | 973 | 73 | 0 | 0 | 124 | 112 | 24 | 0 | 0 | 183 | 29 | 76 | 0 | 2875 |
| 4:45-5:45 | 10 | 23 | 1116 | 7 | 0 | 0 | 85 | 914 | 59 | 0 | 0 | 109 | 91 | 28 | 0 | 0 | 171 | 29 | 71 | 0 | 2713 |
| 5:00-6:00 | 7 | 18 | 995 | 5 | 0 | 0 | 75 | 821 | 48 | 0 | 0 | 96 | 79 | 35 | 0 | 0 | 166 | 27 | 47 | 0 | 2419 |
| 5:15-6:15 | 8 | 10 | 891 | 2 | 0 | 0 | 65 | 713 | 35 | 0 | 0 | 88 | 64 | 29 | 0 | 0 | 144 | 27 | 40 | 0 | 2116 |
| 5:30-6:30 | 14 | 7 | 803 | 2 | 0 | 0 | 68 | 668 | 28 | 0 | 0 | 80 | 42 | 29 | 0 | 0 | 119 | 33 | 35 | 0 | 1928 |
| 5:45-6:45 | 13 | 8 | 768 | 2 | 0 | 0 | 58 | 656 | 33 | 0 | 0 | 66 | 49 | 25 | 0 | 0 | 112 | 31 | 30 | 0 | 1851 |
| 6:00-7:00 | 14 | 9 | 745 | 3 | 0 | 0 | 65 | 649 | 30 | 0 | 0 | 62 | 45 | 18 | 0 | 0 | 108 | 28 | 35 | 0 | 1811 |
| **PM** | **Northbound** | | | | | **Southbound** | | | | | **Eastbound** | | | | | **Westbound** | | | | | |
| **Peak Hour** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **Total** |
| **4:15-5:15** | **11** | **27** | **1149** | **9** | **0** | **0** | **100** | **1016** | **75** | **0** | **0** | **132** | **116** | **24** | **0** | **0** | **177** | **35** | **83** | **0** | **2954** |

Peak Hour
Turning Movement Count


**LENHART TRAFFIC CONSULTING, INC.**
645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com


**Intersection:** US 50 & Airport Rd
**Weather:** Clear
**Count by:** Count Cam DSS
**Count Day/Date:** Wednesday, April 30, 2025
**Jurisdiction:** Talbot County

Weekend Peak Hour (10:00 am - 2:00 pm)

| | US 50 Northbound | | | | | US 50 Southbound | | | | | Airport Rd Eastbound | | | | | Airport Rd Westbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Time: | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | Total |
| 10:00-10:15 | 4 | 11 | 239 | 4 | 0 | 1 | 7 | 406 | 12 | 0 | 0 | 21 | 8 | 4 | 0 | 0 | 35 | 14 | 7 | 0 | 773 |
| 10:15-10:30 | 3 | 11 | 345 | 0 | 0 | 1 | 13 | 368 | 28 | 0 | 0 | 23 | 9 | 6 | 0 | 0 | 37 | 19 | 17 | 0 | 880 |
| 10:30-10:45 | 2 | 9 | 256 | 3 | 0 | 1 | 9 | 340 | 12 | 0 | 0 | 19 | 10 | 7 | 0 | 0 | 35 | 16 | 13 | 0 | 732 |
| 10:45-11:00 | 1 | 14 | 313 | 1 | 0 | 2 | 5 | 436 | 27 | 0 | 0 | 20 | 16 | 7 | 0 | 0 | 43 | 10 | 21 | 0 | 916 |
| 11:00-11:15 | 2 | 9 | 330 | 1 | 0 | 0 | 15 | 401 | 35 | 0 | 0 | 14 | 15 | 9 | 0 | 0 | 40 | 9 | 4 | 0 | 884 |
| 11:15-11:30 | 3 | 13 | 334 | 1 | 0 | 1 | 25 | 389 | 26 | 0 | 0 | 18 | 19 | 9 | 0 | 0 | 48 | 9 | 13 | 0 | 908 |
| 11:30-11:45 | 4 | 11 | 313 | 1 | 0 | 4 | 25 | 316 | 26 | 0 | 0 | 15 | 12 | 8 | 0 | 0 | 40 | 15 | 12 | 0 | 802 |
| 11:45-12:00 | 5 | 10 | 310 | 2 | 0 | 1 | 17 | 417 | 29 | 0 | 0 | 20 | 13 | 12 | 0 | 0 | 41 | 13 | 13 | 0 | 903 |
| 12:00-12:15 | 2 | 9 | 394 | 2 | 0 | 1 | 16 | 351 | 34 | 0 | 0 | 20 | 17 | 9 | 0 | 0 | 33 | 13 | 15 | 0 | 916 |
| 12:15-12:30 | 3 | 13 | 341 | 3 | 0 | 1 | 21 | 334 | 23 | 0 | 0 | 22 | 12 | 8 | 0 | 0 | 35 | 11 | 10 | 0 | 837 |
| 12:30-12:45 | 3 | 7 | 314 | 1 | 0 | 1 | 12 | 354 | 23 | 0 | 0 | 21 | 18 | 9 | 0 | 0 | 52 | 12 | 15 | 0 | 842 |
| 12:45-1:00 | 4 | 5 | 249 | 2 | 0 | 1 | 9 | 425 | 25 | 0 | 0 | 19 | 11 | 6 | 0 | 0 | 36 | 10 | 13 | 0 | 815 |
| 1:00-1:15 | 2 | 6 | 311 | 0 | 0 | 1 | 14 | 325 | 35 | 0 | 0 | 15 | 14 | 4 | 0 | 0 | 31 | 12 | 10 | 1 | 780 |
| 1:15-1:30 | 0 | 5 | 303 | 2 | 0 | 0 | 5 | 334 | 29 | 0 | 0 | 16 | 12 | 2 | 0 | 0 | 34 | 4 | 6 | 0 | 752 |
| 1:30-1:45 | 3 | 4 | 297 | 2 | 0 | 2 | 17 | 361 | 29 | 0 | 0 | 12 | 9 | 4 | 0 | 0 | 27 | 8 | 14 | 0 | 789 |
| 1:45-2:00 | 7 | 6 | 323 | 2 | 0 | 0 | 16 | 362 | 18 | 0 | 0 | 20 | 13 | 4 | 0 | 0 | 41 | 16 | 10 | 0 | 838 |

| Hourly Totals | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10:00-11:00 | 10 | 45 | 1153 | 8 | 0 | 5 | 34 | 1550 | 79 | 0 | 0 | 83 | 43 | 24 | 0 | 0 | 150 | 59 | 58 | 0 | 3301 |
| 10:15-11:15 | 8 | 43 | 1244 | 5 | 0 | 4 | 42 | 1545 | 102 | 0 | 0 | 76 | 50 | 29 | 0 | 0 | 155 | 54 | 55 | 0 | 3412 |
| 10:30-11:30 | 8 | 45 | 1233 | 6 | 0 | 4 | 54 | 1566 | 100 | 0 | 0 | 71 | 60 | 32 | 0 | 0 | 166 | 44 | 51 | 0 | 3440 |
| 10:45-11:45 | 10 | 47 | 1290 | 4 | 0 | 7 | 70 | 1542 | 114 | 0 | 0 | 67 | 62 | 33 | 0 | 0 | 171 | 43 | 50 | 0 | 3510 |
| 11:00-12:00 | 14 | 43 | 1287 | 5 | 0 | 6 | 82 | 1523 | 116 | 0 | 0 | 67 | 59 | 38 | 0 | 0 | 169 | 46 | 42 | 0 | 3497 |
| 11:15-12:15 | 14 | 43 | 1351 | 6 | 0 | 7 | 83 | 1473 | 115 | 0 | 0 | 73 | 61 | 38 | 0 | 0 | 162 | 50 | 53 | 0 | 3529 |
| 11:30-12:30 | 14 | 43 | 1358 | 8 | 0 | 7 | 79 | 1418 | 112 | 0 | 0 | 77 | 54 | 37 | 0 | 0 | 149 | 52 | 50 | 0 | 3458 |
| 11:45-12:45 | 13 | 39 | 1359 | 8 | 0 | 4 | 66 | 1456 | 109 | 0 | 0 | 83 | 60 | 38 | 0 | 0 | 161 | 49 | 53 | 0 | 3498 |
| 12:00-1:00 | 12 | 34 | 1298 | 8 | 0 | 4 | 58 | 1464 | 105 | 0 | 0 | 82 | 58 | 32 | 0 | 0 | 156 | 46 | 53 | 0 | 3410 |
| 12:15-1:15 | 12 | 31 | 1215 | 6 | 0 | 4 | 56 | 1438 | 106 | 0 | 0 | 77 | 55 | 27 | 0 | 0 | 154 | 45 | 48 | 1 | 3275 |
| 12:30-1:30 | 9 | 23 | 1177 | 5 | 0 | 3 | 40 | 1438 | 112 | 0 | 0 | 71 | 55 | 21 | 0 | 0 | 153 | 38 | 44 | 1 | 3190 |
| 12:45-1:45 | 9 | 20 | 1160 | 6 | 0 | 4 | 45 | 1445 | 118 | 0 | 0 | 62 | 46 | 16 | 0 | 0 | 128 | 34 | 43 | 1 | 3137 |
| 1:00-2:00 | 12 | 21 | 1234 | 6 | 0 | 3 | 52 | 1382 | 111 | 0 | 0 | 63 | 48 | 14 | 0 | 0 | 133 | 40 | 40 | 1 | 3160 |

| PM | Northbound | | | | | Southbound | | | | | Eastbound | | | | | Westbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Peak Hour** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **Total** |
| **11:15-12:15** | **14** | **43** | **1351** | **6** | **0** | **7** | **83** | **1473** | **115** | **0** | **0** | **73** | **61** | **38** | **0** | **0** | **162** | **50** | **53** | **0** | **3529** |

Peak Hour
Turning Movement Count


**LENHART TRAFFIC CONSULTING, INC.**
645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com


**Intersection:** US 50 & Airport Rd
**Weather:** Clear
**Count by:** Count Cam DSS
**Count Day/Date:** Saturday, September 14, 2024
**County:** Talbot County

## Weekday Morning Peak Hour (6:30 am - 9:30 am)

| | N/A Northbound | | | | | Goldsborough Neck Rd Southbound | | | | | Glebe Rd Eastbound | | | | | Glebe Rd Westbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Time: | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | Total |
| 6:30-6:45 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 15 | 0 | 0 | 9 | 7 | 0 | 0 | 0 | 0 | 9 | 2 | 0 | 49 |
| 6:45-7:00 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 10 | 0 | 0 | 6 | 6 | 0 | 0 | 0 | 0 | 12 | 9 | 0 | 50 |
| 7:00-7:15 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 0 | 15 | 0 | 0 | 7 | 7 | 0 | 0 | 0 | 0 | 11 | 6 | 0 | 56 |
| 7:15-7:30 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 0 | 21 | 0 | 0 | 18 | 13 | 0 | 0 | 0 | 0 | 8 | 11 | 0 | 81 |
| 7:30-7:45 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 0 | 23 | 0 | 0 | 11 | 6 | 0 | 0 | 0 | 0 | 12 | 10 | 0 | 75 |
| 7:45-8:00 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 17 | 0 | 0 | 12 | 16 | 0 | 0 | 0 | 0 | 30 | 17 | 0 | 99 |
| 8:00-8:15 | 0 | 0 | 0 | 0 | 0 | 0 | 15 | 0 | 16 | 0 | 0 | 10 | 7 | 0 | 0 | 0 | 0 | 19 | 4 | 0 | 71 |
| 8:15-8:30 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 25 | 0 | 0 | 10 | 13 | 0 | 0 | 0 | 0 | 14 | 5 | 0 | 76 |
| 8:30-8:45 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 0 | 21 | 0 | 0 | 14 | 19 | 0 | 0 | 0 | 0 | 11 | 16 | 0 | 93 |
| 8:45-9:00 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 0 | 19 | 0 | 0 | 17 | 17 | 0 | 0 | 0 | 0 | 12 | 14 | 0 | 91 |
| 9:00-9:15 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 0 | 20 | 0 | 0 | 16 | 17 | 0 | 0 | 0 | 0 | 16 | 11 | 0 | 92 |
| 9:15-9:30 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 0 | 13 | 0 | 0 | 22 | 22 | 0 | 0 | 0 | 0 | 10 | 8 | 0 | 86 |
| **Hourly Totals** | | | | | | | | | | | | | | | | | | | | | |
| 6:30-7:30 | 0 | 0 | 0 | 0 | 0 | 0 | 34 | 0 | 61 | 0 | 0 | 40 | 33 | 0 | 0 | 0 | 0 | 40 | 28 | 0 | 236 |
| 6:45-7:45 | 0 | 0 | 0 | 0 | 0 | 0 | 40 | 0 | 69 | 0 | 0 | 42 | 32 | 0 | 0 | 0 | 0 | 43 | 36 | 0 | 262 |
| 7:00-8:00 | 0 | 0 | 0 | 0 | 0 | 0 | 40 | 0 | 76 | 0 | 0 | 48 | 42 | 0 | 0 | 0 | 0 | 61 | 44 | 0 | 311 |
| 7:15-8:15 | 0 | 0 | 0 | 0 | 0 | 0 | 45 | 0 | 77 | 0 | 0 | 51 | 42 | 0 | 0 | 0 | 0 | 69 | 42 | 0 | 326 |
| 7:30-8:30 | 0 | 0 | 0 | 0 | 0 | 0 | 44 | 0 | 81 | 0 | 0 | 43 | 42 | 0 | 0 | 0 | 0 | 75 | 36 | 0 | 321 |
| 7:45-8:45 | 0 | 0 | 0 | 0 | 0 | 0 | 43 | 0 | 79 | 0 | 0 | 46 | 55 | 0 | 0 | 0 | 0 | 74 | 42 | 0 | 339 |
| 8:00-9:00 | 0 | 0 | 0 | 0 | 0 | 0 | 48 | 0 | 81 | 0 | 0 | 51 | 56 | 0 | 0 | 0 | 0 | 56 | 39 | 0 | 331 |
| 8:15-9:15 | 0 | 0 | 0 | 0 | 0 | 0 | 45 | 0 | 85 | 0 | 0 | 57 | 66 | 0 | 0 | 0 | 0 | 53 | 46 | 0 | 352 |
| 8:30-9:30 | 0 | 0 | 0 | 0 | 0 | 0 | 47 | 0 | 73 | 0 | 0 | 69 | 75 | 0 | 0 | 0 | 0 | 49 | 49 | 0 | 362 |

| AM | Northbound | | | | | Southbound | | | | | Eastbound | | | | | Westbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Peak Hour | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | Total |
| **8:30-9:30** | **0** | **0** | **0** | **0** | **0** | **0** | **47** | **0** | **73** | **0** | **0** | **69** | **75** | **0** | **0** | **0** | **0** | **49** | **49** | **0** | **362** |

## Weekday Evening Peak Hour (4 pm - 7 pm)

| | N/A Northbound | | | | | Goldsborough Neck Rd Southbound | | | | | Glebe Rd Eastbound | | | | | Glebe Rd Westbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Time: | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | Total |
| 4:00-4:15 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 0 | 27 | 0 | 0 | 25 | 14 | 0 | 0 | 0 | 0 | 20 | 26 | 0 | 132 |
| 4:15-4:30 | 0 | 0 | 0 | 0 | 0 | 0 | 22 | 0 | 23 | 0 | 0 | 31 | 18 | 0 | 0 | 0 | 0 | 19 | 16 | 0 | 129 |
| 4:30-4:45 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 0 | 31 | 0 | 0 | 29 | 13 | 0 | 0 | 0 | 0 | 16 | 22 | 0 | 124 |
| 4:45-5:00 | 0 | 0 | 0 | 0 | 0 | 0 | 19 | 0 | 32 | 0 | 0 | 16 | 8 | 0 | 0 | 0 | 0 | 19 | 21 | 0 | 115 |
| 5:00-5:15 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 0 | 23 | 0 | 0 | 16 | 17 | 0 | 0 | 0 | 0 | 13 | 17 | 0 | 99 |
| 5:15-5:30 | 0 | 0 | 0 | 0 | 0 | 0 | 24 | 0 | 32 | 0 | 0 | 16 | 14 | 0 | 0 | 0 | 0 | 23 | 14 | 0 | 123 |
| 5:30-5:45 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 23 | 0 | 0 | 15 | 11 | 0 | 0 | 0 | 0 | 14 | 14 | 0 | 84 |
| 5:45-6:00 | 0 | 0 | 0 | 0 | 0 | 0 | 14 | 0 | 27 | 0 | 0 | 11 | 7 | 0 | 0 | 0 | 0 | 14 | 13 | 0 | 86 |
| 6:00-6:15 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 21 | 0 | 0 | 10 | 8 | 0 | 0 | 0 | 0 | 10 | 22 | 0 | 78 |
| 6:15-6:30 | 0 | 0 | 0 | 0 | 0 | 0 | 17 | 0 | 29 | 0 | 0 | 10 | 6 | 0 | 0 | 0 | 0 | 13 | 10 | 0 | 85 |
| 6:30-6:45 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 19 | 0 | 0 | 12 | 5 | 0 | 0 | 0 | 0 | 8 | 12 | 0 | 61 |
| 6:45-7:00 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 14 | 0 | 0 | 6 | 4 | 0 | 0 | 0 | 0 | 8 | 1 | 0 | 38 |
| **Hourly Totals** | | | | | | | | | | | | | | | | | | | | | |
| 4:00-5:00 | 0 | 0 | 0 | 0 | 0 | 0 | 74 | 0 | 113 | 0 | 0 | 101 | 53 | 0 | 0 | 0 | 0 | 74 | 85 | 0 | 500 |
| 4:15-5:15 | 0 | 0 | 0 | 0 | 0 | 0 | 67 | 0 | 109 | 0 | 0 | 92 | 56 | 0 | 0 | 0 | 0 | 67 | 76 | 0 | 467 |
| 4:30-5:30 | 0 | 0 | 0 | 0 | 0 | 0 | 69 | 0 | 118 | 0 | 0 | 77 | 52 | 0 | 0 | 0 | 0 | 71 | 74 | 0 | 461 |
| 4:45-5:45 | 0 | 0 | 0 | 0 | 0 | 0 | 63 | 0 | 110 | 0 | 0 | 63 | 50 | 0 | 0 | 0 | 0 | 69 | 66 | 0 | 421 |
| 5:00-6:00 | 0 | 0 | 0 | 0 | 0 | 0 | 58 | 0 | 105 | 0 | 0 | 58 | 49 | 0 | 0 | 0 | 0 | 64 | 58 | 0 | 392 |
| 5:15-6:15 | 0 | 0 | 0 | 0 | 0 | 0 | 52 | 0 | 103 | 0 | 0 | 52 | 40 | 0 | 0 | 0 | 0 | 61 | 63 | 0 | 371 |
| 5:30-6:30 | 0 | 0 | 0 | 0 | 0 | 0 | 45 | 0 | 100 | 0 | 0 | 46 | 32 | 0 | 0 | 0 | 0 | 51 | 59 | 0 | 333 |
| 5:45-6:45 | 0 | 0 | 0 | 0 | 0 | 0 | 43 | 0 | 96 | 0 | 0 | 43 | 26 | 0 | 0 | 0 | 0 | 45 | 57 | 0 | 310 |
| 6:00-7:00 | 0 | 0 | 0 | 0 | 0 | 0 | 34 | 0 | 83 | 0 | 0 | 38 | 23 | 0 | 0 | 0 | 0 | 39 | 45 | 0 | 262 |

| PM | Northbound | | | | | Southbound | | | | | Eastbound | | | | | Westbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Peak Hour | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | Total |
| **4:00-5:00** | **0** | **0** | **0** | **0** | **0** | **0** | **74** | **0** | **113** | **0** | **0** | **101** | **53** | **0** | **0** | **0** | **0** | **74** | **85** | **0** | **500** |

Peak Hour
Turning Movement Count


**LENHART TRAFFIC CONSULTING, INC.**
645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com


**Intersection:** Goldsborough Neck Rd & Glebe Rd
**Weather:** Clear
**Count by:** Count Cam DSS
**Count Day/Date:** Friday, September 13, 2024
**Jurisdiction:** Talbot County

Weekend Peak Hour (10:00 am - 2:00 pm)

| | N/A Northbound | | | | | Goldsborough Neck Rd Southbound | | | | | Glebe Rd Eastbound | | | | | Glebe Rd Westbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Time: | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | Total |
| 10:00-10:15 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 0 | 18 | 0 | 0 | 20 | 18 | 0 | 0 | 0 | 0 | 16 | 9 | 0 | 93 |
| 10:15-10:30 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 0 | 28 | 0 | 0 | 23 | 15 | 0 | 0 | 0 | 0 | 22 | 20 | 0 | 121 |
| 10:30-10:45 | 0 | 0 | 0 | 0 | 0 | 0 | 16 | 0 | 12 | 0 | 0 | 21 | 7 | 0 | 0 | 0 | 0 | 15 | 19 | 0 | 90 |
| 10:45-11:00 | 0 | 0 | 0 | 0 | 0 | 0 | 16 | 0 | 24 | 0 | 0 | 22 | 14 | 0 | 0 | 0 | 0 | 12 | 18 | 0 | 106 |
| 11:00-11:15 | 0 | 0 | 0 | 0 | 0 | 0 | 16 | 0 | 26 | 0 | 0 | 10 | 14 | 0 | 0 | 0 | 0 | 16 | 25 | 0 | 107 |
| 11:15-11:30 | 0 | 0 | 0 | 0 | 0 | 0 | 16 | 0 | 24 | 0 | 0 | 19 | 7 | 0 | 0 | 0 | 0 | 24 | 13 | 0 | 103 |
| 11:30-11:45 | 0 | 0 | 0 | 0 | 0 | 0 | 15 | 0 | 26 | 0 | 0 | 27 | 12 | 0 | 0 | 0 | 0 | 15 | 16 | 0 | 111 |
| 11:45-12:00 | 0 | 0 | 0 | 0 | 0 | 0 | 19 | 0 | 29 | 0 | 0 | 18 | 18 | 0 | 0 | 0 | 0 | 22 | 10 | 0 | 116 |
| 12:00-12:15 | 0 | 0 | 0 | 0 | 0 | 0 | 19 | 0 | 24 | 0 | 0 | 12 | 6 | 0 | 0 | 1 | 0 | 19 | 13 | 0 | 94 |
| 12:15-12:30 | 0 | 0 | 0 | 0 | 0 | 0 | 14 | 0 | 42 | 0 | 0 | 18 | 9 | 0 | 0 | 0 | 0 | 22 | 19 | 0 | 124 |
| 12:30-12:45 | 0 | 0 | 0 | 0 | 0 | 0 | 16 | 0 | 25 | 0 | 0 | 11 | 9 | 0 | 0 | 0 | 0 | 17 | 13 | 0 | 91 |
| 12:45-1:00 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 0 | 31 | 0 | 0 | 20 | 19 | 0 | 0 | 0 | 0 | 14 | 20 | 0 | 124 |
| 1:00-1:15 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 0 | 29 | 0 | 0 | 15 | 12 | 0 | 0 | 0 | 0 | 20 | 14 | 0 | 103 |
| 1:15-1:30 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 36 | 0 | 0 | 20 | 7 | 0 | 0 | 0 | 0 | 22 | 21 | 0 | 115 |
| 1:30-1:45 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 0 | 34 | 0 | 0 | 23 | 12 | 0 | 0 | 0 | 0 | 15 | 16 | 0 | 113 |
| 1:45-2:00 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 25 | 0 | 0 | 14 | 8 | 0 | 0 | 0 | 0 | 23 | 21 | 0 | 98 |

| Hourly Totals | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10:00-11:00 | 0 | 0 | 0 | 0 | 0 | 0 | 57 | 0 | 82 | 0 | 0 | 86 | 54 | 0 | 0 | 1 | 0 | 65 | 66 | 0 | 411 |
| 10:15-11:15 | 0 | 0 | 0 | 0 | 0 | 0 | 61 | 0 | 90 | 0 | 0 | 76 | 50 | 0 | 0 | 0 | 0 | 65 | 82 | 0 | 424 |
| 10:30-11:30 | 0 | 0 | 0 | 0 | 0 | 0 | 64 | 0 | 86 | 0 | 0 | 72 | 42 | 0 | 0 | 0 | 0 | 67 | 75 | 0 | 406 |
| 10:45-11:45 | 0 | 0 | 0 | 0 | 0 | 0 | 63 | 0 | 100 | 0 | 0 | 78 | 47 | 0 | 0 | 0 | 0 | 67 | 72 | 0 | 427 |
| 11:00-12:00 | 0 | 0 | 0 | 0 | 0 | 0 | 66 | 0 | 105 | 0 | 0 | 74 | 51 | 0 | 0 | 0 | 0 | 77 | 64 | 0 | 437 |
| 11:15-12:15 | 0 | 0 | 0 | 0 | 0 | 0 | 69 | 0 | 103 | 0 | 0 | 76 | 43 | 0 | 0 | 1 | 0 | 80 | 52 | 0 | 424 |
| 11:30-12:30 | 0 | 0 | 0 | 0 | 0 | 0 | 67 | 0 | 121 | 0 | 0 | 75 | 45 | 0 | 0 | 1 | 0 | 78 | 58 | 0 | 445 |
| 11:45-12:45 | 0 | 0 | 0 | 0 | 0 | 0 | 68 | 0 | 120 | 0 | 0 | 59 | 42 | 0 | 0 | 1 | 0 | 80 | 55 | 0 | 425 |
| 12:00-1:00 | 0 | 0 | 0 | 0 | 0 | 0 | 69 | 0 | 122 | 0 | 0 | 61 | 43 | 0 | 0 | 1 | 0 | 72 | 65 | 0 | 433 |
| 12:15-1:15 | 0 | 0 | 0 | 0 | 0 | 0 | 63 | 0 | 127 | 0 | 0 | 64 | 49 | 0 | 0 | 0 | 0 | 73 | 66 | 0 | 442 |
| 12:30-1:30 | 0 | 0 | 0 | 0 | 0 | 0 | 58 | 0 | 121 | 0 | 0 | 66 | 47 | 0 | 0 | 0 | 0 | 73 | 68 | 0 | 433 |
| 12:45-1:45 | 0 | 0 | 0 | 0 | 0 | 0 | 55 | 0 | 130 | 0 | 0 | 78 | 50 | 0 | 0 | 0 | 0 | 71 | 71 | 0 | 455 |
| 1:00-2:00 | 0 | 0 | 0 | 0 | 0 | 0 | 42 | 0 | 124 | 0 | 0 | 72 | 39 | 0 | 0 | 0 | 0 | 80 | 72 | 0 | 429 |

| PM | Northbound | | | | | Southbound | | | | | Eastbound | | | | | Westbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Peak Hour** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **Total** |
| **12:45-1:45** | **0** | **0** | **0** | **0** | **0** | **0** | **55** | **0** | **130** | **0** | **0** | **78** | **50** | **0** | **0** | **0** | **0** | **71** | **71** | **0** | **455** |

Peak Hour
Turning Movement Count

LENHART TRAFFIC CONSULTING, INC.
645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com

**Intersection:** Goldsborough Neck Rd & Glebe Rd
**Weather:** Clear
**Count by:** Count Cam DSS
**Count Day/Date:** Saturday, September 14, 2024
**County:** Talbot County

## Weekday Morning Peak Hour (6:30 am - 9:30 am)

| | MD 322 Northbound | | | | | MD 322 Southbound | | | | | Glebe Rd Eastbound | | | | | Glebe Rd Westbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Time: | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | Total |
| 6:30-6:45 | 0 | 3 | 40 | 0 | 0 | 0 | 10 | 63 | 25 | 0 | 0 | 13 | 11 | 4 | 0 | 0 | 1 | 16 | 10 | 0 | 196 |
| 6:45-7:00 | 0 | 7 | 54 | 2 | 0 | 0 | 13 | 82 | 42 | 0 | 0 | 6 | 12 | 7 | 0 | 0 | 5 | 26 | 8 | 0 | 264 |
| 7:00-7:15 | 0 | 10 | 56 | 2 | 0 | 0 | 17 | 99 | 38 | 0 | 0 | 19 | 11 | 15 | 0 | 0 | 4 | 24 | 11 | 0 | 306 |
| 7:15-7:30 | 0 | 19 | 57 | 4 | 0 | 0 | 23 | 120 | 49 | 0 | 0 | 23 | 21 | 7 | 0 | 0 | 4 | 23 | 15 | 0 | 365 |
| 7:30-7:45 | 0 | 15 | 66 | 8 | 0 | 0 | 19 | 137 | 47 | 0 | 0 | 20 | 21 | 16 | 0 | 0 | 10 | 28 | 10 | 0 | 397 |
| 7:45-8:00 | 0 | 23 | 90 | 6 | 1 | 0 | 28 | 146 | 69 | 0 | 0 | 20 | 42 | 14 | 0 | 0 | 5 | 49 | 11 | 0 | 503 |
| 8:00-8:15 | 0 | 12 | 71 | 7 | 0 | 0 | 23 | 133 | 53 | 0 | 0 | 26 | 26 | 14 | 0 | 0 | 8 | 53 | 18 | 0 | 444 |
| 8:15-8:30 | 0 | 9 | 85 | 6 | 0 | 0 | 23 | 118 | 65 | 0 | 0 | 27 | 28 | 4 | 0 | 0 | 4 | 31 | 24 | 0 | 424 |
| 8:30-8:45 | 0 | 13 | 72 | 9 | 0 | 0 | 13 | 118 | 34 | 0 | 0 | 34 | 17 | 17 | 0 | 0 | 4 | 31 | 15 | 0 | 377 |
| 8:45-9:00 | 0 | 16 | 61 | 15 | 0 | 0 | 30 | 106 | 46 | 0 | 0 | 17 | 31 | 10 | 0 | 0 | 9 | 30 | 11 | 0 | 382 |
| 9:00-9:15 | 0 | 14 | 62 | 12 | 1 | 0 | 31 | 109 | 38 | 0 | 0 | 35 | 21 | 13 | 0 | 0 | 10 | 22 | 18 | 0 | 385 |
| 9:15-9:30 | 0 | 12 | 76 | 11 | 0 | 0 | 27 | 94 | 34 | 0 | 0 | 27 | 30 | 9 | 0 | 0 | 10 | 31 | 16 | 0 | 377 |
| **Hourly Totals** | | | | | | | | | | | | | | | | | | | | | |
| 6:30-7:30 | 0 | 39 | 207 | 8 | 0 | 0 | 63 | 364 | 154 | 0 | 0 | 61 | 55 | 33 | 0 | 0 | 14 | 89 | 44 | 0 | 1131 |
| 6:45-7:45 | 0 | 51 | 233 | 16 | 0 | 0 | 72 | 438 | 176 | 0 | 0 | 68 | 65 | 45 | 0 | 0 | 23 | 101 | 44 | 0 | 1332 |
| 7:00-8:00 | 0 | 67 | 269 | 20 | 1 | 0 | 87 | 502 | 203 | 0 | 0 | 82 | 95 | 52 | 0 | 0 | 23 | 124 | 47 | 0 | 1572 |
| 7:15-8:15 | 0 | 69 | 284 | 25 | 1 | 0 | 93 | 536 | 218 | 0 | 0 | 89 | 110 | 51 | 0 | 0 | 27 | 153 | 54 | 0 | 1710 |
| 7:30-8:30 | 0 | 59 | 312 | 27 | 1 | 0 | 93 | 534 | 234 | 0 | 0 | 93 | 117 | 48 | 0 | 0 | 27 | 161 | 63 | 0 | 1769 |
| 7:45-8:45 | 0 | 57 | 318 | 28 | 1 | 0 | 87 | 515 | 221 | 0 | 0 | 107 | 113 | 49 | 0 | 0 | 21 | 164 | 68 | 0 | 1749 |
| 8:00-9:00 | 0 | 50 | 289 | 37 | 0 | 0 | 89 | 475 | 198 | 0 | 0 | 104 | 102 | 45 | 0 | 0 | 25 | 145 | 68 | 0 | 1627 |
| 8:15-9:15 | 0 | 52 | 280 | 42 | 1 | 0 | 97 | 451 | 183 | 0 | 0 | 113 | 97 | 44 | 0 | 0 | 27 | 114 | 68 | 0 | 1569 |
| 8:30-9:30 | 0 | 55 | 271 | 47 | 1 | 0 | 101 | 427 | 152 | 0 | 0 | 113 | 99 | 49 | 0 | 0 | 33 | 114 | 60 | 0 | 1522 |
| **AM** | **Northbound** | | | | | **Southbound** | | | | | **Eastbound** | | | | | **Westbound** | | | | | |
| **Peak Hour** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **Total** |
| **7:30-8:30** | **0** | **59** | **312** | **27** | **1** | **0** | **93** | **534** | **234** | **0** | **0** | **93** | **117** | **48** | **0** | **0** | **27** | **161** | **63** | **0** | **1769** |

## Weekday Evening Peak Hour (4 pm - 7 pm)

| | MD 322 Northbound | | | | | MD 322 Southbound | | | | | Glebe Rd Eastbound | | | | | Glebe Rd Westbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Time: | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | Total |
| 4:00-4:15 | 0 | 16 | 97 | 15 | 0 | 0 | 33 | 145 | 34 | 0 | 0 | 46 | 44 | 26 | 0 | 0 | 10 | 34 | 33 | 0 | 533 |
| 4:15-4:30 | 0 | 8 | 116 | 15 | 0 | 0 | 30 | 137 | 46 | 0 | 0 | 47 | 36 | 11 | 0 | 0 | 6 | 22 | 28 | 0 | 502 |
| 4:30-4:45 | 0 | 5 | 89 | 16 | 0 | 0 | 33 | 141 | 28 | 0 | 0 | 39 | 49 | 20 | 0 | 0 | 7 | 33 | 38 | 0 | 498 |
| 4:45-5:00 | 0 | 15 | 99 | 5 | 0 | 0 | 38 | 164 | 45 | 0 | 0 | 29 | 41 | 17 | 0 | 0 | 5 | 28 | 26 | 0 | 512 |
| 5:00-5:15 | 0 | 9 | 86 | 23 | 0 | 0 | 32 | 126 | 24 | 0 | 0 | 45 | 39 | 29 | 0 | 0 | 8 | 28 | 35 | 0 | 484 |
| 5:15-5:30 | 0 | 11 | 95 | 10 | 0 | 0 | 49 | 156 | 32 | 0 | 0 | 26 | 24 | 13 | 0 | 0 | 9 | 18 | 25 | 0 | 468 |
| 5:30-5:45 | 0 | 2 | 59 | 12 | 0 | 0 | 30 | 126 | 32 | 0 | 0 | 36 | 32 | 6 | 0 | 0 | 6 | 20 | 28 | 0 | 389 |
| 5:45-6:00 | 0 | 8 | 99 | 3 | 0 | 0 | 37 | 131 | 33 | 0 | 0 | 18 | 15 | 12 | 0 | 0 | 5 | 23 | 30 | 0 | 414 |
| 6:00-6:15 | 0 | 6 | 76 | 4 | 0 | 0 | 21 | 119 | 29 | 0 | 0 | 20 | 28 | 11 | 0 | 0 | 13 | 20 | 19 | 0 | 366 |
| 6:15-6:30 | 0 | 7 | 74 | 9 | 0 | 0 | 29 | 129 | 34 | 0 | 0 | 15 | 24 | 9 | 0 | 0 | 4 | 12 | 26 | 0 | 372 |
| 6:30-6:45 | 0 | 6 | 63 | 4 | 0 | 0 | 30 | 98 | 18 | 0 | 0 | 23 | 16 | 5 | 0 | 0 | 3 | 10 | 18 | 0 | 294 |
| 6:45-7:00 | 0 | 6 | 62 | 6 | 0 | 0 | 20 | 92 | 16 | 0 | 0 | 17 | 15 | 7 | 0 | 0 | 3 | 9 | 14 | 0 | 267 |
| **Hourly Totals** | | | | | | | | | | | | | | | | | | | | | |
| 4:00-5:00 | 0 | 44 | 401 | 51 | 0 | 0 | 134 | 587 | 153 | 0 | 0 | 161 | 170 | 74 | 0 | 0 | 28 | 117 | 125 | 0 | 2045 |
| 4:15-5:15 | 0 | 37 | 390 | 59 | 0 | 0 | 133 | 568 | 143 | 0 | 0 | 160 | 165 | 77 | 0 | 0 | 26 | 111 | 127 | 0 | 1996 |
| 4:30-5:30 | 0 | 40 | 369 | 54 | 0 | 0 | 152 | 587 | 129 | 0 | 0 | 139 | 153 | 79 | 0 | 0 | 29 | 107 | 124 | 0 | 1962 |
| 4:45-5:45 | 0 | 37 | 339 | 50 | 0 | 0 | 149 | 572 | 133 | 0 | 0 | 136 | 136 | 65 | 0 | 0 | 28 | 94 | 114 | 0 | 1853 |
| 5:00-6:00 | 0 | 30 | 339 | 48 | 0 | 0 | 148 | 539 | 121 | 0 | 0 | 125 | 110 | 60 | 0 | 0 | 28 | 89 | 118 | 0 | 1755 |
| 5:15-6:15 | 0 | 27 | 329 | 29 | 0 | 0 | 137 | 532 | 126 | 0 | 0 | 100 | 99 | 42 | 0 | 0 | 33 | 81 | 102 | 0 | 1637 |
| 5:30-6:30 | 0 | 23 | 308 | 28 | 0 | 0 | 117 | 505 | 128 | 0 | 0 | 89 | 99 | 38 | 0 | 0 | 28 | 75 | 103 | 0 | 1541 |
| 5:45-6:45 | 0 | 27 | 312 | 20 | 0 | 0 | 117 | 477 | 114 | 0 | 0 | 76 | 83 | 37 | 0 | 0 | 25 | 65 | 93 | 0 | 1446 |
| 6:00-7:00 | 0 | 25 | 275 | 23 | 0 | 0 | 100 | 438 | 97 | 0 | 0 | 75 | 83 | 32 | 0 | 0 | 23 | 51 | 77 | 0 | 1299 |
| **PM** | **Northbound** | | | | | **Southbound** | | | | | **Eastbound** | | | | | **Westbound** | | | | | |
| **Peak Hour** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **Total** |
| **4:00-5:00** | **0** | **44** | **401** | **51** | **0** | **0** | **134** | **587** | **153** | **0** | **0** | **161** | **170** | **74** | **0** | **0** | **28** | **117** | **125** | **0** | **2045** |

Peak Hour
Turning Movement Count


**LENHART TRAFFIC CONSULTING, INC.**
645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com


**Intersection:** MD 322 & Glebe Rd
**Weather:** Clear
**Count by:** Count Cam DSS
**Count Day/Date:** Friday, September 20, 2024
**Jurisdiction:** Talbot County

Weekend Peak Hour (10:00 am - 2:00 pm)

| | MD 322 Northbound | | | | | MD 322 Southbound | | | | | Glebe Rd Eastbound | | | | | Glebe Rd Westbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Time: | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | Total |
| 10:00-10:15 | 0 | 9 | 72 | 4 | 0 | 0 | 38 | 100 | 27 | 0 | 0 | 25 | 16 | 8 | 0 | 0 | 4 | 20 | 18 | 0 | 341 |
| 10:15-10:30 | 0 | 4 | 79 | 13 | 0 | 0 | 29 | 110 | 17 | 0 | 0 | 18 | 16 | 9 | 0 | 0 | 3 | 29 | 30 | 0 | 357 |
| 10:30-10:45 | 0 | 10 | 70 | 9 | 0 | 0 | 32 | 94 | 29 | 0 | 0 | 24 | 29 | 3 | 0 | 0 | 7 | 23 | 41 | 0 | 371 |
| 10:45-11:00 | 0 | 12 | 70 | 11 | 0 | 0 | 54 | 116 | 31 | 0 | 0 | 18 | 31 | 6 | 0 | 0 | 7 | 31 | 32 | 0 | 419 |
| 11:00-11:15 | 0 | 4 | 76 | 8 | 0 | 0 | 26 | 127 | 21 | 0 | 0 | 21 | 27 | 7 | 0 | 0 | 6 | 23 | 35 | 0 | 381 |
| 11:15-11:30 | 0 | 9 | 74 | 15 | 0 | 0 | 48 | 124 | 35 | 0 | 0 | 20 | 24 | 9 | 0 | 0 | 7 | 36 | 29 | 0 | 430 |
| 11:30-11:45 | 0 | 6 | 72 | 12 | 0 | 0 | 38 | 117 | 28 | 0 | 0 | 28 | 25 | 11 | 0 | 0 | 13 | 34 | 30 | 0 | 414 |
| 11:45-12:00 | 0 | 9 | 105 | 10 | 0 | 0 | 31 | 119 | 30 | 0 | 0 | 28 | 32 | 8 | 0 | 0 | 8 | 28 | 28 | 0 | 436 |
| 12:00-12:15 | 0 | 9 | 87 | 9 | 1 | 0 | 50 | 130 | 43 | 0 | 0 | 20 | 37 | 19 | 0 | 0 | 10 | 29 | 31 | 0 | 474 |
| 12:15-12:30 | 0 | 4 | 73 | 20 | 1 | 0 | 36 | 113 | 34 | 0 | 0 | 32 | 22 | 10 | 0 | 0 | 12 | 20 | 29 | 0 | 405 |
| 12:30-12:45 | 0 | 3 | 66 | 21 | 0 | 0 | 38 | 129 | 28 | 0 | 0 | 24 | 28 | 4 | 0 | 0 | 9 | 31 | 33 | 0 | 414 |
| 12:45-1:00 | 0 | 7 | 102 | 19 | 0 | 0 | 30 | 98 | 27 | 0 | 0 | 28 | 33 | 12 | 0 | 0 | 12 | 23 | 39 | 0 | 430 |
| 1:00-1:15 | 0 | 7 | 83 | 17 | 0 | 0 | 32 | 93 | 23 | 0 | 0 | 21 | 32 | 10 | 0 | 0 | 5 | 26 | 26 | 0 | 375 |
| 1:15-1:30 | 0 | 5 | 76 | 7 | 0 | 0 | 33 | 85 | 21 | 0 | 0 | 28 | 23 | 7 | 0 | 0 | 13 | 29 | 26 | 0 | 353 |
| 1:30-1:45 | 0 | 3 | 83 | 17 | 0 | 0 | 28 | 113 | 22 | 0 | 0 | 23 | 24 | 12 | 0 | 0 | 9 | 36 | 38 | 0 | 408 |
| 1:45-2:00 | 0 | 7 | 107 | 14 | 0 | 0 | 40 | 115 | 27 | 0 | 0 | 25 | 24 | 3 | 0 | 0 | 11 | 26 | 28 | 0 | 427 |

| Hourly Totals | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10:00-11:00 | 0 | 35 | 291 | 37 | 0 | 0 | 153 | 420 | 104 | 0 | 0 | 85 | 92 | 26 | 0 | 0 | 21 | 103 | 121 | 0 | 1488 |
| 10:15-11:15 | 0 | 30 | 295 | 41 | 0 | 0 | 141 | 447 | 98 | 0 | 0 | 81 | 103 | 25 | 0 | 0 | 23 | 106 | 138 | 0 | 1528 |
| 10:30-11:30 | 0 | 35 | 290 | 43 | 0 | 0 | 160 | 461 | 116 | 0 | 0 | 83 | 111 | 25 | 0 | 0 | 27 | 113 | 137 | 0 | 1601 |
| 10:45-11:45 | 0 | 31 | 292 | 46 | 0 | 0 | 166 | 484 | 115 | 0 | 0 | 87 | 107 | 33 | 0 | 0 | 33 | 124 | 126 | 0 | 1644 |
| 11:00-12:00 | 0 | 28 | 327 | 45 | 0 | 0 | 143 | 487 | 114 | 0 | 0 | 97 | 108 | 35 | 0 | 0 | 34 | 121 | 122 | 0 | 1661 |
| 11:15-12:15 | 0 | 33 | 338 | 46 | 1 | 0 | 167 | 490 | 136 | 0 | 0 | 96 | 118 | 47 | 0 | 0 | 38 | 127 | 118 | 0 | 1755 |
| 11:30-12:30 | 0 | 28 | 337 | 51 | 2 | 0 | 155 | 479 | 135 | 0 | 0 | 108 | 116 | 48 | 0 | 0 | 43 | 111 | 118 | 0 | 1731 |
| 11:45-12:45 | 0 | 25 | 331 | 60 | 2 | 0 | 155 | 491 | 135 | 0 | 0 | 104 | 119 | 41 | 0 | 0 | 39 | 108 | 121 | 0 | 1731 |
| 12:00-1:00 | 0 | 23 | 328 | 69 | 2 | 0 | 154 | 470 | 132 | 0 | 0 | 104 | 120 | 45 | 0 | 0 | 43 | 103 | 132 | 0 | 1725 |
| 12:15-1:15 | 0 | 21 | 324 | 77 | 1 | 0 | 136 | 433 | 112 | 0 | 0 | 105 | 115 | 36 | 0 | 0 | 38 | 100 | 127 | 0 | 1625 |
| 12:30-1:30 | 0 | 22 | 327 | 64 | 0 | 0 | 133 | 405 | 99 | 0 | 0 | 101 | 116 | 33 | 0 | 0 | 39 | 109 | 124 | 0 | 1572 |
| 12:45-1:45 | 0 | 22 | 344 | 60 | 0 | 0 | 123 | 389 | 93 | 0 | 0 | 100 | 112 | 41 | 0 | 0 | 39 | 114 | 129 | 0 | 1566 |
| 1:00-2:00 | 0 | 22 | 349 | 55 | 0 | 0 | 133 | 406 | 93 | 0 | 0 | 97 | 103 | 32 | 0 | 0 | 38 | 117 | 118 | 0 | 1563 |
| **PM** | **Northbound** | | | | | **Southbound** | | | | | **Eastbound** | | | | | **Westbound** | | | | | |
| **Peak Hour** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **Total** |
| **11:15-12:15** | **0** | **33** | **338** | **46** | **1** | **0** | **167** | **490** | **136** | **0** | **0** | **96** | **118** | **47** | **0** | **0** | **38** | **127** | **118** | **0** | **1755** |

Peak Hour
Turning Movement Count


**LENHART TRAFFIC CONSULTING, INC.**
645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com


**Intersection:** MD 322 & Glebe Rd
**Weather:** Clear
**Count by:** Count Cam DSS
**Count Day/Date:** Saturday, September 21, 2024
**County:** Talbot County

## Weekday Morning Peak Hour (6:30 am - 9:30 am)

| | Longwoods Rd Northbound | | | | | Longwoods Rd Southbound | | | | | Hailem School Rd Eastbound | | | | | N/A Westbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Time: | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | Total |
| 6:30-6:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 3 | 0 | 0 | 3 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 9 |
| 6:45-7:00 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 4 | 5 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15 |
| 7:00-7:15 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 1 | 5 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14 |
| 7:15-7:30 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 |
| 7:30-7:45 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 3 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 |
| 7:45-8:00 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 7 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16 |
| 8:00-8:15 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 7 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16 |
| 8:15-8:30 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 4 | 7 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 |
| 8:30-8:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 11 | 0 | 0 | 3 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 18 |
| 8:45-9:00 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 4 | 5 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 13 |
| 9:00-9:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 6 | 0 | 0 | 4 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 14 |
| 9:15-9:30 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 2 | 6 | 0 | 0 | 6 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 17 |

**Hourly Totals**

| | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6:30-7:30 | 0 | 3 | 4 | 0 | 0 | 0 | 0 | 7 | 19 | 0 | 0 | 14 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 48 |
| 6:45-7:45 | 0 | 4 | 5 | 0 | 0 | 0 | 0 | 6 | 19 | 0 | 0 | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 49 |
| 7:00-8:00 | 0 | 4 | 4 | 0 | 0 | 0 | 0 | 5 | 21 | 0 | 0 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 |
| 7:15-8:15 | 0 | 4 | 2 | 0 | 0 | 0 | 0 | 6 | 23 | 0 | 0 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 52 |
| 7:30-8:30 | 0 | 4 | 2 | 0 | 0 | 0 | 0 | 10 | 24 | 0 | 0 | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 62 |
| 7:45-8:45 | 0 | 3 | 1 | 0 | 0 | 0 | 0 | 10 | 32 | 0 | 0 | 21 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 70 |
| 8:00-9:00 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 11 | 30 | 0 | 0 | 17 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 67 |
| 8:15-9:15 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 11 | 29 | 0 | 0 | 15 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 65 |
| 8:30-9:30 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 9 | 28 | 0 | 0 | 14 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 62 |

| AM | Northbound | | | | | Southbound | | | | | Eastbound | | | | | Westbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Peak Hour** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **Total** |
| **7:45-8:45** | **0** | **3** | **1** | **0** | **0** | **0** | **0** | **10** | **32** | **0** | **0** | **21** | **0** | **3** | **0** | **0** | **0** | **0** | **0** | **0** | **70** |

## Weekday Evening Peak Hour (4 pm - 7 pm)

| | Longwoods Rd Northbound | | | | | Longwoods Rd Southbound | | | | | Hailem School Rd Eastbound | | | | | N/A Westbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Time: | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | Total |
| 4:00-4:15 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 2 | 3 | 0 | 0 | 4 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 15 |
| 4:15-4:30 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 3 | 4 | 0 | 0 | 8 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 20 |
| 4:30-4:45 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 5 | 4 | 0 | 0 | 7 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 22 |
| 4:45-5:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 3 | 0 | 0 | 5 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 15 |
| 5:00-5:15 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 |
| 5:15-5:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 5 | 0 | 0 | 7 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 15 |
| 5:30-5:45 | 0 | 2 | 3 | 0 | 0 | 0 | 0 | 2 | 6 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22 |
| 5:45-6:00 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 8 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12 |
| 6:00-6:15 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 7 | 0 | 0 | 6 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 17 |
| 6:15-6:30 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 |
| 6:30-6:45 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| 6:45-7:00 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 3 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 8 |

**Hourly Totals**

| | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4:00-5:00 | 0 | 3 | 4 | 0 | 0 | 0 | 0 | 14 | 14 | 0 | 0 | 24 | 0 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 72 |
| 4:15-5:15 | 0 | 5 | 3 | 0 | 0 | 0 | 0 | 12 | 16 | 0 | 0 | 31 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 77 |
| 4:30-5:30 | 0 | 4 | 2 | 0 | 0 | 0 | 0 | 11 | 17 | 0 | 0 | 30 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 72 |
| 4:45-5:45 | 0 | 4 | 5 | 0 | 0 | 0 | 0 | 8 | 19 | 0 | 0 | 32 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 72 |
| 5:00-6:00 | 0 | 5 | 5 | 0 | 0 | 0 | 0 | 5 | 24 | 0 | 0 | 29 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 69 |
| 5:15-6:15 | 0 | 3 | 4 | 0 | 0 | 0 | 0 | 7 | 26 | 0 | 0 | 24 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 66 |
| 5:30-6:30 | 0 | 4 | 4 | 0 | 0 | 0 | 0 | 6 | 24 | 0 | 0 | 21 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 60 |
| 5:45-6:45 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 4 | 18 | 0 | 0 | 15 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 43 |
| 6:00-7:00 | 0 | 2 | 3 | 0 | 0 | 0 | 0 | 3 | 12 | 0 | 0 | 16 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 39 |

| PM | Northbound | | | | | Southbound | | | | | Eastbound | | | | | Westbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Peak Hour** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **Total** |
| **4:15-5:15** | **0** | **5** | **3** | **0** | **0** | **0** | **0** | **12** | **16** | **0** | **0** | **31** | **0** | **10** | **0** | **0** | **0** | **0** | **0** | **0** | **77** |

Peak Hour
Turning Movement Count

**LENHART TRAFFIC CONSULTING, INC.**
645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com

**Intersection:** Longwoods Rd & Hailem School Rd
**Weather:** Clear
**Count by:** Count Cam DSS
**Count Day/Date:** Friday, December 6, 2024
**Jurisdiction:** Talbot County

Weekend Peak Hour (10:00 am - 2:00 pm)

| | Longwoods Rd Northbound | | | | | Longwoods Rd Southbound | | | | | Hailem School Rd Eastbound | | | | | N/A Westbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Time: | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | Total |
| 10:00-10:15 | 0 | 3 | 1 | 0 | 0 | 0 | 0 | 3 | 5 | 0 | 0 | 7 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 20 |
| 10:15-10:30 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 6 | 0 | 0 | 4 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 13 |
| 10:30-10:45 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 1 | 4 | 0 | 0 | 6 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 15 |
| 10:45-11:00 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 4 | 7 | 0 | 0 | 6 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 22 |
| 11:00-11:15 | 0 | 1 | 4 | 0 | 0 | 0 | 0 | 1 | 5 | 0 | 0 | 8 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 20 |
| 11:15-11:30 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 3 | 0 | 0 | 5 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 12 |
| 11:30-11:45 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 7 | 4 | 0 | 0 | 10 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 27 |
| 11:45-12:00 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 9 | 0 | 0 | 6 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 24 |
| 12:00-12:15 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 2 | 7 | 0 | 0 | 8 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 21 |
| 12:15-12:30 | 0 | 5 | 4 | 0 | 0 | 0 | 0 | 2 | 5 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 25 |
| 12:30-12:45 | 0 | 3 | 2 | 0 | 0 | 0 | 0 | 6 | 4 | 0 | 0 | 5 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 23 |
| 12:45-1:00 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 3 | 7 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 |
| 1:00-1:15 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 4 | 5 | 0 | 0 | 7 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 19 |
| 1:15-1:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 5 | 0 | 0 | 5 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 13 |
| 1:30-1:45 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 10 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 15 |
| 1:45-2:00 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 4 | 2 | 0 | 0 | 7 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 19 |

| Hourly Totals | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10:00-11:00 | 0 | 9 | 2 | 0 | 0 | 0 | 0 | 9 | 22 | 0 | 0 | 23 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 70 |
| 10:15-11:15 | 0 | 7 | 5 | 0 | 0 | 0 | 0 | 7 | 22 | 0 | 0 | 24 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 70 |
| 10:30-11:30 | 0 | 6 | 6 | 0 | 0 | 0 | 0 | 8 | 19 | 0 | 0 | 25 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 69 |
| 10:45-11:45 | 0 | 3 | 7 | 0 | 0 | 0 | 0 | 14 | 19 | 0 | 0 | 29 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 81 |
| 11:00-12:00 | 0 | 4 | 6 | 0 | 0 | 0 | 0 | 13 | 21 | 0 | 0 | 29 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 83 |
| 11:15-12:15 | 0 | 5 | 3 | 0 | 0 | 0 | 0 | 14 | 23 | 0 | 0 | 29 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 84 |
| 11:30-12:30 | 0 | 10 | 6 | 0 | 0 | 0 | 0 | 14 | 25 | 0 | 0 | 33 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 97 |
| 11:45-12:45 | 0 | 13 | 7 | 0 | 0 | 0 | 0 | 13 | 25 | 0 | 0 | 28 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 93 |
| 12:00-1:00 | 0 | 11 | 8 | 0 | 0 | 0 | 0 | 13 | 23 | 0 | 0 | 30 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 89 |
| 12:15-1:15 | 0 | 10 | 8 | 0 | 0 | 0 | 0 | 15 | 21 | 0 | 0 | 29 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 87 |
| 12:30-1:30 | 0 | 5 | 4 | 0 | 0 | 0 | 0 | 15 | 21 | 0 | 0 | 25 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 75 |
| 12:45-1:45 | 0 | 3 | 2 | 0 | 0 | 0 | 0 | 9 | 20 | 0 | 0 | 30 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 67 |
| 1:00-2:00 | 0 | 2 | 6 | 0 | 0 | 0 | 0 | 10 | 15 | 0 | 0 | 29 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 66 |

| PM | Northbound | | | | | Southbound | | | | | Eastbound | | | | | Westbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Peak Hour** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **Total** |
| **11:30-12:30** | **0** | **10** | **6** | **0** | **0** | **0** | **0** | **14** | **25** | **0** | **0** | **33** | **0** | **9** | **0** | **0** | **0** | **0** | **0** | **0** | **97** |

Peak Hour
Turning Movement Count

**LENHART TRAFFIC CONSULTING, INC.**
645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com

**Intersection:** Longwoods Rd & Hailem School Rd
**Weather:** Clear
**Count by:** Count Cam DSS
**Count Day/Date:** Saturday, December 7, 2024
**County:** Talbot County

## Weekday Morning Peak Hour (6:30 am - 9:30 am)

| | Goldsborough Neck Rd Northbound | | | | | Goldsborough Neck Rd Southbound | | | | | N/A Eastbound | | | | | Hailem School Rd Westbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Time: | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | Total |
| 6:30-6:45 | 0 | 0 | 0 | 2 | 0 | 0 | 1 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 11 |
| 6:45-7:00 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 11 |
| 7:00-7:15 | 0 | 0 | 1 | 3 | 0 | 0 | 1 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 14 |
| 7:15-7:30 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 17 |
| 7:30-7:45 | 0 | 0 | 4 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 11 |
| 7:45-8:00 | 0 | 0 | 3 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 13 |
| 8:00-8:15 | 0 | 0 | 1 | 2 | 0 | 0 | 1 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 0 | 0 | 0 | 22 |
| 8:15-8:30 | 0 | 0 | 4 | 4 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 15 |
| 8:30-8:45 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 10 |
| 8:45-9:00 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 11 |
| 9:00-9:15 | 0 | 0 | 6 | 5 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 1 | 0 | 17 |
| 9:15-9:30 | 0 | 0 | 1 | 4 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 1 | 0 | 10 |
| **Hourly Totals** | | | | | | | | | | | | | | | | | | | | | |
| 6:30-7:30 | 0 | 0 | 3 | 11 | 0 | 0 | 2 | 19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18 | 0 | 0 | 0 | 53 |
| 6:45-7:45 | 0 | 0 | 7 | 11 | 0 | 0 | 1 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17 | 0 | 0 | 0 | 53 |
| 7:00-8:00 | 0 | 0 | 10 | 10 | 0 | 0 | 1 | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19 | 0 | 0 | 0 | 55 |
| 7:15-8:15 | 0 | 0 | 10 | 9 | 0 | 0 | 1 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 29 | 0 | 0 | 0 | 63 |
| 7:30-8:30 | 0 | 0 | 12 | 11 | 0 | 0 | 1 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 26 | 0 | 0 | 0 | 61 |
| 7:45-8:45 | 0 | 0 | 9 | 10 | 0 | 0 | 1 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 26 | 0 | 0 | 0 | 60 |
| 8:00-9:00 | 0 | 0 | 6 | 11 | 0 | 0 | 1 | 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22 | 0 | 0 | 0 | 58 |
| 8:15-9:15 | 0 | 0 | 11 | 14 | 0 | 0 | 1 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14 | 0 | 1 | 0 | 53 |
| 8:30-9:30 | 0 | 0 | 8 | 14 | 0 | 0 | 1 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14 | 0 | 2 | 0 | 48 |
| **AM** | **Northbound** | | | | | **Southbound** | | | | | **Eastbound** | | | | | **Westbound** | | | | | |
| **Peak Hour** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **Total** |
| **7:15-8:15** | **0** | **0** | **10** | **9** | **0** | **0** | **1** | **14** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **29** | **0** | **0** | **0** | **63** |

## Weekday Evening Peak Hour (4 pm - 7 pm)

| | Goldsborough Neck Rd Northbound | | | | | Goldsborough Neck Rd Southbound | | | | | N/A Eastbound | | | | | Hailem School Rd Westbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Time: | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | Total |
| 4:00-4:15 | 0 | 0 | 5 | 12 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 1 | 0 | 26 |
| 4:15-4:30 | 0 | 0 | 5 | 7 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 19 |
| 4:30-4:45 | 0 | 0 | 1 | 10 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 20 |
| 4:45-5:00 | 0 | 0 | 5 | 13 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 1 | 0 | 26 |
| 5:00-5:15 | 0 | 0 | 7 | 7 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 1 | 0 | 22 |
| 5:15-5:30 | 0 | 0 | 3 | 3 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 11 |
| 5:30-5:45 | 0 | 0 | 3 | 6 | 0 | 0 | 1 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 23 |
| 5:45-6:00 | 0 | 0 | 3 | 3 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 18 |
| 6:00-6:15 | 0 | 0 | 4 | 3 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 13 |
| 6:15-6:30 | 0 | 0 | 1 | 10 | 0 | 0 | 1 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 3 | 0 | 26 |
| 6:30-6:45 | 0 | 0 | 3 | 1 | 0 | 0 | 1 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 13 |
| 6:45-7:00 | 0 | 0 | 2 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 9 |
| **Hourly Totals** | | | | | | | | | | | | | | | | | | | | | |
| 4:00-5:00 | 0 | 0 | 16 | 42 | 0 | 0 | 1 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 0 | 2 | 0 | 91 |
| 4:15-5:15 | 0 | 0 | 18 | 37 | 0 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 0 | 2 | 0 | 87 |
| 4:30-5:30 | 0 | 0 | 16 | 33 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19 | 0 | 2 | 0 | 79 |
| 4:45-5:45 | 0 | 0 | 18 | 29 | 0 | 0 | 1 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 21 | 0 | 2 | 0 | 82 |
| 5:00-6:00 | 0 | 0 | 16 | 19 | 0 | 0 | 1 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 26 | 0 | 1 | 0 | 74 |
| 5:15-6:15 | 0 | 0 | 13 | 15 | 0 | 0 | 2 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 24 | 0 | 0 | 0 | 65 |
| 5:30-6:30 | 0 | 0 | 11 | 22 | 0 | 0 | 3 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 24 | 0 | 3 | 0 | 80 |
| 5:45-6:45 | 0 | 0 | 11 | 17 | 0 | 0 | 3 | 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18 | 0 | 3 | 0 | 70 |
| 6:00-7:00 | 0 | 0 | 10 | 16 | 0 | 0 | 4 | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 0 | 3 | 0 | 61 |
| **PM** | **Northbound** | | | | | **Southbound** | | | | | **Eastbound** | | | | | **Westbound** | | | | | |
| **Peak Hour** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **Total** |
| **4:00-5:00** | **0** | **0** | **16** | **42** | **0** | **0** | **1** | **10** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **20** | **0** | **2** | **0** | **91** |

Peak Hour
Turning Movement Count


**LENHART TRAFFIC CONSULTING, INC.**
645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com


**Intersection:** Goldsborough Neck Rd & Hailem School Rd
**Weather:** Clear
**Count by:** Count Cam DSS
**Count Day/Date:** Friday, January 31, 2025
**Jurisdiction:** Talbot County

Weekend Peak Hour (10:00 am - 2:00 pm)

| | Goldsborough Neck Rd Northbound | | | | | Goldsborough Neck Rd Southbound | | | | | N/A Eastbound | | | | | Hailem School Rd Westbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Time: | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | Total |
| 10:00-10:15 | 0 | 0 | 8 | 6 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 23 |
| 10:15-10:30 | 0 | 0 | 3 | 4 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 18 |
| 10:30-10:45 | 1 | 0 | 4 | 9 | 0 | 0 | 1 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 22 |
| 10:45-11:00 | 0 | 0 | 6 | 2 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 1 | 0 | 22 |
| 11:00-11:15 | 0 | 0 | 4 | 3 | 0 | 0 | 1 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 1 | 0 | 20 |
| 11:15-11:30 | 0 | 0 | 1 | 10 | 0 | 0 | 1 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 0 | 0 | 0 | 31 |
| 11:30-11:45 | 0 | 0 | 4 | 10 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 25 |
| 11:45-12:00 | 0 | 0 | 5 | 9 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 1 | 0 | 25 |
| 12:00-12:15 | 0 | 0 | 3 | 8 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 22 |
| 12:15-12:30 | 0 | 0 | 3 | 6 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 23 |
| 12:30-12:45 | 0 | 0 | 3 | 8 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 16 |
| 12:45-1:00 | 0 | 0 | 4 | 9 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 24 |
| 1:00-1:15 | 0 | 0 | 3 | 6 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 18 |
| 1:15-1:30 | 0 | 0 | 1 | 9 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 1 | 0 | 17 |
| 1:30-1:45 | 0 | 0 | 2 | 4 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 13 |
| 1:45-2:00 | 0 | 0 | 3 | 4 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 1 | 0 | 14 |
| **Hourly Totals** | | | | | | | | | | | | | | | | | | | | | |
| 10:00-11:00 | 1 | 0 | 21 | 21 | 0 | 0 | 1 | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18 | 0 | 1 | 0 | 85 |
| 10:15-11:15 | 1 | 0 | 17 | 18 | 0 | 0 | 2 | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 0 | 2 | 0 | 82 |
| 10:30-11:30 | 1 | 0 | 15 | 24 | 0 | 0 | 3 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 25 | 0 | 2 | 0 | 95 |
| 10:45-11:45 | 0 | 0 | 15 | 25 | 0 | 0 | 2 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 29 | 0 | 2 | 0 | 98 |
| 11:00-12:00 | 0 | 0 | 14 | 32 | 0 | 0 | 2 | 23 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 28 | 0 | 2 | 0 | 101 |
| 11:15-12:15 | 0 | 0 | 13 | 37 | 0 | 0 | 1 | 23 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 28 | 0 | 1 | 0 | 103 |
| 11:30-12:30 | 0 | 0 | 15 | 33 | 0 | 0 | 0 | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 25 | 0 | 1 | 0 | 95 |
| 11:45-12:45 | 0 | 0 | 14 | 31 | 0 | 0 | 1 | 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 21 | 0 | 1 | 0 | 86 |
| 12:00-1:00 | 0 | 0 | 13 | 31 | 0 | 0 | 1 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 26 | 0 | 0 | 0 | 85 |
| 12:15-1:15 | 0 | 0 | 13 | 29 | 0 | 0 | 1 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 25 | 0 | 0 | 0 | 81 |
| 12:30-1:30 | 0 | 0 | 11 | 32 | 0 | 0 | 1 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23 | 0 | 1 | 0 | 75 |
| 12:45-1:45 | 0 | 0 | 10 | 28 | 0 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23 | 0 | 1 | 0 | 72 |
| 1:00-2:00 | 0 | 0 | 9 | 23 | 0 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18 | 0 | 2 | 0 | 62 |
| **PM** | **Northbound** | | | | | **Southbound** | | | | | **Eastbound** | | | | | **Westbound** | | | | | |
| **Peak Hour** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **U-Turn** | **Left** | **Thru** | **Right** | **Peds** | **Total** |
| **11:15-12:15** | **0** | **0** | **13** | **37** | **0** | **0** | **1** | **23** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **28** | **0** | **1** | **0** | **103** |

Peak Hour
Turning Movement Count

**LENHART TRAFFIC CONSULTING, INC.**
645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com

**Intersection:** Goldsborough Neck Rd & Hailem School Rd
**Weather:** Clear
**Count by:** Count Cam DSS
**Count Day/Date:** Saturday, February 1, 2025
**County:** Talbot County

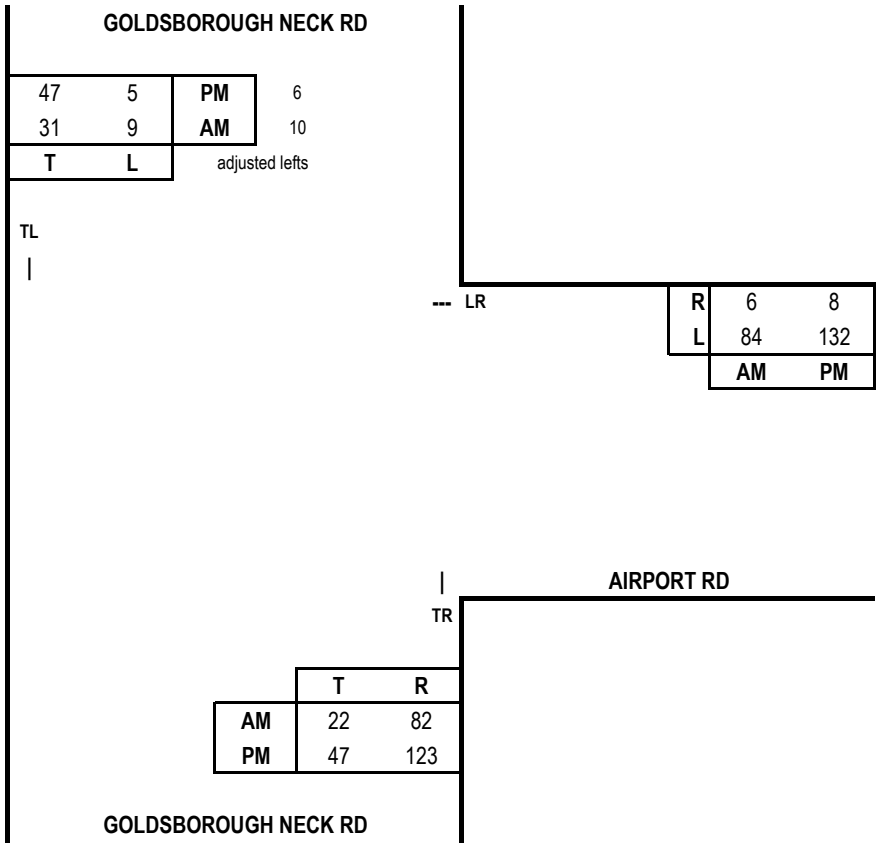
# Appendix B

Level of Service (LOS) Worksheets

# CRITICAL LANE VOLUME (CLV) METHODOLOGY
## for MSHA

**Intersection of:** Goldsborough Neck Rd
**and:** Airport Rd
**Conditions:** Existing Traffic
**Analyst:** Lenhart Traffic

## Lane Use + Traffic Volumes




## Capacity Analysis

**Morning Peak Hour**

| Dir | Thru Volumes VOL | x LUF | = Total | + Opposing Lefts VOL | x LUF | = Total | AM CLV |
|---|---|---|---|---|---|---|---|
| WB | 90 | 1.00 | 90 | | | | 90 |
| NB | 104 | 1.00 | 104 | 9 | 1.00 | 9 | 113 |
| SB | 41 | 1.00 | 41 | | | | |

CLV TOTAL= **203**
Level of Service (LOS )= **A**

**Evening Peak Hour**

| Dir | Thru Volumes VOL | x LUF | = Total | + Opposing Lefts VOL | x LUF | = Total | PM CLV |
|---|---|---|---|---|---|---|---|
| WB | 140 | 1.00 | 140 | | | | 140 |
| NB | 170 | 1.00 | 170 | 5 | 1.00 | 5 | 175 |
| SB | 53 | 1.00 | 53 | | | | |

CLV TOTAL= **315**
Level of Service (LOS )= **A**

Critical Lane Volume Analysis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N

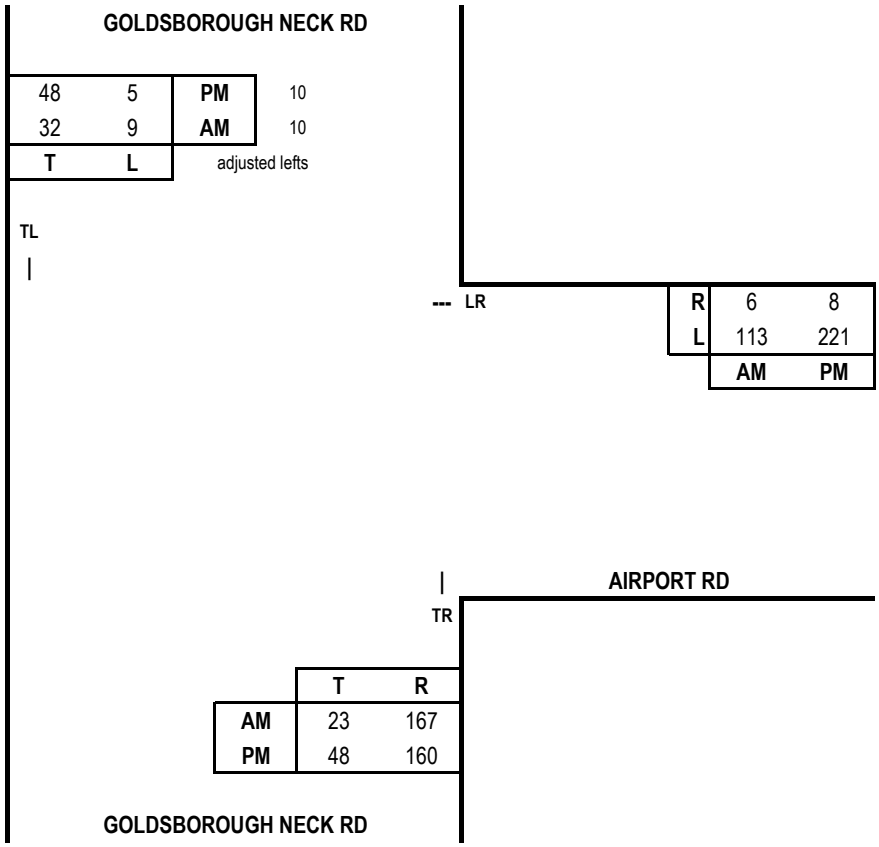
Goldsborough Neck Rd &
Airport Rd
(Existing Traffic)

**Intersection**
**2**

# CRITICAL LANE VOLUME (CLV) METHODOLOGY
## for MSHA

**Intersection of:** Goldsborough Neck Rd
**and:** Airport Rd
**Conditions:** Background Traffic
**Analyst:** Lenhart Traffic

## Lane Use + Traffic Volumes




## Capacity Analysis

**Morning Peak Hour**

| Dir | Thru Volumes VOL | x LUF | = Total | + Opposing Lefts VOL | x LUF | = Total | AM CLV |
|---|---|---|---|---|---|---|---|
| WB | 119 | 1.00 | 119 | | | | 119 |
| NB | 190 | 1.00 | 190 | 9 | 1.00 | 9 | 199 |
| SB | 42 | 1.00 | 42 | | | | |

CLV TOTAL= **318**
Level of Service (LOS )= **A**

**Evening Peak Hour**

| Dir | Thru Volumes VOL | x LUF | = Total | + Opposing Lefts VOL | x LUF | = Total | PM CLV |
|---|---|---|---|---|---|---|---|
| WB | 229 | 1.00 | 229 | | | | 229 |
| NB | 208 | 1.00 | 208 | 5 | 1.00 | 5 | 213 |
| SB | 58 | 1.00 | 58 | | | | |

CLV TOTAL= **442**
Level of Service (LOS )= **A**

Critical Lane Volume Analysis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N

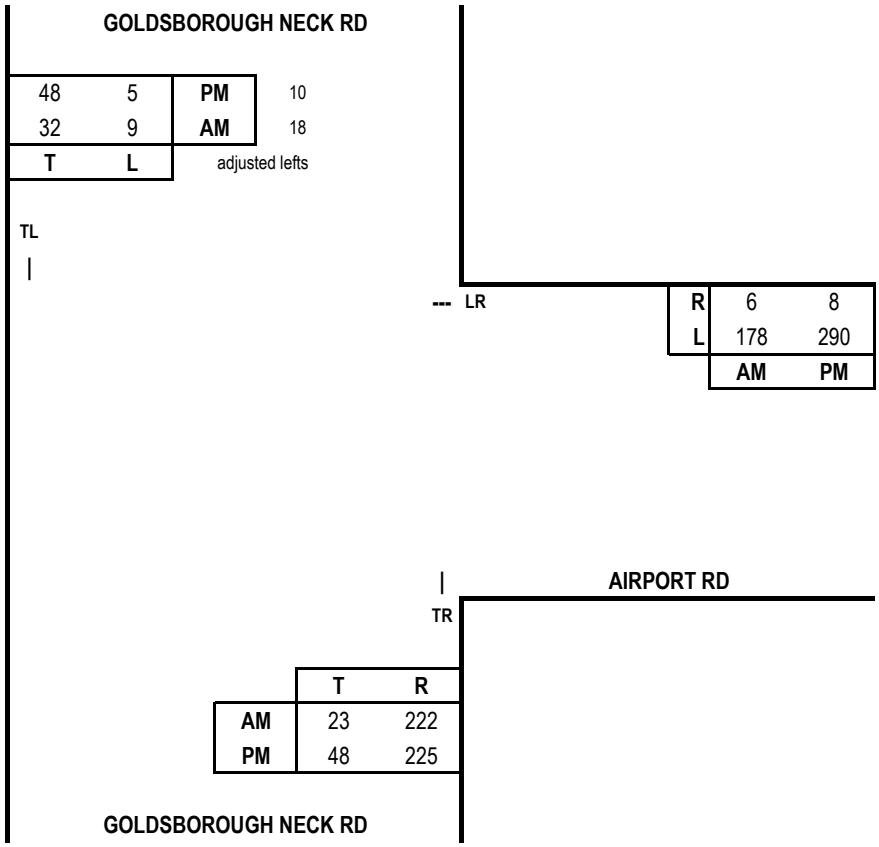
Goldsborough Neck Rd &
Airport Rd
(Background Traffic)

**Intersection 2**

# CRITICAL LANE VOLUME (CLV) METHODOLOGY
## for MSHA

**Intersection of:** Goldsborough Neck Rd
**and:** Airport Rd
**Conditions:** Total Traffic
**Analyst:** Lenhart Traffic

## Lane Use + Traffic Volumes




## Capacity Analysis

**Morning Peak Hour**

| Dir | Thru Volumes VOL | x LUF | = Total | + Opposing Lefts VOL | x LUF | = Total | AM CLV |
|---|---|---|---|---|---|---|---|
| WB | 184 | 1.00 | 184 | | | | 184 |
| NB | 245 | 1.00 | 245 | 9 | 1.00 | 9 | 254 |
| SB | 50 | 1.00 | 50 | | | | |

CLV TOTAL= **438**
Level of Service (LOS )= **A**

**Evening Peak Hour**

| Dir | Thru Volumes VOL | x LUF | = Total | + Opposing Lefts VOL | x LUF | = Total | PM CLV |
|---|---|---|---|---|---|---|---|
| WB | 298 | 1.00 | 298 | | | | 298 |
| NB | 273 | 1.00 | 273 | 5 | 1.00 | 5 | 278 |
| SB | 58 | 1.00 | 58 | | | | |

CLV TOTAL= **576**
Level of Service (LOS )= **A**

Critical Lane Volume Analysis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N

Goldsborough Neck Rd &
Airport Rd
(Total Traffic)

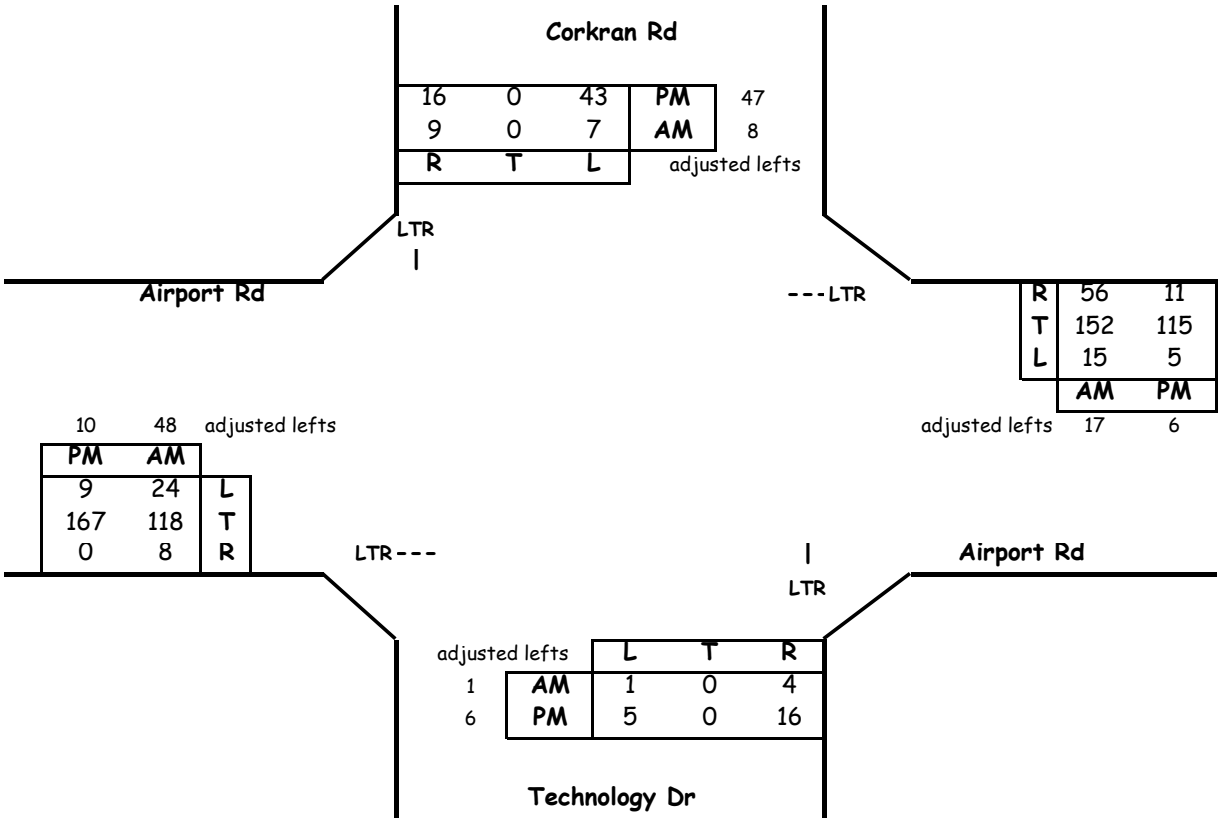
**Intersection**
**2**

# CRITICAL LANE VOLUME (CLV) METHODOLOGY
## for MSHA

**Main Line:** Airport Rd
**Minor Street:** Technology Dr
**Study Period:** Existing Traffic

**Analyst:** Lenhart Traffic

## Lane Use + Traffic Volumes




## Critical Lane Volume Analysis

**Morning Peak Hour**

| Dir | Thru Volumes VOL | x LUF | = Total | + Opposing Lefts VOL | x LUF | = Total | AM CLV |
|---|---|---|---|---|---|---|---|
| NB | 5 | 1.00 | 5 | 7 | 1 | 7 | 18 |
| SB | 17 | 1.00 | 17 | 1 | 1 | 1 | |
| EB | 174 | 1 | 174 | 15 | 1 | 15 | 249 |
| WB | 225 | 1 | 225 | 24 | 1 | 24 | |

CLV TOTAL= **267**
Level of Service (LOS )= **A**

**Evening Peak Hour**

| Dir | Thru Volumes VOL | x LUF | = Total | + Opposing Lefts VOL | x LUF | = Total | PM CLV |
|---|---|---|---|---|---|---|---|
| NB | 22 | 1.00 | 22 | 43 | 1 | 43 | 68 |
| SB | 63 | 1.00 | 63 | 5 | 1 | 5 | |
| EB | 177 | 1 | 177 | 5 | 1 | 5 | 182 |
| WB | 132 | 1 | 132 | 9 | 1 | 9 | |

CLV TOTAL= **250**
Level of Service (LOS )= **A**

Critical Lane Volume Analysis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SEVERNA PARK, MD 21146
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Airport Rd &
Technology Dr
(Existing Traffic)

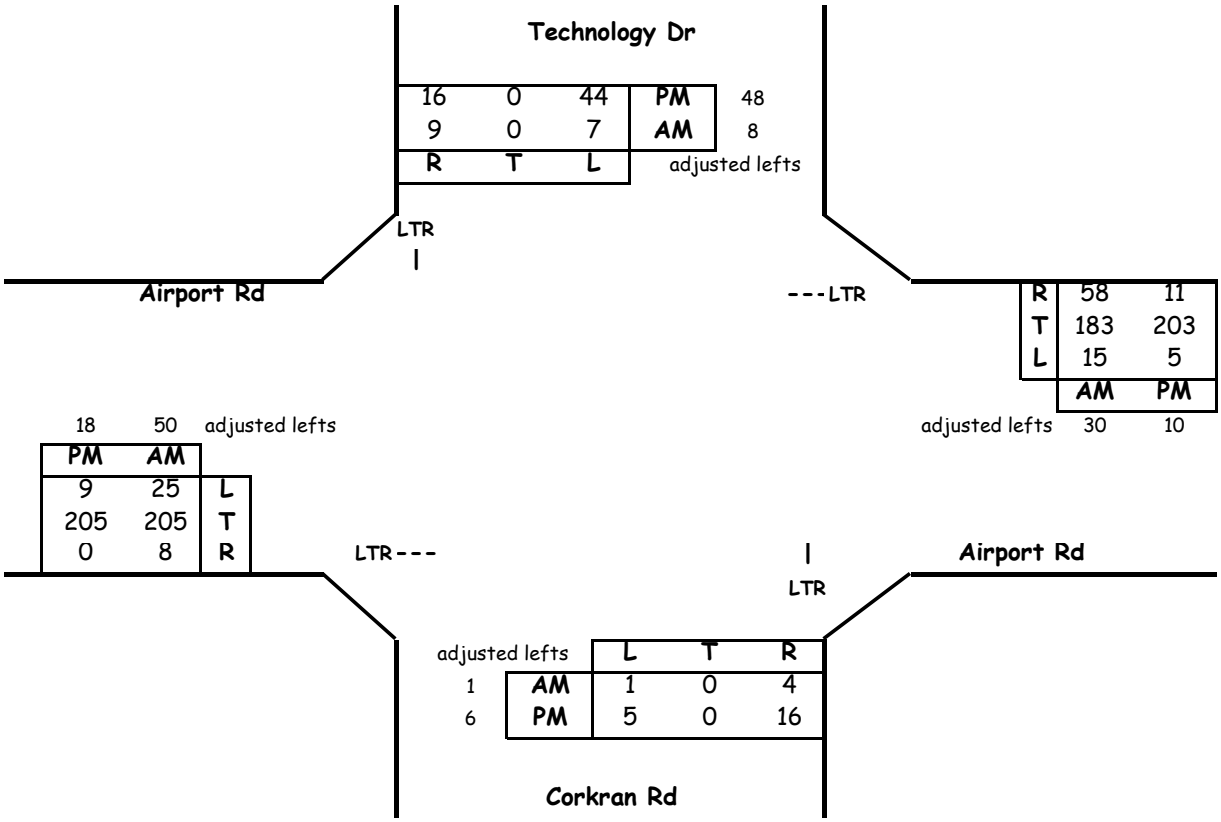
**Intersection**
**3**

# CRITICAL LANE VOLUME (CLV) METHODOLOGY
## for MSHA

**Main Line:** Airport Rd
**Minor Street:** Technology Dr
**Study Period:** Background Traffic

**Analyst:** Lenhart Traffic

## Lane Use + Traffic Volumes




## Critical Lane Volume Analysis

**Morning Peak Hour**

| Dir | Thru Volumes VOL | x LUF | = Total | + Opposing Lefts VOL | x LUF | = Total | AM CLV |
|---|---|---|---|---|---|---|---|
| NB | 5 | 1.00 | 5 | 7 | 1 | 7 | 18 |
| SB | 17 | 1.00 | 17 | 1 | 1 | 1 | |
| EB | 263 | 1 | 263 | 15 | 1 | 15 | 296 |
| WB | 271 | 1 | 271 | 25 | 1 | 25 | |

CLV TOTAL= **314**
Level of Service (LOS )= **A**

**Evening Peak Hour**

| Dir | Thru Volumes VOL | x LUF | = Total | + Opposing Lefts VOL | x LUF | = Total | PM CLV |
|---|---|---|---|---|---|---|---|
| NB | 22 | 1.00 | 22 | 44 | 1 | 44 | 69 |
| SB | 64 | 1.00 | 64 | 5 | 1 | 5 | |
| EB | 223 | 1 | 223 | 5 | 1 | 5 | 233 |
| WB | 224 | 1 | 224 | 9 | 1 | 9 | |

CLV TOTAL= **302**
Level of Service (LOS )= **A**

Critical Lane Volume Analysis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Airport Rd & Technology Dr
(Background Traffic)

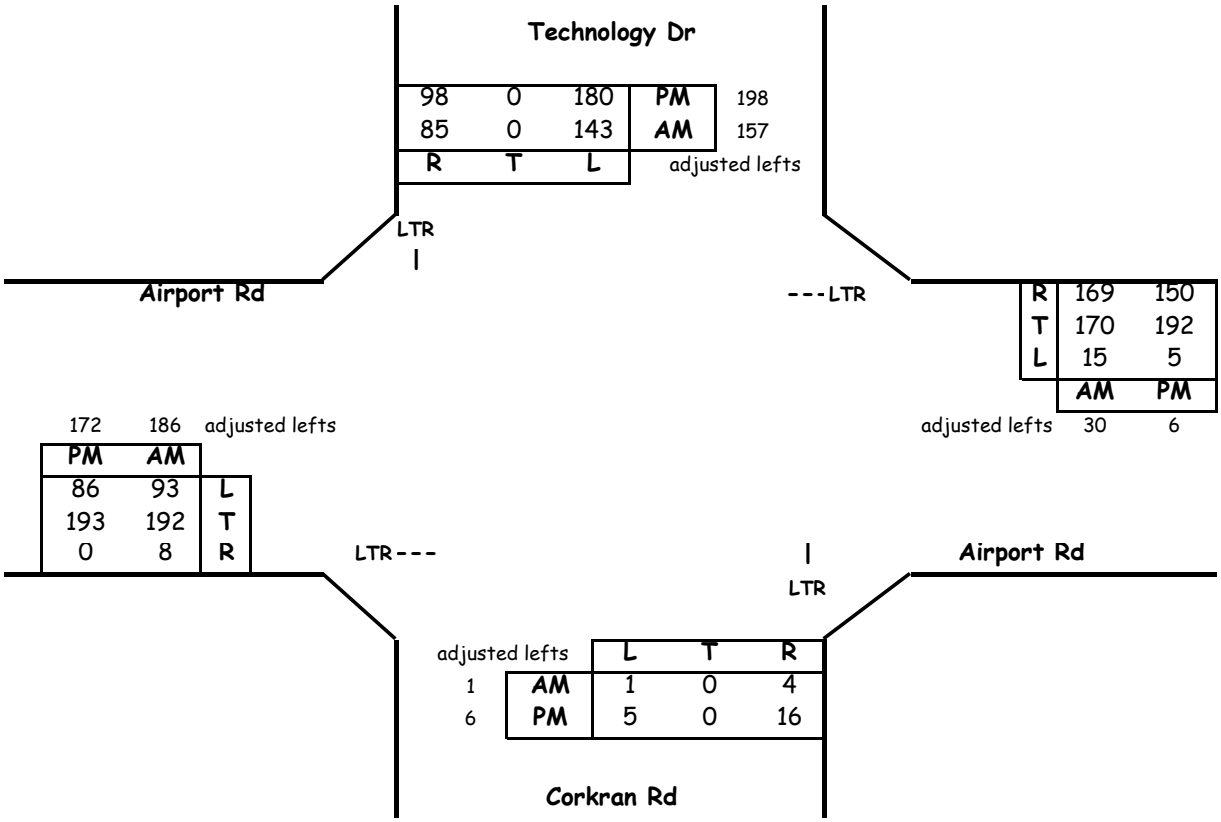
**Intersection 3**

# CRITICAL LANE VOLUME (CLV) METHODOLOGY
## for MSHA

**Main Line:** Airport Rd
**Minor Street:** Technology Dr
**Study Period:** Total Traffic

**Analyst:** Lenhart Traffic

## Lane Use + Traffic Volumes




## Critical Lane Volume Analysis

**Morning Peak Hour**

| Dir | Thru Volumes VOL | x LUF | = Total | + Opposing Lefts VOL | x LUF | = Total | AM CLV |
|---|---|---|---|---|---|---|---|
| NB | 5 | 1.00 | 5 | 143 | 1 | 143 | 243 |
| SB | 242 | 1.00 | 242 | 1 | 1 | 1 | |
| EB | 386 | 1 | 386 | 15 | 1 | 15 | 462 |
| WB | 369 | 1 | 369 | 93 | 1 | 93 | |

CLV TOTAL= **705**
Level of Service (LOS )= **A**

**Evening Peak Hour**

| Dir | Thru Volumes VOL | x LUF | = Total | + Opposing Lefts VOL | x LUF | = Total | PM CLV |
|---|---|---|---|---|---|---|---|
| NB | 22 | 1.00 | 22 | 180 | 1 | 180 | 301 |
| SB | 296 | 1.00 | 296 | 5 | 1 | 5 | |
| EB | 365 | 1 | 365 | 5 | 1 | 5 | 434 |
| WB | 348 | 1 | 348 | 86 | 1 | 86 | |

CLV TOTAL= **735**
Level of Service (LOS )= **A**

Critical Lane Volume Analysis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Airport Rd & Technology Dr
(Total Traffic)

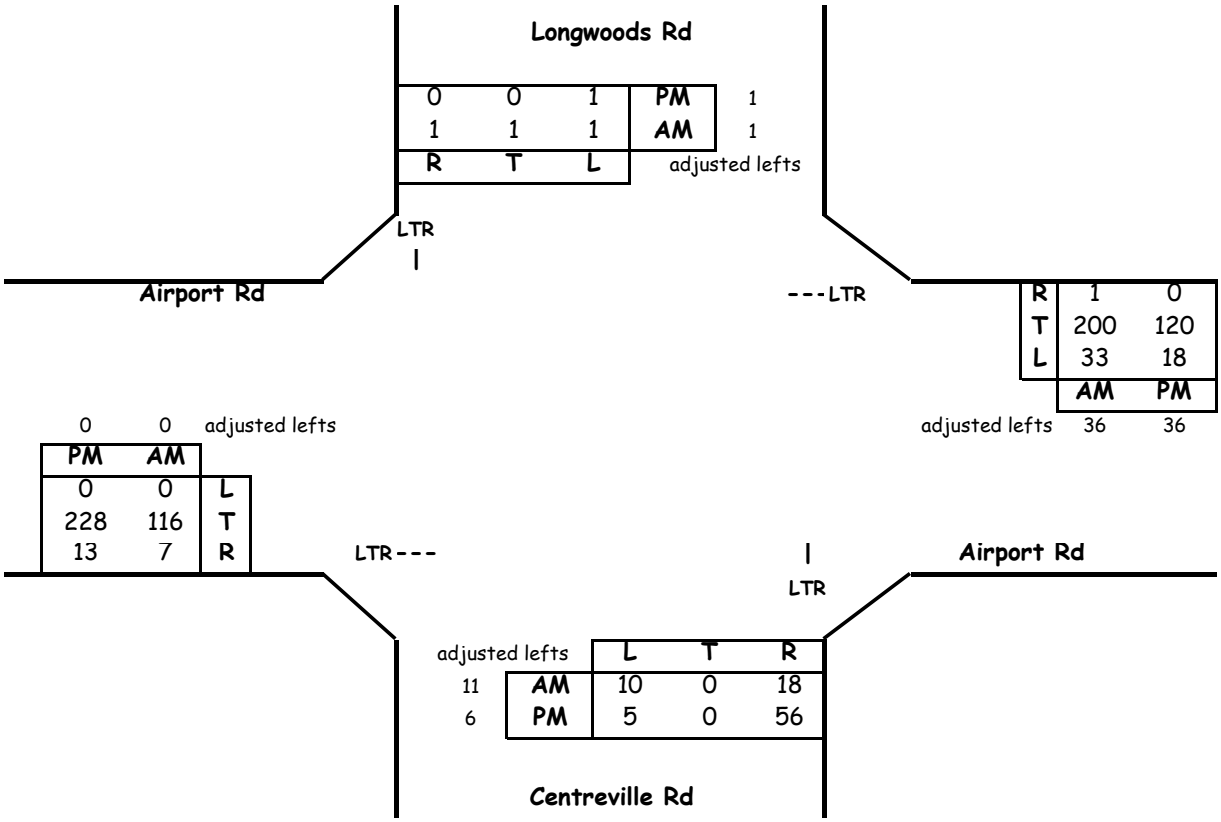
**Intersection 3**

# CRITICAL LANE VOLUME (CLV) METHODOLOGY
## for MSHA

**Main Line:** Airport Rd
**Minor Street:** Centreville Rd
**Study Period:** Existing Traffic

**Analyst:** Lenhart Traffic

## Lane Use + Traffic Volumes




## Critical Lane Volume Analysis

**Morning Peak Hour**

| Dir | Thru Volumes VOL | x LUF | = Total | + Opposing Lefts VOL | x LUF | = Total | AM CLV |
|---|---|---|---|---|---|---|---|
| NB | 29 | 1.00 | 29 | 1 | 1 | 1 | 30 |
| SB | 3 | 1.00 | 3 | 10 | 1 | 10 | |
| EB | 123 | 1 | 123 | 33 | 1 | 33 | 237 |
| WB | 237 | 1 | 237 | 0 | 1 | 0 | |

CLV TOTAL= **267**
Level of Service (LOS )= **A**

**Evening Peak Hour**

| Dir | Thru Volumes VOL | x LUF | = Total | + Opposing Lefts VOL | x LUF | = Total | PM CLV |
|---|---|---|---|---|---|---|---|
| NB | 62 | 1.00 | 62 | 1 | 1 | 1 | 63 |
| SB | 1 | 1.00 | 1 | 5 | 1 | 5 | |
| EB | 241 | 1 | 241 | 18 | 1 | 18 | 259 |
| WB | 156 | 1 | 156 | 0 | 1 | 0 | |

CLV TOTAL= **322**
Level of Service (LOS )= **A**

Critical Lane Volume Analysis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Airport Rd &
Centreville Rd
(Existing Traffic)

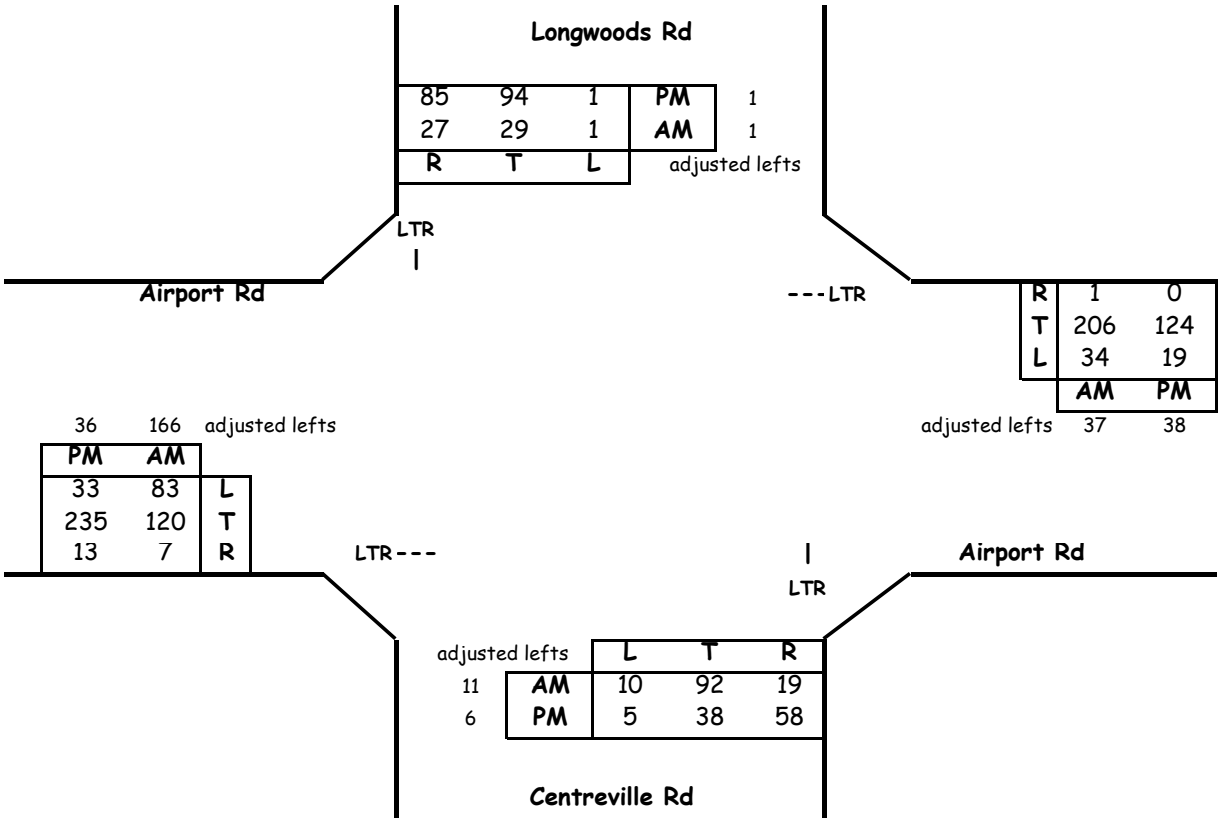
**Intersection**
**4**

# CRITICAL LANE VOLUME (CLV) METHODOLOGY
## for MSHA

**Main Line:** Airport Rd
**Minor Street:** Longwoods Rd
**Study Period:** Background Traffic

**Analyst:** Lenhart Traffic

## Lane Use + Traffic Volumes




## Critical Lane Volume Analysis

**Morning Peak Hour**

| Dir | Thru Volumes VOL | x LUF | = Total | + Opposing Lefts VOL | x LUF | = Total | AM CLV |
|---|---|---|---|---|---|---|---|
| NB | 122 | 1.00 | 122 | 1 | 1 | 1 | 123 |
| SB | 57 | 1.00 | 57 | 10 | 1 | 10 | |
| EB | 293 | 1 | 293 | 34 | 1 | 34 | 327 |
| WB | 244 | 1 | 244 | 83 | 1 | 83 | |

CLV TOTAL= **450**
Level of Service (LOS )= **A**

**Evening Peak Hour**

| Dir | Thru Volumes VOL | x LUF | = Total | + Opposing Lefts VOL | x LUF | = Total | PM CLV |
|---|---|---|---|---|---|---|---|
| NB | 102 | 1.00 | 102 | 1 | 1 | 1 | 185 |
| SB | 180 | 1.00 | 180 | 5 | 1 | 5 | |
| EB | 284 | 1 | 284 | 19 | 1 | 19 | 303 |
| WB | 162 | 1 | 162 | 33 | 1 | 33 | |

CLV TOTAL= **488**
Level of Service (LOS )= **A**

Critical Lane Volume Analysis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Airport Rd &
Longwoods Rd
(Background Traffic)

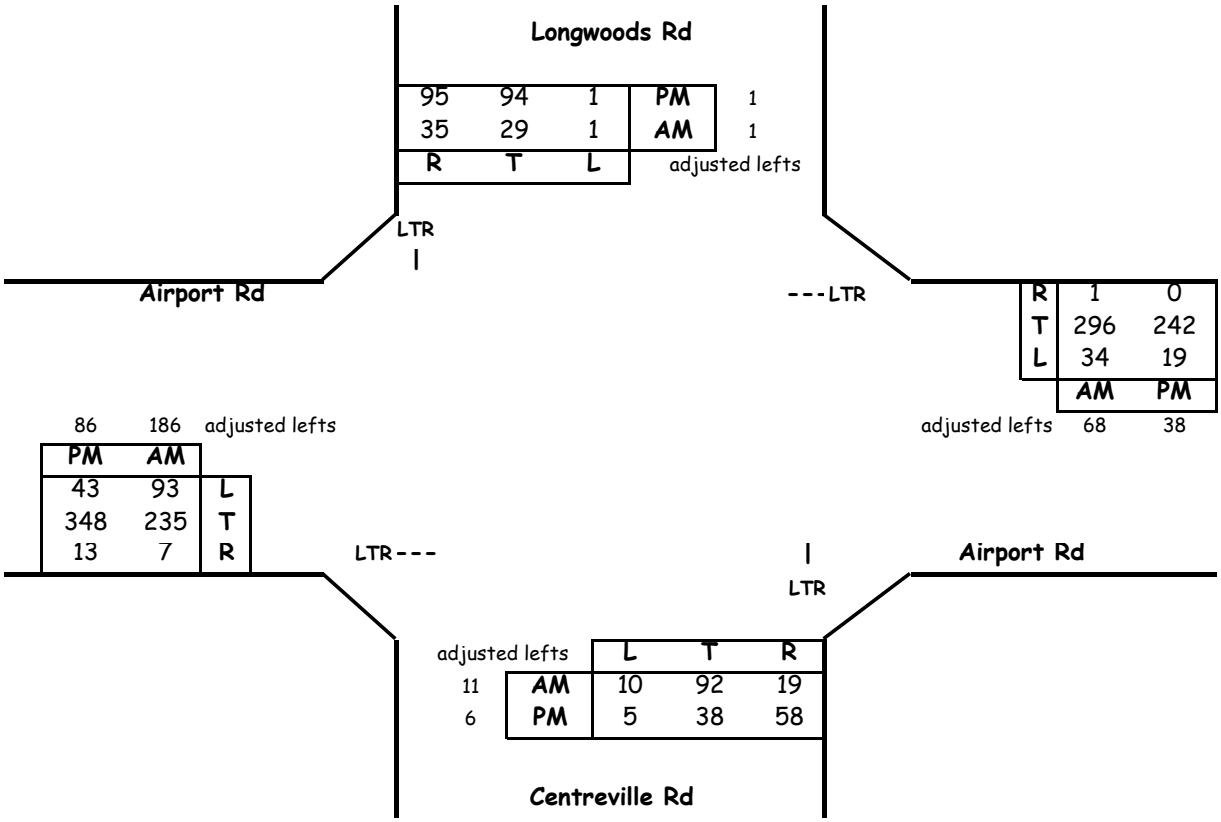
**Intersection**
**4**

# CRITICAL LANE VOLUME (CLV) METHODOLOGY
## for MSHA

**Main Line:** Airport Rd
**Minor Street:** Longwoods Rd
**Study Period:** Total Traffic

**Analyst:** Lenhart Traffic

## Lane Use + Traffic Volumes




## Critical Lane Volume Analysis

**Morning Peak Hour**

| Dir | Thru Volumes VOL | x LUF | = Total | + Opposing Lefts VOL | x LUF | = Total | AM CLV |
|---|---|---|---|---|---|---|---|
| NB | 122 | 1.00 | 122 | 1 | 1 | 1 | |
| | | | | | | | 123 |
| SB | 65 | 1.00 | 65 | 10 | 1 | 10 | |
| EB | 428 | 1 | 428 | 34 | 1 | 34 | |
| | | | | | | | 462 |
| WB | 365 | 1 | 365 | 93 | 1 | 93 | |

CLV TOTAL= **585**
Level of Service (LOS )= **A**

**Evening Peak Hour**

| Dir | Thru Volumes VOL | x LUF | = Total | + Opposing Lefts VOL | x LUF | = Total | PM CLV |
|---|---|---|---|---|---|---|---|
| NB | 102 | 1.00 | 102 | 1 | 1 | 1 | |
| | | | | | | | 195 |
| SB | 190 | 1.00 | 190 | 5 | 1 | 5 | |
| EB | 447 | 1 | 447 | 19 | 1 | 19 | |
| | | | | | | | 466 |
| WB | 280 | 1 | 280 | 43 | 1 | 43 | |

CLV TOTAL= **661**
Level of Service (LOS )= **A**

Critical Lane Volume Analysis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SEVERNA PARK, MD 21146
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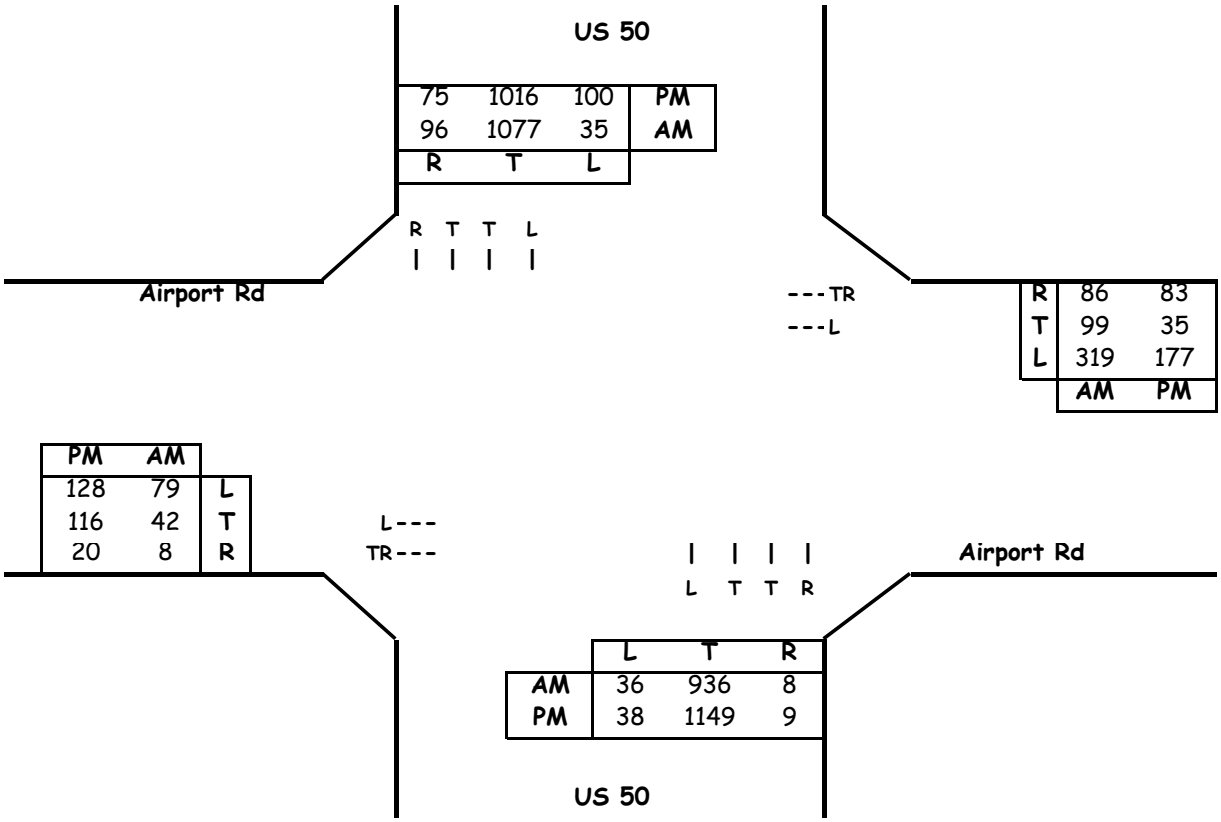
Airport Rd &
Longwoods Rd
(Total Traffic)

**Intersection**
**4**

# CRITICAL LANE VOLUME (CLV) METHODOLOGY
## for MSHA

**Main Line:** US 50 **Analyst:** Lenhart Traffic
**Minor Street:** Airport Rd
**Study Period:** Existing Traffic

## Lane Use + Traffic Volumes




## Critical Lane Volume Analysis

**Morning Peak Hour**

| Dir | Thru Volumes VOL | x LUF | = Total | + Opposing Lefts VOL | x LUF | = Total | AM CLV |
|---|---|---|---|---|---|---|---|
| NB | 936 | 0.55 | 515 | 35 | 1 | 35 | 628 |
| SB | 1077 | 0.55 | 592 | 36 | 1 | 36 | |
| EB | 50 | 1 | 50 | 319 | 1 | 319 | 369 |
| WB | 185 | 1 | 185 | 79 | 1 | 79 | |

CLV TOTAL= **997**
Level of Service (LOS )= **A**

**Evening Peak Hour**

| Dir | Thru Volumes VOL | x LUF | = Total | + Opposing Lefts VOL | x LUF | = Total | PM CLV |
|---|---|---|---|---|---|---|---|
| NB | 1149 | 0.55 | 632 | 100 | 1 | 100 | 732 |
| SB | 1016 | 0.55 | 559 | 38 | 1 | 38 | |
| EB | 136 | 1 | 136 | 177 | 1 | 177 | 313 |
| WB | 118 | 1 | 118 | 128 | 1 | 128 | |

CLV TOTAL= **1045**
Level of Service (LOS )= **B**

Critical Lane Volume Analysis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SEVERNA PARK, MD 21146
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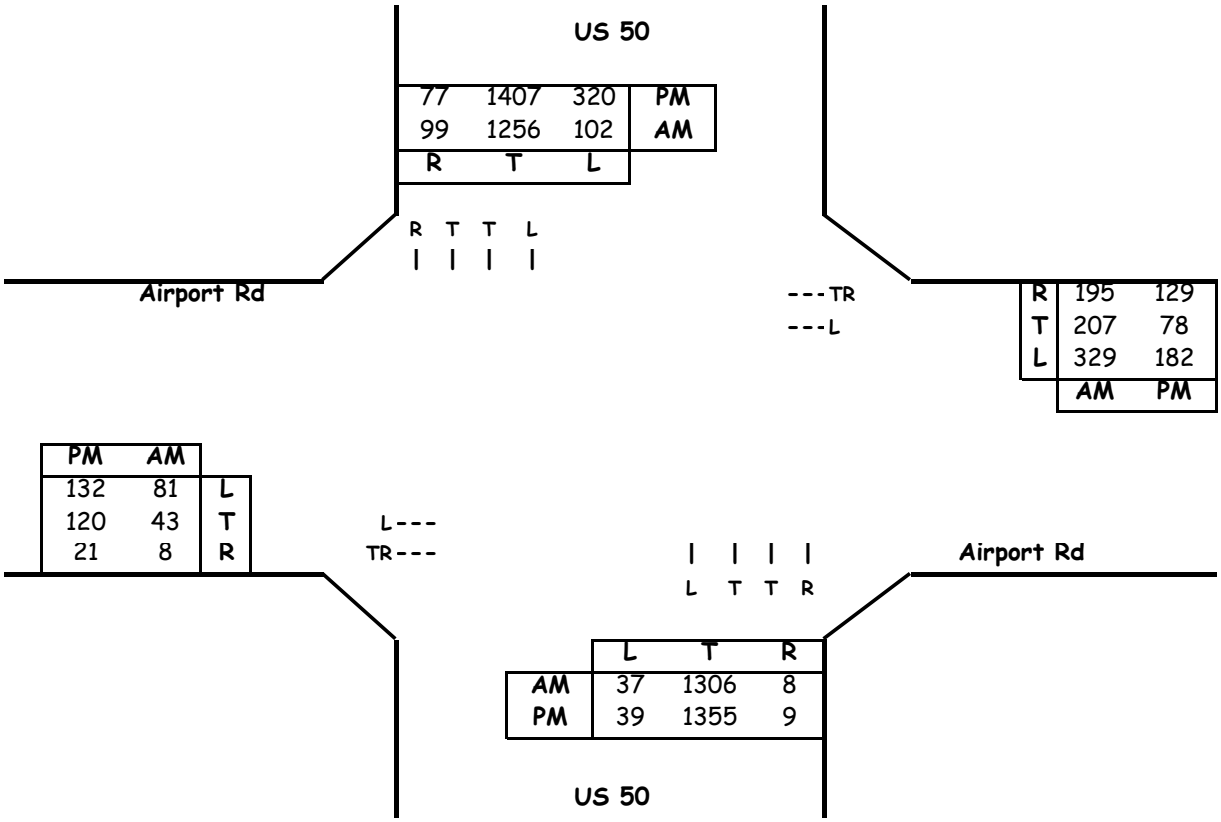
US 50 &
Airport Rd
(Existing Traffic)

**Intersection**
**5**

# CRITICAL LANE VOLUME (CLV) METHODOLOGY
## for MSHA

**Main Line:** US 50 **Analyst:** Lenhart Traffic
**Minor Street:** Airport Rd
**Study Period:** Background Traffic

## Lane Use + Traffic Volumes




## Critical Lane Volume Analysis

**Morning Peak Hour**

| Dir | Thru Volumes VOL | x LUF | = Total | + Opposing Lefts VOL | x LUF | = Total | AM CLV |
|---|---|---|---|---|---|---|---|
| NB | 1306 | 0.55 | 718 | 102 | 1 | 102 | 820 |
| SB | 1256 | 0.55 | 691 | 37 | 1 | 37 | |
| EB | 51 | 1 | 51 | 329 | 1 | 329 | 483 |
| WB | 402 | 1 | 402 | 81 | 1 | 81 | |

CLV TOTAL= **1303**
Level of Service (LOS )= **D**

**Evening Peak Hour**

| Dir | Thru Volumes VOL | x LUF | = Total | + Opposing Lefts VOL | x LUF | = Total | PM CLV |
|---|---|---|---|---|---|---|---|
| NB | 1355 | 0.55 | 745 | 320 | 1 | 320 | 1065 |
| SB | 1407 | 0.55 | 774 | 39 | 1 | 39 | |
| EB | 141 | 1 | 141 | 182 | 1 | 182 | 339 |
| WB | 207 | 1 | 207 | 132 | 1 | 132 | |

CLV TOTAL= **1404**
Level of Service (LOS )= **D**

Critical Lane Volume Analysis


LENHART TRAFFIC CONSULTING, INC.
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SEVERNA PARK, MD 21146
www.lenharttraffic.com

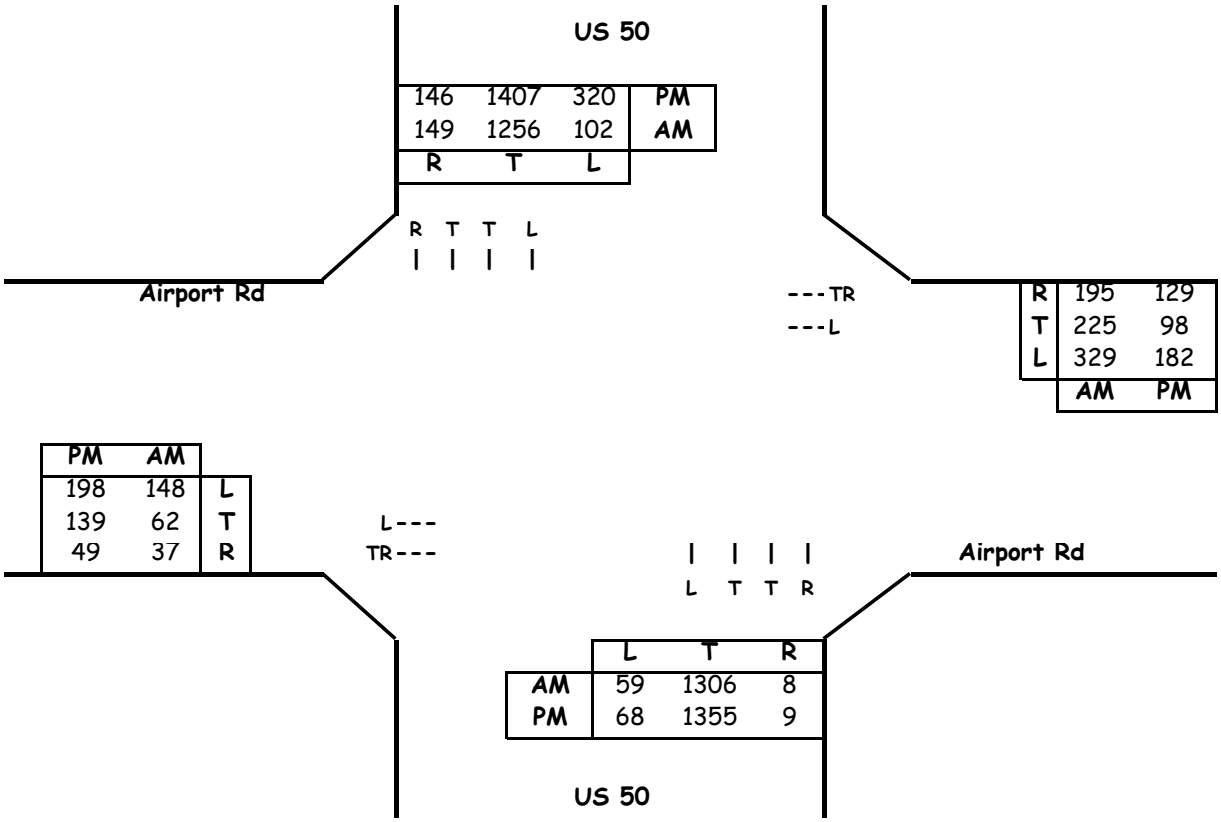

US 50 &
Airport Rd
(Background Traffic)

**Intersection**
**5**

# CRITICAL LANE VOLUME (CLV) METHODOLOGY
## for MSHA

**Main Line:** US 50 **Analyst:** Lenhart Traffic
**Minor Street:** Airport Rd
**Study Period:** Total Traffic

## Lane Use + Traffic Volumes




## Critical Lane Volume Analysis

**Morning Peak Hour**

| Dir | Thru Volumes VOL | x LUF | = Total | + Opposing Lefts VOL | x LUF | = Total | AM CLV |
|---|---|---|---|---|---|---|---|
| NB | 1306 | 0.55 | 718 | 102 | 1 | 102 | 820 |
| SB | 1256 | 0.55 | 691 | 59 | 1 | 59 | |
| EB | 99 | 1 | 99 | 329 | 1 | 329 | 568 |
| WB | 420 | 1 | 420 | 148 | 1 | 148 | |

CLV TOTAL= **1388**
Level of Service (LOS )= **D**

**Evening Peak Hour**

| Dir | Thru Volumes VOL | x LUF | = Total | + Opposing Lefts VOL | x LUF | = Total | PM CLV |
|---|---|---|---|---|---|---|---|
| NB | 1355 | 0.55 | 745 | 320 | 1 | 320 | 1065 |
| SB | 1407 | 0.55 | 774 | 68 | 1 | 68 | |
| EB | 188 | 1 | 188 | 182 | 1 | 182 | 425 |
| WB | 227 | 1 | 227 | 198 | 1 | 198 | |

CLV TOTAL= **1490**
Level of Service (LOS )= **E**

Critical Lane Volume Analysis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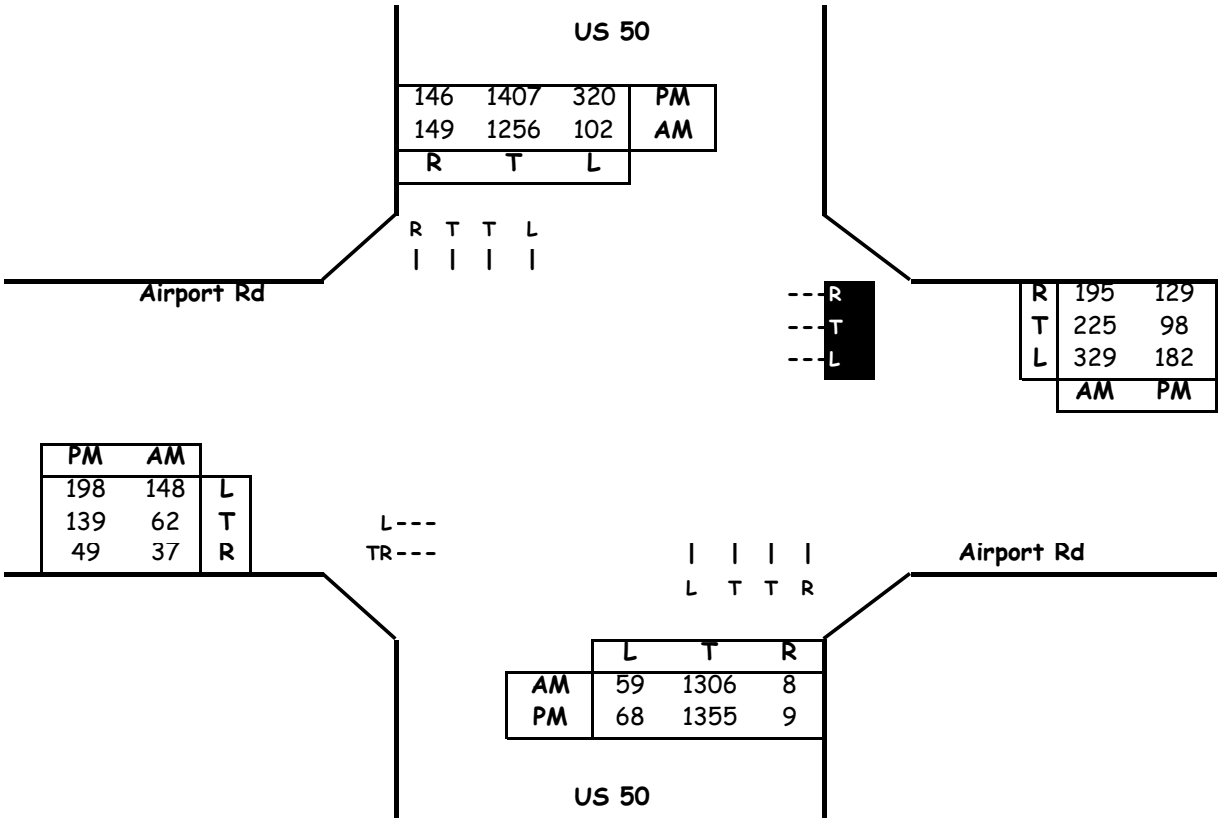
US 50 &
Airport Rd
(Total Traffic)

**Intersection**
**5**

# CRITICAL LANE VOLUME (CLV) METHODOLOGY
## for MSHA

**Main Line:** US 50 **Analyst:** Lenhart Traffic
**Minor Street:** Airport Rd
**Study Period:** Total Traffic w/ Improvements

## Lane Use + Traffic Volumes




## Critical Lane Volume Analysis

**Morning Peak Hour**

| Dir | Thru Volumes VOL | x LUF | = Total | + Opposing Lefts VOL | x LUF | = Total | AM CLV |
|---|---|---|---|---|---|---|---|
| NB | 1306 | 0.55 | 718 | 102 | 1 | 102 | 820 |
| SB | 1256 | 0.55 | 691 | 59 | 1 | 59 | |
| EB | 99 | 1 | 99 | 329 | 1 | 329 | 428 |
| WB | 225 | 1 | 225 | 148 | 1 | 148 | |

CLV TOTAL= **1248**
Level of Service (LOS )= **C**

**Evening Peak Hour**

| Dir | Thru Volumes VOL | x LUF | = Total | + Opposing Lefts VOL | x LUF | = Total | PM CLV |
|---|---|---|---|---|---|---|---|
| NB | 1355 | 0.55 | 745 | 320 | 1 | 320 | 1065 |
| SB | 1407 | 0.55 | 774 | 68 | 1 | 68 | |
| EB | 188 | 1 | 188 | 182 | 1 | 182 | 370 |
| WB | 98 | 1 | 98 | 198 | 1 | 198 | |

CLV TOTAL= **1435**
Level of Service (LOS )= **D**

Critical Lane Volume Analysis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US 50 &
Airport Rd
(Total Traffic w/ Improvements)

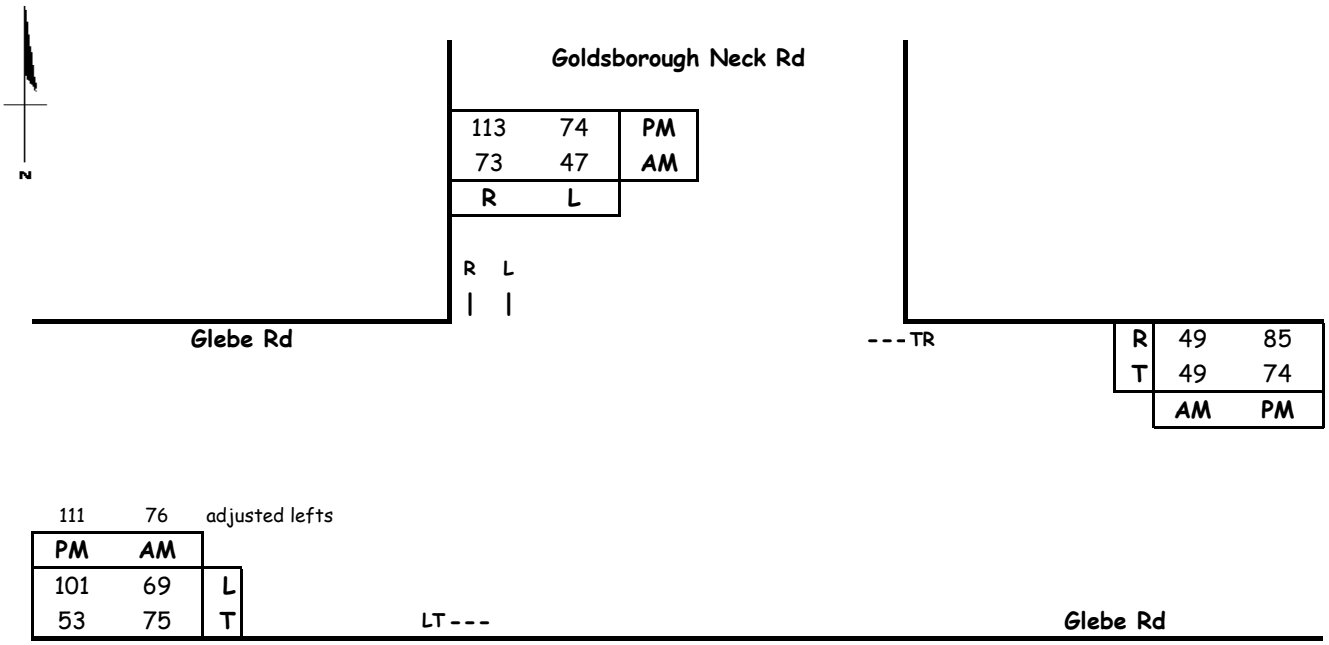
**Intersection**
**5**

# CRITICAL LANE VOLUME (CLV) METHODOLOGY
## for MSHA

**Intersection of:** Goldsborough Neck Rd
**and:** Glebe Rd
**Conditions:** Existing Traffic

**Analyst:** Lenhart Traffic Consulting

## Lane Use + Traffic Volumes




## Capacity Analysis

**Morning Peak Hour**

| Dir | Thru Volumes VOL | x LUF | = Total | + Opposing Lefts VOL | x LUF | = Total | AM CLV |
|---|---|---|---|---|---|---|---|
| SB | 47 | 1.00 | 47 | | | | 47 |
| EB | 151 | 1.00 | 151 | | | | 167 |
| WB | 98 | 1.00 | 98 | 69 | 1.00 | 69 | |
| | | | | | | CLV TOTAL= | 214 |
| | | | | | | Level of Service (LOS )= | A |

**Evening Peak Hour**

| Dir | Thru Volumes VOL | x LUF | = Total | + Opposing Lefts VOL | x LUF | = Total | PM CLV |
|---|---|---|---|---|---|---|---|
| SB | 74 | 1.00 | 74 | | | | 74 |
| EB | 164 | 1.00 | 164 | | | | 260 |
| WB | 159 | 1.00 | 159 | 101 | 1.00 | 101 | |
| | | | | | | CLV TOTAL= | 334 |
| | | | | | | Level of Service (LOS )= | A |

Critical Lane Volume Analysis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Goldsborough Neck Rd &
Glebe Rd
(Existing Traffic)

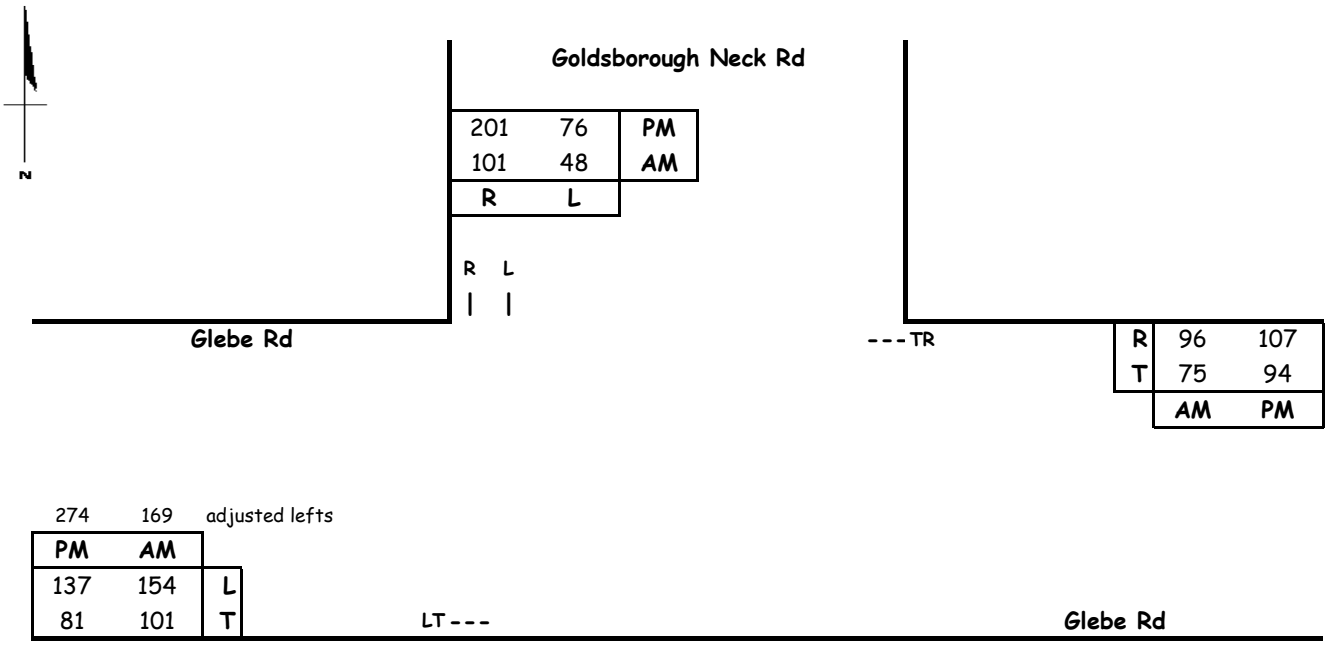
**Intersection**
**6**

# CRITICAL LANE VOLUME (CLV) METHODOLOGY
## for MSHA

**Intersection of:** Goldsborough Neck Rd
**and:** Glebe Rd
**Conditions:** Background Traffic

**Analyst:** Lenhart Traffic Consulting

## Lane Use + Traffic Volumes




## Capacity Analysis

**Morning Peak Hour**

| Dir | Thru Volumes VOL | x LUF | = Total | + Opposing Lefts VOL | x LUF | = Total | AM CLV |
|---|---|---|---|---|---|---|---|
| SB | 48 | 1.00 | 48 | | | | 48 |
| EB | 270 | 1.00 | 270 | | | | 325 |
| WB | 171 | 1.00 | 171 | 154 | 1.00 | 154 | |
| | | | | | | CLV TOTAL= | **373** |
| | | | | | | Level of Service (LOS )= | **A** |

**Evening Peak Hour**

| Dir | Thru Volumes VOL | x LUF | = Total | + Opposing Lefts VOL | x LUF | = Total | PM CLV |
|---|---|---|---|---|---|---|---|
| SB | 76 | 1.00 | 76 | | | | 76 |
| EB | 355 | 1.00 | 355 | | | | 355 |
| WB | 201 | 1.00 | 201 | 137 | 1.00 | 137 | |
| | | | | | | CLV TOTAL= | **431** |
| | | | | | | Level of Service (LOS )= | **A** |

Critical Lane Volume Analysis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Goldsborough Neck Rd &
Glebe Rd
(Background Traffic)

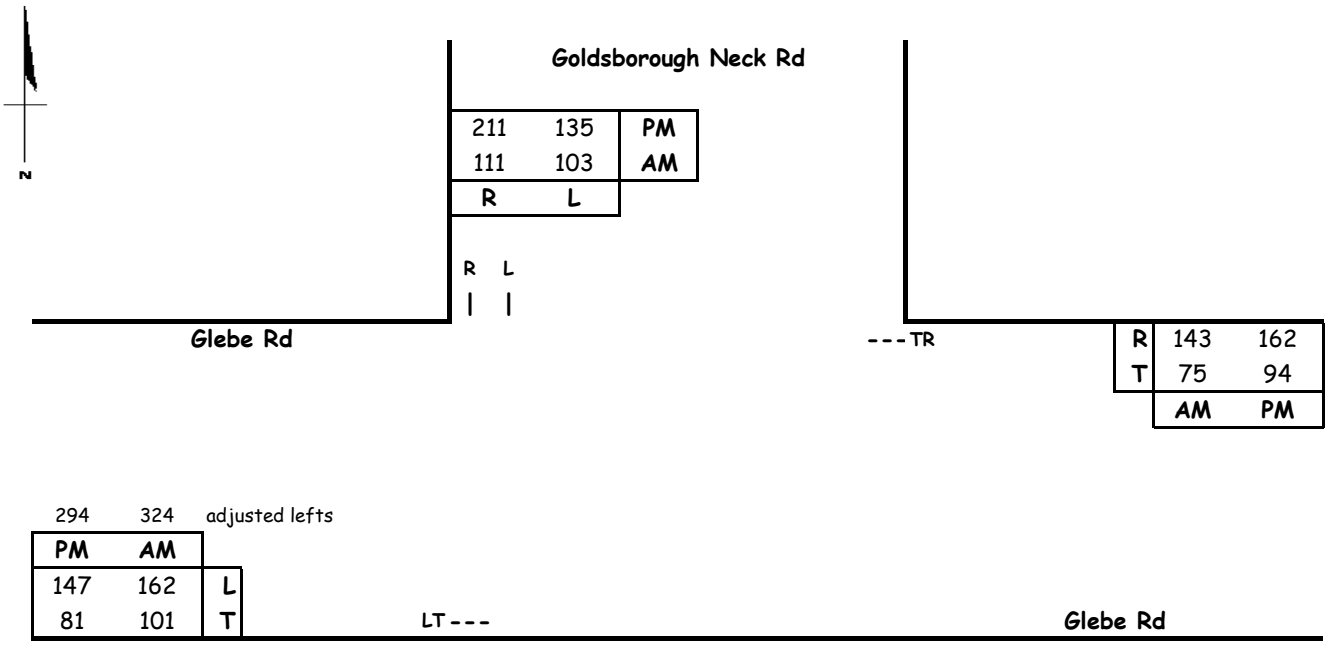
**Intersection**
**6**

# CRITICAL LANE VOLUME (CLV) METHODOLOGY
## for MSHA

**Intersection of:** Goldsborough Neck Rd
**and:** Glebe Rd
**Conditions:** Total Traffic

**Analyst:** Lenhart Traffic Consulting

## Lane Use + Traffic Volumes




## Capacity Analysis

**Morning Peak Hour**

| Dir | Thru Volumes VOL | x LUF | = Total | + Opposing Lefts VOL | x LUF | = Total | AM CLV |
|---|---|---|---|---|---|---|---|
| SB | 103 | 1.00 | 103 | | | | 103 |
| EB | 425 | 1.00 | 425 | | | | 425 |
| WB | 218 | 1.00 | 218 | 162 | 1.00 | 162 | |
| | | | | | CLV TOTAL= | | **528** |
| | | | | | Level of Service (LOS )= | | **A** |

**Evening Peak Hour**

| Dir | Thru Volumes VOL | x LUF | = Total | + Opposing Lefts VOL | x LUF | = Total | PM CLV |
|---|---|---|---|---|---|---|---|
| SB | 135 | 1.00 | 135 | | | | 135 |
| EB | 375 | 1.00 | 375 | | | | 403 |
| WB | 256 | 1.00 | 256 | 147 | 1.00 | 147 | |
| | | | | | CLV TOTAL= | | **538** |
| | | | | | Level of Service (LOS )= | | **A** |

Critical Lane Volume Analysis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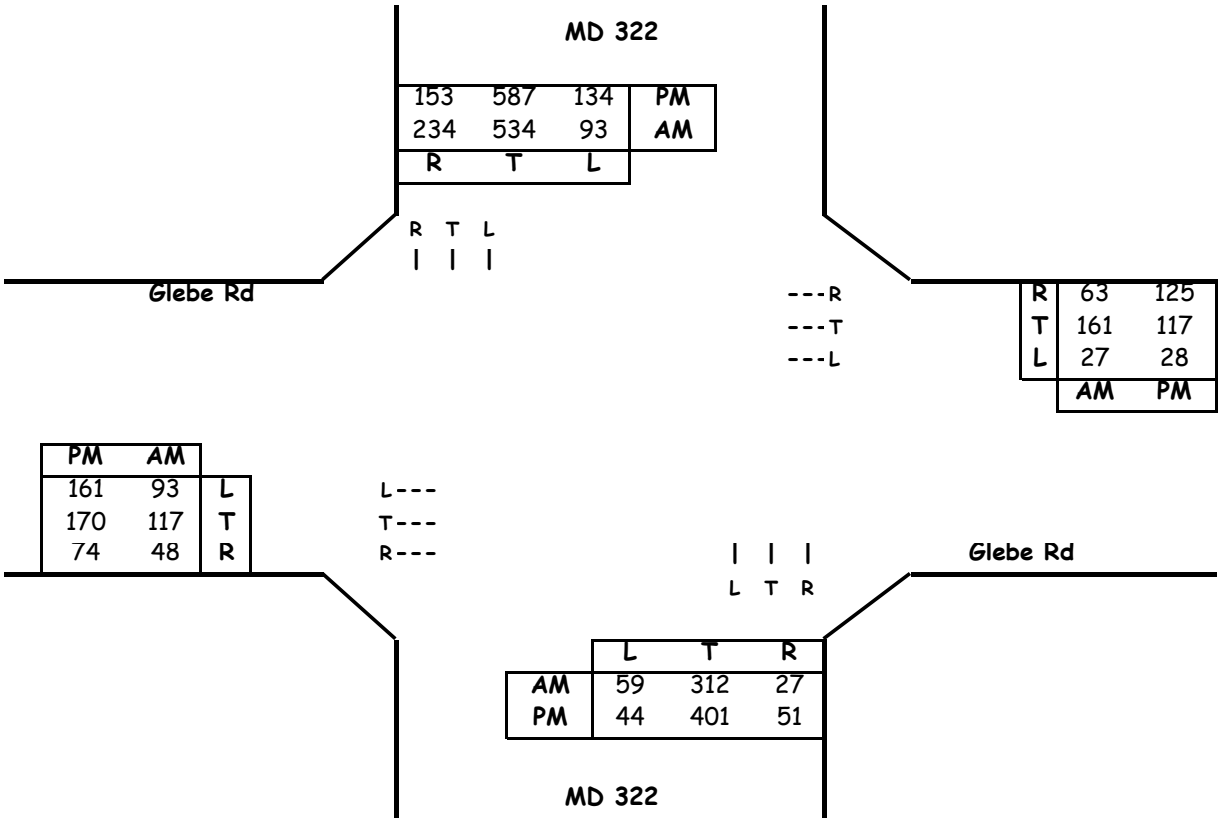
Goldsborough Neck Rd &
Glebe Rd
(Total Traffic)

**Intersection**
**6**

# CRITICAL LANE VOLUME (CLV) METHODOLOGY
## for MSHA

**Main Line:** MD 322 **Analyst:** Lenhart Traffic
**Minor Street:** Glebe Rd
**Study Period:** Existing Traffic

## Lane Use + Traffic Volumes




## Critical Lane Volume Analysis

**Morning Peak Hour**

| Dir | Thru Volumes VOL | x LUF | = Total | + Opposing Lefts VOL | x LUF | = Total | AM CLV |
|---|---|---|---|---|---|---|---|
| NB | 312 | 1.00 | 312 | 93 | 1 | 93 | 593 |
| SB | 534 | 1.00 | 534 | 59 | 1 | 59 | |
| EB | 117 | 1 | 117 | 27 | 1 | 27 | 254 |
| WB | 161 | 1 | 161 | 93 | 1 | 93 | |

CLV TOTAL= **847**
Level of Service (LOS )= **A**

**Evening Peak Hour**

| Dir | Thru Volumes VOL | x LUF | = Total | + Opposing Lefts VOL | x LUF | = Total | PM CLV |
|---|---|---|---|---|---|---|---|
| NB | 401 | 1.00 | 401 | 134 | 1 | 134 | 631 |
| SB | 587 | 1.00 | 587 | 44 | 1 | 44 | |
| EB | 170 | 1 | 170 | 28 | 1 | 28 | 278 |
| WB | 117 | 1 | 117 | 161 | 1 | 161 | |

CLV TOTAL= **909**
Level of Service (LOS )= **A**

Critical Lane Volume Analysis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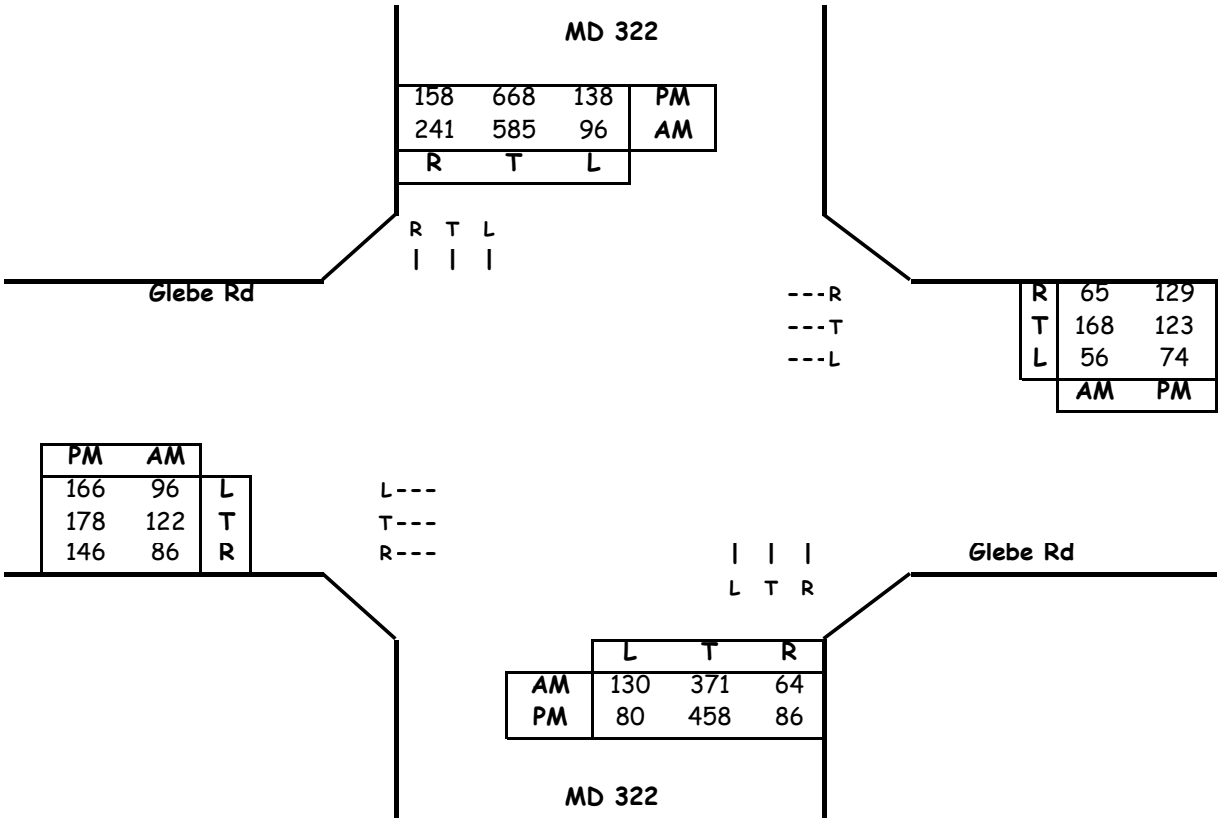
MD 322 &
Glebe Rd
(Existing Traffic)

**Intersection**
**7**

# CRITICAL LANE VOLUME (CLV) METHODOLOGY
## for MSHA

**Main Line:** MD 322 **Analyst:** Lenhart Traffic
**Minor Street:** Glebe Rd
**Study Period:** Background Traffic

## Lane Use + Traffic Volumes




## Critical Lane Volume Analysis

**Morning Peak Hour**

| Dir | Thru Volumes VOL | x LUF | = Total | + Opposing Lefts VOL | x LUF | = Total | AM CLV |
|---|---|---|---|---|---|---|---|
| NB | 371 | 1.00 | 371 | 96 | 1 | 96 | 715 |
| SB | 585 | 1.00 | 585 | 130 | 1 | 130 | |
| EB | 122 | 1 | 122 | 56 | 1 | 56 | 264 |
| WB | 168 | 1 | 168 | 96 | 1 | 96 | |

CLV TOTAL= **979**
Level of Service (LOS )= **A**

**Evening Peak Hour**

| Dir | Thru Volumes VOL | x LUF | = Total | + Opposing Lefts VOL | x LUF | = Total | PM CLV |
|---|---|---|---|---|---|---|---|
| NB | 458 | 1.00 | 458 | 138 | 1 | 138 | 748 |
| SB | 668 | 1.00 | 668 | 80 | 1 | 80 | |
| EB | 178 | 1 | 178 | 74 | 1 | 74 | 289 |
| WB | 123 | 1 | 123 | 166 | 1 | 166 | |

CLV TOTAL= **1037**
Level of Service (LOS )= **B**

Critical Lane Volume Analysis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SEVERNA PARK, MD 21146
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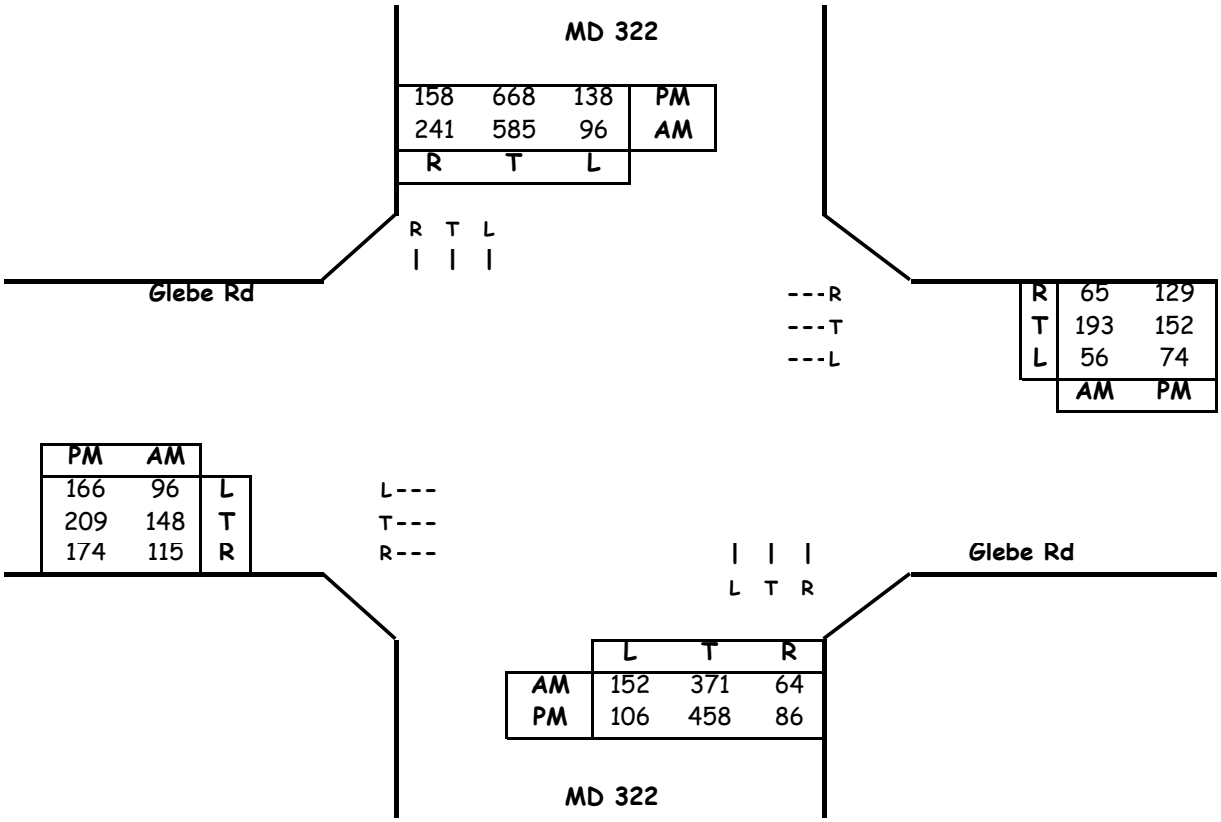
MD 322 & Glebe Rd
(Background Traffic)

**Intersection 7**

# CRITICAL LANE VOLUME (CLV) METHODOLOGY
## for MSHA

**Main Line:** MD 322 **Analyst:** Lenhart Traffic
**Minor Street:** Glebe Rd
**Study Period:** Background Traffic

## Lane Use + Traffic Volumes




## Critical Lane Volume Analysis

**Morning Peak Hour**

| Dir | Thru Volumes VOL | x LUF | = Total | + Opposing Lefts VOL | x LUF | = Total | AM CLV |
|---|---|---|---|---|---|---|---|
| NB | 371 | 1.00 | 371 | 96 | 1 | 96 | 737 |
| SB | 585 | 1.00 | 585 | 152 | 1 | 152 | |
| EB | 148 | 1 | 148 | 56 | 1 | 56 | 289 |
| WB | 193 | 1 | 193 | 96 | 1 | 96 | |

CLV TOTAL= **1026**
Level of Service (LOS )= **B**

**Evening Peak Hour**

| Dir | Thru Volumes VOL | x LUF | = Total | + Opposing Lefts VOL | x LUF | = Total | PM CLV |
|---|---|---|---|---|---|---|---|
| NB | 458 | 1.00 | 458 | 138 | 1 | 138 | 774 |
| SB | 668 | 1.00 | 668 | 106 | 1 | 106 | |
| EB | 209 | 1 | 209 | 74 | 1 | 74 | 318 |
| WB | 152 | 1 | 152 | 166 | 1 | 166 | |

CLV TOTAL= **1092**
Level of Service (LOS )= **B**

Critical Lane Volume Analysis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MD 322 & Glebe Rd
(Background Traffic)

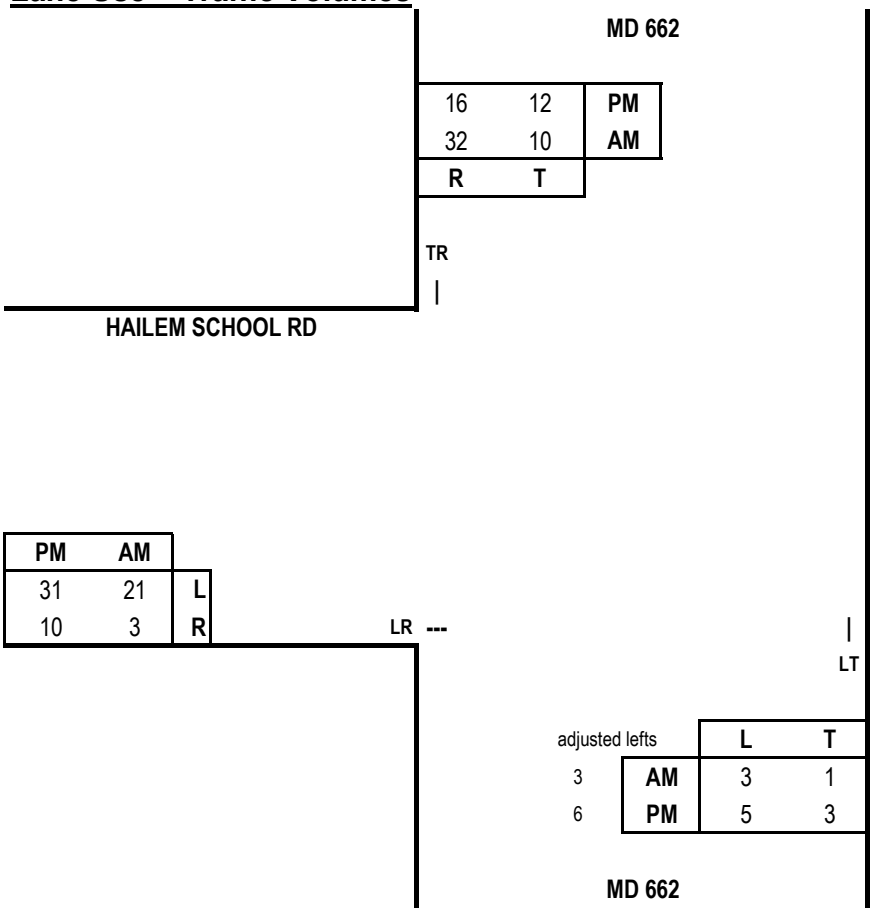
**Intersection 7**

# CRITICAL LANE VOLUME (CLV) METHODOLOGY
## for MSHA

**Intersection of:** MD 662
**and:** Hailem School Rd
**Conditions:** Existing Traffic

**Analyst:** Lenhart Traffic

## Lane Use + Traffic Volumes




## Capacity Analysis

**Morning Peak Hour**

| Dir | Thru Volumes VOL | x LUF | = Total | + Opposing Lefts VOL | x LUF | = Total | AM CLV |
|---|---|---|---|---|---|---|---|
| EB | 24 | 1.00 | 24 | | | | 24 |
| NB | 4 | 1.00 | 4 | | | | 45 |
| SB | 42 | 1.00 | 42 | 3 | 1.00 | 3 | |

CLV TOTAL= **69**
Level of Service (LOS )= **A**

**Evening Peak Hour**

| Dir | Thru Volumes VOL | x LUF | = Total | + Opposing Lefts VOL | x LUF | = Total | PM CLV |
|---|---|---|---|---|---|---|---|
| EB | 41 | 1.00 | 41 | | | | 41 |
| NB | 9 | 1.00 | 9 | | | | 33 |
| SB | 28 | 1.00 | 28 | 5 | 1.00 | 5 | |

CLV TOTAL= **74**
Level of Service (LOS )= **A**

Critical Lane Volume Analysis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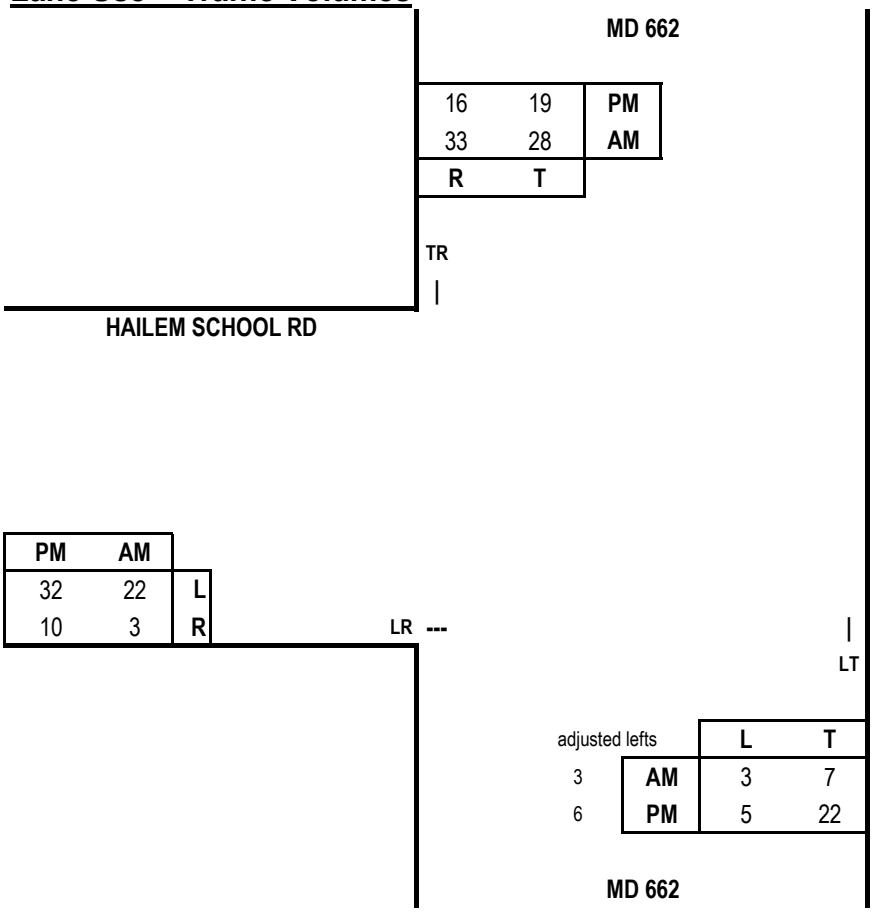
MD 662 &
Hailem School Rd
(Existing Traffic)

**Intersection**
**8**

# CRITICAL LANE VOLUME (CLV) METHODOLOGY
## for MSHA

**Intersection of:** MD 662
**and:** Hailem School Rd
**Conditions:** Background Traffic
**Analyst:** Lenhart Traffic

## Lane Use + Traffic Volumes




## Capacity Analysis

**Morning Peak Hour**

| Dir | Thru Volumes VOL | x LUF | = Total | + Opposing Lefts VOL | x LUF | = Total | AM CLV |
|---|---|---|---|---|---|---|---|
| EB | 25 | 1.00 | 25 | | | | 25 |
| NB | 10 | 1.00 | 10 | | | | 64 |
| SB | 61 | 1.00 | 61 | 3 | 1.00 | 3 | |
| | | | | | CLV TOTAL= | | 89 |
| | | | | | Level of Service (LOS )= | | A |

**Evening Peak Hour**

| Dir | Thru Volumes VOL | x LUF | = Total | + Opposing Lefts VOL | x LUF | = Total | PM CLV |
|---|---|---|---|---|---|---|---|
| EB | 42 | 1.00 | 42 | | | | 42 |
| NB | 28 | 1.00 | 28 | | | | 40 |
| SB | 35 | 1.00 | 35 | 5 | 1.00 | 5 | |
| | | | | | CLV TOTAL= | | 82 |
| | | | | | Level of Service (LOS )= | | A |

Critical Lane Volume Analysis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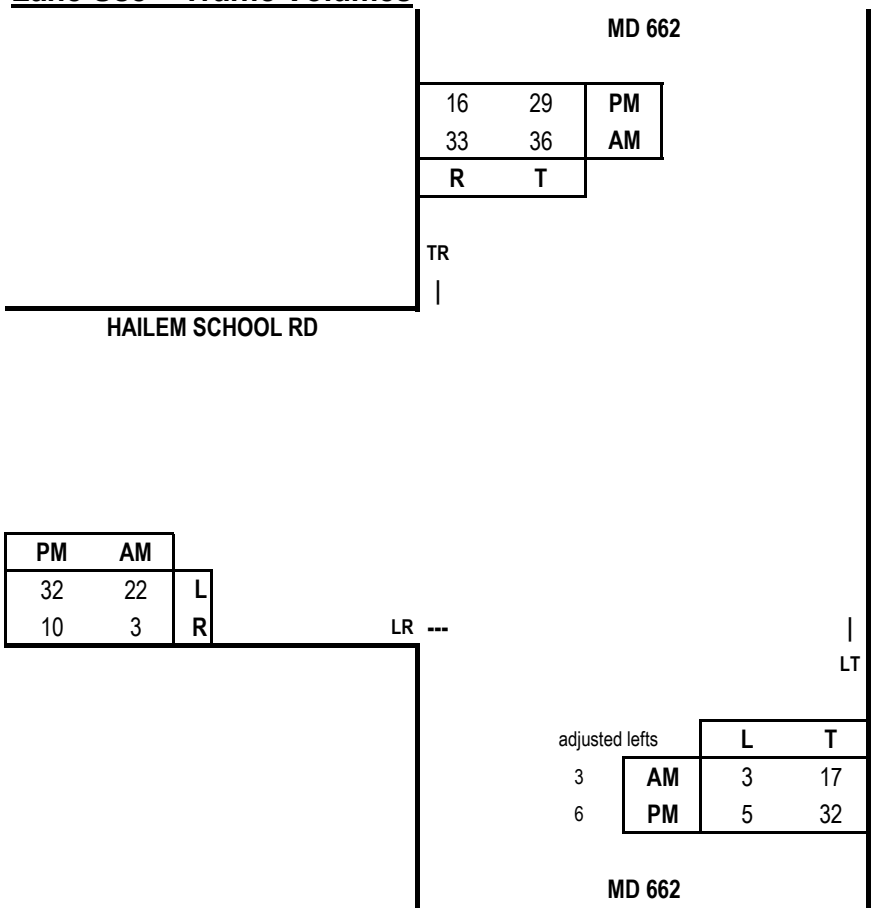
MD 662 &
Hailem School Rd
(Background Traffic)

**Intersection**
**8**

# CRITICAL LANE VOLUME (CLV) METHODOLOGY
## for MSHA

**Intersection of:** MD 662
**and:** Hailem School Rd
**Conditions:** Total Traffic
**Analyst:** Lenhart Traffic

## Lane Use + Traffic Volumes




## Capacity Analysis

**Morning Peak Hour**

| Dir | Thru Volumes VOL | x LUF | = Total | + Opposing Lefts VOL | x LUF | = Total | AM CLV |
|---|---|---|---|---|---|---|---|
| EB | 25 | 1.00 | 25 | | | | 25 |
| NB | 20 | 1.00 | 20 | | | | 72 |
| SB | 69 | 1.00 | 69 | 3 | 1.00 | 3 | |

CLV TOTAL= **97**
Level of Service (LOS )= **A**

**Evening Peak Hour**

| Dir | Thru Volumes VOL | x LUF | = Total | + Opposing Lefts VOL | x LUF | = Total | PM CLV |
|---|---|---|---|---|---|---|---|
| EB | 42 | 1.00 | 42 | | | | 42 |
| NB | 38 | 1.00 | 38 | | | | 50 |
| SB | 45 | 1.00 | 45 | 5 | 1.00 | 5 | |

CLV TOTAL= **92**
Level of Service (LOS )= **A**

Critical Lane Volume Analysis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MD 662 &
Hailem School Rd
(Total Traffic)

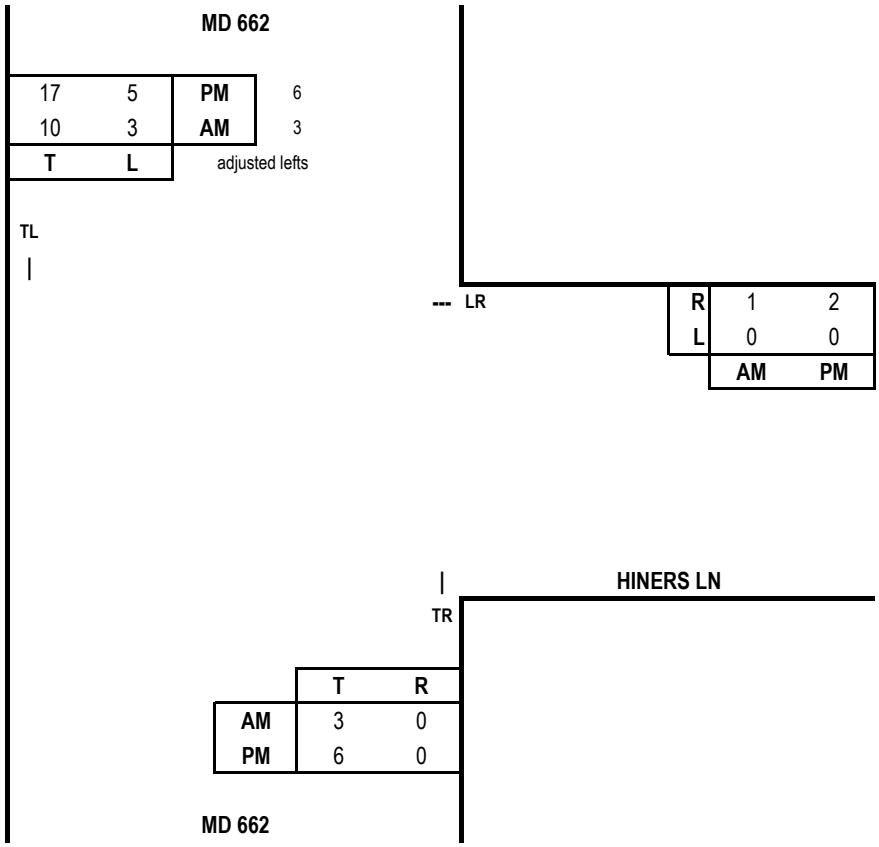
**Intersection**
**8**

# CRITICAL LANE VOLUME (CLV) METHODOLOGY
## for MSHA

**Intersection of:** MD 662
**and:** Hiners Ln
**Conditions:** Existing Traffic

**Analyst:** Lenhart Traffic

## Lane Use + Traffic Volumes




## Capacity Analysis

**Morning Peak Hour**

| Dir | Thru Volumes VOL | x LUF | = Total | + Opposing Lefts VOL | x LUF | = Total | AM CLV |
|---|---|---|---|---|---|---|---|
| WB | 1 | 1.00 | 1 | | | | 1 |
| NB | 3 | 1.00 | 3 | 3 | 1.00 | 3 | 13 |
| SB | 13 | 1.00 | 13 | | | | |
| | | | | | | CLV TOTAL= | 14 |
| | | | | | | Level of Service (LOS )= | A |

**Evening Peak Hour**

| Dir | Thru Volumes VOL | x LUF | = Total | + Opposing Lefts VOL | x LUF | = Total | PM CLV |
|---|---|---|---|---|---|---|---|
| WB | 2 | 1.00 | 2 | | | | 2 |
| NB | 6 | 1.00 | 6 | 5 | 1.00 | 5 | 23 |
| SB | 23 | 1.00 | 23 | | | | |
| | | | | | | CLV TOTAL= | 25 |
| | | | | | | Level of Service (LOS )= | A |

Critical Lane Volume Analysis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N

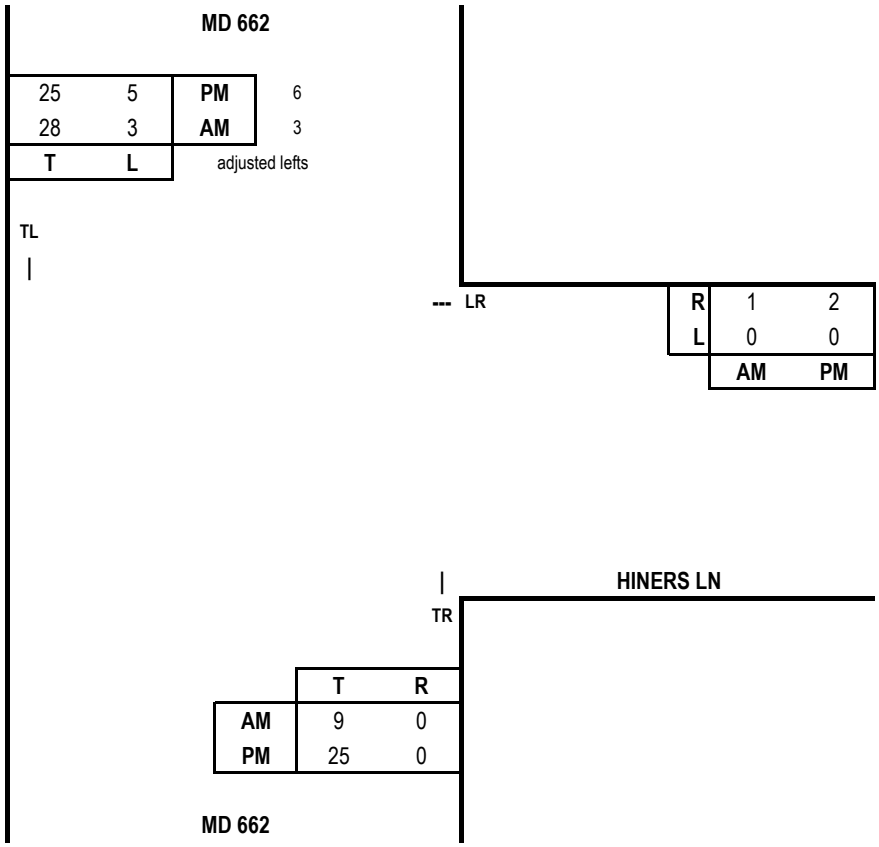
MD 662 &
Hiners Ln
(Existing Traffic)

**Intersection**
**9**

# CRITICAL LANE VOLUME (CLV) METHODOLOGY
## for MSHA

**Intersection of:** MD 662
**and:** Hiners Ln
**Conditions:** Background Traffic
**Analyst:** Lenhart Traffic

## Lane Use + Traffic Volumes




## Capacity Analysis

**Morning Peak Hour**

| Dir | Thru Volumes VOL | x LUF | = Total | + Opposing Lefts VOL | x LUF | = Total | AM CLV |
|---|---|---|---|---|---|---|---|
| WB | 1 | 1.00 | 1 | | | | 1 |
| NB | 9 | 1.00 | 9 | 3 | 1.00 | 3 | 31 |
| SB | 31 | 1.00 | 31 | | | | |

CLV TOTAL= **32**
Level of Service (LOS )= **A**

**Evening Peak Hour**

| Dir | Thru Volumes VOL | x LUF | = Total | + Opposing Lefts VOL | x LUF | = Total | PM CLV |
|---|---|---|---|---|---|---|---|
| WB | 2 | 1.00 | 2 | | | | 2 |
| NB | 25 | 1.00 | 25 | 5 | 1.00 | 5 | 31 |
| SB | 31 | 1.00 | 31 | | | | |

CLV TOTAL= **33**
Level of Service (LOS )= **A**

Critical Lane Volume Analysis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N

MD 662 &
Hiners Ln
(Background Traffic)

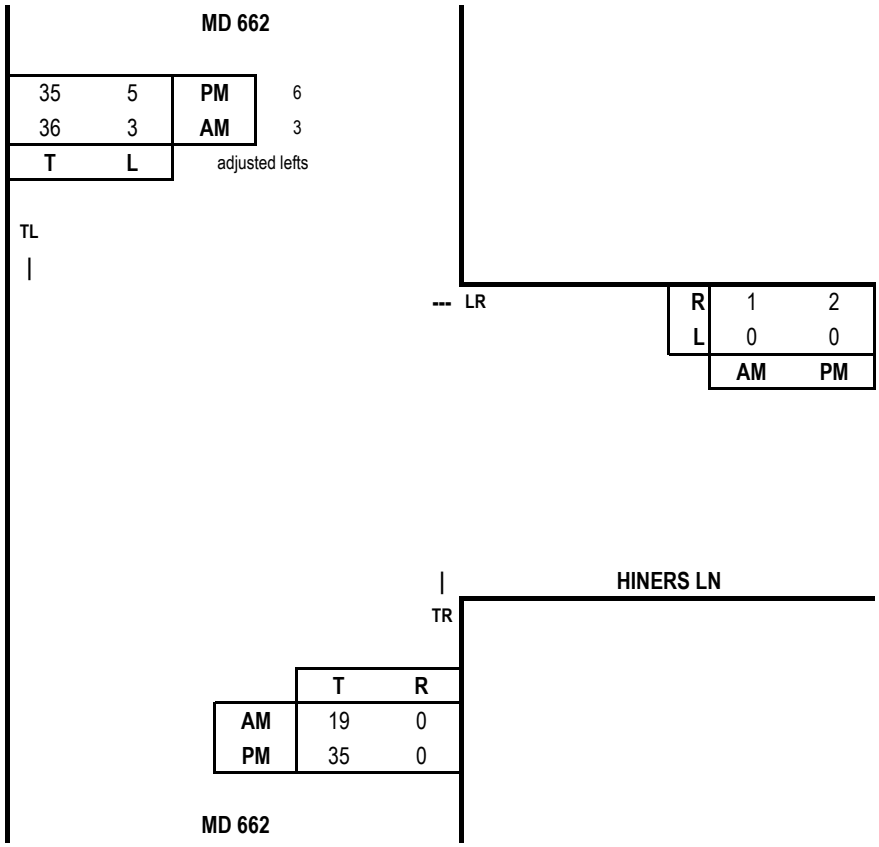
**Intersection 9**

# CRITICAL LANE VOLUME (CLV) METHODOLOGY
## for MSHA

**Intersection of:** MD 662
**and:** Hiners Ln
**Conditions:** Total Traffic

**Analyst:** Lenhart Traffic

## Lane Use + Traffic Volumes




## Capacity Analysis

**Morning Peak Hour**

| Dir | Thru Volumes VOL | x LUF | = Total | + Opposing Lefts VOL | x LUF | = Total | AM CLV |
|---|---|---|---|---|---|---|---|
| WB | 1 | 1.00 | 1 | | | | 1 |
| NB | 19 | 1.00 | 19 | 3 | 1.00 | 3 | 39 |
| SB | 39 | 1.00 | 39 | | | | |

CLV TOTAL= **40**
Level of Service (LOS )= **A**

**Evening Peak Hour**

| Dir | Thru Volumes VOL | x LUF | = Total | + Opposing Lefts VOL | x LUF | = Total | PM CLV |
|---|---|---|---|---|---|---|---|
| WB | 2 | 1.00 | 2 | | | | 2 |
| NB | 35 | 1.00 | 35 | 5 | 1.00 | 5 | 41 |
| SB | 41 | 1.00 | 41 | | | | |

CLV TOTAL= **43**
Level of Service (LOS )= **A**

Critical Lane Volume Analysis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N

MD 662 &
Hiners Ln
(Total Traffic)

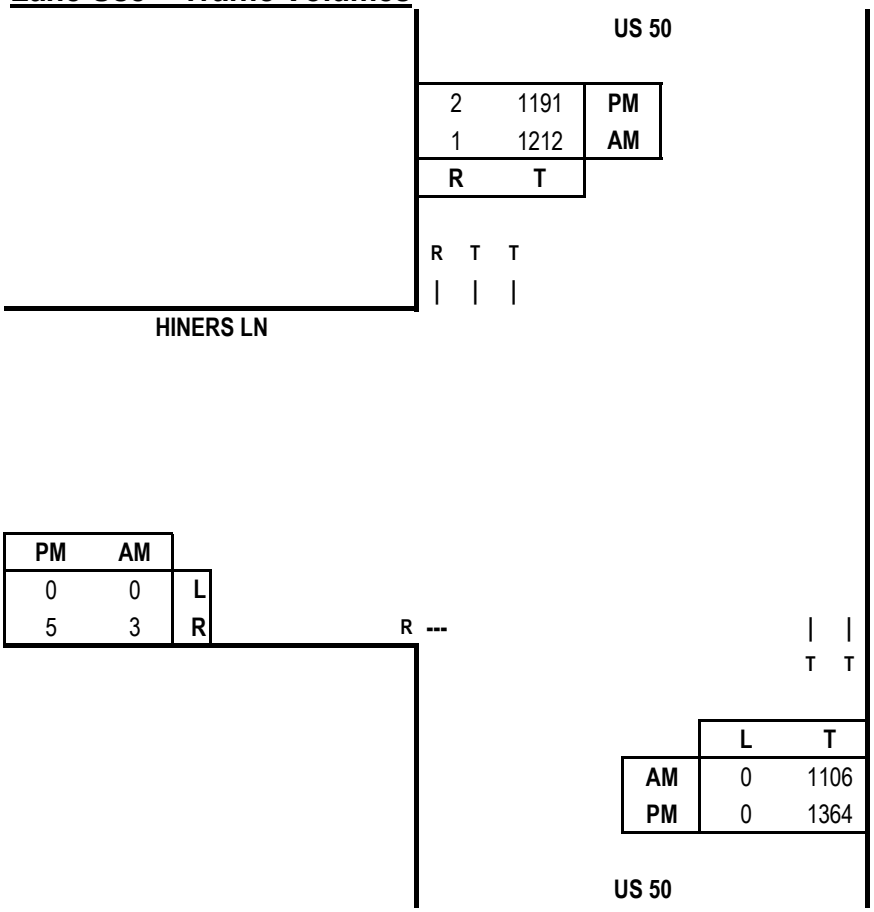
**Intersection**
**9**

# CRITICAL LANE VOLUME (CLV) METHODOLOGY
## for MSHA

**Intersection of:** US 50
**and:** Hiners Ln
**Conditions:** Existing Traffic

**Analyst:** Lenhart Traffic

## Lane Use + Traffic Volumes




## Capacity Analysis

**Morning Peak Hour**

| Dir | Thru Volumes VOL | x LUF | = Total | + Opposing Lefts VOL | x LUF | = Total | AM CLV |
|---|---|---|---|---|---|---|---|
| EB | 3 | 1.00 | 3 | | | | 3 |
| NB | 1106 | 0.55 | 608 | | | | 667 |
| SB | 1212 | 0.55 | 667 | 0 | 0.00 | 0 | |
| | | | | | | CLV TOTAL= | **670** |
| | | | | | | Level of Service (LOS )= | **A** |

**Evening Peak Hour**

| Dir | Thru Volumes VOL | x LUF | = Total | + Opposing Lefts VOL | x LUF | = Total | PM CLV |
|---|---|---|---|---|---|---|---|
| EB | 5 | 1.00 | 5 | | | | 5 |
| NB | 1364 | 0.55 | 750 | | | | 750 |
| SB | 1191 | 0.55 | 655 | 0 | 0.00 | 0 | |
| | | | | | | CLV TOTAL= | **755** |
| | | | | | | Level of Service (LOS )= | **A** |

Critical Lane Volume Analysis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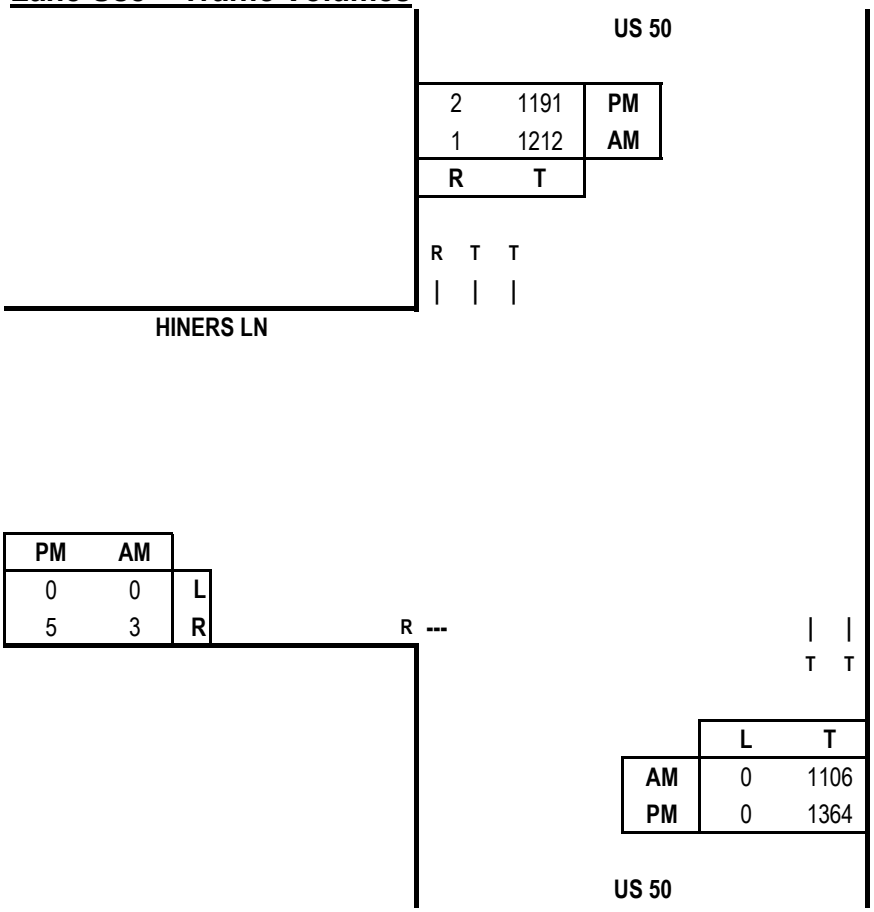
US 50 &
Hiners Ln
(Existing Traffic)

**Intersection**
**10**

# CRITICAL LANE VOLUME (CLV) METHODOLOGY
## for MSHA

**Intersection of:** US 50
**and:** Hiners Ln
**Conditions:** Background Traffic
**Analyst:** Lenhart Traffic

## Lane Use + Traffic Volumes




## Capacity Analysis

**Morning Peak Hour**

| Dir | Thru Volumes VOL | x LUF | = Total | + Opposing Lefts VOL | x LUF | = Total | AM CLV |
|---|---|---|---|---|---|---|---|
| EB | 3 | 1.00 | 3 | | | | 3 |
| NB | 1106 | 0.55 | 608 | | | | 667 |
| SB | 1212 | 0.55 | 667 | 0 | 0.00 | 0 | |
| | | | | | | CLV TOTAL= | 670 |
| | | | | | | Level of Service (LOS )= | A |

**Evening Peak Hour**

| Dir | Thru Volumes VOL | x LUF | = Total | + Opposing Lefts VOL | x LUF | = Total | PM CLV |
|---|---|---|---|---|---|---|---|
| EB | 5 | 1.00 | 5 | | | | 5 |
| NB | 1364 | 0.55 | 750 | | | | 750 |
| SB | 1191 | 0.55 | 655 | 0 | 0.00 | 0 | |
| | | | | | | CLV TOTAL= | 755 |
| | | | | | | Level of Service (LOS )= | A |

Critical Lane Volume Analysis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US 50 &
Hiners Ln
(Background Traffic)

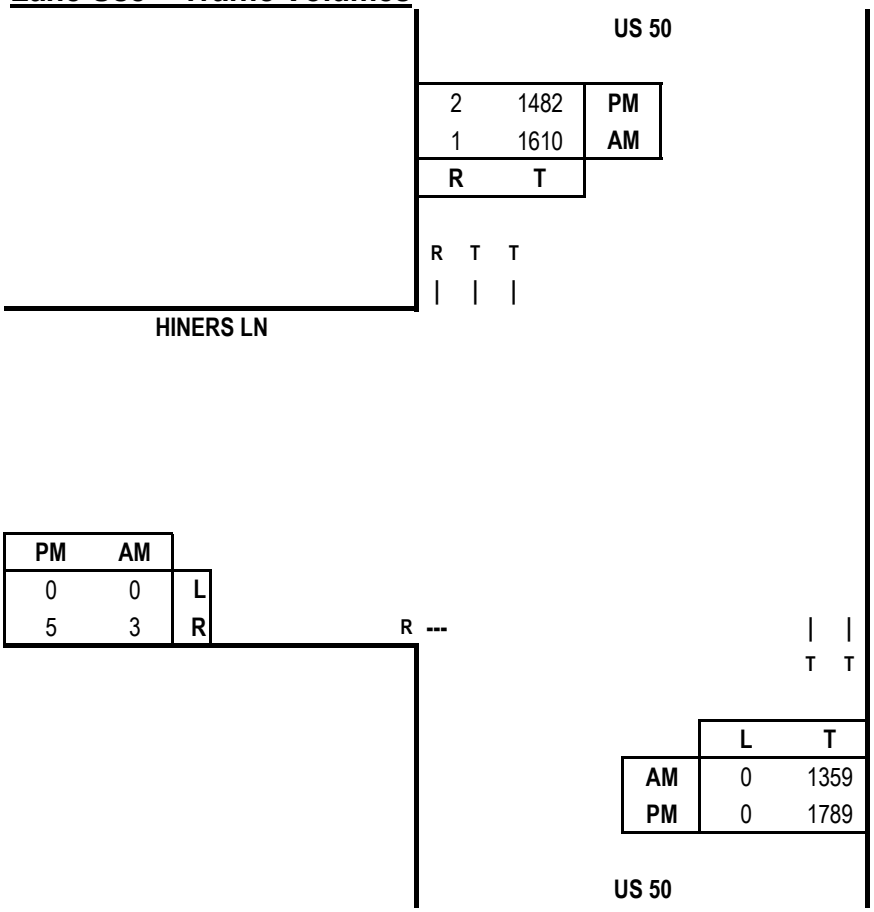
**Intersection**
**10**

# CRITICAL LANE VOLUME (CLV) METHODOLOGY
## for MSHA

**Intersection of:** US 50
**and:** Hiners Ln
**Conditions:** Total Traffic

**Analyst:** Lenhart Traffic

## Lane Use + Traffic Volumes




## Capacity Analysis

**Morning Peak Hour**

| Dir | Thru Volumes VOL | x LUF | = Total | + Opposing Lefts VOL | x LUF | = Total | AM CLV |
|---|---|---|---|---|---|---|---|
| EB | 3 | 1.00 | 3 | | | | 3 |
| NB | 1359 | 0.55 | 747 | | | | 886 |
| SB | 1610 | 0.55 | 886 | 0 | 0.00 | 0 | |

CLV TOTAL= **889**
Level of Service (LOS )= **A**

**Evening Peak Hour**

| Dir | Thru Volumes VOL | x LUF | = Total | + Opposing Lefts VOL | x LUF | = Total | PM CLV |
|---|---|---|---|---|---|---|---|
| EB | 5 | 1.00 | 5 | | | | 5 |
| NB | 1789 | 0.55 | 984 | | | | 984 |
| SB | 1482 | 0.55 | 815 | 0 | 0.00 | 0 | |

CLV TOTAL= **989**
Level of Service (LOS )= **A**

Critical Lane Volume Analysis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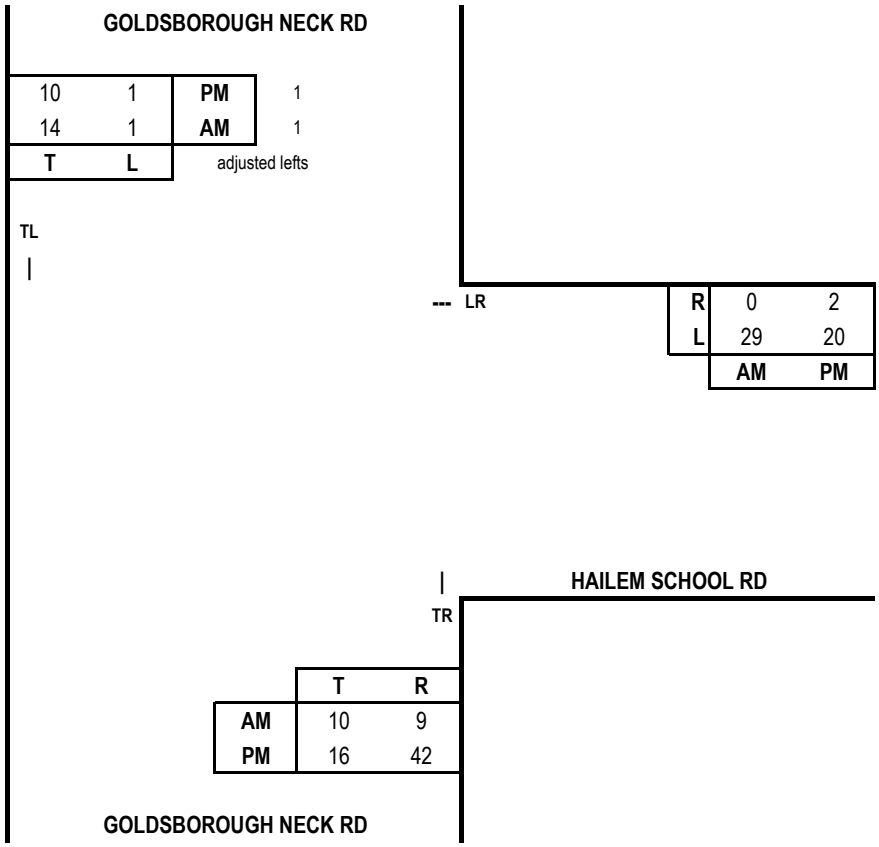
US 50 &
Hiners Ln
(Total Traffic)

**Intersection**
**10**

# CRITICAL LANE VOLUME (CLV) METHODOLOGY
## for MSHA

**Intersection of:** Goldsborough Neck Rd
**and:** Hailem School Rd
**Conditions:** Existing Traffic
**Analyst:** Lenhart Traffic

## Lane Use + Traffic Volumes




## Capacity Analysis

**Morning Peak Hour**

| Dir | Thru Volumes VOL | x LUF | = Total | + Opposing Lefts VOL | x LUF | = Total | AM CLV |
|---|---|---|---|---|---|---|---|
| WB | 29 | 1.00 | 29 | | | | 29 |
| NB | 19 | 1.00 | 19 | 1 | 1.00 | 1 | 20 |
| SB | 15 | 1.00 | 15 | | | | |

CLV TOTAL= **49**
Level of Service (LOS )= **A**

**Evening Peak Hour**

| Dir | Thru Volumes VOL | x LUF | = Total | + Opposing Lefts VOL | x LUF | = Total | PM CLV |
|---|---|---|---|---|---|---|---|
| WB | 22 | 1.00 | 22 | | | | 22 |
| NB | 58 | 1.00 | 58 | 1 | 1.00 | 1 | 59 |
| SB | 11 | 1.00 | 11 | | | | |

CLV TOTAL= **81**
Level of Service (LOS )= **A**

Critical Lane Volume Analysis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N

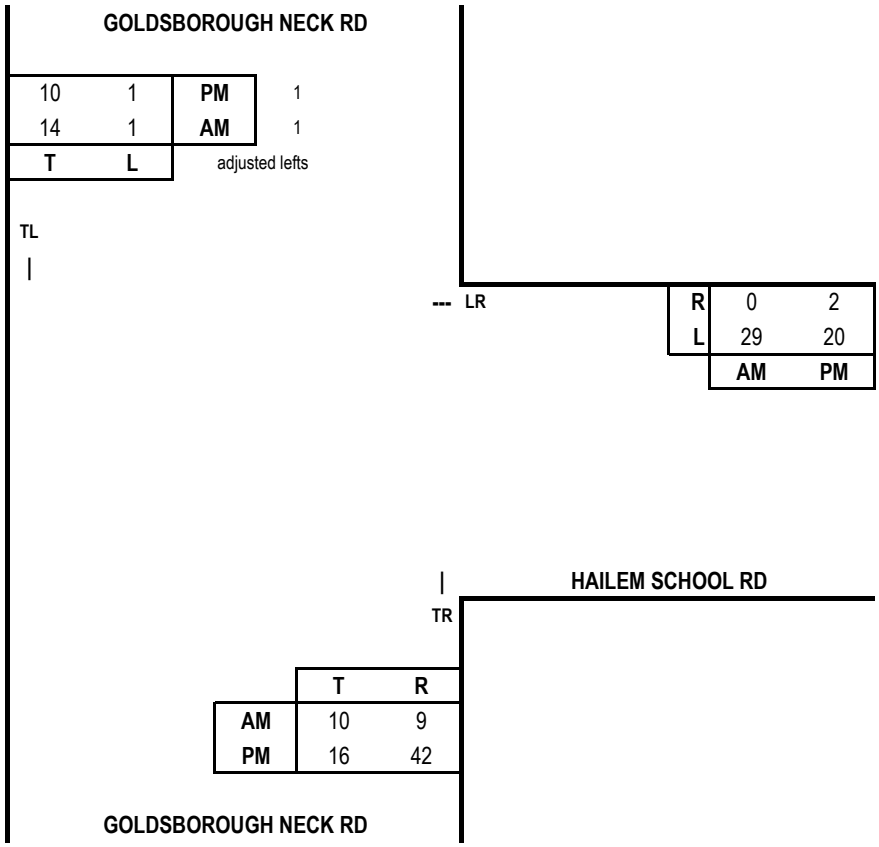
Goldsborough Neck Rd &
Hailem School Rd
(Existing Traffic)

**Intersection**
**11**

# CRITICAL LANE VOLUME (CLV) METHODOLOGY
## for MSHA

**Intersection of:** Goldsborough Neck Rd
**and:** Hailem School Rd
**Conditions:** Background Traffic
**Analyst:** Lenhart Traffic

## Lane Use + Traffic Volumes




## Capacity Analysis

**Morning Peak Hour**

| Dir | Thru Volumes VOL | x LUF | = Total | + Opposing Lefts VOL | x LUF | = Total | AM CLV |
|---|---|---|---|---|---|---|---|
| WB | 29 | 1.00 | 29 | | | | 29 |
| NB | 19 | 1.00 | 19 | 1 | 1.00 | 1 | 20 |
| SB | 15 | 1.00 | 15 | | | | |

CLV TOTAL= **49**
Level of Service (LOS )= **A**

**Evening Peak Hour**

| Dir | Thru Volumes VOL | x LUF | = Total | + Opposing Lefts VOL | x LUF | = Total | PM CLV |
|---|---|---|---|---|---|---|---|
| WB | 22 | 1.00 | 22 | | | | 22 |
| NB | 58 | 1.00 | 58 | 1 | 1.00 | 1 | 59 |
| SB | 11 | 1.00 | 11 | | | | |

CLV TOTAL= **81**
Level of Service (LOS )= **A**

Critical Lane Volume Analysis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N

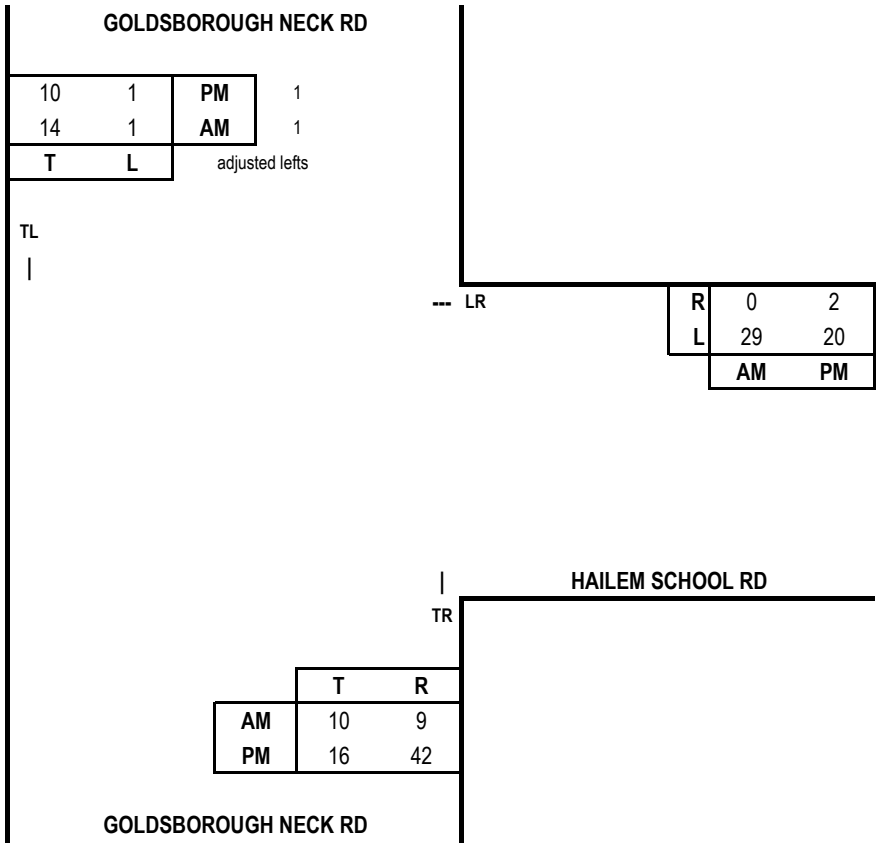
Goldsborough Neck Rd &
Hailem School Rd
(Background Traffic)

**Intersection**
**11**

# CRITICAL LANE VOLUME (CLV) METHODOLOGY
## for MSHA

**Intersection of:** Goldsborough Neck Rd
**and:** Hailem School Rd
**Conditions:** Total Traffic
**Analyst:** Lenhart Traffic

## Lane Use + Traffic Volumes




## Capacity Analysis

**Morning Peak Hour**

| Dir | Thru Volumes VOL | x LUF | = Total | + Opposing Lefts VOL | x LUF | = Total | AM CLV |
|---|---|---|---|---|---|---|---|
| WB | 29 | 1.00 | 29 | | | | 29 |
| NB | 19 | 1.00 | 19 | 1 | 1.00 | 1 | 20 |
| SB | 15 | 1.00 | 15 | | | | |

CLV TOTAL= **49**
Level of Service (LOS )= **A**

**Evening Peak Hour**

| Dir | Thru Volumes VOL | x LUF | = Total | + Opposing Lefts VOL | x LUF | = Total | PM CLV |
|---|---|---|---|---|---|---|---|
| WB | 22 | 1.00 | 22 | | | | 22 |
| NB | 58 | 1.00 | 58 | 1 | 1.00 | 1 | 59 |
| SB | 11 | 1.00 | 11 | | | | |

CLV TOTAL= **81**
Level of Service (LOS )= **A**

Critical Lane Volume Analysis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N

Goldsborough Neck Rd &
Hailem School Rd
(Total Traffic)

**Intersection**
**11**

# CRITICAL LANE VOLUME (CLV) METHODOLOGY
## for MSHA

**Intersection of:** Goldsborough Neck Rd
**and:** Site Access
**Conditions:** Total Traffic

**Analyst:** Lenhart Traffic

## Lane Use + Traffic Volumes




## Capacity Analysis

**Sat. Midday Peak Hour**

| Dir | Thru Volumes VOL | x LUF | = Total | + Opposing Lefts VOL | x LUF | = Total | SAT CLV |
|---|---|---|---|---|---|---|---|
| WB | 0 | 1.00 | 0 | | | | 0 |
| NB | 44 | 1.00 | 44 | 0 | 1.00 | 0 | 44 |
| SB | 42 | 1.00 | 42 | | | | |
| | | | | | CLV TOTAL= | | **44** |
| | | | | | Level of Service (LOS )= | | **A** |

Critical Lane Volume Analysis


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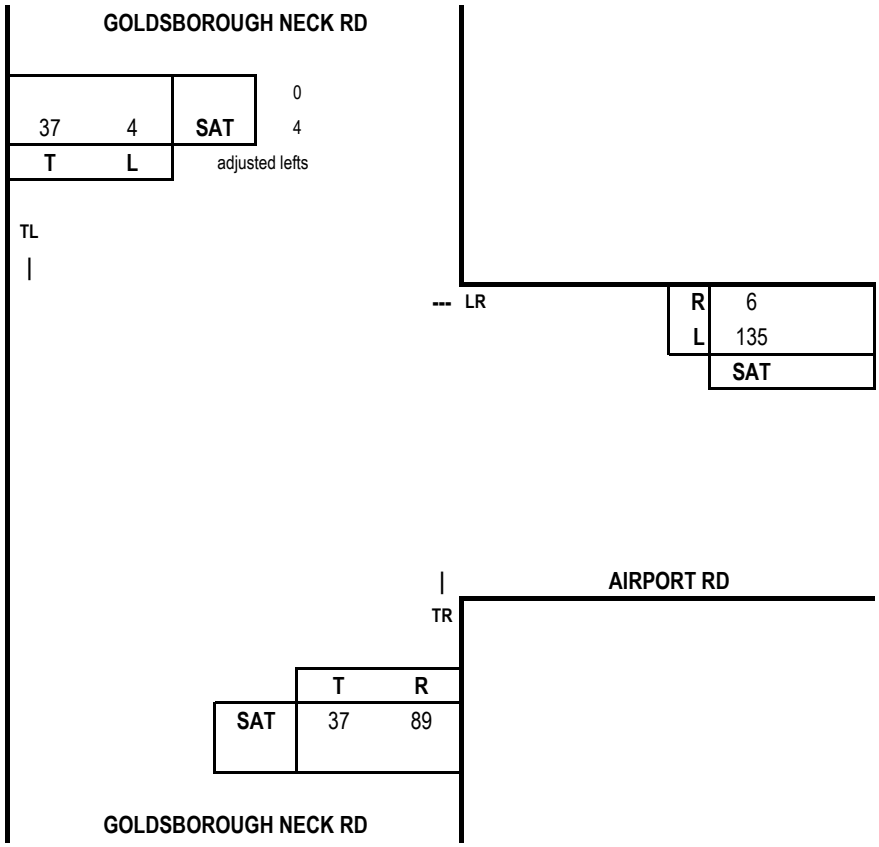
Goldsborough Neck Rd &
Site Access
(Total Traffic)

**Intersection**
**1 - Sat**

# CRITICAL LANE VOLUME (CLV) METHODOLOGY
## for MSHA

**Intersection of:** Goldsborough Neck Rd
**and:** Airport Rd
**Analyst:** Lenhart Traffic
**Conditions:** Existing Traffic

## Lane Use + Traffic Volumes




## Capacity Analysis

| Sat. Midday Peak Hour | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Thru Volumes | | | + Opposing Lefts | | | SAT |
| Dir | VOL | x LUF | = Total | VOL | x LUF | = Total | CLV |
| WB | 141 | 1.00 | 141 | | | | 141 |
| NB | 126 | 1.00 | 126 | 4 | 1.00 | 4 | 130 |
| SB | 41 | 1.00 | 41 | | | | |
| | | | | | | CLV TOTAL= | 271 |
| | | | | | | Level of Service (LOS )= | A |

Critical Lane Volume Analysis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N

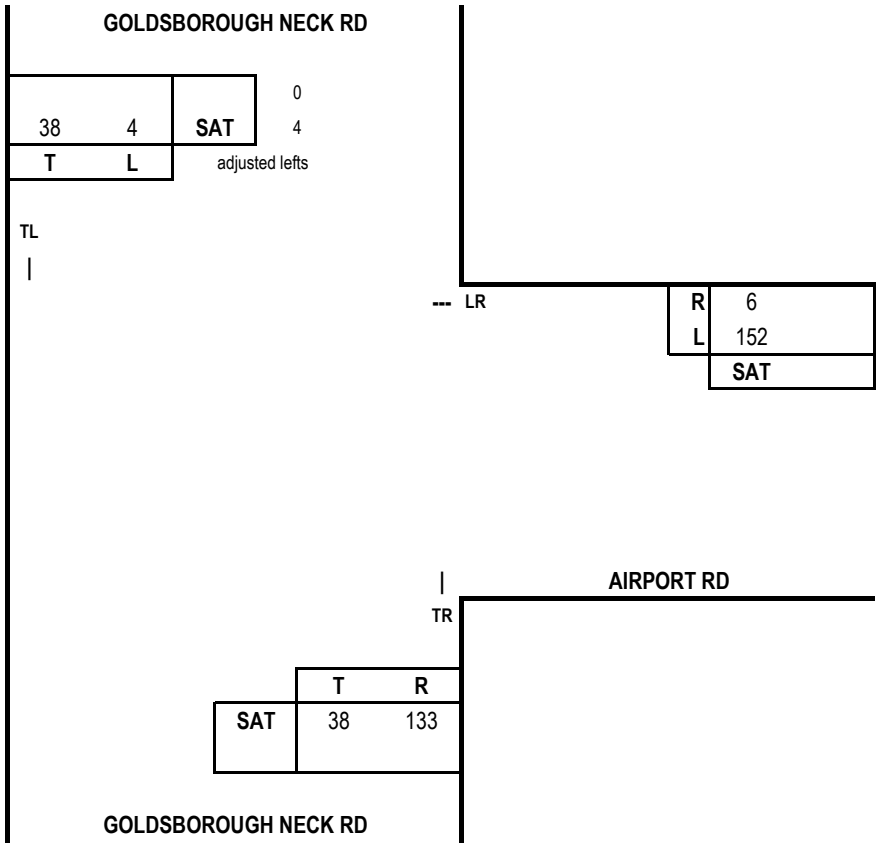
Goldsborough Neck Rd &
Airport Rd
(Existing Traffic)

**Intersection**
**2 - Sat**

# CRITICAL LANE VOLUME (CLV) METHODOLOGY
## for MSHA

**Intersection of:** Goldsborough Neck Rd
**and:** Airport Rd
**Conditions:** Background Traffic
**Analyst:** Lenhart Traffic

### Lane Use + Traffic Volumes




### Capacity Analysis

| Sat. Midday Peak Hour | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Thru Volumes | | | + Opposing Lefts | | | SAT |
| Dir | VOL | x LUF | = Total | VOL | x LUF | = Total | CLV |
| WB | 158 | 1.00 | 158 | | | | 158 |
| NB | 171 | 1.00 | 171 | 4 | 1.00 | 4 | 175 |
| SB | 42 | 1.00 | 42 | | | | |
| | | | | | | CLV TOTAL= | 333 |
| | | | | | | Level of Service (LOS )= | A |

Critical Lane Volume Analysis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N

Goldsborough Neck Rd &
Airport Rd
(Background Traffic)

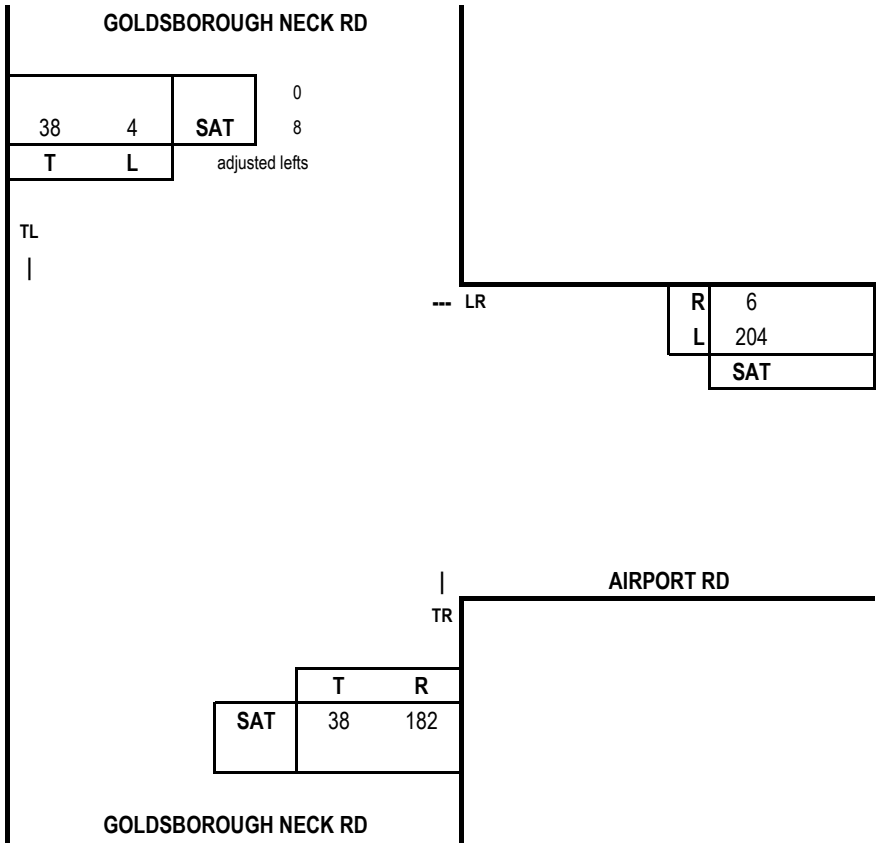
**Intersection**
**2- Sat**

# CRITICAL LANE VOLUME (CLV) METHODOLOGY
## for MSHA

**Intersection of:** Goldsborough Neck Rd
**and:** Airport Rd
**Conditions:** Total Traffic

**Analyst:** Lenhart Traffic

## Lane Use + Traffic Volumes




## Capacity Analysis

| Sat. Midday Peak Hour | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Thru Volumes | | | + Opposing Lefts | | | SAT |
| Dir | VOL | x LUF | = Total | VOL | x LUF | = Total | CLV |
| WB | 210 | 1.00 | 210 | | | | 210 |
| NB | 220 | 1.00 | 220 | 4 | 1.00 | 4 | 224 |
| SB | 46 | 1.00 | 46 | | | | |
| | | | | | | CLV TOTAL= | 434 |
| | | | | | | Level of Service (LOS )= | A |

Critical Lane Volume Analysis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N

Goldsborough Neck Rd &
Airport Rd
(Total Traffic)

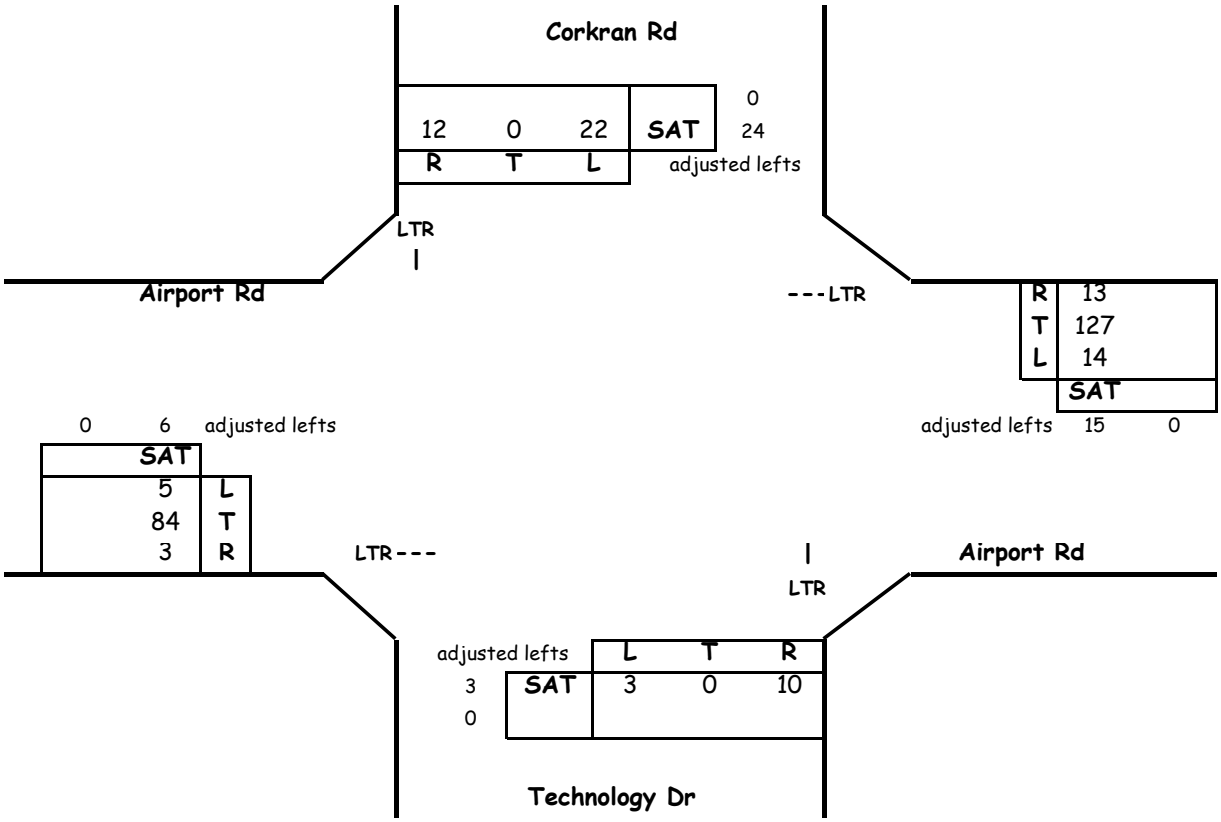
**Intersection**
**2- Sat**

## CRITICAL LANE VOLUME (CLV) METHODOLOGY
## for MSHA

**Main Line:** Airport Rd
**Minor Street:** Technology Dr
**Study Period:** Existing Traffic

**Analyst:** Lenhart Traffic

### Lane Use + Traffic Volumes




### Critical Lane Volume Analysis

| Sat. Midday Peak Hour | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Thru Volumes | | | + Opposing Lefts | | | SAT |
| Dir | VOL | x LUF | = Total | VOL | x LUF | = Total | CLV |
| NB | 13 | 1.00 | 13 | 22 | 1 | 22 | 39 |
| SB | 36 | 1.00 | 36 | 3 | 1 | 3 | |
| EB | 93 | 1 | 93 | 14 | 1 | 14 | 160 |
| WB | 155 | 1 | 155 | 5 | 1 | 5 | |
| | | | | | | CLV TOTAL= | 199 |
| | | | | | | Level of Service (LOS )= | A |

Critical Lane Volume Analysis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Airport Rd & Technology Dr
(Existing Traffic)

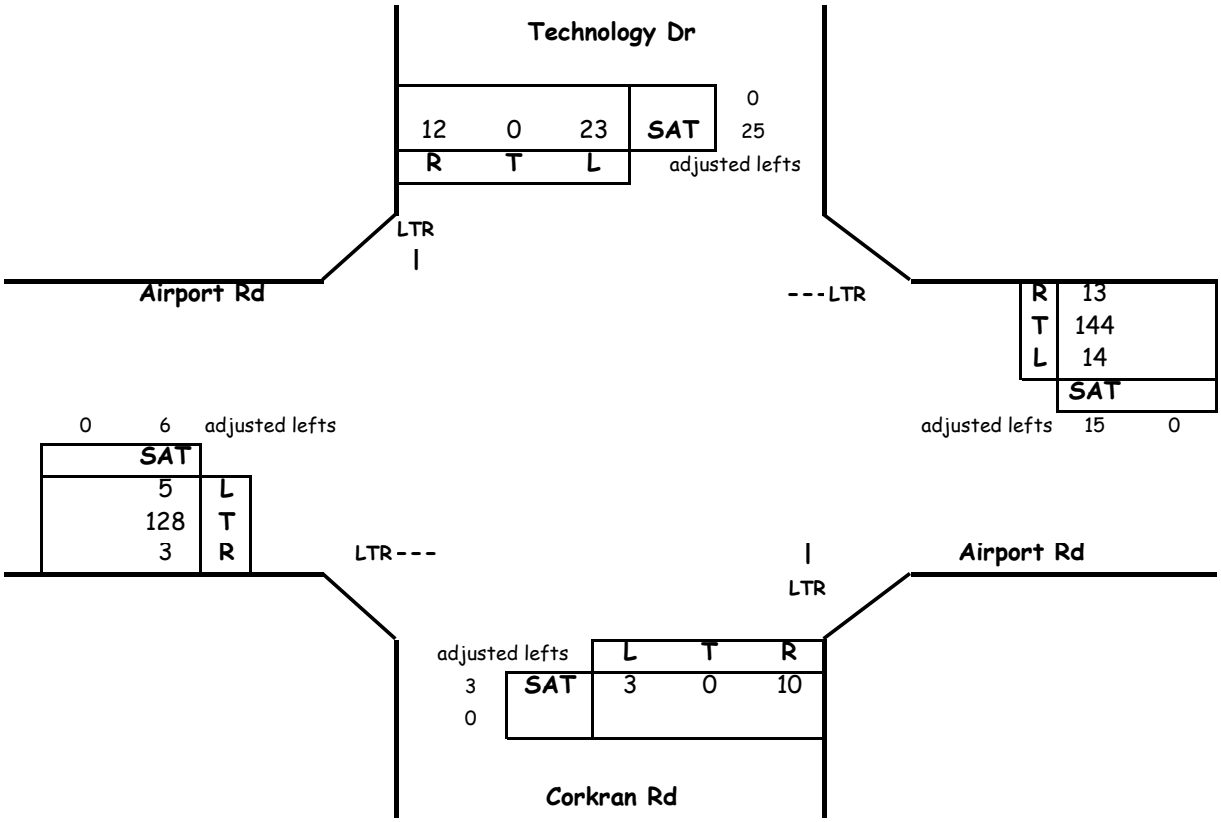
**Intersection**
**3 - Sat**

# CRITICAL LANE VOLUME (CLV) METHODOLOGY
## for MSHA

**Main Line:** Airport Rd
**Minor Street:** Technology Dr
**Study Period:** Background Traffic

**Analyst:** Lenhart Traffic

## Lane Use + Traffic Volumes




## Critical Lane Volume Analysis

| Sat. Midday Peak Hour | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Thru Volumes | | | + Opposing Lefts | | | SAT |
| Dir | VOL | x LUF | = Total | VOL | x LUF | = Total | CLV |
| NB | 13 | 1.00 | 13 | 23 | 1 | 23 | 40 |
| SB | 37 | 1.00 | 37 | 3 | 1 | 3 | |
| EB | 137 | 1 | 137 | 14 | 1 | 14 | 177 |
| WB | 172 | 1 | 172 | 5 | 1 | 5 | |
| | | | | | | CLV TOTAL= | 217 |
| | | | | | | Level of Service (LOS )= | A |

Critical Lane Volume Analysis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Airport Rd & Technology Dr
(Background Traffic)

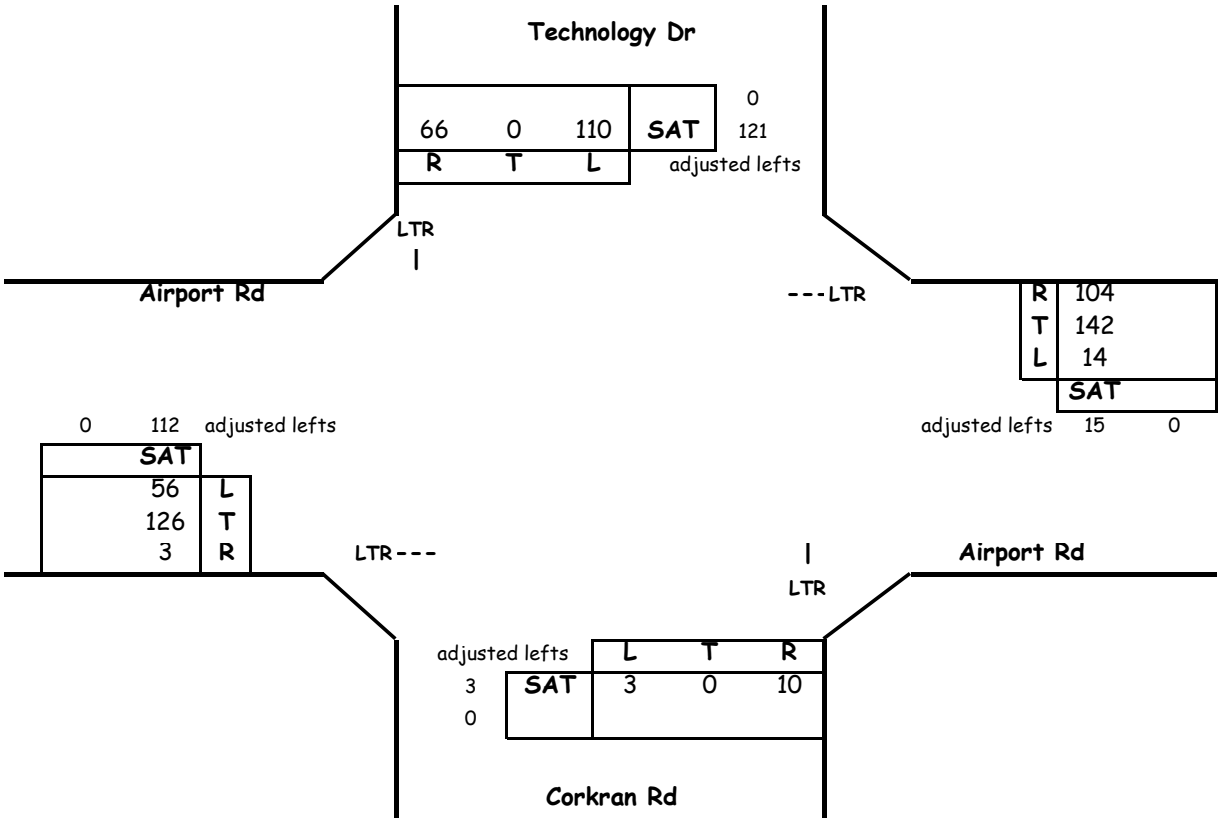
**Intersection**
**3 - Sat**

# CRITICAL LANE VOLUME (CLV) METHODOLOGY
## for MSHA

**Main Line:** Airport Rd
**Minor Street:** Technology Dr
**Study Period:** Total Traffic

**Analyst:** Lenhart Traffic

## Lane Use + Traffic Volumes




## Critical Lane Volume Analysis

| Sat. Midday Peak Hour | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Thru Volumes | | | + Opposing Lefts | | | SAT |
| Dir | VOL | x LUF | = Total | VOL | x LUF | = Total | CLV |
| NB | 13 | 1.00 | 13 | 110 | 1 | 110 | 190 |
| SB | 187 | 1.00 | 187 | 3 | 1 | 3 | |
| EB | 241 | 1 | 241 | 14 | 1 | 14 | 317 |
| WB | 261 | 1 | 261 | 56 | 1 | 56 | |
| | | | | | | CLV TOTAL= | 507 |
| | | | | | | Level of Service (LOS )= | A |

Critical Lane Volume Analysis

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Airport Rd &
Technology Dr
(Total Traffic)

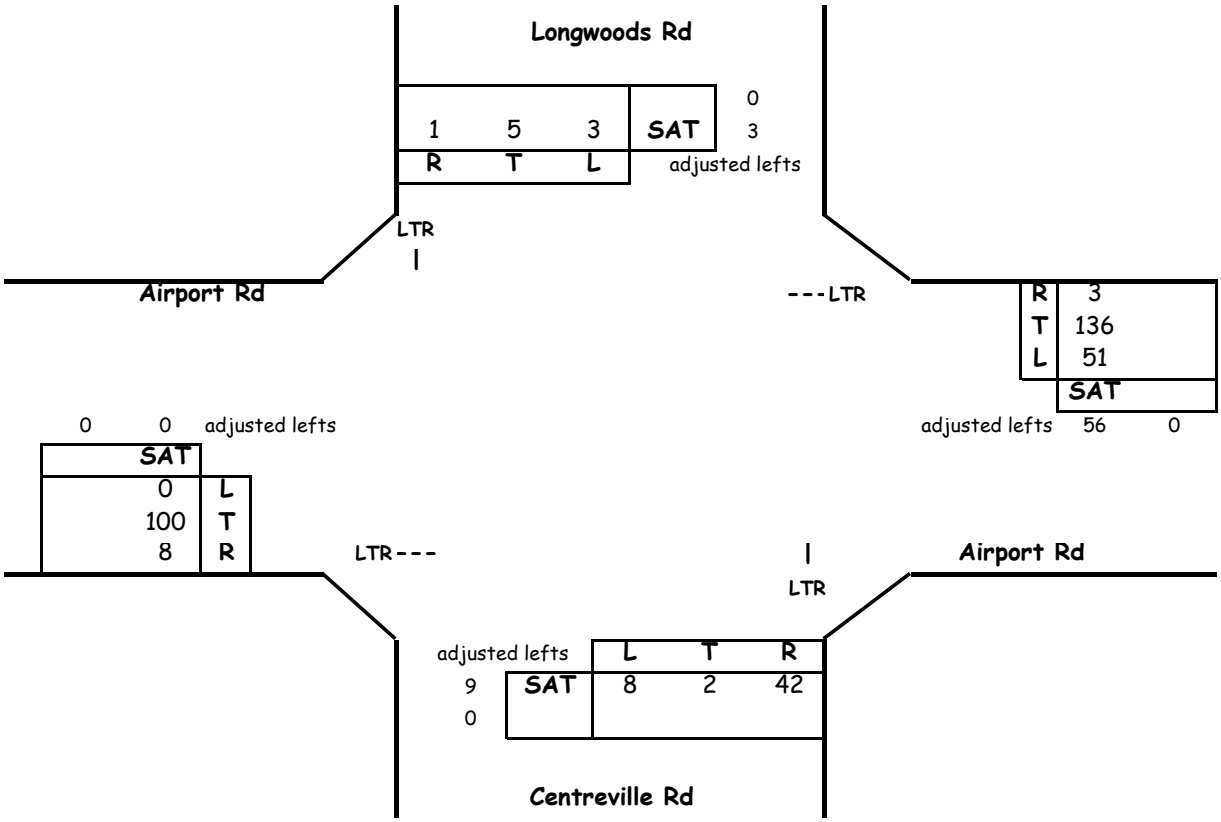
**Intersection**
**3 - Sat**

# CRITICAL LANE VOLUME (CLV) METHODOLOGY
## for MSHA

**Main Line:** Airport Rd
**Minor Street:** Centreville Rd
**Study Period:** Existing Traffic

**Analyst:** Lenhart Traffic

## Lane Use + Traffic Volumes




## Critical Lane Volume Analysis

| Sat. Midday Peak Hour | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Thru Volumes | | | + Opposing Lefts | | | SAT |
| Dir | VOL | x LUF | = Total | VOL | x LUF | = Total | CLV |
| NB | 53 | 1.00 | 53 | 3 | 1 | 3 | 56 |
| SB | 9 | 1.00 | 9 | 8 | 1 | 8 | |
| EB | 108 | 1 | 108 | 51 | 1 | 51 | 195 |
| WB | 195 | 1 | 195 | 0 | 1 | 0 | |
| | | | | | | CLV TOTAL= | 251 |
| | | | | | | Level of Service (LOS )= | A |

Critical Lane Volume Analysis

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Airport Rd &
Centreville Rd
(Existing Traffic)

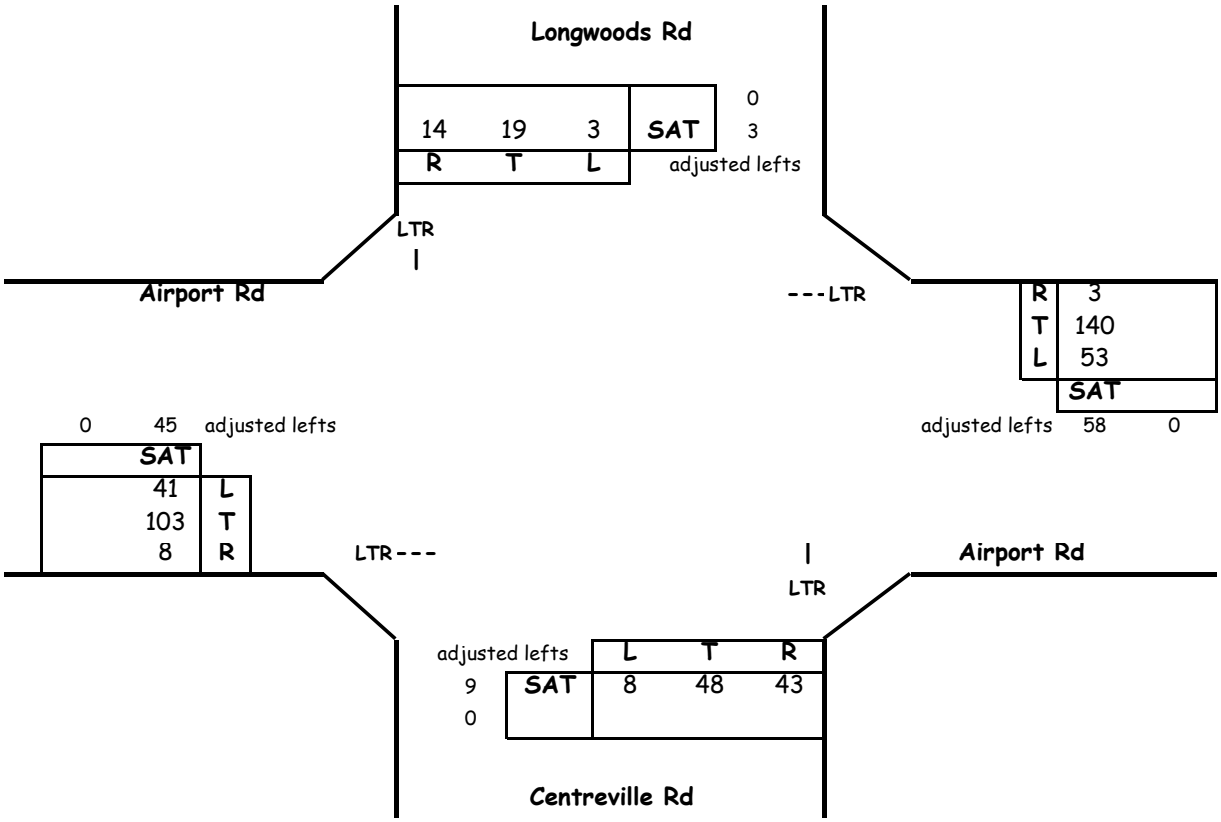
**Intersection**
**4 - Sat**

## CRITICAL LANE VOLUME (CLV) METHODOLOGY
## for MSHA

**Main Line:** Airport Rd
**Minor Street:** Longwoods Rd
**Study Period:** Background Traffic

**Analyst:** Lenhart Traffic

### Lane Use + Traffic Volumes




### Critical Lane Volume Analysis

| Sat. Midday Peak Hour | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Thru Volumes | | | + Opposing Lefts | | | SAT |
| Dir | VOL | x LUF | = Total | VOL | x LUF | = Total | CLV |
| NB | 100 | 1.00 | 100 | 3 | 1 | 3 | 103 |
| SB | 36 | 1.00 | 36 | 8 | 1 | 8 | |
| EB | 156 | 1 | 156 | 53 | 1 | 53 | 242 |
| WB | 201 | 1 | 201 | 41 | 1 | 41 | |
| | | | | | | CLV TOTAL= | 345 |
| | | | | | | Level of Service (LOS )= | A |

Critical Lane Volume Analysis


LENHART TRAFFIC CONSULTING, INC.
645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com


Airport Rd &
Longwoods Rd
(Background Traffic)

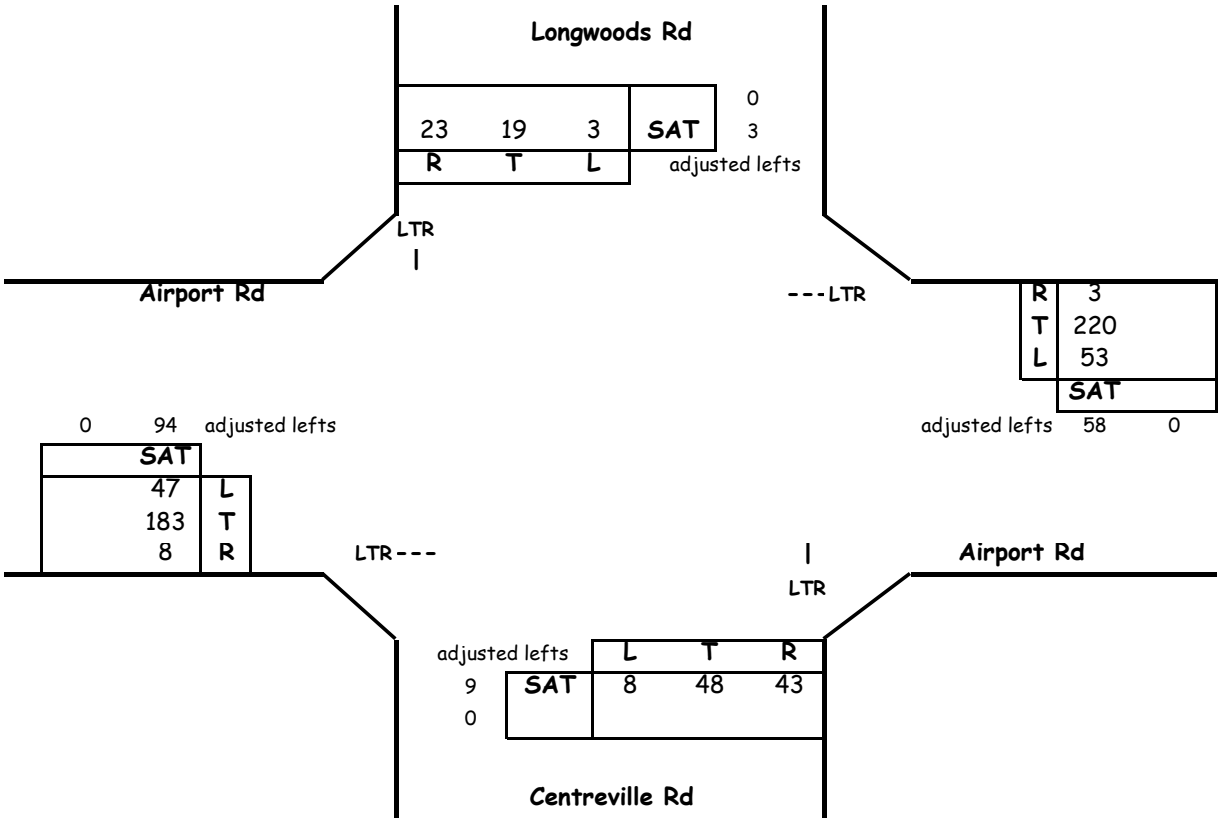
**Intersection**
**4 - Sat**

# CRITICAL LANE VOLUME (CLV) METHODOLOGY
## for MSHA

**Main Line:** Airport Rd
**Minor Street:** Longwoods Rd
**Study Period:** Total Traffic

**Analyst:** Lenhart Traffic

## Lane Use + Traffic Volumes




## Critical Lane Volume Analysis

| Sat. Midday Peak Hour | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Thru Volumes | | | + Opposing Lefts | | | SAT |
| Dir | VOL | x LUF | = Total | VOL | x LUF | = Total | CLV |
| NB | 100 | 1.00 | 100 | 3 | 1 | 3 | 103 |
| SB | 45 | 1.00 | 45 | 8 | 1 | 8 | |
| EB | 285 | 1 | 285 | 53 | 1 | 53 | 338 |
| WB | 281 | 1 | 281 | 47 | 1 | 47 | |
| | | | | | | CLV TOTAL= | 441 |
| | | | | | | Level of Service (LOS )= | A |

Critical Lane Volume Analysis


LENHART TRAFFIC CONSULTING, INC.
645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com


Airport Rd &
Longwoods Rd
(Total Traffic)

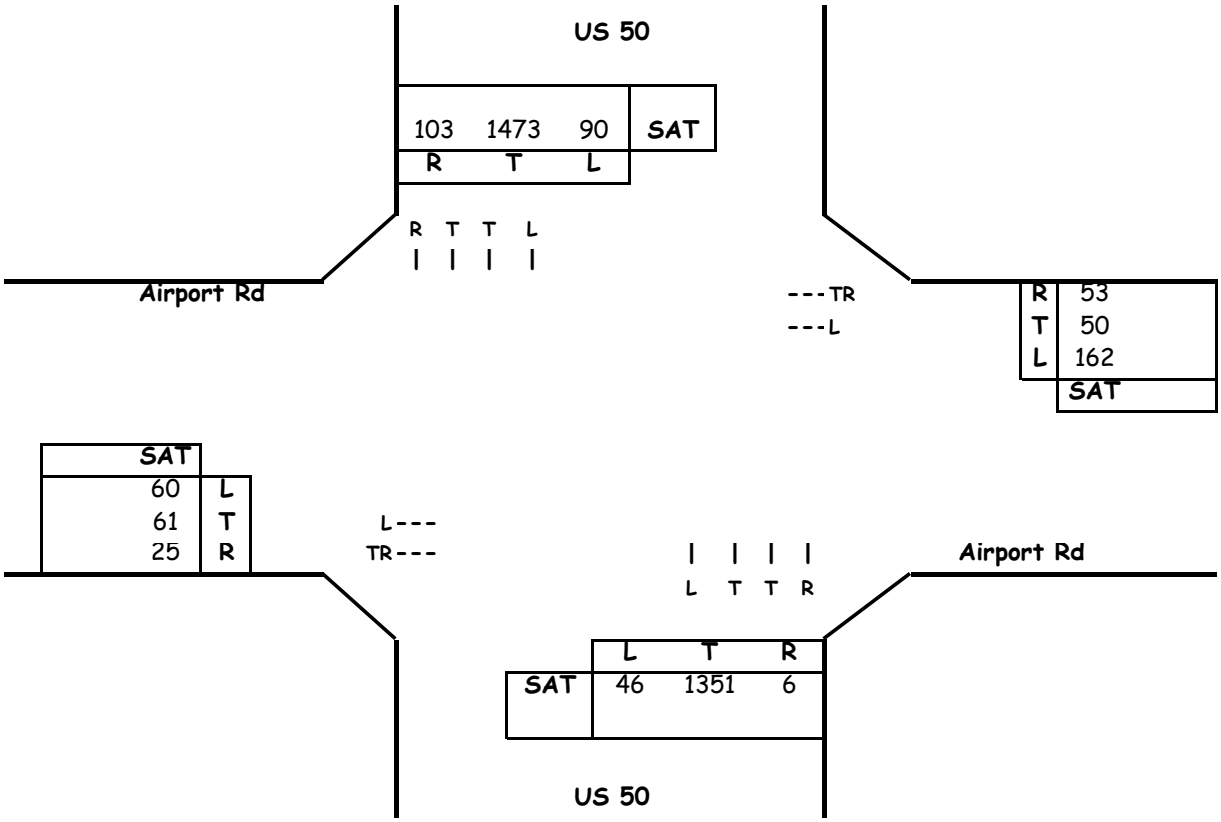
**Intersection**
**4 - Sat**

# CRITICAL LANE VOLUME (CLV) METHODOLOGY

**Main Line:** US 50
**Minor Street:** Airport Rd
**Study Period:** Existing Traffic

**Analyst:** Lenhart Traffic

## Lane Use + Traffic Volumes




## Critical Lane Volume Analysis

| Sat. Midday Peak Hour | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Thru Volumes | | | + Opposing Lefts | | | SAT |
| Dir | VOL | x LUF | = Total | VOL | x LUF | = Total | CLV |
| NB | 1351 | 0.55 | 743 | 90 | 1 | 90 | 856 |
| SB | 1473 | 0.55 | 810 | 46 | 1 | 46 | |
| EB | 86 | 1 | 86 | 162 | 1 | 162 | 248 |
| WB | 103 | 1 | 103 | 60 | 1 | 60 | |
| | | | | | | CLV TOTAL= | **1104** |
| | | | | | | Level of Service (LOS )= | **B** |

Critical Lane Volume Analysis


LENHART TRAFFIC CONSULTING, INC.
645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com

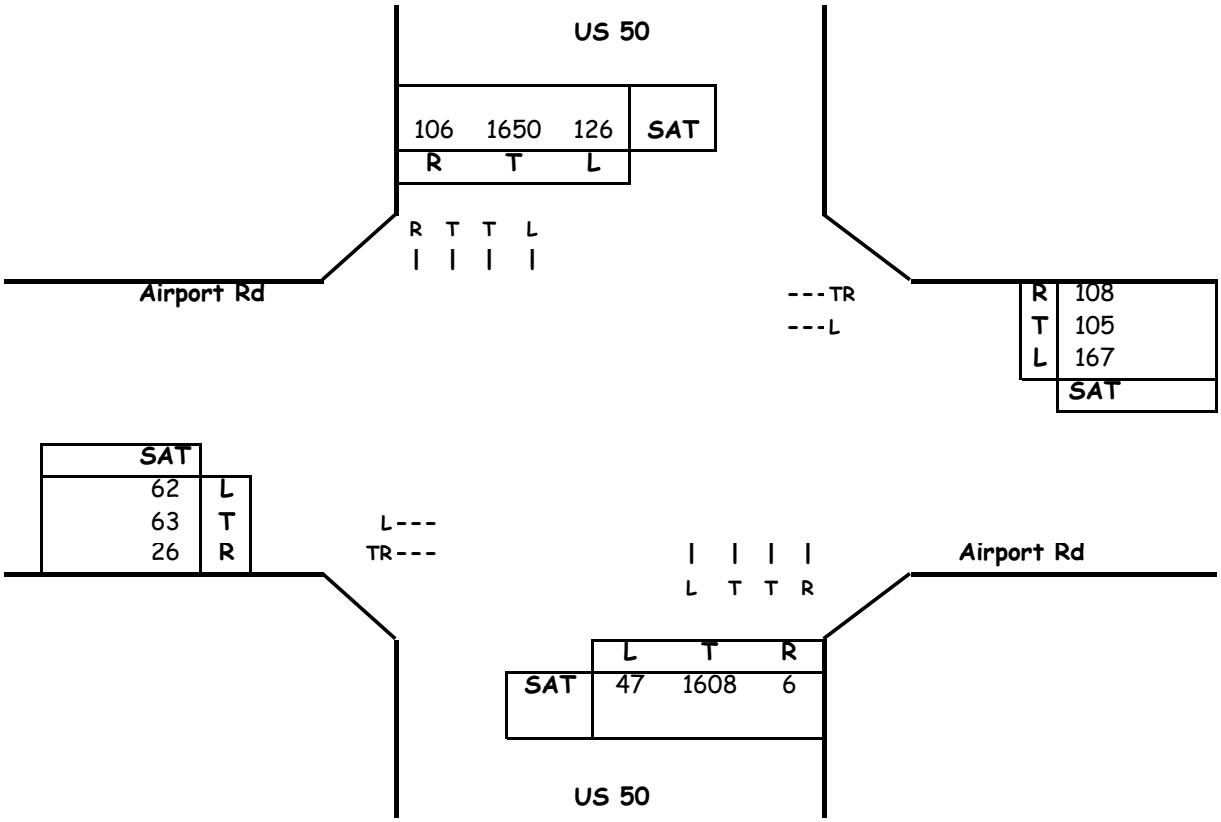

US 50 &
Airport Rd
(Existing Traffic)

**Intersection**
**5-Sat**

# CRITICAL LANE VOLUME (CLV) METHODOLOGY

**Main Line:** US 50 **Analyst:** Lenhart Traffic
**Minor Street:** Airport Rd
**Study Period:** Background Traffic

## Lane Use + Traffic Volumes




## Critical Lane Volume Analysis

| Sat. Midday Peak Hour | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Thru Volumes | | | + Opposing Lefts | | | SAT |
| Dir | VOL | x LUF | = Total | VOL | x LUF | = Total | CLV |
| NB | 1608 | 0.55 | 884 | 126 | 1 | 126 | 1010 |
| SB | 1650 | 0.55 | 908 | 47 | 1 | 47 | |
| EB | 89 | 1 | 89 | 167 | 1 | 167 | 275 |
| WB | 213 | 1 | 213 | 62 | 1 | 62 | |
| | | | | | | CLV TOTAL= | **1285** |
| | | | | | | Level of Service (LOS )= | ***C*** |

Critical Lane Volume Analysis


LENHART TRAFFIC CONSULTING, INC.
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SEVERNA PARK, MD 21146
www.lenharttraffic.com


US 50 &
Airport Rd
(Background Traffic)

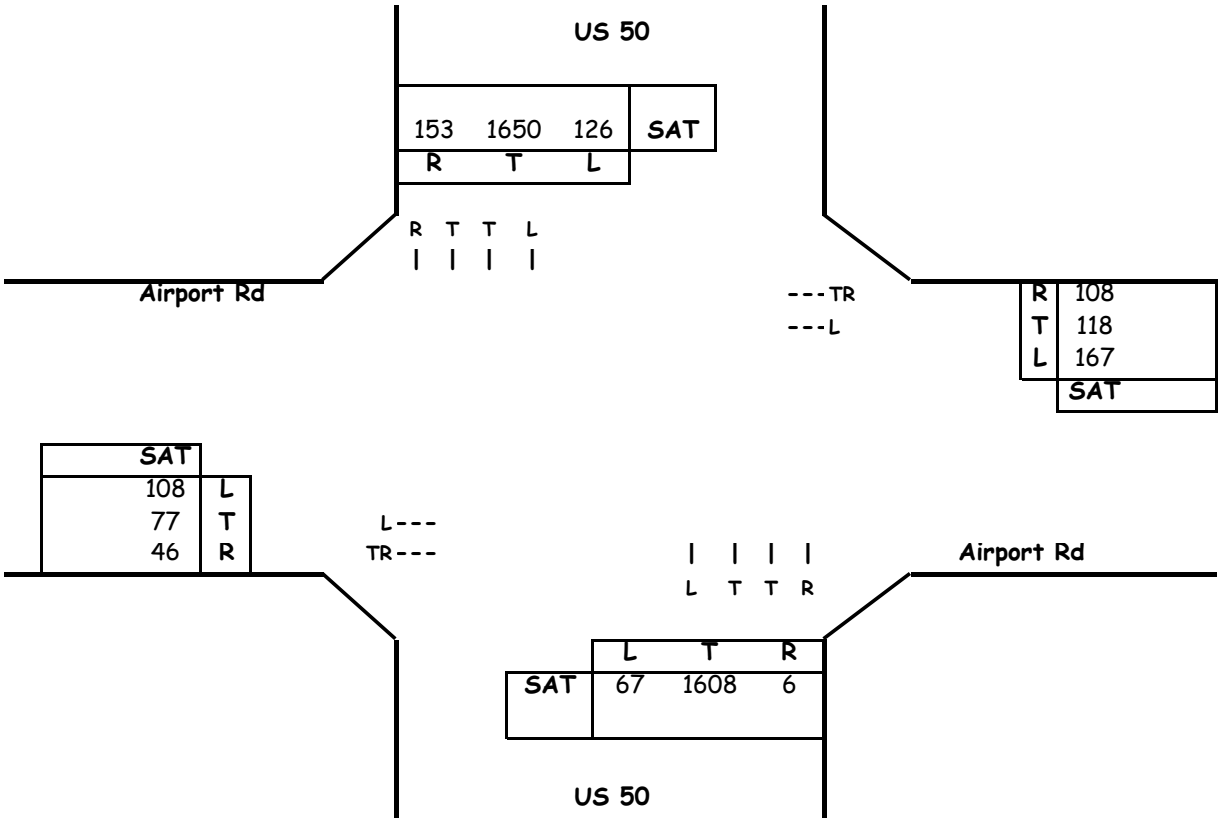
**Intersection**
**5-Sat**

# CRITICAL LANE VOLUME (CLV) METHODOLOGY

**Main Line:** US 50
**Minor Street:** Airport Rd
**Study Period:** Total Traffic

**Analyst:** Lenhart Traffic

## Lane Use + Traffic Volumes




## Critical Lane Volume Analysis

| Sat. Midday Peak Hour | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Thru Volumes | | | + Opposing Lefts | | | SAT |
| Dir | VOL | x LUF | = Total | VOL | x LUF | = Total | CLV |
| NB | 1608 | 0.55 | 884 | 126 | 1 | 126 | 1010 |
| SB | 1650 | 0.55 | 908 | 67 | 1 | 67 | |
| EB | 123 | 1 | 123 | 167 | 1 | 167 | 334 |
| WB | 226 | 1 | 226 | 108 | 1 | 108 | |
| | | | | | | CLV TOTAL= | **1344** |
| | | | | | | Level of Service (LOS )= | **D** |

Critical Lane Volume Analysis


LENHART TRAFFIC CONSULTING, INC.
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SEVERNA PARK, MD 21146
www.lenharttraffic.com

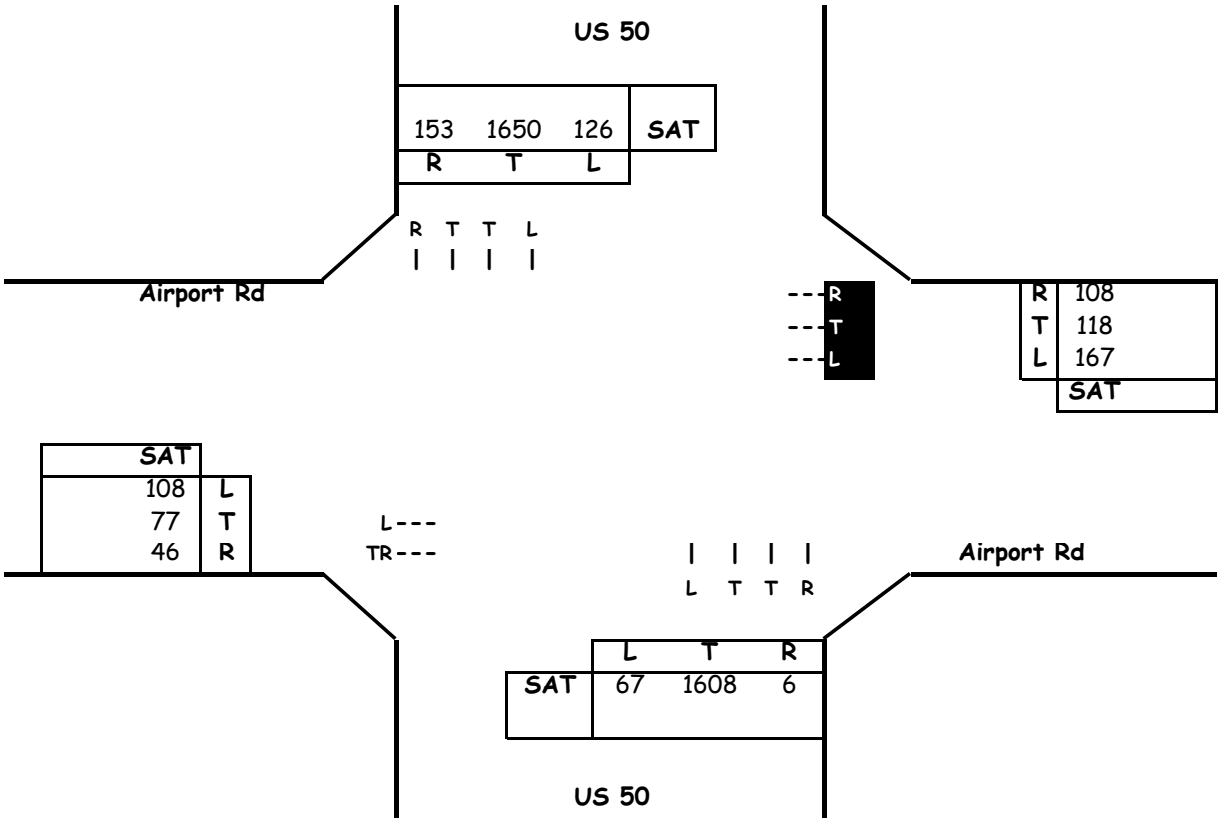

US 50 &
Airport Rd
(Total Traffic)

**Intersection**
**5-Sat**

# CRITICAL LANE VOLUME (CLV) METHODOLOGY

**Main Line:** US 50 **Analyst:** Lenhart Traffic
**Minor Street:** Airport Rd
**Study Period:** Total Traffic w/ Improvements

## Lane Use + Traffic Volumes




## Critical Lane Volume Analysis

| Sat. Midday Peak Hour | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Thru Volumes | | | + Opposing Lefts | | | SAT |
| Dir | VOL | x LUF | = Total | VOL | x LUF | = Total | CLV |
| NB | 1608 | 0.55 | 884 | 126 | 1 | 126 | 1010 |
| SB | 1650 | 0.55 | 908 | 67 | 1 | 67 | |
| EB | 123 | 1 | 123 | 167 | 1 | 167 | 290 |
| WB | 118 | 1 | 118 | 108 | 1 | 108 | |
| | | | | | | CLV TOTAL= | 1300 |
| | | | | | | Level of Service (LOS )= | C |

Critical Lane Volume Analysis

LENHART TRAFFIC CONSULTING, INC.
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SEVERNA PARK, MD 21146
www.lenharttraffic.com

US 50 &
Airport Rd
(Total Traffic w/ Improvements)

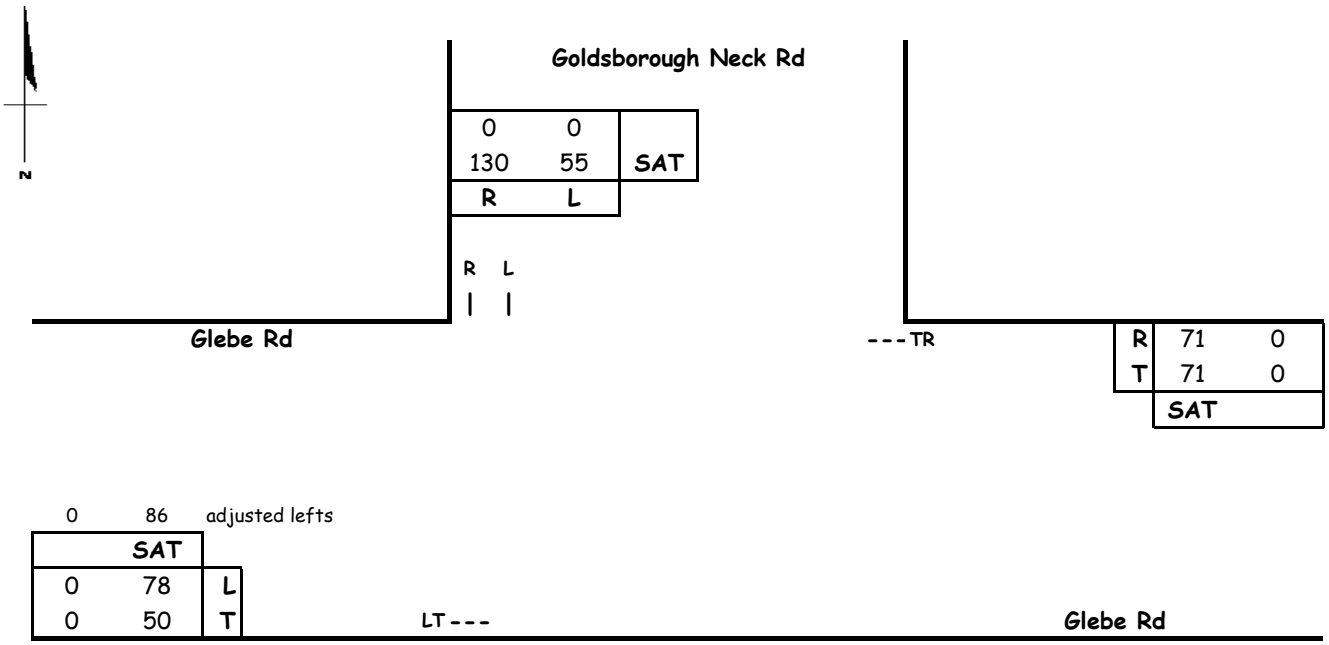
**Intersection**
**5-Sat**

# CRITICAL LANE VOLUME (CLV) METHODOLOGY
## for MSHA

**Intersection of:** Goldsborough Neck Rd
**and:** Glebe Rd
**Conditions:** Existing Traffic

**Analyst:** Lenhart Traffic Consulting

## Lane Use + Traffic Volumes




## Capacity Analysis

**Morning Peak Hour**

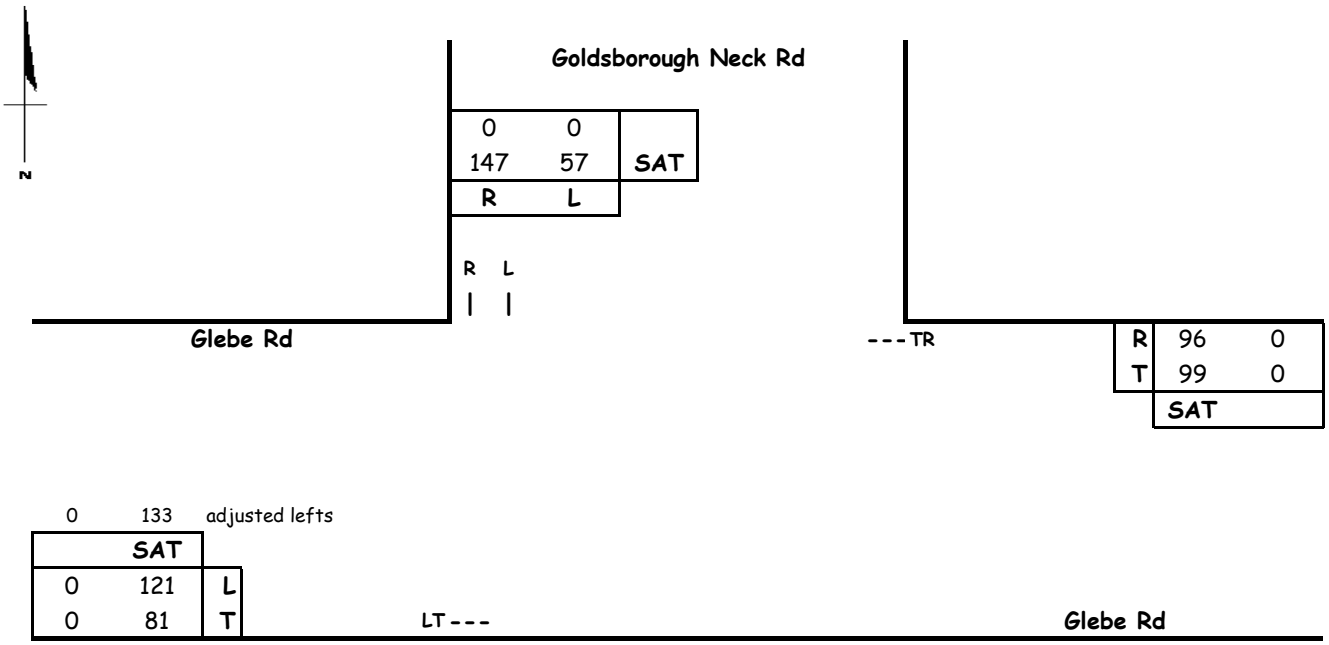
| Dir | Thru Volumes VOL | x LUF | = Total | + Opposing Lefts VOL | x LUF | = Total | SAT CLV |
|---|---|---|---|---|---|---|---|
| SB | 55 | 1.00 | 55 | | | | 55 |
| EB | 136 | 1.00 | 136 | | | | 220 |
| WB | 142 | 1.00 | 142 | 78 | 1.00 | 78 | |
| | | | | | CLV TOTAL= | | **275** |
| | | | | | Level of Service (LOS )= | | **A** |

# CRITICAL LANE VOLUME (CLV) METHODOLOGY
## for MSHA

**Intersection of:** Goldsborough Neck Rd
**and:** Glebe Rd
**Conditions:** Background Traffic

**Analyst:** Lenhart Traffic Consulting

## Lane Use + Traffic Volumes




## Capacity Analysis

**Morning Peak Hour**

| Dir | Thru Volumes VOL | x LUF | = Total | + Opposing Lefts VOL | x LUF | = Total | SAT CLV |
|---|---|---|---|---|---|---|---|
| SB | 57 | 1.00 | 57 | | | | 57 |
| EB | 214 | 1.00 | 214 | | | | 316 |
| WB | 195 | 1.00 | 195 | 121 | 1.00 | 121 | |
| | | | | | CLV TOTAL= | | **373** |
| | | | | | Level of Service (LOS )= | | **A** |

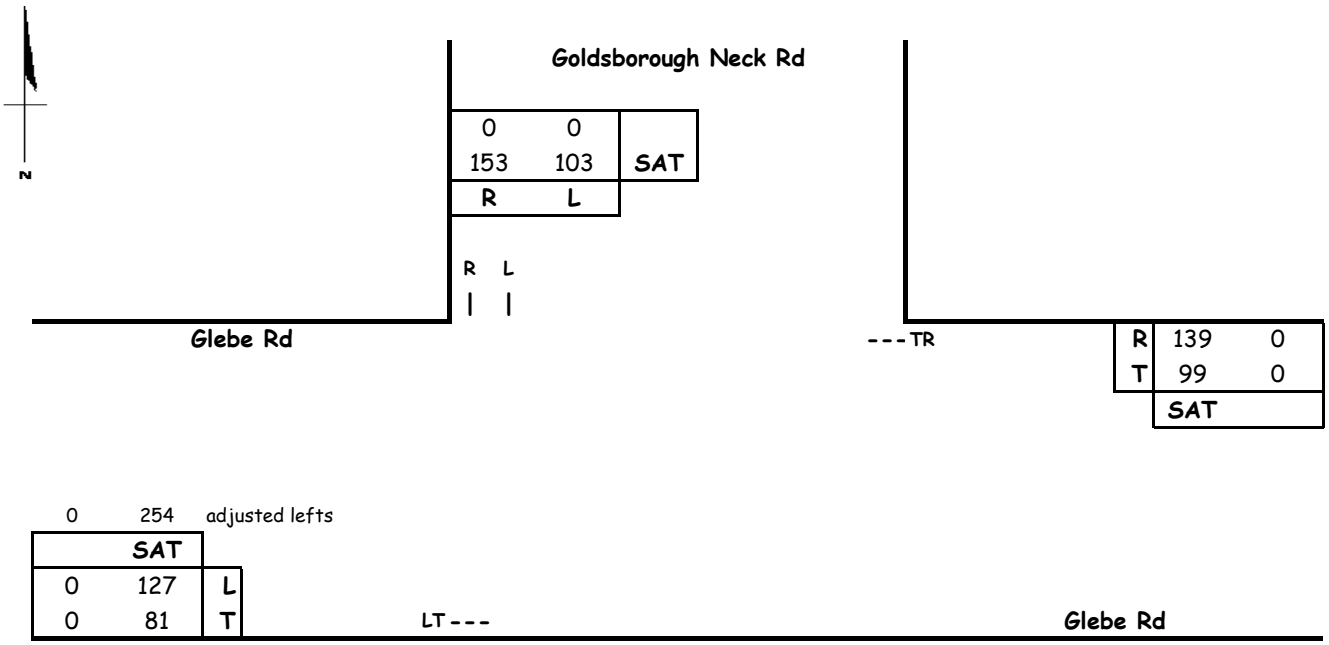
| | | | |
|---|---|---|---|
| Critical Lane Volume Analysis<br>LENHART TRAFFIC CONSULTING, INC.<br>645 BALTIMORE ANNAPOLIS BLVD, SUITE 214<br>SEVERNA PARK, MD 21146<br>www.lenharttraffic.com | | Goldsborough Neck Rd & Glebe Rd<br>(Background Traffic) | **Intersection**<br>**6 - Sat** |

# CRITICAL LANE VOLUME (CLV) METHODOLOGY
## for MSHA

**Intersection of:** Goldsborough Neck Rd
**and:** Glebe Rd
**Conditions:** Total Traffic

**Analyst:** Lenhart Traffic Consulting

## Lane Use + Traffic Volumes




## Capacity Analysis

**Morning Peak Hour**

| Dir | Thru Volumes VOL | x LUF | = Total | + Opposing Lefts VOL | x LUF | = Total | SAT CLV |
|---|---|---|---|---|---|---|---|
| SB | 103 | 1.00 | 103 | | | | 103 |
| EB | 335 | 1.00 | 335 | | | | 365 |
| WB | 238 | 1.00 | 238 | 127 | 1.00 | 127 | |
| | | | | | CLV TOTAL= | | **468** |
| | | | | | Level of Service (LOS )= | | **A** |

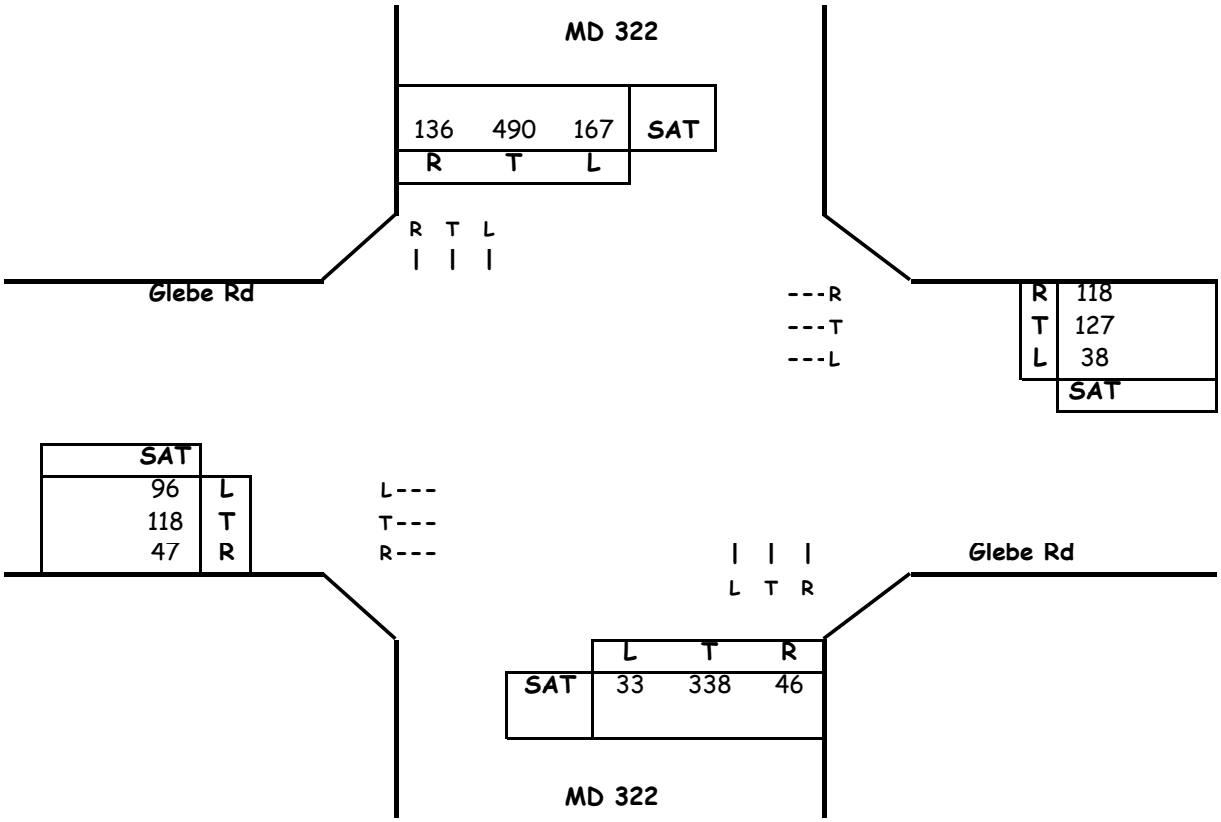
| | | | |
|---|---|---|---|
| Critical Lane Volume Analysis<br>LENHART TRAFFIC CONSULTING, INC.<br>645 BALTIMORE ANNAPOLIS BLVD, SUITE 214<br>SEVERNA PARK, MD 21146<br>www.lenharttraffic.com | | Goldsborough Neck Rd & Glebe Rd<br>(Total Traffic) | **Intersection**<br>**6 - Sat** |

# CRITICAL LANE VOLUME (CLV) METHODOLOGY

**Main Line:** MD 322
**Minor Street:** Glebe Rd
**Study Period:** Existing Traffic

**Analyst:** Lenhart Traffic

## Lane Use + Traffic Volumes




## Critical Lane Volume Analysis

| Sat. Midday Peak Hour | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Thru Volumes | | | + Opposing Lefts | | | SAT |
| Dir | VOL | x LUF | = Total | VOL | x LUF | = Total | CLV |
| NB | 338 | 1.00 | 338 | 167 | 1 | 167 | 523 |
| SB | 490 | 1.00 | 490 | 33 | 1 | 33 | |
| EB | 118 | 1 | 118 | 38 | 1 | 38 | 223 |
| WB | 127 | 1 | 127 | 96 | 1 | 96 | |
| | | | | | | CLV TOTAL= | 746 |
| | | | | | | Level of Service (LOS )= | A |

Critical Lane Volume Analysis


LENHART TRAFFIC CONSULTING, INC.
645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com


MD 322 &
Glebe Rd
(Existing Traffic)

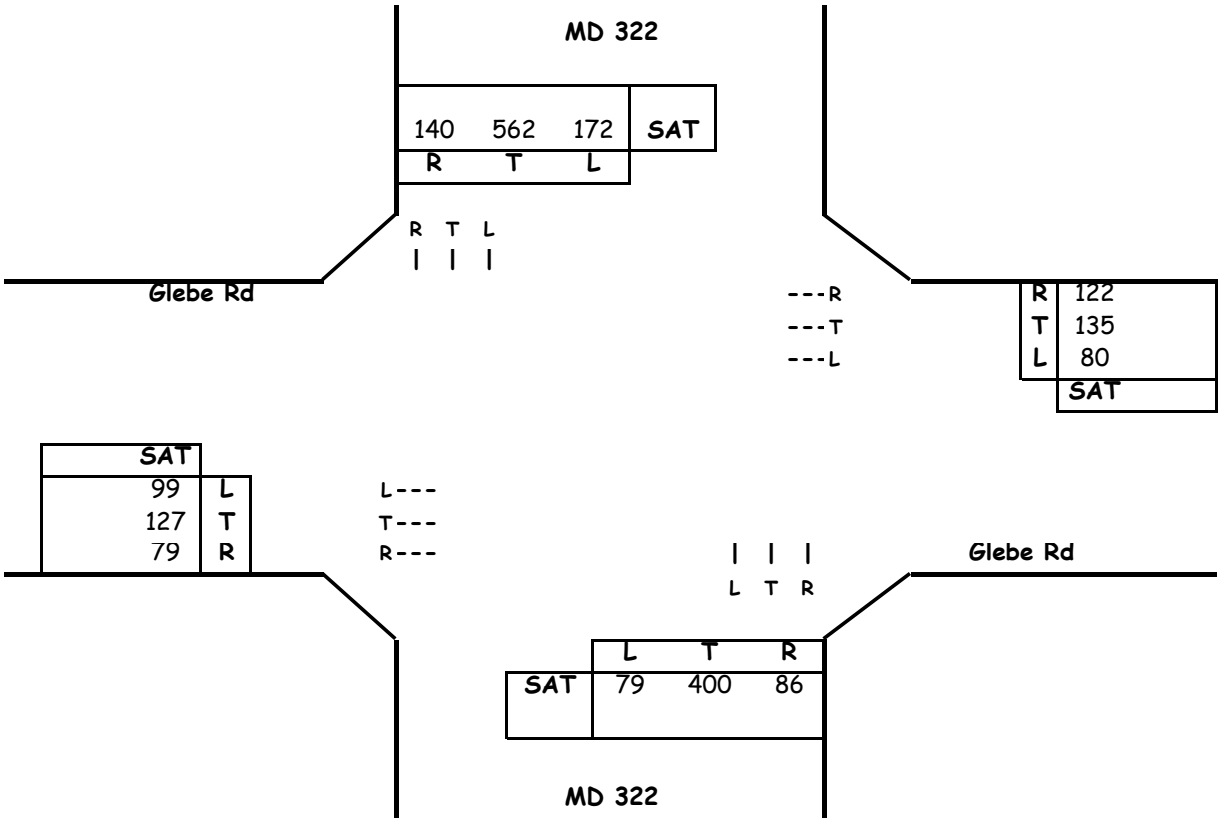
**Intersection**
**7 - Sat**

# CRITICAL LANE VOLUME (CLV) METHODOLOGY

**Main Line:** MD 322
**Minor Street:** Glebe Rd
**Study Period:** Background Traffic

**Analyst:** Lenhart Traffic

## Lane Use + Traffic Volumes




## Critical Lane Volume Analysis

| Sat. Midday Peak Hour | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Thru Volumes | | | + Opposing Lefts | | | SAT |
| Dir | VOL | x LUF | = Total | VOL | x LUF | = Total | CLV |
| NB | 400 | 1.00 | 400 | 172 | 1 | 172 | 641 |
| SB | 562 | 1.00 | 562 | 79 | 1 | 79 | |
| EB | 127 | 1 | 127 | 80 | 1 | 80 | 234 |
| WB | 135 | 1 | 135 | 99 | 1 | 99 | |
| | | | | | | CLV TOTAL= | 875 |
| | | | | | | Level of Service (LOS )= | A |

Critical Lane Volume Analysis


LENHART TRAFFIC CONSULTING, INC.
645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com


MD 322 &
Glebe Rd
(Background Traffic)

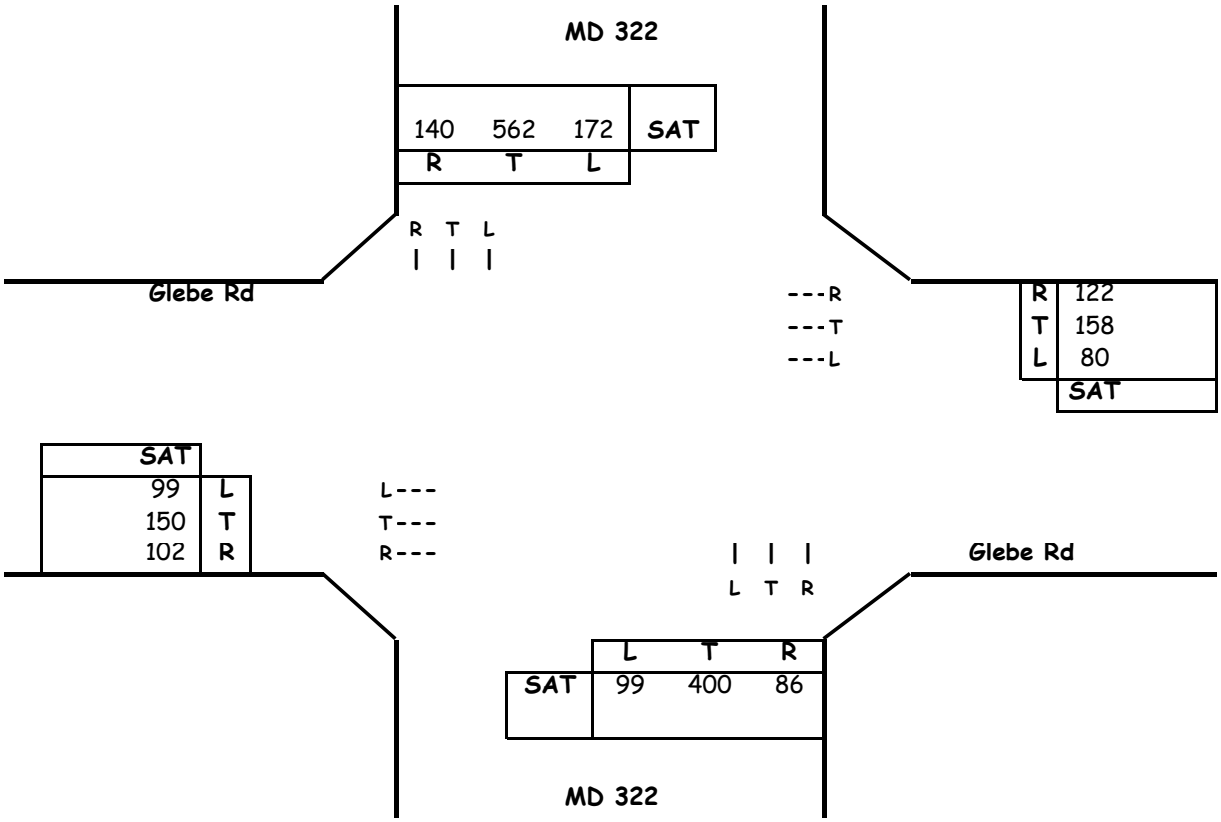
**Intersection**
**7 - Sat**

## CRITICAL LANE VOLUME (CLV) METHODOLOGY

**Main Line:** MD 322
**Minor Street:** Glebe Rd
**Study Period:** Total Traffic

**Analyst:** Lenhart Traffic

### Lane Use + Traffic Volumes




### Critical Lane Volume Analysis

| Sat. Midday Peak Hour | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Thru Volumes | | | + Opposing Lefts | | | SAT |
| Dir | VOL | x LUF | = Total | VOL | x LUF | = Total | CLV |
| NB | 400 | 1.00 | 400 | 172 | 1 | 172 | 661 |
| SB | 562 | 1.00 | 562 | 99 | 1 | 99 | |
| EB | 150 | 1 | 150 | 80 | 1 | 80 | 257 |
| WB | 158 | 1 | 158 | 99 | 1 | 99 | |
| | | | | | | CLV TOTAL= | 918 |
| | | | | | | Level of Service (LOS )= | A |

Critical Lane Volume Analysis


LENHART TRAFFIC CONSULTING, INC.
645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com

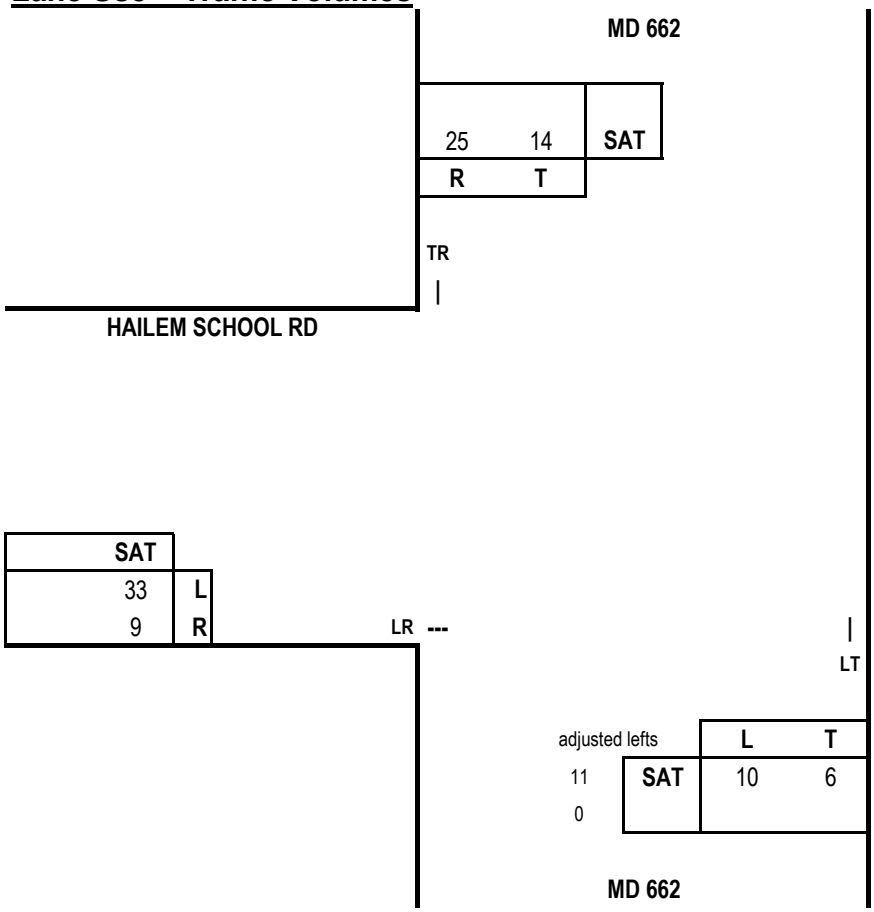

MD 322 &
Glebe Rd
(Total Traffic)

**Intersection**
**7 - Sat**

# CRITICAL LANE VOLUME (CLV) METHODOLOGY
## for MSHA

**Intersection of:** MD 662
**and:** Hailem School Rd
**Conditions:** Existing Traffic
**Analyst:** Lenhart Traffic

## Lane Use + Traffic Volumes




## Capacity Analysis

| Sat. Midday Peak Hour | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Thru Volumes | | | + Opposing Lefts | | | SAT |
| Dir | VOL | x LUF | = Total | VOL | x LUF | = Total | CLV |
| EB | 42 | 1.00 | 42 | | | | 42 |
| NB | 17 | 1.00 | 17 | | | | 49 |
| SB | 39 | 1.00 | 39 | 10 | 1.00 | 10 | |
| | | | | | | CLV TOTAL= | 91 |
| | | | | | | Level of Service (LOS )= | A |

Critical Lane Volume Analysis


LENHART TRAFFIC CONSULTING, INC.
645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com

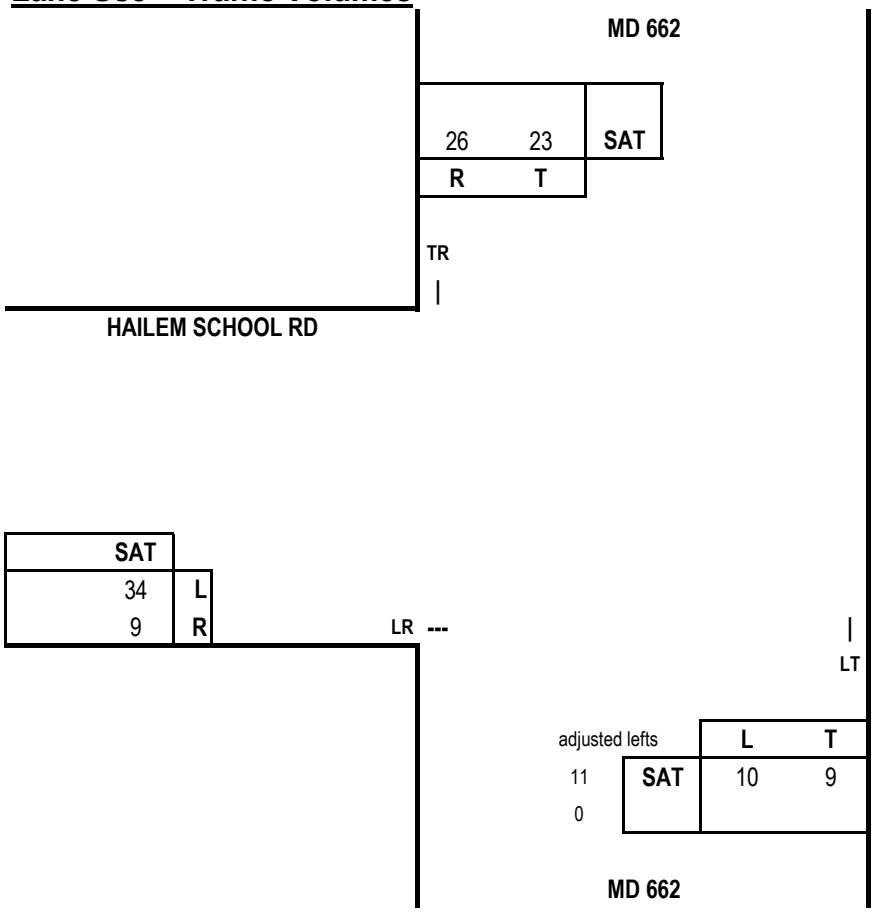

MD 662 &
Hailem School Rd
(Existing Traffic)

**Intersection**
**8**

# CRITICAL LANE VOLUME (CLV) METHODOLOGY
## for MSHA

**Intersection of:** MD 662
**and:** Hailem School Rd
**Conditions:** Background Traffic
**Analyst:** Lenhart Traffic

## Lane Use + Traffic Volumes




## Capacity Analysis

| Sat. Midday Peak Hour | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Thru Volumes | | | + Opposing Lefts | | | SAT |
| Dir | VOL | x LUF | = Total | VOL | x LUF | = Total | CLV |
| EB | 43 | 1.00 | 43 | | | | 43 |
| NB | 20 | 1.00 | 20 | | | | 59 |
| SB | 49 | 1.00 | 49 | 10 | 1.00 | 10 | |
| | | | | | | CLV TOTAL= | 102 |
| | | | | | | Level of Service (LOS )= | A |

Critical Lane Volume Analysis


LENHART TRAFFIC CONSULTING, INC.
645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com

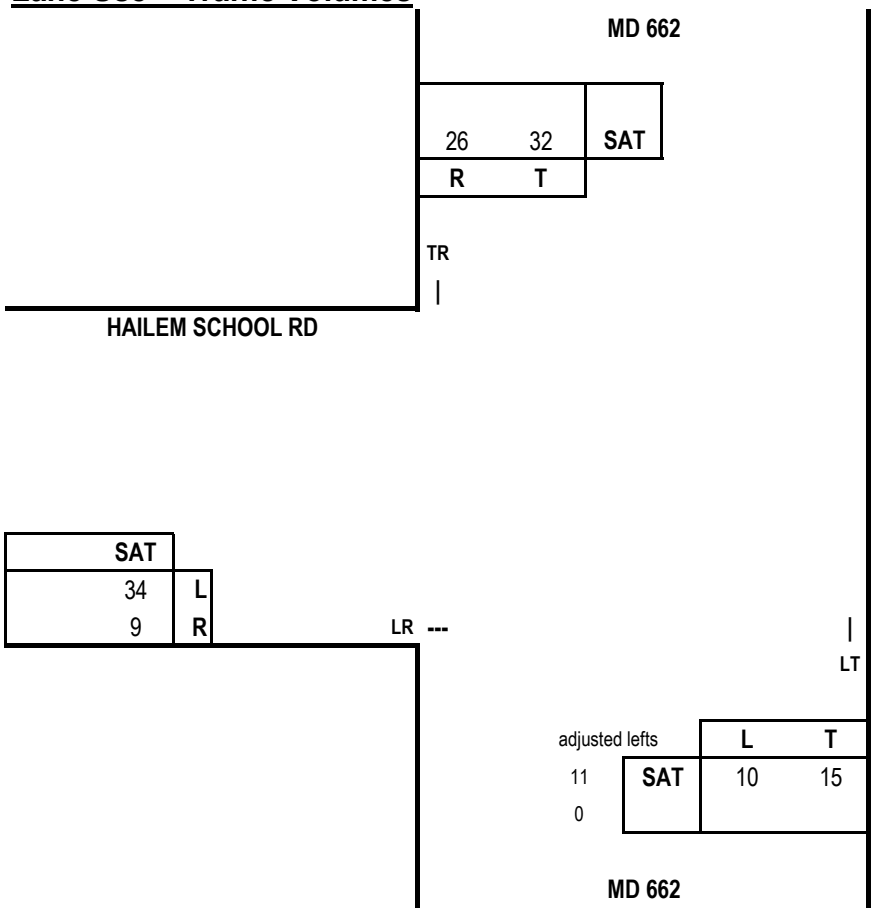

MD 662 &
Hailem School Rd
(Background Traffic)

**Intersection**
**8**

# CRITICAL LANE VOLUME (CLV) METHODOLOGY
## for MSHA

**Intersection of:** MD 662
**and:** Hailem School Rd
**Conditions:** Total Traffic
**Analyst:** Lenhart Traffic

## Lane Use + Traffic Volumes




## Capacity Analysis

| Sat. Midday Peak Hour | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Thru Volumes | | | + Opposing Lefts | | | SAT |
| Dir | VOL | x LUF | = Total | VOL | x LUF | = Total | CLV |
| EB | 43 | 1.00 | 43 | | | | 43 |
| NB | 26 | 1.00 | 26 | | | | 68 |
| SB | 58 | 1.00 | 58 | 10 | 1.00 | 10 | |
| | | | | | | CLV TOTAL= | 111 |
| | | | | | | Level of Service (LOS )= | A |

Critical Lane Volume Analysis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MD 662 &
Hailem School Rd
(Total Traffic)

**Intersection**
**8**

# CRITICAL LANE VOLUME (CLV) METHODOLOGY
## for MSHA

**Intersection of:** MD 662
**and:** Hiners Ln
**Conditions:** Existing Traffic

**Analyst:** Lenhart Traffic

## Lane Use + Traffic Volumes




## Capacity Analysis

| Sat. Midday Peak Hour | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Thru Volumes | | | + Opposing Lefts | | | Sat |
| Dir | VOL | x LUF | = Total | VOL | x LUF | = Total | CLV |
| WB | 4 | 1.00 | 4 | | | | 4 |
| NB | 12 | 1.00 | 12 | 6 | 1.00 | 6 | 24 |
| SB | 24 | 1.00 | 24 | | | | |
| | | | | | | CLV TOTAL= | 28 |
| | | | | | | Level of Service (LOS )= | A |

Critical Lane Volume Analysis


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N

MD 662 &
Hiners Ln
(Existing Traffic)

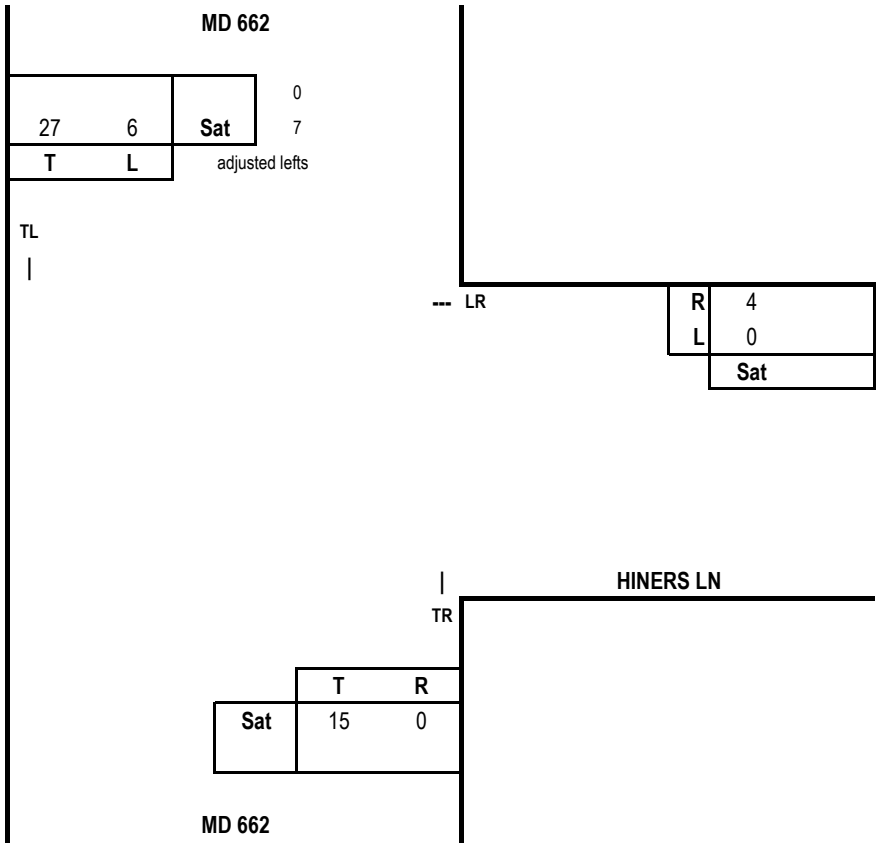
**Intersection**
**9**

# CRITICAL LANE VOLUME (CLV) METHODOLOGY
## for MSHA

**Intersection of:** MD 662
**and:** Hiners Ln
**Conditions:** Background Traffic

**Analyst:** Lenhart Traffic

## Lane Use + Traffic Volumes




## Capacity Analysis

| Sat. Midday Peak Hour | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Thru Volumes | | | + Opposing Lefts | | | Sat |
| Dir | VOL | x LUF | = Total | VOL | x LUF | = Total | CLV |
| WB | 4 | 1.00 | 4 | | | | 4 |
| NB | 15 | 1.00 | 15 | 6 | 1.00 | 6 | 34 |
| SB | 34 | 1.00 | 34 | | | | |
| | | | | | | CLV TOTAL= | 38 |
| | | | | | | Level of Service (LOS )= | A |

Critical Lane Volume Analysis


LENHART TRAFFIC CONSULTING, INC.
645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com


N

MD 662 &
Hiners Ln
(Background Traffic)

**Intersection**
**9**

# CRITICAL LANE VOLUME (CLV) METHODOLOGY
## for MSHA

**Intersection of:** MD 662
**and:** Hiners Ln
**Conditions:** Total Traffic

**Analyst:** Lenhart Traffic

## Lane Use + Traffic Volumes




## Capacity Analysis

| Sat. Midday Peak Hour | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Thru Volumes | | | + Opposing Lefts | | | Sat |
| Dir | VOL | x LUF | = Total | VOL | x LUF | = Total | CLV |
| WB | 4 | 1.00 | 4 | | | | 4 |
| NB | 21 | 1.00 | 21 | 6 | 1.00 | 6 | 43 |
| SB | 43 | 1.00 | 43 | | | | |
| | | | | | | CLV TOTAL= | 47 |
| | | | | | | Level of Service (LOS )= | A |

Critical Lane Volume Analysis


LENHART TRAFFIC CONSULTING, INC.
645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com


N

MD 662 &
Hiners Ln
(Total Traffic)

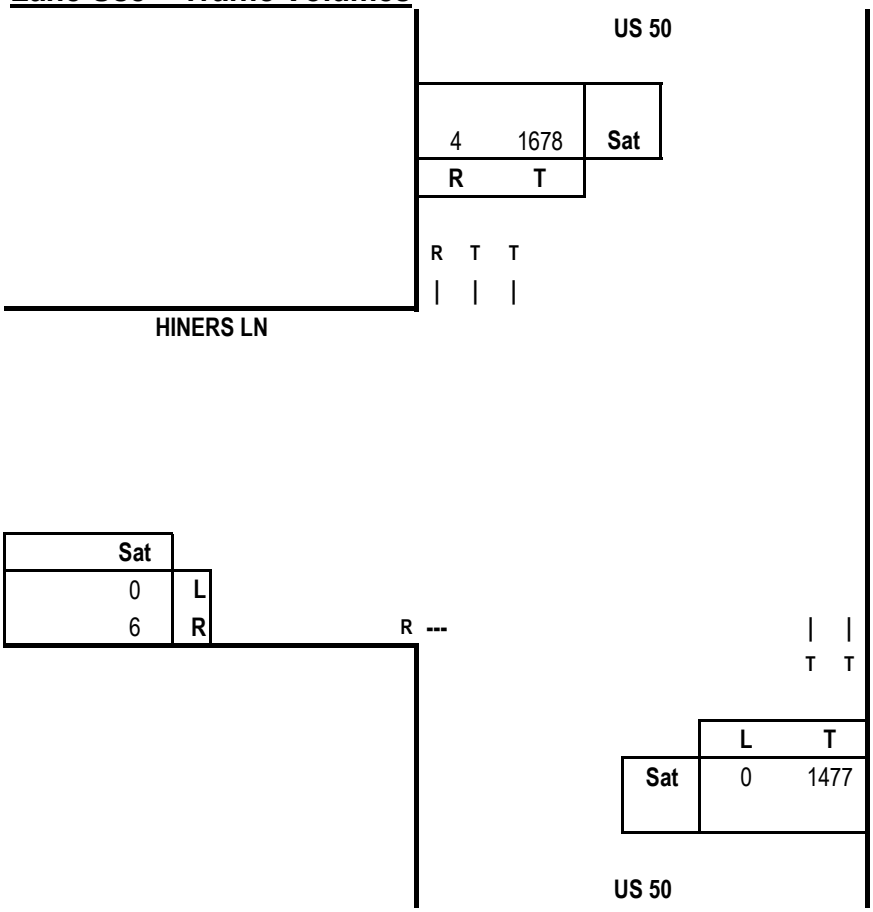
**Intersection**
**9**

# CRITICAL LANE VOLUME (CLV) METHODOLOGY
## for MSHA

**Intersection of:** US 50
**and:** Hiners Ln
**Conditions:** Existing Traffic

**Analyst:** Lenhart Traffic

## Lane Use + Traffic Volumes




## Capacity Analysis

| Sat. Midday Peak Hour | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Thru Volumes | | | + Opposing Lefts | | | Sat |
| Dir | VOL | x LUF | = Total | VOL | x LUF | = Total | CLV |
| EB | 6 | 1.00 | 6 | | | | 6 |
| NB | 1477 | 0.55 | 812 | | | | 923 |
| SB | 1678 | 0.55 | 923 | 0 | 0.00 | 0 | |
| | | | | | | CLV TOTAL= | **929** |
| | | | | | | Level of Service (LOS )= | **A** |

Critical Lane Volume Analysis


LENHART TRAFFIC CONSULTING, INC.
645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com

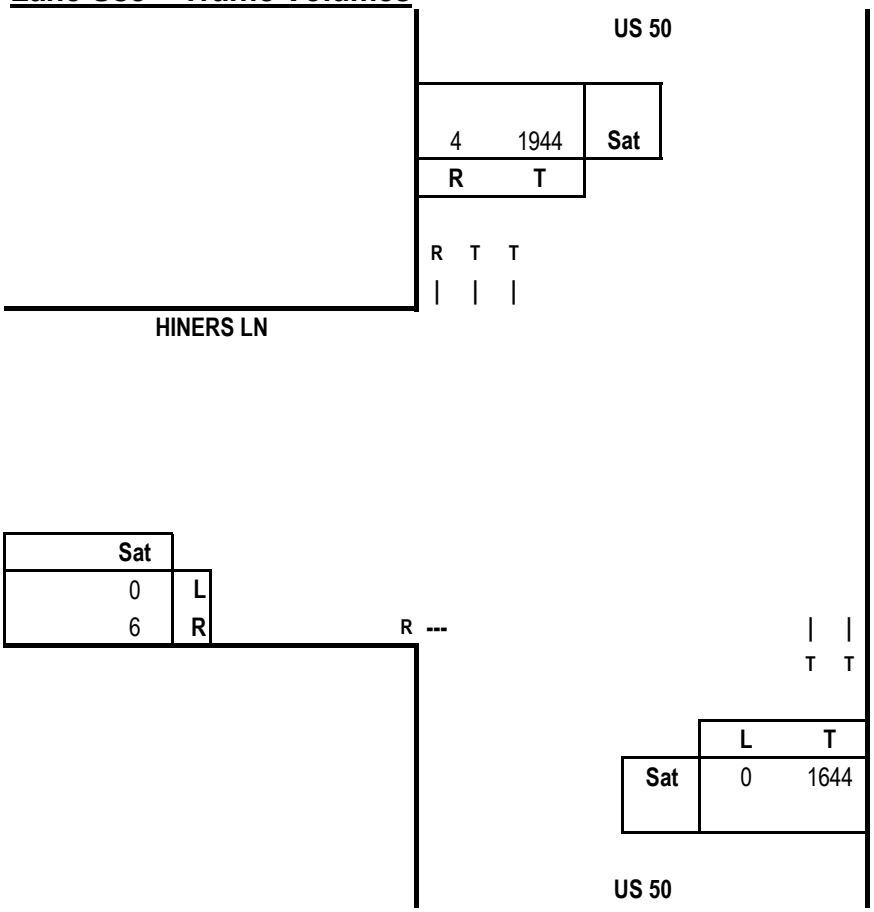

US 50 &
Hiners Ln
(Existing Traffic)

**Intersection**
**10**

# CRITICAL LANE VOLUME (CLV) METHODOLOGY
## for MSHA

**Intersection of:** US 50
**and:** Hiners Ln
**Conditions:** Background Traffic
**Analyst:** Lenhart Traffic

## Lane Use + Traffic Volumes




## Capacity Analysis

| Sat. Midday Peak Hour | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Thru Volumes | | | + Opposing Lefts | | | Sat |
| Dir | VOL | x LUF | = Total | VOL | x LUF | = Total | CLV |
| EB | 6 | 1.00 | 6 | | | | 6 |
| NB | 1644 | 0.55 | 904 | | | | 1069 |
| SB | 1944 | 0.55 | 1069 | 0 | 0.00 | 0 | |
| | | | | | | CLV TOTAL= | **1075** |
| | | | | | | Level of Service (LOS )= | **B** |

Critical Lane Volume Analysis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US 50 &
Hiners Ln
(Background Traffic)

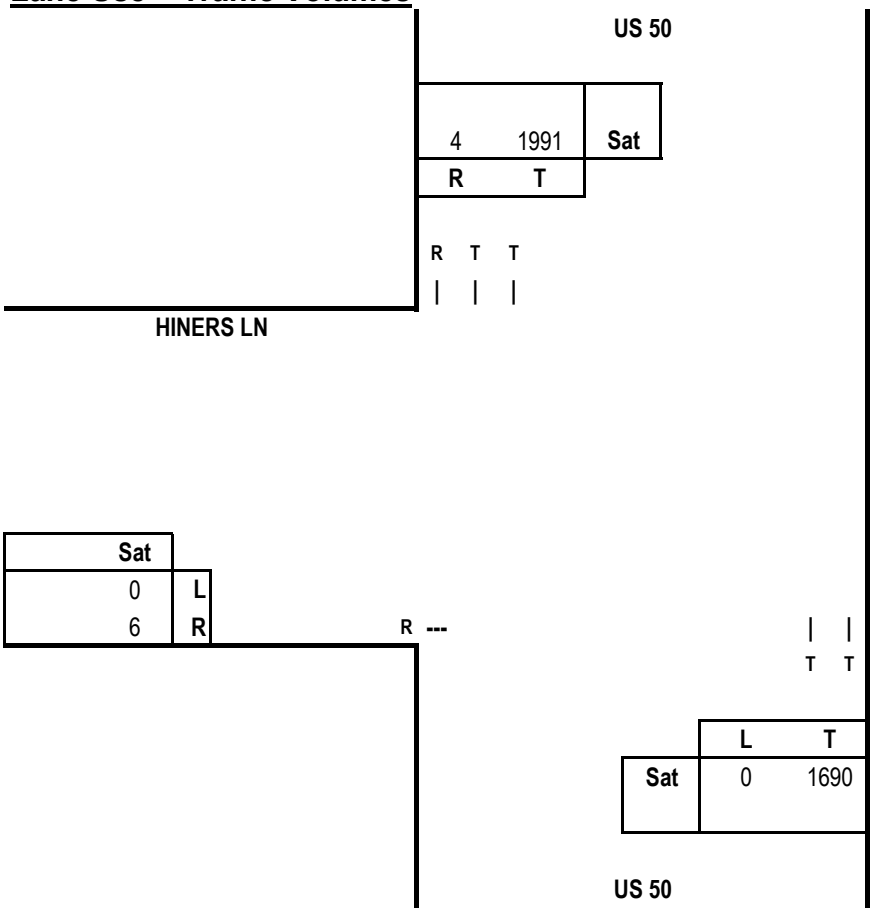
**Intersection**
**10**

# CRITICAL LANE VOLUME (CLV) METHODOLOGY
## for MSHA

**Intersection of:** US 50
**and:** Hiners Ln
**Conditions:** Total Traffic

**Analyst:** Lenhart Traffic

## Lane Use + Traffic Volumes




## Capacity Analysis

| Sat. Midday Peak Hour | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Thru Volumes | | | + Opposing Lefts | | | Sat |
| Dir | VOL | x LUF | = Total | VOL | x LUF | = Total | CLV |
| EB | 6 | 1.00 | 6 | | | | 6 |
| NB | 1690 | 0.55 | 930 | | | | 1095 |
| SB | 1991 | 0.55 | 1095 | 0 | 0.00 | 0 | |
| | | | | | | CLV TOTAL= | 1101 |
| | | | | | | Level of Service (LOS )= | B |

Critical Lane Volume Analysis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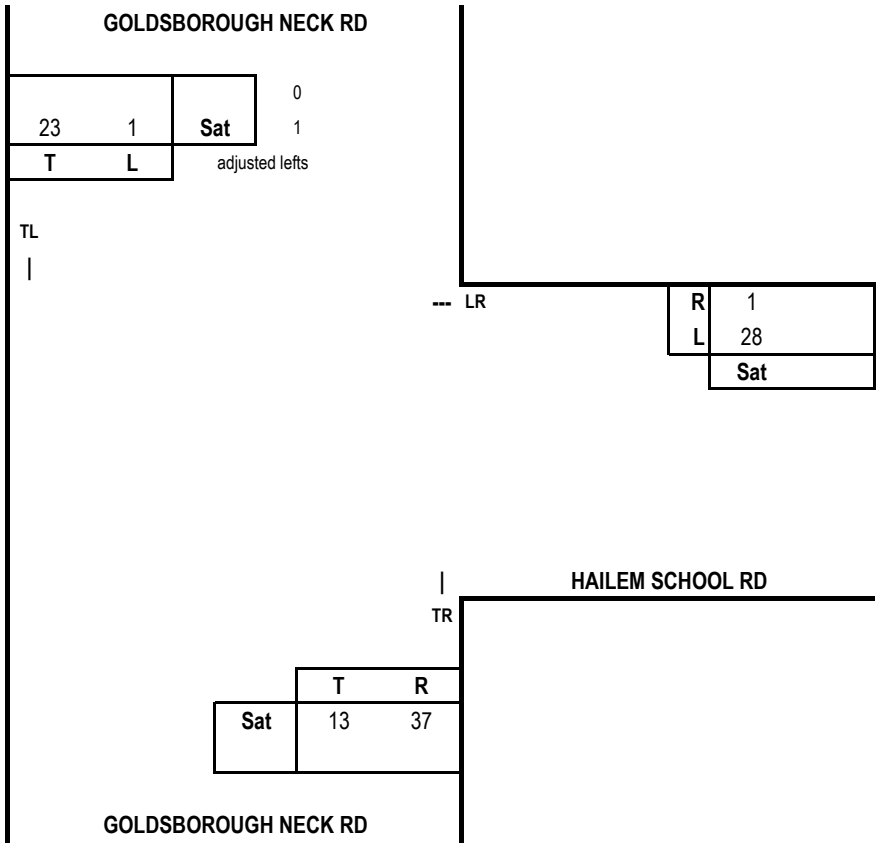
US 50 &
Hiners Ln
(Total Traffic)

**Intersection**
**10**

# CRITICAL LANE VOLUME (CLV) METHODOLOGY
## for MSHA

**Intersection of:** Goldsborough Neck Rd
**and:** Hailem School Rd
**Analyst:** Lenhart Traffic
**Conditions:** Existing Traffic

## Lane Use + Traffic Volumes




## Capacity Analysis

| Sat. Midday Peak Hour | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Thru Volumes | | | + Opposing Lefts | | | Sat |
| Dir | VOL | x LUF | = Total | VOL | x LUF | = Total | CLV |
| WB | 29 | 1.00 | 29 | | | | 29 |
| NB | 50 | 1.00 | 50 | 1 | 1.00 | 1 | 51 |
| SB | 24 | 1.00 | 24 | | | | |
| | | | | | CLV TOTAL= | | 80 |
| | | | | | Level of Service (LOS )= | | A |

Critical Lane Volume Analysis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SEVERNA PARK, MD 21146
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N

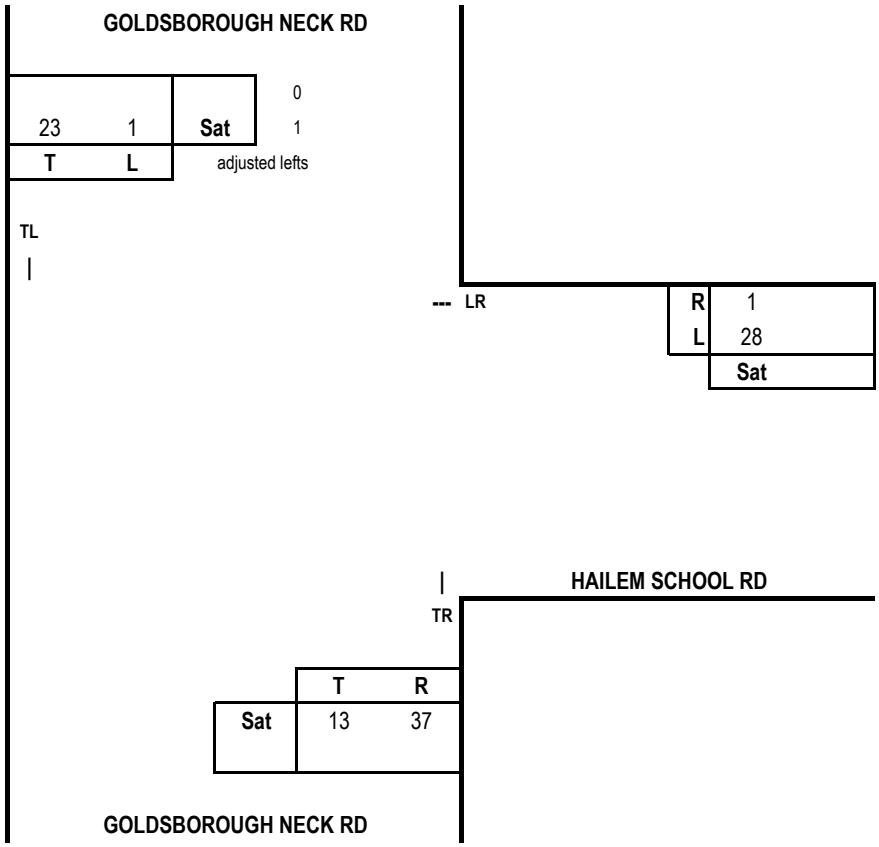
Goldsborough Neck Rd &
Hailem School Rd
(Existing Traffic)

**Intersection**
**11**

# CRITICAL LANE VOLUME (CLV) METHODOLOGY
## for MSHA

**Intersection of:** Goldsborough Neck Rd
**and:** Hailem School Rd
**Conditions:** Background Traffic
**Analyst:** Lenhart Traffic

## Lane Use + Traffic Volumes




## Capacity Analysis

| Sat. Midday Peak Hour | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Thru Volumes | | | + Opposing Lefts | | | Sat |
| Dir | VOL | x LUF | = Total | VOL | x LUF | = Total | CLV |
| WB | 29 | 1.00 | 29 | | | | 29 |
| NB | 50 | 1.00 | 50 | 1 | 1.00 | 1 | 51 |
| SB | 24 | 1.00 | 24 | | | | |
| | | | | | CLV TOTAL= | | 80 |
| | | | | | Level of Service (LOS )= | | A |

Critical Lane Volume Analysis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SEVERNA PARK, MD 21146
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N

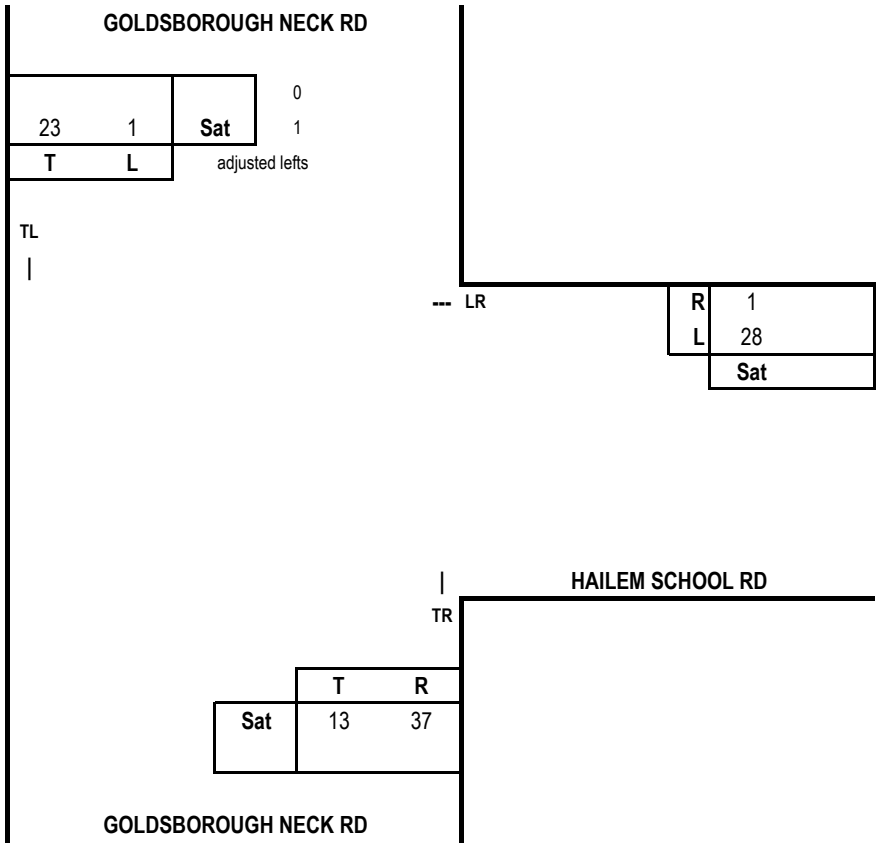
Goldsborough Neck Rd &
Hailem School Rd
(Background Traffic)

**Intersection**
**11**

# CRITICAL LANE VOLUME (CLV) METHODOLOGY
## for MSHA

**Intersection of:** Goldsborough Neck Rd
**and:** Hailem School Rd
**Conditions:** Total Traffic
**Analyst:** Lenhart Traffic

## Lane Use + Traffic Volumes




## Capacity Analysis

**Sat. Midday Peak Hour**

| Dir | Thru Volumes VOL | x LUF | = Total | + Opposing Lefts VOL | x LUF | = Total | Sat CLV |
|---|---|---|---|---|---|---|---|
| WB | 29 | 1.00 | 29 | | | | 29 |
| NB | 50 | 1.00 | 50 | 1 | 1.00 | 1 | 51 |
| SB | 24 | 1.00 | 24 | | | | |

CLV TOTAL= **80**
Level of Service (LOS )= **A**

Critical Lane Volume Analysis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SEVERNA PARK, MD 21146
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N

Goldsborough Neck Rd &
Hailem School Rd
(Total Traffic)

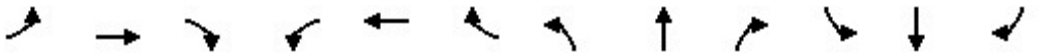
**Intersection 11**



| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 84 | 6 | 22 | 82 | 9 | 31 |
| Future Volume (Veh/h) | 84 | 6 | 22 | 82 | 9 | 31 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 91 | 7 | 24 | 89 | 10 | 34 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 122 | 68 | | | 113 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 122 | 68 | | | 113 | |
| tC, single (s) | 6.4 | 6.2 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 90 | 99 | | | 99 | |
| cM capacity (veh/h) | 867 | 995 | | | 1476 | |

| Direction, Lane # | WB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 98 | 113 | 44 |
| Volume Left | 91 | 0 | 10 |
| Volume Right | 7 | 89 | 0 |
| cSH | 875 | 1700 | 1476 |
| Volume to Capacity | 0.11 | 0.07 | 0.01 |
| Queue Length 95th (ft) | 9 | 0 | 1 |
| Control Delay (s) | 9.6 | 0.0 | 1.7 |
| Lane LOS | A | | A |
| Approach Delay (s) | 9.6 | 0.0 | 1.7 |
| Approach LOS | A | | |

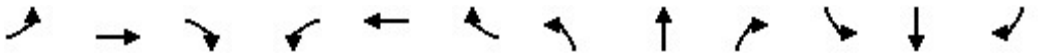
| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 4.0 | | |
| Intersection Capacity Utilization | 20.5% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 116 | 7 | 33 | 200 | 1 | 10 | 0 | 18 | 1 | 1 | 1 |
| Future Volume (Veh/h) | 0 | 116 | 7 | 33 | 200 | 1 | 10 | 0 | 18 | 1 | 1 | 1 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 126 | 8 | 36 | 217 | 1 | 11 | 0 | 20 | 1 | 1 | 1 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | None | | | None | | | | | | | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | 519 | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 218 | | | 134 | | | 421 | 420 | 130 | 440 | 424 | 218 |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 218 | | | 134 | | | 421 | 420 | 130 | 440 | 424 | 218 |
| tC, single (s) | 4.1 | | | 4.1 | | | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 2.2 | | | 2.2 | | | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 |
| p0 queue free % | 100 | | | 98 | | | 98 | 100 | 98 | 100 | 100 | 100 |
| cM capacity (veh/h) | 1352 | | | 1451 | | | 531 | 512 | 920 | 506 | 509 | 822 |

| Direction, Lane # | EB 1 | WB 1 | NB 1 | SB 1 |
|---|---|---|---|---|
| Volume Total | 134 | 254 | 31 | 3 |
| Volume Left | 0 | 36 | 11 | 1 |
| Volume Right | 8 | 1 | 20 | 1 |
| cSH | 1352 | 1451 | 730 | 582 |
| Volume to Capacity | 0.00 | 0.02 | 0.04 | 0.01 |
| Queue Length 95th (ft) | 0 | 2 | 3 | 0 |
| Control Delay (s) | 0.0 | 1.3 | 10.1 | 11.2 |
| Lane LOS | | A | B | B |
| Approach Delay (s) | 0.0 | 1.3 | 10.1 | 11.2 |
| Approach LOS | | | B | B |

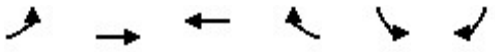
| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | 1.6 | | | |
| Intersection Capacity Utilization | 32.3% | ICU Level of Service | A | |
| Analysis Period (min) | 15 | | | |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 79 | 42 | 8 | 319 | 99 | 86 | 36 | 936 | 8 | 35 | 1077 | 96 |
| Future Volume (vph) | 79 | 42 | 8 | 319 | 99 | 86 | 36 | 936 | 8 | 35 | 1077 | 96 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 |
| Frt | 1.00 | 0.98 | | 1.00 | 0.93 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1770 | 1817 | | 1770 | 1733 | | 1770 | 3539 | 1583 | 1770 | 3539 | 1583 |
| Flt Permitted | 0.63 | 1.00 | | 0.54 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1177 | 1817 | | 1001 | 1733 | | 1770 | 3539 | 1583 | 1770 | 3539 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 86 | 46 | 9 | 347 | 108 | 93 | 39 | 1017 | 9 | 38 | 1171 | 104 |
| RTOR Reduction (vph) | 0 | 3 | 0 | 0 | 13 | 0 | 0 | 0 | 3 | 0 | 0 | 38 |
| Lane Group Flow (vph) | 86 | 52 | 0 | 347 | 188 | 0 | 39 | 1017 | 6 | 38 | 1171 | 66 |
| Turn Type | Perm | NA | | pm+pt | NA | | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | | | | 2 | | | 6 |
| Actuated Green, G (s) | 19.4 | 19.4 | | 54.5 | 54.5 | | 8.7 | 136.1 | 136.1 | 8.6 | 136.0 | 136.0 |
| Effective Green, g (s) | 19.4 | 19.4 | | 54.5 | 54.5 | | 8.7 | 136.1 | 136.1 | 8.6 | 136.0 | 136.0 |
| Actuated g/C Ratio | 0.09 | 0.09 | | 0.26 | 0.26 | | 0.04 | 0.64 | 0.64 | 0.04 | 0.64 | 0.64 |
| Clearance Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 107 | 165 | | 367 | 444 | | 72 | 2264 | 1012 | 71 | 2262 | 1012 |
| v/s Ratio Prot | | 0.03 | | c0.14 | 0.11 | | c0.02 | 0.29 | | 0.02 | c0.33 | |
| v/s Ratio Perm | 0.07 | | | c0.11 | | | | | 0.00 | | | 0.04 |
| v/c Ratio | 0.80 | 0.32 | | 0.95 | 0.42 | | 0.54 | 0.45 | 0.01 | 0.54 | 0.52 | 0.07 |
| Uniform Delay, d1 | 94.8 | 90.4 | | 74.8 | 66.0 | | 100.0 | 19.4 | 13.8 | 100.1 | 20.7 | 14.4 |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 33.9 | 1.1 | | 32.9 | 0.7 | | 8.1 | 0.6 | 0.0 | 7.6 | 0.9 | 0.1 |
| Delay (s) | 128.6 | 91.6 | | 107.7 | 66.6 | | 108.1 | 20.0 | 13.9 | 107.6 | 21.5 | 14.6 |
| Level of Service | F | F | | F | E | | F | C | B | F | C | B |
| Approach Delay (s) | | 114.2 | | | 92.6 | | | 23.2 | | | 23.5 | |
| Approach LOS | | F | | | F | | | C | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 39.9 | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | 0.65 | | |
| Actuated Cycle Length (s) | 212.7 | Sum of lost time (s) | 18.0 |
| Intersection Capacity Utilization | 63.0% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

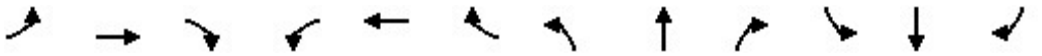
c Critical Lane Group



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 69 | 75 | 49 | 49 | 47 | 73 |
| Future Volume (Veh/h) | 69 | 75 | 49 | 49 | 47 | 73 |
| Sign Control | | Free | Free | | Stop | |
| Grade | | 0% | 0% | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 75 | 82 | 53 | 53 | 51 | 79 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | 5 |
| Median type | | None | None | | | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 106 | | | | 312 | 80 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 106 | | | | 312 | 80 |
| tC, single (s) | 4.1 | | | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 2.2 | | | | 3.5 | 3.3 |
| p0 queue free % | 95 | | | | 92 | 92 |
| cM capacity (veh/h) | 1485 | | | | 647 | 981 |

| Direction, Lane # | EB 1 | WB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 157 | 106 | 130 |
| Volume Left | 75 | 0 | 51 |
| Volume Right | 0 | 53 | 79 |
| cSH | 1485 | 1700 | 1614 |
| Volume to Capacity | 0.05 | 0.06 | 0.08 |
| Queue Length 95th (ft) | 4 | 0 | 7 |
| Control Delay (s) | 3.8 | 0.0 | 9.8 |
| Lane LOS | A | | A |
| Approach Delay (s) | 3.8 | 0.0 | 9.8 |
| Approach LOS | | | A |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 4.8 | | |
| Intersection Capacity Utilization | 24.4% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 93 | 117 | 48 | 27 | 161 | 63 | 59 | 312 | 27 | 93 | 534 | 234 |
| Future Volume (vph) | 93 | 117 | 48 | 27 | 161 | 63 | 59 | 312 | 27 | 93 | 534 | 234 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 |
| Flt Permitted | 0.43 | 1.00 | 1.00 | 0.57 | 1.00 | 1.00 | 0.40 | 1.00 | 1.00 | 0.55 | 1.00 | 1.00 |
| Satd. Flow (perm) | 804 | 1863 | 1583 | 1061 | 1863 | 1583 | 754 | 1863 | 1583 | 1018 | 1863 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 101 | 127 | 52 | 29 | 175 | 68 | 64 | 339 | 29 | 101 | 580 | 254 |
| RTOR Reduction (vph) | 0 | 0 | 44 | 0 | 0 | 58 | 0 | 0 | 7 | 0 | 0 | 59 |
| Lane Group Flow (vph) | 101 | 127 | 8 | 29 | 175 | 10 | 64 | 339 | 22 | 101 | 580 | 195 |
| Turn Type | Perm | NA | Perm | Perm | NA | Perm | Perm | NA | Perm | Perm | NA | Perm |
| Protected Phases | | 4 | | | 8 | | | 2 | | | 6 | |
| Permitted Phases | 4 | | 4 | 8 | | 8 | 2 | | 2 | 6 | | 6 |
| Actuated Green, G (s) | 17.2 | 17.2 | 17.2 | 17.2 | 17.2 | 17.2 | 85.9 | 85.9 | 85.9 | 85.9 | 85.9 | 85.9 |
| Effective Green, g (s) | 17.2 | 17.2 | 17.2 | 17.2 | 17.2 | 17.2 | 85.9 | 85.9 | 85.9 | 85.9 | 85.9 | 85.9 |
| Actuated g/C Ratio | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.77 | 0.77 | 0.77 | 0.77 | 0.77 | 0.77 |
| Clearance Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 123 | 285 | 242 | 162 | 285 | 242 | 577 | 1427 | 1213 | 780 | 1427 | 1213 |
| v/s Ratio Prot | | 0.07 | | | 0.09 | | | 0.18 | | | c0.31 | |
| v/s Ratio Perm | c0.13 | | 0.01 | 0.03 | | 0.01 | 0.08 | | 0.01 | 0.10 | | 0.12 |
| v/c Ratio | 0.82 | 0.45 | 0.03 | 0.18 | 0.61 | 0.04 | 0.11 | 0.24 | 0.02 | 0.13 | 0.41 | 0.16 |
| Uniform Delay, d1 | 46.0 | 43.1 | 40.4 | 41.3 | 44.3 | 40.4 | 3.3 | 3.7 | 3.1 | 3.4 | 4.4 | 3.5 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 33.7 | 1.1 | 0.1 | 0.5 | 3.9 | 0.1 | 0.4 | 0.4 | 0.0 | 0.3 | 0.9 | 0.3 |
| Delay (s) | 79.7 | 44.2 | 40.4 | 41.8 | 48.2 | 40.5 | 3.7 | 4.1 | 3.1 | 3.7 | 5.3 | 3.8 |
| Level of Service | E | D | D | D | D | D | A | A | A | A | A | A |
| Approach Delay (s) | | 56.3 | | | 45.6 | | | 4.0 | | | 4.7 | |
| Approach LOS | | E | | | D | | | A | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 17.9 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.48 | | |
| Actuated Cycle Length (s) | 112.1 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 60.9% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 21 | 3 | 3 | 1 | 10 | 32 |
| Future Volume (Veh/h) | 21 | 3 | 3 | 1 | 10 | 32 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 23 | 3 | 3 | 1 | 11 | 35 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 36 | 28 | 46 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 36 | 28 | 46 | | | |
| tC, single (s) | 6.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 98 | 100 | 100 | | | |
| cM capacity (veh/h) | 975 | 1046 | 1562 | | | |

| Direction, Lane # | EB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 26 | 4 | 46 |
| Volume Left | 23 | 3 | 0 |
| Volume Right | 3 | 0 | 35 |
| cSH | 983 | 1562 | 1700 |
| Volume to Capacity | 0.03 | 0.00 | 0.03 |
| Queue Length 95th (ft) | 2 | 0 | 0 |
| Control Delay (s) | 8.8 | 5.5 | 0.0 |
| Lane LOS | A | A | |
| Approach Delay (s) | 8.8 | 5.5 | 0.0 |
| Approach LOS | A | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 3.3 | | |
| Intersection Capacity Utilization | 13.3% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 1 | 3 | 0 | 3 | 10 |
| Future Volume (Veh/h) | 0 | 1 | 3 | 0 | 3 | 10 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 1 | 3 | 0 | 3 | 11 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 20 | 3 | | | 3 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 20 | 3 | | | 3 | |
| tC, single (s) | 6.4 | 6.2 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 100 | 100 | | | 100 | |
| cM capacity (veh/h) | 995 | 1081 | | | 1619 | |

| Direction, Lane # | WB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 1 | 3 | 14 |
| Volume Left | 0 | 0 | 3 |
| Volume Right | 1 | 0 | 0 |
| cSH | 1081 | 1700 | 1619 |
| Volume to Capacity | 0.00 | 0.00 | 0.00 |
| Queue Length 95th (ft) | 0 | 0 | 0 |
| Control Delay (s) | 8.3 | 0.0 | 1.6 |
| Lane LOS | A | | A |
| Approach Delay (s) | 8.3 | 0.0 | 1.6 |
| Approach LOS | A | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 1.7 | | |
| Intersection Capacity Utilization | 13.3% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 3 | 0 | 1106 | 1212 | 1 |
| Future Volume (Veh/h) | 0 | 3 | 0 | 1106 | 1212 | 1 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 3 | 0 | 1202 | 1317 | 1 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 1918 | 658 | 1318 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 1918 | 658 | 1318 | | | |
| tC, single (s) | 6.8 | 6.9 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 100 | 99 | 100 | | | |
| cM capacity (veh/h) | 59 | 407 | 520 | | | |

| Direction, Lane # | EB 1 | NB 1 | NB 2 | SB 1 | SB 2 | SB 3 |
|---|---|---|---|---|---|---|
| Volume Total | 3 | 601 | 601 | 658 | 658 | 1 |
| Volume Left | 0 | 0 | 0 | 0 | 0 | 0 |
| Volume Right | 3 | 0 | 0 | 0 | 0 | 1 |
| cSH | 407 | 1700 | 1700 | 1700 | 1700 | 1700 |
| Volume to Capacity | 0.01 | 0.35 | 0.35 | 0.39 | 0.39 | 0.00 |
| Queue Length 95th (ft) | 1 | 0 | 0 | 0 | 0 | 0 |
| Control Delay (s) | 13.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane LOS | B | | | | | |
| Approach Delay (s) | 13.9 | 0.0 | | 0.0 | | |
| Approach LOS | B | | | | | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | 0.0 | | | |
| Intersection Capacity Utilization | 43.5% | ICU Level of Service | | A |
| Analysis Period (min) | 15 | | | |



| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 29 | 0 | 10 | 9 | 1 | 14 |
| Future Volume (Veh/h) | 29 | 0 | 10 | 9 | 1 | 14 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 32 | 0 | 11 | 10 | 1 | 15 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 33 | 16 | | | 21 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 33 | 16 | | | 21 | |
| tC, single (s) | 6.4 | 6.2 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 97 | 100 | | | 100 | |
| cM capacity (veh/h) | 980 | 1063 | | | 1595 | |

| Direction, Lane # | WB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 32 | 21 | 16 |
| Volume Left | 32 | 0 | 1 |
| Volume Right | 0 | 10 | 0 |
| cSH | 980 | 1700 | 1595 |
| Volume to Capacity | 0.03 | 0.01 | 0.00 |
| Queue Length 95th (ft) | 3 | 0 | 0 |
| Control Delay (s) | 8.8 | 0.0 | 0.5 |
| Lane LOS | A | | A |
| Approach Delay (s) | 8.8 | 0.0 | 0.5 |
| Approach LOS | A | | |

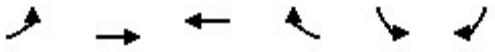
| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 4.2 | | |
| Intersection Capacity Utilization | 13.3% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 118 | 8 | 15 | 161 | 1 | 4 |
| Future Volume (Veh/h) | 118 | 8 | 15 | 161 | 1 | 4 |
| Sign Control | Free | | | Free | Stop | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 128 | 9 | 16 | 175 | 1 | 4 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | None | | | None | | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | | | 137 | | 340 | 132 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | | | 137 | | 340 | 132 |
| tC, single (s) | | | 4.1 | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 |
| p0 queue free % | | | 99 | | 100 | 100 |
| cM capacity (veh/h) | | | 1447 | | 649 | 917 |

| Direction, Lane # | EB 1 | WB 1 | NB 1 |
|---|---|---|---|
| Volume Total | 137 | 191 | 5 |
| Volume Left | 0 | 16 | 1 |
| Volume Right | 9 | 0 | 4 |
| cSH | 1700 | 1447 | 847 |
| Volume to Capacity | 0.08 | 0.01 | 0.01 |
| Queue Length 95th (ft) | 0 | 1 | 0 |
| Control Delay (s) | 0.0 | 0.7 | 9.3 |
| Lane LOS | | A | A |
| Approach Delay (s) | 0.0 | 0.7 | 9.3 |
| Approach LOS | | | A |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 0.5 | | |
| Intersection Capacity Utilization | 29.3% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 24 | 122 | 152 | 56 | 7 | 9 |
| Future Volume (Veh/h) | 24 | 122 | 152 | 56 | 7 | 9 |
| Sign Control | | Free | Free | | Stop | |
| Grade | | 0% | 0% | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 26 | 133 | 165 | 61 | 8 | 10 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | None | None | | | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 226 | | | | 380 | 196 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 226 | | | | 380 | 196 |
| tC, single (s) | 4.1 | | | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 2.2 | | | | 3.5 | 3.3 |
| p0 queue free % | 98 | | | | 99 | 99 |
| cM capacity (veh/h) | 1342 | | | | 610 | 846 |

| Direction, Lane # | EB 1 | WB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 159 | 226 | 18 |
| Volume Left | 26 | 0 | 8 |
| Volume Right | 0 | 61 | 10 |
| cSH | 1342 | 1700 | 722 |
| Volume to Capacity | 0.02 | 0.13 | 0.02 |
| Queue Length 95th (ft) | 1 | 0 | 2 |
| Control Delay (s) | 1.4 | 0.0 | 10.1 |
| Lane LOS | A | | B |
| Approach Delay (s) | 1.4 | 0.0 | 10.1 |
| Approach LOS | | | B |

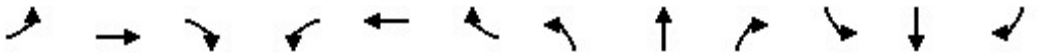
| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 1.0 | | |
| Intersection Capacity Utilization | 32.5% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 113 | 6 | 23 | 167 | 9 | 32 |
| Future Volume (Veh/h) | 113 | 6 | 23 | 167 | 9 | 32 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 123 | 7 | 25 | 182 | 10 | 35 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 171 | 116 | | | 207 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 171 | 116 | | | 207 | |
| tC, single (s) | 6.4 | 6.2 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 85 | 99 | | | 99 | |
| cM capacity (veh/h) | 813 | 936 | | | 1364 | |

| Direction, Lane # | WB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 130 | 207 | 45 |
| Volume Left | 123 | 0 | 10 |
| Volume Right | 7 | 182 | 0 |
| cSH | 819 | 1700 | 1364 |
| Volume to Capacity | 0.16 | 0.12 | 0.01 |
| Queue Length 95th (ft) | 14 | 0 | 1 |
| Control Delay (s) | 10.2 | 0.0 | 1.7 |
| Lane LOS | B | | A |
| Approach Delay (s) | 10.2 | 0.0 | 1.7 |
| Approach LOS | B | | |

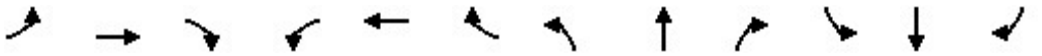
| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 3.7 | | |
| Intersection Capacity Utilization | 24.8% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 83 | 120 | 7 | 34 | 206 | 1 | 10 | 92 | 19 | 1 | 29 | 27 |
| Future Volume (Veh/h) | 83 | 120 | 7 | 34 | 206 | 1 | 10 | 92 | 19 | 1 | 29 | 27 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 90 | 130 | 8 | 37 | 224 | 1 | 11 | 100 | 21 | 1 | 32 | 29 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | None | | | None | | | | | | | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | 519 | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 225 | | | 138 | | | 658 | 613 | 134 | 684 | 616 | 224 |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 225 | | | 138 | | | 658 | 613 | 134 | 684 | 616 | 224 |
| tC, single (s) | 4.1 | | | 4.1 | | | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 2.2 | | | 2.2 | | | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 |
| p0 queue free % | 93 | | | 97 | | | 97 | 73 | 98 | 100 | 91 | 96 |
| cM capacity (veh/h) | 1344 | | | 1446 | | | 317 | 371 | 915 | 262 | 369 | 815 |

| Direction, Lane # | EB 1 | WB 1 | NB 1 | SB 1 |
|---|---|---|---|---|
| Volume Total | 228 | 262 | 132 | 62 |
| Volume Left | 90 | 37 | 11 | 1 |
| Volume Right | 8 | 1 | 21 | 29 |
| cSH | 1344 | 1446 | 403 | 491 |
| Volume to Capacity | 0.07 | 0.03 | 0.33 | 0.13 |
| Queue Length 95th (ft) | 5 | 2 | 35 | 11 |
| Control Delay (s) | 3.5 | 1.3 | 18.2 | 13.4 |
| Lane LOS | A | A | C | B |
| Approach Delay (s) | 3.5 | 1.3 | 18.2 | 13.4 |
| Approach LOS | | | C | B |

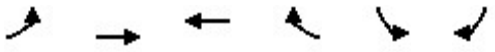
| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | 6.4 | | | |
| Intersection Capacity Utilization | 43.6% | ICU Level of Service | A | |
| Analysis Period (min) | 15 | | | |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 81 | 43 | 8 | 329 | 207 | 195 | 37 | 1306 | 8 | 102 | 1256 | 99 |
| Future Volume (vph) | 81 | 43 | 8 | 329 | 207 | 195 | 37 | 1306 | 8 | 102 | 1256 | 99 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 |
| Frt | 1.00 | 0.98 | | 1.00 | 0.93 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1770 | 1818 | | 1770 | 1727 | | 1770 | 3539 | 1583 | 1770 | 3539 | 1583 |
| Flt Permitted | 0.20 | 1.00 | | 0.56 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 370 | 1818 | | 1036 | 1727 | | 1770 | 3539 | 1583 | 1770 | 3539 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 88 | 47 | 9 | 358 | 225 | 212 | 40 | 1420 | 9 | 111 | 1365 | 108 |
| RTOR Reduction (vph) | 0 | 3 | 0 | 0 | 14 | 0 | 0 | 0 | 4 | 0 | 0 | 39 |
| Lane Group Flow (vph) | 88 | 53 | 0 | 358 | 423 | 0 | 40 | 1420 | 5 | 111 | 1365 | 69 |
| Turn Type | Perm | NA | | pm+pt | NA | | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | | | | 2 | | | 6 |
| Actuated Green, G (s) | 24.3 | 24.3 | | 59.4 | 59.4 | | 9.2 | 136.9 | 136.9 | 19.3 | 147.0 | 147.0 |
| Effective Green, g (s) | 24.3 | 24.3 | | 59.4 | 59.4 | | 9.2 | 136.9 | 136.9 | 19.3 | 147.0 | 147.0 |
| Actuated g/C Ratio | 0.11 | 0.11 | | 0.26 | 0.26 | | 0.04 | 0.60 | 0.60 | 0.08 | 0.64 | 0.64 |
| Clearance Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 39 | 192 | | 366 | 447 | | 71 | 2114 | 945 | 149 | 2270 | 1015 |
| v/s Ratio Prot | | 0.03 | | c0.13 | 0.24 | | 0.02 | c0.40 | | c0.06 | 0.39 | |
| v/s Ratio Perm | c0.24 | | | 0.12 | | | | | 0.00 | | | 0.04 |
| v/c Ratio | 2.26 | 0.28 | | 0.98 | 0.95 | | 0.56 | 0.67 | 0.01 | 0.74 | 0.60 | 0.07 |
| Uniform Delay, d1 | 102.4 | 94.3 | | 81.4 | 83.3 | | 108.0 | 31.0 | 18.6 | 102.5 | 24.0 | 15.4 |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 638.8 | 0.8 | | 40.7 | 29.1 | | 9.8 | 1.7 | 0.0 | 18.2 | 1.2 | 0.1 |
| Delay (s) | 741.2 | 95.1 | | 122.2 | 112.4 | | 117.8 | 32.7 | 18.6 | 120.7 | 25.1 | 15.5 |
| Level of Service | F | F | | F | F | | F | C | B | F | C | B |
| Approach Delay (s) | | 489.9 | | | 116.8 | | | 34.9 | | | 31.2 | |
| Approach LOS | | F | | | F | | | C | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 66.2 | HCM 2000 Level of Service | E |
| HCM 2000 Volume to Capacity ratio | 0.91 | | |
| Actuated Cycle Length (s) | 229.1 | Sum of lost time (s) | 18.0 |
| Intersection Capacity Utilization | 84.1% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

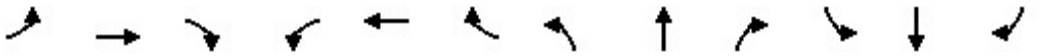
c Critical Lane Group



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 154 | 101 | 75 | 96 | 48 | 101 |
| Future Volume (Veh/h) | 154 | 101 | 75 | 96 | 48 | 101 |
| Sign Control | | Free | Free | | Stop | |
| Grade | | 0% | 0% | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 167 | 110 | 82 | 104 | 52 | 110 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | 5 |
| Median type | | None | None | | | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 186 | | | | 578 | 134 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 186 | | | | 578 | 134 |
| tC, single (s) | 4.1 | | | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 2.2 | | | | 3.5 | 3.3 |
| p0 queue free % | 88 | | | | 88 | 88 |
| cM capacity (veh/h) | 1388 | | | | 420 | 915 |

| Direction, Lane # | EB 1 | WB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 277 | 186 | 162 |
| Volume Left | 167 | 0 | 52 |
| Volume Right | 0 | 104 | 110 |
| cSH | 1388 | 1700 | 1309 |
| Volume to Capacity | 0.12 | 0.11 | 0.12 |
| Queue Length 95th (ft) | 10 | 0 | 11 |
| Control Delay (s) | 5.2 | 0.0 | 11.2 |
| Lane LOS | A | | B |
| Approach Delay (s) | 5.2 | 0.0 | 11.2 |
| Approach LOS | | | B |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | | 5.2 | |
| Intersection Capacity Utilization | | 37.0% | ICU Level of Service |
| Analysis Period (min) | | 15 | |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 96 | 122 | 86 | 56 | 168 | 65 | 130 | 371 | 64 | 96 | 585 | 241 |
| Future Volume (vph) | 96 | 122 | 86 | 56 | 168 | 65 | 130 | 371 | 64 | 96 | 585 | 241 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 |
| Flt Permitted | 0.42 | 1.00 | 1.00 | 0.56 | 1.00 | 1.00 | 0.37 | 1.00 | 1.00 | 0.51 | 1.00 | 1.00 |
| Satd. Flow (perm) | 776 | 1863 | 1583 | 1036 | 1863 | 1583 | 696 | 1863 | 1583 | 941 | 1863 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 104 | 133 | 93 | 61 | 183 | 71 | 141 | 403 | 70 | 104 | 636 | 262 |
| RTOR Reduction (vph) | 0 | 0 | 78 | 0 | 0 | 60 | 0 | 0 | 17 | 0 | 0 | 62 |
| Lane Group Flow (vph) | 104 | 133 | 15 | 61 | 183 | 11 | 141 | 403 | 53 | 104 | 636 | 200 |
| Turn Type | Perm | NA | Perm | Perm | NA | Perm | Perm | NA | Perm | Perm | NA | Perm |
| Protected Phases | | 4 | | | 8 | | | 2 | | | 6 | |
| Permitted Phases | 4 | | 4 | 8 | | 8 | 2 | | 2 | 6 | | 6 |
| Actuated Green, G (s) | 17.7 | 17.7 | 17.7 | 17.7 | 17.7 | 17.7 | 85.7 | 85.7 | 85.7 | 85.7 | 85.7 | 85.7 |
| Effective Green, g (s) | 17.7 | 17.7 | 17.7 | 17.7 | 17.7 | 17.7 | 85.7 | 85.7 | 85.7 | 85.7 | 85.7 | 85.7 |
| Actuated g/C Ratio | 0.16 | 0.16 | 0.16 | 0.16 | 0.16 | 0.16 | 0.76 | 0.76 | 0.76 | 0.76 | 0.76 | 0.76 |
| Clearance Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 122 | 293 | 249 | 163 | 293 | 249 | 530 | 1420 | 1206 | 717 | 1420 | 1206 |
| v/s Ratio Prot | | 0.07 | | | 0.10 | | | 0.22 | | | c0.34 | |
| v/s Ratio Perm | c0.13 | | 0.01 | 0.06 | | 0.01 | 0.20 | | 0.03 | 0.11 | | 0.13 |
| v/c Ratio | 0.85 | 0.45 | 0.06 | 0.37 | 0.62 | 0.04 | 0.27 | 0.28 | 0.04 | 0.15 | 0.45 | 0.17 |
| Uniform Delay, d1 | 46.1 | 43.0 | 40.3 | 42.4 | 44.2 | 40.2 | 4.0 | 4.0 | 3.3 | 3.6 | 4.8 | 3.6 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 40.3 | 1.1 | 0.1 | 1.4 | 4.1 | 0.1 | 1.2 | 0.5 | 0.1 | 0.4 | 1.0 | 0.3 |
| Delay (s) | 86.4 | 44.1 | 40.4 | 43.8 | 48.4 | 40.3 | 5.2 | 4.5 | 3.4 | 4.0 | 5.8 | 3.9 |
| Level of Service | F | D | D | D | D | D | A | A | A | A | A | A |
| Approach Delay (s) | | 56.4 | | | 45.7 | | | 4.6 | | | 5.1 | |
| Approach LOS | | E | | | D | | | A | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 18.1 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.52 | | |
| Actuated Cycle Length (s) | 112.4 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 67.2% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 22 | 3 | 3 | 7 | 28 | 33 |
| Future Volume (Veh/h) | 22 | 3 | 3 | 7 | 28 | 33 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 24 | 3 | 3 | 8 | 30 | 36 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 62 | 48 | 66 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 62 | 48 | 66 | | | |
| tC, single (s) | 6.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 97 | 100 | 100 | | | |
| cM capacity (veh/h) | 942 | 1021 | 1536 | | | |

| Direction, Lane # | EB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 27 | 11 | 66 |
| Volume Left | 24 | 3 | 0 |
| Volume Right | 3 | 0 | 36 |
| cSH | 951 | 1536 | 1700 |
| Volume to Capacity | 0.03 | 0.00 | 0.04 |
| Queue Length 95th (ft) | 2 | 0 | 0 |
| Control Delay (s) | 8.9 | 2.0 | 0.0 |
| Lane LOS | A | A | |
| Approach Delay (s) | 8.9 | 2.0 | 0.0 |
| Approach LOS | A | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 2.5 | | |
| Intersection Capacity Utilization | 13.5% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 1 | 9 | 0 | 3 | 28 |
| Future Volume (Veh/h) | 0 | 1 | 9 | 0 | 3 | 28 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 1 | 10 | 0 | 3 | 30 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 46 | 10 | | | 10 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 46 | 10 | | | 10 | |
| tC, single (s) | 6.4 | 6.2 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 100 | 100 | | | 100 | |
| cM capacity (veh/h) | 962 | 1071 | | | 1610 | |

| Direction, Lane # | WB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 1 | 10 | 33 |
| Volume Left | 0 | 0 | 3 |
| Volume Right | 1 | 0 | 0 |
| cSH | 1071 | 1700 | 1610 |
| Volume to Capacity | 0.00 | 0.01 | 0.00 |
| Queue Length 95th (ft) | 0 | 0 | 0 |
| Control Delay (s) | 8.4 | 0.0 | 0.7 |
| Lane LOS | A | | A |
| Approach Delay (s) | 8.4 | 0.0 | 0.7 |
| Approach LOS | A | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 0.7 | | |
| Intersection Capacity Utilization | 14.0% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 3 | 0 | 1292 | 1560 | 1 |
| Future Volume (Veh/h) | 0 | 3 | 0 | 1292 | 1560 | 1 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 3 | 0 | 1404 | 1696 | 1 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 2398 | 848 | 1697 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 2398 | 848 | 1697 | | | |
| tC, single (s) | 6.8 | 6.9 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 100 | 99 | 100 | | | |
| cM capacity (veh/h) | 28 | 305 | 372 | | | |

| Direction, Lane # | EB 1 | NB 1 | NB 2 | SB 1 | SB 2 | SB 3 |
|---|---|---|---|---|---|---|
| Volume Total | 3 | 702 | 702 | 848 | 848 | 1 |
| Volume Left | 0 | 0 | 0 | 0 | 0 | 0 |
| Volume Right | 3 | 0 | 0 | 0 | 0 | 1 |
| cSH | 305 | 1700 | 1700 | 1700 | 1700 | 1700 |
| Volume to Capacity | 0.01 | 0.41 | 0.41 | 0.50 | 0.50 | 0.00 |
| Queue Length 95th (ft) | 1 | 0 | 0 | 0 | 0 | 0 |
| Control Delay (s) | 16.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane LOS | C | | | | | |
| Approach Delay (s) | 16.9 | 0.0 | | 0.0 | | |
| Approach LOS | C | | | | | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | 0.0 | | | |
| Intersection Capacity Utilization | 53.1% | ICU Level of Service | | A |
| Analysis Period (min) | 15 | | | |



| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 29 | 0 | 10 | 9 | 1 | 14 |
| Future Volume (Veh/h) | 29 | 0 | 10 | 9 | 1 | 14 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 32 | 0 | 11 | 10 | 1 | 15 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 33 | 16 | | | 21 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 33 | 16 | | | 21 | |
| tC, single (s) | 6.4 | 6.2 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 97 | 100 | | | 100 | |
| cM capacity (veh/h) | 980 | 1063 | | | 1595 | |

| Direction, Lane # | WB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 32 | 21 | 16 |
| Volume Left | 32 | 0 | 1 |
| Volume Right | 0 | 10 | 0 |
| cSH | 980 | 1700 | 1595 |
| Volume to Capacity | 0.03 | 0.01 | 0.00 |
| Queue Length 95th (ft) | 3 | 0 | 0 |
| Control Delay (s) | 8.8 | 0.0 | 0.5 |
| Lane LOS | A | | A |
| Approach Delay (s) | 8.8 | 0.0 | 0.5 |
| Approach LOS | A | | |

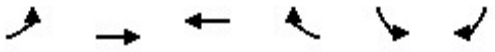
| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 4.2 | | |
| Intersection Capacity Utilization | 13.3% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 205 | 8 | 15 | 192 | 1 | 4 |
| Future Volume (Veh/h) | 205 | 8 | 15 | 192 | 1 | 4 |
| Sign Control | Free | | | Free | Stop | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 223 | 9 | 16 | 209 | 1 | 4 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | None | | | None | | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | | | 232 | | 468 | 228 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | | | 232 | | 468 | 228 |
| tC, single (s) | | | 4.1 | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 |
| p0 queue free % | | | 99 | | 100 | 100 |
| cM capacity (veh/h) | | | 1336 | | 546 | 812 |

| Direction, Lane # | EB 1 | WB 1 | NB 1 |
|---|---|---|---|
| Volume Total | 232 | 225 | 5 |
| Volume Left | 0 | 16 | 1 |
| Volume Right | 9 | 0 | 4 |
| cSH | 1700 | 1336 | 740 |
| Volume to Capacity | 0.14 | 0.01 | 0.01 |
| Queue Length 95th (ft) | 0 | 1 | 1 |
| Control Delay (s) | 0.0 | 0.6 | 9.9 |
| Lane LOS | | A | A |
| Approach Delay (s) | 0.0 | 0.6 | 9.9 |
| Approach LOS | | | A |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 0.4 | | |
| Intersection Capacity Utilization | 32.5% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 25 | 209 | 183 | 58 | 7 | 9 |
| Future Volume (Veh/h) | 25 | 209 | 183 | 58 | 7 | 9 |
| Sign Control | | Free | Free | | Stop | |
| Grade | | 0% | 0% | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 27 | 227 | 199 | 63 | 8 | 10 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | None | None | | | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 262 | | | | 512 | 230 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 262 | | | | 512 | 230 |
| tC, single (s) | 4.1 | | | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 2.2 | | | | 3.5 | 3.3 |
| p0 queue free % | 98 | | | | 98 | 99 |
| cM capacity (veh/h) | 1302 | | | | 511 | 809 |

| Direction, Lane # | EB 1 | WB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 254 | 262 | 18 |
| Volume Left | 27 | 0 | 8 |
| Volume Right | 0 | 63 | 10 |
| cSH | 1302 | 1700 | 643 |
| Volume to Capacity | 0.02 | 0.15 | 0.03 |
| Queue Length 95th (ft) | 2 | 0 | 2 |
| Control Delay (s) | 1.0 | 0.0 | 10.8 |
| Lane LOS | A | | B |
| Approach Delay (s) | 1.0 | 0.0 | 10.8 |
| Approach LOS | | | B |

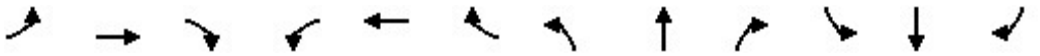
| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 0.8 | | |
| Intersection Capacity Utilization | 38.9% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 178 | 6 | 23 | 222 | 9 | 32 |
| Future Volume (Veh/h) | 178 | 6 | 23 | 222 | 9 | 32 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 193 | 7 | 25 | 241 | 10 | 35 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 200 | 146 | | | 266 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 200 | 146 | | | 266 | |
| tC, single (s) | 6.4 | 6.2 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 75 | 99 | | | 99 | |
| cM capacity (veh/h) | 782 | 902 | | | 1298 | |

| Direction, Lane # | WB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 200 | 266 | 45 |
| Volume Left | 193 | 0 | 10 |
| Volume Right | 7 | 241 | 0 |
| cSH | 786 | 1700 | 1298 |
| Volume to Capacity | 0.25 | 0.16 | 0.01 |
| Queue Length 95th (ft) | 25 | 0 | 1 |
| Control Delay (s) | 11.1 | 0.0 | 1.8 |
| Lane LOS | B | | A |
| Approach Delay (s) | 11.1 | 0.0 | 1.8 |
| Approach LOS | B | | |

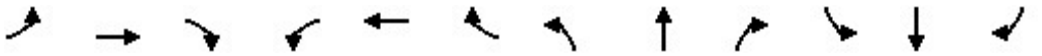
| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 4.5 | | |
| Intersection Capacity Utilization | 31.8% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 93 | 235 | 7 | 34 | 296 | 1 | 10 | 92 | 19 | 1 | 29 | 35 |
| Future Volume (Veh/h) | 93 | 235 | 7 | 34 | 296 | 1 | 10 | 92 | 19 | 1 | 29 | 35 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 101 | 255 | 8 | 37 | 322 | 1 | 11 | 100 | 21 | 1 | 32 | 38 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | None | | | None | | | | | | | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | 519 | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 323 | | | 263 | | | 912 | 858 | 259 | 928 | 862 | 322 |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 323 | | | 263 | | | 912 | 858 | 259 | 928 | 862 | 322 |
| tC, single (s) | 4.1 | | | 4.1 | | | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 2.2 | | | 2.2 | | | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 |
| p0 queue free % | 92 | | | 97 | | | 95 | 62 | 97 | 99 | 88 | 95 |
| cM capacity (veh/h) | 1237 | | | 1301 | | | 201 | 263 | 780 | 157 | 261 | 718 |

| Direction, Lane # | EB 1 | WB 1 | NB 1 | SB 1 |
|---|---|---|---|---|
| Volume Total | 364 | 360 | 132 | 71 |
| Volume Left | 101 | 37 | 11 | 1 |
| Volume Right | 8 | 1 | 21 | 38 |
| cSH | 1237 | 1301 | 285 | 391 |
| Volume to Capacity | 0.08 | 0.03 | 0.46 | 0.18 |
| Queue Length 95th (ft) | 7 | 2 | 58 | 16 |
| Control Delay (s) | 2.8 | 1.1 | 28.0 | 16.2 |
| Lane LOS | A | A | D | C |
| Approach Delay (s) | 2.8 | 1.1 | 28.0 | 16.2 |
| Approach LOS | | | D | C |

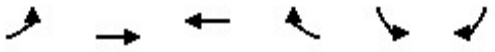
| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | 6.8 | | | |
| Intersection Capacity Utilization | 55.5% | ICU Level of Service | B | |
| Analysis Period (min) | 15 | | | |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 148 | 62 | 37 | 329 | 225 | 195 | 59 | 1306 | 8 | 102 | 1256 | 149 |
| Future Volume (vph) | 148 | 62 | 37 | 329 | 225 | 195 | 59 | 1306 | 8 | 102 | 1256 | 149 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 |
| Frt | 1.00 | 0.94 | | 1.00 | 0.93 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1770 | 1758 | | 1770 | 1733 | | 1770 | 3539 | 1583 | 1770 | 3539 | 1583 |
| Flt Permitted | 0.21 | 1.00 | | 0.44 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 385 | 1758 | | 810 | 1733 | | 1770 | 3539 | 1583 | 1770 | 3539 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 161 | 67 | 40 | 358 | 245 | 212 | 64 | 1420 | 9 | 111 | 1365 | 162 |
| RTOR Reduction (vph) | 0 | 9 | 0 | 0 | 13 | 0 | 0 | 0 | 4 | 0 | 0 | 64 |
| Lane Group Flow (vph) | 161 | 98 | 0 | 358 | 444 | 0 | 64 | 1420 | 5 | 111 | 1365 | 98 |
| Turn Type | Perm | NA | | pm+pt | NA | | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | | | | 2 | | | 6 |
| Actuated Green, G (s) | 30.5 | 30.5 | | 65.5 | 65.5 | | 13.8 | 135.5 | 135.5 | 19.6 | 141.3 | 141.3 |
| Effective Green, g (s) | 30.5 | 30.5 | | 65.5 | 65.5 | | 13.8 | 135.5 | 135.5 | 19.6 | 141.3 | 141.3 |
| Actuated g/C Ratio | 0.13 | 0.13 | | 0.28 | 0.28 | | 0.06 | 0.58 | 0.58 | 0.08 | 0.60 | 0.60 |
| Clearance Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 50 | 229 | | 351 | 484 | | 104 | 2048 | 916 | 148 | 2136 | 955 |
| v/s Ratio Prot | | 0.06 | | c0.13 | 0.26 | | 0.04 | c0.40 | | c0.06 | 0.39 | |
| v/s Ratio Perm | c0.42 | | | 0.15 | | | | | 0.00 | | | 0.06 |
| v/c Ratio | 3.22 | 0.43 | | 1.02 | 0.92 | | 0.62 | 0.69 | 0.01 | 0.75 | 0.64 | 0.10 |
| Uniform Delay, d1 | 101.8 | 93.8 | | 80.2 | 81.7 | | 107.6 | 34.7 | 20.8 | 104.9 | 29.9 | 19.6 |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 1048.7 | 1.3 | | 53.2 | 22.2 | | 10.3 | 2.0 | 0.0 | 19.0 | 1.5 | 0.2 |
| Delay (s) | 1150.5 | 95.1 | | 133.4 | 103.8 | | 117.9 | 36.6 | 20.8 | 123.9 | 31.4 | 19.8 |
| Level of Service | F | F | | F | F | | F | D | C | F | C | B |
| Approach Delay (s) | | 729.1 | | | 116.8 | | | 40.0 | | | 36.5 | |
| Approach LOS | | F | | | F | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 97.4 | HCM 2000 Level of Service | F |
| HCM 2000 Volume to Capacity ratio | 1.10 | | |
| Actuated Cycle Length (s) | 234.1 | Sum of lost time (s) | 18.0 |
| Intersection Capacity Utilization | 88.7% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

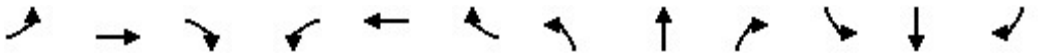
c Critical Lane Group



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 162 | 101 | 75 | 143 | 103 | 111 |
| Future Volume (Veh/h) | 162 | 101 | 75 | 143 | 103 | 111 |
| Sign Control | | Free | Free | | Stop | |
| Grade | | 0% | 0% | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 176 | 110 | 82 | 155 | 112 | 121 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | 5 |
| Median type | | None | None | | | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 237 | | | | 622 | 160 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 237 | | | | 622 | 160 |
| tC, single (s) | 4.1 | | | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 2.2 | | | | 3.5 | 3.3 |
| p0 queue free % | 87 | | | | 71 | 86 |
| cM capacity (veh/h) | 1330 | | | | 391 | 886 |

| Direction, Lane # | EB 1 | WB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 286 | 237 | 233 |
| Volume Left | 176 | 0 | 112 |
| Volume Right | 0 | 155 | 121 |
| cSH | 1330 | 1700 | 814 |
| Volume to Capacity | 0.13 | 0.14 | 0.29 |
| Queue Length 95th (ft) | 11 | 0 | 30 |
| Control Delay (s) | 5.4 | 0.0 | 13.6 |
| Lane LOS | A | | B |
| Approach Delay (s) | 5.4 | 0.0 | 13.6 |
| Approach LOS | | | B |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 6.3 | | |
| Intersection Capacity Utilization | 42.7% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 96 | 148 | 115 | 56 | 193 | 65 | 152 | 371 | 64 | 96 | 585 | 241 |
| Future Volume (vph) | 96 | 148 | 115 | 56 | 193 | 65 | 152 | 371 | 64 | 96 | 585 | 241 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 |
| Flt Permitted | 0.37 | 1.00 | 1.00 | 0.49 | 1.00 | 1.00 | 0.37 | 1.00 | 1.00 | 0.50 | 1.00 | 1.00 |
| Satd. Flow (perm) | 690 | 1863 | 1583 | 921 | 1863 | 1583 | 686 | 1863 | 1583 | 935 | 1863 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 104 | 161 | 125 | 61 | 210 | 71 | 165 | 403 | 70 | 104 | 636 | 262 |
| RTOR Reduction (vph) | 0 | 0 | 104 | 0 | 0 | 59 | 0 | 0 | 18 | 0 | 0 | 66 |
| Lane Group Flow (vph) | 104 | 161 | 21 | 61 | 210 | 12 | 165 | 403 | 52 | 104 | 636 | 196 |
| Turn Type | Perm | NA | Perm | Perm | NA | Perm | Perm | NA | Perm | Perm | NA | Perm |
| Protected Phases | | 4 | | | 8 | | | 2 | | | 6 | |
| Permitted Phases | 4 | | 4 | 8 | | 8 | 2 | | 2 | 6 | | 6 |
| Actuated Green, G (s) | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 | 85.7 | 85.7 | 85.7 | 85.7 | 85.7 | 85.7 |
| Effective Green, g (s) | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 | 85.7 | 85.7 | 85.7 | 85.7 | 85.7 | 85.7 |
| Actuated g/C Ratio | 0.17 | 0.17 | 0.17 | 0.17 | 0.17 | 0.17 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 |
| Clearance Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 118 | 319 | 271 | 157 | 319 | 271 | 514 | 1396 | 1186 | 701 | 1396 | 1186 |
| v/s Ratio Prot | | 0.09 | | | 0.11 | | | 0.22 | | | c0.34 | |
| v/s Ratio Perm | c0.15 | | 0.01 | 0.07 | | 0.01 | 0.24 | | 0.03 | 0.11 | | 0.12 |
| v/c Ratio | 0.88 | 0.50 | 0.08 | 0.39 | 0.66 | 0.04 | 0.32 | 0.29 | 0.04 | 0.15 | 0.46 | 0.17 |
| Uniform Delay, d1 | 46.2 | 42.9 | 39.8 | 42.0 | 44.2 | 39.5 | 4.7 | 4.6 | 3.7 | 4.0 | 5.4 | 4.1 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 48.1 | 1.3 | 0.1 | 1.6 | 4.8 | 0.1 | 1.6 | 0.5 | 0.1 | 0.4 | 1.1 | 0.3 |
| Delay (s) | 94.4 | 44.2 | 39.9 | 43.6 | 49.1 | 39.6 | 6.4 | 5.1 | 3.8 | 4.5 | 6.5 | 4.4 |
| Level of Service | F | D | D | D | D | D | A | A | A | A | A | A |
| Approach Delay (s) | | 56.2 | | | 46.1 | | | 5.3 | | | 5.7 | |
| Approach LOS | | E | | | D | | | A | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 19.7 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.53 | | |
| Actuated Cycle Length (s) | 114.3 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 69.7% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 22 | 3 | 3 | 17 | 36 | 33 |
| Future Volume (Veh/h) | 22 | 3 | 3 | 17 | 36 | 33 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 24 | 3 | 3 | 18 | 39 | 36 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 81 | 57 | 75 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 81 | 57 | 75 | | | |
| tC, single (s) | 6.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 97 | 100 | 100 | | | |
| cM capacity (veh/h) | 919 | 1009 | 1524 | | | |

| Direction, Lane # | EB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 27 | 21 | 75 |
| Volume Left | 24 | 3 | 0 |
| Volume Right | 3 | 0 | 36 |
| cSH | 929 | 1524 | 1700 |
| Volume to Capacity | 0.03 | 0.00 | 0.04 |
| Queue Length 95th (ft) | 2 | 0 | 0 |
| Control Delay (s) | 9.0 | 1.1 | 0.0 |
| Lane LOS | A | A | |
| Approach Delay (s) | 9.0 | 1.1 | 0.0 |
| Approach LOS | A | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 2.2 | | |
| Intersection Capacity Utilization | 13.9% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 1 | 19 | 0 | 3 | 36 |
| Future Volume (Veh/h) | 0 | 1 | 19 | 0 | 3 | 36 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 1 | 21 | 0 | 3 | 39 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 66 | 21 | | | 21 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 66 | 21 | | | 21 | |
| tC, single (s) | 6.4 | 6.2 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 100 | 100 | | | 100 | |
| cM capacity (veh/h) | 938 | 1056 | | | 1595 | |

| Direction, Lane # | WB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 1 | 21 | 42 |
| Volume Left | 0 | 0 | 3 |
| Volume Right | 1 | 0 | 0 |
| cSH | 1056 | 1700 | 1595 |
| Volume to Capacity | 0.00 | 0.01 | 0.00 |
| Queue Length 95th (ft) | 0 | 0 | 0 |
| Control Delay (s) | 8.4 | 0.0 | 0.5 |
| Lane LOS | A | | A |
| Approach Delay (s) | 8.4 | 0.0 | 0.5 |
| Approach LOS | A | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 0.5 | | |
| Intersection Capacity Utilization | 14.4% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 3 | 0 | 1359 | 1610 | 1 |
| Future Volume (Veh/h) | 0 | 3 | 0 | 1359 | 1610 | 1 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 3 | 0 | 1477 | 1750 | 1 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 2488 | 875 | 1751 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 2488 | 875 | 1751 | | | |
| tC, single (s) | 6.8 | 6.9 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 100 | 99 | 100 | | | |
| cM capacity (veh/h) | 24 | 292 | 354 | | | |

| Direction, Lane # | EB 1 | NB 1 | NB 2 | SB 1 | SB 2 | SB 3 |
|---|---|---|---|---|---|---|
| Volume Total | 3 | 738 | 738 | 875 | 875 | 1 |
| Volume Left | 0 | 0 | 0 | 0 | 0 | 0 |
| Volume Right | 3 | 0 | 0 | 0 | 0 | 1 |
| cSH | 292 | 1700 | 1700 | 1700 | 1700 | 1700 |
| Volume to Capacity | 0.01 | 0.43 | 0.43 | 0.51 | 0.51 | 0.00 |
| Queue Length 95th (ft) | 1 | 0 | 0 | 0 | 0 | 0 |
| Control Delay (s) | 17.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane LOS | C | | | | | |
| Approach Delay (s) | 17.4 | 0.0 | | 0.0 | | |
| Approach LOS | C | | | | | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | 0.0 | | | |
| Intersection Capacity Utilization | 54.5% | ICU Level of Service | | A |
| Analysis Period (min) | 15 | | | |



| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 29 | 0 | 10 | 9 | 1 | 14 |
| Future Volume (Veh/h) | 29 | 0 | 10 | 9 | 1 | 14 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 32 | 0 | 11 | 10 | 1 | 15 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 33 | 16 | | | 21 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 33 | 16 | | | 21 | |
| tC, single (s) | 6.4 | 6.2 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 97 | 100 | | | 100 | |
| cM capacity (veh/h) | 980 | 1063 | | | 1595 | |

| Direction, Lane # | WB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 32 | 21 | 16 |
| Volume Left | 32 | 0 | 1 |
| Volume Right | 0 | 10 | 0 |
| cSH | 980 | 1700 | 1595 |
| Volume to Capacity | 0.03 | 0.01 | 0.00 |
| Queue Length 95th (ft) | 3 | 0 | 0 |
| Control Delay (s) | 8.8 | 0.0 | 0.5 |
| Lane LOS | A | | A |
| Approach Delay (s) | 8.8 | 0.0 | 0.5 |
| Approach LOS | A | | |

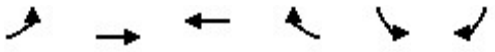
| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 4.2 | | |
| Intersection Capacity Utilization | 13.3% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 192 | 8 | 15 | 255 | 1 | 4 |
| Future Volume (Veh/h) | 192 | 8 | 15 | 255 | 1 | 4 |
| Sign Control | Free | | | Free | Stop | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 209 | 9 | 16 | 277 | 1 | 4 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | None | | | None | | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | | | 218 | | 522 | 214 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | | | 218 | | 522 | 214 |
| tC, single (s) | | | 4.1 | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 |
| p0 queue free % | | | 99 | | 100 | 100 |
| cM capacity (veh/h) | | | 1352 | | 509 | 827 |

| Direction, Lane # | EB 1 | WB 1 | NB 1 |
|---|---|---|---|
| Volume Total | 218 | 293 | 5 |
| Volume Left | 0 | 16 | 1 |
| Volume Right | 9 | 0 | 4 |
| cSH | 1700 | 1352 | 735 |
| Volume to Capacity | 0.13 | 0.01 | 0.01 |
| Queue Length 95th (ft) | 0 | 1 | 1 |
| Control Delay (s) | 0.0 | 0.5 | 9.9 |
| Lane LOS | | A | A |
| Approach Delay (s) | 0.0 | 0.5 | 9.9 |
| Approach LOS | | | A |

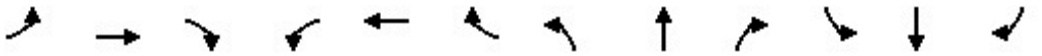
| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 0.4 | | |
| Intersection Capacity Utilization | 35.7% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 93 | 196 | 170 | 169 | 143 | 85 |
| Future Volume (Veh/h) | 93 | 196 | 170 | 169 | 143 | 85 |
| Sign Control | | Free | Free | | Stop | |
| Grade | | 0% | 0% | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 101 | 213 | 185 | 184 | 155 | 92 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | None | None | | | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 369 | | | | 692 | 277 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 369 | | | | 692 | 277 |
| tC, single (s) | 4.1 | | | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 2.2 | | | | 3.5 | 3.3 |
| p0 queue free % | 92 | | | | 59 | 88 |
| cM capacity (veh/h) | 1190 | | | | 375 | 762 |

| Direction, Lane # | EB 1 | WB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 314 | 369 | 247 |
| Volume Left | 101 | 0 | 155 |
| Volume Right | 0 | 184 | 92 |
| cSH | 1190 | 1700 | 463 |
| Volume to Capacity | 0.08 | 0.22 | 0.53 |
| Queue Length 95th (ft) | 7 | 0 | 77 |
| Control Delay (s) | 3.2 | 0.0 | 21.4 |
| Lane LOS | A | | C |
| Approach Delay (s) | 3.2 | 0.0 | 21.4 |
| Approach LOS | | | C |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 6.8 | | |
| Intersection Capacity Utilization | 57.9% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 148 | 62 | 37 | 329 | 225 | 195 | 59 | 1306 | 8 | 102 | 1256 | 149 |
| Future Volume (vph) | 148 | 62 | 37 | 329 | 225 | 195 | 59 | 1306 | 8 | 102 | 1256 | 149 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 |
| Frt | 1.00 | 0.94 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1770 | 1758 | | 1770 | 1863 | 1583 | 1770 | 3539 | 1583 | 1770 | 3539 | 1583 |
| Flt Permitted | 0.61 | 1.00 | | 0.49 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1130 | 1758 | | 909 | 1863 | 1583 | 1770 | 3539 | 1583 | 1770 | 3539 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 161 | 67 | 40 | 358 | 245 | 212 | 64 | 1420 | 9 | 111 | 1365 | 162 |
| RTOR Reduction (vph) | 0 | 9 | 0 | 0 | 0 | 108 | 0 | 0 | 4 | 0 | 0 | 75 |
| Lane Group Flow (vph) | 161 | 98 | 0 | 358 | 245 | 104 | 64 | 1420 | 5 | 111 | 1365 | 87 |
| Turn Type | Perm | NA | | pm+pt | NA | Perm | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | 8 | | | 2 | | | 6 |
| Actuated Green, G (s) | 36.2 | 36.2 | | 76.7 | 76.7 | 76.7 | 12.9 | 114.9 | 114.9 | 18.4 | 120.4 | 120.4 |
| Effective Green, g (s) | 36.2 | 36.2 | | 76.7 | 76.7 | 76.7 | 12.9 | 114.9 | 114.9 | 18.4 | 120.4 | 120.4 |
| Actuated g/C Ratio | 0.16 | 0.16 | | 0.34 | 0.34 | 0.34 | 0.06 | 0.51 | 0.51 | 0.08 | 0.54 | 0.54 |
| Clearance Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 183 | 284 | | 450 | 639 | 543 | 102 | 1819 | 813 | 145 | 1906 | 852 |
| v/s Ratio Prot | | 0.06 | | c0.13 | 0.13 | | 0.04 | c0.40 | | c0.06 | 0.39 | |
| v/s Ratio Perm | c0.14 | | | 0.14 | | 0.07 | | | 0.00 | | | 0.06 |
| v/c Ratio | 0.88 | 0.34 | | 0.80 | 0.38 | 0.19 | 0.63 | 0.78 | 0.01 | 0.77 | 0.72 | 0.10 |
| Uniform Delay, d1 | 91.5 | 83.1 | | 61.2 | 55.5 | 51.6 | 103.0 | 44.1 | 26.5 | 100.4 | 38.7 | 25.2 |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 34.7 | 0.7 | | 9.4 | 0.4 | 0.2 | 11.5 | 3.4 | 0.0 | 21.1 | 2.3 | 0.2 |
| Delay (s) | 126.2 | 83.8 | | 70.6 | 55.9 | 51.8 | 114.4 | 47.5 | 26.5 | 121.5 | 41.1 | 25.4 |
| Level of Service | F | F | | E | E | D | F | D | C | F | D | C |
| Approach Delay (s) | | 109.3 | | | 61.3 | | | 50.2 | | | 45.0 | |
| Approach LOS | | F | | | E | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 54.1 | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | 0.80 | | |
| Actuated Cycle Length (s) | 223.5 | Sum of lost time (s) | 18.0 |
| Intersection Capacity Utilization | 80.5% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group



| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 132 | 8 | 47 | 123 | 5 | 47 |
| Future Volume (Veh/h) | 132 | 8 | 47 | 123 | 5 | 47 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 143 | 9 | 51 | 134 | 5 | 51 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 179 | 118 | | | 185 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 179 | 118 | | | 185 | |
| tC, single (s) | 6.4 | 6.2 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 82 | 99 | | | 100 | |
| cM capacity (veh/h) | 808 | 934 | | | 1390 | |

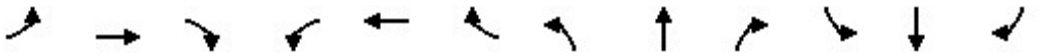
| Direction, Lane # | WB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 152 | 185 | 56 |
| Volume Left | 143 | 0 | 5 |
| Volume Right | 9 | 134 | 0 |
| cSH | 814 | 1700 | 1390 |
| Volume to Capacity | 0.19 | 0.11 | 0.00 |
| Queue Length 95th (ft) | 17 | 0 | 0 |
| Control Delay (s) | 10.4 | 0.0 | 0.7 |
| Lane LOS | B | | A |
| Approach Delay (s) | 10.4 | 0.0 | 0.7 |
| Approach LOS | B | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 4.1 | | |
| Intersection Capacity Utilization | 24.5% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 228 | 13 | 18 | 120 | 0 | 5 | 0 | 56 | 1 | 0 | 0 |
| Future Volume (Veh/h) | 0 | 228 | 13 | 18 | 120 | 0 | 5 | 0 | 56 | 1 | 0 | 0 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 248 | 14 | 20 | 130 | 0 | 5 | 0 | 61 | 1 | 0 | 0 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | None | | | None | | | | | | | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | 519 | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 130 | | | 262 | | | 425 | 425 | 255 | 486 | 432 | 130 |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 130 | | | 262 | | | 425 | 425 | 255 | 486 | 432 | 130 |
| tC, single (s) | 4.1 | | | 4.1 | | | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 2.2 | | | 2.2 | | | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 |
| p0 queue free % | 100 | | | 98 | | | 99 | 100 | 92 | 100 | 100 | 100 |
| cM capacity (veh/h) | 1455 | | | 1302 | | | 533 | 513 | 784 | 448 | 508 | 920 |

| Direction, Lane # | EB 1 | WB 1 | NB 1 | SB 1 |
|---|---|---|---|---|
| Volume Total | 262 | 150 | 66 | 1 |
| Volume Left | 0 | 20 | 5 | 1 |
| Volume Right | 14 | 0 | 61 | 0 |
| cSH | 1455 | 1302 | 757 | 448 |
| Volume to Capacity | 0.00 | 0.02 | 0.09 | 0.00 |
| Queue Length 95th (ft) | 0 | 1 | 7 | 0 |
| Control Delay (s) | 0.0 | 1.2 | 10.2 | 13.1 |
| Lane LOS | | A | B | B |
| Approach Delay (s) | 0.0 | 1.2 | 10.2 | 13.1 |
| Approach LOS | | | B | B |

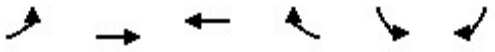
| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | 1.8 | | | |
| Intersection Capacity Utilization | 31.8% | ICU Level of Service | A | |
| Analysis Period (min) | 15 | | | |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 128 | 116 | 20 | 177 | 35 | 83 | 38 | 1149 | 9 | 100 | 1016 | 75 |
| Future Volume (vph) | 128 | 116 | 20 | 177 | 35 | 83 | 38 | 1149 | 9 | 100 | 1016 | 75 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 |
| Frt | 1.00 | 0.98 | | 1.00 | 0.89 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1770 | 1821 | | 1770 | 1666 | | 1770 | 3539 | 1583 | 1770 | 3539 | 1583 |
| Flt Permitted | 0.67 | 1.00 | | 0.30 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1257 | 1821 | | 554 | 1666 | | 1770 | 3539 | 1583 | 1770 | 3539 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 139 | 126 | 22 | 192 | 38 | 90 | 41 | 1249 | 10 | 109 | 1104 | 82 |
| RTOR Reduction (vph) | 0 | 3 | 0 | 0 | 37 | 0 | 0 | 0 | 4 | 0 | 0 | 29 |
| Lane Group Flow (vph) | 139 | 145 | 0 | 192 | 91 | 0 | 41 | 1249 | 6 | 109 | 1104 | 53 |
| Turn Type | Perm | NA | | pm+pt | NA | | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | | | | 2 | | | 6 |
| Actuated Green, G (s) | 27.8 | 27.8 | | 57.3 | 57.3 | | 9.2 | 137.0 | 137.0 | 18.9 | 146.7 | 146.7 |
| Effective Green, g (s) | 27.8 | 27.8 | | 57.3 | 57.3 | | 9.2 | 137.0 | 137.0 | 18.9 | 146.7 | 146.7 |
| Actuated g/C Ratio | 0.12 | 0.12 | | 0.25 | 0.25 | | 0.04 | 0.60 | 0.60 | 0.08 | 0.65 | 0.65 |
| Clearance Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 154 | 223 | | 274 | 421 | | 71 | 2138 | 956 | 147 | 2290 | 1024 |
| v/s Ratio Prot | | 0.08 | | c0.08 | 0.05 | | 0.02 | c0.35 | | c0.06 | 0.31 | |
| v/s Ratio Perm | c0.11 | | | 0.10 | | | | | 0.00 | | | 0.03 |
| v/c Ratio | 0.90 | 0.65 | | 0.70 | 0.22 | | 0.58 | 0.58 | 0.01 | 0.74 | 0.48 | 0.05 |
| Uniform Delay, d1 | 98.1 | 94.8 | | 71.8 | 67.0 | | 106.8 | 27.4 | 17.8 | 101.5 | 20.5 | 14.6 |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 44.9 | 6.7 | | 7.8 | 0.3 | | 10.9 | 1.2 | 0.0 | 18.1 | 0.7 | 0.1 |
| Delay (s) | 143.0 | 101.5 | | 79.7 | 67.2 | | 117.7 | 28.6 | 17.8 | 119.6 | 21.2 | 14.7 |
| Level of Service | F | F | | E | E | | F | C | B | F | C | B |
| Approach Delay (s) | | 121.6 | | | 74.7 | | | 31.3 | | | 29.1 | |
| Approach LOS | | F | | | E | | | C | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 42.9 | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | 0.66 | | |
| Actuated Cycle Length (s) | 226.7 | Sum of lost time (s) | 18.0 |
| Intersection Capacity Utilization | 69.4% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

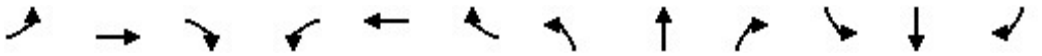
c Critical Lane Group



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 101 | 53 | 74 | 85 | 74 | 113 |
| Future Volume (Veh/h) | 101 | 53 | 74 | 85 | 74 | 113 |
| Sign Control | | Free | Free | | Stop | |
| Grade | | 0% | 0% | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 110 | 58 | 80 | 92 | 80 | 123 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | 5 |
| Median type | | None | None | | | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 172 | | | | 404 | 126 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 172 | | | | 404 | 126 |
| tC, single (s) | 4.1 | | | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 2.2 | | | | 3.5 | 3.3 |
| p0 queue free % | 92 | | | | 86 | 87 |
| cM capacity (veh/h) | 1405 | | | | 555 | 924 |

| Direction, Lane # | EB 1 | WB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 168 | 172 | 203 |
| Volume Left | 110 | 0 | 80 |
| Volume Right | 0 | 92 | 123 |
| cSH | 1405 | 1700 | 1409 |
| Volume to Capacity | 0.08 | 0.10 | 0.14 |
| Queue Length 95th (ft) | 6 | 0 | 13 |
| Control Delay (s) | 5.3 | 0.0 | 10.7 |
| Lane LOS | A | | B |
| Approach Delay (s) | 5.3 | 0.0 | 10.7 |
| Approach LOS | | | B |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 5.6 | | |
| Intersection Capacity Utilization | 31.6% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 161 | 170 | 74 | 28 | 117 | 125 | 44 | 401 | 51 | 134 | 587 | 153 |
| Future Volume (vph) | 161 | 170 | 74 | 28 | 117 | 125 | 44 | 401 | 51 | 134 | 587 | 153 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 |
| Flt Permitted | 0.59 | 1.00 | 1.00 | 0.45 | 1.00 | 1.00 | 0.36 | 1.00 | 1.00 | 0.48 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1102 | 1863 | 1583 | 844 | 1863 | 1583 | 674 | 1863 | 1583 | 890 | 1863 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 175 | 185 | 80 | 30 | 127 | 136 | 48 | 436 | 55 | 146 | 638 | 166 |
| RTOR Reduction (vph) | 0 | 0 | 65 | 0 | 0 | 111 | 0 | 0 | 14 | 0 | 0 | 44 |
| Lane Group Flow (vph) | 175 | 185 | 15 | 30 | 127 | 25 | 48 | 436 | 41 | 146 | 638 | 122 |
| Turn Type | Perm | NA | Perm | Perm | NA | Perm | Perm | NA | Perm | Perm | NA | Perm |
| Protected Phases | | 4 | | | 8 | | | 2 | | | 6 | |
| Permitted Phases | 4 | | 4 | 8 | | 8 | 2 | | 2 | 6 | | 6 |
| Actuated Green, G (s) | 21.6 | 21.6 | 21.6 | 21.6 | 21.6 | 21.6 | 85.6 | 85.6 | 85.6 | 85.6 | 85.6 | 85.6 |
| Effective Green, g (s) | 21.6 | 21.6 | 21.6 | 21.6 | 21.6 | 21.6 | 85.6 | 85.6 | 85.6 | 85.6 | 85.6 | 85.6 |
| Actuated g/C Ratio | 0.19 | 0.19 | 0.19 | 0.19 | 0.19 | 0.19 | 0.74 | 0.74 | 0.74 | 0.74 | 0.74 | 0.74 |
| Clearance Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 204 | 346 | 294 | 156 | 346 | 294 | 496 | 1372 | 1166 | 655 | 1372 | 1166 |
| v/s Ratio Prot | | 0.10 | | | 0.07 | | | 0.23 | | | c0.34 | |
| v/s Ratio Perm | c0.16 | | 0.01 | 0.04 | | 0.02 | 0.07 | | 0.03 | 0.16 | | 0.08 |
| v/c Ratio | 0.86 | 0.53 | 0.05 | 0.19 | 0.37 | 0.09 | 0.10 | 0.32 | 0.03 | 0.22 | 0.47 | 0.10 |
| Uniform Delay, d1 | 45.8 | 42.8 | 38.9 | 39.9 | 41.3 | 39.1 | 4.3 | 5.3 | 4.1 | 4.8 | 6.1 | 4.4 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 28.1 | 1.6 | 0.1 | 0.6 | 0.7 | 0.1 | 0.4 | 0.6 | 0.1 | 0.8 | 1.1 | 0.2 |
| Delay (s) | 73.9 | 44.3 | 38.9 | 40.5 | 42.0 | 39.3 | 4.7 | 5.9 | 4.2 | 5.6 | 7.3 | 4.5 |
| Level of Service | E | D | D | D | D | D | A | A | A | A | A | A |
| Approach Delay (s) | | 55.1 | | | 40.6 | | | 5.6 | | | 6.5 | |
| Approach LOS | | E | | | D | | | A | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 20.4 | HCM 2000 Level of Service | C |
| HCM 2000 Volume to Capacity ratio | 0.54 | | |
| Actuated Cycle Length (s) | 116.2 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 65.1% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 31 | 10 | 5 | 3 | 12 | 16 |
| Future Volume (Veh/h) | 31 | 10 | 5 | 3 | 12 | 16 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 34 | 11 | 5 | 3 | 13 | 17 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 34 | 22 | 30 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 34 | 22 | 30 | | | |
| tC, single (s) | 6.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 97 | 99 | 100 | | | |
| cM capacity (veh/h) | 975 | 1056 | 1583 | | | |

| Direction, Lane # | EB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 45 | 8 | 30 |
| Volume Left | 34 | 5 | 0 |
| Volume Right | 11 | 0 | 17 |
| cSH | 994 | 1583 | 1700 |
| Volume to Capacity | 0.05 | 0.00 | 0.02 |
| Queue Length 95th (ft) | 4 | 0 | 0 |
| Control Delay (s) | 8.8 | 4.6 | 0.0 |
| Lane LOS | A | A | |
| Approach Delay (s) | 8.8 | 4.6 | 0.0 |
| Approach LOS | A | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 5.2 | | |
| Intersection Capacity Utilization | 14.6% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 2 | 6 | 0 | 5 | 17 |
| Future Volume (Veh/h) | 0 | 2 | 6 | 0 | 5 | 17 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 2 | 7 | 0 | 5 | 18 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 35 | 7 | | | 7 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 35 | 7 | | | 7 | |
| tC, single (s) | 6.4 | 6.2 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 100 | 100 | | | 100 | |
| cM capacity (veh/h) | 975 | 1075 | | | 1614 | |

| Direction, Lane # | WB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 2 | 7 | 23 |
| Volume Left | 0 | 0 | 5 |
| Volume Right | 2 | 0 | 0 |
| cSH | 1075 | 1700 | 1614 |
| Volume to Capacity | 0.00 | 0.00 | 0.00 |
| Queue Length 95th (ft) | 0 | 0 | 0 |
| Control Delay (s) | 8.4 | 0.0 | 1.6 |
| Lane LOS | A | | A |
| Approach Delay (s) | 8.4 | 0.0 | 1.6 |
| Approach LOS | A | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 1.7 | | |
| Intersection Capacity Utilization | 15.2% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 5 | 0 | 1364 | 1191 | 2 |
| Future Volume (Veh/h) | 0 | 5 | 0 | 1364 | 1191 | 2 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 5 | 0 | 1483 | 1295 | 2 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 2036 | 648 | 1297 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 2036 | 648 | 1297 | | | |
| tC, single (s) | 6.8 | 6.9 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 100 | 99 | 100 | | | |
| cM capacity (veh/h) | 49 | 413 | 530 | | | |

| Direction, Lane # | EB 1 | NB 1 | NB 2 | SB 1 | SB 2 | SB 3 |
|---|---|---|---|---|---|---|
| Volume Total | 5 | 742 | 742 | 648 | 648 | 2 |
| Volume Left | 0 | 0 | 0 | 0 | 0 | 0 |
| Volume Right | 5 | 0 | 0 | 0 | 0 | 2 |
| cSH | 413 | 1700 | 1700 | 1700 | 1700 | 1700 |
| Volume to Capacity | 0.01 | 0.44 | 0.44 | 0.38 | 0.38 | 0.00 |
| Queue Length 95th (ft) | 1 | 0 | 0 | 0 | 0 | 0 |
| Control Delay (s) | 13.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane LOS | B | | | | | |
| Approach Delay (s) | 13.8 | 0.0 | | 0.0 | | |
| Approach LOS | B | | | | | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | 0.0 | | | |
| Intersection Capacity Utilization | 42.9% | ICU Level of Service | | A |
| Analysis Period (min) | 15 | | | |



| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 20 | 2 | 16 | 42 | 1 | 10 |
| Future Volume (Veh/h) | 20 | 2 | 16 | 42 | 1 | 10 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 22 | 2 | 17 | 46 | 1 | 11 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 53 | 40 | | | 63 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 53 | 40 | | | 63 | |
| tC, single (s) | 6.4 | 6.2 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 98 | 100 | | | 100 | |
| cM capacity (veh/h) | 955 | 1031 | | | 1540 | |

| Direction, Lane # | WB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 24 | 63 | 12 |
| Volume Left | 22 | 0 | 1 |
| Volume Right | 2 | 46 | 0 |
| cSH | 961 | 1700 | 1540 |
| Volume to Capacity | 0.02 | 0.04 | 0.00 |
| Queue Length 95th (ft) | 2 | 0 | 0 |
| Control Delay (s) | 8.8 | 0.0 | 0.6 |
| Lane LOS | A | | A |
| Approach Delay (s) | 8.8 | 0.0 | 0.6 |
| Approach LOS | A | | |

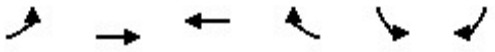
| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 2.2 | | |
| Intersection Capacity Utilization | 13.4% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 167 | 0 | 5 | 131 | 5 | 16 |
| Future Volume (Veh/h) | 167 | 0 | 5 | 131 | 5 | 16 |
| Sign Control | Free | | | Free | Stop | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 182 | 0 | 5 | 142 | 5 | 17 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | None | | | None | | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | | | 182 | | 334 | 182 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | | | 182 | | 334 | 182 |
| tC, single (s) | | | 4.1 | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 |
| p0 queue free % | | | 100 | | 99 | 98 |
| cM capacity (veh/h) | | | 1393 | | 659 | 861 |

| Direction, Lane # | EB 1 | WB 1 | NB 1 |
|---|---|---|---|
| Volume Total | 182 | 147 | 22 |
| Volume Left | 0 | 5 | 5 |
| Volume Right | 0 | 0 | 17 |
| cSH | 1700 | 1393 | 805 |
| Volume to Capacity | 0.11 | 0.00 | 0.03 |
| Queue Length 95th (ft) | 0 | 0 | 2 |
| Control Delay (s) | 0.0 | 0.3 | 9.6 |
| Lane LOS | | A | A |
| Approach Delay (s) | 0.0 | 0.3 | 9.6 |
| Approach LOS | | | A |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | | 0.7 | |
| Intersection Capacity Utilization | | 20.9% | ICU Level of Service A |
| Analysis Period (min) | | 15 | |



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 9 | 183 | 115 | 11 | 43 | 16 |
| Future Volume (Veh/h) | 9 | 183 | 115 | 11 | 43 | 16 |
| Sign Control | | Free | Free | | Stop | |
| Grade | | 0% | 0% | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 10 | 199 | 125 | 12 | 47 | 17 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | None | None | | | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 137 | | | | 350 | 131 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 137 | | | | 350 | 131 |
| tC, single (s) | 4.1 | | | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 2.2 | | | | 3.5 | 3.3 |
| p0 queue free % | 99 | | | | 93 | 98 |
| cM capacity (veh/h) | 1447 | | | | 643 | 919 |

| Direction, Lane # | EB 1 | WB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 209 | 137 | 64 |
| Volume Left | 10 | 0 | 47 |
| Volume Right | 0 | 12 | 17 |
| cSH | 1447 | 1700 | 698 |
| Volume to Capacity | 0.01 | 0.08 | 0.09 |
| Queue Length 95th (ft) | 1 | 0 | 8 |
| Control Delay (s) | 0.4 | 0.0 | 10.7 |
| Lane LOS | A | | B |
| Approach Delay (s) | 0.4 | 0.0 | 10.7 |
| Approach LOS | | | B |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 1.9 | | |
| Intersection Capacity Utilization | 27.0% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 221 | 8 | 48 | 160 | 5 | 48 |
| Future Volume (Veh/h) | 221 | 8 | 48 | 160 | 5 | 48 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 240 | 9 | 52 | 174 | 5 | 52 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 201 | 139 | | | 226 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 201 | 139 | | | 226 | |
| tC, single (s) | 6.4 | 6.2 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 69 | 99 | | | 100 | |
| cM capacity (veh/h) | 785 | 909 | | | 1342 | |

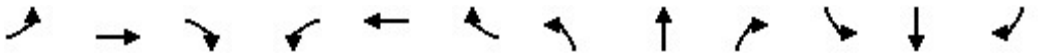
| Direction, Lane # | WB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 249 | 226 | 57 |
| Volume Left | 240 | 0 | 5 |
| Volume Right | 9 | 174 | 0 |
| cSH | 789 | 1700 | 1342 |
| Volume to Capacity | 0.32 | 0.13 | 0.00 |
| Queue Length 95th (ft) | 34 | 0 | 0 |
| Control Delay (s) | 11.7 | 0.0 | 0.7 |
| Lane LOS | B | | A |
| Approach Delay (s) | 11.7 | 0.0 | 0.7 |
| Approach LOS | B | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 5.5 | | |
| Intersection Capacity Utilization | 31.8% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 33 | 235 | 13 | 19 | 124 | 0 | 5 | 38 | 58 | 1 | 94 | 85 |
| Future Volume (Veh/h) | 33 | 235 | 13 | 19 | 124 | 0 | 5 | 38 | 58 | 1 | 94 | 85 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 36 | 255 | 14 | 21 | 135 | 0 | 5 | 41 | 63 | 1 | 102 | 92 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | None | | | None | | | | | | | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | 519 | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 135 | | | 269 | | | 654 | 511 | 262 | 594 | 518 | 135 |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 135 | | | 269 | | | 654 | 511 | 262 | 594 | 518 | 135 |
| tC, single (s) | 4.1 | | | 4.1 | | | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 2.2 | | | 2.2 | | | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 |
| p0 queue free % | 98 | | | 98 | | | 98 | 91 | 92 | 100 | 77 | 90 |
| cM capacity (veh/h) | 1449 | | | 1295 | | | 273 | 447 | 777 | 345 | 443 | 914 |

| Direction, Lane # | EB 1 | WB 1 | NB 1 | SB 1 |
|---|---|---|---|---|
| Volume Total | 305 | 156 | 109 | 195 |
| Volume Left | 36 | 21 | 5 | 1 |
| Volume Right | 14 | 0 | 63 | 92 |
| cSH | 1449 | 1295 | 570 | 584 |
| Volume to Capacity | 0.02 | 0.02 | 0.19 | 0.33 |
| Queue Length 95th (ft) | 2 | 1 | 18 | 36 |
| Control Delay (s) | 1.1 | 1.2 | 12.8 | 14.2 |
| Lane LOS | A | A | B | B |
| Approach Delay (s) | 1.1 | 1.2 | 12.8 | 14.2 |
| Approach LOS | | | B | B |

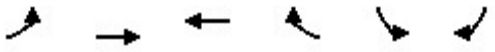
| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | 6.1 | | | |
| Intersection Capacity Utilization | 36.5% | ICU Level of Service | A | |
| Analysis Period (min) | 15 | | | |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 132 | 120 | 21 | 182 | 78 | 129 | 39 | 1355 | 9 | 320 | 1407 | 77 |
| Future Volume (vph) | 132 | 120 | 21 | 182 | 78 | 129 | 39 | 1355 | 9 | 320 | 1407 | 77 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 |
| Frt | 1.00 | 0.98 | | 1.00 | 0.91 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1770 | 1821 | | 1770 | 1689 | | 1770 | 3539 | 1583 | 1770 | 3539 | 1583 |
| Flt Permitted | 0.62 | 1.00 | | 0.28 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1151 | 1821 | | 526 | 1689 | | 1770 | 3539 | 1583 | 1770 | 3539 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 143 | 130 | 23 | 198 | 85 | 140 | 42 | 1473 | 10 | 348 | 1529 | 84 |
| RTOR Reduction (vph) | 0 | 3 | 0 | 0 | 25 | 0 | 0 | 0 | 4 | 0 | 0 | 30 |
| Lane Group Flow (vph) | 143 | 150 | 0 | 198 | 200 | 0 | 42 | 1473 | 6 | 348 | 1529 | 54 |
| Turn Type | Perm | NA | | pm+pt | NA | | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | | | | 2 | | | 6 |
| Actuated Green, G (s) | 29.0 | 29.0 | | 59.7 | 59.7 | | 9.5 | 136.6 | 136.6 | 25.5 | 152.6 | 152.6 |
| Effective Green, g (s) | 29.0 | 29.0 | | 59.7 | 59.7 | | 9.5 | 136.6 | 136.6 | 25.5 | 152.6 | 152.6 |
| Actuated g/C Ratio | 0.12 | 0.12 | | 0.25 | 0.25 | | 0.04 | 0.58 | 0.58 | 0.11 | 0.65 | 0.65 |
| Clearance Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 141 | 224 | | 271 | 428 | | 71 | 2054 | 918 | 191 | 2295 | 1026 |
| v/s Ratio Prot | | 0.08 | | c0.08 | 0.12 | | 0.02 | c0.42 | | c0.20 | 0.43 | |
| v/s Ratio Perm | c0.12 | | | 0.10 | | | | | 0.00 | | | 0.03 |
| v/c Ratio | 1.01 | 0.67 | | 0.73 | 0.47 | | 0.59 | 0.72 | 0.01 | 1.82 | 0.67 | 0.05 |
| Uniform Delay, d1 | 103.2 | 98.6 | | 74.7 | 74.3 | | 111.0 | 35.5 | 20.8 | 104.9 | 25.6 | 15.1 |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 79.6 | 7.7 | | 9.7 | 0.8 | | 12.5 | 2.2 | 0.0 | 389.7 | 1.5 | 0.1 |
| Delay (s) | 182.7 | 106.3 | | 84.4 | 75.1 | | 123.5 | 37.7 | 20.8 | 494.6 | 27.1 | 15.1 |
| Level of Service | F | F | | F | E | | F | D | C | F | C | B |
| Approach Delay (s) | | 143.2 | | | 79.5 | | | 39.9 | | | 109.6 | |
| Approach LOS | | F | | | E | | | D | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 83.7 | HCM 2000 Level of Service | F |
| HCM 2000 Volume to Capacity ratio | 0.89 | | |
| Actuated Cycle Length (s) | 235.3 | Sum of lost time (s) | 18.0 |
| Intersection Capacity Utilization | 89.5% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

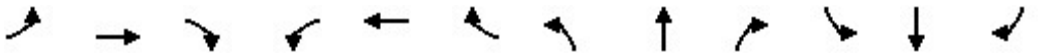
c Critical Lane Group



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 137 | 81 | 94 | 107 | 76 | 201 |
| Future Volume (Veh/h) | 137 | 81 | 94 | 107 | 76 | 201 |
| Sign Control | | Free | Free | | Stop | |
| Grade | | 0% | 0% | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 149 | 88 | 102 | 116 | 83 | 218 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | 5 |
| Median type | | None | None | | | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 218 | | | | 546 | 160 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 218 | | | | 546 | 160 |
| tC, single (s) | 4.1 | | | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 2.2 | | | | 3.5 | 3.3 |
| p0 queue free % | 89 | | | | 81 | 75 |
| cM capacity (veh/h) | 1352 | | | | 444 | 885 |

| Direction, Lane # | EB 1 | WB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 237 | 218 | 301 |
| Volume Left | 149 | 0 | 83 |
| Volume Right | 0 | 116 | 218 |
| cSH | 1352 | 1700 | 1222 |
| Volume to Capacity | 0.11 | 0.13 | 0.25 |
| Queue Length 95th (ft) | 9 | 0 | 24 |
| Control Delay (s) | 5.4 | 0.0 | 11.7 |
| Lane LOS | A | | B |
| Approach Delay (s) | 5.4 | 0.0 | 11.7 |
| Approach LOS | | | B |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 6.3 | | |
| Intersection Capacity Utilization | 37.6% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 166 | 178 | 146 | 74 | 123 | 129 | 80 | 458 | 86 | 138 | 668 | 158 |
| Future Volume (vph) | 166 | 178 | 146 | 74 | 123 | 129 | 80 | 458 | 86 | 138 | 668 | 158 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 |
| Flt Permitted | 0.58 | 1.00 | 1.00 | 0.44 | 1.00 | 1.00 | 0.31 | 1.00 | 1.00 | 0.44 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1075 | 1863 | 1583 | 817 | 1863 | 1583 | 585 | 1863 | 1583 | 819 | 1863 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 180 | 193 | 159 | 80 | 134 | 140 | 87 | 498 | 93 | 150 | 726 | 172 |
| RTOR Reduction (vph) | 0 | 0 | 129 | 0 | 0 | 113 | 0 | 0 | 25 | 0 | 0 | 46 |
| Lane Group Flow (vph) | 180 | 193 | 30 | 80 | 134 | 27 | 87 | 498 | 68 | 150 | 726 | 126 |
| Turn Type | Perm | NA | Perm | Perm | NA | Perm | Perm | NA | Perm | Perm | NA | Perm |
| Protected Phases | | 4 | | | 8 | | | 2 | | | 6 | |
| Permitted Phases | 4 | | 4 | 8 | | 8 | 2 | | 2 | 6 | | 6 |
| Actuated Green, G (s) | 22.1 | 22.1 | 22.1 | 22.1 | 22.1 | 22.1 | 85.6 | 85.6 | 85.6 | 85.6 | 85.6 | 85.6 |
| Effective Green, g (s) | 22.1 | 22.1 | 22.1 | 22.1 | 22.1 | 22.1 | 85.6 | 85.6 | 85.6 | 85.6 | 85.6 | 85.6 |
| Actuated g/C Ratio | 0.19 | 0.19 | 0.19 | 0.19 | 0.19 | 0.19 | 0.73 | 0.73 | 0.73 | 0.73 | 0.73 | 0.73 |
| Clearance Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 203 | 352 | 299 | 154 | 352 | 299 | 429 | 1366 | 1161 | 600 | 1366 | 1161 |
| v/s Ratio Prot | | 0.10 | | | 0.07 | | | 0.27 | | | c0.39 | |
| v/s Ratio Perm | c0.17 | | 0.02 | 0.10 | | 0.02 | 0.15 | | 0.04 | 0.18 | | 0.08 |
| v/c Ratio | 0.89 | 0.55 | 0.10 | 0.52 | 0.38 | 0.09 | 0.20 | 0.36 | 0.06 | 0.25 | 0.53 | 0.11 |
| Uniform Delay, d1 | 46.1 | 42.8 | 39.1 | 42.5 | 41.3 | 39.0 | 4.9 | 5.7 | 4.3 | 5.1 | 6.8 | 4.5 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 33.7 | 1.7 | 0.1 | 2.9 | 0.7 | 0.1 | 1.1 | 0.8 | 0.1 | 1.0 | 1.5 | 0.2 |
| Delay (s) | 79.8 | 44.5 | 39.2 | 45.5 | 42.0 | 39.1 | 5.9 | 6.4 | 4.4 | 6.1 | 8.3 | 4.7 |
| Level of Service | E | D | D | D | D | D | A | A | A | A | A | A |
| Approach Delay (s) | | 54.9 | | | 41.7 | | | 6.1 | | | 7.4 | |
| Approach LOS | | D | | | D | | | A | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 21.4 | HCM 2000 Level of Service | C |
| HCM 2000 Volume to Capacity ratio | 0.60 | | |
| Actuated Cycle Length (s) | 116.7 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 70.3% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 32 | 10 | 5 | 22 | 19 | 16 |
| Future Volume (Veh/h) | 32 | 10 | 5 | 22 | 19 | 16 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 35 | 11 | 5 | 24 | 21 | 17 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 64 | 30 | 38 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 64 | 30 | 38 | | | |
| tC, single (s) | 6.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 96 | 99 | 100 | | | |
| cM capacity (veh/h) | 939 | 1045 | 1572 | | | |

| Direction, Lane # | EB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 46 | 29 | 38 |
| Volume Left | 35 | 5 | 0 |
| Volume Right | 11 | 0 | 17 |
| cSH | 963 | 1572 | 1700 |
| Volume to Capacity | 0.05 | 0.00 | 0.02 |
| Queue Length 95th (ft) | 4 | 0 | 0 |
| Control Delay (s) | 8.9 | 1.3 | 0.0 |
| Lane LOS | A | A | |
| Approach Delay (s) | 8.9 | 1.3 | 0.0 |
| Approach LOS | A | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 4.0 | | |
| Intersection Capacity Utilization | 15.5% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 2 | 25 | 0 | 5 | 25 |
| Future Volume (Veh/h) | 0 | 2 | 25 | 0 | 5 | 25 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 2 | 27 | 0 | 5 | 27 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 64 | 27 | | | 27 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 64 | 27 | | | 27 | |
| tC, single (s) | 6.4 | 6.2 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 100 | 100 | | | 100 | |
| cM capacity (veh/h) | 939 | 1048 | | | 1587 | |

| Direction, Lane # | WB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 2 | 27 | 32 |
| Volume Left | 0 | 0 | 5 |
| Volume Right | 2 | 0 | 0 |
| cSH | 1048 | 1700 | 1587 |
| Volume to Capacity | 0.00 | 0.02 | 0.00 |
| Queue Length 95th (ft) | 0 | 0 | 0 |
| Control Delay (s) | 8.4 | 0.0 | 1.2 |
| Lane LOS | A | | A |
| Approach Delay (s) | 8.4 | 0.0 | 1.2 |
| Approach LOS | A | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 0.9 | | |
| Intersection Capacity Utilization | 15.6% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 5 | 0 | 1723 | 1413 | 2 |
| Future Volume (Veh/h) | 0 | 5 | 0 | 1723 | 1413 | 2 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 5 | 0 | 1873 | 1536 | 2 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 2472 | 768 | 1538 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 2472 | 768 | 1538 | | | |
| tC, single (s) | 6.8 | 6.9 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 100 | 99 | 100 | | | |
| cM capacity (veh/h) | 25 | 344 | 428 | | | |

| Direction, Lane # | EB 1 | NB 1 | NB 2 | SB 1 | SB 2 | SB 3 |
|---|---|---|---|---|---|---|
| Volume Total | 5 | 936 | 936 | 768 | 768 | 2 |
| Volume Left | 0 | 0 | 0 | 0 | 0 | 0 |
| Volume Right | 5 | 0 | 0 | 0 | 0 | 2 |
| cSH | 344 | 1700 | 1700 | 1700 | 1700 | 1700 |
| Volume to Capacity | 0.01 | 0.55 | 0.55 | 0.45 | 0.45 | 0.00 |
| Queue Length 95th (ft) | 1 | 0 | 0 | 0 | 0 | 0 |
| Control Delay (s) | 15.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane LOS | C | | | | | |
| Approach Delay (s) | 15.6 | 0.0 | | 0.0 | | |
| Approach LOS | C | | | | | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | 0.0 | | | |
| Intersection Capacity Utilization | 51.0% | ICU Level of Service | | A |
| Analysis Period (min) | 15 | | | |



| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 20 | 2 | 16 | 42 | 1 | 10 |
| Future Volume (Veh/h) | 20 | 2 | 16 | 42 | 1 | 10 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 22 | 2 | 17 | 46 | 1 | 11 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 53 | 40 | | | 63 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 53 | 40 | | | 63 | |
| tC, single (s) | 6.4 | 6.2 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 98 | 100 | | | 100 | |
| cM capacity (veh/h) | 955 | 1031 | | | 1540 | |

| Direction, Lane # | WB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 24 | 63 | 12 |
| Volume Left | 22 | 0 | 1 |
| Volume Right | 2 | 46 | 0 |
| cSH | 961 | 1700 | 1540 |
| Volume to Capacity | 0.02 | 0.04 | 0.00 |
| Queue Length 95th (ft) | 2 | 0 | 0 |
| Control Delay (s) | 8.8 | 0.0 | 0.6 |
| Lane LOS | A | | A |
| Approach Delay (s) | 8.8 | 0.0 | 0.6 |
| Approach LOS | A | | |

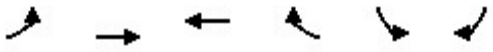
| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 2.2 | | |
| Intersection Capacity Utilization | 13.4% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 205 | 0 | 5 | 219 | 5 | 16 |
| Future Volume (Veh/h) | 205 | 0 | 5 | 219 | 5 | 16 |
| Sign Control | Free | | | Free | Stop | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 223 | 0 | 5 | 238 | 5 | 17 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | None | | | None | | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | | | 223 | | 471 | 223 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | | | 223 | | 471 | 223 |
| tC, single (s) | | | 4.1 | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 |
| p0 queue free % | | | 100 | | 99 | 98 |
| cM capacity (veh/h) | | | 1346 | | 549 | 817 |

| Direction, Lane # | EB 1 | WB 1 | NB 1 |
|---|---|---|---|
| Volume Total | 223 | 243 | 22 |
| Volume Left | 0 | 5 | 5 |
| Volume Right | 0 | 0 | 17 |
| cSH | 1700 | 1346 | 735 |
| Volume to Capacity | 0.13 | 0.00 | 0.03 |
| Queue Length 95th (ft) | 0 | 0 | 2 |
| Control Delay (s) | 0.0 | 0.2 | 10.0 |
| Lane LOS | | A | B |
| Approach Delay (s) | 0.0 | 0.2 | 10.0 |
| Approach LOS | | | B |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 0.5 | | |
| Intersection Capacity Utilization | 25.5% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 9 | 221 | 203 | 11 | 44 | 16 |
| Future Volume (Veh/h) | 9 | 221 | 203 | 11 | 44 | 16 |
| Sign Control | | Free | Free | | Stop | |
| Grade | | 0% | 0% | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 10 | 240 | 221 | 12 | 48 | 17 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | None | None | | | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 233 | | | | 487 | 227 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 233 | | | | 487 | 227 |
| tC, single (s) | 4.1 | | | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 2.2 | | | | 3.5 | 3.3 |
| p0 queue free % | 99 | | | | 91 | 98 |
| cM capacity (veh/h) | 1335 | | | | 536 | 812 |

| Direction, Lane # | EB 1 | WB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 250 | 233 | 65 |
| Volume Left | 10 | 0 | 48 |
| Volume Right | 0 | 12 | 17 |
| cSH | 1335 | 1700 | 588 |
| Volume to Capacity | 0.01 | 0.14 | 0.11 |
| Queue Length 95th (ft) | 1 | 0 | 9 |
| Control Delay (s) | 0.4 | 0.0 | 11.9 |
| Lane LOS | A | | B |
| Approach Delay (s) | 0.4 | 0.0 | 11.9 |
| Approach LOS | | | B |

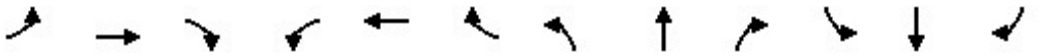
| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 1.6 | | |
| Intersection Capacity Utilization | 29.0% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 290 | 8 | 48 | 225 | 5 | 48 |
| Future Volume (Veh/h) | 290 | 8 | 48 | 225 | 5 | 48 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 315 | 9 | 52 | 245 | 5 | 52 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 236 | 174 | | | 297 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 236 | 174 | | | 297 | |
| tC, single (s) | 6.4 | 6.2 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 58 | 99 | | | 100 | |
| cM capacity (veh/h) | 749 | 869 | | | 1264 | |

| Direction, Lane # | WB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 324 | 297 | 57 |
| Volume Left | 315 | 0 | 5 |
| Volume Right | 9 | 245 | 0 |
| cSH | 752 | 1700 | 1264 |
| Volume to Capacity | 0.43 | 0.17 | 0.00 |
| Queue Length 95th (ft) | 55 | 0 | 0 |
| Control Delay (s) | 13.4 | 0.0 | 0.7 |
| Lane LOS | B | | A |
| Approach Delay (s) | 13.4 | 0.0 | 0.7 |
| Approach LOS | B | | |

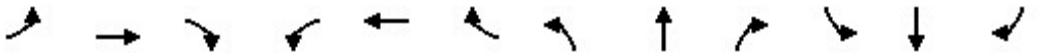
| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 6.4 | | |
| Intersection Capacity Utilization | 39.6% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 43 | 348 | 13 | 19 | 242 | 0 | 5 | 38 | 58 | 1 | 94 | 95 |
| Future Volume (Veh/h) | 43 | 348 | 13 | 19 | 242 | 0 | 5 | 38 | 58 | 1 | 94 | 95 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 47 | 378 | 14 | 21 | 263 | 0 | 5 | 41 | 63 | 1 | 102 | 103 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | None | | | None | | | | | | | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | 519 | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 263 | | | 392 | | | 938 | 784 | 385 | 868 | 791 | 263 |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 263 | | | 392 | | | 938 | 784 | 385 | 868 | 791 | 263 |
| tC, single (s) | 4.1 | | | 4.1 | | | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 2.2 | | | 2.2 | | | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 |
| p0 queue free % | 96 | | | 98 | | | 97 | 87 | 90 | 100 | 67 | 87 |
| cM capacity (veh/h) | 1301 | | | 1167 | | | 151 | 308 | 663 | 213 | 305 | 776 |

| Direction, Lane # | EB 1 | WB 1 | NB 1 | SB 1 |
|---|---|---|---|---|
| Volume Total | 439 | 284 | 109 | 206 |
| Volume Left | 47 | 21 | 5 | 1 |
| Volume Right | 14 | 0 | 63 | 103 |
| cSH | 1301 | 1167 | 417 | 436 |
| Volume to Capacity | 0.04 | 0.02 | 0.26 | 0.47 |
| Queue Length 95th (ft) | 3 | 1 | 26 | 62 |
| Control Delay (s) | 1.2 | 0.8 | 16.7 | 20.4 |
| Lane LOS | A | A | C | C |
| Approach Delay (s) | 1.2 | 0.8 | 16.7 | 20.4 |
| Approach LOS | | | C | C |

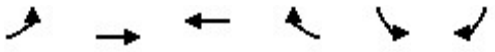
| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 6.5 | | |
| Intersection Capacity Utilization | 49.1% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 198 | 139 | 49 | 182 | 98 | 129 | 68 | 1355 | 9 | 320 | 1407 | 146 |
| Future Volume (vph) | 198 | 139 | 49 | 182 | 98 | 129 | 68 | 1355 | 9 | 320 | 1407 | 146 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 |
| Frt | 1.00 | 0.96 | | 1.00 | 0.91 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1770 | 1790 | | 1770 | 1704 | | 1770 | 3539 | 1583 | 1770 | 3539 | 1583 |
| Flt Permitted | 0.14 | 1.00 | | 0.25 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 267 | 1790 | | 463 | 1704 | | 1770 | 3539 | 1583 | 1770 | 3539 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 215 | 151 | 53 | 198 | 107 | 140 | 74 | 1473 | 10 | 348 | 1529 | 159 |
| RTOR Reduction (vph) | 0 | 5 | 0 | 0 | 20 | 0 | 0 | 0 | 4 | 0 | 0 | 59 |
| Lane Group Flow (vph) | 215 | 199 | 0 | 198 | 227 | 0 | 74 | 1473 | 6 | 348 | 1529 | 100 |
| Turn Type | Perm | NA | | pm+pt | NA | | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | | | | 2 | | | 6 |
| Actuated Green, G (s) | 30.5 | 30.5 | | 56.9 | 56.9 | | 15.0 | 135.6 | 135.6 | 25.5 | 146.1 | 146.1 |
| Effective Green, g (s) | 30.5 | 30.5 | | 56.9 | 56.9 | | 15.0 | 135.6 | 135.6 | 25.5 | 146.1 | 146.1 |
| Actuated g/C Ratio | 0.13 | 0.13 | | 0.25 | 0.25 | | 0.06 | 0.59 | 0.59 | 0.11 | 0.63 | 0.63 |
| Clearance Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 35 | 235 | | 237 | 418 | | 114 | 2072 | 927 | 194 | 2233 | 999 |
| v/s Ratio Prot | | 0.11 | | c0.08 | 0.13 | | 0.04 | c0.42 | | c0.20 | 0.43 | |
| v/s Ratio Perm | c0.80 | | | 0.13 | | | | | 0.00 | | | 0.06 |
| v/c Ratio | 6.14 | 0.85 | | 0.84 | 0.54 | | 0.65 | 0.71 | 0.01 | 1.79 | 0.68 | 0.10 |
| Uniform Delay, d1 | 100.5 | 98.2 | | 93.1 | 76.0 | | 105.7 | 34.0 | 19.9 | 103.0 | 27.7 | 16.8 |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 2374.2 | 23.4 | | 21.7 | 1.4 | | 12.0 | 2.1 | 0.0 | 377.1 | 1.7 | 0.2 |
| Delay (s) | 2474.7 | 121.6 | | 114.8 | 77.4 | | 117.7 | 36.1 | 19.9 | 480.1 | 29.5 | 17.0 |
| Level of Service | F | F | | F | E | | F | D | B | F | C | B |
| Approach Delay (s) | | 1329.0 | | | 94.0 | | | 39.9 | | | 105.5 | |
| Approach LOS | | F | | | F | | | D | | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 196.5 | HCM 2000 Level of Service | F |
| HCM 2000 Volume to Capacity ratio | 1.63 | | |
| Actuated Cycle Length (s) | 231.5 | Sum of lost time (s) | 18.0 |
| Intersection Capacity Utilization | 94.2% | ICU Level of Service | F |
| Analysis Period (min) | 15 | | |

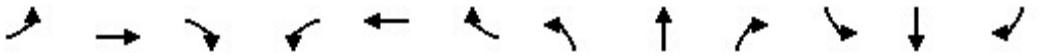
c Critical Lane Group



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 147 | 81 | 94 | 162 | 135 | 211 |
| Future Volume (Veh/h) | 147 | 81 | 94 | 162 | 135 | 211 |
| Sign Control | | Free | Free | | Stop | |
| Grade | | 0% | 0% | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 160 | 88 | 102 | 176 | 147 | 229 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | 5 |
| Median type | | None | None | | | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 278 | | | | 598 | 190 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 278 | | | | 598 | 190 |
| tC, single (s) | 4.1 | | | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 2.2 | | | | 3.5 | 3.3 |
| p0 queue free % | 88 | | | | 64 | 73 |
| cM capacity (veh/h) | 1285 | | | | 407 | 852 |

| Direction, Lane # | EB 1 | WB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 248 | 278 | 376 |
| Volume Left | 160 | 0 | 147 |
| Volume Right | 0 | 176 | 229 |
| cSH | 1285 | 1700 | 1042 |
| Volume to Capacity | 0.12 | 0.16 | 0.36 |
| Queue Length 95th (ft) | 11 | 0 | 42 |
| Control Delay (s) | 5.7 | 0.0 | 13.9 |
| Lane LOS | A | | B |
| Approach Delay (s) | 5.7 | 0.0 | 13.9 |
| Approach LOS | | | B |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 7.4 | | |
| Intersection Capacity Utilization | 44.8% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 166 | 209 | 174 | 74 | 152 | 129 | 106 | 458 | 86 | 138 | 668 | 158 |
| Future Volume (vph) | 166 | 209 | 174 | 74 | 152 | 129 | 106 | 458 | 86 | 138 | 668 | 158 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 |
| Flt Permitted | 0.52 | 1.00 | 1.00 | 0.38 | 1.00 | 1.00 | 0.31 | 1.00 | 1.00 | 0.44 | 1.00 | 1.00 |
| Satd. Flow (perm) | 960 | 1863 | 1583 | 711 | 1863 | 1583 | 574 | 1863 | 1583 | 811 | 1863 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 180 | 227 | 189 | 80 | 165 | 140 | 115 | 498 | 93 | 150 | 726 | 172 |
| RTOR Reduction (vph) | 0 | 0 | 151 | 0 | 0 | 112 | 0 | 0 | 26 | 0 | 0 | 48 |
| Lane Group Flow (vph) | 180 | 227 | 38 | 80 | 165 | 28 | 115 | 498 | 67 | 150 | 726 | 124 |
| Turn Type | Perm | NA | Perm | Perm | NA | Perm | Perm | NA | Perm | Perm | NA | Perm |
| Protected Phases | | 4 | | | 8 | | | 2 | | | 6 | |
| Permitted Phases | 4 | | 4 | 8 | | 8 | 2 | | 2 | 6 | | 6 |
| Actuated Green, G (s) | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | 85.6 | 85.6 | 85.6 | 85.6 | 85.6 | 85.6 |
| Effective Green, g (s) | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | 85.6 | 85.6 | 85.6 | 85.6 | 85.6 | 85.6 |
| Actuated g/C Ratio | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.72 | 0.72 | 0.72 | 0.72 | 0.72 | 0.72 |
| Clearance Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 194 | 376 | 320 | 143 | 376 | 320 | 414 | 1344 | 1142 | 585 | 1344 | 1142 |
| v/s Ratio Prot | | 0.12 | | | 0.09 | | | 0.27 | | | c0.39 | |
| v/s Ratio Perm | c0.19 | | 0.02 | 0.11 | | 0.02 | 0.20 | | 0.04 | 0.18 | | 0.08 |
| v/c Ratio | 0.93 | 0.60 | 0.12 | 0.56 | 0.44 | 0.09 | 0.28 | 0.37 | 0.06 | 0.26 | 0.54 | 0.11 |
| Uniform Delay, d1 | 46.4 | 43.0 | 38.7 | 42.5 | 41.4 | 38.4 | 5.7 | 6.3 | 4.8 | 5.6 | 7.5 | 5.0 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 44.1 | 2.7 | 0.2 | 4.7 | 0.8 | 0.1 | 1.7 | 0.8 | 0.1 | 1.1 | 1.6 | 0.2 |
| Delay (s) | 90.6 | 45.7 | 38.8 | 47.2 | 42.2 | 38.5 | 7.4 | 7.1 | 4.9 | 6.7 | 9.1 | 5.2 |
| Level of Service | F | D | D | D | D | D | A | A | A | A | A | A |
| Approach Delay (s) | | 57.1 | | | 41.9 | | | 6.8 | | | 8.1 | |
| Approach LOS | | E | | | D | | | A | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 23.2 | HCM 2000 Level of Service | C |
| HCM 2000 Volume to Capacity ratio | 0.62 | | |
| Actuated Cycle Length (s) | 118.6 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 73.2% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 32 | 10 | 5 | 32 | 29 | 16 |
| Future Volume (Veh/h) | 32 | 10 | 5 | 32 | 29 | 16 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 35 | 11 | 5 | 35 | 32 | 17 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 86 | 40 | 49 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 86 | 40 | 49 | | | |
| tC, single (s) | 6.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 96 | 99 | 100 | | | |
| cM capacity (veh/h) | 913 | 1031 | 1558 | | | |

| Direction, Lane # | EB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 46 | 40 | 49 |
| Volume Left | 35 | 5 | 0 |
| Volume Right | 11 | 0 | 17 |
| cSH | 939 | 1558 | 1700 |
| Volume to Capacity | 0.05 | 0.00 | 0.03 |
| Queue Length 95th (ft) | 4 | 0 | 0 |
| Control Delay (s) | 9.0 | 0.9 | 0.0 |
| Lane LOS | A | A | |
| Approach Delay (s) | 9.0 | 0.9 | 0.0 |
| Approach LOS | A | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 3.4 | | |
| Intersection Capacity Utilization | 15.9% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 2 | 35 | 0 | 5 | 35 |
| Future Volume (Veh/h) | 0 | 2 | 35 | 0 | 5 | 35 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 2 | 38 | 0 | 5 | 38 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 86 | 38 | | | 38 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 86 | 38 | | | 38 | |
| tC, single (s) | 6.4 | 6.2 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 100 | 100 | | | 100 | |
| cM capacity (veh/h) | 912 | 1034 | | | 1572 | |

| Direction, Lane # | WB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 2 | 38 | 43 |
| Volume Left | 0 | 0 | 5 |
| Volume Right | 2 | 0 | 0 |
| cSH | 1034 | 1700 | 1572 |
| Volume to Capacity | 0.00 | 0.02 | 0.00 |
| Queue Length 95th (ft) | 0 | 0 | 0 |
| Control Delay (s) | 8.5 | 0.0 | 0.9 |
| Lane LOS | A | | A |
| Approach Delay (s) | 8.5 | 0.0 | 0.9 |
| Approach LOS | A | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 0.7 | | |
| Intersection Capacity Utilization | 16.1% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 5 | 0 | 1789 | 1482 | 2 |
| Future Volume (Veh/h) | 0 | 5 | 0 | 1789 | 1482 | 2 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 5 | 0 | 1945 | 1611 | 2 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 2584 | 806 | 1613 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 2584 | 806 | 1613 | | | |
| tC, single (s) | 6.8 | 6.9 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 100 | 98 | 100 | | | |
| cM capacity (veh/h) | 21 | 325 | 400 | | | |

| Direction, Lane # | EB 1 | NB 1 | NB 2 | SB 1 | SB 2 | SB 3 |
|---|---|---|---|---|---|---|
| Volume Total | 5 | 972 | 972 | 806 | 806 | 2 |
| Volume Left | 0 | 0 | 0 | 0 | 0 | 0 |
| Volume Right | 5 | 0 | 0 | 0 | 0 | 2 |
| cSH | 325 | 1700 | 1700 | 1700 | 1700 | 1700 |
| Volume to Capacity | 0.02 | 0.57 | 0.57 | 0.47 | 0.47 | 0.00 |
| Queue Length 95th (ft) | 1 | 0 | 0 | 0 | 0 | 0 |
| Control Delay (s) | 16.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane LOS | C | | | | | |
| Approach Delay (s) | 16.2 | 0.0 | | 0.0 | | |
| Approach LOS | C | | | | | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | 0.0 | | | |
| Intersection Capacity Utilization | 52.8% | ICU Level of Service | | A |
| Analysis Period (min) | 15 | | | |



| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 20 | 2 | 16 | 42 | 1 | 10 |
| Future Volume (Veh/h) | 20 | 2 | 16 | 42 | 1 | 10 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 22 | 2 | 17 | 46 | 1 | 11 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 53 | 40 | | | 63 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 53 | 40 | | | 63 | |
| tC, single (s) | 6.4 | 6.2 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 98 | 100 | | | 100 | |
| cM capacity (veh/h) | 955 | 1031 | | | 1540 | |

| Direction, Lane # | WB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 24 | 63 | 12 |
| Volume Left | 22 | 0 | 1 |
| Volume Right | 2 | 46 | 0 |
| cSH | 961 | 1700 | 1540 |
| Volume to Capacity | 0.02 | 0.04 | 0.00 |
| Queue Length 95th (ft) | 2 | 0 | 0 |
| Control Delay (s) | 8.8 | 0.0 | 0.6 |
| Lane LOS | A | | A |
| Approach Delay (s) | 8.8 | 0.0 | 0.6 |
| Approach LOS | A | | |

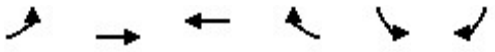
| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 2.2 | | |
| Intersection Capacity Utilization | 13.4% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 193 | 0 | 5 | 290 | 5 | 16 |
| Future Volume (Veh/h) | 193 | 0 | 5 | 290 | 5 | 16 |
| Sign Control | Free | | | Free | Stop | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 210 | 0 | 5 | 315 | 5 | 17 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | None | | | None | | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | | | 210 | | 535 | 210 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | | | 210 | | 535 | 210 |
| tC, single (s) | | | 4.1 | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 |
| p0 queue free % | | | 100 | | 99 | 98 |
| cM capacity (veh/h) | | | 1361 | | 504 | 830 |

| Direction, Lane # | EB 1 | WB 1 | NB 1 |
|---|---|---|---|
| Volume Total | 210 | 320 | 22 |
| Volume Left | 0 | 5 | 5 |
| Volume Right | 0 | 0 | 17 |
| cSH | 1700 | 1361 | 724 |
| Volume to Capacity | 0.12 | 0.00 | 0.03 |
| Queue Length 95th (ft) | 0 | 0 | 2 |
| Control Delay (s) | 0.0 | 0.2 | 10.1 |
| Lane LOS | | A | B |
| Approach Delay (s) | 0.0 | 0.2 | 10.1 |
| Approach LOS | | | B |

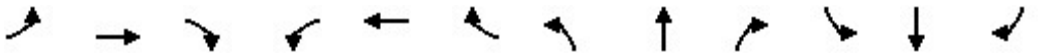
| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 0.5 | | |
| Intersection Capacity Utilization | 29.3% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 86 | 209 | 192 | 150 | 180 | 98 |
| Future Volume (Veh/h) | 86 | 209 | 192 | 150 | 180 | 98 |
| Sign Control | | Free | Free | | Stop | |
| Grade | | 0% | 0% | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 93 | 227 | 209 | 163 | 196 | 107 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | None | None | | | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 372 | | | | 704 | 290 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 372 | | | | 704 | 290 |
| tC, single (s) | 4.1 | | | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 2.2 | | | | 3.5 | 3.3 |
| p0 queue free % | 92 | | | | 47 | 86 |
| cM capacity (veh/h) | 1186 | | | | 372 | 749 |

| Direction, Lane # | EB 1 | WB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 320 | 372 | 303 |
| Volume Left | 93 | 0 | 196 |
| Volume Right | 0 | 163 | 107 |
| cSH | 1186 | 1700 | 452 |
| Volume to Capacity | 0.08 | 0.22 | 0.67 |
| Queue Length 95th (ft) | 6 | 0 | 121 |
| Control Delay (s) | 2.9 | 0.0 | 27.7 |
| Lane LOS | A | | D |
| Approach Delay (s) | 2.9 | 0.0 | 27.7 |
| Approach LOS | | | D |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 9.4 | | |
| Intersection Capacity Utilization | 61.0% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 198 | 139 | 49 | 182 | 98 | 129 | 68 | 1355 | 6 | 320 | 1407 | 146 |
| Future Volume (vph) | 198 | 139 | 49 | 182 | 98 | 129 | 68 | 1355 | 6 | 320 | 1407 | 146 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 |
| Frt | 1.00 | 0.96 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1770 | 1790 | | 1770 | 1863 | 1583 | 1770 | 3539 | 1583 | 1770 | 3539 | 1583 |
| Flt Permitted | 0.60 | 1.00 | | 0.40 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1111 | 1790 | | 742 | 1863 | 1583 | 1770 | 3539 | 1583 | 1770 | 3539 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 215 | 151 | 53 | 198 | 107 | 140 | 74 | 1473 | 7 | 348 | 1529 | 159 |
| RTOR Reduction (vph) | 0 | 6 | 0 | 0 | 0 | 103 | 0 | 0 | 4 | 0 | 0 | 61 |
| Lane Group Flow (vph) | 215 | 198 | 0 | 198 | 107 | 37 | 74 | 1473 | 3 | 348 | 1529 | 98 |
| Turn Type | Perm | NA | | pm+pt | NA | Perm | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | 8 | | | 2 | | | 6 |
| Actuated Green, G (s) | 46.8 | 46.8 | | 60.0 | 60.0 | 60.0 | 14.4 | 108.3 | 108.3 | 47.8 | 141.7 | 141.7 |
| Effective Green, g (s) | 46.8 | 46.8 | | 60.0 | 60.0 | 60.0 | 14.4 | 108.3 | 108.3 | 47.8 | 141.7 | 141.7 |
| Actuated g/C Ratio | 0.20 | 0.20 | | 0.26 | 0.26 | 0.26 | 0.06 | 0.47 | 0.47 | 0.21 | 0.62 | 0.62 |
| Clearance Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 226 | 364 | | 232 | 486 | 413 | 111 | 1669 | 746 | 368 | 2184 | 976 |
| v/s Ratio Prot | | 0.11 | | c0.03 | 0.06 | | 0.04 | c0.42 | | c0.20 | 0.43 | |
| v/s Ratio Perm | c0.19 | | | 0.19 | | 0.02 | | | 0.00 | | | 0.06 |
| v/c Ratio | 0.95 | 0.55 | | 0.85 | 0.22 | 0.09 | 0.67 | 0.88 | 0.00 | 0.95 | 0.70 | 0.10 |
| Uniform Delay, d1 | 90.3 | 81.9 | | 91.0 | 66.5 | 64.1 | 105.3 | 54.9 | 32.1 | 89.6 | 29.6 | 17.9 |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 46.1 | 1.7 | | 24.9 | 0.2 | 0.1 | 14.1 | 7.1 | 0.0 | 32.8 | 1.9 | 0.2 |
| Delay (s) | 136.4 | 83.5 | | 115.9 | 66.7 | 64.2 | 119.4 | 62.0 | 32.1 | 122.5 | 31.5 | 18.1 |
| Level of Service | F | F | | F | E | E | F | E | C | F | C | B |
| Approach Delay (s) | | 110.7 | | | 87.8 | | | 64.6 | | | 46.0 | |
| Approach LOS | | F | | | F | | | E | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 62.8 | HCM 2000 Level of Service | E |
| HCM 2000 Volume to Capacity ratio | 0.91 | | |
| Actuated Cycle Length (s) | 229.6 | Sum of lost time (s) | 18.0 |
| Intersection Capacity Utilization | 90.6% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

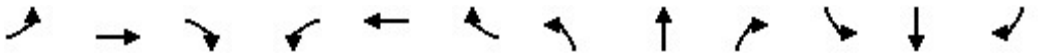
c Critical Lane Group



| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 135 | 6 | 37 | 89 | 4 | 37 |
| Future Volume (Veh/h) | 135 | 6 | 37 | 89 | 4 | 37 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 147 | 7 | 40 | 97 | 4 | 40 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 136 | 88 | | | 137 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 136 | 88 | | | 137 | |
| tC, single (s) | 6.4 | 6.2 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 83 | 99 | | | 100 | |
| cM capacity (veh/h) | 855 | 970 | | | 1447 | |

| Direction, Lane # | WB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 154 | 137 | 44 |
| Volume Left | 147 | 0 | 4 |
| Volume Right | 7 | 97 | 0 |
| cSH | 859 | 1700 | 1447 |
| Volume to Capacity | 0.18 | 0.08 | 0.00 |
| Queue Length 95th (ft) | 16 | 0 | 0 |
| Control Delay (s) | 10.1 | 0.0 | 0.7 |
| Lane LOS | B | | A |
| Approach Delay (s) | 10.1 | 0.0 | 0.7 |
| Approach LOS | B | | |

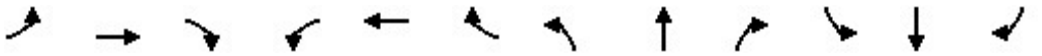
| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 4.7 | | |
| Intersection Capacity Utilization | 21.9% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 100 | 8 | 51 | 136 | 3 | 8 | 2 | 42 | 3 | 5 | 1 |
| Future Volume (Veh/h) | 0 | 100 | 8 | 51 | 136 | 3 | 8 | 2 | 42 | 3 | 5 | 1 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 109 | 9 | 55 | 148 | 3 | 9 | 2 | 46 | 3 | 5 | 1 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | None | | | None | | | | | | | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | 519 | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 151 | | | 118 | | | 376 | 374 | 114 | 420 | 378 | 150 |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 151 | | | 118 | | | 376 | 374 | 114 | 420 | 378 | 150 |
| tC, single (s) | 4.1 | | | 4.1 | | | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 2.2 | | | 2.2 | | | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 |
| p0 queue free % | 100 | | | 96 | | | 98 | 100 | 95 | 99 | 99 | 100 |
| cM capacity (veh/h) | 1430 | | | 1470 | | | 560 | 536 | 939 | 501 | 533 | 897 |

| Direction, Lane # | EB 1 | WB 1 | NB 1 | SB 1 |
|---|---|---|---|---|
| Volume Total | 118 | 206 | 57 | 9 |
| Volume Left | 0 | 55 | 9 | 3 |
| Volume Right | 9 | 3 | 46 | 1 |
| cSH | 1430 | 1470 | 829 | 546 |
| Volume to Capacity | 0.00 | 0.04 | 0.07 | 0.02 |
| Queue Length 95th (ft) | 0 | 3 | 6 | 1 |
| Control Delay (s) | 0.0 | 2.2 | 9.7 | 11.7 |
| Lane LOS | | A | A | B |
| Approach Delay (s) | 0.0 | 2.2 | 9.7 | 11.7 |
| Approach LOS | | | A | B |

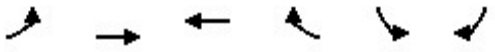
| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | 2.9 | | | |
| Intersection Capacity Utilization | 26.9% | ICU Level of Service | A | |
| Analysis Period (min) | 15 | | | |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 60 | 61 | 25 | 162 | 50 | 53 | 46 | 1351 | 6 | 90 | 1473 | 103 |
| Future Volume (vph) | 60 | 61 | 25 | 162 | 50 | 53 | 46 | 1351 | 6 | 90 | 1473 | 103 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 |
| Frt | 1.00 | 0.96 | | 1.00 | 0.92 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1770 | 1782 | | 1770 | 1718 | | 1770 | 3539 | 1583 | 1770 | 3539 | 1583 |
| Flt Permitted | 0.68 | 1.00 | | 0.34 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1276 | 1782 | | 633 | 1718 | | 1770 | 3539 | 1583 | 1770 | 3539 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 65 | 66 | 27 | 176 | 54 | 58 | 50 | 1468 | 7 | 98 | 1601 | 112 |
| RTOR Reduction (vph) | 0 | 6 | 0 | 0 | 17 | 0 | 0 | 0 | 2 | 0 | 0 | 37 |
| Lane Group Flow (vph) | 65 | 87 | 0 | 176 | 95 | 0 | 50 | 1468 | 5 | 98 | 1601 | 75 |
| Turn Type | Perm | NA | | pm+pt | NA | | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | | | | 2 | | | 6 |
| Actuated Green, G (s) | 16.2 | 16.2 | | 44.1 | 44.1 | | 11.4 | 136.2 | 136.2 | 17.0 | 141.8 | 141.8 |
| Effective Green, g (s) | 16.2 | 16.2 | | 44.1 | 44.1 | | 11.4 | 136.2 | 136.2 | 17.0 | 141.8 | 141.8 |
| Actuated g/C Ratio | 0.08 | 0.08 | | 0.21 | 0.21 | | 0.05 | 0.65 | 0.65 | 0.08 | 0.67 | 0.67 |
| Clearance Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 98 | 136 | | 258 | 359 | | 95 | 2286 | 1022 | 142 | 2380 | 1064 |
| v/s Ratio Prot | | 0.05 | | c0.08 | 0.06 | | 0.03 | 0.41 | | c0.06 | c0.45 | |
| v/s Ratio Perm | 0.05 | | | c0.07 | | | | | 0.00 | | | 0.05 |
| v/c Ratio | 0.66 | 0.64 | | 0.68 | 0.26 | | 0.53 | 0.64 | 0.00 | 0.69 | 0.67 | 0.07 |
| Uniform Delay, d1 | 94.6 | 94.4 | | 73.5 | 69.8 | | 97.1 | 22.6 | 13.2 | 94.3 | 20.6 | 11.9 |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 15.6 | 9.4 | | 7.2 | 0.4 | | 5.2 | 1.4 | 0.0 | 13.5 | 1.5 | 0.1 |
| Delay (s) | 110.3 | 103.8 | | 80.7 | 70.2 | | 102.3 | 24.0 | 13.2 | 107.8 | 22.2 | 12.0 |
| Level of Service | F | F | | F | E | | F | C | B | F | C | B |
| Approach Delay (s) | | 106.5 | | | 76.6 | | | 26.5 | | | 26.2 | |
| Approach LOS | | F | | | E | | | C | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 33.5 | HCM 2000 Level of Service | C |
| HCM 2000 Volume to Capacity ratio | 0.70 | | |
| Actuated Cycle Length (s) | 210.8 | Sum of lost time (s) | 18.0 |
| Intersection Capacity Utilization | 71.8% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

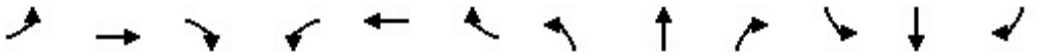
c Critical Lane Group



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 78 | 50 | 71 | 71 | 55 | 130 |
| Future Volume (Veh/h) | 78 | 50 | 71 | 71 | 55 | 130 |
| Sign Control | | Free | Free | | Stop | |
| Grade | | 0% | 0% | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 85 | 54 | 77 | 77 | 60 | 141 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | 5 |
| Median type | | None | None | | | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 154 | | | | 340 | 116 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 154 | | | | 340 | 116 |
| tC, single (s) | 4.1 | | | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 2.2 | | | | 3.5 | 3.3 |
| p0 queue free % | 94 | | | | 90 | 85 |
| cM capacity (veh/h) | 1426 | | | | 617 | 937 |

| Direction, Lane # | EB 1 | WB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 139 | 154 | 201 |
| Volume Left | 85 | 0 | 60 |
| Volume Right | 0 | 77 | 141 |
| cSH | 1426 | 1700 | 1336 |
| Volume to Capacity | 0.06 | 0.09 | 0.15 |
| Queue Length 95th (ft) | 5 | 0 | 13 |
| Control Delay (s) | 4.9 | 0.0 | 10.1 |
| Lane LOS | A | | B |
| Approach Delay (s) | 4.9 | 0.0 | 10.1 |
| Approach LOS | | | B |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 5.5 | | |
| Intersection Capacity Utilization | 28.4% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 96 | 118 | 47 | 38 | 127 | 118 | 33 | 338 | 46 | 167 | 490 | 136 |
| Future Volume (vph) | 96 | 118 | 47 | 38 | 127 | 118 | 33 | 338 | 46 | 167 | 490 | 136 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 |
| Flt Permitted | 0.53 | 1.00 | 1.00 | 0.56 | 1.00 | 1.00 | 0.43 | 1.00 | 1.00 | 0.53 | 1.00 | 1.00 |
| Satd. Flow (perm) | 983 | 1863 | 1583 | 1041 | 1863 | 1583 | 807 | 1863 | 1583 | 988 | 1863 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 104 | 128 | 51 | 41 | 138 | 128 | 36 | 367 | 50 | 182 | 533 | 148 |
| RTOR Reduction (vph) | 0 | 0 | 44 | 0 | 0 | 110 | 0 | 0 | 11 | 0 | 0 | 33 |
| Lane Group Flow (vph) | 104 | 128 | 7 | 41 | 138 | 18 | 36 | 367 | 39 | 182 | 533 | 115 |
| Turn Type | Perm | NA | Perm | Perm | NA | Perm | Perm | NA | Perm | Perm | NA | Perm |
| Protected Phases | | 4 | | | 8 | | | 2 | | | 6 | |
| Permitted Phases | 4 | | 4 | 8 | | 8 | 2 | | 2 | 6 | | 6 |
| Actuated Green, G (s) | 16.0 | 16.0 | 16.0 | 16.0 | 16.0 | 16.0 | 85.8 | 85.8 | 85.8 | 85.8 | 85.8 | 85.8 |
| Effective Green, g (s) | 16.0 | 16.0 | 16.0 | 16.0 | 16.0 | 16.0 | 85.8 | 85.8 | 85.8 | 85.8 | 85.8 | 85.8 |
| Actuated g/C Ratio | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.77 | 0.77 | 0.77 | 0.77 | 0.77 | 0.77 |
| Clearance Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 141 | 269 | 228 | 150 | 269 | 228 | 624 | 1442 | 1225 | 765 | 1442 | 1225 |
| v/s Ratio Prot | | 0.07 | | | 0.07 | | | 0.20 | | | c0.29 | |
| v/s Ratio Perm | c0.11 | | 0.00 | 0.04 | | 0.01 | 0.04 | | 0.02 | 0.18 | | 0.07 |
| v/c Ratio | 0.74 | 0.48 | 0.03 | 0.27 | 0.51 | 0.08 | 0.06 | 0.25 | 0.03 | 0.24 | 0.37 | 0.09 |
| Uniform Delay, d1 | 45.4 | 43.5 | 40.7 | 42.2 | 43.8 | 41.0 | 3.0 | 3.5 | 2.9 | 3.5 | 4.0 | 3.0 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 18.1 | 1.3 | 0.1 | 1.0 | 1.7 | 0.2 | 0.2 | 0.4 | 0.0 | 0.7 | 0.7 | 0.2 |
| Delay (s) | 63.5 | 44.9 | 40.8 | 43.2 | 45.5 | 41.2 | 3.1 | 3.9 | 2.9 | 4.2 | 4.7 | 3.2 |
| Level of Service | E | D | D | D | D | D | A | A | A | A | A | A |
| Approach Delay (s) | | 51.0 | | | 43.4 | | | 3.8 | | | 4.3 | |
| Approach LOS | | D | | | D | | | A | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 17.4 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.43 | | |
| Actuated Cycle Length (s) | 110.8 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 57.0% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 21 | 3 | 3 | 1 | 10 | 32 |
| Future Volume (Veh/h) | 21 | 3 | 3 | 1 | 10 | 32 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 23 | 3 | 3 | 1 | 11 | 35 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 36 | 28 | 46 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 36 | 28 | 46 | | | |
| tC, single (s) | 6.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 98 | 100 | 100 | | | |
| cM capacity (veh/h) | 975 | 1046 | 1562 | | | |

| Direction, Lane # | EB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 26 | 4 | 46 |
| Volume Left | 23 | 3 | 0 |
| Volume Right | 3 | 0 | 35 |
| cSH | 983 | 1562 | 1700 |
| Volume to Capacity | 0.03 | 0.00 | 0.03 |
| Queue Length 95th (ft) | 2 | 0 | 0 |
| Control Delay (s) | 8.8 | 5.5 | 0.0 |
| Lane LOS | A | A | |
| Approach Delay (s) | 8.8 | 5.5 | 0.0 |
| Approach LOS | A | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 3.3 | | |
| Intersection Capacity Utilization | 13.3% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 1 | 3 | 0 | 3 | 10 |
| Future Volume (Veh/h) | 0 | 1 | 3 | 0 | 3 | 10 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 1 | 3 | 0 | 3 | 11 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 20 | 3 | | | 3 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 20 | 3 | | | 3 | |
| tC, single (s) | 6.4 | 6.2 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 100 | 100 | | | 100 | |
| cM capacity (veh/h) | 995 | 1081 | | | 1619 | |

| Direction, Lane # | WB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 1 | 3 | 14 |
| Volume Left | 0 | 0 | 3 |
| Volume Right | 1 | 0 | 0 |
| cSH | 1081 | 1700 | 1619 |
| Volume to Capacity | 0.00 | 0.00 | 0.00 |
| Queue Length 95th (ft) | 0 | 0 | 0 |
| Control Delay (s) | 8.3 | 0.0 | 1.6 |
| Lane LOS | A | | A |
| Approach Delay (s) | 8.3 | 0.0 | 1.6 |
| Approach LOS | A | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 1.7 | | |
| Intersection Capacity Utilization | 13.3% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 3 | 0 | 1106 | 1212 | 1 |
| Future Volume (Veh/h) | 0 | 3 | 0 | 1106 | 1212 | 1 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 3 | 0 | 1202 | 1317 | 1 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 1918 | 658 | 1318 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 1918 | 658 | 1318 | | | |
| tC, single (s) | 6.8 | 6.9 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 100 | 99 | 100 | | | |
| cM capacity (veh/h) | 59 | 407 | 520 | | | |

| Direction, Lane # | EB 1 | NB 1 | NB 2 | SB 1 | SB 2 | SB 3 |
|---|---|---|---|---|---|---|
| Volume Total | 3 | 601 | 601 | 658 | 658 | 1 |
| Volume Left | 0 | 0 | 0 | 0 | 0 | 0 |
| Volume Right | 3 | 0 | 0 | 0 | 0 | 1 |
| cSH | 407 | 1700 | 1700 | 1700 | 1700 | 1700 |
| Volume to Capacity | 0.01 | 0.35 | 0.35 | 0.39 | 0.39 | 0.00 |
| Queue Length 95th (ft) | 1 | 0 | 0 | 0 | 0 | 0 |
| Control Delay (s) | 13.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane LOS | B | | | | | |
| Approach Delay (s) | 13.9 | 0.0 | | 0.0 | | |
| Approach LOS | B | | | | | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | 0.0 | | | |
| Intersection Capacity Utilization | 43.5% | ICU Level of Service | | A |
| Analysis Period (min) | 15 | | | |



| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 20 | 2 | 16 | 42 | 1 | 10 |
| Future Volume (Veh/h) | 20 | 2 | 16 | 42 | 1 | 10 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 22 | 2 | 17 | 46 | 1 | 11 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 53 | 40 | | | 63 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 53 | 40 | | | 63 | |
| tC, single (s) | 6.4 | 6.2 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 98 | 100 | | | 100 | |
| cM capacity (veh/h) | 955 | 1031 | | | 1540 | |

| Direction, Lane # | WB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 24 | 63 | 12 |
| Volume Left | 22 | 0 | 1 |
| Volume Right | 2 | 46 | 0 |
| cSH | 961 | 1700 | 1540 |
| Volume to Capacity | 0.02 | 0.04 | 0.00 |
| Queue Length 95th (ft) | 2 | 0 | 0 |
| Control Delay (s) | 8.8 | 0.0 | 0.6 |
| Lane LOS | A | | A |
| Approach Delay (s) | 8.8 | 0.0 | 0.6 |
| Approach LOS | A | | |

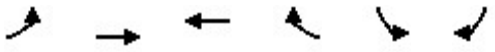
| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 2.2 | | |
| Intersection Capacity Utilization | 13.4% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 84 | 3 | 14 | 139 | 3 | 10 |
| Future Volume (Veh/h) | 84 | 3 | 14 | 139 | 3 | 10 |
| Sign Control | Free | | | Free | Stop | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 91 | 3 | 15 | 151 | 3 | 11 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | None | | | None | | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | | | 94 | | 274 | 92 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | | | 94 | | 274 | 92 |
| tC, single (s) | | | 4.1 | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 |
| p0 queue free % | | | 99 | | 100 | 99 |
| cM capacity (veh/h) | | | 1500 | | 709 | 965 |

| Direction, Lane # | EB 1 | WB 1 | NB 1 |
|---|---|---|---|
| Volume Total | 94 | 166 | 14 |
| Volume Left | 0 | 15 | 3 |
| Volume Right | 3 | 0 | 11 |
| cSH | 1700 | 1500 | 895 |
| Volume to Capacity | 0.06 | 0.01 | 0.02 |
| Queue Length 95th (ft) | 0 | 1 | 1 |
| Control Delay (s) | 0.0 | 0.7 | 9.1 |
| Lane LOS | | A | A |
| Approach Delay (s) | 0.0 | 0.7 | 9.1 |
| Approach LOS | | | A |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 0.9 | | |
| Intersection Capacity Utilization | 24.8% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 5 | 94 | 127 | 13 | 22 | 12 |
| Future Volume (Veh/h) | 5 | 94 | 127 | 13 | 22 | 12 |
| Sign Control | | Free | Free | | Stop | |
| Grade | | 0% | 0% | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 5 | 102 | 138 | 14 | 24 | 13 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | None | None | | | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 152 | | | | 257 | 145 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 152 | | | | 257 | 145 |
| tC, single (s) | 4.1 | | | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 2.2 | | | | 3.5 | 3.3 |
| p0 queue free % | 100 | | | | 97 | 99 |
| cM capacity (veh/h) | 1429 | | | | 729 | 902 |

| Direction, Lane # | EB 1 | WB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 107 | 152 | 37 |
| Volume Left | 5 | 0 | 24 |
| Volume Right | 0 | 14 | 13 |
| cSH | 1429 | 1700 | 782 |
| Volume to Capacity | 0.00 | 0.09 | 0.05 |
| Queue Length 95th (ft) | 0 | 0 | 4 |
| Control Delay (s) | 0.4 | 0.0 | 9.8 |
| Lane LOS | A | | A |
| Approach Delay (s) | 0.4 | 0.0 | 9.8 |
| Approach LOS | | | A |

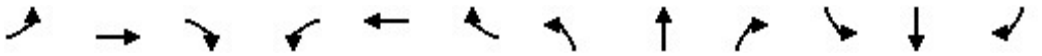
| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 1.4 | | |
| Intersection Capacity Utilization | 19.0% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 152 | 6 | 38 | 133 | 4 | 38 |
| Future Volume (Veh/h) | 152 | 6 | 38 | 133 | 4 | 38 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 165 | 7 | 41 | 145 | 4 | 41 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 162 | 114 | | | 186 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 162 | 114 | | | 186 | |
| tC, single (s) | 6.4 | 6.2 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 80 | 99 | | | 100 | |
| cM capacity (veh/h) | 826 | 939 | | | 1388 | |

| Direction, Lane # | WB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 172 | 186 | 45 |
| Volume Left | 165 | 0 | 4 |
| Volume Right | 7 | 145 | 0 |
| cSH | 830 | 1700 | 1388 |
| Volume to Capacity | 0.21 | 0.11 | 0.00 |
| Queue Length 95th (ft) | 19 | 0 | 0 |
| Control Delay (s) | 10.5 | 0.0 | 0.7 |
| Lane LOS | B | | A |
| Approach Delay (s) | 10.5 | 0.0 | 0.7 |
| Approach LOS | B | | |

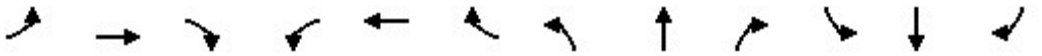
| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 4.5 | | |
| Intersection Capacity Utilization | 25.6% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 41 | 103 | 8 | 53 | 140 | 3 | 8 | 48 | 43 | 3 | 19 | 14 |
| Future Volume (Veh/h) | 41 | 103 | 8 | 53 | 140 | 3 | 8 | 48 | 43 | 3 | 19 | 14 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 45 | 112 | 9 | 58 | 152 | 3 | 9 | 52 | 47 | 3 | 21 | 15 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | None | | | None | | | | | | | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | 519 | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 155 | | | 121 | | | 502 | 478 | 116 | 549 | 480 | 154 |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 155 | | | 121 | | | 502 | 478 | 116 | 549 | 480 | 154 |
| tC, single (s) | 4.1 | | | 4.1 | | | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 2.2 | | | 2.2 | | | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 |
| p0 queue free % | 97 | | | 96 | | | 98 | 89 | 95 | 99 | 95 | 98 |
| cM capacity (veh/h) | 1425 | | | 1467 | | | 431 | 453 | 936 | 366 | 451 | 892 |

| Direction, Lane # | EB 1 | WB 1 | NB 1 | SB 1 |
|---|---|---|---|---|
| Volume Total | 166 | 213 | 108 | 39 |
| Volume Left | 45 | 58 | 9 | 3 |
| Volume Right | 9 | 3 | 47 | 15 |
| cSH | 1425 | 1467 | 581 | 545 |
| Volume to Capacity | 0.03 | 0.04 | 0.19 | 0.07 |
| Queue Length 95th (ft) | 2 | 3 | 17 | 6 |
| Control Delay (s) | 2.3 | 2.3 | 12.6 | 12.1 |
| Lane LOS | A | A | B | B |
| Approach Delay (s) | 2.3 | 2.3 | 12.6 | 12.1 |
| Approach LOS | | | B | B |

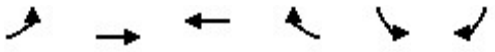
| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 5.1 | | |
| Intersection Capacity Utilization | 27.9% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 62 | 63 | 26 | 167 | 105 | 108 | 47 | 1608 | 6 | 126 | 1650 | 106 |
| Future Volume (vph) | 62 | 63 | 26 | 167 | 105 | 108 | 47 | 1608 | 6 | 126 | 1650 | 106 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 |
| Frt | 1.00 | 0.96 | | 1.00 | 0.92 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1770 | 1781 | | 1770 | 1721 | | 1770 | 3539 | 1583 | 1770 | 3539 | 1583 |
| Flt Permitted | 0.61 | 1.00 | | 0.33 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1145 | 1781 | | 615 | 1721 | | 1770 | 3539 | 1583 | 1770 | 3539 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 67 | 68 | 28 | 182 | 114 | 117 | 51 | 1748 | 7 | 137 | 1793 | 115 |
| RTOR Reduction (vph) | 0 | 6 | 0 | 0 | 17 | 0 | 0 | 0 | 3 | 0 | 0 | 38 |
| Lane Group Flow (vph) | 67 | 90 | 0 | 182 | 214 | 0 | 51 | 1748 | 4 | 137 | 1793 | 77 |
| Turn Type | Perm | NA | | pm+pt | NA | | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | | | | 2 | | | 6 |
| Actuated Green, G (s) | 16.9 | 16.9 | | 45.7 | 45.7 | | 11.7 | 136.1 | 136.1 | 21.1 | 145.5 | 145.5 |
| Effective Green, g (s) | 16.9 | 16.9 | | 45.7 | 45.7 | | 11.7 | 136.1 | 136.1 | 21.1 | 145.5 | 145.5 |
| Actuated g/C Ratio | 0.08 | 0.08 | | 0.21 | 0.21 | | 0.05 | 0.63 | 0.63 | 0.10 | 0.67 | 0.67 |
| Clearance Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 89 | 139 | | 259 | 363 | | 95 | 2225 | 995 | 172 | 2379 | 1064 |
| v/s Ratio Prot | | 0.05 | | c0.08 | 0.12 | | 0.03 | c0.49 | | c0.08 | 0.51 | |
| v/s Ratio Perm | 0.06 | | | c0.07 | | | | | 0.00 | | | 0.05 |
| v/c Ratio | 0.75 | 0.64 | | 0.70 | 0.59 | | 0.54 | 0.79 | 0.00 | 0.80 | 0.75 | 0.07 |
| Uniform Delay, d1 | 97.7 | 96.8 | | 75.4 | 76.9 | | 99.7 | 29.4 | 14.9 | 95.5 | 23.5 | 12.2 |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 29.7 | 9.8 | | 8.3 | 2.6 | | 5.7 | 2.9 | 0.0 | 22.0 | 2.3 | 0.1 |
| Delay (s) | 127.4 | 106.6 | | 83.7 | 79.5 | | 105.4 | 32.3 | 14.9 | 117.5 | 25.8 | 12.3 |
| Level of Service | F | F | | F | E | | F | C | B | F | C | B |
| Approach Delay (s) | | 115.2 | | | 81.4 | | | 34.3 | | | 31.2 | |
| Approach LOS | | F | | | F | | | C | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 40.2 | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | 0.78 | | |
| Actuated Cycle Length (s) | 216.4 | Sum of lost time (s) | 18.0 |
| Intersection Capacity Utilization | 82.7% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

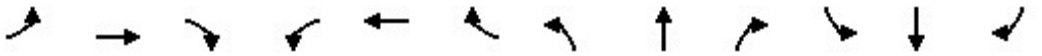
c Critical Lane Group



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 121 | 81 | 99 | 96 | 57 | 147 |
| Future Volume (Veh/h) | 121 | 81 | 99 | 96 | 57 | 147 |
| Sign Control | | Free | Free | | Stop | |
| Grade | | 0% | 0% | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 132 | 88 | 108 | 104 | 62 | 160 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | 5 |
| Median type | | None | None | | | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 212 | | | | 512 | 160 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 212 | | | | 512 | 160 |
| tC, single (s) | 4.1 | | | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 2.2 | | | | 3.5 | 3.3 |
| p0 queue free % | 90 | | | | 87 | 82 |
| cM capacity (veh/h) | 1358 | | | | 471 | 885 |

| Direction, Lane # | EB 1 | WB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 220 | 212 | 222 |
| Volume Left | 132 | 0 | 62 |
| Volume Right | 0 | 104 | 160 |
| cSH | 1358 | 1700 | 1228 |
| Volume to Capacity | 0.10 | 0.12 | 0.18 |
| Queue Length 95th (ft) | 8 | 0 | 16 |
| Control Delay (s) | 5.1 | 0.0 | 11.0 |
| Lane LOS | A | | B |
| Approach Delay (s) | 5.1 | 0.0 | 11.0 |
| Approach LOS | | | B |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 5.5 | | |
| Intersection Capacity Utilization | 35.4% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 99 | 127 | 79 | 80 | 135 | 122 | 79 | 400 | 86 | 172 | 562 | 140 |
| Future Volume (vph) | 99 | 127 | 79 | 80 | 135 | 122 | 79 | 400 | 86 | 172 | 562 | 140 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 |
| Flt Permitted | 0.51 | 1.00 | 1.00 | 0.53 | 1.00 | 1.00 | 0.39 | 1.00 | 1.00 | 0.49 | 1.00 | 1.00 |
| Satd. Flow (perm) | 942 | 1863 | 1583 | 992 | 1863 | 1583 | 726 | 1863 | 1583 | 909 | 1863 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 108 | 138 | 86 | 87 | 147 | 133 | 86 | 435 | 93 | 187 | 611 | 152 |
| RTOR Reduction (vph) | 0 | 0 | 73 | 0 | 0 | 113 | 0 | 0 | 21 | 0 | 0 | 35 |
| Lane Group Flow (vph) | 108 | 138 | 13 | 87 | 147 | 20 | 86 | 435 | 72 | 187 | 611 | 117 |
| Turn Type | Perm | NA | Perm | Perm | NA | Perm | Perm | NA | Perm | Perm | NA | Perm |
| Protected Phases | | 4 | | | 8 | | | 2 | | | 6 | |
| Permitted Phases | 4 | | 4 | 8 | | 8 | 2 | | 2 | 6 | | 6 |
| Actuated Green, G (s) | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 85.7 | 85.7 | 85.7 | 85.7 | 85.7 | 85.7 |
| Effective Green, g (s) | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 85.7 | 85.7 | 85.7 | 85.7 | 85.7 | 85.7 |
| Actuated g/C Ratio | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.77 | 0.77 | 0.77 | 0.77 | 0.77 | 0.77 |
| Clearance Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 139 | 276 | 234 | 147 | 276 | 234 | 559 | 1435 | 1219 | 700 | 1435 | 1219 |
| v/s Ratio Prot | | 0.07 | | | 0.08 | | | 0.23 | | | c0.33 | |
| v/s Ratio Perm | c0.11 | | 0.01 | 0.09 | | 0.01 | 0.12 | | 0.05 | 0.21 | | 0.07 |
| v/c Ratio | 0.78 | 0.50 | 0.05 | 0.59 | 0.53 | 0.08 | 0.15 | 0.30 | 0.06 | 0.27 | 0.43 | 0.10 |
| Uniform Delay, d1 | 45.6 | 43.6 | 40.7 | 44.2 | 43.8 | 40.8 | 3.3 | 3.8 | 3.1 | 3.7 | 4.4 | 3.2 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 23.4 | 1.4 | 0.1 | 6.3 | 2.0 | 0.2 | 0.6 | 0.5 | 0.1 | 0.9 | 0.9 | 0.2 |
| Delay (s) | 68.9 | 45.0 | 40.8 | 50.5 | 45.8 | 41.0 | 3.9 | 4.4 | 3.2 | 4.6 | 5.3 | 3.3 |
| Level of Service | E | D | D | D | D | D | A | A | A | A | A | A |
| Approach Delay (s) | | 51.7 | | | 45.1 | | | 4.1 | | | 4.8 | |
| Approach LOS | | D | | | D | | | A | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 18.0 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.48 | | |
| Actuated Cycle Length (s) | 111.2 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 61.5% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 22 | 3 | 3 | 7 | 28 | 33 |
| Future Volume (Veh/h) | 22 | 3 | 3 | 7 | 28 | 33 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 24 | 3 | 3 | 8 | 30 | 36 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 62 | 48 | 66 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 62 | 48 | 66 | | | |
| tC, single (s) | 6.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 97 | 100 | 100 | | | |
| cM capacity (veh/h) | 942 | 1021 | 1536 | | | |

| Direction, Lane # | EB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 27 | 11 | 66 |
| Volume Left | 24 | 3 | 0 |
| Volume Right | 3 | 0 | 36 |
| cSH | 951 | 1536 | 1700 |
| Volume to Capacity | 0.03 | 0.00 | 0.04 |
| Queue Length 95th (ft) | 2 | 0 | 0 |
| Control Delay (s) | 8.9 | 2.0 | 0.0 |
| Lane LOS | A | A | |
| Approach Delay (s) | 8.9 | 2.0 | 0.0 |
| Approach LOS | A | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 2.5 | | |
| Intersection Capacity Utilization | 13.5% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 1 | 9 | 0 | 3 | 28 |
| Future Volume (Veh/h) | 0 | 1 | 9 | 0 | 3 | 28 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 1 | 10 | 0 | 3 | 30 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 46 | 10 | | | 10 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 46 | 10 | | | 10 | |
| tC, single (s) | 6.4 | 6.2 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 100 | 100 | | | 100 | |
| cM capacity (veh/h) | 962 | 1071 | | | 1610 | |

| Direction, Lane # | WB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 1 | 10 | 33 |
| Volume Left | 0 | 0 | 3 |
| Volume Right | 1 | 0 | 0 |
| cSH | 1071 | 1700 | 1610 |
| Volume to Capacity | 0.00 | 0.01 | 0.00 |
| Queue Length 95th (ft) | 0 | 0 | 0 |
| Control Delay (s) | 8.4 | 0.0 | 0.7 |
| Lane LOS | A | | A |
| Approach Delay (s) | 8.4 | 0.0 | 0.7 |
| Approach LOS | A | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 0.7 | | |
| Intersection Capacity Utilization | 14.0% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 3 | 0 | 1292 | 1560 | 1 |
| Future Volume (Veh/h) | 0 | 3 | 0 | 1292 | 1560 | 1 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 3 | 0 | 1404 | 1696 | 1 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 2398 | 848 | 1697 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 2398 | 848 | 1697 | | | |
| tC, single (s) | 6.8 | 6.9 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 100 | 99 | 100 | | | |
| cM capacity (veh/h) | 28 | 305 | 372 | | | |

| Direction, Lane # | EB 1 | NB 1 | NB 2 | SB 1 | SB 2 | SB 3 |
|---|---|---|---|---|---|---|
| Volume Total | 3 | 702 | 702 | 848 | 848 | 1 |
| Volume Left | 0 | 0 | 0 | 0 | 0 | 0 |
| Volume Right | 3 | 0 | 0 | 0 | 0 | 1 |
| cSH | 305 | 1700 | 1700 | 1700 | 1700 | 1700 |
| Volume to Capacity | 0.01 | 0.41 | 0.41 | 0.50 | 0.50 | 0.00 |
| Queue Length 95th (ft) | 1 | 0 | 0 | 0 | 0 | 0 |
| Control Delay (s) | 16.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane LOS | C | | | | | |
| Approach Delay (s) | 16.9 | 0.0 | | 0.0 | | |
| Approach LOS | C | | | | | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | 0.0 | | | |
| Intersection Capacity Utilization | 53.1% | ICU Level of Service | | A |
| Analysis Period (min) | 15 | | | |



| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 20 | 2 | 16 | 42 | 1 | 10 |
| Future Volume (Veh/h) | 20 | 2 | 16 | 42 | 1 | 10 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 22 | 2 | 17 | 46 | 1 | 11 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 53 | 40 | | | 63 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 53 | 40 | | | 63 | |
| tC, single (s) | 6.4 | 6.2 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 98 | 100 | | | 100 | |
| cM capacity (veh/h) | 955 | 1031 | | | 1540 | |

| Direction, Lane # | WB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 24 | 63 | 12 |
| Volume Left | 22 | 0 | 1 |
| Volume Right | 2 | 46 | 0 |
| cSH | 961 | 1700 | 1540 |
| Volume to Capacity | 0.02 | 0.04 | 0.00 |
| Queue Length 95th (ft) | 2 | 0 | 0 |
| Control Delay (s) | 8.8 | 0.0 | 0.6 |
| Lane LOS | A | | A |
| Approach Delay (s) | 8.8 | 0.0 | 0.6 |
| Approach LOS | A | | |

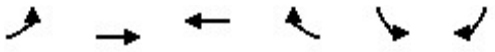
| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 2.2 | | |
| Intersection Capacity Utilization | 13.4% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 128 | 3 | 14 | 156 | 3 | 10 |
| Future Volume (Veh/h) | 128 | 3 | 14 | 156 | 3 | 10 |
| Sign Control | Free | | | Free | Stop | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 139 | 3 | 15 | 170 | 3 | 11 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | None | | | None | | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | | | 142 | | 340 | 140 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | | | 142 | | 340 | 140 |
| tC, single (s) | | | 4.1 | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 |
| p0 queue free % | | | 99 | | 100 | 99 |
| cM capacity (veh/h) | | | 1441 | | 649 | 907 |

| Direction, Lane # | EB 1 | WB 1 | NB 1 |
|---|---|---|---|
| Volume Total | 142 | 185 | 14 |
| Volume Left | 0 | 15 | 3 |
| Volume Right | 3 | 0 | 11 |
| cSH | 1700 | 1441 | 836 |
| Volume to Capacity | 0.08 | 0.01 | 0.02 |
| Queue Length 95th (ft) | 0 | 1 | 1 |
| Control Delay (s) | 0.0 | 0.7 | 9.4 |
| Lane LOS | | A | A |
| Approach Delay (s) | 0.0 | 0.7 | 9.4 |
| Approach LOS | | | A |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 0.8 | | |
| Intersection Capacity Utilization | 29.2% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 5 | 138 | 144 | 13 | 23 | 12 |
| Future Volume (Veh/h) | 5 | 138 | 144 | 13 | 23 | 12 |
| Sign Control | | Free | Free | | Stop | |
| Grade | | 0% | 0% | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 5 | 150 | 157 | 14 | 25 | 13 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | None | None | | | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 171 | | | | 324 | 164 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 171 | | | | 324 | 164 |
| tC, single (s) | 4.1 | | | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 2.2 | | | | 3.5 | 3.3 |
| p0 queue free % | 100 | | | | 96 | 99 |
| cM capacity (veh/h) | 1406 | | | | 668 | 881 |

| Direction, Lane # | EB 1 | WB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 155 | 171 | 38 |
| Volume Left | 5 | 0 | 25 |
| Volume Right | 0 | 14 | 13 |
| cSH | 1406 | 1700 | 728 |
| Volume to Capacity | 0.00 | 0.10 | 0.05 |
| Queue Length 95th (ft) | 0 | 0 | 4 |
| Control Delay (s) | 0.3 | 0.0 | 10.2 |
| Lane LOS | A | | B |
| Approach Delay (s) | 0.3 | 0.0 | 10.2 |
| Approach LOS | | | B |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 1.2 | | |
| Intersection Capacity Utilization | 21.3% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 204 | 6 | 38 | 182 | 4 | 38 |
| Future Volume (Veh/h) | 204 | 6 | 38 | 182 | 4 | 38 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 222 | 7 | 41 | 198 | 4 | 41 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 189 | 140 | | | 239 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 189 | 140 | | | 239 | |
| tC, single (s) | 6.4 | 6.2 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 72 | 99 | | | 100 | |
| cM capacity (veh/h) | 798 | 908 | | | 1328 | |

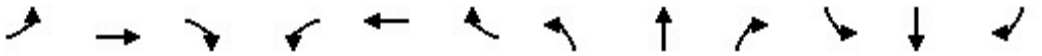
| Direction, Lane # | WB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 229 | 239 | 45 |
| Volume Left | 222 | 0 | 4 |
| Volume Right | 7 | 198 | 0 |
| cSH | 801 | 1700 | 1328 |
| Volume to Capacity | 0.29 | 0.14 | 0.00 |
| Queue Length 95th (ft) | 30 | 0 | 0 |
| Control Delay (s) | 11.3 | 0.0 | 0.7 |
| Lane LOS | B | | A |
| Approach Delay (s) | 11.3 | 0.0 | 0.7 |
| Approach LOS | B | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 5.1 | | |
| Intersection Capacity Utilization | 31.6% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 47 | 183 | 8 | 53 | 220 | 3 | 8 | 48 | 43 | 3 | 19 | 23 |
| Future Volume (Veh/h) | 47 | 183 | 8 | 53 | 220 | 3 | 8 | 48 | 43 | 3 | 19 | 23 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 51 | 199 | 9 | 58 | 239 | 3 | 9 | 52 | 47 | 3 | 21 | 25 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | None | | | None | | | | | | | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | 519 | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 242 | | | 208 | | | 698 | 664 | 204 | 735 | 666 | 240 |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 242 | | | 208 | | | 698 | 664 | 204 | 735 | 666 | 240 |
| tC, single (s) | 4.1 | | | 4.1 | | | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 2.2 | | | 2.2 | | | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 |
| p0 queue free % | 96 | | | 96 | | | 97 | 85 | 94 | 99 | 94 | 97 |
| cM capacity (veh/h) | 1324 | | | 1363 | | | 309 | 351 | 837 | 264 | 350 | 798 |

| Direction, Lane # | EB 1 | WB 1 | NB 1 | SB 1 |
|---|---|---|---|---|
| Volume Total | 259 | 300 | 108 | 49 |
| Volume Left | 51 | 58 | 9 | 3 |
| Volume Right | 9 | 3 | 47 | 25 |
| cSH | 1324 | 1363 | 463 | 477 |
| Volume to Capacity | 0.04 | 0.04 | 0.23 | 0.10 |
| Queue Length 95th (ft) | 3 | 3 | 22 | 9 |
| Control Delay (s) | 1.8 | 1.8 | 15.1 | 13.4 |
| Lane LOS | A | A | C | B |
| Approach Delay (s) | 1.8 | 1.8 | 15.1 | 13.4 |
| Approach LOS | | | C | B |

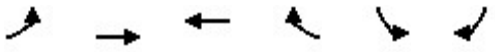
| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | 4.6 | | | |
| Intersection Capacity Utilization | 33.8% | ICU Level of Service | A | |
| Analysis Period (min) | 15 | | | |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 108 | 77 | 46 | 167 | 118 | 108 | 67 | 1608 | 6 | 126 | 1650 | 153 |
| Future Volume (vph) | 108 | 77 | 46 | 167 | 118 | 108 | 67 | 1608 | 6 | 126 | 1650 | 153 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 |
| Frt | 1.00 | 0.94 | | 1.00 | 0.93 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1770 | 1758 | | 1770 | 1729 | | 1770 | 3539 | 1583 | 1770 | 3539 | 1583 |
| Flt Permitted | 0.61 | 1.00 | | 0.33 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1130 | 1758 | | 610 | 1729 | | 1770 | 3539 | 1583 | 1770 | 3539 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 117 | 84 | 50 | 182 | 128 | 117 | 73 | 1748 | 7 | 137 | 1793 | 166 |
| RTOR Reduction (vph) | 0 | 9 | 0 | 0 | 14 | 0 | 0 | 0 | 3 | 0 | 0 | 62 |
| Lane Group Flow (vph) | 117 | 125 | 0 | 182 | 231 | 0 | 73 | 1748 | 4 | 137 | 1793 | 104 |
| Turn Type | Perm | NA | | pm+pt | NA | | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | | | | 2 | | | 6 |
| Actuated Green, G (s) | 26.9 | 26.9 | | 55.8 | 55.8 | | 14.8 | 136.0 | 136.0 | 21.6 | 142.8 | 142.8 |
| Effective Green, g (s) | 26.9 | 26.9 | | 55.8 | 55.8 | | 14.8 | 136.0 | 136.0 | 21.6 | 142.8 | 142.8 |
| Actuated g/C Ratio | 0.12 | 0.12 | | 0.25 | 0.25 | | 0.07 | 0.60 | 0.60 | 0.10 | 0.63 | 0.63 |
| Clearance Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 133 | 208 | | 274 | 425 | | 115 | 2121 | 948 | 168 | 2227 | 996 |
| v/s Ratio Prot | | 0.07 | | c0.07 | 0.13 | | 0.04 | c0.49 | | c0.08 | 0.51 | |
| v/s Ratio Perm | c0.10 | | | 0.09 | | | | | 0.00 | | | 0.07 |
| v/c Ratio | 0.88 | 0.60 | | 0.66 | 0.54 | | 0.63 | 0.82 | 0.00 | 0.82 | 0.81 | 0.10 |
| Uniform Delay, d1 | 98.4 | 94.9 | | 72.6 | 74.4 | | 103.4 | 36.0 | 18.3 | 100.7 | 31.6 | 16.7 |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 43.5 | 4.8 | | 6.0 | 1.4 | | 10.9 | 3.8 | 0.0 | 25.3 | 3.2 | 0.2 |
| Delay (s) | 141.9 | 99.8 | | 78.5 | 75.9 | | 114.3 | 39.8 | 18.3 | 126.0 | 34.8 | 16.9 |
| Level of Service | F | F | | E | E | | F | D | B | F | C | B |
| Approach Delay (s) | | 119.4 | | | 77.0 | | | 42.7 | | | 39.4 | |
| Approach LOS | | F | | | E | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 48.5 | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | 0.81 | | |
| Actuated Cycle Length (s) | 226.9 | Sum of lost time (s) | 18.0 |
| Intersection Capacity Utilization | 85.2% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

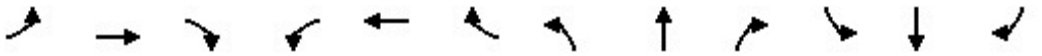
c Critical Lane Group



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 127 | 81 | 99 | 139 | 103 | 153 |
| Future Volume (Veh/h) | 127 | 81 | 99 | 139 | 103 | 153 |
| Sign Control | | Free | Free | | Stop | |
| Grade | | 0% | 0% | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 138 | 88 | 108 | 151 | 112 | 166 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | 5 |
| Median type | | None | None | | | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 259 | | | | 548 | 184 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 259 | | | | 548 | 184 |
| tC, single (s) | 4.1 | | | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 2.2 | | | | 3.5 | 3.3 |
| p0 queue free % | 89 | | | | 75 | 81 |
| cM capacity (veh/h) | 1306 | | | | 445 | 859 |

| Direction, Lane # | EB 1 | WB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 226 | 259 | 278 |
| Volume Left | 138 | 0 | 112 |
| Volume Right | 0 | 151 | 166 |
| cSH | 1306 | 1700 | 1105 |
| Volume to Capacity | 0.11 | 0.15 | 0.25 |
| Queue Length 95th (ft) | 9 | 0 | 25 |
| Control Delay (s) | 5.3 | 0.0 | 12.4 |
| Lane LOS | A | | B |
| Approach Delay (s) | 5.3 | 0.0 | 12.4 |
| Approach LOS | | | B |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 6.1 | | |
| Intersection Capacity Utilization | 40.7% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 99 | 150 | 102 | 80 | 158 | 122 | 99 | 400 | 86 | 172 | 562 | 140 |
| Future Volume (vph) | 99 | 150 | 102 | 80 | 158 | 122 | 99 | 400 | 86 | 172 | 562 | 140 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 |
| Flt Permitted | 0.45 | 1.00 | 1.00 | 0.47 | 1.00 | 1.00 | 0.39 | 1.00 | 1.00 | 0.49 | 1.00 | 1.00 |
| Satd. Flow (perm) | 834 | 1863 | 1583 | 881 | 1863 | 1583 | 720 | 1863 | 1583 | 905 | 1863 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 108 | 163 | 111 | 87 | 172 | 133 | 108 | 435 | 93 | 187 | 611 | 152 |
| RTOR Reduction (vph) | 0 | 0 | 93 | 0 | 0 | 112 | 0 | 0 | 22 | 0 | 0 | 36 |
| Lane Group Flow (vph) | 108 | 163 | 18 | 87 | 172 | 21 | 108 | 435 | 71 | 187 | 611 | 116 |
| Turn Type | Perm | NA | Perm | Perm | NA | Perm | Perm | NA | Perm | Perm | NA | Perm |
| Protected Phases | | 4 | | | 8 | | | 2 | | | 6 | |
| Permitted Phases | 4 | | 4 | 8 | | 8 | 2 | | 2 | 6 | | 6 |
| Actuated Green, G (s) | 17.8 | 17.8 | 17.8 | 17.8 | 17.8 | 17.8 | 85.7 | 85.7 | 85.7 | 85.7 | 85.7 | 85.7 |
| Effective Green, g (s) | 17.8 | 17.8 | 17.8 | 17.8 | 17.8 | 17.8 | 85.7 | 85.7 | 85.7 | 85.7 | 85.7 | 85.7 |
| Actuated g/C Ratio | 0.16 | 0.16 | 0.16 | 0.16 | 0.16 | 0.16 | 0.76 | 0.76 | 0.76 | 0.76 | 0.76 | 0.76 |
| Clearance Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 131 | 294 | 250 | 139 | 294 | 250 | 548 | 1419 | 1205 | 689 | 1419 | 1205 |
| v/s Ratio Prot | | 0.09 | | | 0.09 | | | 0.23 | | | c0.33 | |
| v/s Ratio Perm | c0.13 | | 0.01 | 0.10 | | 0.01 | 0.15 | | 0.04 | 0.21 | | 0.07 |
| v/c Ratio | 0.82 | 0.55 | 0.07 | 0.63 | 0.59 | 0.08 | 0.20 | 0.31 | 0.06 | 0.27 | 0.43 | 0.10 |
| Uniform Delay, d1 | 45.8 | 43.7 | 40.3 | 44.2 | 43.9 | 40.4 | 3.8 | 4.2 | 3.3 | 4.0 | 4.8 | 3.4 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 32.5 | 2.3 | 0.1 | 8.5 | 3.0 | 0.1 | 0.8 | 0.6 | 0.1 | 1.0 | 1.0 | 0.2 |
| Delay (s) | 78.4 | 46.0 | 40.4 | 52.7 | 46.9 | 40.5 | 4.6 | 4.7 | 3.4 | 5.0 | 5.7 | 3.6 |
| Level of Service | E | D | D | D | D | D | A | A | A | A | A | A |
| Approach Delay (s) | | 53.5 | | | 46.0 | | | 4.5 | | | 5.2 | |
| Approach LOS | | D | | | D | | | A | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 19.6 | HCM 2000 Level of Service | B |
| HCM 2000 Volume to Capacity ratio | 0.50 | | |
| Actuated Cycle Length (s) | 112.5 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 63.9% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 22 | 3 | 3 | 17 | 36 | 33 |
| Future Volume (Veh/h) | 22 | 3 | 3 | 17 | 36 | 33 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 24 | 3 | 3 | 18 | 39 | 36 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 81 | 57 | 75 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 81 | 57 | 75 | | | |
| tC, single (s) | 6.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 97 | 100 | 100 | | | |
| cM capacity (veh/h) | 919 | 1009 | 1524 | | | |

| Direction, Lane # | EB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 27 | 21 | 75 |
| Volume Left | 24 | 3 | 0 |
| Volume Right | 3 | 0 | 36 |
| cSH | 929 | 1524 | 1700 |
| Volume to Capacity | 0.03 | 0.00 | 0.04 |
| Queue Length 95th (ft) | 2 | 0 | 0 |
| Control Delay (s) | 9.0 | 1.1 | 0.0 |
| Lane LOS | A | A | |
| Approach Delay (s) | 9.0 | 1.1 | 0.0 |
| Approach LOS | A | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 2.2 | | |
| Intersection Capacity Utilization | 13.9% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 1 | 19 | 0 | 3 | 36 |
| Future Volume (Veh/h) | 0 | 1 | 19 | 0 | 3 | 36 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 1 | 21 | 0 | 3 | 39 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 66 | 21 | | | 21 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 66 | 21 | | | 21 | |
| tC, single (s) | 6.4 | 6.2 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 100 | 100 | | | 100 | |
| cM capacity (veh/h) | 938 | 1056 | | | 1595 | |

| Direction, Lane # | WB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 1 | 21 | 42 |
| Volume Left | 0 | 0 | 3 |
| Volume Right | 1 | 0 | 0 |
| cSH | 1056 | 1700 | 1595 |
| Volume to Capacity | 0.00 | 0.01 | 0.00 |
| Queue Length 95th (ft) | 0 | 0 | 0 |
| Control Delay (s) | 8.4 | 0.0 | 0.5 |
| Lane LOS | A | | A |
| Approach Delay (s) | 8.4 | 0.0 | 0.5 |
| Approach LOS | A | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 0.5 | | |
| Intersection Capacity Utilization | 14.4% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 3 | 0 | 1359 | 1610 | 1 |
| Future Volume (Veh/h) | 0 | 3 | 0 | 1359 | 1610 | 1 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 3 | 0 | 1477 | 1750 | 1 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 2488 | 875 | 1751 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 2488 | 875 | 1751 | | | |
| tC, single (s) | 6.8 | 6.9 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 100 | 99 | 100 | | | |
| cM capacity (veh/h) | 24 | 292 | 354 | | | |

| Direction, Lane # | EB 1 | NB 1 | NB 2 | SB 1 | SB 2 | SB 3 |
|---|---|---|---|---|---|---|
| Volume Total | 3 | 738 | 738 | 875 | 875 | 1 |
| Volume Left | 0 | 0 | 0 | 0 | 0 | 0 |
| Volume Right | 3 | 0 | 0 | 0 | 0 | 1 |
| cSH | 292 | 1700 | 1700 | 1700 | 1700 | 1700 |
| Volume to Capacity | 0.01 | 0.43 | 0.43 | 0.51 | 0.51 | 0.00 |
| Queue Length 95th (ft) | 1 | 0 | 0 | 0 | 0 | 0 |
| Control Delay (s) | 17.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane LOS | C | | | | | |
| Approach Delay (s) | 17.4 | 0.0 | | 0.0 | | |
| Approach LOS | C | | | | | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | 0.0 | | | |
| Intersection Capacity Utilization | 54.5% | ICU Level of Service | | A |
| Analysis Period (min) | 15 | | | |



| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 20 | 2 | 16 | 42 | 1 | 10 |
| Future Volume (Veh/h) | 20 | 2 | 16 | 42 | 1 | 10 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 22 | 2 | 17 | 46 | 1 | 11 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 53 | 40 | | | 63 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 53 | 40 | | | 63 | |
| tC, single (s) | 6.4 | 6.2 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 98 | 100 | | | 100 | |
| cM capacity (veh/h) | 955 | 1031 | | | 1540 | |

| Direction, Lane # | WB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 24 | 63 | 12 |
| Volume Left | 22 | 0 | 1 |
| Volume Right | 2 | 46 | 0 |
| cSH | 961 | 1700 | 1540 |
| Volume to Capacity | 0.02 | 0.04 | 0.00 |
| Queue Length 95th (ft) | 2 | 0 | 0 |
| Control Delay (s) | 8.8 | 0.0 | 0.6 |
| Lane LOS | A | | A |
| Approach Delay (s) | 8.8 | 0.0 | 0.6 |
| Approach LOS | A | | |

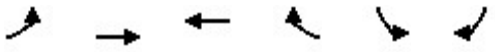
| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 2.2 | | |
| Intersection Capacity Utilization | 13.4% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 126 | 3 | 14 | 208 | 3 | 10 |
| Future Volume (Veh/h) | 126 | 3 | 14 | 208 | 3 | 10 |
| Sign Control | Free | | | Free | Stop | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 137 | 3 | 15 | 226 | 3 | 11 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | None | | | None | | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | | | 140 | | 394 | 138 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | | | 140 | | 394 | 138 |
| tC, single (s) | | | 4.1 | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 |
| p0 queue free % | | | 99 | | 100 | 99 |
| cM capacity (veh/h) | | | 1443 | | 604 | 910 |

| Direction, Lane # | EB 1 | WB 1 | NB 1 |
|---|---|---|---|
| Volume Total | 140 | 241 | 14 |
| Volume Left | 0 | 15 | 3 |
| Volume Right | 3 | 0 | 11 |
| cSH | 1700 | 1443 | 821 |
| Volume to Capacity | 0.08 | 0.01 | 0.02 |
| Queue Length 95th (ft) | 0 | 1 | 1 |
| Control Delay (s) | 0.0 | 0.6 | 9.5 |
| Lane LOS | | A | A |
| Approach Delay (s) | 0.0 | 0.6 | 9.5 |
| Approach LOS | | | A |

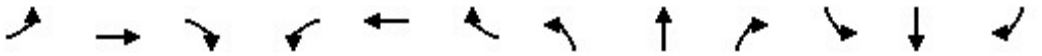
| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 0.7 | | |
| Intersection Capacity Utilization | 31.9% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 56 | 136 | 142 | 104 | 110 | 66 |
| Future Volume (Veh/h) | 56 | 136 | 142 | 104 | 110 | 66 |
| Sign Control | | Free | Free | | Stop | |
| Grade | | 0% | 0% | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 61 | 148 | 154 | 113 | 120 | 72 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | None | None | | | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 267 | | | | 480 | 210 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 267 | | | | 480 | 210 |
| tC, single (s) | 4.1 | | | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 2.2 | | | | 3.5 | 3.3 |
| p0 queue free % | 95 | | | | 77 | 91 |
| cM capacity (veh/h) | 1297 | | | | 519 | 830 |

| Direction, Lane # | EB 1 | WB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 209 | 267 | 192 |
| Volume Left | 61 | 0 | 120 |
| Volume Right | 0 | 113 | 72 |
| cSH | 1297 | 1700 | 604 |
| Volume to Capacity | 0.05 | 0.16 | 0.32 |
| Queue Length 95th (ft) | 4 | 0 | 34 |
| Control Delay (s) | 2.6 | 0.0 | 13.7 |
| Lane LOS | A | | B |
| Approach Delay (s) | 2.6 | 0.0 | 13.7 |
| Approach LOS | | | B |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 4.8 | | |
| Intersection Capacity Utilization | 44.2% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



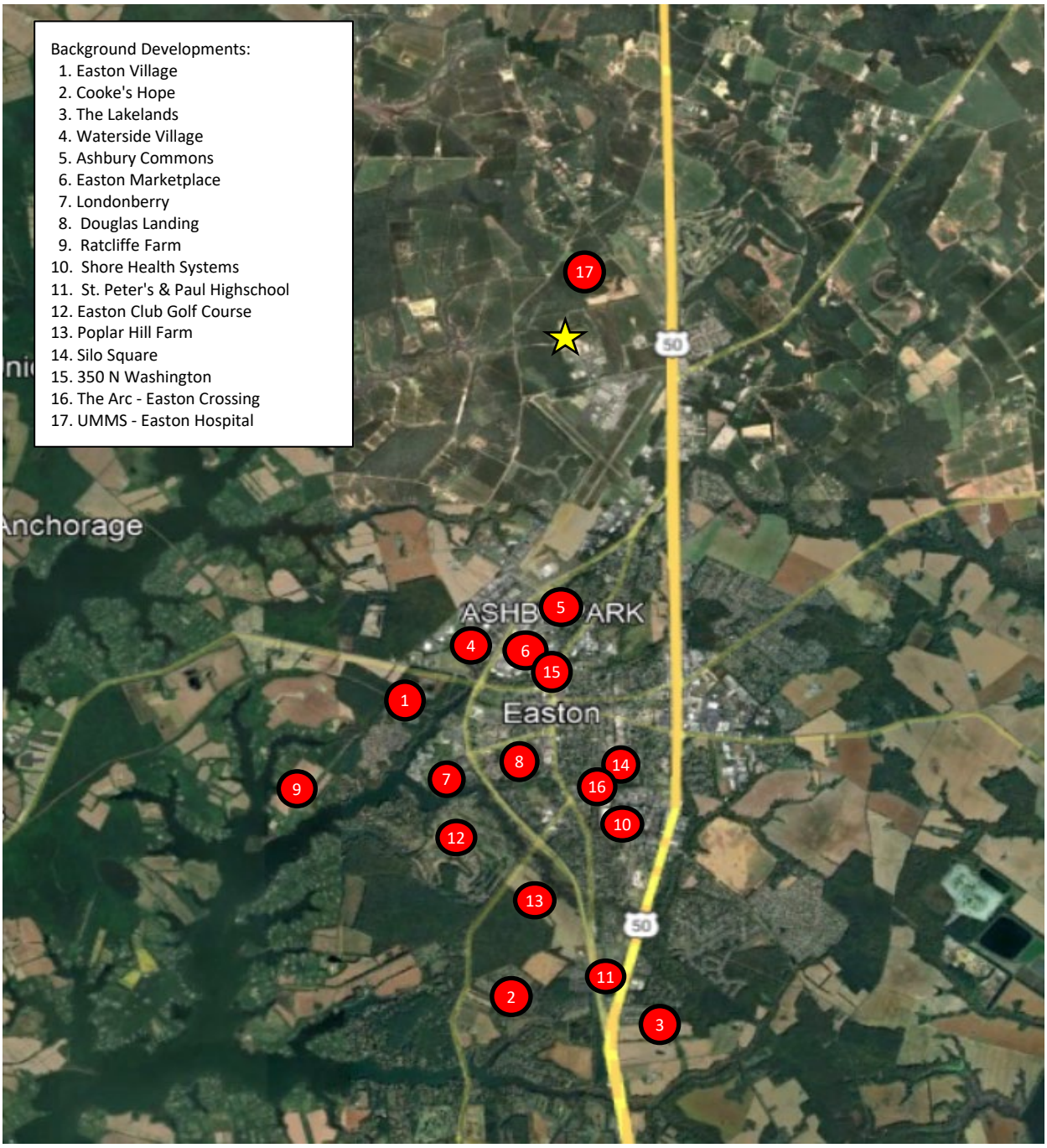
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 108 | 77 | 6 | 167 | 118 | 108 | 67 | 1608 | 6 | 126 | 1650 | 153 |
| Future Volume (vph) | 108 | 77 | 6 | 167 | 118 | 108 | 67 | 1608 | 6 | 126 | 1650 | 153 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 |
| Frt | 1.00 | 0.99 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1770 | 1841 | | 1770 | 1863 | 1583 | 1770 | 3539 | 1583 | 1770 | 3539 | 1583 |
| Flt Permitted | 0.67 | 1.00 | | 0.46 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1257 | 1841 | | 852 | 1863 | 1583 | 1770 | 3539 | 1583 | 1770 | 3539 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 117 | 84 | 7 | 182 | 128 | 117 | 73 | 1748 | 7 | 137 | 1793 | 166 |
| RTOR Reduction (vph) | 0 | 1 | 0 | 0 | 0 | 91 | 0 | 0 | 3 | 0 | 0 | 58 |
| Lane Group Flow (vph) | 117 | 90 | 0 | 182 | 128 | 26 | 73 | 1748 | 4 | 137 | 1793 | 108 |
| Turn Type | Perm | NA | | pm+pt | NA | Perm | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | 8 | | | 2 | | | 6 |
| Actuated Green, G (s) | 26.1 | 26.1 | | 50.4 | 50.4 | 50.4 | 14.2 | 138.7 | 138.7 | 21.7 | 146.2 | 146.2 |
| Effective Green, g (s) | 26.1 | 26.1 | | 50.4 | 50.4 | 50.4 | 14.2 | 138.7 | 138.7 | 21.7 | 146.2 | 146.2 |
| Actuated g/C Ratio | 0.12 | 0.12 | | 0.22 | 0.22 | 0.22 | 0.06 | 0.62 | 0.62 | 0.10 | 0.65 | 0.65 |
| Clearance Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 146 | 214 | | 272 | 418 | 355 | 112 | 2188 | 978 | 171 | 2306 | 1031 |
| v/s Ratio Prot | | 0.05 | | c0.06 | 0.07 | | 0.04 | c0.49 | | c0.08 | 0.51 | |
| v/s Ratio Perm | c0.09 | | | 0.09 | | 0.02 | | | 0.00 | | | 0.07 |
| v/c Ratio | 0.80 | 0.42 | | 0.67 | 0.31 | 0.07 | 0.65 | 0.80 | 0.00 | 0.80 | 0.78 | 0.10 |
| Uniform Delay, d1 | 96.6 | 92.1 | | 75.5 | 72.4 | 68.6 | 102.6 | 32.3 | 16.4 | 99.2 | 27.6 | 14.6 |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 26.2 | 1.3 | | 6.1 | 0.4 | 0.1 | 12.8 | 3.2 | 0.0 | 23.0 | 2.7 | 0.2 |
| Delay (s) | 122.7 | 93.4 | | 81.6 | 72.8 | 68.6 | 115.4 | 35.4 | 16.4 | 122.1 | 30.2 | 14.8 |
| Level of Service | F | F | | F | E | E | F | D | B | F | C | B |
| Approach Delay (s) | | 109.9 | | | 75.4 | | | 38.6 | | | 35.0 | |
| Approach LOS | | F | | | E | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 43.6 | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | 0.79 | | |
| Actuated Cycle Length (s) | 224.3 | Sum of lost time (s) | 18.0 |
| Intersection Capacity Utilization | 78.6% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

# Appendix C

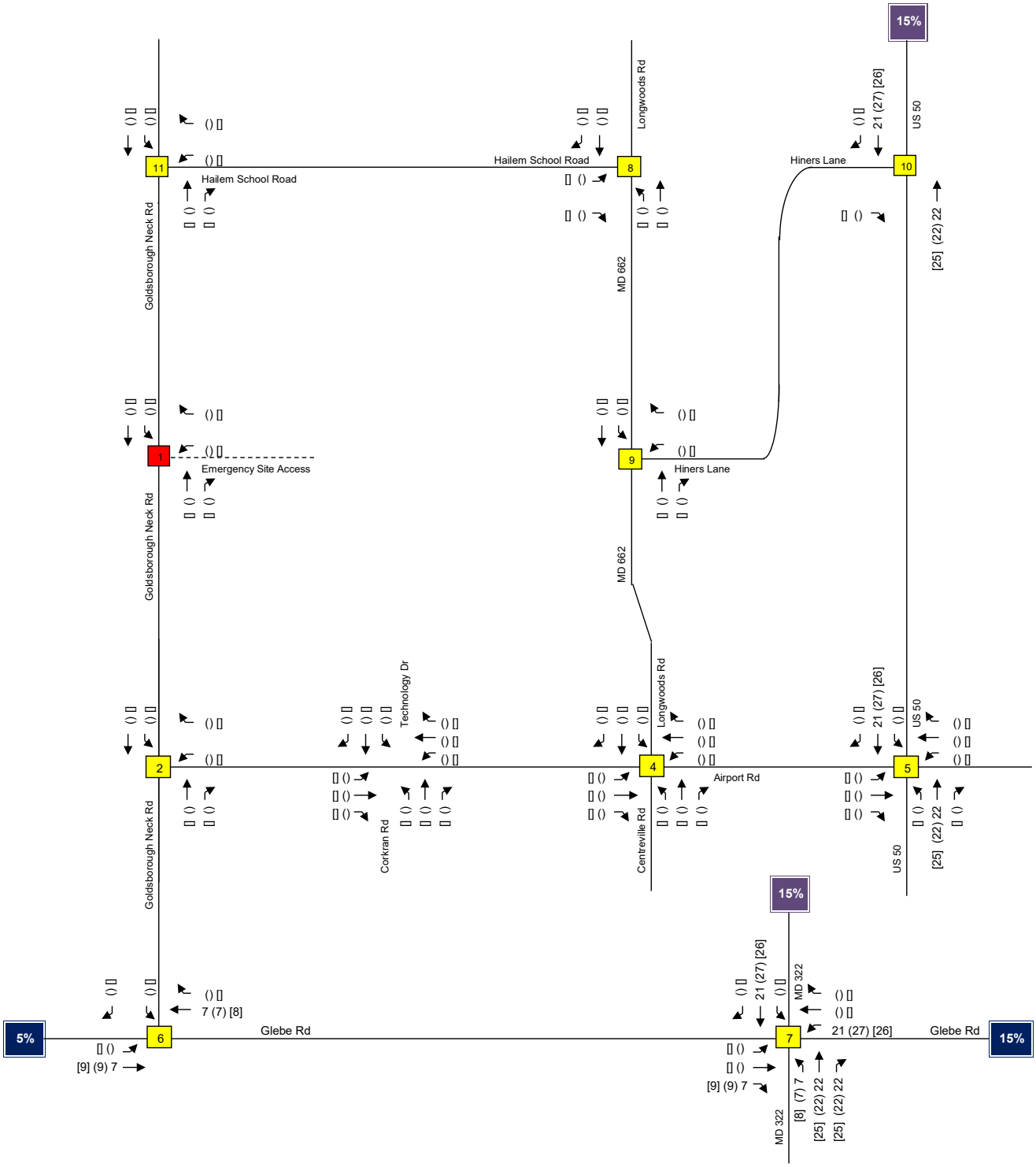
## Background Developments



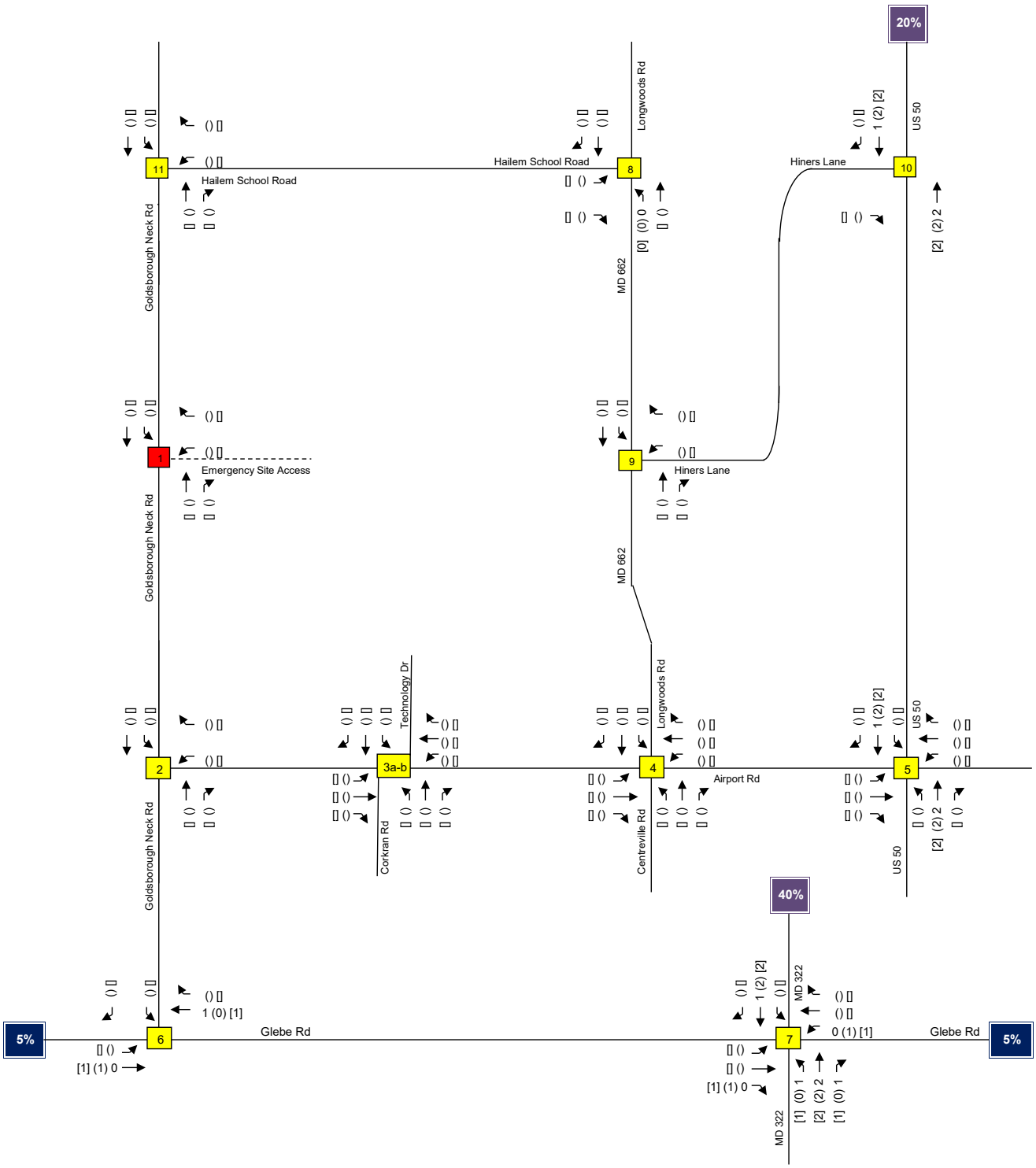

| | | |
|---|---|---|
| Traffic Impact Analysis | Location of Background Devs. | **Exhibit C-1** |
| LENHART TRAFFIC CONSULTING, INC.<br>645 BALTIMORE ANNAPOLIS BLVD, SUITE 214<br>SEVERNA PARK, MD 21146<br>www.lenharttraffic.com | | |

## Trip Generation for Background Developments

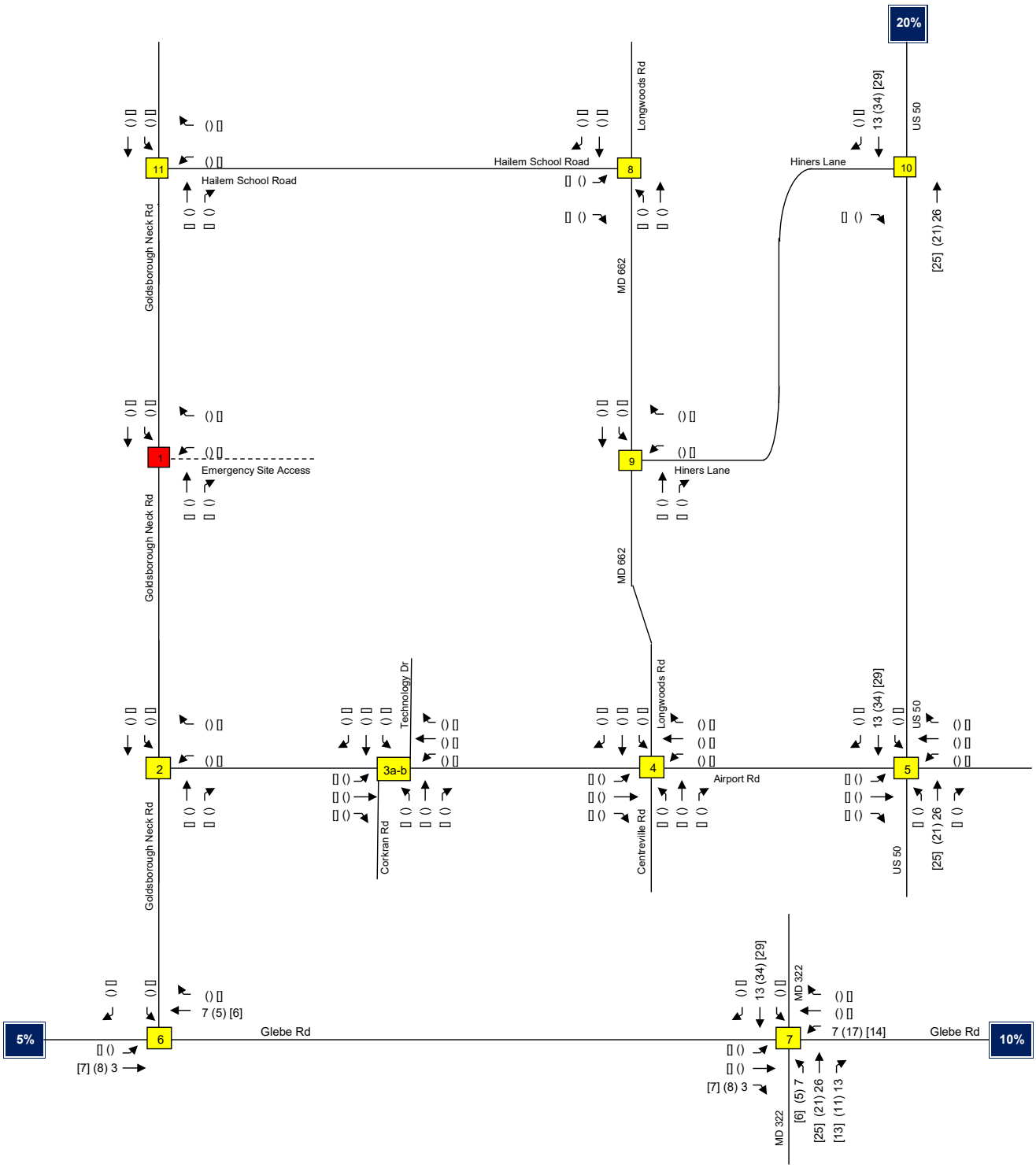
| | | | AM Peak | | | PM Peak | | | Sat Mid-day Peak | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | In | Out | Total | In | Out | Total | In | Out | Total |
| 1 - Easton Village | 250 Single-Family Units Less 225 Built | 25 units remaining | 5 | 14 | 19 | 16 | 9 | 25 | 12 | 11 | 23 |
| 2 - Cookes Hope | 288 Single-Family Units Less 185 Built | 103 units remaining | 19 | 57 | 76 | 64 | 38 | 102 | 52 | 44 | 96 |
| 3 - The Lakelands | 158 Townhouse Units (All Built) | 0 units remaining | Built | | | | | | | | |
| 4. Waterside Village | Phase 1 - 203,878 SF of Retail (All Built) | 0 square feet remaining | Built | | | | | | | | |
| | Phase 1 - 38,157 SF of Office (All Built) | 0 square feet remaining | Built | | | | | | | | |
| | Phase 1 - 24,901 SF of Restaurant (Approx. 50% Built) | 12,451 square feet remaining | 68 | 56 | 124 | 76 | 46 | 122 | 71 | 68 | 139 |
| | Pass-by Trips for Phase 1 Restaurant (0% AM, 49% PM, 49% Saturday): | | 0 | 0 | 0 | -37 | -23 | -60 | -35 | -33 | -68 |
| | Primary Off-Site Trips for Phase 1 Restaurant: | | 68 | 56 | 124 | 39 | 23 | 62 | 36 | 35 | 71 |
| | Phase 1 - 3,651 SF of Bank (All Built) | 0 square feet remaining | Built | | | | | | | | |
| | Phase 2A - 40,000 SF of Retail (All Built) | 0 square feet remaining | Built | | | | | | | | |
| | Phase 2B - 60 Mid-rise Multifamily Units (Not Built) | 60 units | 6 | 16 | 22 | 16 | 10 | 26 | 13 | 13 | 26 |
| | Phase 2C - 37,500 SF of Retail (Not Built) | 37,500 square feet | 22 | 13 | 35 | 69 | 74 | 143 | 88 | 81 | 169 |
| | Pass-by Trips for Phase 2C Retail (0% AM, 34% PM, 34% Saturday): | | 0 | 0 | 0 | -23 | -25 | -48 | -30 | -28 | -58 |
| | Primary Off-Site Trips for Phase 2 Retail: | | 22 | 13 | 35 | 46 | 49 | 95 | 58 | 53 | 111 |
| | Phase 2D - 81,500 SF of Retail Less 76,500 SF Built | 5,000 square feet remaining | 3 | 2 | 5 | 9 | 10 | 19 | 12 | 11 | 23 |
| | Pass-by Trips for Phase 2D Retail (0% AM, 34% PM, 34% Saturday): | | 0 | 0 | 0 | -3 | -3 | -6 | -4 | -4 | -8 |
| | Primary Off-Site Trips for Phase 2D Retail: | | 3 | 2 | 5 | 6 | 7 | 13 | 8 | 7 | 15 |
| 5. Ashbury Commons | 64 Townhouse Units Less 40 Built | 24 units remaining | 3 | 8 | 11 | 8 | 5 | 13 | 8 | 9 | 17 |
| | 26 Single-Family Units Less 13 built | 13 units remaining | 2 | 8 | 10 | 8 | 5 | 13 | 6 | 6 | 12 |
| 6. Easton Marketplace | 15,000 SF Pharmacy (Not Built) | 15,000 square feet | 31 | 27 | 58 | 77 | 77 | 154 | 64 | 67 | 131 |
| | Pass-by Trips for Pharmacy (0% AM, 53% PM, 53% Saturday): | | 0 | 0 | 0 | -41 | -41 | -82 | -34 | -36 | -70 |
| | Primary Off-Site Trips for Pharmacy: | | 31 | 27 | 58 | 36 | 36 | 72 | 30 | 31 | 61 |
| 7. Londonberry | 41 Single-Family Units Less 38 Built | 0 units remaining | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8. Douglas Landing | 91 Townhouse Units Less 64 Built | 27 units remaining | 3 | 9 | 12 | 9 | 6 | 15 | 9 | 10 | 19 |
| | 48 Single-Family Units Less 43 built | 5 units remaining | 1 | 3 | 4 | 3 | 2 | 5 | 3 | 2 | 5 |
| 9 - Ratcliffe Farm | 15 Single-Family Units (All Built) | 0 units remaining | Built | | | | | | | | |
| 10 - Shore Health Systems Medical Campus | 352,000 SF of Hospital (All Built) | 0 square feet remaining | Built | | | | | | | | |
| 11. St. Peters and Paul | 500 Student Private School | 500 students | 244 | 156 | 400 | 37 | 48 | 85 | 0 | 0 | 0 |
| | 6 Field Soccer Complex | 6 fields | 4 | 2 | 6 | 65 | 34 | 99 | 116 | 125 | 241 |
| | 18,000 SF Family Life Center | 18,000 square feet | 4 | 2 | 6 | 4 | 5 | 9 | 29 | 21 | 50 |
| 12. Easton Club Golf Course | 18 Hole Golf Course | 18 holes | 25 | 7 | 32 | 28 | 24 | 52 | 27 | 28 | 55 |
| 13. Poplar Hill Farm | Single-Family Detached (ITE-210, Units) | 119 units | 22 | 67 | 89 | 76 | 44 | 120 | 64 | 54 | 118 |
| 14. Silo Square | Single-Family Attached Housing (ITE-215, Units) | 28 units | 3 | 6 | 9 | 7 | 6 | 13 | 12 | 12 | 24 |
| 15. 350 N Washington | Multifamily Housing, Low-Rise (ITE-220, Units) | 16 units | 1 | 5 | 6 | 5 | 3 | 8 | 3 | 4 | 7 |
| 16. The Arc - Easton Crossing (see note) | Multifamily Housing, Mid-Rise (ITE-221, Urban/Suburban, Units) [Not Close to Rail Transit] | 130 units | 11 | 35 | 46 | 31 | 20 | 51 | 27 | 25 | 52 |
| | Fast Casual Restaurant (ksf, ITE-930) | 3,000 sq.ft. | 2 | 2 | 4 | 21 | 17 | 38 | 54 | 44 | 98 |
| 17. Shore Health Systems | Hospital - Phase 1 plus Future Phases (ksf, ITE-610) | 488,000 sq.ft. | 268 | 132 | 400 | 147 | 273 | 420 | 134 | 66 | 200 |
| | Medical Clinic - Phase 1 plus Future Phases (ksf, ITE-720) | 296,000 sq.ft. | 651 | 153 | 804 | 224 | 671 | 895 | 326 | 77 | 403 |
| | | Net Total: | 919 | 285 | 1204 | 371 | 944 | 1315 | 460 | 143 | 603 |



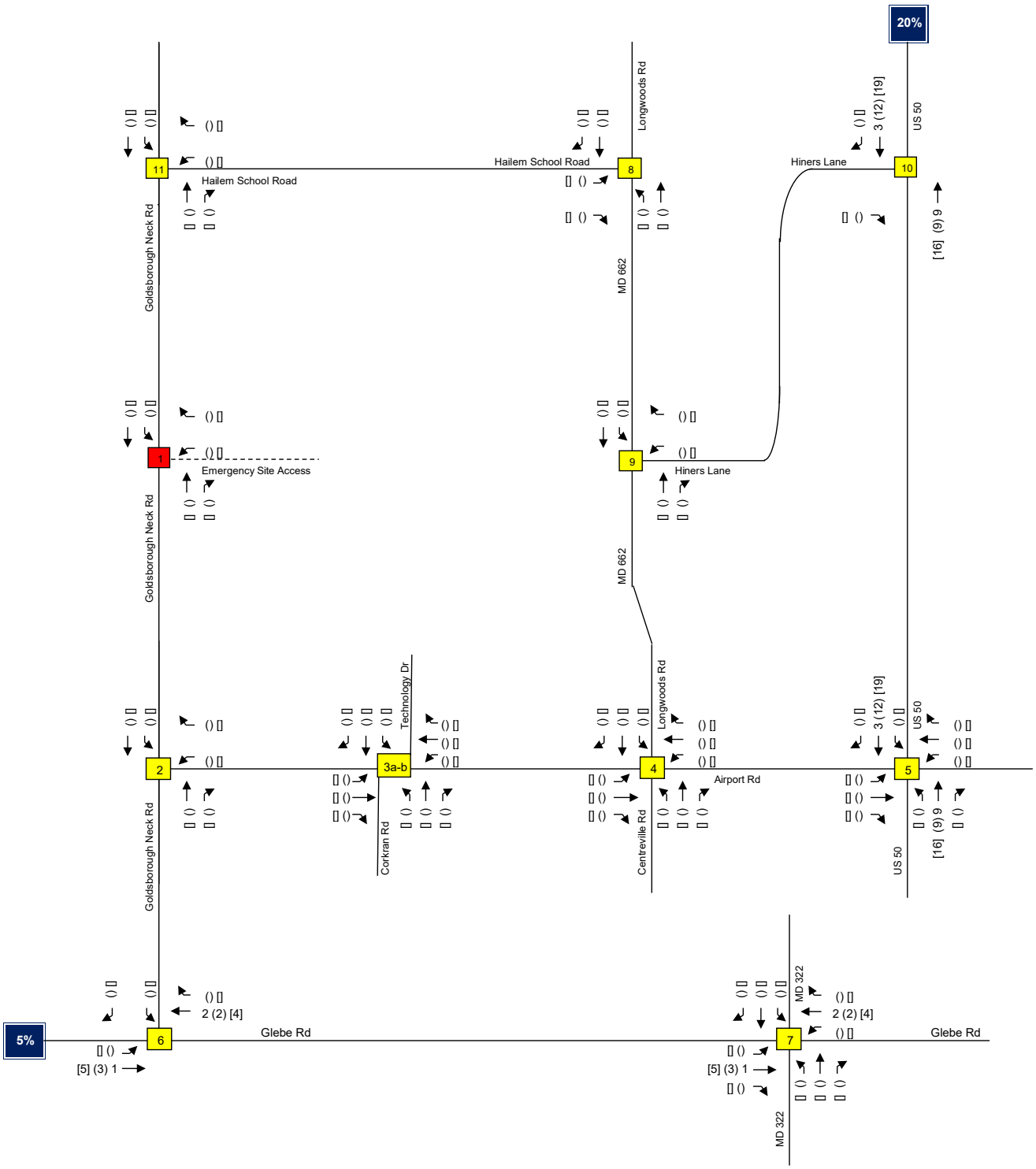

| Traffic Impact Analysis | Background Development<br>Trip Assignment - BDs 1, 4, 5, 6, 15 | **Exhibit C-3** |
|---|---|---|
| LENHART TRAFFIC CONSULTING, INC.<br>645 BALTIMORE ANNAPOLIS BLVD, SUITE 214<br>SEVERNA PARK, MD 21146<br>www.lenharttraffic.com | Key: xx = AM Peak Vol's (xx) = PM Peak Vol's [xx] = Sat Peak Vol's | |



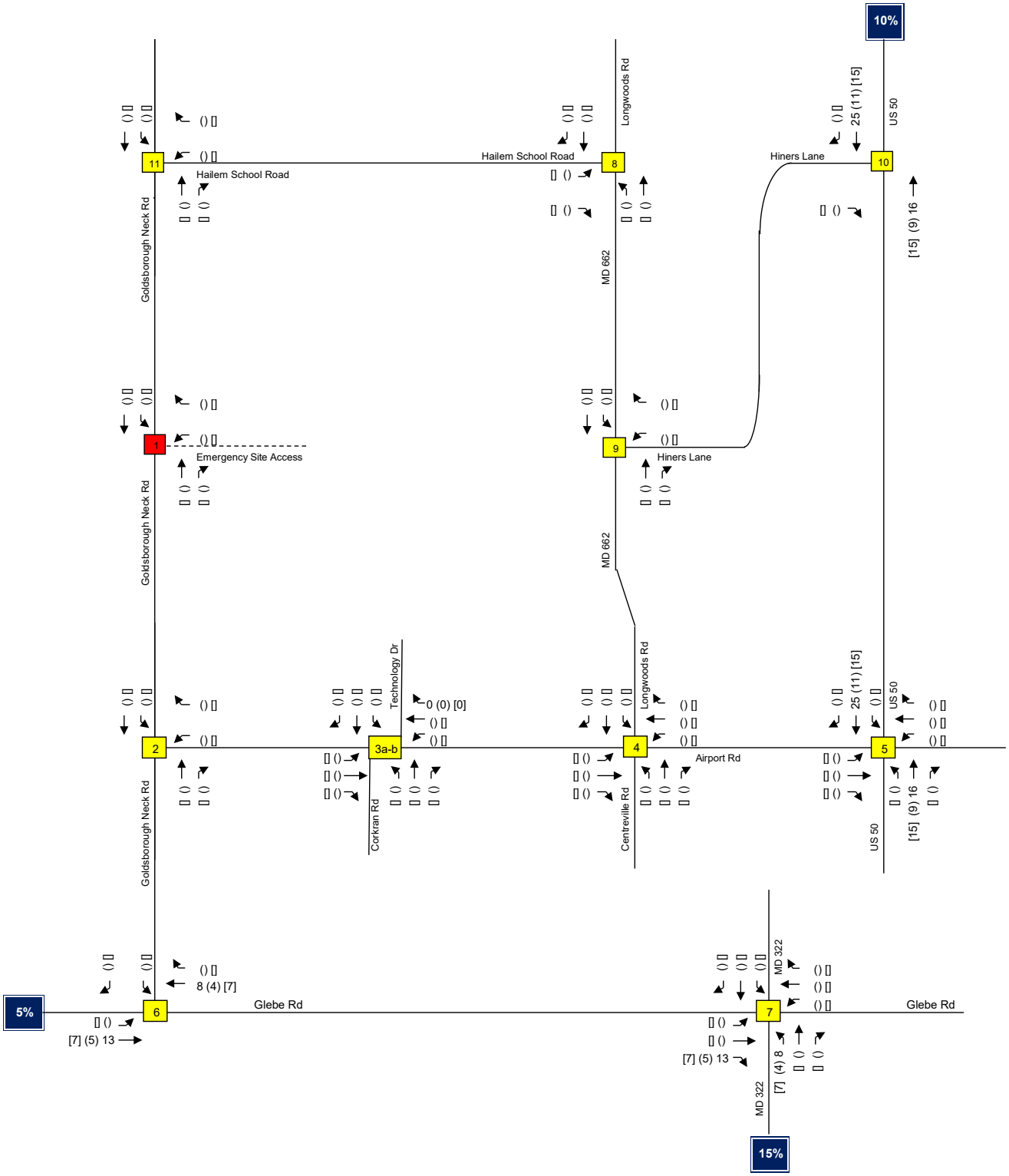

| Traffic Impact Analysis | Background Development<br>Trip Assignment - BDs 7 & 8 | **Exhibit C-4** |
|---|---|---|
| LENHART TRAFFIC CONSULTING, INC.<br>645 BALTIMORE ANNAPOLIS BLVD, SUITE 214<br>SEVERNA PARK, MD 21146<br>www.lenharttraffic.com | Key: xx = AM Peak Vol's (xx) = PM Peak Vol's [xx] = Sat Peak Vol's | |



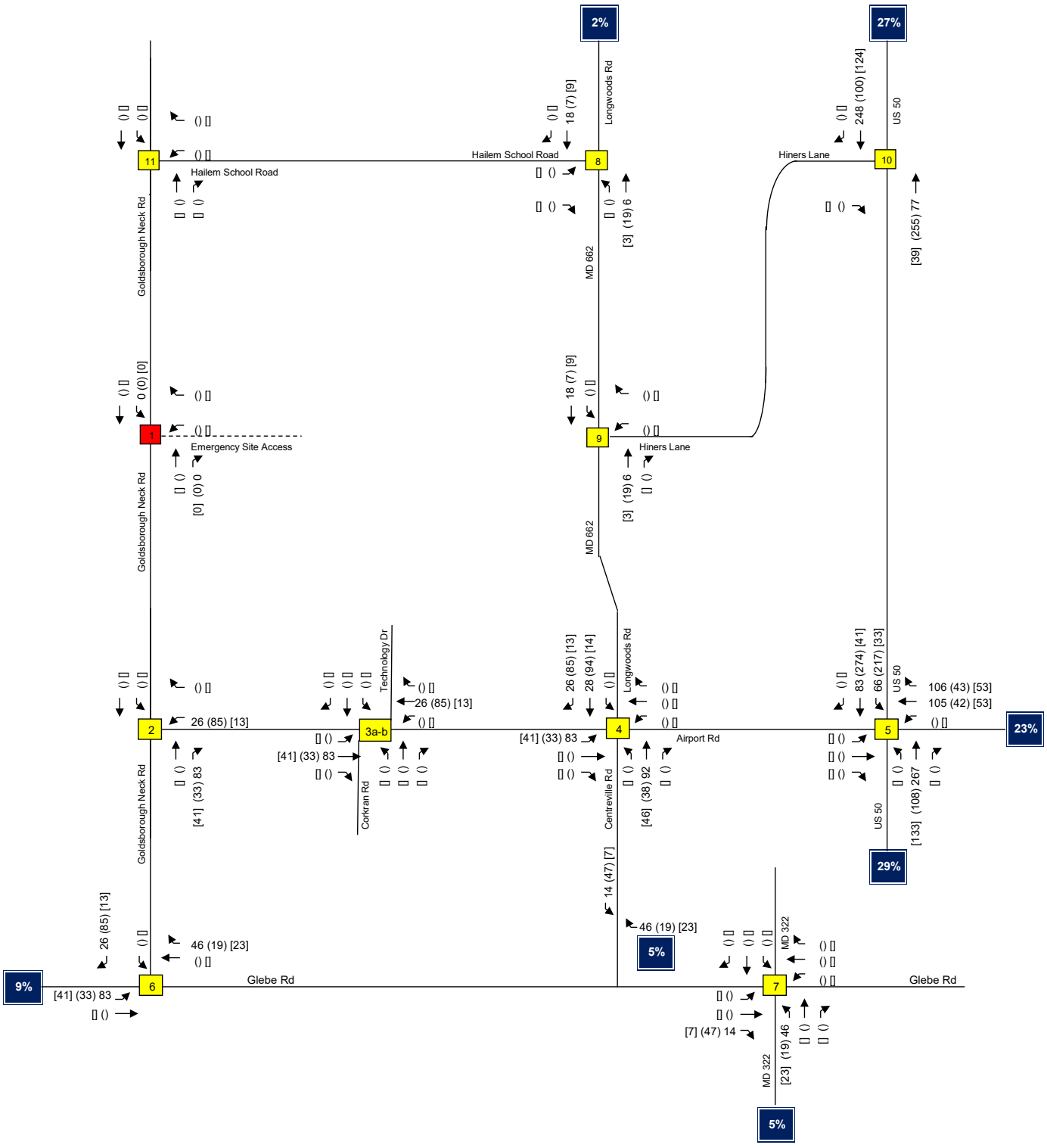

| Traffic Impact Analysis | Background Development<br>Trip Assignment - BDs 2, 12, 13 | **Exhibit C-5** |
|---|---|---|
| LENHART TRAFFIC CONSULTING, INC.<br>645 BALTIMORE ANNAPOLIS BLVD, SUITE 214<br>SEVERNA PARK, MD 21146<br>www.lenharttraffic.com | Key: xx = AM Peak Vol's (xx) = PM Peak Vol's [xx] = Sat Peak Vol's | |




| Traffic Impact Analysis | Background Development<br>Trip Assignment - BDs 14 & 16 | **Exhibit C-6** |
|---|---|---|
| LENHART TRAFFIC CONSULTING, INC.<br>645 BALTIMORE ANNAPOLIS BLVD, SUITE 214<br>SEVERNA PARK, MD 21146<br>www.lenharttraffic.com | Key: xx = AM Peak Vol's (xx) = PM Peak Vol's [xx] = Sat Peak Vol's | |




| Traffic Impact Analysis | Background Development Trip Assignment - BD 11 | **Exhibit C-7** |
|---|---|---|
| LENHART TRAFFIC CONSULTING, INC. 645 BALTIMORE ANNAPOLIS BLVD, SUITE 214 SEVERNA PARK, MD 21146 www.lenharttraffic.com | Key: xx = AM Peak Vol's (xx) = PM Peak Vol's [xx] = Sat Peak Vol's | |




| Traffic Impact Analysis | Background Development<br>Trip Assignment - BD 17 | **Exhibit C-8** |
|---|---|---|
| LENHART TRAFFIC CONSULTING, INC.<br>645 BALTIMORE ANNAPOLIS BLVD, SUITE 214<br>SEVERNA PARK, MD 21146<br>www.lenharttraffic.com | Key: xx = AM Peak Vol's (xx) = PM Peak Vol's [xx] = Sat Peak Vol's | |

# TOWN OF EASTON

14 South Harrison Street
Easton, Maryland 21601

June 9, 2025

Dear Resident,

The Easton Planning Commission (Commission) will hold a public meeting on **Tuesday, June 24, 2025 at 1:00 p.m**. in the Easton Town Council Chambers located on the second floor of 14 South Harrison Street. The Town of Easton Zoning Ordinance requires that owners of property located within 400 feet of a parcel on which certain types of applications are pending be given notice of upcoming meetings or hearings. If you are a tenant in or an owner of a multi-unit building, please distribute or post this notice in a visible location for all other tenants or owners to view. If you are a tenant of a rental property, please notify the property owner that this notice letter has been distributed to their property. Notice has also been sent to the Star Democrat, a sign has been posted at the subject property and the hearing agenda has been posted on the Town of Easton website: http://eastonmd.gov/.

This letter is sent to inform you that Planned Unit Development (PUD) application 2025 - 1456 has been filed by Lane Engineering LLC (Applicant) on behalf of Easton Sunrise Partners, LLC (Owner) to request Subdivision Sketch Plat approval for the development of 365 residential units, and two (2) commercial buildings. The Applicant is also seeking a formal recommendation to the Town Council for PUD approval which will include findings as to the request's consistency with the Comprehensive Plan. The property is located at 9684, 9778, 9783, 9687 Technology Drive & 29001, 29004 I-Way Court, also known as Tax Map 0025, Grid 0004, Parcels 0090 & 0092, Lots 1-4, 9, 10.

Copies of the proposed application are on file and available for public review in the Town's Planning Office at 14 South Harrison Street between the hours of 8:30 a.m. and 4:00 p.m., Monday through Friday. **In addition, digital copies will be available for review one week prior to the scheduled meeting via the Town's website at** https://www.eastonmd.gov/129/Agendas-Minutes. If you have any questions regarding this application, please contact the Planning Office at (410) 822-1943 or via email at ssmith@eastonMD.gov.

Samantha N. Smith

Samantha N. Smith, Administrative Specialist
Planning & Zoning Department
410-822-1943 ssmith@eastonMD.gov




***Subject property posting pursuant to Section 28-901.2.H.2 of the Town of Easton Zoning Code - June 6, 2025***

**Joe Mayer <jmayer@eastonmd.gov>**

# Fox Chase Estates

1 message

**Maury Schlesinger** Tue, Jun 24, 2025 at 6:00 AM
To: "PlanningCommission@eastonmd.gov" <planningcommission@eastonmd.gov>

Fox Chase Estates PUD

I hate to be a critic of every new proposal, but this PUD subdivision plan requires some comments:

1. The site is currently zoned BC – no housing permitted. Why is this change of use OK? Is it just because the PUD plan checks all (or most) of the regulatory boxes?
2. The site is isolated, distant from any other housing, adjacent to agricultural and industrial uses and, yes, the future hospital site. Is this an appropriate location to expand the town's stock of housing?
3. The preliminary plan adopts many of the development principles advocated by the town's regulations for new subdivisions. Yeah! A portion of the houses have an alley system, with parking in the rear. But many have garages and driveways facing the street. This is especially unfortunate for the townhouses. If one is attempting to create a place which reflects the "feel" of Easton, continuous driveways along the street and elevations whose primary element is a garage door is not the right approach.
4. With sidewalks and walking paths and a mix open space and use-specific recreation areas, the plans appear attractive. But where can kid ride their bike to get an ice cream cone or someone push a stroller to buy a loaf of bread? There might eventually be retail in the proposed commercial buildings, but those are located at a significant distance from the housing, situated past a pair of existing warehouses and beyond a sea of parking. Why not a village center near the clubhouse - a store (or two) between the apartment buildings and the signature traffic circle? Or could retailing occupy the ground floor of the apartment buildings, with storefronts facing Technology Drive?

Without some service retail, life here would require driving a car for everything other than on-site recreation. Even once the hospital is built, it's unlikely one would walk across its acres of planned buffer and parking lots. The developer says its plan provides housing options, especially for potential hospital employees. But what happens to the rest of the town when the relocated hospital sucks new residents north of the airport? Despite the architecture, this "neo-traditional village" is just more spawl, created by the faulty decision of locating the hospital so far from the core of the town. But the current mindset that housing, especially "attainable" housing, should be cultivated - even when contrary to existing zoning - will determine the fate of this proposal. Adjustments to this proposal should be required before approval.