Planning Commission
MEETING AGENDA

Thursday, August 17, 2023 - 1:00 PM
Council Chambers, Easton Town Office
14 S Harrison Street

1. Call to Order

2. Approval of Minutes.

a. Approval of the Decision Summary from the July 20, 2023 meeting.

b. Approval of the Draft Decision Summary from the April 4, 2023 Poplar Hill Supplemental Growth Allocation joint public hearing.

3. Old Business

a.

Applicant:	Aspire Outdoors, LLC
File No.:	2023-004
Location:	Camac Street Tax Map 026, Grid 020, Parcel 0186
Zoning District:	R-10A
Nature of Request:	Sketch Site Plan approval for a proposed six-building apartment complex with a total of 162 units to be developed on the property located on Camac Street, also known as Tax Map 0026, Grid 0020, Parcel 0186. The proposed project also requires Special Exception and Variance approvals from the Board of Zoning Appeals and the applicant is seeking a formal recommendation from the Planning Commission to the Board.

4. New Business

a.

Applicant:	Easton Utilities Commission
File No.:	2023-882
Location:	8670 Commerce Drive Tax Map 101, Grid 002, Parcel 004, Lot 3
Zoning District:	BC

	Nature of Request:	Sketch Site Plan approval for a new water treatment plant processing building.
b.	**Applicant:**	Lane Engineering
	File No.:	2023-976
	Location:	29311 Cecil Drive - Austin Medical Supplies Tax Map 025, Grid 024, Parcel 0089, Lot 4
	Zoning District:	CL
	Nature of Request:	Sketch Site Plan approval for a proposed 2,334 sq ft. building addition for storage space with the interior fit-out for the sale and storage of medical supplies.
c.	**Applicant:**	Robert S. Collison, P.A.
	File No.:	2023-963
	Location:	9719 Ocean Gateway Tax Map 0025, Grid 0006, Parcel 0113,
	Current County Zoning District:	GC
	Requested Town Zoning District:	CG
	Nature of Request:	**The Petition for the Annexation of property located at 9719 Ocean Gateway has been withdrawn from the August 17, 2023 Planning Commission agenda.**
d.	**Applicant:**	Rise Up Dover Road LLC
	File No.:	2023-870
	Location:	625 Dover Road Tax Map 103, Grid 0EA, Parcel 0990
	Zoning District:	R-7A
	Nature of Request:	Amendment to a previously approved Planned Unit Development (PUD) that would allow a shade structure to remain standing at 625 Dover Road on a seasonal basis without having to apply each year for a temporary use permit approval. The applicant is also requesting approval for the addition of a kitchen facility and walk-up café to the existing property at 625 Dover Road,

also known as Tax Map 103, Parcel 0990.

e. *Ordinance No. 799* - A formal Planning Commission recommendation to the Town Council for the adoption of a temporary moratorium on the application for approval of, construction of, expansion of, processing of, or issuance of building permits for the operation of a business engaged in the growing, processing, and/or selling of cannabis within the Town of Easton for a period of nine (9) months pending consideration and adoption of revised zoning ordinance provisions as the Town Council may consider advisable to promote the public health, safety, and welfare.

5. Discussion Item

6. Adjournment.

Town of Easton Planning Commission
Draft Decision Summary
Thursday, July 20, 2023 at 1:00 p.m.
Town Hall Chamber 2
14 S. Harrison Street, Easton

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

Attendance:

Commission Members:
Jennifer Dindinger, Chairperson
Victoria McAndrews
Paul Weber
Tom Klein, Alternate

Staff:
Miguel Salinas, Planning and Zoning Director
Lynn B. Thomas, Town Planner
Nicholas Johnson, Planner
Sharon Van Emburgh Esq, Town Attorney
Rick Van Emburgh, Town Engineer
Samantha Smith, Administrative Specialist

Absent:

Commission Members:
Philip Toussaint, Vice Chairperson
William Ryall

Staff Members:
Joseph Mayer, Plan Reviewer

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

2. **Decision Summary Review** —
   a. June 15, 2023 - The Commission noted the following correction to the draft decision summary:

      i. Item 5a.: Additional text amendment.

Commissioner Weber moved to approve the June 15, 2023 Decision Summary with amendments. Commissioner Klein seconded the motion.

Vote	4-0-2
FOR:	4 - Dindinger, Klein, McAndrews, Weber
AGAINST:	0
ABSTAIN:	0
ABSENT:	2 - Toussaint, Ryall

b. April 4, 2023 Poplar Hill Supplemental Growth Allocation Joint PC Public Hearing - The Commission tabled their approval of the Decision Summary to the August 17, 2023 Planning Commission meeting.

3. Old Business — None

4. New Business

a. Applicant: **Saints Peter and Paul Church**
File No.: **2023 - 962**
Agent: Brent Outten
Location: 1212 S. Washington Street, Easton, MD 21601
Tax Map 108, Grid 000, Parcel 2678F , Lot 4
Zoning: R-10A
Request: The applicant is seeking site plan and architectural approval for a proposed athletic storage facility.

Staff recommend the following condition:

1. The Applicant is required to obtain a Grading Permit and all applicable Building permits

Staff Presentation:
Joseph Mayer, Plan Reviewer
Miguel Salinas, Director of Planning and Zoning

Applicant Presentation:
Brent Outten

Public Comment — None

Commissioner Weber moved to approve the site plan and architecture with the condition that the applicant shall obtain a Grading Permit and all applicable Building Permits. Commissioner Klein seconded the motion.

Vote	4-0-2
FOR:	4 - Dindinger, Klein, McAndrews, Weber
AGAINST:	0
ABSTAIN:	0
ABSENT:	2 - Toussaint, Ryall

b. Applicant: **Basi Brothers, LLC**
File No.: **2023 - 963**
Agent: Robert S. Collison, P.A.

Location: 9719 Ocean Gateway, Easton, MD 21601
Tax Map 0025, Grid 0006, Parcel 0113
Current County Zoning: GC
Requested Town Zoning: CG
Request: The Petition for the Annexation of property located at 9719 Ocean Gateway has been withdrawn from the July 20, 2023 Planning Commission agenda.

c. **Applicant:** **Friel Storage LLC**
File No.: **2023 - 959**
Agent: **DMS & Associates**
Location: Easton, MD 21601
Tax Map 00, Grid 000, Parcel
Zoning: CG
Request: The applicant is requesting a continuance of the application to address additional revisions to the site plan.

Commissioner Weber moved to table the application. Commissioner McAndrews seconded the motion.

Vote	4-0-2
FOR:	4 - Dindinger, Klein, McAndrews, Weber
AGAINST:	0
ABSTAIN:	0
ABSENT:	2 - Toussaint, Ryall

5. Discussion Items

a. Zoning Requirements for Adult-Use Cannabis Dispensaries — The Town Council has requested for legislation to be prepared for the adoption of a temporary moratorium in the term of nine (9) months on any application, permit or other approval for businesses engaged in the growing, processing, and/or selling of cannabis pending the adoption of revised Zoning Ordinance provisions. The amended legislation will be presented to the Council at the August 7, 2023 meeting and subsequently referred to the Planning Commission for a formal recommendation. Ms. Sharon VanEmburgh Esq. advised that the adoption of a temporary moratorium is for the purpose of amending the adopted medical cannabis definition and all recreational cannabis facilities in the Ordinance, and to include a new definition and zoning regulations for On-Site Consumption Establishments.

b. Comprehensive Plan Update — The findings of the Comprehensive Plan Update Survey are still under review. Supplemental outreach efforts for underrepresented

communities are being conducted and will be included in the final results. An update of the material will be formally presented to the Planning Commission at a later time.

c. Subdivision Regulation and Zoning Amendment Update — Following discussion regarding a potential recommendation to the Town Council involving proposed changes to the street standards in the Subdivision Regulations, the Commission determined they were comfortable with the language as previously sent to the Council. A Zoning Amendment workshop for the remaining proposed amendments is to be scheduled by the Town Council at a later time.

d. Park Advisory Board — the Park Advisory Board is scheduled to review an assessment of park space and park type within the Town, including the current Poplar Hill proposal at their July 24, 2023 meeting. The Board is asked to give a signed recommendation of their findings to the Planning Commission.

e. East End Neighborhood Plan Update — An internal project management team is leading an effort to update the East End Neighborhood Plan. The kick-off of the project is anticipated to be in early Fall.

6. Adjournment — Commissioner McAndrews moved to adjourn. Commissioner Dindinger seconded the motion. The meeting was adjourned at 2:08 p.m.

Talbot County Planning Commission
Town of Easton Planning Commission
Joint Hearing Draft Decision Summary
Tuesday, April 4, 2023 at 5:30 p.m.
Avalon Theater - 40 E. Dover Street, Easton

Archived video of this meeting is available at the MCTV YouTube channel:
youtube.com/midshorecommunitytelevision

Attendance:

County Commission Members:
Chip Councell, Chairperson
Michael Strannahan, Vice Chairperson
James Corson
William Boicourt
Paul Spies

Town Commission Members:
Jennifer Dindinger, Chairperson
Philip Toussaint, Vice Chairperson
Paul Weber

Absent:
Town Commission Members:
Victoria McAndrews

Recused:
Town Commission Members:
William Ryall

County Staff:
Brennan Tarleton, Planning Officer
Elisa Deflaux, Planner II
Bryce Yelton, Planner II
Andy Meehan, County Attorney
Mike Mertaugh, Assistant County Engineer

Town Staff:
Miguel Salinas, Planning and Zoning Director
Lynn B. Thomas, Town Planner
Joseph Mayer, Plan Reviewer
Nicholas Johnson, Planner
Sharon VanEmburgh, Town Attorney
Rick VanEmburgh, Town Engineer
Samantha Smith, Administrative Specialist

1. **Introductions**— County Chairperson Councell and Town Chairperson Dindinger called the meeting to order at 5:30 p.m.

2. **Hearing Session** —

A joint hearing was called between the Town and County Planning Commission on behalf of 5001 SHR, L.C. to formally request the granting of Supplemental Growth Allocation from Talbot County for the purpose of reclassifying approximately 65.977 acres of land located in the Critical Area, designated as Resource Conservation Area (RCA) to be reclassified as Intensely Developed Area (IDA). Mr. Ryan D. Showalter,

Esq. gave a brief introduction to their presentation of the project, responded to the criteria of the Allocation Standards and Factors under the Critical Area Commission, and the processes involved within the Planned Unit Development Review. Mr. Showalter's responses to the Standards and Factors are below:

a. **Growth Allocation Standards —** The Growth Allocation Standards are defined under State law in Natural Resources Article § 8-1808.1 and under COMAR 27.01.01.06-3 and are implemented in the Town of Easton Code § 28-501.81 and Talbot County Code § 190-15.3.

   i. *A new intensely developed area shall be at least 20 acres:* the applicant is proposing an IDA of 65.977 acres.

   ii. *No more than 50% of the County's growth allocation may be utilized on lands located in the RCA, unless all Critical Area Commission-approved alternate standards are met:* Talbot County currently has approximately 1,872.28 acres of available allocation, and the 65.977 acres of proposed reallocation is below the 50% threshold.

   iii. *Locate a new Intensely Developed Area adjacent to an existing Intensely Developed Area:* the proposed IDA is adjacent to existing IDA properties located at Easton Club, Papermill Crossing, Easton Bypass, and Mallard Ridge.

   iv. *Locate a new Intensely Developed Area in a manner that minimizes impacts to habitat protection areas as defined in COMAR 27.01.09, and enhances water quality and impacts to the defined land uses of the RCA:* the applicant has proposed a Buffer Management Plan with an established 100' shoreline buffer, and includes a 200' planting buffer.

   v. *Locate a new Intensely Developed Area in a Resource Conservation Area at least 300' beyond the landward boundary of tidal wetlands or tidal waters:* In addition to the proposed Buffer Management Plan, the applicant has also proposed pollution reduction measures through a Stormwater Management Plan and a Forest Conservation Plan that will enhance the water quality to meet or exceed the 10% pollutant reduction.

b. **Growth Allocation Factors —** the Growth Allocation Factors are organized under consideration by the Critical Area Commission staff for reviewing Growth Allocation requests.

   i. *Consistency with the jurisdiction's adopted Comprehensive Plan:* Staff reports from the respective Town and County Planning and Zoning Departments concluded that the proposed project conforms to the goals and objectives outlined in the adopted Comprehensive Plan.

ii. *For a new Intensely Developed Area, the development will be served by a public wastewater system; have a density of at least 3.5 units per acre; be located in a Priority Funding Area for a new intensely developed area greater than 20 acres:* the property is located within the Town of Easton limits and will be served by Easton Utilities, and is expected to receive service from the Town's wastewater treatment plant. The average density of the proposed property will be 3.80 units per acre. The proposed Intensely Developed Area is located in a Municipal Priority Funding Area, and is 65.977 acres.

iii. *Consistency with State and regional environmental policies and the environmental impacts associated with stormwater and wastewater management:* the proposed Stormwater Management Plan is expected to conform under the 10% pollutant reduction requirement. The proposed property will not cause an increased risk of flooding as it is not located in a coastal hazard area.

iv. *The Intensely Developed Area is not to exceed 5% of the Resource Conservation Area lands:* the proposed allocation of 65.977 acres is less than the 5% of RCA land in the County.

Applicant Presentation:
Ryan D. Showalter, Esq.
Brett Ewing, Lane Engineering
Jarret Byer, Lane Engineering
Kevin Sills, Mid-Atlantic Real Estate Investments, Inc.
Michael Lenhart, Lenhart Traffic Consulting, Inc.

Public Comment:
John Farehall
Tom Ledvina, Papermill Crossing HOA
Phil Livingston
Reggie Taylor
Betty Manche
John Pepe
Bruce Harrington
Jim Wilcox
Karen Starr
Owen Bailey, Eastern Shore Land Conservancy
Matt Pluta, Shore Rivers
Tom Alspach, Talbot Preservation Alliance
Marc Ebersberger

3. **Adjournment**– Town Chairperson Dindinger moved to adjourn. The meeting was adjourned at 7:25 p.m.

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

Date of Hearing: August 17, 2023

3a

PLANNING COMMISSION
PUBLIC HEARING
STAFF REPORT

SUBJECT: **Camac Street - Aspire Apartments**

ELECTION WARD: Ward 2

CRITICAL ACTION DATE: At the pleasure of the Commission

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

APPLICANT: Aspire Outdoors, LLC

DOCUMENT CREATED ON: August 9, 2023

PURPOSE: The applicant is seeking site plan approval from the Planning Commission to construct six (6) three-story multi-family apartment buildings with a total of one hundred and sixty-two (162) units with associated parking, stormwater management facilities, and landscaping. They also request the Planning Commission to forward a recommendation of approval to the Board of Zoning Appeals.

RECOMMENDATION: Should the Planning Commission approve the sketch site plan as well as a positive recommendation to the Board of Zoning Appeals for the Special Exception, staff recommends proposed conditions (see below).

APPLICATION INFORMATION:	
APPLICANT: Aspire Outdoors, LLC	**REPRESENTATIVE:** Rauch, Inc.: Brian Fitzgerald & Paul Rogers Aspire Outdoors, LLC: Derick Daly

PARCELS/ACREAGE:

Parcel Information	Acreage
Map 026, Grid 20, Parcels 112 & 186	61.81

ACCEPTANCE DATE: July 31, 2023	**LOCATION:** Camac Street, Parcels 112 & 186
EXISTING ZONING R-10A	**EXISTING LAND USE:** Residential
HISTORIC DISTRICT: Not Applicable	**FUTURE LAND USE MAP:** Residential

CONTEXT:

Location/Site Access – The subject property is located adjacent to Matthewstown Road (MD 328). It is accessed via Camac Street in the Hunters Mill subdivision, Tallulah Lane in the Matthewstown Run subdivision, Juanita Lane in the Matthewstown Run subdivision, and an unnamed 60 foot right-of-way easement in the Gannon Farms PUD.

Existing Conditions – The subject property is vacant and can generally be described as approximately 62 acres of existing forest with sensitive environmental features such as a stream and non-tidal wetlands scattered throughout the property. Much of the property is in forest conservation from the development of the Matthewstown Run subdivision and the Hunters Mill subdivision (***Figure 1***). There are flood hazard areas located at the southern tip of the property.

Figure 1: Protected Areas

Surrounding Properties

	Land Use	Zoning District(s)	Future Planned Land Use
North	Agriculture Residential	PUD R-10A	Residential Residential
West	Residential	R-10A	Residential
South	Residential	R-10A	Residential
East	Forest	County Zoning	County

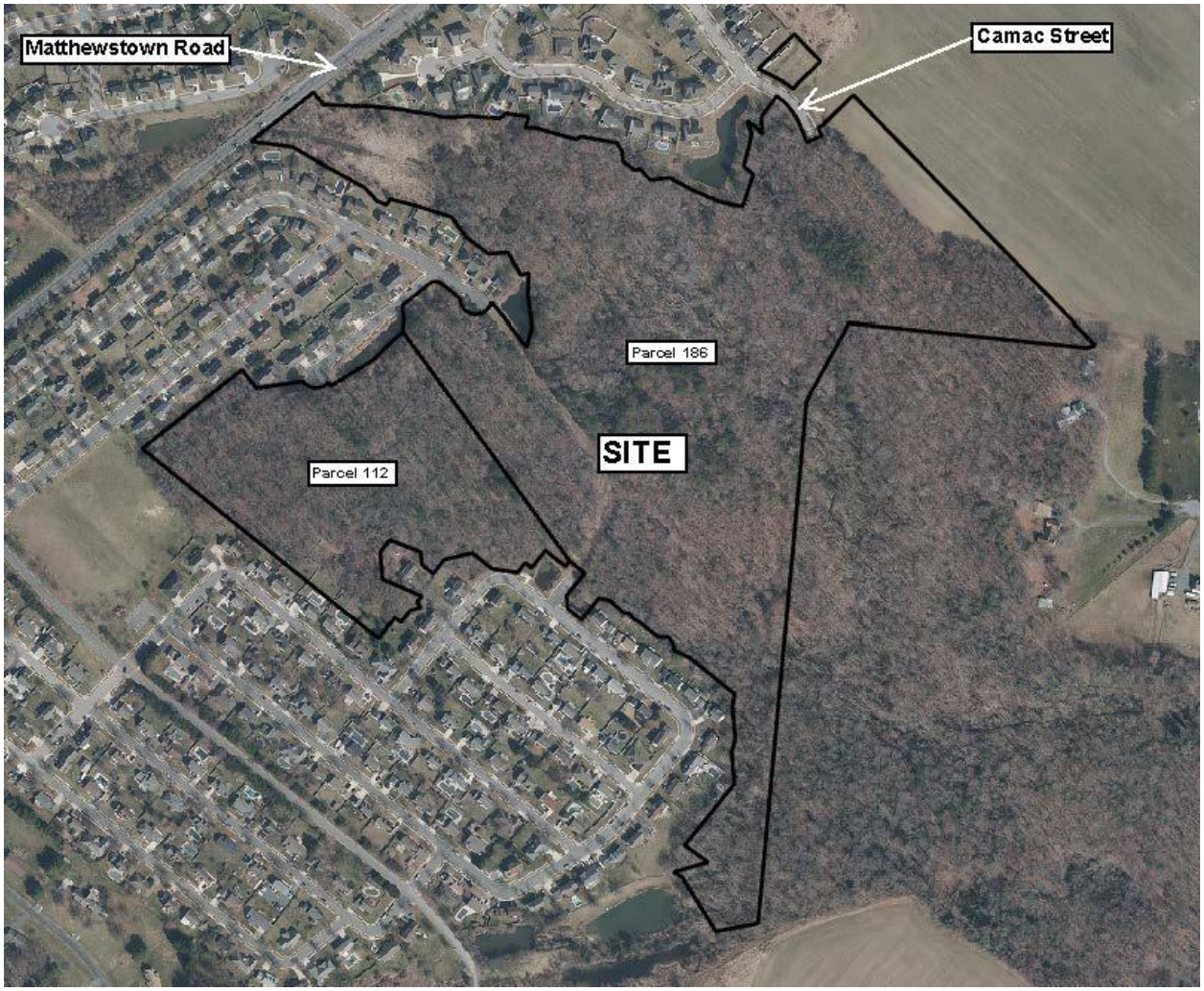

***Figure 2**: Vicinity Map*

PROPOSAL: The applicant is proposing to construct six (6) three-story multi-family apartment buildings with a total of one hundred and sixty-two (162) units with associated parking, stormwater management facilities, and landscaping. Parcel 186 is zoned R-10A which allows a maximum density of 5 dwelling units per gross acre for multi-family developments. The current proposed density, based on the combination of Parcel 112 & 186, is 2.62 dwelling units per acre. The applicant is also seeking a special exception from the Board of Zoning Appeals to permit multi-family housing on a property zoned R-10A as well as a variance from 28-1007.1.14.I of the Town of Easton Zoning Code, 2021 Edition (Zoning Ordinance) to allow an apartment structure and a parking area to be constructed within seventy-five (75) feet of adjacent single-family dwellings. **(See Attachment 1: Policy Analysis for Special Exception and Variance)**

BACKGROUND: The subject property was approved as Parcel A in a final plat recorded in February of 2008. The Plat, titled Hunters Mill - Phase 1, resulted in the existing 50-lot Hunters Mill subdivision (Plat Reference 82/151). The plat also created Parcel B, which is now part of an approved Planned Unit Development (PUD). The original plan called for future development

phases of single-family homes on Parcels A and B. The subject property was planned to be part of the existing Hunters Mill subdivision with single family lots as part of phase 2 with an extension of the existing Camac Street. The subject property would also connect the Camac Street extension with Phase 3, now the Gannon Estates PUD. The PUD that would have allowed for this development was never approved. Only the existing portion of Hunters Mill was constructed via the subdivision process and the portion of phase 2 where the proposed multi-family apartments are now proposed was never improved.

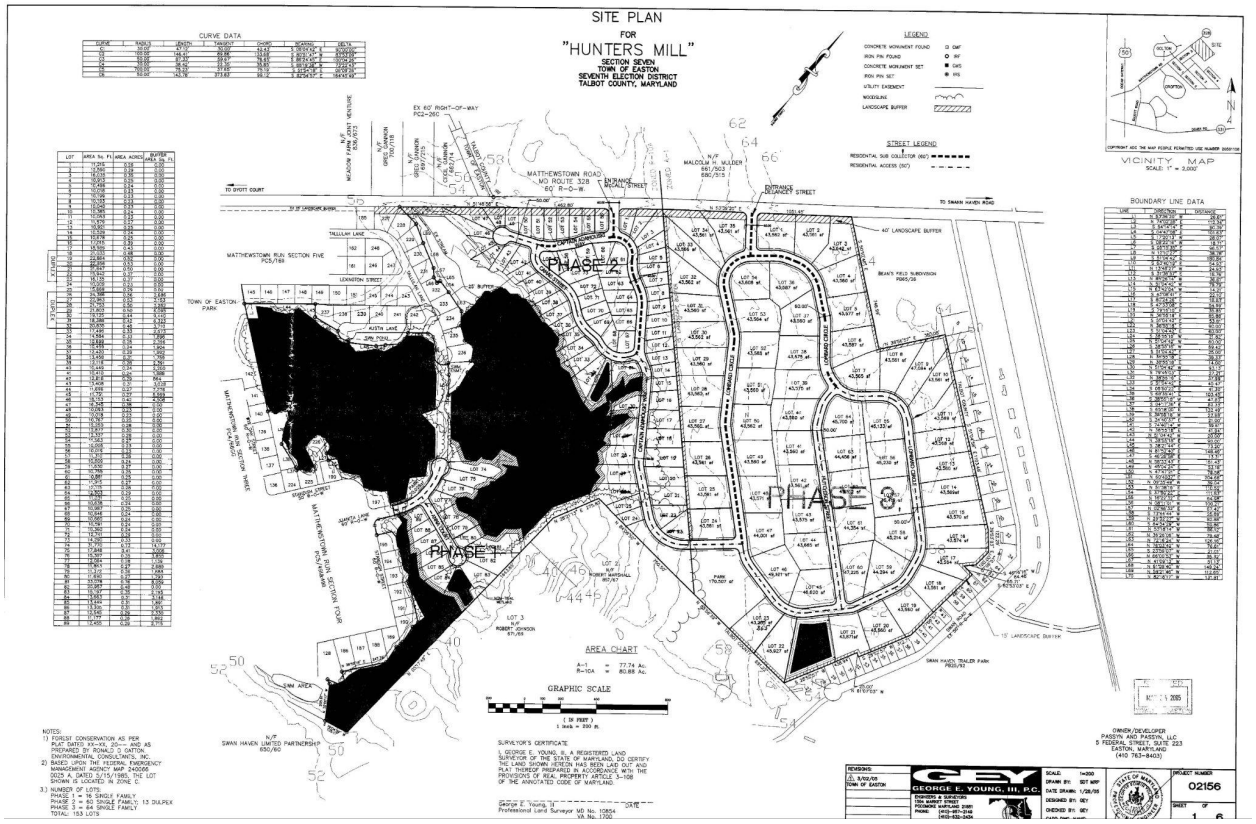

Figure 3: Original Hunters Mill Site Plan

The applicant initially submitted an application to the Easton Staff Development Review Committee (ESDR) on December 28, 2022 (please see attached ESDR Determination Letter). Per the applicant's request, the project proceeded to the Planning Commission as a Discussion Item for the January 19, 2023 meeting. The applicant submitted an application to the Board of Zoning Appeals on April 18, 2023. The Board moved to continue the Special Exception and Variance application to at least 180 days (October 17, 2023) to allow the applicant to address all staff recommended conditions; and with the condition that the applicant shall receive a Planning Commission recommendation to the Board of Zoning Appeals prior to the next appearance before the Board. The applicant withdrew their application from the April 26, 2023 ESDR meeting to revise the site plan and submit for the July 26, 2023 ESDR meeting.

In relation to the adjacent Gannon Farms Estates PUD, the Town Council approved Ordinance #773 on February 21, 2022 with a binding condition for the developer of Gannon Estates to plat a sixty-foot right-of-way on their property to provide for a future vehicular connection between

their property and the adjoining Parcel 186 (Aspire Property). The right-of-way shall be platted and dedicated to the Town simultaneously with the approval and recordation of the final plat for the property, but the Applicant (Gannon Estates) shall not be required to construct the road within the right-of-way. The location of this future connection was then shown on the PUD Concept and Land Use Plan ***(Figure 4)*** and approved by the Planning Commission on March 17, 2022. This connection has been subsequently shown on the Gannon Estates Preliminary Plat ***(Figure 5)*** and Gannon Estates Infrastructure Plan ***(Figure 6)*** submitted to the Town on April 12, 2023, which are currently under Town review.

Figure 4: Gannon Estate Concept and Land Use Plan

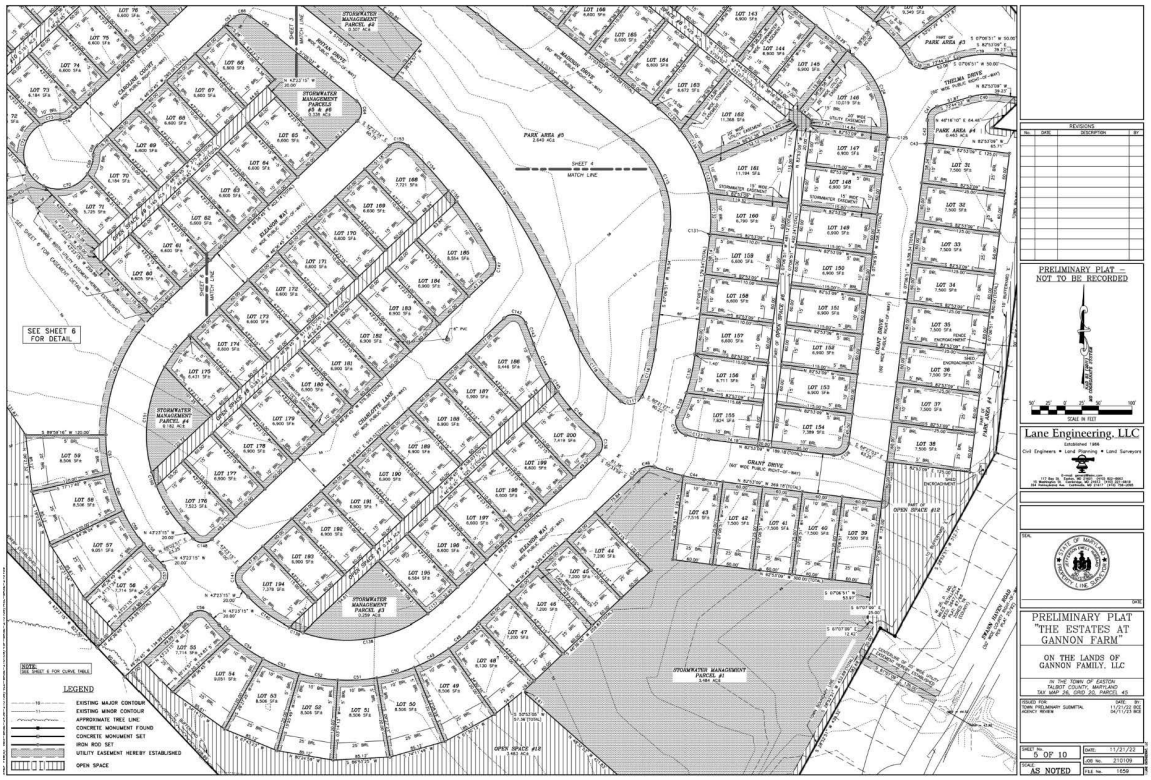

Figure 5: Gannon Estates Preliminary Plat

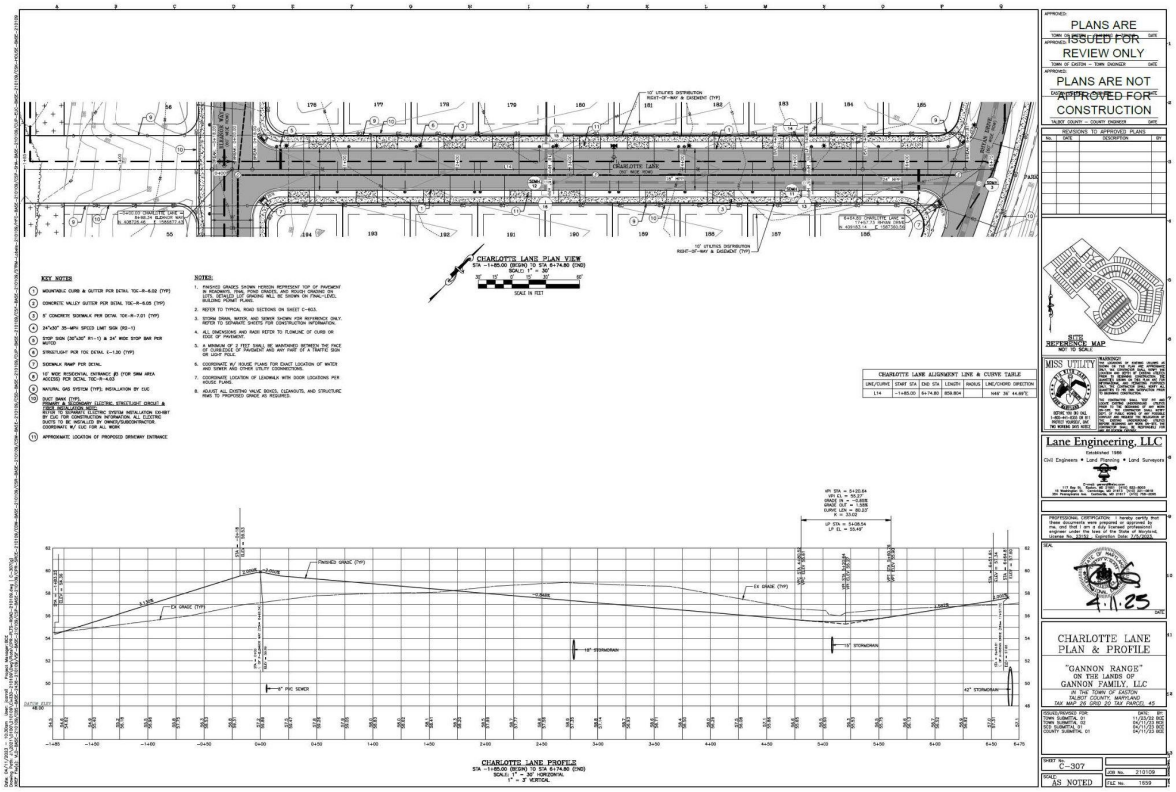

Figure 6: Gannon Estates Infrastructure Plan

OUTSTANDING ISSUES:

<u>1. Connectivity</u>– Connectivity is an important tenet of the Town's Comprehensive Plan for safety, accessibility, community building, and sustainability. The Town of Easton 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. As mentioned previously, Gannon Estates was required by the Town Council as part of their PUD process to provide a vehicular connection between their property and the property now owned by Aspire Outdoors LLC. The applicant has provided a vehicular connection up to their property line **(Figure 7)**.

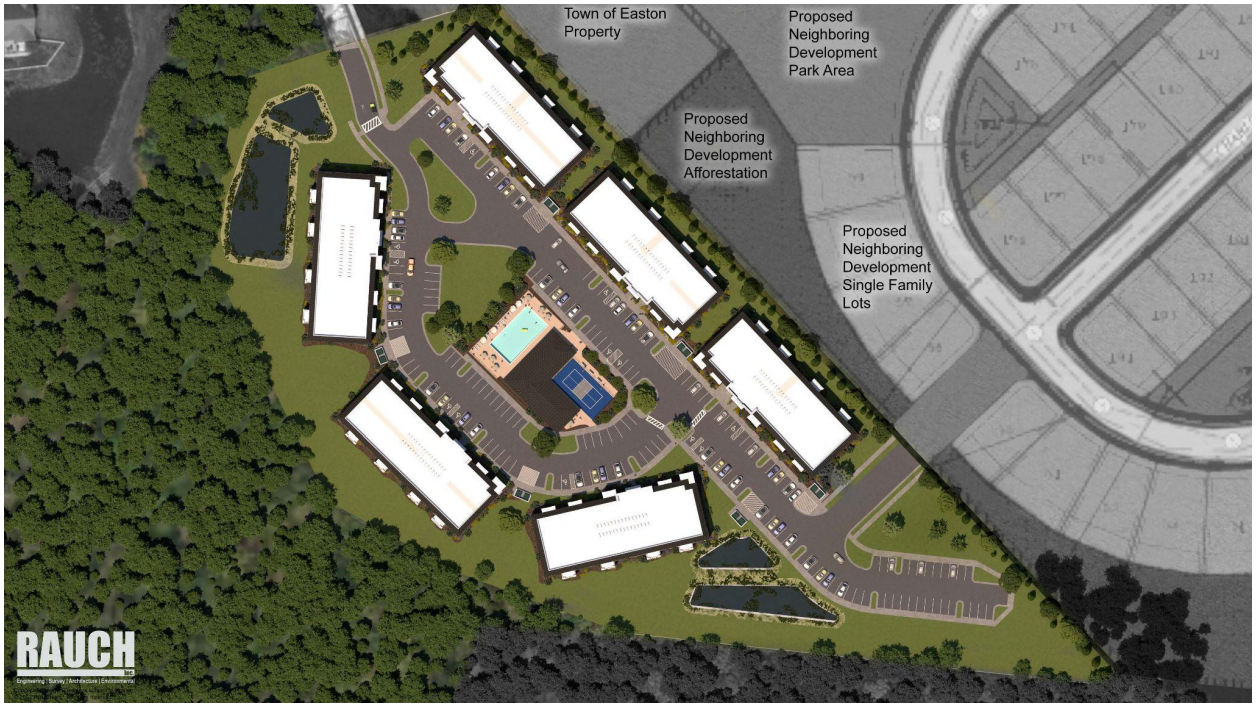

Figure 7: Gannon Estates Vehicular Access

Staff notes that the proposed connectivity is now provided to the Gannon Range project to the northeast. While connecting Camac Street to Gannon Range with a public road would be preferred, this second entrance provides the connectivity previously requested. However, staff notes that the applicant's ADT evaluation indicates that a secondary means of access is required to accommodate the number of trips generated with full build-out of the project. Therefore, phasing of the project will need to be considered based on the timing of the secondary means of access.

2. Matthewstown Road Pump Station Capacity – Easton Utilities has identified issues relating to the capacity at the Matthewstown pump station to serve the proposed development. The pump station currently only has the remaining capacity to serve an additional forty (40) equivalent dwelling units. Easton Utilities states that "the Matthewstown Pump station does not have the capacity to serve this development."**(See Attachment 2: Easton Utilities Outstanding Issues).**

3. Traffic Impact Analysis - The current Traffic Impact Analysis (TIA) that was submitted by the applicant on July 19, 2023 is still under review. The Town Engineer noted that the revised report indicates Camac Street is permitted a maximum of 500 ADT and Aspire will generate 875 ADT on its own. Therefore, it appears the second entrance is necessary to be constructed to accommodate the anticipated ADT. This ADT Evaluation is still under review.

ZONING ANALYSIS:

A. Permissible Land Uses

28-201 table 2.1 (1) 105 R-10A

105	Multifamily Apartment Complex*	--	SE	SE	SE	SE	--	--	--	--	--	

Analysis –The proposed project is presented and described by the Applicant as Multifamily Apartments located in the R-10A Zoning District, which allows a maximum density of 5 units per gross residential acre. The proposed use is permitted by special exception in the R-10A zoning district 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
	Residential Buildings				
4	Multifamily	1 per du	2 per du	0.5 per du	

Total Site Parking Required:

Multifamily: 1 Space per dwelling unit required-Minimum
162 units x 1 = 162 spaces required-Minimum
2 Space per dwelling unit required-Maximum
162 units x 2 = 324 spaces required-Maximum
Total spaces provided: 201

Bicycle Spaces: 0.5 per dwelling unit required
162 units x 0.5 = 81 bicycle spaces
Total bicycle spaces provided: 98

Analysis- The total minimum spaces required is 162 spaces. The site provides 201 spaces.

C. R-10A District Development Standards

Table 1. Development Standards		
R-10A Zoning District	**Standard**	**Proposed**
Setbacks	Front = 15 feet Side - 8 feet Rear = 30 feet	Front = 15 feet Side - 20 feet Rear = 50 feet
Lot Size (min.)	10,000 square feet	2,691,136 square feet
Lot Frontage (min.)	35 feet	200 feet
Building Envelope (min.)	55 feet x 30 feet	700 feet X 400 feet
Lot Coverage (max.)	100% (Building Envelope) 50% (Rear Yard)	100% (Building Envelope) 0% (Rear Yard)
Height (max.)	35 feet	35 feet
Maximum Density for multi-family dwellings	5 dwelling units per acre	2.62 du per acre

Development shall also meet these additional Supplemental Use Standard requirements from Section 28-1007.1.14:

14. Multi-Family Apartment Complex

a. Multi-family apartment complexes dwelling shall be constructed in accordance with an approved Site Plan prepared under the provisions of Section 28 – 901 of this Ordinance

b. At least twenty-five (25%) percent of the gross development area shall be reserved as common open space, except for projects developed in the CBD Zoning District, in which case this standard shall not apply.

c. The setback requirements for multi-family apartment complexes shall be determined by the development standards for the zoning district in which the project is located except as hereby modified:

i When more than one (1) apartment building is constructed, all buildings shall collectively adhere to the front setback requirements of the district in which they are located, plus five (5) feet per story over two (2) stories, or portion thereof.

ii When more than one (1) apartment building is built, no building shall be closer than twenty-five (25) feet from any other apartment building that is part of the complex.

iii. No apartment structure shall be constructed at a distance of less than twenty (20) feet from any adjoining property lines; except for such structures constructed in the CBD district, wherein the development standards for that district shall apply.

d. When more than one apartment building is constructed, external walkways shall be paved and lighted.

e. In the event that swimming facilities are designed as a part of the project, these facilities shall be enclosed by a fence not less than six (6) feet high.

f. All areas not utilized for building or off-street parking shall be landscaped and maintained in accordance with Section 28 – 1014 of this Ordinance.

g. All buildings within the multi-family apartment complex shall be of compatible architectural design.

h. Architecture shall be compatible among the units within the development and harmonious with the existing architecture of the Town of Easton.

i. Public water and sewerage systems must be available to serve the project.

j. The maximum permitted density shall be as follows:

i. In R-7A - 8 dwelling units per acre.

ii. In R-10A and R-10M Districts - 5 dwelling units per acre.

iii. In the CBD Zoning District – 30 dwelling units per acre.

iv. In the MXW – See Article 3 (Table 312 B) for density provisions.

k. Side yard setback requirements for apartment buildings adjacent to a single family detached residence or vacant residential lot shall be fifty (50). Parking setback is also fifty (50) feet.

l. Rear yard setback requirements for apartment buildings adjacent to a single family residence or vacant residential lot shall be seventy-five (75) feet. The setback for parking areas is also seventy-five (75) feet. Variance required.

Analysis - The site also falls under the R-10A District and meets the 28-501 Development Standards. The applicant will need a Variance from supplemental standard: ***Section 28-1007.1.14.I.***

C. Forest Conservation

The Easton Forest Conservation Requirements of the Town Code, Article III, § 31-3.1, Forest Conservation Ordinance, *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 applicant has provided a Forest Stand Delineation and Forest Conservation Plan. There is adequate retention of existing forest cover for both parcels.

POLICY ANALYSIS:

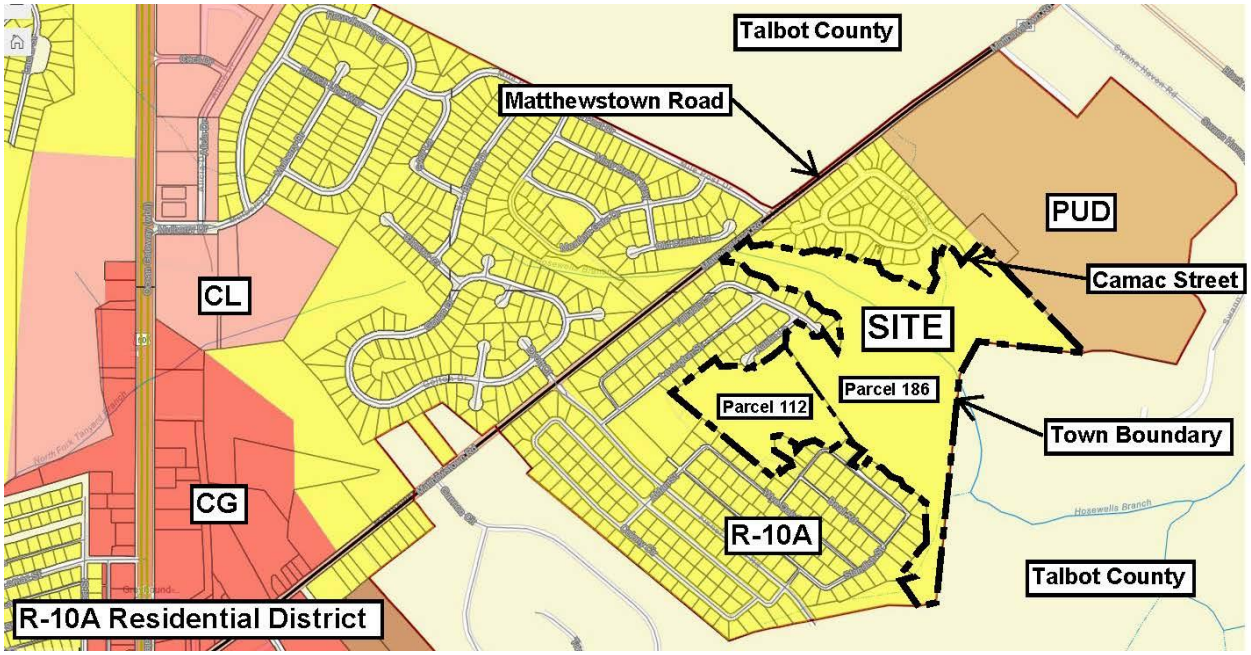

Figure 8: Zoning Map

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 project proposes a middle housing development which is a mix from the adjacent developments which employ single family lots.*

Staff notes that the proposed development of the site is consistent with many of the design objectives of the Comprehensive Plan, to include promoting infill/development, increasing density and expanding the variety and options of housing.

(Principle #2) Natural features should determine design – *Applicant's response: To accommodate the proposed project, the proposed stormwater management areas will be constructed to improve water quality prior to offsite disposal. The project was designed to minimally disturb existing Non-Tidal Wetlands on site as well as to avoid the 100' Stream Buffer, less than 5,000 sf of Non-Tidal Wetlands shall be disturbed.*

Staff notes that there are no compelling natural features on site; Non Tidal Wetlands, Stream Buffer and Forest Conservation areas.

(Principle #3) Automobiles should not determine design – *Applicant's response: Automobiles have not determined the design.*

Staff notes that the applicant has provided off-street parking on-site.

(Principle #4) Ample Open Space should be provided within & around neighborhoods – *Applicant's response: The project strives to achieve maximum functionality while still providing open green space at the front of the buildings. There are open spaces throughout the development including at the corners, rears of buildings, near the pool, etc.*

Staff notes that the minimum 25% open space requirement for multi-family is fulfilled.

(Principle #5) Architecture should respect Easton's Historical Development – *Applicant's response: This application proposes architecture compatible with zoning classification R-10A and design and materials of neighboring buildings.*

(Principle #6) Signs should inform but not dominate – *Applicant's response: Signs will be compatible with neighboring buildings and follow the trend of the development.*

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) Neighbors should contain a diversity of housing types – *Applicant's response: The building will be diverse in color and roof pitches which will help to break up any noticeable redundancy.*

(Principle #8) Residential neighborhoods should be interesting places – *Applicant's response: The project is designed to be welcoming and has sidewalks between buildings. The submerged*

gravel wetlands can act as learning opportunities for storm runoff treatment and there is a community pool and gathering area at the center of the development.

(Principle #9) Neighborhoods should connect – *Applicant's response: The project connects via Camac Street to the Northern Neighborhood of Hunters Mill. The future park will connect all neighborhoods together.*

Staff notes that the site has access to both Camac Street and future right-of-way at Gannon Estates. This provides connectivity within the existing neighborhoods.

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 multifamily housing, apartments 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 - Though the proposed site is below the maximum density requirements for multi-family in the R-10A zoning district. According to the applicant, the proposed use and activity will not increase traffic hazards in the surrounding area. Off-street parking is onsite and the applicant established connectivity between Hunters Mill and Gannon Estates to provide two primary means of ingress and egress.

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. Proposed use would provide six multi-family apartments (162 Units), adequate parking, landscaping features and stormwater management facilities.

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 CONDITIONS:

1. Development Site Plan approval is contingent upon Easton Utilities determining that the development has adequate wastewater capacity to serve all one-hundred and sixty two (162) units.

2. Two (2) proposed buildings may be constructed to existing Camac Street. Additional buildings will require the construction of the connection to the intersection of Eleanor Way in Gannon Estates, including improvement in the future Charlotte Lane right-of-way needed to make the physical connection. The internal roads in Gannon Estates must also be constructed and connect to Matthewstown Road for additional buildings to be approved and permitted. In order to provide connectivity, the use of controlled access gates at any access point to a public road cannot be utilized.

DRAFT MOTIONS:

1. I move that the Planning Commission approve the sketch site plan as well as a positive recommendation to the Board of Zoning Appeals for the Special Exception subject to staff's Conditions of Approval.

OR

2. I move that the Planning Commission forward the application to the September 21st Commission meeting for further discussion.

OR

3. I move an alternate motion.

ATTACHMENTS:
1. 2023-07-26 - ESDR Determination Letter - Aspire, paper copy & PDF
2. 2023-07-19 - ADT Evaluation, paper copy & PDF
3. 2023-07-31 - Comment Response Letter #3, paper copy & PDF
4. 2023-07-31 - Elevation - 12-7-22, paper copy & PDF
5. 2023-07-31 - ESDR Application, paper copy & PDF
6. 2023-07-31 - ESDR Checklist-Sketch Plan, paper copy & PDF
7. 2023-07-31 - ESDR Checklist-Sketch SWM Plan, paper copy & PDF
8. 2023-07-31 - Existing LOD Quantity Analysis , paper copy & PDF
9. 2023-07-31 - FCO for North Lot - 03.22.2023, paper copy & PDF
10. 2023-07-31 - FCO for South Lot - 03.22.2023, paper copy & PDF
11. 2023-07-31 - Floor Plans - 12-7-22, paper copy & PDF
12. 2023-07-31 - FSD Report, paper copy & PDF
13. 2023-07-31 - Infrastructure Improvement Plans, paper copy & PDF
14. 2023-07-31 - Proposed LOD Quantity Analysis, paper copy & PDF
15. 2023-07-31 - Renderings, paper copy & PDF

16. 2023-07-31 - SWM Report, PDF
17. 2023-07-31 - Parcels 112 & 186 - History & Timeline, paper copy & PDF
18. 2023-07-31 - Parcels 112 & 186 - Surveyor Letter, History & Timeline, paper copy & PDF
19. 2023-07-31 - Parcels 112 & 186 - Surveyors Opinion Letter, paper copy & PDF
20. 2023-07-31 - TIS Revised - 1-6-23, paper copy & PDF
21. 2023-08-10 - SketchPlanReviewPC(Aspire), paper copy & PDF

Addendum 1: Policy Analysis for Special Exception and Variance

POLICY ANALYSIS (Special Exception):

a. The proposed use conforms in all aspects to minimum requirements of the district in which it is located;

b. The proposed use is not adversely affecting the health, safety, and general welfare of residents of the area;

c. The proposed use will not interfere with the adequate and orderly provision of public facilities necessary to service the area or the proposed special exceptions;

d. The proposed use will not create congestion in the streets or undue traffic hazards, and that adequate egress and ingress are provided;

e. The proposed use will not adversely affect the area and surrounding property due to adverse environmental characteristics including undue smoke, odor, noise, improper drainage, or inadequate access;

f. The proposed use will not adversely affect the established character of the area.

Analysis - The Comprehensive Plan states that a diversity of housing choices is needed.

g. The proposed use shall be in conformity with the provisions of the Easton Comprehensive Plan including those provisions of the Comprehensive Plan relating to design and performance standards for the development or redevelopment of land. In addition to the criteria set forth elsewhere herein when considering an application for additional principal uses upon an approved lot, the proposed additional uses shall be compatible and complementary and uses customarily found near or in conjunction with one another. This provision may not be used to permit shopping centers which are governed by other provisions of this Ordinance.

POLICY ANALYSIS (VARIANCE):

a.Granting the application: (i) will not be contrary to the public interest, (ii) will be in harmony with the purpose and intent of the Ordinance and (iii) will not be injurious to the neighborhood or otherwise detrimental to the public welfare;

b. Owing to conditions peculiar to the property, which conditions are not the result of any action taken by the applicant, a literal enforcement of the Ordinance will result in practical difficulty to the applicant.

Addendum 2: Easton Utilities Outstanding Issues

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Plan Review Comment Sheet

Project Name:	ASPIRE APARTMENTS	**Date Received:**	4/5/2023
Project Address:		**EU Deadline:**	4/11/2023
Type of Permit:		**TOE Due Date:**	4/11/2023
		Submission #:	

Department	Approved	Approved as Noted	Revise & Resubmit	Rejected	Plan Review Signature
Addressing					
Cable					
Electric					
Engineering					
Gas					
Meter					
Water/Wastewater					

No.	DWG / PAGE	Project Review Comments	Comment By:	Confirmed
1		Capital Charges Due for 162 Residential Units + Clubhouse		
2		Easements required for all utilities outside of Town Right of Ways		
3		Watermain shall be looped to neighboring parcels.		
4		Wastewater Pump Station required as the Matthewstown Pump Station does not have capactity for this development.		
5		Wastewater forcemain required to reroute forcemain discharge.		
6		Water and Sewer mains shall not be under parking areas.		

TOWN OF
EASTON
ENGINEERING DEPARTMENT

DATE: **August 10th, 2023**

TO: **Brian Fitzgerald - Rauch Engineering**

cc: **Derick Daly - Aspire Outdoors**
Sierra Clem - Town of Easton Engineering Department
Joe Mayer - Town of Easton Planning & Zoning Department

FROM: **Rick Van Emburgh, P.E. – Town Engineer**

SUBJECT: **Aspire**
Sketch Site Plan and
Sketch Stormwater Management Plan Review

I reviewed the revised Application for the Subject project received on 07/31/2023.

Sketch Site Plan

The **Sketch Site Plan** is **acceptable** with the following comments:

1. Connect Camac Street sidewalk on the northeast side to the proposed sidewalks and provide connection from the proposed community to the Town Park. Proposed sidewalk is shown to the vicinity of the existing sidewalk, but they don't connect.
2. The Preliminary Site Plan application should provide more detail for the pool fence/sidewalk/deck and label trash location for the pool.
3. Prior to Final Site Plan approval, provide a PWA (Public Works Agreement) to address Phasing of the project.
4. As a condition of approval, two (2) proposed buildings may be constructed to existing Camac Street. Additional buildings will require the construction of the connection to the intersection of Eleanor Way in Gannon Estates, including improvement in the future Charlotte Lane right-of-way needed to make the physical connection. The internal roads in Gannon Estates must also be constructed and connect to Matthewstown Road for additional buildings to be approved and permitted.

Please address the comments above and submit a Preliminary Site Plan.

Stormwater Management

The **Sketch Stormwater Management Plan** is **approved** with the following:

5. At the Preliminary Stormwater Management Plan Review, provide project specific cross sections (not typical sections) through the embankments of the Submerged Gravel Wetlands to illustrate side

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slopes, top of embankment width, and proximity to property lines and LOD.

6. At the Preliminary Stormwater Management Plan Review, provide a note or detail on how the Pool Equipment will discharge to the proposed stormwater management system. Pool water must be dechlorinated before released to the stormwater system or it will be an Illicit Discharge.

Please address the comments above and submit a Preliminary Stormwater Management Plan.

Please contact me if you have any questions. Thank you.

July 19, 2023

Mrs. Betty H. Tustin, P.E., PTOE
The Traffic Group
9900 Franklin Square Drive, Suite H
Baltimore, MD 21236

RE: Talbot County
MD 328, Matthewstown Road
Aspire
SHA Tracking No. 22apta004xx
Mile Point: 0.07

Dear Ms. Tustin:

Thank you for the opportunity to review the Traffic Impact Study (TIS) submittal for the proposed Aspire Development expansion located at the intersection of MD 328 and Fisher Range Road within the town limits of Easton in Talbot County. The Maryland Department of Transportation State Highway Administration (SHA) has reviewed the TIS, and we are pleased to find the TIS **Approved with Comments**.

District Traffic: (Charlie Coppage)

- Reconfigure lane assignment at the intersection of US 50 at MD 328 to provide additional left turn storage.

District Access Comments:

Plan submittals should reflect the above comments. Please submit (two) (2) sets of plans, a flash-drive and/or electronic submittal containing the plans and supporting documentation in PDF format, a point-by-point response to reflect the comments noted above directly to Mr. Ken Fender at 615 Morgnec Road, Chestertown, MD 21620, attention of Mr. Henry R. Dierker III. Please reference the SHA tracking number on future submissions. Please keep in mind that you can view the reviewer and project status via the SHA Access Management web page at https://roads.maryland.gov/mdotsha/pages/amd.aspx. If you have any questions or require additional information, please contact Mr. Henry R. Dierker III at 410-778-3061, by using our toll-free number (in Maryland only) at 1-800-637-9740 (x3244), or via hdierker@mdot.maryland.gov.

Sincerely,

Richard Baker
Assistant District Two Engineer-Traffic

RB (STM/HD)

TOWN OF EASTON
Planning & Zoning Department
14 South Harrison Street
P.O. Box 520
Easton, Maryland 21601

Easton Staff Development Review Worksheet

Date: July 26, 2023
Project: Aspire Apartments
To: Mr. Derick Daly - Aspire Outdoors, LLC.
Mr. Robert Rauch - Rauch,INC.
Mr. Brian Fitzgerald - Rauch,INC.

The Easton Staff Development Review (ESDR) Committee meeting was held on July 26th at 11:00 am. Staff reviewed the Site Sketch Plan for the proposed Apartment Buildings (162 units) on the property located at Matthewstown Road, Parcel 0186, also known as Tax Map 026, Parcel 0186.

The project will need to address all agency comments as specified in the attached review letters and at ESDR. Specific areas discussed at the meeting included providing Quantity Stormwater Calculations, revised renderings to match the Site Plan and connectivity at the second entrance adjacent to Charlotte Lane in Gannon Range.

The Committee determined that the application may be scheduled for Planning Commission review pending the Town Engineer's approval of an updated Sketch Stormwater Management Plan, revised renderings and Site Plan. Please address all comments and submit documentation.

The next Planning Commission meeting is scheduled for **Thursday, August 17, 2023 at 1:00 pm.** Submit all documentation to the Planning and Zoning Department no later than Monday, **July 31st**. Files for presentation at the Planning Commission need to be provided on a flash drive. In addition, provide a digital submittal (via email) of the Planning Commission Application and its supporting documents, including **ten paper copies**.

Based on the ESDR sketch plan submission, the Staff did identify constraints which require action by the Board of Zoning Appeals.

Please contact the Planning & Zoning Department at 410 822-1943 with any questions.

Sincerely,

Joseph A. Mayer
Plan Reviewer - Planning and Zoning

TOWN OF EASTON
PLANNING & ZONING DEPARTMENT
P.O. Box 520
Easton, Maryland 21601
410-822-1943
www.EastonMD.gov

DATE: **July 5, 2023**
TO: **Robert Rauch & Brian Fitzgerald** – Rauch, Inc.**/Derick Daly** - Aspire Outdoors, LLC
Cc: **Miguel Salinas –** Director of Planning & Zoning Department
Rick Van Emburgh – Town Engineer, Department of Engineering
FROM: **Joseph A. Mayer -** Plan Reviewer, Planning & Zoning Department
SUBJECT: Aspire Apartments - Six Apartment Buildings (162 Units) - Site Plans

We reviewed the **July 3, 2023** Sketch Plan Submittal for the Subject Project and have the following comments:

PLANNING & ZONING COMMENTS

1. Per the February 9, 2023 phone meeting with Rauch Inc. and the Town of Easton Planning & Zoning Department, the side yard setback for a Multi-Family Apartment Complex would be twenty feet (20') due to the proximity of the adjacent owners Forest Conservation Easement (Gannon Range) and their lots. The minimum distance adjacent to a single family detached lot would be fifty-five feet (55') +/-. Adjust the parking area to be no closer than twenty feet (20') from the property line.

2. Applicant is required to follow up with the Board of Zoning Appeals and obtain a special exception to permit multi-family housing on a property zoned R-10A and a variance from 28-1007.1.14.1 of the Town of Easton Zoning Code, 2021 Edition (Zoning Ordinance) to allow an apartment structure and parking area to be constructed within seventy-five (75') feet of adjacent single-family dwellings.

3. Per the December 28, 2022 Town of Easton's Engineering Department review comment #9, connect the proposed parking area near Camac Street to the proposed entrance to improve circulation.

4. Add additional sidewalk to provide ADA access between proposed apartments on the east side and the Pool House. Add crosswalks and/or adjust parking islands to promote connectivity. See attached.

5. Dimension the distance between proposed buildings.

6. Adjacent property information needs to be shown on all plan views.

7. Remove the proposed landscaping for clarity on sheet C-301.

8. Per Section 28-1014.6B.1.b., *trees shall be located within the parking bays so that no more than ten (10) parking spaces form an uninterrupted row. Trees shall be planted within an area of pervious space of at least sixty-four (64) sq. ft. allocated per tree, with no dimension of any parking lot planting island less than six feet (6').* Show required landscaping within the parking lot planting islands and demonstrate that it meets the aforementioned dimensions.

9. Revise Site Data to include correct bicycle spaces, a minimum of 0.5 per dwelling unit, on sheet G-100. Please label the location on the site plan.

10. In order to provide adequate connectivity between neighborhoods as defined under the Town of Easton's Comprehensive Plan's Transportation Community Character Chapters, the proposed neighborhood connectivity road needs to extend through the designated sixty-foot right-of-way and connect to the intersection of Eleanor Way.

11. Per the April 11, 2023 Easton Utilities review comment, the Matthewstown Pump station does not have the capacity to serve this development. Please coordinate with Easton Utilities.

12. The April 18, 2023 Planning & Zoning Department's BOZA Staff report referenced that the Traffic Impact Analysis has not been approved by the SHA or Town Engineer. Therefore, it is difficult to determine the final impacts this project will have on existing intersections and road segments that may need to be mitigated. Obtain approval from SHA or Town Engineer prior to your submission to the Planning Commission.

13. Per Chapter 28-1008.2 of the Zoning Code,*clear unobstructed visions at intersecting streets shall be limited to a height of not over three feet above the established elevation of the nearest curb, for a distance of forty (40) feet along both flowlines of curb, measured from the point of intersection of the projected flowline of curb of said intersecting flowlines. No natural plantings or construction shall be permitted at a height over three (3) feet within the isosceles triangle formed by connecting the ends of the respective forty (40) foot distances. The unobstructed view shall be maintained for all spaces between three (3) and ten (10) feet in height.* Relocate the parking spaces out of the sight triangle at the proposed neighborhood connectivity road and drive aisle. Please see attached.

14. Revise renderings to match the site plan prior to your submission to the Planning Commission.

15. Provide a recorded copy of the plat and deed for parcels 112 and 186.

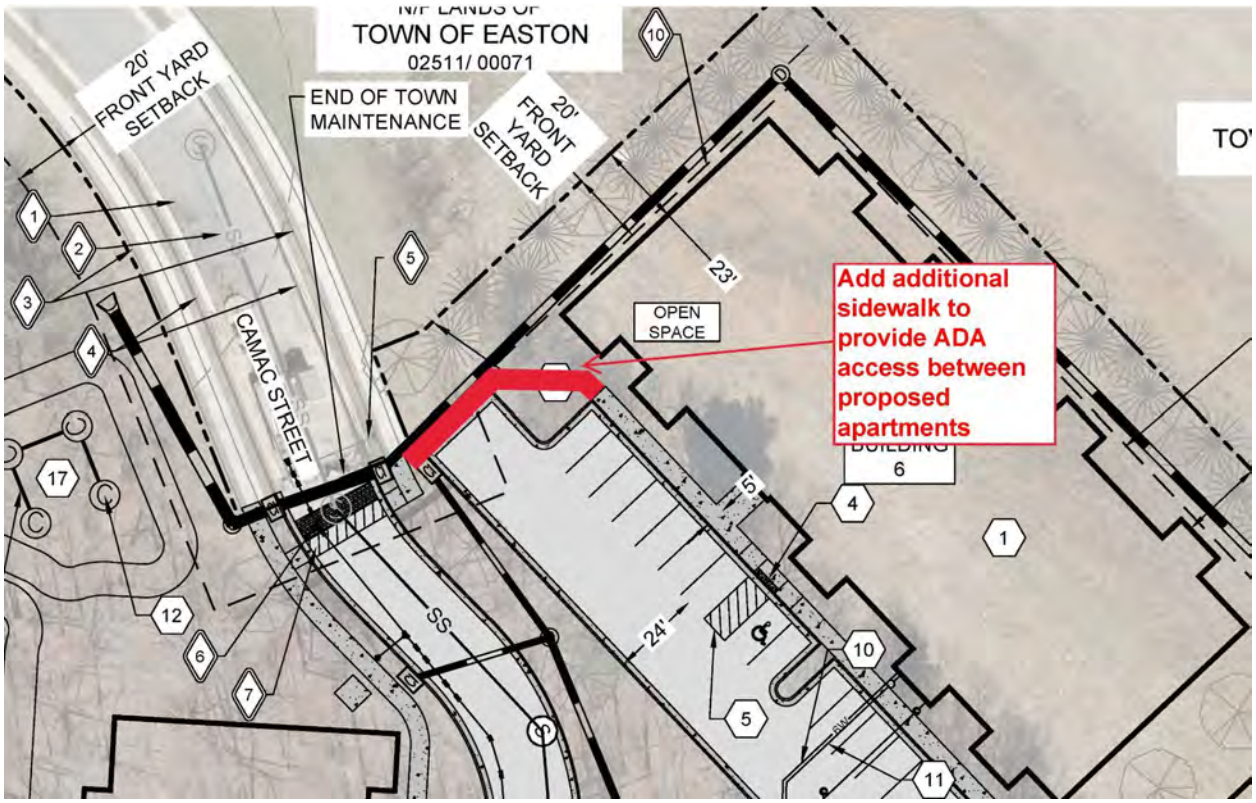
16. In order to provide connectivity, the use of gates at any access point to a public road cannot be utilized.

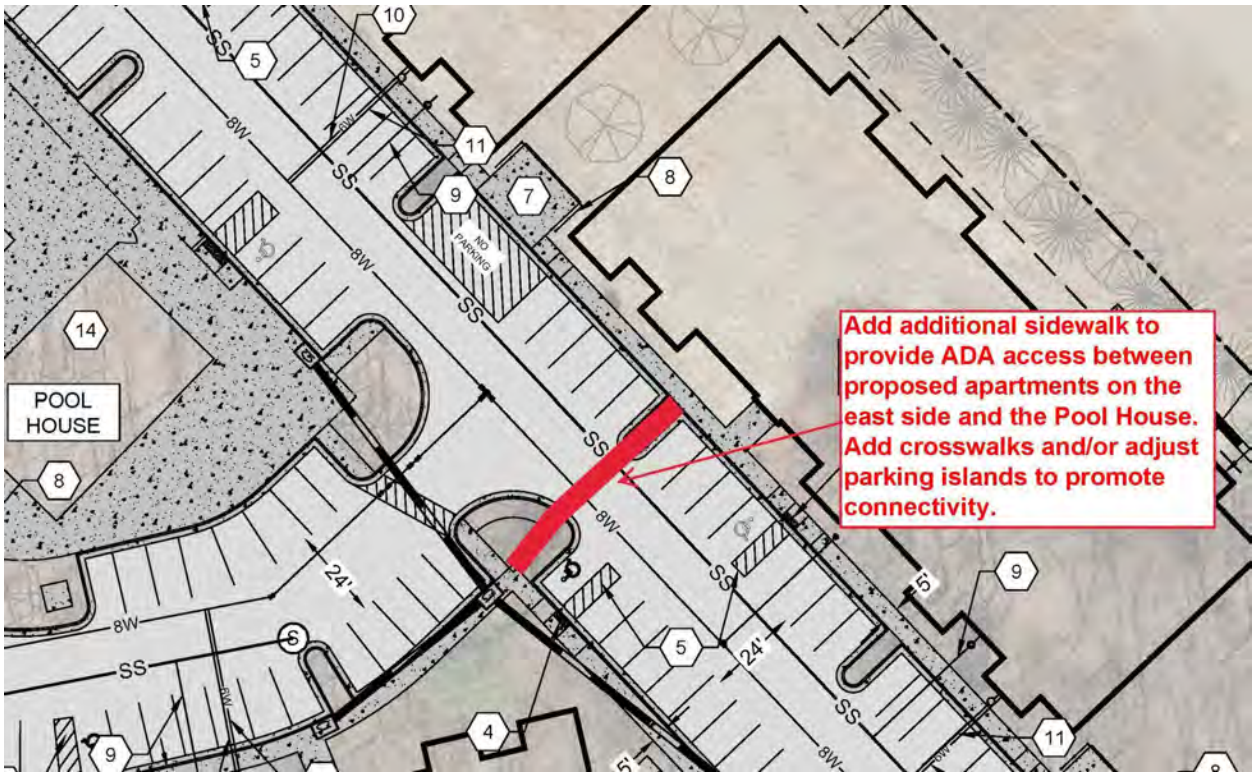
Plan Review Status

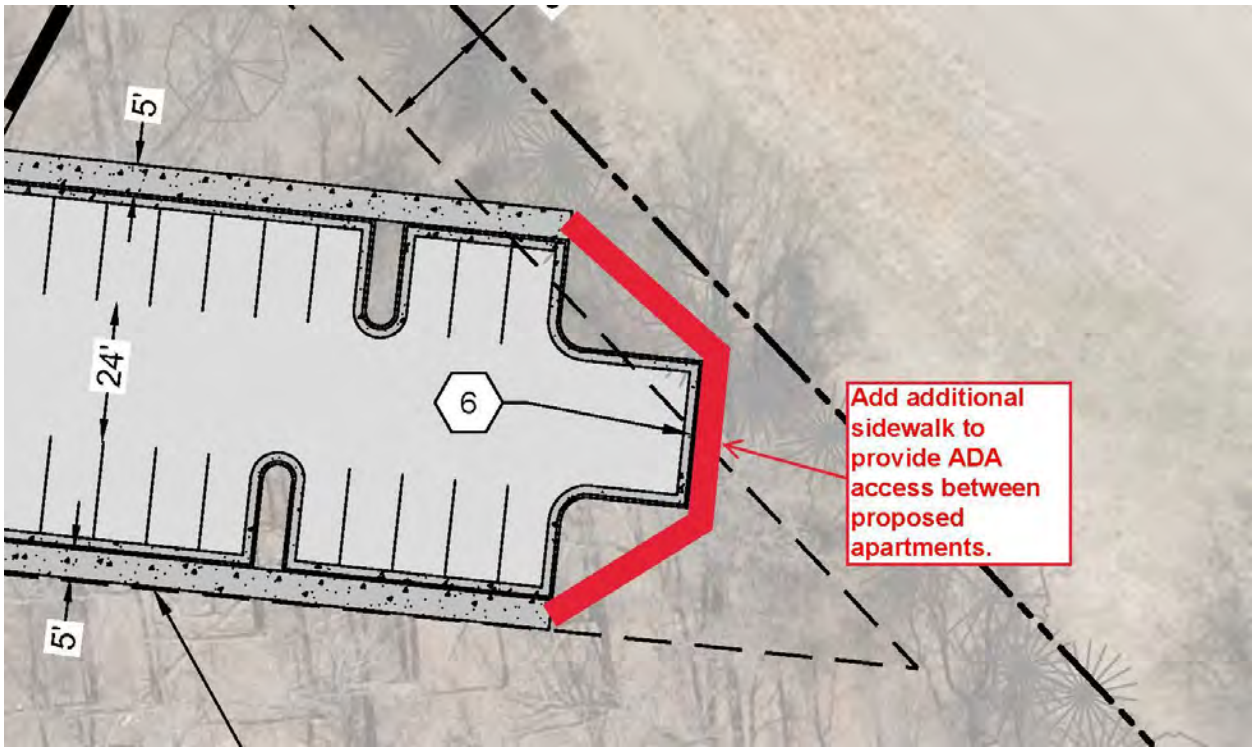
IMPROVEMENT PLAN REVIEW			Comments
Plans Approved	☐Y	☒ N	Please review comments above Revise and Resubmit.

Forest Stand Delineation & Forest Conservation Plan	
☒ Required ☐ Submitted ☐Approved	**Required.**
Other	
☒Required ☐ Submitted ☐ Approved	**MDE approval is required. Provide the most current delineated non-tidal wetlands on all plan views. Lot Line Revision Plat submission is required prior to Final Site Plan approval.**

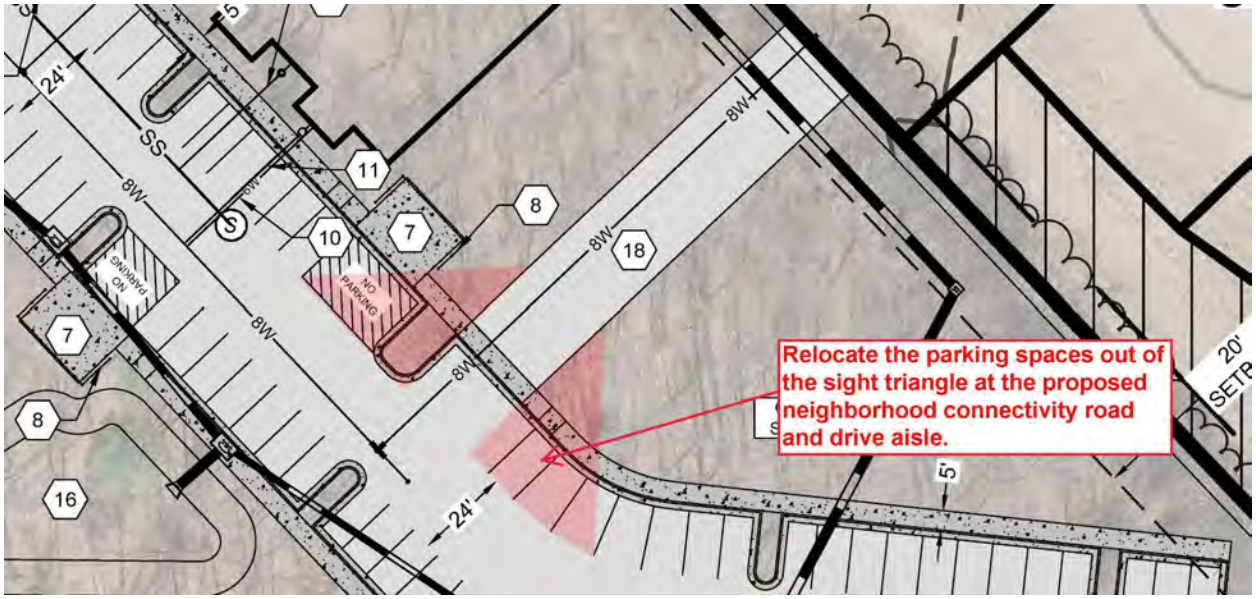
Review Comment #4




POOL HOUSE
NO PARKING
Add additional sidewalk to provide ADA access between proposed apartments on the east side and the Pool House. Add crosswalks and/or adjust parking islands to promote connectivity.


5'
24'
6
5'
Add additional sidewalk to provide ADA access between proposed apartments.

Review Comment #13



Please contact me if you have any questions. Thank you.

TOWN OF
EASTON
ENGINEERING DEPARTMENT

DATE: **July 25, 2023**

TO: **Casey Rauch - Rauch Engineering**

cc: **Derick Daly - Aspire Outdoors**
Sierra Clem - Town of Easton Engineering Department
Joe Mayer - Town of Easton Planning & Zoning Department

FROM: **Rick Van Emburgh, P.E. – Town Engineer**

SUBJECT: **Aspire**
Sketch Site Plan and
Sketch Stormwater Management Plan Review

I reviewed the revised Application for the Subject project received on 07/10/2023.

Site Plan

The **Sketch Site Plan** must be revised to address the following:

1. Proposed connectivity is now provided to the Gannon Range project to the northeast. While connecting Camac Street to Gannon Range with a public road would be preferred, this second entrance provides the connectivity previously requested. This entrance should match the typical Town Road section similar to Charlotte Lane in Gannon Range matching the pavement width and include curb and gutter and sidewalk. This connection does not need to include Town ROW dedication on the Aspire property.
2. Show Existing Easements and Buffers (NTW, Stream, etc.) on the property on all applicable sheets (should be around the perimeter of the property at a minimum). Please include the date the non-tidal wetlands were delineated. *(This was comment #5 in our 12/28/2022 comment letter and has not been addressed.)*
3. Label adjacent property owners on all sheets. *(This was comment #6 in our 12/28/2022 comment letter and has not been addressed.)*
4. Consider a roundabout or some other ability to turn around at the transition from Camac Street to private property. *(This was comment #8 in our 12/28/2022 comment letter and has not been addressed.)*
5. Connect the proposed parking area near Camac Street to the proposed entrance to improve circulation. *(This was comment #9 in our 12/28/2022 comment letter and has not been addressed.)*
6. Label Camac Street on all plan sheets. *(This was comment #10 in our 12/28/2022 comment letter and has not been addressed.)*

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7. Label the proposed roads as privately owned/maintained. Provide an END OF TOWN MAINTENANCE sign at the end of Camac Street. *(This was comment #11 in our 12/28/2022 comment letter and has not been addressed.)*
8. Will the streets be named? If so, please provide street names prior to the Final Site Plan. *(This was comment #12 in our 12/28/2022 comment letter and has not been addressed.)*
9. Connect Camac Street sidewalk on the northeast side to the proposed sidewalks and provide connection from the proposed community to the Town Park. *(This was comment #13 in our 12/28/2022 comment letter and has not been addressed.)*
10. The Preliminary Site Plan application should provide more detail for the pool fence/sidewalk/deck and label trash location for the pool.
11. Prior to Final Site Plan approval, provide a PWA (Public Works Agreement) to address Phasing of the project.
12. Please revise the Traffic Impact Study. Compare original Hunters Mill design to proposed design and confirm existing Town roads and entrance to MD-328 are adequately designed. (See Zoning Code Section 28-901.2.G.3 for Sketch Site Plan requirement and Zoning Code Sections 28-1303.5.B.5 and 28-1303.5.B.6 for Special Exception requirements). *(This was comment #17 in our 12/28/2022 comment letter and had not been addressed with the ESDR submittal. We did receive a report dated 7/19/2023 via email on 7/20/2023, which is still under review. However, it appears to indicate Camac Street is permitted a maximum of 500 ADT and Aspire will generate 875 ADT on its own. Therefore, it appears the second entrance is necessary to be constructed to accommodate the anticipated ADT. This ADT Evaluation is still under review).*

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

<u>Stormwater Management</u>

The **Sketch Stormwater Management Plan** must be revised to address the following:

13. **SHEET C-201.02 –** Revise the SWM Quantity Summary Table to include the Forebays as part of the Submerged Gravel Wetlands.
14. **Quantity Management -** The Drainage Areas used for the analysis include significant offsite areas. Please revise the analysis to include a Study Point(s) at the edge of the LOD to determine the impact immediately adjacent to the proposed project. The Tc and Reaches are outside the Drainage Areas. *(This was comment #19 in our 12/28/2022 comment letter and has not been addressed.)*
15. At the Preliminary Stormwater Management Plan Review, provide project specific cross sections (not typical sections) through the embankments of the Submerged Gravel Wetlands to illustrate side slopes, top of embankment width, and proximity to property lines and LOD.

16. At the Preliminary Stormwater Management Plan Review, provide a note or detail on how the Pool Equipment will discharge to the proposed stormwater management system. Pool water must be dechlorinated before released to the stormwater system or it will be an Illicit Discharge.

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

Please contact me if you have any questions. Thank you.

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Easton Utilities Commission

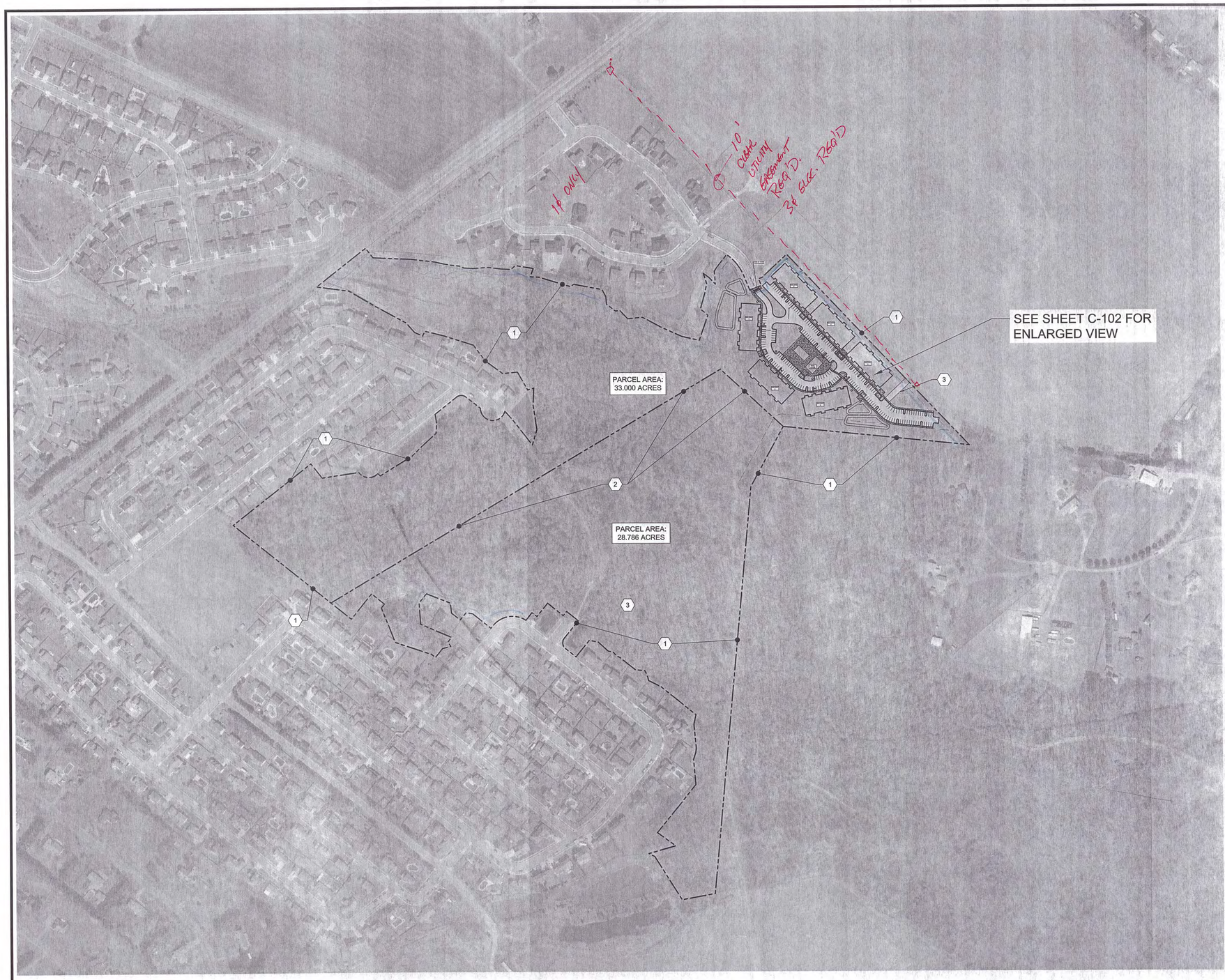
Plan Review Comments

Date:	Tuesday, July 18, 2023		
To:	Joe Mayer; Nicholas Johnson; Sierra Clem		
From:	Kia Gibbs on behalf of Aaron Goller, PE	No. of Pages:	1
Regarding:	Camac Street - Aspire Apartments	Phase:	Sketch Site Plan
Review Type:	SUBM:	Status:	Approved as Noted

Easton Utilities Commission has reviewed the above referenced plans and have provided the following comments. Please provide your corrections as listed below. Additional reviews will be required to ensure comments have been addressed. Items or documents not provided on initial submission will be subject to further review. Please contact Kia Gibbs, Admin Support at kgibbs@eucmail.com should you have any questions.

ITEM:	DRAWING / PAGE	COMMENTS:
1	C-101	See electric easement required. Contact Easton Utilities for electric design. Electric must be shown in 60% design.
2	C-102	Capital charge for 1 EDU required for the creation of a lot.
3	C-102	Utility easements required - 5' side yards, 10' fronting roads
4	C-102	Capital charge required - 165 EDU's total.
5	C-201.02	Keep 12" horizontal separation from outside of MH to stormwater pipe
6	C205.01 - C205.02	Title block incorrect
7	C-401	Separation between sewer manhole and stormwater pipe shall be 12" minimum.
8	C-401	Cleanouts shall not be in H/C ramps or gutter pans
9	C-401	Water and fire services shall have valves at main
10	C-401	Show existing utilities on Camac Street to allow for planning
11	C-401	Sewer manholes appear to be lower than catch basins adjacant to manholes
12	C-401	Make symbols large enough to see including valves and hydrants
13	C-401	Sheet C-505.01 not provided
14	C-401	Utilize hydrant at property line in lieu of blow off

ITEM:	DRAWING / PAGE	COMMENTS:
15	C-401	What meter assembly is proposed for structures?
16	C403.01	Show stormwater adjacent to existing manhole
17	C-401	Relocate existing manhole out of sag in road.



- Creation of lot requires 1 EDU to be paid
- Easements Required on property lines
  - 10' fronting roads
  - 5' side yards

utility

- Capital charges
  - 1 EDU's - creation of lot
  - 2 EDU's - Clubhouse
  - 162 EDU's - Condos

165 EDU's

NOTES:

1. EXISTING PROPERTY LINE
2. PROPOSED PROPERTY LINE
3. PROPOSED NEIGHBORHOOD CONNECTIVITY ROAD

LEGEND

- EXISTING PROPERTY LINE
- PROPOSED PROPERTY LINE
- WETLAND BOUNDARY
- 25' WETLAND BUFFER
- PERENNIAL STREAM
- 100' PERENNIAL STREAM BUFFER
- SETBACK (SEE NOTES)

DENSITY CALCULATIONS:

6 BUILDINGS W/ 27 UNITS EACH = 162 TOTAL DWELLING UNITS

ZONE R10A MAXIMUM DENSITY = 5 DWELLING UNITS PER ACRE

162 UNITS / 5 UNITS PER ACRE = ***32.4 ACRES***

NAD 83

N

200' 400'

PROPERTY LOCATION MAP

OF THE LANDS OF

ASPIRE APARTMENTS

TAX MAP: 0026, GRID: 0020, PARCEL: 0186

ELECTION DISTRICT 01, TALBOT COUNTY, MARYLAND

ASPIRE OUTDOORS, LLC

RAUCH LLC
Engineering | Survey | Architecture | Environmental
Main Office: 106 N Harrison St - Easton, MD 21601
Web: www.rauch-llc.com | Email: design@rauchllc.com
Phone: 410 770 3681 | Fax: 410 770 3687

REVISIONS

REV. #	DATE	DESCRIPTION
1	6/23/2023	REVISED TO CONNECT TO GANNON ESTATES

MISS UTILITY OF DELMARVA — 811

DATE:	6/22/2023
SCALE:	1" = 200'
DRAWN BY:	BBF
DESIGNED BY:	BBF
APPROVED BY:	BBF

SHEET NO.: C-101

FOR REVIEW

PROPOSED SITE PLAN NOTES

1. APARTMENT BUILDING
2. PROPERTY LINE
3. PROPOSED 5 FT CONCRETE SIDEWALK. SEE DETAIL ON SHEET C-305.01
4. HANDICAP RAMP. SEE DETAIL ON SHEET C-305.01
5. 8' WIDE A.D.A. ACCESS AISLE STRIPED PER A.D.A. STANDARDS
6. STANDARD CURB AND GUTTER. SEE DETAIL ON SHEET C-305.01
7. REFUSE BIN COLLECTION AREA WITH WOODEN FENCE
8. PICKET FENCE WITH GATE
9. 6" SDR-35 SEWER CONNECTION. SEE DETAIL ON SHEET C-505.01
10. 6" FIRE C-900 WATER LINE CONNECTION. SEE DETAIL ON SHEET C-505.01
11. 2" POTABLE SDR-9 HDPE PIPE WATER LINE. SEE DETAIL ON SHEET C-505.01
12. 6" PVC CLEANOUT
13. 6" PVC UNDERDRAIN
14. POOL HOUSE
15. POOL
16. SUBMERGED GRAVEL WETLAND - FOREBAY
17. SUBMERGED GRAVEL WETLAND - TREATMENT AREA
18. NEIGHBORHOOD CONNECTIVITY ROAD
19. LOT LINE REVISION

EXISTING FEATURES

1. ROAD
2. ROAD CENTERLINE
3. SIDEWALK
4. CURB AND GUTTER
5. FIRE HYDRANT
6. SURVEYED LOCATION OF EXISTING SEWER
7. SURVEYED LOCATION OF EXISTING WATER METER
8. SURVEYED PROPERTY LINES
9. 20' SETBACK - APARTMENT FROM ANY ADJOINING PROPERTY LINE
10. 20' FRONT YARD SETBACK LINE
11. **VARIANCE REQUEST:** 50' REAR YARD SETBACK LINE ADJACENT TO DETACHED SINGLE FAMILY RESIDENCE

NAD 83
N
0 40' 80'

SITE PLAN

OF THE LANDS OF

ASPIRE APARTMENTS

TAX MAP: 0026, GRID: 0020, PARCEL: 0186
ELECTION DISTRICT 01, TALBOT COUNTY, MARYLAND
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REVISIONS

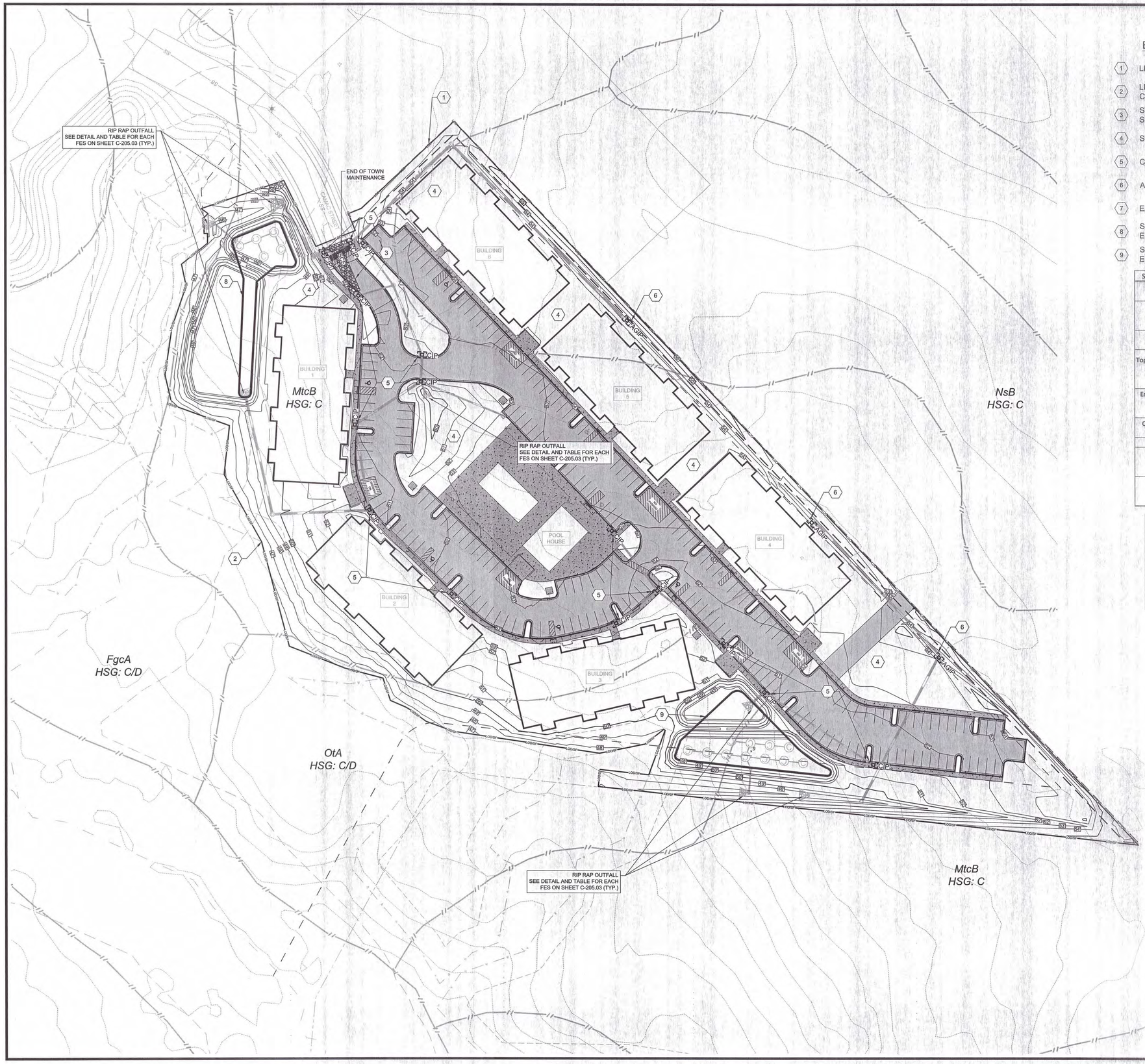
REV. #	DATE	DESCRIPTION
1	6/23/2023	REVISED TO CONNECT TO GANNON ESTATES

MISS UTILITY OF DELMARVA — 811

DATE:	6/22/2023
SCALE:	1" = 40'
DRAWN BY:	BBF
DESIGNED BY:	BBF
APPROVED BY:	BBF

SHEET NO.: C-102

FOR REVIEW



EROSION & SEDIMENT CONTROL NOTES

1. LIMIT OF DISTURBANCE
2. LIMIT OF DISTURBANCE & SILT FENCE. SEE DETAIL ON SHEET C-205.01
3. STABILIZED CONSTRUCTION ENTRANCE WITH WASHOUT RACK. SEE DETAIL ON SHEET C-205.01
4. STOCKPILE / STAGING AREA
5. CURB INLET PROTECTION. SEE DETAIL ON SHEET C-205.01
6. AT-GRADE INLET PROTECTION. SEE DETAIL ON SHEET C-205.01
7. EASTON UTILITIES R.O.W. / EASEMENT
8. SEDIMENT TRAP #1 (MIN. AREA; CONTRACTOR MAY EXCAVATE ENTIRE AREA FOR FUTURE SWM FACILITY)
9. SEDIMENT TRAP #2 (MIN. AREA; CONTRACTOR MAY EXCAVATE ENTIRE AREA FOR FUTURE SWM FACILITY)

Sediment Trap	1	2
Drainage Area (Acres)	3.40	3.44
Trap Bottom Elevation (FT)	45.5	47.5
Trap Area (SF)	4486	4388
Top of Embankment Elevation (FT)	48.5	50.5
Embankment Top Width (FT)	4	4
Outlet Elevation (FT)	47.5	49.5
Side Slope	3:1	3:1
Total Storage Required (CF)	12236	12381
Total Storage Provided (CF)	13458	13164

SOIL DATA

Map unit symbol	Map unit name	Hydrologic Soil Group	K-Factor	Hydric?
FgcA	Fallsington sandy loam, 0 to 2 percent slopes, Mid-Atlantic Coastal Plain	C/D	0.32	Yes
MtcB	Mattapex silt loam, 2 to 5 percent slopes, Mid-Atlantic Coastal Plain	C	0.49	No
NsB	Nassawango silt loam, 2 to 5 percent slopes	C	0.49	No
OtA	Othello silt loams, 0 to 2 percent slopes, Mid-Atlantic Coastal Plain	C/D	0.43	Yes

N
NAD 83

0 50' 100'

EROSION AND SEDIMENT CONTROL PLAN

OF THE LANDS OF

ASPIRE APARTMENTS

TAX MAP: 0026, GRID: 0020, PARCEL: 0186

ELECTION DISTRICT 01, TALBOT COUNTY, MARYLAND

ASPIRE OUTDOORS, LLC

RAUCH INC.
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REVISIONS

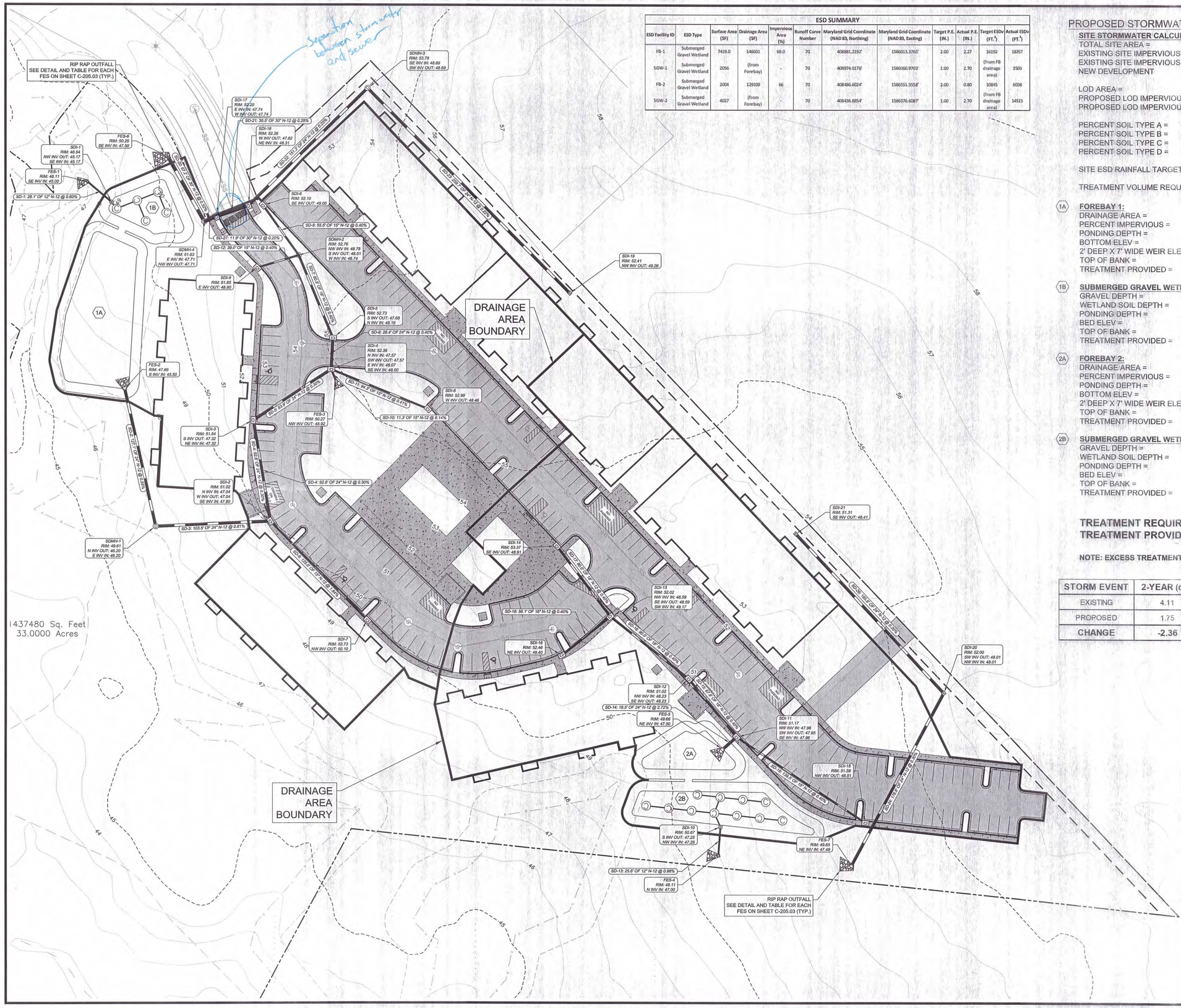
REV. #	DATE	DESCRIPTION
1	6/23/2023	REVISED TO CONNECT TO GANNON ESTATES

MISS UTILITY OF DELMARVA
811

DATE:	12/1/2022
SCALE:	1" = 50'
DRAWN BY:	BBF
DESIGNED BY:	BBF
APPROVED BY:	BBF

SHEET NO.: C-201.01

FOR REVIEW



ESD SUMMARY

ESD Facility ID	ESD Type	Surface Area (SF)	Drainage Area (SF)	Impervious Area (%)	Runoff Curve Number	Maryland Grid Coordinate (NAD 83, Northing)	Maryland Grid Coordinate (NAD 83, Easting)	Target P.E. (IN.)	Actual P.E. (IN.)	Target ESDv ($FT.^3$)	Actual ESDv ($FT.^3$)
FB-1	Submerged Gravel Wetland	7419.0	146601	69.0	70	408881.2192'	1586013.3765'	2.00	2.27	16192	18357
SGW-1	Submerged Gravel Wetland	2056	(from Forebay)	-	70	408974.0176'	1586060.9703'	1.00	2.70	(from FB drainage area)	3503
FB-2	Submerged Gravel Wetland	2004	129109	66	70	408486.6024'	1586551.5558'	2.00	0.80	10845	6058
SGW-2	Submerged Gravel Wetland	4027	(from Forebay)	-	70	408436.8854'	1586576.6087'	1.00	2.70	(from FB drainage area)	14513

PROPOSED STORMWATER FEATURES & NOTES

SITE STORMWATER CALCULATIONS

TOTAL SITE AREA =	50.225 ACRES
EXISTING SITE IMPERVIOUS =	0 ACRES
EXISTING SITE IMPERVIOUS (%) =	0%
NEW DEVELOPMENT	
LOD AREA =	8.56 ACRES
PROPOSED LOD IMPERVIOUS =	4.5 ACRES
PROPOSED LOD IMPERVIOUS (%) =	53%
PERCENT SOIL TYPE A =	0%
PERCENT SOIL TYPE B =	0%
PERCENT SOIL TYPE C =	100%
PERCENT SOIL TYPE D =	0%
SITE ESD RAINFALL TARGET, P_E =	1.80 INCHES
TREATMENT VOLUME REQUIRED =	29,281 CF

1A **FOREBAY 1:**

DRAINAGE AREA =	146,601
PERCENT IMPERVIOUS =	68%
PONDING DEPTH =	2 FT
BOTTOM ELEV =	45.50'
2' DEEP X 7' WIDE WEIR ELEV =	47.50'
TOP OF BANK =	48.50'
TREATMENT PROVIDED =	18,357 CF

1B **SUBMERGED GRAVEL WETLAND 1:**

GRAVEL DEPTH =	2 FT
WETLAND SOIL DEPTH =	0.67 FT
PONDING DEPTH =	2 FT
BED ELEV =	45.50'
TOP OF BANK =	48.50'
TREATMENT PROVIDED =	3,532 CF

2A **FOREBAY 2:**

DRAINAGE AREA =	129,109
PERCENT IMPERVIOUS =	73%
PONDING DEPTH =	2 FT
BOTTOM ELEV =	47.50'
2' DEEP X 7' WIDE WEIR ELEV =	49.50'
TOP OF BANK =	50.50'
TREATMENT PROVIDED =	6,058 CF

2B **SUBMERGED GRAVEL WETLAND 2:**

GRAVEL DEPTH =	2 FT
WETLAND SOIL DEPTH =	0.67 FT
PONDING DEPTH =	2 FT
BED ELEV =	47.50'
TOP OF BANK =	50.50'
TREATMENT PROVIDED =	14,378 CF

TREATMENT REQUIRED = 29,281 CF
TREATMENT PROVIDED = 42,325 CF

NOTE: EXCESS TREATMENT PROVIDED FOR QUANTITY MANAGEMENT

STORM EVENT	2-YEAR (cfs)	10-YEAR (cfs)	100-YEAR (cfs)
EXISTING	4.11	12.09	23.76
PROPOSED	1.75	8.55	16.38
CHANGE	-2.36	-3.54	-7.38

STORMWATER & STORM DRAIN PLAN

OF THE LANDS OF

ASPIRE APARTMENTS

TAX MAP: 0026, GRID: 0020, PARCEL: 0186
ELECTION DISTRICT 01, TALBOT COUNTY, MARYLAND
ASPIRE OUTDOORS, LLC

RAUCH INC
Engineering | Survey | Architecture | Environmental
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REVISIONS

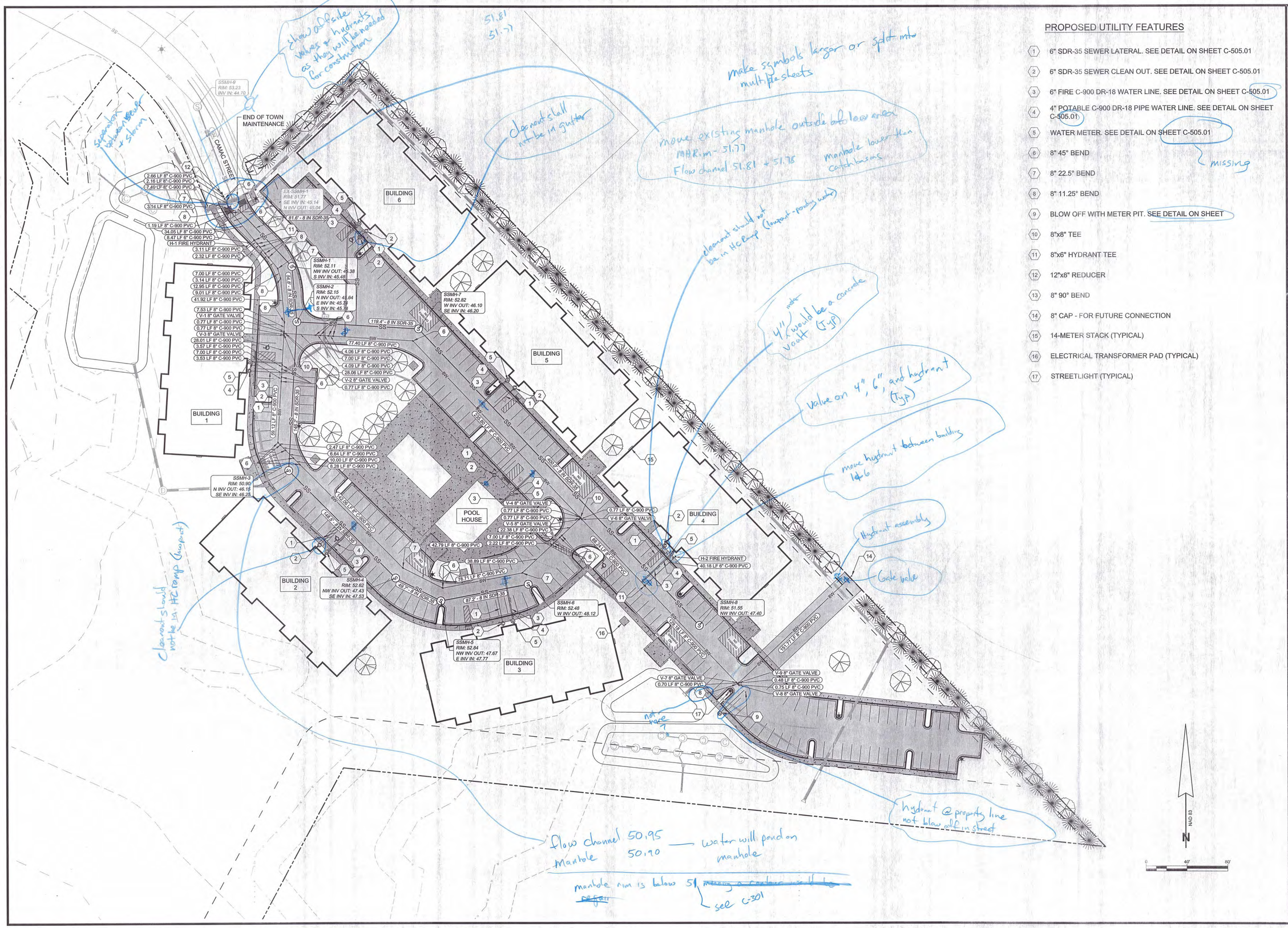
REV. #	DATE	DESCRIPTION
1	6/23/2023	REVISED TO CONNECT TO GANNON ESTATES

MISS UTILITY OF DELMARVA — 811

DATE:	12/1/2022
SCALE:	1" = 40'
DRAWN BY:	BBF
DESIGNED BY:	BBF
APPROVED BY:	BBF

SHEET NO.: C-201.02

FOR REVIEW



PROPOSED UTILITY FEATURES

1. 6" SDR-35 SEWER LATERAL. SEE DETAIL ON SHEET C-505.01
2. 6" SDR-35 SEWER CLEAN OUT. SEE DETAIL ON SHEET C-505.01
3. 6" FIRE C-900 DR-18 WATER LINE. SEE DETAIL ON SHEET C-505.01
4. 4" POTABLE C-900 DR-18 PIPE WATER LINE. SEE DETAIL ON SHEET C-505.01
5. WATER METER. SEE DETAIL ON SHEET C-505.01 — missing
6. 8" 45° BEND
7. 8" 22.5° BEND
8. 8" 11.25° BEND
9. BLOW OFF WITH METER PIT. SEE DETAIL ON SHEET
10. 8"x8" TEE
11. 8"x6" HYDRANT TEE
12. 12"x8" REDUCER
13. 8" 90° BEND
14. 8" CAP - FOR FUTURE CONNECTION
15. 14-METER STACK (TYPICAL)
16. ELECTRICAL TRANSFORMER PAD (TYPICAL)
17. STREETLIGHT (TYPICAL)

UTILITY PLAN

OF THE LANDS OF

ASPIRE APARTMENTS

TAX MAP: 0026; GRID: 0020; PARCEL: 0186

ELECTION DISTRICT 01, TALBOT COUNTY, MARYLAND

ASPIRE OUTDOORS, LLC

RAUCH INC.
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REVISIONS

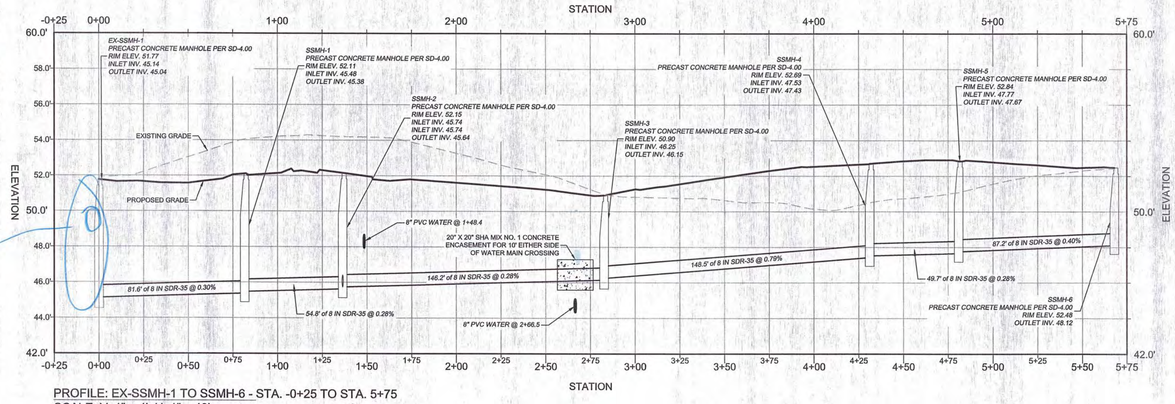
REV. #	DATE	DESCRIPTION
1	4/4/2023	REVISED PER TOWN/EC/PZ COMMENTS
2	6/23/2023	REVISED TO CONNECT TO GARNON ESTATES

MISS UTILITY OF DELMARVA — 811

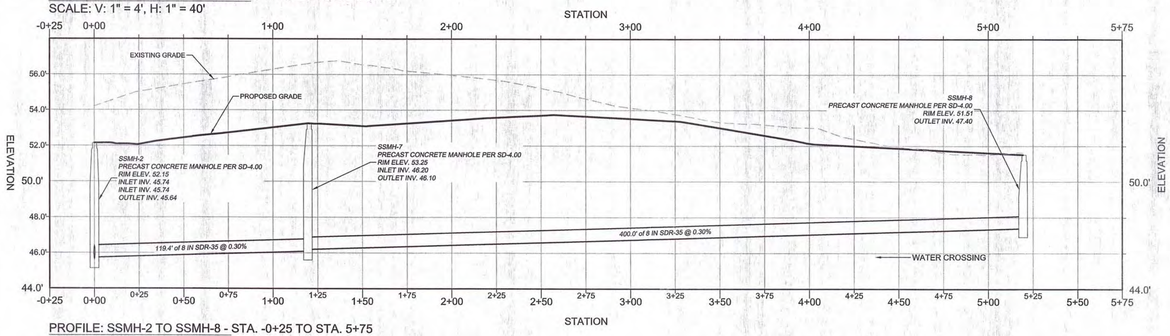
DATE:	6/22/2023
SCALE:	1" = 40'
DRAWN BY:	BBF
DESIGNED BY:	BBF
APPROVED BY:	BBF

SHEET NO.: C-401

FOR REVIEW



PROFILE: EX-SSMH-1 TO SSMH-6 - STA. -0+25 TO STA. 5+75
SCALE: V: 1" = 4', H: 1" = 40'



PROFILE: SSMH-2 TO SSMH-8 - STA. -0+25 TO STA. 5+75
SCALE: V: 1" = 4', H: 1" = 40'

STRUCTURE SCHEDULE
ASPIRE - APARTMENTS - SEWER

STRUCTURE NAME	LOCATION	STRUCTURE TYPE AND SIZE	CONNECTED PIPES	RIM ELEVATION
EX-SSMH-1	N408968.37, E1586138.39	48 DIA PRECAST CONCRETE MANHOLE PER SD-4.00	SS-1 INV IN = 45.14 SS-10 INV OUT = 45.04	51.77
SSMH-1	N408908.59, E1586193.90	48 DIA PRECAST CONCRETE MANHOLE PER SD-4.00	SS-2 INV IN = 45.48 SS-1 INV OUT = 45.38	52.11
SSMH-2	N408853.98, E1586198.58	48 DIA PRECAST CONCRETE MANHOLE PER SD-4.00	SS-3 INV IN = 45.74 SS-6 INV IN = 45.74 SS-2 INV OUT = 45.64	52.15
SSMH-3	N408708.01, E1586190.09	48 DIA PRECAST CONCRETE MANHOLE PER SD-4.00	SS-7 INV IN = 46.25 SS-6 INV OUT = 46.15	50.90
SSMH-4	N408602.49, E1586294.62	48 DIA PRECAST CONCRETE MANHOLE PER SD-4.00	SS-8 INV IN = 47.53 SS-7 INV OUT = 47.43	52.69
SSMH-5	N408580.08, E1586339.04	48 DIA PRECAST CONCRETE MANHOLE PER SD-4.00	SS-9 INV IN = 47.77 SS-8 INV OUT = 47.67	52.84
SSMH-6	N408596.55, E1586424.67	48 DIA PRECAST CONCRETE MANHOLE PER SD-4.00	SS-9 INV OUT = 48.12	52.48
SSMH-7	N408846.99, E1586317.82	48 DIA PRECAST CONCRETE MANHOLE PER SD-4.00	SS-4 INV IN = 46.20 SS-3 INV OUT = 46.10	53.25
SSMH-8	N408556.00, E1586592.28	48 DIA PRECAST CONCRETE MANHOLE PER SD-4.00	SS-4 INV OUT = 47.40	51.51
SSMH-9	N409066.14, E1586101.86	48 DIA PRECAST CONCRETE MANHOLE PER SD-4.00	SS-10 INV IN = 44.70	53.23

PIPE SCHEDULE
ASPIRE - APARTMENTS - SEWER

PIPE NAME	SIZE AND MATERIAL	LENGTH	SLOPE	UPSTREAM STRUCTURE AND INVERT	DOWNSTREAM STRUCTURE AND INVERT
SS-1	8 IN SDR-35	81.58'	0.30%	EX-SSMH-1 INV. 45.14'	SSMH-1 INV. 45.38'
SS-2	8 IN SDR-35	54.81'	0.28%	SSMH-1 INV. 45.48'	SSMH-2 INV. 45.64'
SS-3	8 IN SDR-35	119.45'	0.30%	SSMH-2 INV. 45.74'	SSMH-7 INV. 46.10'
SS-4	8 IN SDR-35	400.00'	0.30%	SSMH-7 INV. 46.20'	SSMH-8 INV. 47.40'
SS-6	8 IN SDR-35	146.22'	0.28%	SSMH-2 INV. 45.74'	SSMH-3 INV. 46.15'
SS-7	8 IN SDR-35	148.53'	0.79%	SSMH-3 INV. 46.25'	SSMH-4 INV. 47.43'
SS-8	8 IN SDR-35	49.75'	0.28%	SSMH-4 INV. 47.53'	SSMH-5 INV. 47.67'
SS-9	8 IN SDR-35	87.20'	0.40%	SSMH-5 INV. 47.77'	SSMH-6 INV. 48.12'
SS-10	12 IN SDR-35	104.37'	0.33%	SSMH-9 INV. 44.70'	EX-SSMH-1 INV. 45.04'

SEWER PROFILES
OF THE LANDS OF
ASPIRE APARTMENTS
TAX MAP: 0026, GRID: 0020, PARCEL: 0186
ELECTION DISTRICT 01, TALBOT COUNTY, MARYLAND
ASPIRE OUTDOORS, LLC

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REVISIONS

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1	4/4/2023	REVISED PER TOWN/EUC/PZ COMMENT
2	6/23/2023	REVISED TO CONNECT TO GANNON ESTATES

MISS UTILITY OF DELMARVA — 811

DATE:	4/4/2023
SCALE:	1" = 40'
DRAWN BY:	BBF
DESIGNED BY:	BBF
APPROVED BY:	BBF

SHEET NO.: C-403.01

FOR REVIEW

RAUCH inc.
Engineering | Survey | Architecture | Environmental

Monday, July 31, 2023

Town of Easton
14 S. Harrison Street
Easton, MD 21601

ATTN: Joe Mayer

RE: Aspire Apartments – Six Apartment Buildings (162 Units) – Site Plans

Mr. Mayer,

RAUCH inc. has reviewed comments received dated July 26, 2023 (ESDR), July 5, 2023 (Planning & Zoning), July 25, 2023 (Engineering Department), and July 18, 2023 (EUC), and offers the following responses to the Easton Town Engineer, Town of Easton Planning and Zoning, and Easton Utilities:

PLANNING & ZONING COMMENTS

Site Plan

1. Per the February 9, 2023 phone meeting with Rauch Inc. and the Town of Easton Planning & Zoning Department, the side yard setback for a Multi-Family Apartment Complex would be twenty feet (20') due to the proximity of the adjacent owners Forest Conservation Easement (Gannon Range) and their lots. The minimum distance adjacent to a single family detached lot would be fifty-five feet (55') +/-. Adjust the parking area to be no closer than twenty feet (20') from the property line.
   Site plan has been revised.

2. Applicant is required to follow up with the Board of Zoning Appeals and obtain a special exception to permit multi-family housing on a property zoned R-10A and a variance from 28-1007.1.14.1 of the Town of Easton Zoning Code, 2021 Edition (Zoning Ordinance) to allow an apartment structure and parking area to be constructed within seventy-five (75') feet of adjacent single-family dwellings.
   Understood. Aspire will be submitting for the September 2023 BoZA.

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3. Per the December 28, 2022 Town of Easton's Engineering Department review comment #9, connect the proposed parking area near Camac Street to the proposed entrance to improve circulation.
   Revised as noted.

4. Add additional sidewalk to provide ADA access between proposed apartments on the east side and the Pool House. Add crosswalks and/or adjust parking islands to promote connectivity. See attached.
   Revised as noted.

5. Dimension the distance between proposed buildings.
   Revised as noted

6. Adjacent property information needs to be shown on all plan views.
   Adjacent property information provided on all plan sheets.

7. Remove the proposed landscaping for clarity on sheet C-301.
   Revised as noted

8. Per Section 28-1014.6B.1.b., trees shall be located within the parking bays so that no more than ten (10) parking spaces form an uninterrupted row. Trees shall be planted within an area of pervious space of at least sixty-four (64) sq. ft. allocated per tree, with no dimension of any parking lot planting island less than six feet (6'). Show required landscaping within the parking lot planting islands and demonstrate that it meets the aforementioned dimensions.
   Parking bays designed per noted section.

9. Revise Site Data to include correct bicycle spaces, a minimum of 0.5 per dwelling unit, on sheet G-100. Please label the location on the site plan.
   Site Data hs been updated and (7) bicycle parking areas have been provided.

10. In order to provide adequate connectivity between neighborhoods as defined under the Town of Easton's Comprehensive Plan's Transportation Community Character Chapters, the proposed neighborhood connectivity road needs to extend through the

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designated sixty-foot right-of-way and connect to the intersection of Eleanor Way.
Road section as been designed per Town of Easton Standard.

11. Per the April 11, 2023 Easton Utilities review comment, the Matthewstown Pump station does not have the capacity to serve this development. Please coordinate with Easton Utilities.
    Per discussion on February 9, 2023 with Miguel Salinas and Joe Mayer, sewer capacity will be handled during design development.

12. The April 18, 2023 Planning & Zoning Department's BOZA Staff report referenced that the Traffic Impact Analysis has not been approved by the SHA or Town Engineer. Therefore, it is difficult to determine the final impacts this project will have on existing intersections and road segments that may need to be mitigated. Obtain approval from SHA or Town Engineer prior to your submission to the Planning Commission.
    Aspire will be constructed in phases as needed to meet subdivision regulations.

13. Per Chapter 28-1008.2 of the Zoning Code,clear unobstructed visions at intersecting streets shall be limited to a height of not over three feet above the established elevation of the nearest curb, for a distance of forty (40) feet along both flowlines of curb, measured from the point of intersection of the projected flowline of curb of said intersecting flowlines. No natural plantings or construction shall be permitted at a height over three (3) feet within the isosceles triangle formed by connecting the ends of the respective forty (40) foot distances. The unobstructed view shall be maintained for all spaces between three (3) and ten (10) feet in height. Relocate the parking spaces out of the sight triangle at the proposed neighborhood connectivity road and drive aisle. Please see attached.
    Intersection has been revised.

14. Revise renderings to match the site plan prior to your submission to the Planning Commission.
    Renderings revised as requested.

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15. Provide a recorded copy of the plat and deed for parcels 112 and 186.
    The lot line that breaks the parcel into 2 separate parcels was never formally abandoned and still exists even though the current deed/plat do not show the line. Mr. Daly pays taxes on two separate parcels and this is also made evident using SDAT.
    We have provided a summary of the history behind the property as well as all documentation including current and historical deeds/plats with the submission.

16. In order to provide connectivity, the use of gates at any access point to a public road cannot be utilized.
    Understood. No gates are currently proposed.

ENGINEERING COMMENTS

Site Plan

1. Proposed connectivity is now provided to the Gannon Range project to the northeast. While connecting Camac Street to Gannon Range with a public road would be preferred, this second entrance provides the connectivity previously requested. This entrance should match the typical Town Road section similar to Charlotte Lane in Gannon Range matching the pavement width and include curb and gutter and sidewalk. This connection does not need to include Town ROW dedication on the Aspire property.
   Section has been revised to match proposed Gannon Range.

2. Show Existing Easements and Buffers (NTW, Stream, etc.) on the property on all applicable sheets (should be around the perimeter of the property at a minimum). Please include the date the non-tidal wetlands were delineated. (This was comment #5 in our 12/28/2022 comment letter and has not been addressed.)
   Date of delineation has been added to cover.

3. Label adjacent property owners on all sheets. (This was comment #6 in our 12/28/2022 comment letter and has not been addressed.)
   Adjacent property owners have been labeled on all plan sheets.

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

4. Consider a roundabout or some other ability to turn around at the transition from Camac Street to private property. (This was comment #8 in our 12/28/2022 comment letter and has not been addressed.)
   In meeting with Town of Easton on July 26, 2023, it was agreed that Aspire would provide snow removal from the limits of the private property to both intersection of future Charlotte Lane with future Eleanor Street, and to the southern intersection of Captain Adamoski Street with Camac Street. Town of Easton has agreed to maintain condition of these roads (e.g. pavement) up to Aspire property line.

5. Connect the proposed parking area near Camac Street to the proposed entrance to improve circulation. (This was comment #9 in our 12/28/2022 comment letter and has not been addressed.)
   Revised as noted

6. Label Camac Street on all plan sheets. (This was comment #10 in our 12/28/2022 comment letter and has not been addressed.)
   Revised as noted.

7. Label the proposed roads as privately owned/maintained. Provide an END OF TOWN MAINTENANCE sign at the end of Camac Street. (This was comment #11 in our 12/28/2022 comment letter and has not been addressed.)
   End of Town Maintenance has been noted on Overall Site Plan, along with notation of Aspire's agreement regarding snow removal between their property and the closest Town intersections.

8. Will the streets be named? If so, please provide street names prior to the Final Site Plan. (This was comment #12 in our 12/28/2022 comment letter and has not been addressed.)
   There is currently no intention to provide road names within the community.

9. Connect Camac Street sidewalk on the northeast side to the proposed sidewalks and provide connection from the proposed community to the Town Park. (This was comment #13 in our 12/28/2022 comment letter and has not been addressed.)
   Revised as noted.

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10. The Preliminary Site Plan application should provide more detail for the pool fence/sidewalk/deck and label trash location for the pool.
    Understood. More detail will be provided at that point.

11. Prior to Final Site Plan approval, provide a PWA (Public Works Agreement) to address Phasing of the project.
    Understood. PWA will be provided at that point.

12. Please revise the Traffic Impact Study. Compare original Hunters Mill design to proposed design and confirm existing Town roads and entrance to MD-328 are adequately designed. (See Zoning Code Section 28-901.2.G.3 for Sketch Site Plan requirement and Zoning Code Sections 28-1303.5.B.5 and 28-1303.5.B.6 for Special Exception requirements). (This was comment #17 in our 12/28/2022 comment letter and had not been addressed with the ESDR submittal. We did receive a report dated 7/19/2023 via email on 7/20/2023, which is still under review. However, it appears to indicate Camac Street is permitted a maximum of 500 ADT and Aspire will generate 875 ADT on its own. Therefore, it appears the second entrance is necessary to be constructed to accommodate the anticipated ADT. This ADT Evaluation is still under review).
    Aspire will be constructed in phases as needed to meet subdivision regulations.

Stormwater Management

13. SHEET C-201.02 – Revise the SWM Quantity Summary Table to include the Forebays as part of the Submerged Gravel Wetlands.
    Table revised.

14. Quantity Management - The Drainage Areas used for the analysis include significant offsite areas. Please revise the analysis to include a Study Point(s) at the edge of the LOD to determine the impact immediately adjacent to the proposed project. The Tc and Reaches are outside the Drainage Areas. (This was comment #19 in our 12/28/2022 comment letter and has not been addressed.)
    Study Point has been split into two Study Points at the LOD as requested. See revised SWM Report and Quantity Analysis Maps.

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15. At the Preliminary Stormwater Management Plan Review, provide project specific cross sections (not typical sections) through the embankments of the Submerged Gravel Wetlands to illustrate side slopes, top of embankment width, and proximity to property lines and LOD.
    This will be provided during site development phase.

16. At the Preliminary Stormwater Management Plan Review, provide a note or detail on how the Pool Equipment will discharge to the proposed stormwater management system. Pool water must be dechlorinated before released to the stormwater system or it will be an Illicit Discharge.
    This will be provided during site development phase.

EASTON UTILITIES COMMENTS

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1. C-101 – See electric easement required. Contact Easton Utilities for electric design. Electric must be shown in 60% design.
   Understood.

2. C-102 – Capital charge for 1 EDU required for the creation of a lot.
   Understood.

3. C-102 – Utility easements required - 5' side yards, 10' fronting roads
   Understood. Easement will be provided if a new lot is created.

4. C-102 – Capital charge required - 165 EDU's total.
   Understood.

5. C-201.02 – Keep 12" horizontal separation from outside of MH to stormwater pipe
   Separation as currently designed is adequate.

6. C-205-01-C-205.02 – Title block incorrect
   Titleblock revised.

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7. C-401 – Separation between sewer manhole and stormwater pipe shall be 12" minimum.
   Separation as currently designed is adequate.

8. C-401 – Cleanouts shall not be in H/C ramps or gutter pans
   Cleanouts have been removed from all ramps and/or gutter pans. As shown at buildings 2, 4, and 5, the cleanout symbol is nearly 4x the size of the actual cleanout to allow for visibility on the sheets.

9. C-401 – Water and fire services shall have valves at main
   Noted.

10. C-401 – Show existing utilities on Camac Street to allow for planning
    Nearest valve is at intersection of Camac and Capt Adamouski. These valves will be utilized for construction.

11. C-401 – Sewer manholes appear to be lower than catch basins adjacant to manholes
    Rim elevation shown for curb inlets will be consistent with top of sidewalk elevations, 6" above curb flowline inlet elevation.

12. C-401 – Make symbols large enough to see including valves and hydrants
    All fittings and appurtenances on the plans are called out and/or labeled.

13. C-401 – Sheet C-505.01 not provided
    Feature note revised.

14. C-401 – Utilize hydrant at property line in lieu of blow off
    Revised as noted.

15. C-401 – What meter assembly is proposed for structures?
    A 3" meter assembly will be provided. Detail will be submitted during site development review.

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16. C-403.01 – Show stormwater adjacent to existing manhole

    Revised as noted.

17. C-401 – Relocate existing manhole out of sag in road.

    Frame and cover of existing manhole will be raised to proposed grades.

Feel free to contact me at 410-770-9081 with any questions.

Thank you,

Brian Fitzgerald, P.E.

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phone: 410.770.9081 | fax: 410.770.3667
email: design@raucheng.com | web: www.raucheng.com

ASPIRE APARTMENTS

INFRASTRUCTURE IMRPOVEMENT PLANS

FOR

ASPIRE OUTDOORS LLC

TALBOT COUNTY, MARYLAND 21601

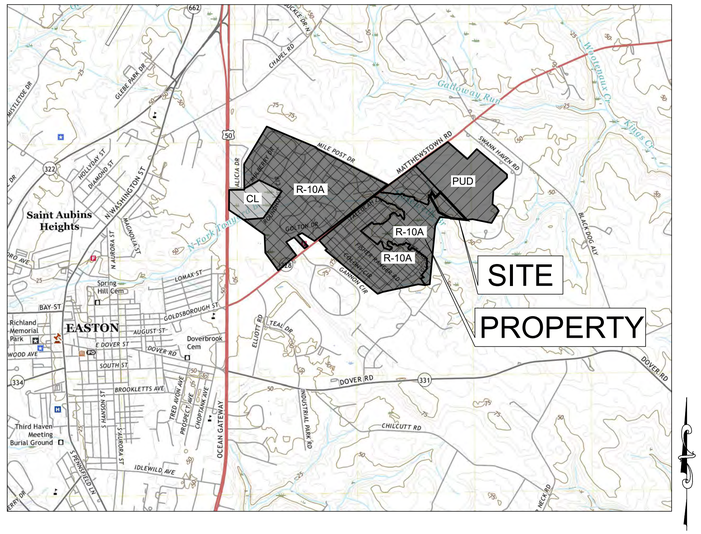
CONTACT INFORMATION

OWNER/DEVELOPER: ASPIRE OUTDOORS, LLC
29760 STANDISH STREET
EASTON, MD 21601

ENGINEER: RAUCH Inc.
106 N HARRISON ST
EASTON, MARYLAND 21301
(410)770-9081

SITE DATA

PROPERTY ADDRESS:	CAMAC STREET EASTON, MD 21601
LATITUDE:	38.785378 N
LONGITUDE:	-76.039285 W
PRESENT ZONING CLASSIFICATION:	R10A
PRESENT USE:	UNDEVELOPED SITE
PLANNED USE:	RESIDENTIAL
TAX MAP:	0026
GRID:	0020
PARCEL:	0186
DEED REFERENCE:	02644/00114
SITE AREA:	2,691,136 SQ. FT / 61.78 ACRES
FEMA FLOOD MAP:	PANEL 24041C0191C
SURVEY DATUM:	
HORIZONTAL:	NAVD83
VERTICAL:	NAVD88
EPSG CODE:	2248
EXISTING PERVIOUS:	8.56 AC
EXISTING IMPERVIOUS:	0.00 AC
LOD:	8.56 AC
PARKING:	
PER ZONING ORIDINANCE 28-1001.3	MULTIFAMILY: 1 TO 2 PER DWELLING UNIT 6 BUILDINGS WITH 27 UNITS EACH = 162 UNITS
REQUIRED PARKING:	162 SPACES TO 324 SPACES 81 BICYCLE SPACES
PROVIDED PARKING:	201 SPACES OR 1.241 SPACES PER UNIT 98 BICYCLE SPACES
ADA PARKING REQUIRED:	7 SPACES (2 VAN ACCESSIBLE)
ADA PARKING PROVIDED:	8 SPACES (3 VAN ACCESSIBLE)
MAXIMUM DWELLING UNITS:	PER ZONING ORDINANCE, R-7A = 5 UNITS PER ACRE MAX 61.78 ACRES * 5 UNITS = 308.9 UNITS PROPOSED UNITS = 162 UNITS < 308.9 UNITS.....OK
BUILDING OVERHANG:	NO BUILDING FOUNDATION OR ROOF OVERHANG SHALL BE WITHIN ANY UTILITY EASEMENT
OPEN SPACE:	REQUIRED = 25% OF THE GROSS DEVELOPMENT AREA 25% OF 8.56 ACRES = 2.14 ACRES OR 93,218 SF OF OPEN SPACE PROVIDED = 3.45 AC OR 150,347 SF > 2.14 AC .....OK
WETLAND DELINEATION:	WETLAND DELINEATION WAS CONFIRMED BY MDE MAY 5, 2021.



VICINITY MAP
SCALE: 1" = 2,000'

SHEET INDEX

SHEET NUMBER	DRAWING TITLE
G-100	COVER SHEET
C-101	PROPERTY LOCATION MAP
C-102	SITE PLAN
C-200	EROSION AND SEDIMENT CONTROL (ESC) COVER
V-101	DEMOLITION & CLEARING PLAN
C-201.01	ESC PLAN
C-201.02	STORMWATER & STORM DRAIN PLAN
C-203	STORM DRAIN PROFILES
C-205.01 → C-205.02	ESC DETAILS
C-205.03 → C-205.04	STORMWATER MANAGEMENT DETAILS
C-301	SITE GRADING PLAN
C-305.01 → C-305.02	SITE DETAILS
C-401	UTILITY PLAN
C-403.01 → C-403.02	UTILITY PROFILES
C-405	UTILITY DETAILS
C-501	STRIPING PLAN
C-601	LANDSCAPING PLAN
C-605.01 → C-605.02	LANDSCAPING NOTES & DETAILS

GENERAL NOTES

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 ENGINEERING	410-820-8822
EASTON UTILITIES	410-822-6110
TALBOT COUNTY SCD	410-882-1577 x 3
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.

FIRE LANE AND ACCESS WILL MEET REQUIREMENTS FOR THE PROPOSED BUILDING PRIOR TO THE FINAL SITE PLAN.

ASPIRE APARTMENTS - GROSS SQUARE FOOTAGES

UNIT	101	201/301	102/202/203	103/203/303	104/204/304	105	205/305	106	206/306	107/207/307	108	208/308	109	209/309	POOL HOUSE
FLOOR AREA (S.F.)	720	753	760	1489	1157	1156	1200	1483	1526	1151	843	1129	848	1130	4328

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. NON-TIDAL WETLANDS ARE PRESENT ON-SITE

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

COMPREHENSIVE PLAN DESIGN PRINCIPLES RESPONSE NARRATIVE

PRINCIPLE #1 - MIXED USES ARE DESIRABLE - THIS PROJECT PROPOSES A MIDDLE HOUSING DEVELOPMENT WHICH IS A MIX FROM THE ADJACENT DEVELOPMENTS WHICH EMPLOYEE SINGLE FAMILY LOTS.

PRINCIPLE #2 - NATURAL FEATURES SHOULD DETERMINE DESIGN - TO ACCOMMODATE THE PROPOSED PROJECT, THE PROPOSED STORMWATER MANAGEMENT AREAS WILL BE CONSTRUCTED TO IMPROVE WATER QUALITY PRIOR TO OFFSITE DISPOSAL. THE PROJECT WAS DESIGNED TO MINIMALLY DISTURB EXISTING NON-TIDAL WETLANDS ON SITE AS WELL AS AVOID THE 100' STREAM BUFFER. LESS THAN 5,000 SF OF NON-TIDAL WETLANDS SHALL BE DISTURBED.

PRINCIPLE #3 - AUTOMOBILES SHOULD NOT DETERMINE DESIGN - AUTOMOBILES HAVE NOT DETERMINED THE DESIGN.

PRINCIPLE #4 - AMPLE COMMUNITY OPEN SPACE - THE PROJECT STRIVES TO ACHIEVE MAXIMUM FUNCTIONALITY WHILE STILL PROVIDING OPEN GREEN SPACE AT THE FRONT OF THE BUILDINGS. THERE ARE OPEN SPACES THROUGHOUT THE DEVELOPMENT INCLUDING AT THE CORNERS, REARS OF BUILDINGS, NEAR POOL, ETC.

PRINCIPLE #5 - ARCHITECTURE SHOULD RESPECT EASTON'S HISTORICAL DEVELOPMENT - THIS APPLICATION PROPOSES ARCHITECTURE COMPATIBLE WITH ZONING CLASSIFICATION R-10A AND DESIGN AND MATERIALS OF NEIGHBORING BUILDINGS.

PRINCIPLE #6 - SIGNS SHOULD INFORM BUT NOT DOMINATE - SIGNS WILL BE COMPATIBLE WITH NEIGHBORING BUILDINGS AND FOLLOW THE TREND OF THE DEVELOPMENT.

PRINCIPLE #7 - NEIGHBORHOODS SHOULD CONTAIN A DIVERSITY OF HOUSING TYPES - THE BUILDINGS WILL BE DIVERSE IN COLOR AND ROOF PITCHES WHICH WILL HELP TO BREAK UP ANY NOTICEABLE REDUNDANCY.

PRINCIPLE #8 - RESIDENTIAL NEIGHBORHOODS SHOULD BE INTERESTING PLACES - THE PROJECT IS DESIGNED TO BE WELCOMING AND HAS SIDEWALKS BETWEEN BUILDINGS. THE SUBMERGED GRAVEL WETLANDS CAN ACT AS LEARNING OPPOTUNITIES FOR STORM RUNOFF TREATMENT AND THERE IS A COMMUNITY POOL AND GATHERING AREA AT THE CENTER OF THE DEVELOPMENT.

PRINCIPLE #9 - NEIGHBORHOODS SHOULD CONNECT - THE PROJECT CONNECTS VIA CAMAC STREET TO THE NORTHERN NEIGHBORHOOD OF HUNTERS MILL. THE FUTURE PARK WILL CONNECT ALL NEIGHBORHOODS TOGETHER.

LINETYPES

PROPOSED / EXISTING

TOPOGRAPHY
- MAJOR CONTOURS (40)
- MINOR CONTOURS (41)
- TOP OF SLOPE BREAKLINE
- BOTTOM OF SLOPE BREAKLINE
- TOPOGRAPHY BREAKLINE
- CATCHMENT AREA
- Tc FLOW PATH
- PARCEL BOUNDARY
- PARCEL SETBACK/EASEMENT
- FENCELINE WOOD
- FENCELINE STEEL
- TREELINE/VEGETATION
- ROADWAY CENTERLINE
- HIGHWAY BARRIER

UTILITIES
- OVERHEAD ELECTRIC (OE)
- UNDERGROUND ELECTRIC (UE)
- UG ELECTRIC - PRIMARY (UE-P)
- UG ELECTRIC - SECONDARY (UE-S)
- TELEPHONE LINE (T)
- GAS PIPE LINE (G)
- CABLE TV (CTV)
- WATER PIPE (6W)
- STORMWATER PIPE
- UNDERDRAIN
- SANITARY SEWER (SS)
- FORCE MAIN SEWER (FM)

ENVIRONMENTAL
- WETLAND LINE (W)
- FLOOD PLANE 100/500 YR (FP 100)
- MEAN HIGH WATER (MHW)
- MEAN LOW WATER (MLW)
- CRITICAL AREA BUFFER 25'/100' (CB)
- SOILS BOUNDARY (SB)
- SWM EASEMENT 5'/10' (SE)

EROSION AND SEDIMENT CONTROL
- SILT FENCE (SF)
- SUPER SILT FENCE (SSF)
- SILT FENCE ON PAVEMENT (SFOP)
- LIMITS OF DISTURBANCE (LOD)
- LOD & SILT FENCE (LOD/SF)
- LOD & SUPER SILT FENCE (LOD/SSF)
- LOD & SILT FENCE ON PAVEMENT (LOD/SFOP)
- STANDARD INLET PROTECTION (SIP)
- AT-GRADE INLET PROTECTION (AGIP)
- (DP)

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)
- LAND SLOPE (0.41%, ELEV. 123)
- BENCHMARK
- BOREHOLE/MONITORING WELL
- LIGHTING

HATCHES

- ASPHALT
- GRAVEL
- CONCRETE
- RIPRAP/ROCK
- ESD BED BOTTOM
- BRICK PAVING
- EXISTING,TO BE DEMOLISHED
- STEEP SLOPES
- ROOFTOP/NON-ROOFTOP DISCONNECT

ZONING (VICINITY MAP):

- PUD - PLANNED UNIT DEVELOPMENT
- R-10A - RESIDENTIAL
- CL - COMMERCIAL LIMITED

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
CMF	CONCRETE MONUMENT FOUND
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

COVER SHEET

OF THE LANDS OF

ASPIRE APARTMENTS

TAX MAP: 0026, GRID: 0020, PARCEL: 0186

ELECTION DISTRICT 01, TALBOT COUNTY, MARYLAND

ASPIRE OUTDOORS, LLC

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 3867

REVISIONS

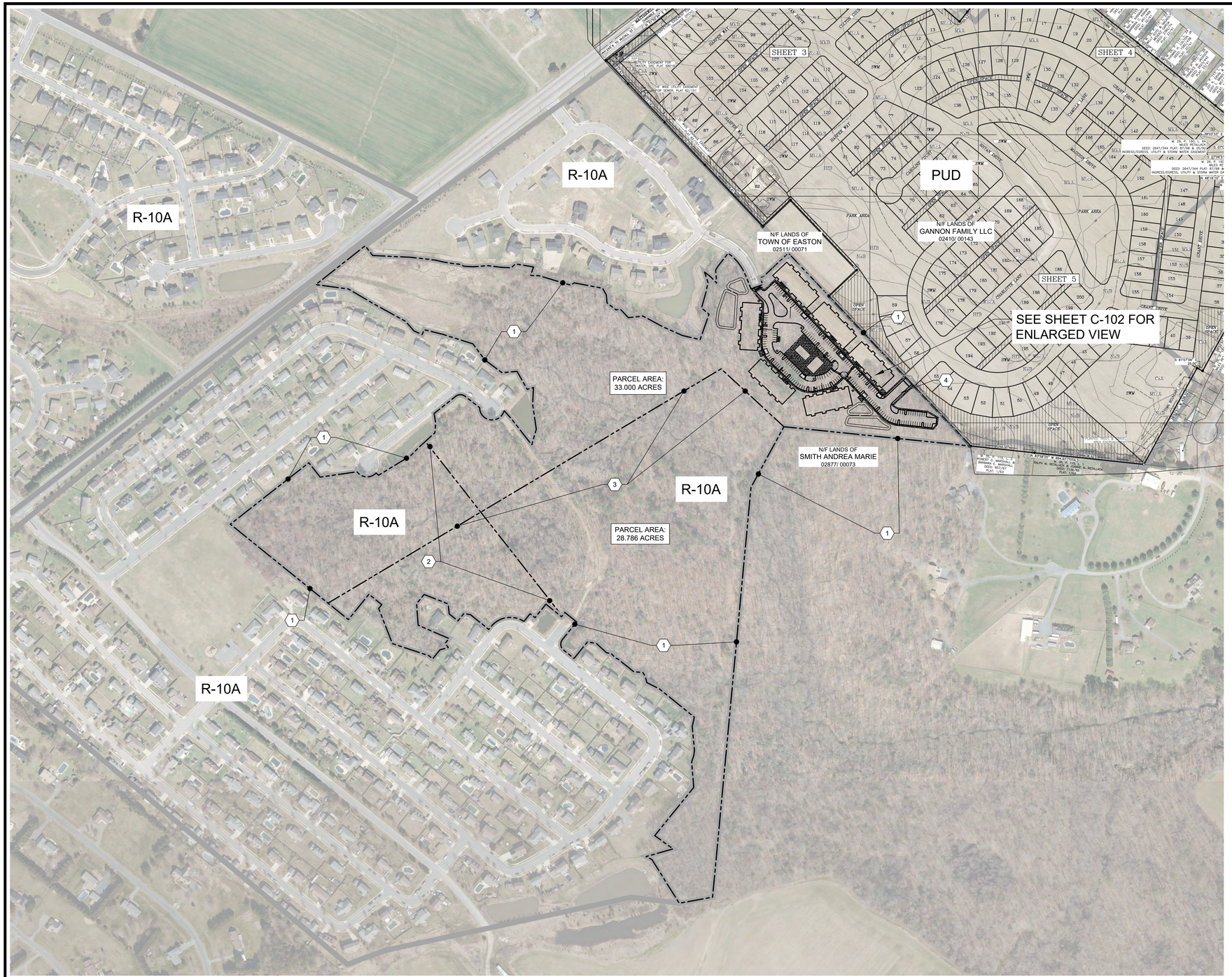
REV. #	DATE	DESCRIPTION
1	6/23/2023	REVISED TO CONNECT TO GANNON ESTATES
2	7/6/2023	GANNON PLAN (BY OTHERS) ADDED TO SHEETS
3	7/28/2023	REVISED PER ESD/RP/ZE/ENG/EUC COMMENTS

MISS UTILITY OF DELMARVA — CALL BEFORE YOU DIG — 811

DATE:	7/28/2023
SCALE:	AS SHOWN
DRAWN BY:	BBF
DESIGNED BY:	BBF
APPROVED BY:	BBF

SHEET NO.: G-100

FOR REVIEW



NOTES:

1. EXISTING PROPERTY LINE
2. EXISTING PROPERTY LINE TO BE ABANDONED
3. PROPOSED ABANDONED PROPERTY LINE TO BE REVISED
4. PROPOSED NEIGHBORHOOD CONNECTIVITY ROAD

LEGEND

- EXISTING PROPERTY LINE
- PROPOSED PROPERTY LINE
- WETLAND BOUNDARY
- 25' WETLAND BUFFER
- PERENNIAL STREAM
- 100' PERENNIAL STREAM BUFFER
- SETBACK (SEE NOTES)
- ZONING BOUNDARY

DENSITY CALCULATIONS:

6 BUILDINGS W/ 27 UNITS EACH = 162 TOTAL DWELLING UNITS

ZONE R10A MAXIMUM DENSITY = 5 DWELLING UNITS PER ACRE

162 UNITS / 5 UNITS PER ACRE = ***32.4 ACRES***

NAD 83

N

200' 400'

PROPERTY LOCATION MAP

OF THE LANDS OF

ASPIRE APARTMENTS

TAX MAP: 0026, GRID: 0020, PARCEL: 0186

ELECTION DISTRICT 01, TALBOT COUNTY, MARYLAND

ASPIRE OUTDOORS, LLC

RAUCH INC.
Engineering | Survey | Architecture | Environmental
Main Office: 106 N Harrison St - Easton, MD 21601
Web: www.rauch-inc.com | Email: design@rauchengr.com
Phone: 410 770 8081 | Fax: 410 770 3867

REVISIONS

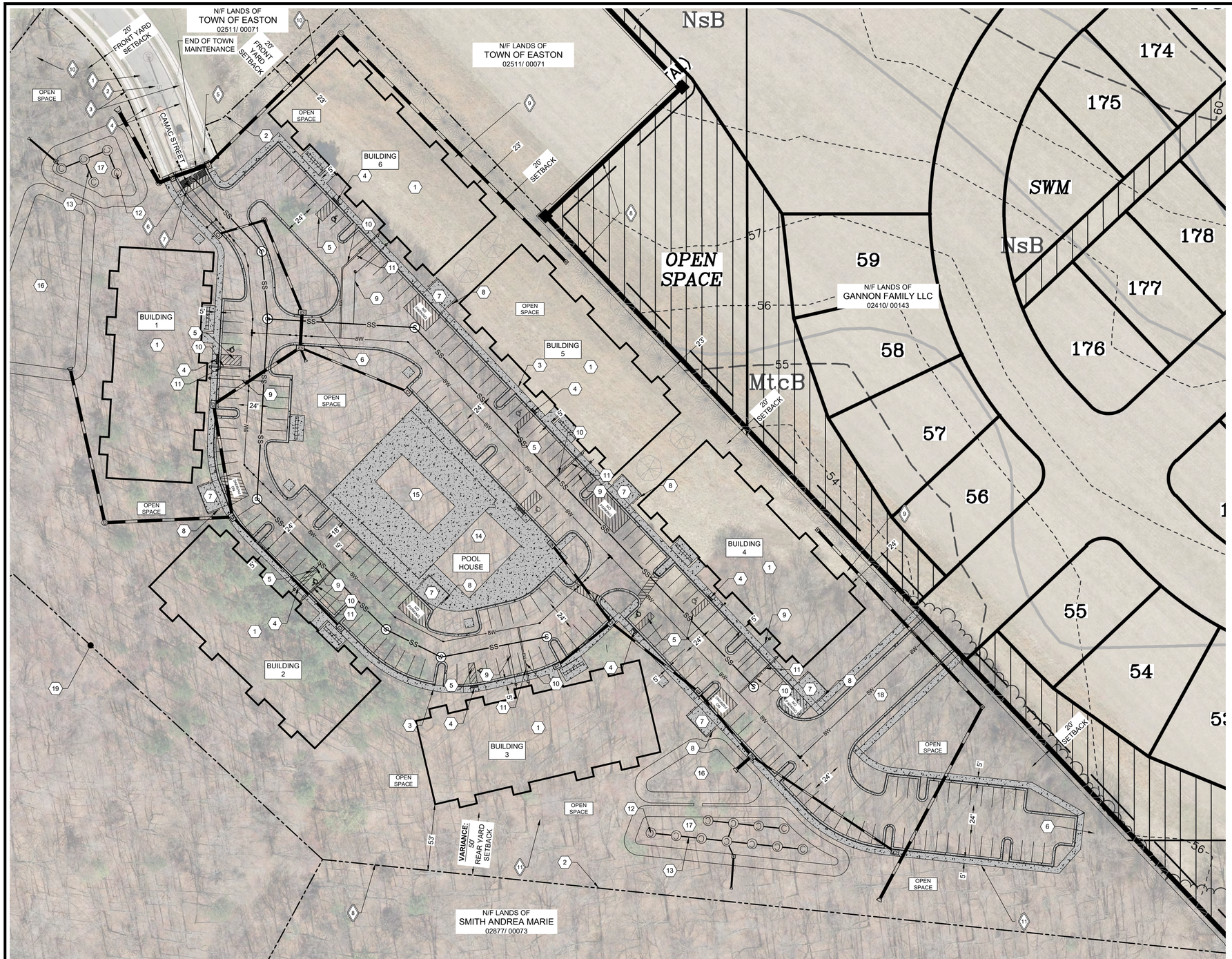
REV. #	DATE	DESCRIPTION
1	6/23/2023	REVISED TO CONNECT TO GANNON ESTATES
2	7/6/2023	GANNON PLAN (BY OTHERS) ADDED TO SHEETS

MISS UTILITY OF DELMARVA — CALL BEFORE YOU DIG — 811

DATE:	7/31/2023
SCALE:	1" = 200'
DRAWN BY:	BBF
DESIGNED BY:	BBF
APPROVED BY:	BBF

SHEET NO.: C-101

FOR REVIEW



PROPOSED SITE PLAN NOTES

1. APARTMENT BUILDING
2. PROPERTY LINE
3. PROPOSED 5 FT CONCRETE SIDEWALK. SEE DETAIL ON SHEET C-305.01
4. HANDICAP RAMP. SEE DETAIL ON SHEET C-305.01
5. 8' WIDE A.D.A. ACCESS AISLE STRIPED PER A.D.A. STANDARDS
6. STANDARD CURB AND GUTTER. SEE DETAIL ON SHEET C-305.01
7. REFUSE BIN COLLECTION AREA WITH WOODEN FENCE
8. PICKET FENCE WITH GATE
9. 6" SDR-35 SEWER CONNECTION. SEE DETAIL ON SHEET C-505.01
10. 6" FIRE C-900 WATER LINE CONNECTION. SEE DETAIL ON SHEET C-505.01
11. 2" POTABLE SDR-9 HDPE PIPE WATER LINE. SEE DETAIL ON SHEET C-505.01
12. 6" PVC CLEANOUT
13. 6" PVC UNDERDRAIN
14. POOL HOUSE
15. POOL
16. SUBMERGED GRAVEL WETLAND - FOREBAY
17. SUBMERGED GRAVEL WETLAND - TREATMENT AREA
18. NEIGHBORHOOD CONNECTIVITY ROAD
19. LOT LINE REVISION

EXISTING FEATURES

1. ROAD
2. ROAD CENTERLINE
3. SIDEWALK
4. CURB AND GUTTER
5. FIRE HYDRANT
6. SURVEYED LOCATION OF EXISTING SEWER
7. SURVEYED LOCATION OF EXISTING WATER METER
8. SURVEYED PROPERTY LINES
9. 20' SETBACK - APARTMENT FROM ANY ADJOINING PROPERTY LINE
10. 20' FRONT YARD SETBACK LINE
11. **VARIANCE REQUEST:** 50' REAR YARD SETBACK LINE ADJACENT TO DETACHED SINGLE FAMILY RESIDENCE

NAD 83

N

0 40' 80'

SITE PLAN

OF THE LANDS OF

ASPIRE APARTMENTS

TAX MAP: 0026, GRID: 0020, PARCEL: 0186
ELECTION DISTRICT 01, TALBOT COUNTY, MARYLAND
ASPIRE OUTDOORS, LLC

RAUCH inc.
Engineering | Survey | Architecture | Environmental
Main Office: 108 N Harrison St - Easton, MD 21601
Web: www.rauch-inc.com | Email: design@rauchengcom
Phone: 410 770 8081 | Fax: 410 770 3867

REVISIONS

REV. #	DATE	DESCRIPTION
1	6/23/2023	REVISED TO CONNECT TO GANNON ESTATES
2	7/6/2023	GANNON PLAN (BY OTHERS) ADDED TO SHEETS

MISS UTILITY OF DELMARVA
CALL BEFORE YOU DIG
811

DATE:	7/28/2023
SCALE:	1" = 40'
DRAWN BY:	BBF
DESIGNED BY:	BBF
APPROVED BY:	BBF

SHEET NO.: C-102

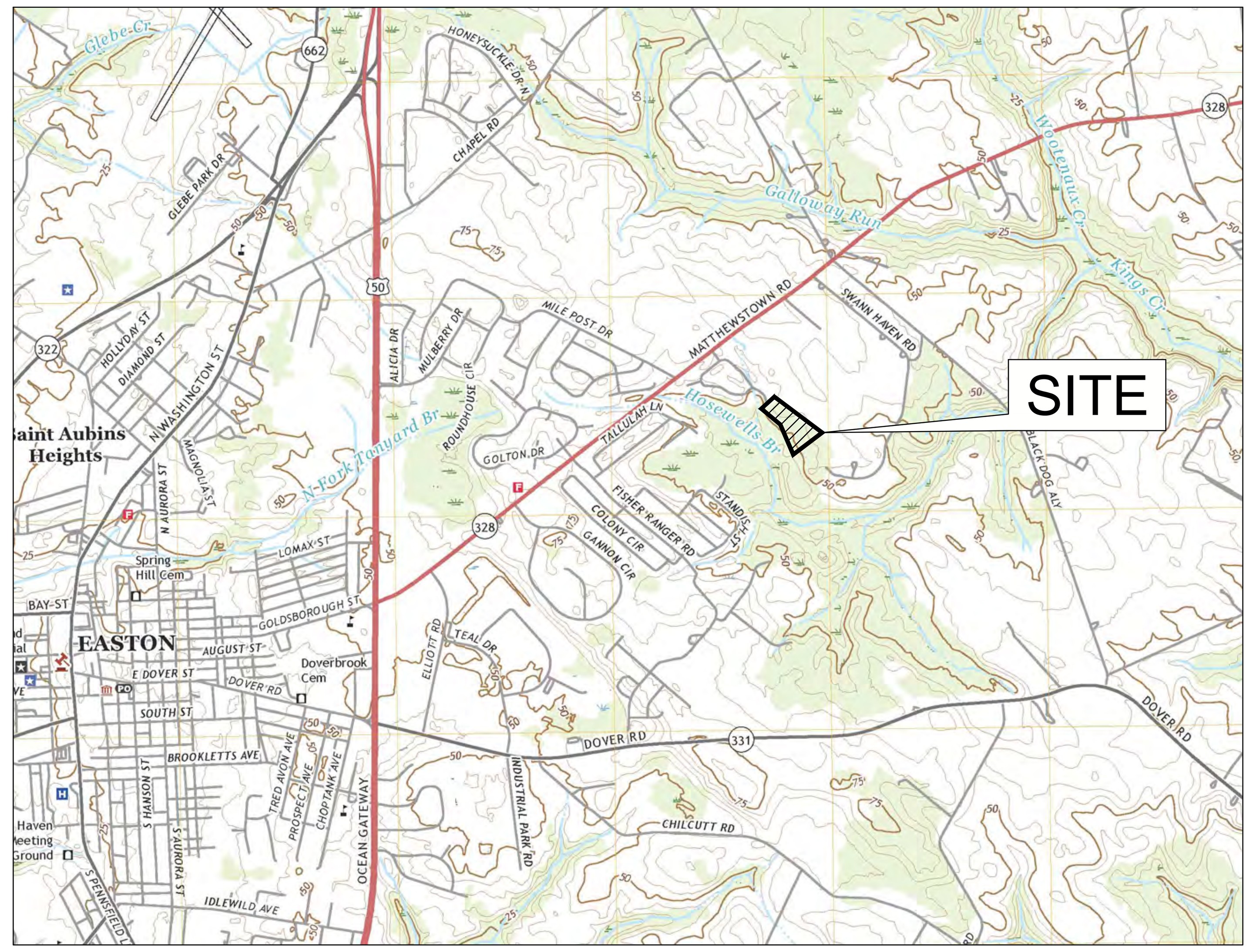
FOR REVIEW

ASPIRE - APARTMENTS

EROSION & SEDIMENT CONTROL PLANS

FOR

ASPIRE OUTDOORS, LLC
EASTON, TALBOT COUNTY, MARYLAND 21601



VICINITY MAP
SCALE: 1" = 2,000'

STANDARD EROSION AND SEDIMENT CONTROL NOTES

1. THE CONTRACTOR SHALL NOTIFY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) SEDIMENT CONTROL INSPECTOR AT 410-901-4020 AND THE TALBOT COUNTY DEPARTMENT OF PUBLIC WORKS (DPW) AT 410-770-8170 AT LEAST 48 HOURS PRIOR TO COMMENCING ANY LAND DISTURBING ACTIVITIES AND, UNLESS WAIVED BY THE SEDIMENT CONTROL INSPECTOR, SHALL BE REQUIRED TO HOLD A PRE-CONSTRUCTION MEETING AT THE PROJECT SITE. THE CONTRACTOR MUST PROVIDE THE NAME OF THE PERSON ON THE SITE WHO IS RESPONSIBLE FOR INSPECTION AND MAINTENANCE OF EROSION AND SEDIMENT CONTROL MEASURES AND A COPY OF THEIR GREEN CARD TO THE SEDIMENT CONTROL INSPECTOR.
2. ALL PROJECTS WITH CONSTRUCTION ACTIVITIES DISTURBING 1 ACRE OR MORE ARE REQUIRED TO SUBMIT A GENERAL PERMIT (NOI) TO MDE TO COMPLY WITH THE GENERAL PERMIT FOR CONSTRUCTION ACTIVITY FOR STORMWATER DISCHARGES. THE GENERAL PERMIT MUST BE APPROVED PRIOR TO DISTURBANCE ACTIVITIES. TO OBTAIN A GENERAL PERMIT (NOI) FORM, CONTACT THE PERMITS COORDINATOR AT THE MDE COMPLIANCE PROGRAM AT 410-537-3510.
3. THE LIMIT OF DISTURBANCE SHALL BE CLEARLY DELINEATED IN THE FIELD PRIOR TO THE PRE-CONSTRUCTION MEETING AND ANY GRADING ACTIVITIES TO ENSURE COMPLIANCE WITH THE APPROVED PLAN.
4. THE APPROVED EROSION AND SEDIMENT CONTROL PLAN MUST BE KEPT AT THE PROJECT SITE.
5. THE TALBOT SOIL CONSERVATION DISTRICT (TSCD) RESERVES THE RIGHT TO MODIFY THE EROSION AND SEDIMENT CONTROL PLANS.
6. THE TSCD MAY REVOKE THE APPROVAL OF THE EROSION AND SEDIMENT CONTROL PLAN IF WORK PERFORMED AT THE PROJECT SITE DOES NOT CONFORM TO THE PROVISIONS OF THE GRADING PERMIT, TO THE APPROVED PLAN OR TO ANY WRITTEN INSTRUCTIONS FROM MDE, TALBOT COUNTY DPW OR THE TSCD.
7. THE CONTRACTOR MUST REQUEST THAT THE SEDIMENT CONTROL INSPECTOR APPROVE WORK COMPLETED IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENT CONTROL PLAN, THE GRADING OR BUILDING PERMIT AND THE TALBOT COUNTY EROSION AND SEDIMENT CONTROL ORDINANCE AT THE FOLLOWING POINTS OF PROJECT DEVELOPMENT:
   A. UPON COMPLETION OF THE INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROL MEASURES BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY MDE IS MADE.
   B. PRIOR TO REMOVAL OR MODIFICATION OF ANY SEDIMENT CONTROL STRUCTURE(S).
   C. UPON FINAL STABILIZATION OF THE SITE AND PRIOR TO THE REMOVAL OF ANY SEDIMENT CONTROL MEASURES.
8. THE CONTRACTOR SHALL CONSTRUCT ALL EROSION AND SEDIMENT CONTROL MEASURES PER THE APPROVED PLAN AND CONSTRUCTION SEQUENCE AND SHALL HAVE THEM INSPECTED AND APPROVED BY THE SEDIMENT CONTROL INSPECTOR PRIOR TO BEGINNING ANY OTHER LAND DISTURBANCES.
9. THE CONTRACTOR SHALL ENSURE THAT ALL RUNOFF FROM DISTURBED AREAS IS DIRECTED TO THE SEDIMENT CONTROL DEVICES AND SHALL NOT REMOVE ANY EROSION OR SEDIMENT CONTROL MEASURE WITHOUT PRIOR PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR.
10. THE FOLLOWING MINOR PLAN MODIFICATIONS MAY BE APPROVED BY THE SEDIMENT CONTROL INSPECTOR IN THE FIELD:
    A. SEDIMENT CONTROL STRUCTURES (EXCEPT BASINS AND TRAPS) MAY BE MOVED TO MEET THE EXISTING CONTOURS AND FIELD CONDITIONS, WHEN MOVING THESE STRUCTURES WOULD HAVE NO IMPACT ON THEIR FUNCTION OR DESIGN CRITERIA.
    B. SUBSTITUTION OF PERIMETER CONTROL MEASURES MAY BE MADE PROVIDED THE MEASURE SUBSTITUTED IS EQUIVALENT (I.E., SILT FENCE FOR STRAW BALES) OR IS AN UPGRADE OF THE ORIGINAL MEASURE (I.E., SILT FENCE TO A PERIMETER BERM WITH PROPERLY SIZED OUTLET).
    C. ADDITION AND EXTENSION OF PERIMETER CONTROLS (INCLUDING STONE CONSTRUCTION ENTRANCES) MAY BE MADE TO MEET FIELD CONDITIONS. ANY MODIFICATIONS TO THE PLAN WHICH ARE NOT LISTED ABOVE REQUIRE THE PLAN TO BE SUBMITTED TO THE TSCD FOR REVIEW AND APPROVAL.
11. THE CONTRACTOR SHALL PROTECT ALL POINTS OF CONSTRUCTION INGRESS AND EGRESS TO PREVENT THE DEPOSITION OF MATERIALS ONTO PUBLIC ROADS. ALL MATERIALS DEPOSITED ONTO PUBLIC ROADS SHALL BE REMOVED IMMEDIATELY.
12. ON-SITE TEMPORARY STOCKPILE AREAS MUST BE PLACED AS SHOWN ON THE APPROVED PLAN. IF THE CONSTRUCTION SCHEDULE IS TO EXCEED 3 DAYS, THE STOCKPILE AREAS MUST BE STABILIZED. STOCKPILE AREAS SHOULD NOT EXCEED FIFTEEN FEET IN HEIGHT. IF A STOCKPILE IS TO EXCEED FIFTEEN FEET IN HEIGHT, IT MUST BE SHOWN ON THE PLAN TO BE TERRACED WITH PIPE SLOPE DRAINS INSTALLED AND APPROVED BY TSCD. UPON THE COMPLETION OF THE USE OF THE STOCKPILE AREA, EXISTING GROUND SURFACES SHALL BE RESTORED TO THEIR ORIGINAL CONDITIONS AND PERMANENTLY STABILIZED.
13. VARIOUS STEPS IN THE SEQUENCE OF CONSTRUCTION MAY REQUIRE THE CONTRACTOR TO REMOVE EXCESS EXCAVATED MATERIAL TO AN APPROVED LOCATION OR TO IMPORT MATERIAL FROM AN APPROVED LOCATION. FOR PURPOSES OF THIS PLAN, AN APPROVED LOCATION SHALL BE ONE WHICH IS OPERATING UNDER AN APPROVED EROSION AND SEDIMENT CONTROL PLAN AND AN ACTIVE GRADING PERMIT AT THE TIME OF CONSTRUCTION.
14. THE CONTRACTOR SHALL INSPECT DAILY AND MAINTAIN CONTINUOUSLY IN AN EFFECTIVE OPERATING CONDITION ALL EROSION AND SEDIMENT CONTROL MEASURES UNTIL SUCH TIME AS THEY ARE REMOVED WITH PRIOR PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR.
15. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN:
    A. THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES EQUAL TO OR GREATER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1), AND
    B. SEVEN (7) DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE. THE ABOVE REQUIREMENTS DO NOT APPLY TO THOSE AREAS WHICH ARE SHOWN ON THE PLAN AND ARE CURRENTLY BEING USED FOR MATERIAL STORAGE OR FOR THOSE AREAS ON WHICH ACTUAL CONSTRUCTION ACTIVITIES ARE CURRENTLY BEING PERFORMED OR TO INTERIOR AREAS OF A SURFACE MINE SITE WHERE THE STABILIZATION MATERIAL WOULD CONTAMINATE THE RECOVERABLE RESOURCE. MAINTENANCE SHALL BE PERFORMED AS NECESSARY TO ENSURE THAT THE STABILIZED AREAS CONTINUOUSLY MEET THE APPROPRIATE REQUIREMENTS OF THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
16. SEDIMENT CONTROL PRACTICES WILL BE MAINTAINED UNTIL THE ENTIRE CONTRIBUTING AREA TO THE PRACTICE HAS BEEN PERMANENTLY STABILIZED AND MEETS THE SATISFACTION OF THE SEDIMENT CONTROL INSPECTOR. SEDIMENT CONTROLS MAY ONLY BE REMOVED WITH THE AUTHORIZATION OF THE SEDIMENT CONTROL INSPECTOR.
17. ALL AREAS DISTURBED BY THE REMOVAL OF SEDIMENT CONTROL DEVICES MUST BE IMMEDIATELY STABILIZED.
18. SURFACE DRAINAGE FLOWS OVER UNSTABILIZED CUT AND FILL SLOPES SHALL BE CONTROLLED BY EITHER PREVENTING DRAINAGE FLOWS FROM TRAVERSING THE SLOPES OR BY INSTALLING PROTECTIVE DEVICES TO CONVEY THE WATER DOWNSLOPE WITHOUT CAUSING EROSION. DIKES SHALL BE INSTALLED AND MAINTAINED AT THE TOP OF CUT OR FILL SLOPES UNTIL THE SLOPE AND DRAINAGE AREA TO IT ARE FULLY STABILIZED, AT WHICH TIME THE DIKES MUST BE REMOVED AND FINAL GRADING DONE TO PROMOTE SHEET FLOW DRAINAGE. EROSION CONTROL MEASURES MUST BE IMPLEMENTED AT POINTS OF CONCENTRATED FLOW WHERE EROSION IS LIKELY TO OCCUR.
19. NO PERMANENT CUT OR FILL SLOPE WITH A GRADIENT STEEPER THAN 3:1 WILL BE PERMITTED IN LAWN MAINTENANCE AREAS. A SLOPE GRADIENT OF UP TO 2:1 WILL BE PERMITTED IN NON-MAINTENANCE AREAS PROVIDED THAT THOSE AREAS ARE INDICATED ON THE EROSION AND SEDIMENT CONTROL PLANS WITH A LOW-MAINTENANCE GROUND COVER SPECIFIED FOR PERMANENT STABILIZATION. SLOPE GRADIENT STEEPER THAN 2:1 WILL NOT BE PERMITTED WITH VEGETATION STABILIZATION.
20. ALL FLOW LINES ARE TO BE STABILIZED WITH SOD OR SEED WITH EROSION CONTROL MATTING TO A DEPTH OF FLOW OF 1 FOOT.
21. SEDIMENT TRAPS OR BASINS ARE NOT PERMITTED WITHIN 20 FEET OF A FOUNDATION WHICH IS EXISTING OR UNDER CONSTRUCTION. NO STRUCTURE MAY BE CONSTRUCTED WITHIN 20 FEET OF AN ACTIVE SEDIMENT TRAP OR BASIN.
22. TEMPORARY SEDIMENT TRAPS AND SEDIMENT BASINS SHALL BE CLEANED OUT AND RESTORED TO THE ORIGINAL DIMENSIONS WHEN SEDIMENT HAS ACCUMULATED TO ONE HALF (1/2) THE WET STORAGE DEPTH OF THE TRAP OR BASIN.
23. SEDIMENT REMOVED FROM TRAPS (AND BASINS) SHALL BE PLACED AND STABILIZED IN APPROVED AREAS, BUT NOT WITHIN A FLOODPLAIN, WETLAND OR FOREST RETENTION AREA. WHEN PUMPING SEDIMENT LADEN WATER, THE DISCHARGE MUST BE DIRECTED TO A SEDIMENT TRAPPING DEVICE PRIOR TO RELEASE FROM THE SITE.
24. FOR APPROVED DEWATERING STRATEGIES FOR TRAPS AND BASINS, SEE SECTION F OF THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. PUMPING SEDIMENT LADEN WATER INTO THE WATERS OF THE STATE WITHOUT FILTRATION IS STRICTLY FORBIDDEN.
25. SEDIMENT CONTROL DEVICES PLACED IN INFILTRATION AREAS MUST HAVE BOTTOM ELEVATIONS AT LEAST TWO (2) FEET HIGHER THAN THE FINISHED GRADE ELEVATION OF THE INFILTRATION PRACTICE. WHEN CONVERTING A SEDIMENT TRAP TO AN INFILTRATION DEVICE, ALL ACCUMULATED SEDIMENT MUST BE REMOVED AND DISPOSED OF PRIOR TO FINAL GRADING OF INFILTRATION DEVICE.
26. THE DEVELOPER IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS PRIOR TO ANY CONSTRUCTION ACTIVITIES. FURTHER, THE ISSUANCE OF A GRADING PERMIT DOES NOT RELIEVE THE DEVELOPER OF THE RESPONSIBILITY TO OBTAIN ANY ADDITIONAL LOCAL, STATE OR FEDERAL PERMITS.

GENERAL NOTES

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	410-882-0513
TALBOT COUNTY SCD	410-882-1577 x 3
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.

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 PRESENT ON SITE

HYDROLOGY NOTES:

1. STORMWATER MANAGEMENT WILL BE HANDLED VIA SUBMERGED GRAVEL WETLANDS WITH FOREBAYS ON SITE
2. THE PROJECT WILL NOT ALTER HYDROLOGY TO OR FROM THE SITE
3. 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

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.

CONTACT INFORMATION

OWNER/DEVELOPER:	ASPIRE OUTDOORS, LLC 29760 STANDISH STREET EASTON, MD 21601
ENGINEER:	RAUCH Inc. 106 N HARRISON ST EASTON, MARYLAND 21301 (410)770-9081

SITE DATA

PROPERTY ADDRESS:	CAMAC STREET EASTON, MD 21601
LATITUDE:	38.785378 N
LONGITUDE:	-76.039285 W
PRESENT ZONING CLASSIFICATION:	R10A
PRESENT USE:	UNDEVELOPED SITE
PLANNED USE:	RESIDENTIAL
TAX MAP:	0026
GRID:	0020
PARCEL:	0186
DEED REFERENCE:	02644/00114
SITE AREA:	2,187,801 SQ. FT / 50.225 ACRES
FEMA FLOOD MAP:	PANEL 24041C0191C
SURVEY DATUM:	
HORIZONTAL:	NAVD83
VERTICAL:	NAVD88
EPSG CODE:	2248
LOD:	8.6 AC
EXISTING PERVIOUS:	0.0 AC
EXISTING IMPERVIOUS	8.6 AC

SHEET INDEX

SHEET NO.	DRAWING TITLE
C-200	COVER SHEET
V-101	EXISTING CONDITIONS AND DEMOLITION PLAN
C-201.01	EROSION & SEDIMENT CONTROL PLAN
C-201.02	STORMWATER & STORM DRAIN PLAN
C-203	STORM DRAIN PROFILES
C-205.01 → C-205.02	EROSION & SEDIMENT CONTROL DETAILS
C-205.03 → C-205.04	STORMWATER & STORM DRAIN DETAILS

SITE SEQUENCE OF CONSTRUCTION:

1. NOTIFY MDE 2 WEEKS PRIOR TO CONSTRUCTION TO SCHEDULE A PRE-CONSTRUCTION MEETING AT (410) 901-4020
   TALBOT SOIL CONSERVATION DISTRICT AT (410) 822-1577
   TOWN OF EASTON AT (410) 822-0513
2. PRE-CONSTRUCTION MEETING.
3. INSTALL STABILIZED CONSTRUCTION ENTRANCE.
4. INSTALL ALL SEDIMENT AND EROSION CONTROL MEASURES (SILT FENCING & INLET PROTECTION) PER PLANS.
5. COMPLETE SITE DEMOLITION AND HAUL OFF SITE (SEE SHEETS V-101)..
6. INSTALL SEDIMENT TRAPS (FUTURE SUBMERGED GRAVEL WETLAND) AND PERMANENT OUTFALL STRUCTURES WITH DEWATERING SKIMMER DEVICE.
7. REMOVE TOPSOIL AND HAUL OFFSITE.
8. ROUGH GRADE SITE INSIDE LIMITS OF DISTURBANCE.
9. INSTALL ALL PROPOSED STORM DRAIN PIPES/STRUCTURES ACCORDING TO PLANS.
10. INSTALL ALL PROPOSED UTILITIES.
11. FINE GRADE SITE TO PROVIDE POSITIVE DRAINAGE AWAY FROM BUILDING PADS.
12. INSTALL CONCRETE CURB/GUTTER AND DUMPSTER PADS TO SPECIFIED GRADE.
13. CONSTRUCT ROAD UP TO BASE COURSE OF ASPHALT.
14. CONSTRUCT BUILDINGS.
15. CONSTRUCT CONCRETE SIDEWALKS.
17. CONSTRUCT SUBMERGED GRAVEL WETLANDS FOREBAYS.
18. CONVERT SEDIMENT TRAPS INTO SUBMERGED GRAVEL WETLANDS. REMOVE SKIMMER DEVICE.
19. INSTALL SURFACE COURSE OF ASPHALT ON ROADWAYS.
20. ALL DISTURBED AREAS TO BE PERMANENTLY STABILIZED.
21. MAINTAIN ALL PERIMETER CONTROLS AND SEDIMENT CONTROL DEVICES UNTIL FINAL STABILIZATION HAS BEEN COMPLETELY ESTABLISHED.
22. REMOVE PERIMETER CONTROLS UPON APPROVAL BY THE MDE SEDIMENT CONTROL INSPECTOR

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).

LINETYPES

PROPOSED | EXISTING

TOPOGRAPHY
- MAJOR CONTOURS (45' / 45)
- MINOR CONTOURS (44' / 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
- TREELINE/VEGETATION
- ROADWAY CENTERLINE
- HIGHWAY BARRIER

UTILITIES
- OVERHEAD ELECTRIC (OE)
- UNDERGROUND ELECTRIC (UE)
- TELEPHONE LINE (T)
- GAS PIPE LINE (G)
- CABLE TV (CTV)
- WATER PIPE (W)
- STORMWATER PIPE
- UNDERDRAIN
- SANITARY SEWER (SS)
- FORCE MAIN SEWER (FM)

ENVIRONMENTAL
- WETLAND LINE
- FLOOD PLANE 100/500 YR (FP 100)
- MEAN HIGH WATER (MHW)
- MEAN LOW WATER (MLW)
- CRITICAL AREA BOUNDARY (CAB)
- BUFFER 25'/100' (25')
- SOILS BOUNDARY

EROSION AND SEDIMENT CONTROL
- SILT FENCE (LOD/SF)
- SUPER SILT FENCE (SSF)
- SILT FENCE ON PAVEMENT (SFOP)
- LIMITS OF DISTURBANCE (LOD)
- LOD & SILT FENCE (LOD/SF)
- LOD & SUPER SILT FENCE (LOD/SSF)
- LOD & SILT FENCE ON PAVEMENT (LOD/SFOP)
- 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%)
- 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

EROSION AND SEDIMENT CONTROL PLAN

OF THE LANDS OF

ASPIRE APARTMENTS

TAX MAP: 0026, GRID: 0020, PARCEL: 0186

ELECTION DISTRICT 01, TALBOT COUNTY, MARYLAND

ASPIRE OUTDOORS, LLC

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 3667

REVISIONS

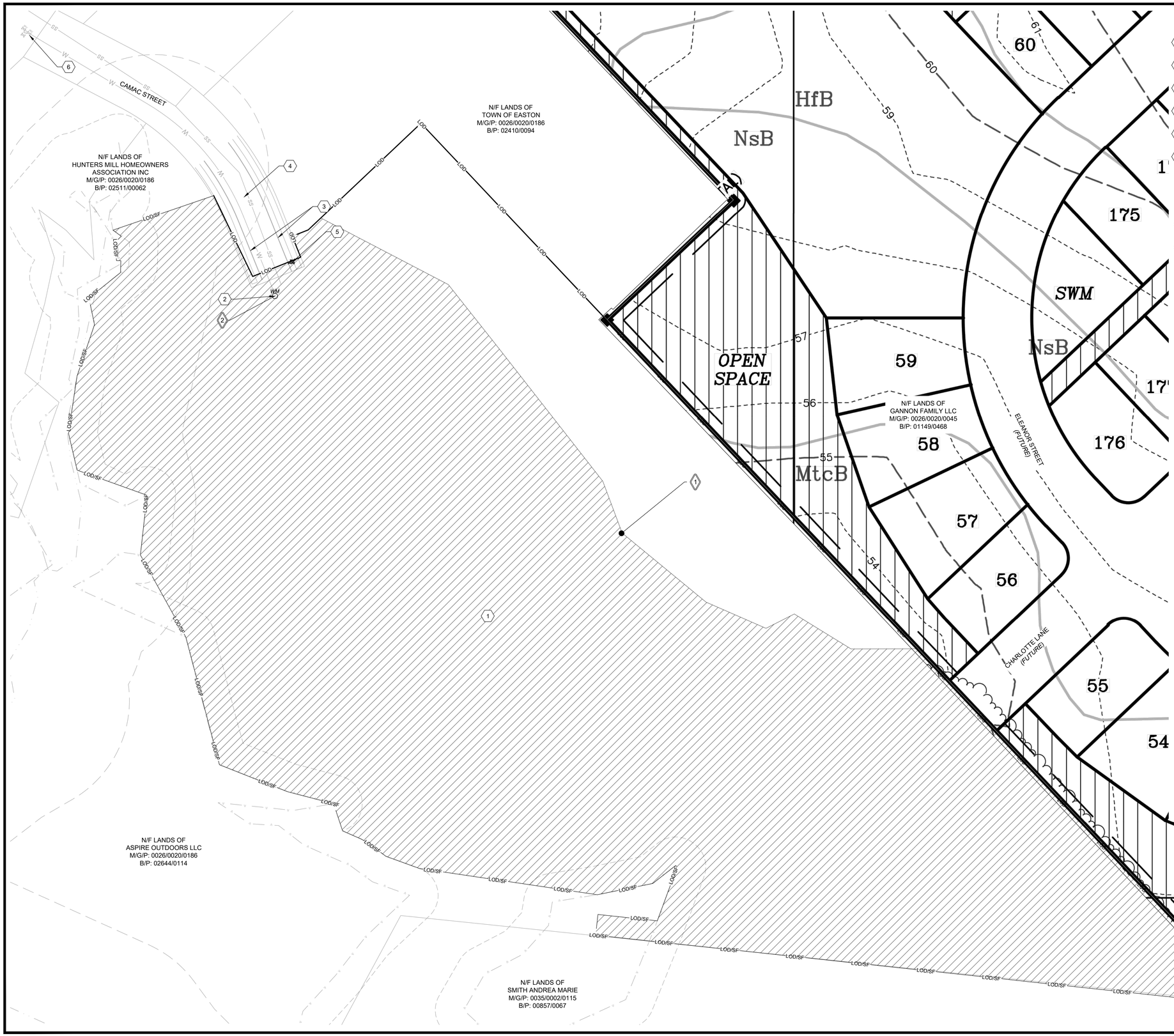
REV. #	DATE	DESCRIPTION
1	6/23/2023	REVISED TO CONNECT TO GANNON ESTATES
2	7/6/2023	GANNON PLAN (BY OTHERS) ADDED TO SHEETS
3	7/28/2023	REVISED PER ESDR/PZ/ENG/EUC COMMENTS

MISS UTILITY OF DELMARVA — CALL BEFORE YOU DIG — 811

DATE:	12/1/2022
SCALE:	1" = 2,000'
DRAWN BY:	BBF
DESIGNED BY:	BBF
APPROVED BY:	BBF

SHEET NO.: C-200

FOR REVIEW



EXISTING FEATURES

1. EXISTING FOREST
2. EXISTING WATER METER PIT
3. EXISTING CONCRETE CURB & GUTTER
4. CENTERLINE OF ROAD
5. EXISTING FIRE HYDRANT TO REMAIN
6. EXISTING WATER VALVES TO BE USED FOR CONSTRUCTION

DEMOLITION

1. CLEAR & GRUB EXISTING TREES
   AREA: 318,072 SF
2. REMOVE EXISTING METER PIT. CONTACT EUC REGARDING DISPOSAL OF EXISTING METER (IF PRESENT)

NOTES:

- GRUBBING
  - EXCAVATION AREAS
    - REMOVE ALL EMBEDDEDD STUMPS AND ROOTS TO A DEPTH OF AT LEAST 3 FT BELOW THE SUBGRADE OR SLOPE SURFACE. REFILL ALL DEPRESSIONS MADE BELOW THE SUBGRADE OR SLOPE SURFACES WITH MATERIALS SUITABLE FOR EMBANKMENT AND COMPACT.
  - LOW EMBANKMENTS
    - GRUB AREAS WHERE THE TOTAL DEPTH OF THE EMBANKMENT IS LESS THAN 3 FT.
  - HIGH EMBANKMENTS
    - IN AREAS WHERE THE EMBANKMENT IS 3 FT OR MORE IN DEPTH, CUT OFF TREES AND STUMPS AS CLOSE TO THE GROUND AS PRACTICAL BUT NOT GREATER THAN 1 FT ABOVE THE GROUND SURFACE. NEAR THE TOE OF THE EMBANKMENT SLOPES, REMOVE TREES AND STUMPS THAT ARE WITHIN 1 FT OF THE SLOPE SURFACE.
- DISPOSAL
  - BURNING
    - BURN ONLY UNDER THE CONSTANT CARE OF A WATCH PERSON AND ACCORDING TO THE APPLICABLE LAWS AND ORDINANCES OF RESPECTIVE JURISDICTIONS.
  - DISPOSAL LOCATIONS
    - REMOVE FROM THE JOB SITE AND DISPOSE OF ALL UNBURNED MATERIAL AND DEBRIS. MAKE ALL NECESSARY ARRANGEMENTS TO OBTAIN SUITABLE DISPOSAL LOCATIONS. FURNISH THE ENGINEER WITH A COPY RESULTING AGREEMENTS.
  - WOOD DISPOSAL
    - IF DISPOSAL OF WOOD TO THE PUBLIC IS PROPOSED, SUBMIT THE DISPOSAL PLAN TO THE TOWN ENGINEER FOR REVIEW, AND OBTAIN APPROVAL PRIOR TO BEGINNING THE CLEARING AND GRUBBING OPERATION. PERFORM THIS METHOD OF DISPOSAL FROM A LOCATION THAT IS OFF THE JOB SITE.
  - ASH TREE QUARANTINE
    - WOOD OF ASH TREES OF THE GENUS FRAXINUS IS QUARANTINED, AND MAY NOT BE MOVED OUTSIDE THE STATE OF MARYLAND.

EXISTING & DEMOLITION PLAN

OF THE LANDS OF

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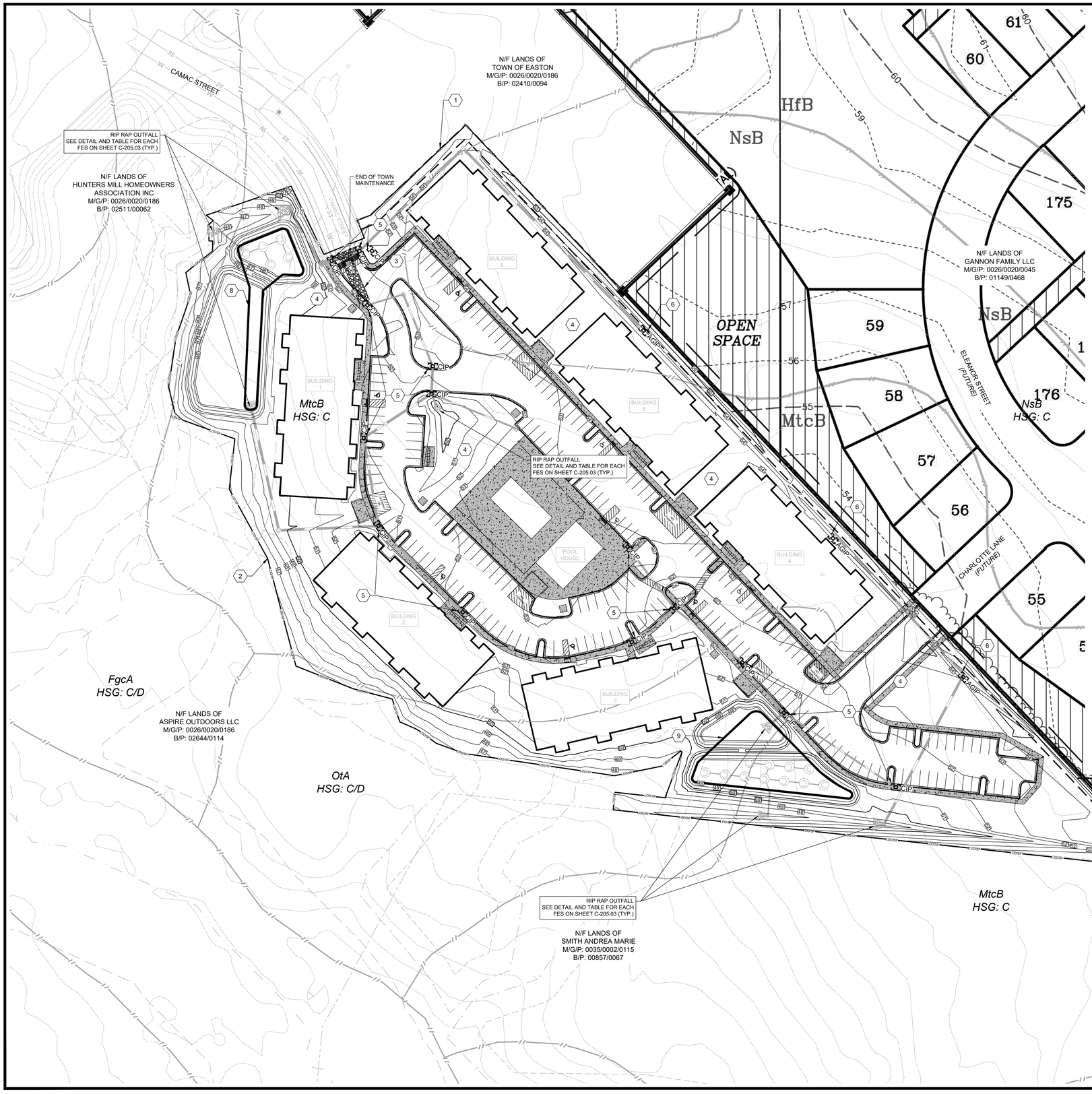
MISS UTILITY OF DELMARVA — CALL BEFORE YOU DIG! — 811

DATE:	7/28/2023
SCALE:	1" = 40'
DRAWN BY:	BBF
DESIGNED BY:	BBF
APPROVED BY:	BBF

SHEET NO.: V-101

FOR REVIEW



EROSION & SEDIMENT CONTROL NOTES

1. LIMIT OF DISTURBANCE
2. LIMIT OF DISTURBANCE & SILT FENCE. SEE DETAIL ON SHEET C-205.01
3. STABILIZED CONSTRUCTION ENTRANCE WITH WASHOUT RACK. SEE DETAIL ON SHEET C-205.01
4. STOCKPILE / STAGING AREA
5. CURB INLET PROTECTION. SEE DETAIL ON SHEET C-205.01
6. AT-GRADE INLET PROTECTION. SEE DETAIL ON SHEET C-205.01
7. EASTON UTILITIES R.O.W. / EASEMENT
8. SEDIMENT TRAP #1 (MIN. AREA; CONTRACTOR MAY EXCAVATE ENTIRE AREA FOR FUTURE SWM FACILITY)
9. SEDIMENT TRAP #2 (MIN. AREA; CONTRACTOR MAY EXCAVATE ENTIRE AREA FOR FUTURE SWM FACILITY)

Sediment Trap	1	2
Drainage Area (Acres)	3.40	3.44
Trap Bottom Elevation (FT)	45.5	47.5
Trap Area (SF)	4486	4388
Top of Embankment Elevation (FT)	48.5	50.5
Embankment Top Width (FT)	4	4
Outlet Elevation (FT)	47.5	49.5
Side Slope	3:1	3:1
Total Storage Required (CF)	12236	12381
Total Storage Provided (CF)	13458	13164

SOIL DATA

Map unit symbol	Map unit name	Hydrologic Soil Group	K-Factor	Hydric?
FgcA	Fallsington sandy loam, 0 to 2 percent slopes, Mid-Atlantic Coastal Plain	C/D	0.32	Yes
MtcB	Mattapex silt loam, 2 to 5 percent slopes, Mid-Atlantic Coastal Plain	C	0.49	No
NsB	Nassawango silt loam, 2 to 5 percent slopes	C	0.49	No
OtA	Othello silt loams, 0 to 2 percent slopes, Mid-Atlantic Coastal Plain	C/D	0.43	Yes

EROSION AND SEDIMENT CONTROL PLAN

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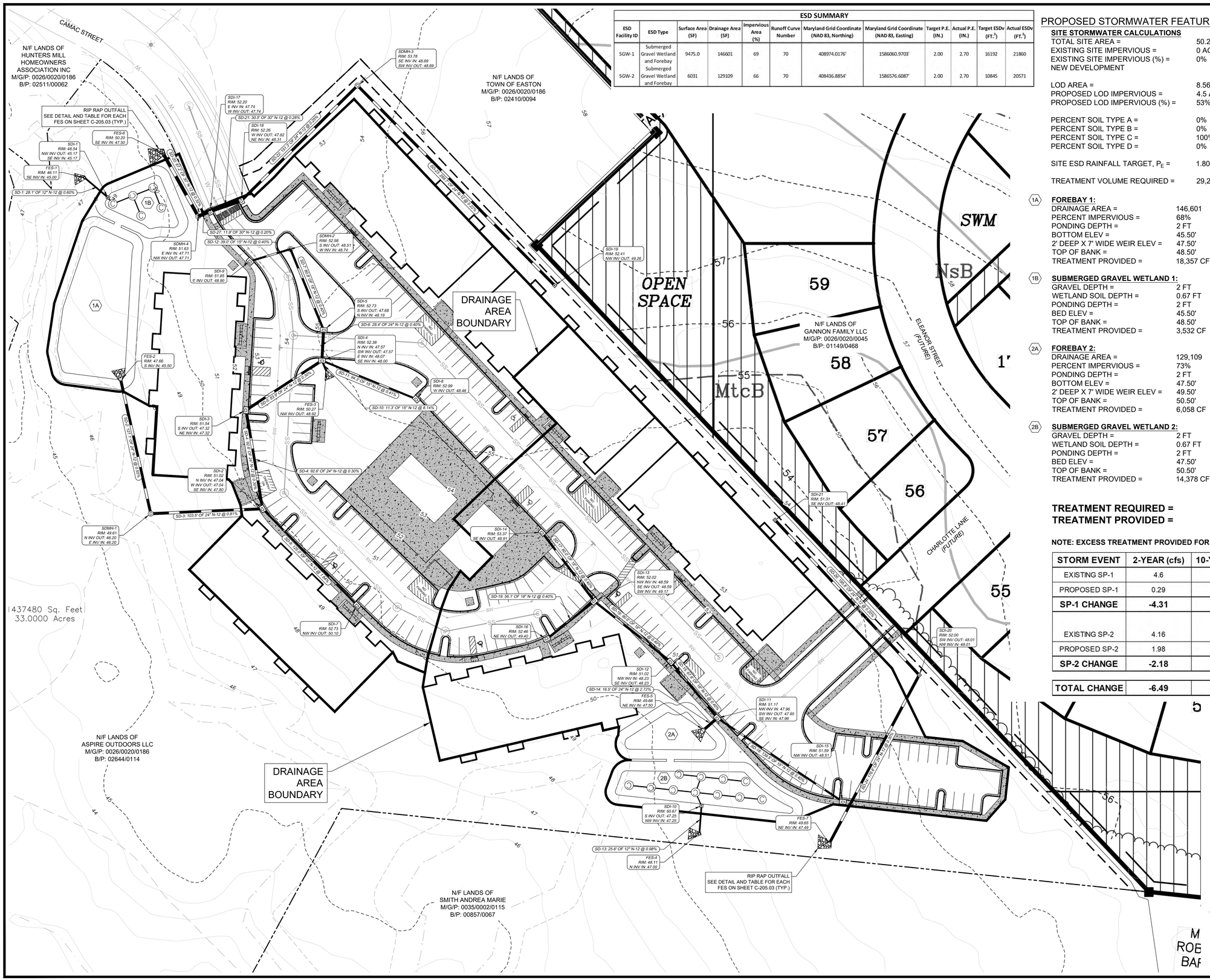
811

DATE:	12/1/2022
SCALE:	1" = 50'
DRAWN BY:	BBF
DESIGNED BY:	BBF
APPROVED BY:	BBF

SHEET NO.: C-201.01

FOR REVIEW



ESD SUMMARY											
ESD Facility ID	ESD Type	Surface Area (SF)	Drainage Area (SF)	Impervious Area (%)	Runoff Curve Number	Maryland Grid Coordinate (NAD 83, Northing)	Maryland Grid Coordinate (NAD 83, Easting)	Target P.E. (IN.)	Actual P.E. (IN.)	Target ESDv ($FT.^3$)	Actual ESDv ($FT.^3$)
SGW-1	Submerged Gravel Wetland and Forebay	9475.0	146601	69	70	408974.0176'	1586060.9703'	2.00	2.70	16192	21860
SGW-2	Submerged Gravel Wetland and Forebay	6031	129109	66	70	408436.8854'	1586576.6087'	2.00	2.70	10845	20571

PROPOSED STORMWATER FEATURES & NOTES

SITE STORMWATER CALCULATIONS

TOTAL SITE AREA =	50.225 ACRES
EXISTING SITE IMPERVIOUS =	0 ACRES
EXISTING SITE IMPERVIOUS (%) =	0%
NEW DEVELOPMENT	
LOD AREA =	8.56 ACRES
PROPOSED LOD IMPERVIOUS =	4.5 ACRES
PROPOSED LOD IMPERVIOUS (%) =	53%
PERCENT SOIL TYPE A =	0%
PERCENT SOIL TYPE B =	0%
PERCENT SOIL TYPE C =	100%
PERCENT SOIL TYPE D =	0%
SITE ESD RAINFALL TARGET, P_E =	1.80 INCHES
TREATMENT VOLUME REQUIRED =	29,281 CF

1A **FOREBAY 1:**

DRAINAGE AREA =	146,601
PERCENT IMPERVIOUS =	68%
PONDING DEPTH =	2 FT
BOTTOM ELEV =	45.50'
2' DEEP X 7' WIDE WEIR ELEV =	47.50'
TOP OF BANK =	48.50'
TREATMENT PROVIDED =	18,357 CF

1B **SUBMERGED GRAVEL WETLAND 1:**

GRAVEL DEPTH =	2 FT
WETLAND SOIL DEPTH =	0.67 FT
PONDING DEPTH =	2 FT
BED ELEV =	45.50'
TOP OF BANK =	48.50'
TREATMENT PROVIDED =	3,532 CF

2A **FOREBAY 2:**

DRAINAGE AREA =	129,109
PERCENT IMPERVIOUS =	73%
PONDING DEPTH =	2 FT
BOTTOM ELEV =	47.50'
2' DEEP X 7' WIDE WEIR ELEV =	49.50'
TOP OF BANK =	50.50'
TREATMENT PROVIDED =	6,058 CF

2B **SUBMERGED GRAVEL WETLAND 2:**

GRAVEL DEPTH =	2 FT
WETLAND SOIL DEPTH =	0.67 FT
PONDING DEPTH =	2 FT
BED ELEV =	47.50'
TOP OF BANK =	50.50'
TREATMENT PROVIDED =	14,378 CF

TREATMENT REQUIRED = 29,281 CF
TREATMENT PROVIDED = 42,325 CF

NOTE: EXCESS TREATMENT PROVIDED FOR QUANTITY MANAGEMENT

STORM EVENT	2-YEAR (cfs)	10-YEAR (cfs)	100-YEAR (cfs)
EXISTING SP-1	4.6	10.86	19.23
PROPOSED SP-1	0.29	1.59	18.79
SP-1 CHANGE	**-4.31**	**-9.27**	**-0.44**
EXISTING SP-2	4.16	9.57	16.76
PROPOSED SP-2	1.98	5.19	14.05
SP-2 CHANGE	**-2.18**	**-4.38**	**-2.71**
TOTAL CHANGE	**-6.49**	**-13.65**	**-3.15**

STORMWATER & STORM DRAIN PLAN

OF THE LANDS OF

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SCALE:	1" = 40'
DRAWN BY:	BBF
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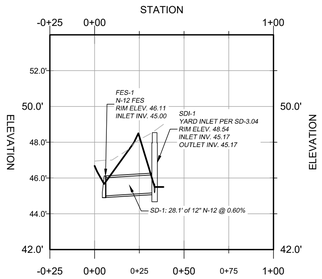
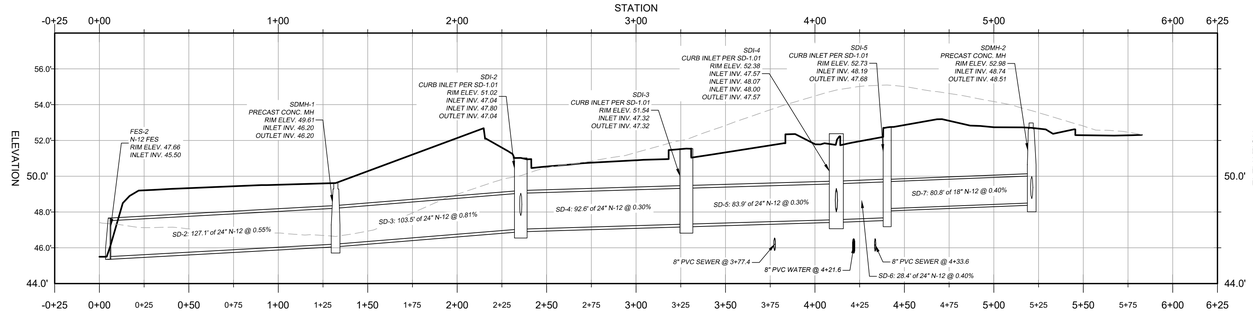
SHEET NO.: C-201.02

FOR REVIEW



PROFILE: FES-1 TO SDI-1
SCALE:
HORTIZONTAL: 1" = 40'
VERTICAL: 1" = 4'



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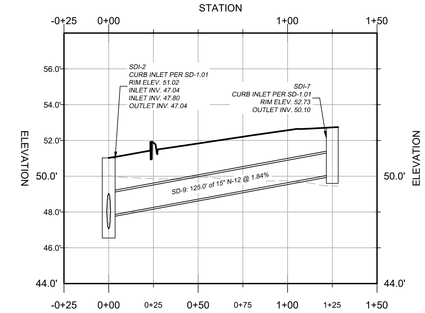

PROFILE: SDI-2 TO SDI-7
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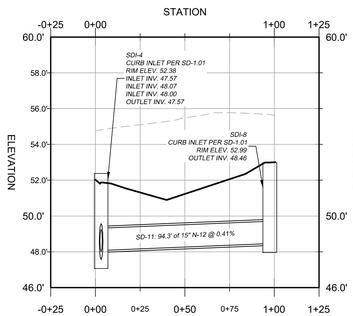

PROFILE: SDI-4 TO SDI-8
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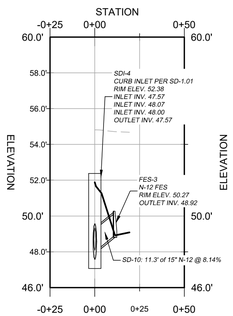

PROFILE: SDI-4 TO FES-3
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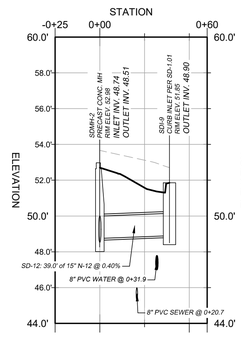

PROFILE: SDMH-2 TO SDI-9
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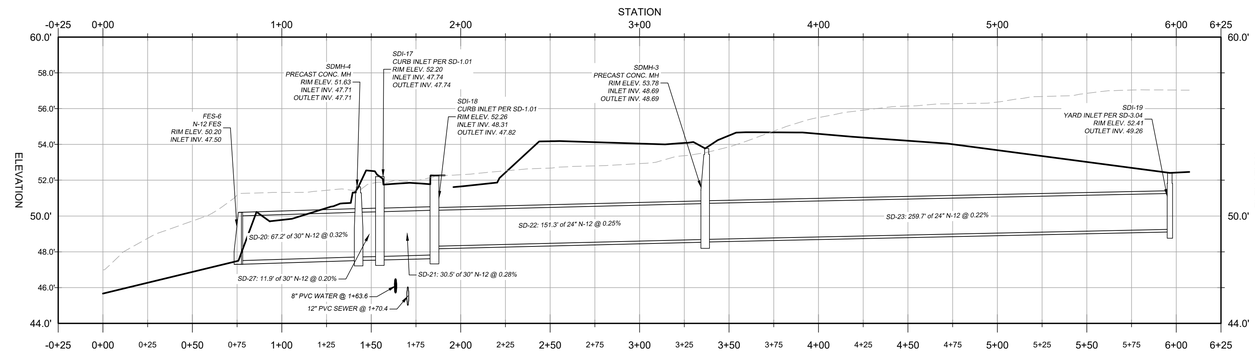

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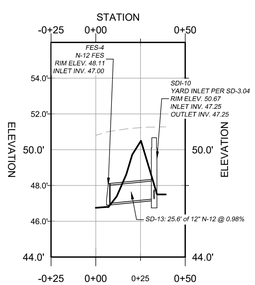

PROFILE: FES-4 TO SDI-10
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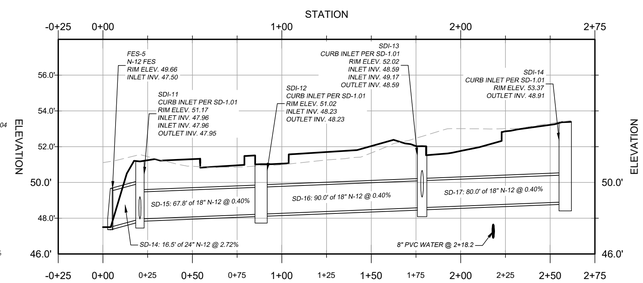

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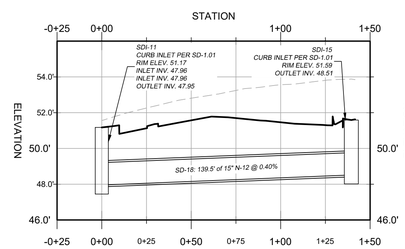

PROFILE: SDI-11 TO SDI-15
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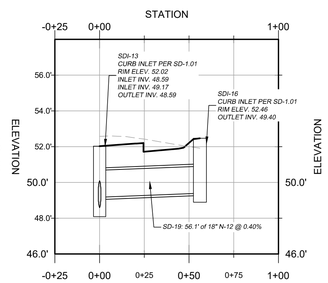
VERTICAL: 1" = 4'



PROFILE: SDI-13 TO SDI-16
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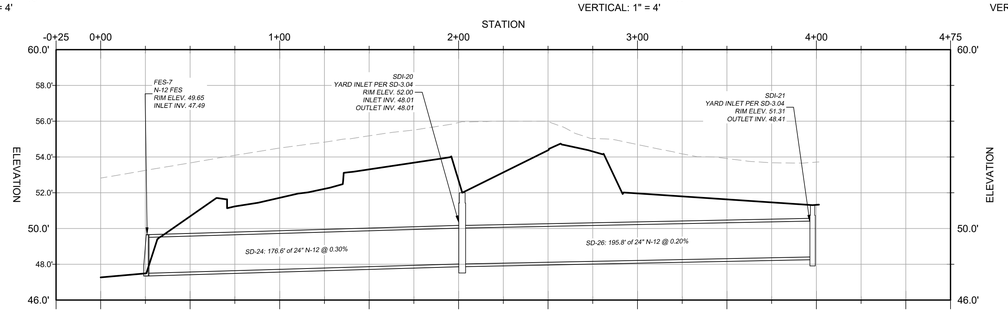
VERTICAL: 1" = 4'



PROFILE: FES-7 TO SDI-21
SCALE:
HORTIZONTAL: 1" = 40'
VERTICAL: 1" = 4'

STORMWATER & STORM DRAIN PROFILES

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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, 2024
31-Jul-23

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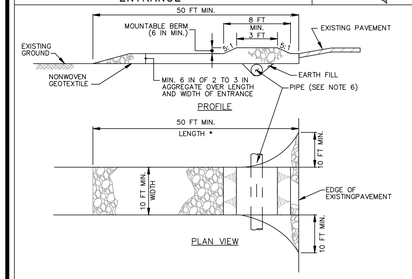
DATE:	7/28/2023
SCALE:	1" = 10'
DRAWN BY:	BBF
DESIGNED BY:	BBF
APPROVED BY:	BBF

SHEET NO.: C-203

FOR REVIEW

DETAIL B-1 STABILIZED CONSTRUCTION ENTRANCE

STANDARD SYMBOL SCE



CONSTRUCTION SPECIFICATIONS

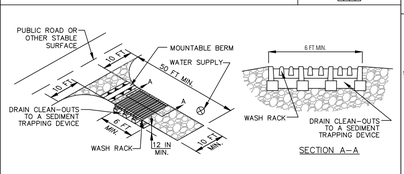
1. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (*30 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SCE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING 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

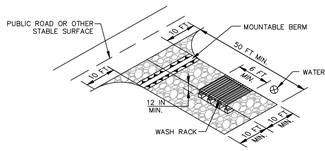
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL B-2 WASH RACK OPTION

STANDARD SYMBOL WR



ISOMETRIC VIEW – WASH RACK IN SCE



ISOMETRIC VIEW– WASH RACK ALONG SCE

CONSTRUCTION SPECIFICATIONS

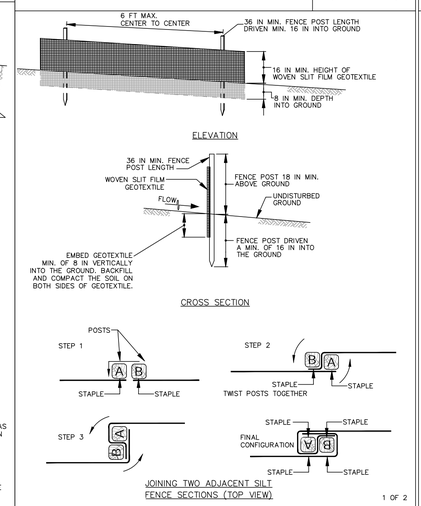
1. USE A WASH RACK DESIGNED AND CONSTRUCTED/MANUFACTURED FOR THE ANTICIPATED TRAFFIC LOADS. CONCRETE, STEEL, OR OTHER MATERIALS ARE ACCEPTABLE. PRE-FABRICATED UNITS SUCH AS CATTLE GUARDS ARE ACCEPTABLE. USE MINIMUM DIMENSION OF 6 FEET x 10 FEET. ORIENT DIRECTION OF RIBS AS SHOWN ON THE DETAIL.
2. INSTALL PRIOR TO, ALONG SIDE OF, OR AS PART OF THE SCE.
3. DIRECT WASH WATER TO AN APPROVED SEDIMENT TRAPPING DEVICE.
4. KEEP AREA UNDER WASH RACK FREE OF ACCUMULATED SEDIMENT. IF DAMAGED, REPAIR OR REPLACE WASH RACK.

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—



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 ± ⅛ 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.

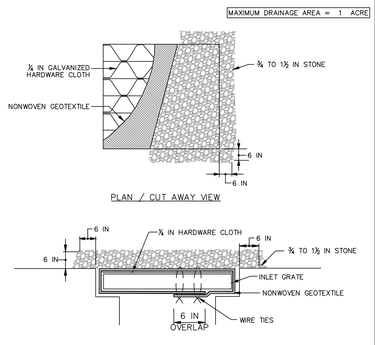
2 OF 2

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 E-9-2 AT-GRADE INLET PROTECTION

STANDARD SYMBOL AGIP



CONSTRUCTION SPECIFICATIONS

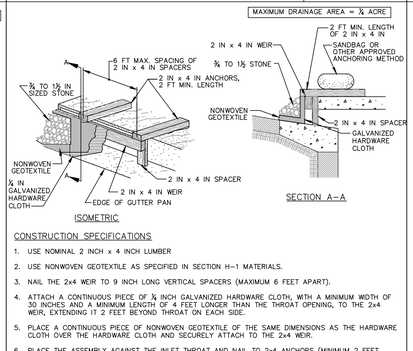
1. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
2. LIFT GRATE AND WRAP WITH NONWOVEN GEOTEXTILE TO COMPLETELY COVER ALL OPENINGS. SECURE WITH WIRE TIES AND SET GRATE BACK IN PLACE.
3. PLACE CLEAN ¾ TO 1½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE 6 INCHES THICK ON THE GRATE.
4. STORM 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

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

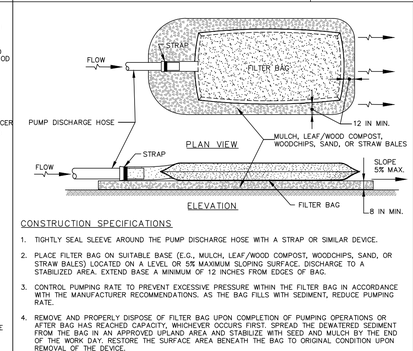
1. USE NOMINAL 2 INCH x 4 INCH LUMBER
2. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
3. NAIL THE 2x4 WEIR TO 9 INCH LONG VERTICAL SPACERS (MAXIMUM 6 FEET APART).
4. ATTACH A CONTINUOUS PIECE OF ¼ INCH GALVANIZED HARDWARE CLOTH, WITH A MINIMUM WIDTH OF 30 INCHES AND A MINIMUM LENGTH 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

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL F-4 FILTER BAG

STANDARD SYMBOL FB



CONSTRUCTION SPECIFICATIONS

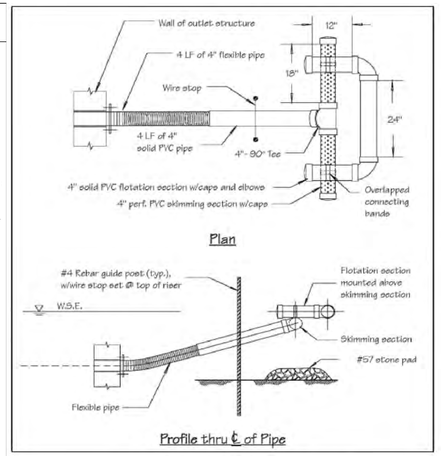
1. TIGHTLY SEAL SLEEVE AROUND THE PUMP DISCHARGE HOSE WITH A STRAP OR SIMILAR DEVICE.
2. PLACE FILTER BAG ON SUITABLE BASE (E.G., MULCH, LEAF/WOOD COMPOST, WOODCHIPS, SAND, OR STRAW BALES) LOCATED ON A LEVEL OR 5% MAXIMUM SLOPING SURFACE. DISCHARGE TO A STABILIZED AREA. EXTEND BASE A MINIMUM OF 12 INCHES FROM EDGES OF BAG.
3. CONTROL PUMPING RATE TO PREVENT EXCESSIVE PRESSURE WITHIN THE FILTER BAG IN ACCORDANCE WITH THE MANUFACTURER RECOMMENDATIONS. AS THE BAG FILLS WITH SEDIMENT, REDUCE PUMPING RATE.
4. REMOVE AND PROPERLY DISPOSE OF FILTER BAG UPON COMPLETION OF PUMPING OPERATIONS OR AFTER BAG HAS REACHED CAPACITY, WHICHEVER OCCURS FIRST. SPREAD THE DEWATERED SEDIMENT FROM THE BAG IN AN APPROVED UPLAND AREA AND STABILIZE WITH SEED AND MULCH BY THE END OF THE WORK DAY. RESTORE THE SURFACE AREA BENEATH THE BAG TO ORIGINAL CONDITION UPON REMOVAL OF THE DEVICE.
5. USE NONWOVEN GEOTEXTILE WITH DOUBLE STITCHED SEAMS USING HIGH STRENGTH THREAD. SIZE SLEEVE TO ACCOMMODATE A MAXIMUM 4 INCH DIAMETER PUMP DISCHARGE HOSE. THE BAG MUST BE MANUFACTURED FROM A NONWOVEN GEOTEXTILE THAT MEETS OR EXCEEDS MINIMUM AVERAGE ROLL VALUES (MARV) FOR THE FOLLOWING:

GRAB TENSILE	250 LB	ASTM D-4632
PUNCTURE	150 LB	ASTM D-4833
FLOW RATE	70 GAL/MIN/FT^2	ASTM D-4491
PERMITTIVITY (SEC^{-1})	1.2 SEC^{-1}	ASTM D-4491
UV RESISTANCE	70% STRENGTH @ 500 HOURS	ASTM D-4355
APPARENT OPENING SIZE (AOS)	0.15-0.18 MM	ASTM D-4751
SEAM STRENGTH	90%	ASTM D-4632

6. REPLACE FILTER BAG IF BAG CLOGS OR HAS RIPS, TEARS, OR PUNCTURES. DURING OPERATION KEEP CONNECTION BETWEEN PUMP HOSE AND FILTER BAG WATER TIGHT. REPLACE BEDDING IF IT BECOMES DISPLACED.

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



SKIMMER DEWATERING DEVICE
SHEET 1 OF 2

Construction Notes:

1. Pipe flotation section shall be solvent welded to ensure an airtight assembly. Contractor to conduct a test to check for leaks prior to installation.
2. Skimmer section shall have (12) rows of 1/2" dia. holes, 1-1/4" on center. If additional filtration is necessary, the filtering media shall consist of a Type GD-II geotextile fabric wrapped around the perforated portion of the skimmer and attached with plastic snap ties, bands, etc.
3. Flexible pipe shall be inserted into solid pipe and fastened with (2) #8 wood screws.
4. At a minimum, the structure shall be inspected after each rain and repairs made as needed. If vandalism is a problem, more frequent inspection may be necessary.
5. Construction operations shall be carried out in such a manner that erosion and water pollution are minimized.
6. The structure shall only be removed when the contributing drainage area has been properly stabilized.

Materials:

1. Solid pipe - 4" Sched. 40 PVC
2. Perforated pipe - 4" Sched. 40 PVC
3. 90° Tee (1 ea.) - 4" Sched. 40 PVC
4. 90° Elbow (2 ea.) - 4" Sched. 40 PVC
5. Cap (4 ea.) - 4" Sched. 40 PVC, solid
6. Flexible pipe - 4" corrugated plastic tubing (non-perforated)

SKIMMER DEWATERING DEVICE
SHEET 2 OF 2

EROSION AND SEDIMENT CONTROL DETAILS

OF THE LANDS OF

ASPIRE APARTMENTS

TAX MAP: 0026, GRID: 0020, PARCEL: 0186
ELECTION DISTRICT 01, TALBOT COUNTY, MARYLAND
ASPIRE OUTDOORS LLC

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 8081 | Fax: 410 770 3867

REVISIONS

REV. #	DATE	DESCRIPTION
1	6/23/2023	REVISED TO CONNECT TO GANNON ESTATES
2	7/6/2023	GANNON PLAN (BY OTHERS) ADDED TO SHEETS
3	7/28/2023	REVISED PER ESD/RP/ZENG/EUC COMMENTS

MISS UTILITY OF DELMARVA — 811

DATE:	7/28/2023
SCALE:	1" = 10'
DRAWN BY:	WCS
DESIGNED BY:	WCS
APPROVED BY:	BBF

SHEET NO.: C-205.01

FOR REVIEW

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 8/15 - 11/30	½"	436 lb/ac 10 lb/ 1000 sf	2 tons/ac 90 lb/ 1000 sf
	BARLEY OATS WHEAT CEREAL RYE	96# 72# 120# 112#	2/15 - 4/30 / 8/15 - 11/30 2/15 - 4/30 / 8/15 - 11/30 2/15 - 4/30 / 8/15 - 11/30 2/15 - 4/30 / 8/15 - 12/15	1" 1" 1" 1"		
	FOXTAIL MILLET PEARL MILLET	30# 20#	5/1 - 8/14 5/1 - 8/14	½" 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 KENTUCKY BLUEGRASS	60# 15#	3/1 - 5/15 8/15 - 10/15	1/4" - 1/2"	45 lb/ac 1lb/ 1000 sf	90 lb/ac 2lb/ 1000 sf	90 lb/ac 2lb/ 1000 sf	2 tons/ac 90 lb/ 1000 sq
8	TALL FESCUE	100#	3/1 - 5/15 8/15 - 10/15	1/4" - 1/2"				
9	TALL FESCUE KENTUCKY BLUEGRASS PERRENIAL RYEGRASS	60# 40# 20#	3/1 - 5/15 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.

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 specifically 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 one 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.

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

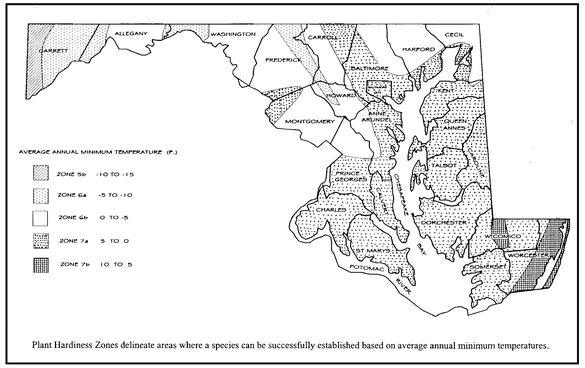
1. Select one or more of the species or seed mixtures listed in Table B.1 for the appropriate Plant Hardiness Zone (from Figure B.3), and enter them in the Temporary Seeding Summary below along with application rates, seeding dates and seeding depths. If this Summary is not put on the plan and completed, 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

Hardiness Zone (from Figure B.3): 7a Seed Mixture(from Table B.1):					Fertilizer Rate (10-20-20)	Lime Rate
No.	Species	Appl. Rate (lbs./ac.)	Seeding Dates	Seeding Depths		
	ANNUAL RYEGRASS	40	FEB 15 - APR 30 AUG 15 - NOV 30	0.5	436 lb/ac 10 lb/ 1000 sf	2 tons/ac 90 lb/ 1000 sf
	BARLEY	96	FEB 15 - APR 30 AUG 15 - NOV 30	1.0		



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	2.2	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 mix. 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 1/5 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.

EROSION AND SEDIMENT CONTROL DETAILS

OF THE LANDS OF

ASPIRE APARTMENTS

TAX MAP: 0026, GRID: 0020, PARCEL: 0186

ELECTION DISTRICT 01, TALBOT COUNTY, MARYLAND

ASPIRE OUTDOORS LLC

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 8081 | Fax: 410 770 3867

REVISIONS

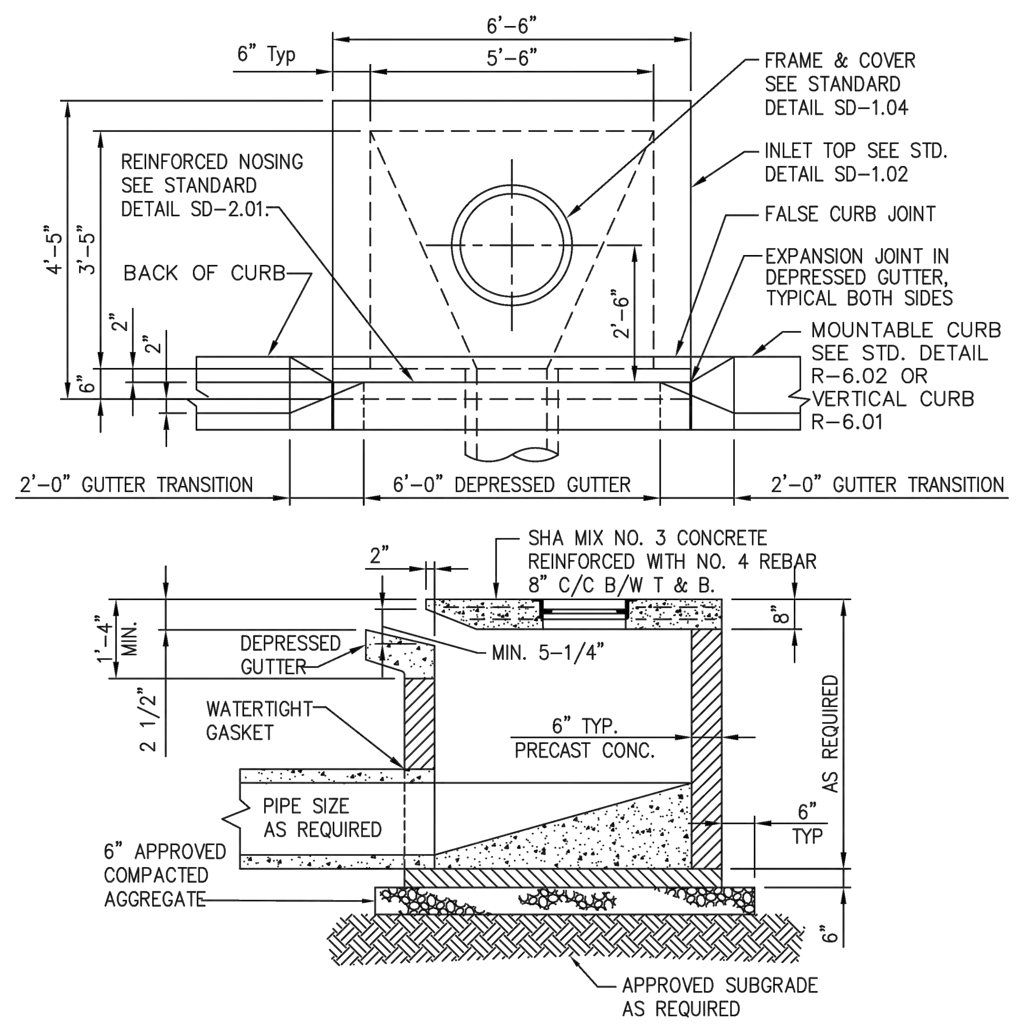
REV. #	DATE	DESCRIPTION
1	6/23/2023	REVISED TO CONNECT TO GANNON ESTATES
2	7/6/2023	GANNON PLAN (BY OTHERS) ADDED TO SHEETS
3	7/28/2023	REVISED PER ESD/RP/ZENG/ELIC COMMENTS

MISS UTILITY OF DELMARVA — CALL BEFORE YOU DIG — 811

DATE:	7/28/2023
SCALE:	N/A
DRAWN BY:	WCS
DESIGNED BY:	WCS
APPROVED BY:	BBF

SHEET NO.: C-205.02

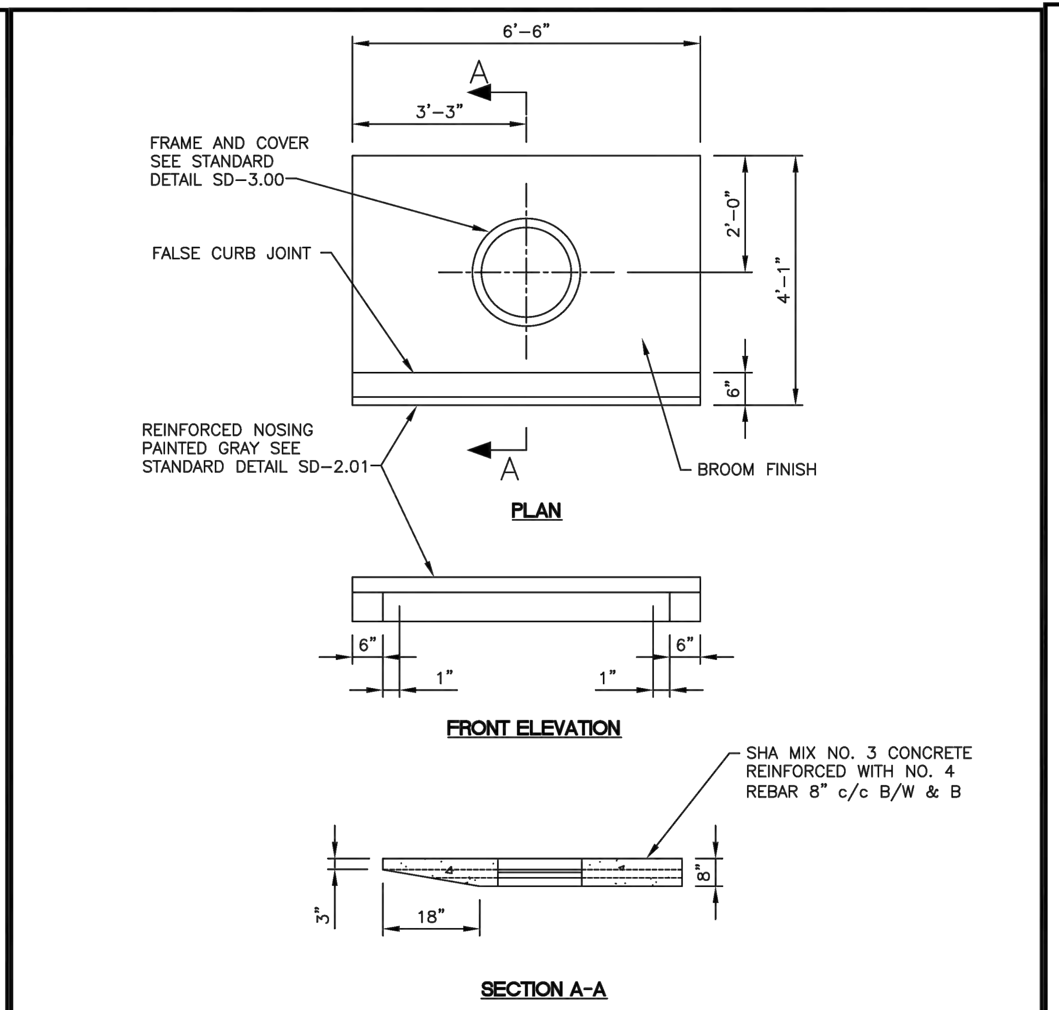
FOR REVIEW



NOTES:

1. PROVIDE LIFT HOOKS IN UNEXPOSED SURFACES TO ACCOMMODATE FIELD PLACEMENT.

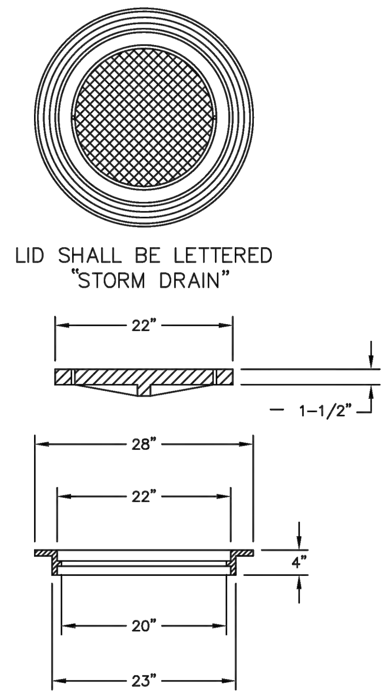
APPROVAL	TOWN OF EASTON STANDARD DETAILS
TOWN ENGINEER	CURB INLET
DATE 1/2020	
ISSUED: JANUARY 2020	STANDARD NO.: TOE-SD-1.01



NOTES:

1. LIFTING DEVICE SHALL BE DETERMINED BY CONTRACTOR, NO DEVICES SHALL BE PERMITTED IN EXPOSED TOP SURFACES.

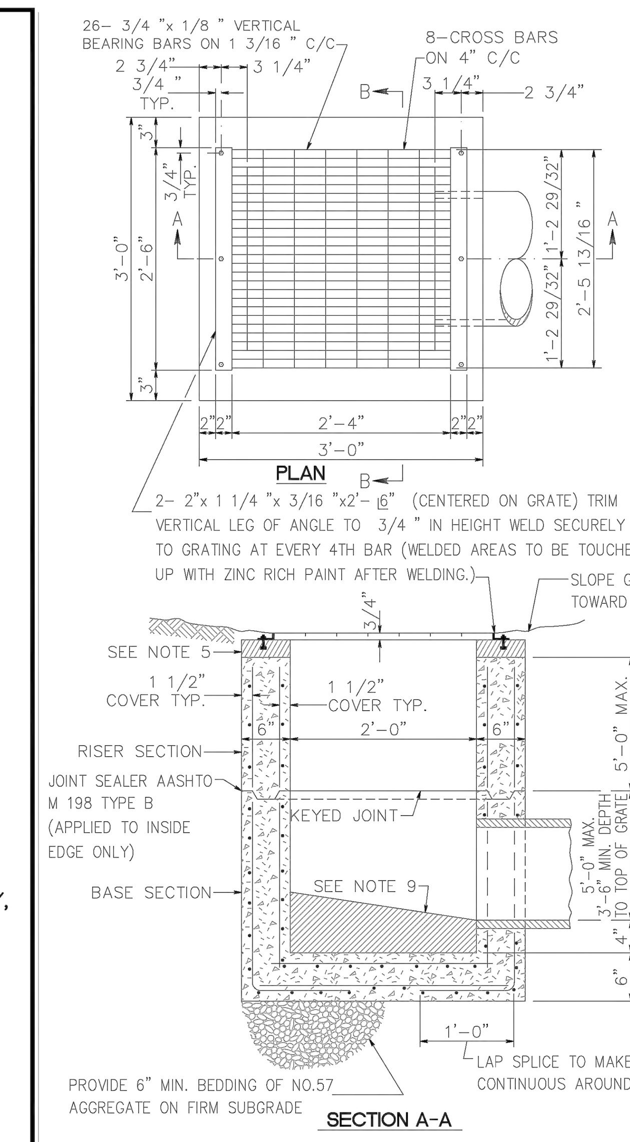
APPROVAL	TOWN OF EASTON STANDARD DETAILS
TOWN ENGINEER	INLET TOP
DATE 1/2020	
ISSUED: JANUARY 2020	STANDARD NO.: TOE-SD-1.02



NOTES:

1. CASTING SHALL CONFORM TO ASTM A-48-64 CLASS 35B IRON MINIMUM.
2. CASTING SHALL HAVE GROUND OR MACHINED BEARING SURFACES.
3. CASTING SHALL BE OF UNIFORM QUALITY, FREE FROM BLOW HOLES, POROSITY, HARD SPOTS, SHRINKAGE DEFECTS, OR OTHER INJURIOUS DEFECTS.
4. CASTING SHALL BE LIGHT DUTY SIDEWALK TYPE.
5. "PICK HOLES" ARE REQUIRED IN LID.
6. FRAME AND COVER SHALL BE 1545Z1 & 1544C AS MANUFACTURED BY EAST JORDON IRON WORKS, P.O. BOX 439 SPRING ST. EAST JORDON, MICH. 49727, OR AN APPROVED EQUAL.

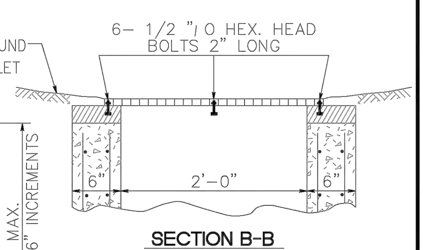
APPROVAL	TOWN OF EASTON STANDARD DETAILS
TOWN ENGINEER	INLET FRAME AND COVER
DATE 1/2020	
ISSUED: JANUARY 2020	STANDARD NO.: TOE-SD-1.04



GENERAL NOTES

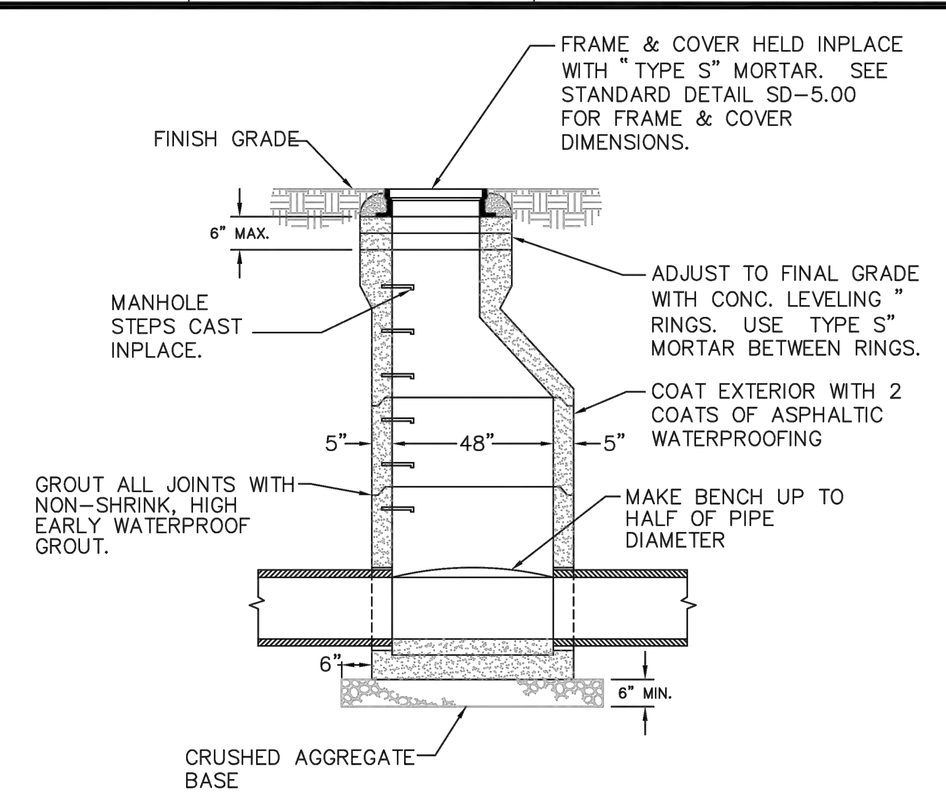
1. CONCRETE TO BE MIX 4500 PSI
2. REINFORCING-2 LAYERS OF 4x4-W4.0x W4.0 WELDED WIRE FABRIC.
3. THREADED PLASTIC INSERTS TO BE PROVIDED FOR HANDLING.
4. GRATING SHALL BE STEEL "IRVING X-BAR TYPE AA" OR APPROVED EQUIVALENT. ALL MATERIAL TO BE HOT DIPPED GALV.
5. GRADE AND SLOPE ADJUSTMENTS TO BE COMPLETED IN THE FIELD USING CONCRETE OR BRICK AND MORTAR. MIN. ONE LAYER OF BRICK OR 3" OF CONCRETE.
6. PIPE OPENINGS TO BE PROVIDE AS REQUIRED, FOR SIZE, LOCATION AND INVERT ELEVATIONS.
7. MINIMUM DEPTH PAYMENT PER "EACH" INLET INCLUDES DEPTHS UP TO 3'-6" MEASURED FROM THE PIPE INVERT TO THE TOP OF THE GRATE. VERTICAL DEPTH PAYMENT PER LINEAR FOOT FOR DEPTHS IN EXCESS OF 3'-6".
8. INVERT TO BE CONCRETE OR BRICK AND SHALL SLOPE 2" PER FOOT TOWARD OUTLET OR AS DIRECTED BY THE ENGINEER.

NOTE: EXPANSION ANCHORS MAY BE USED INSTEAD OF BOLTS.



NOTE: MDSHA YARD INLET ST. NO. MD 381.02

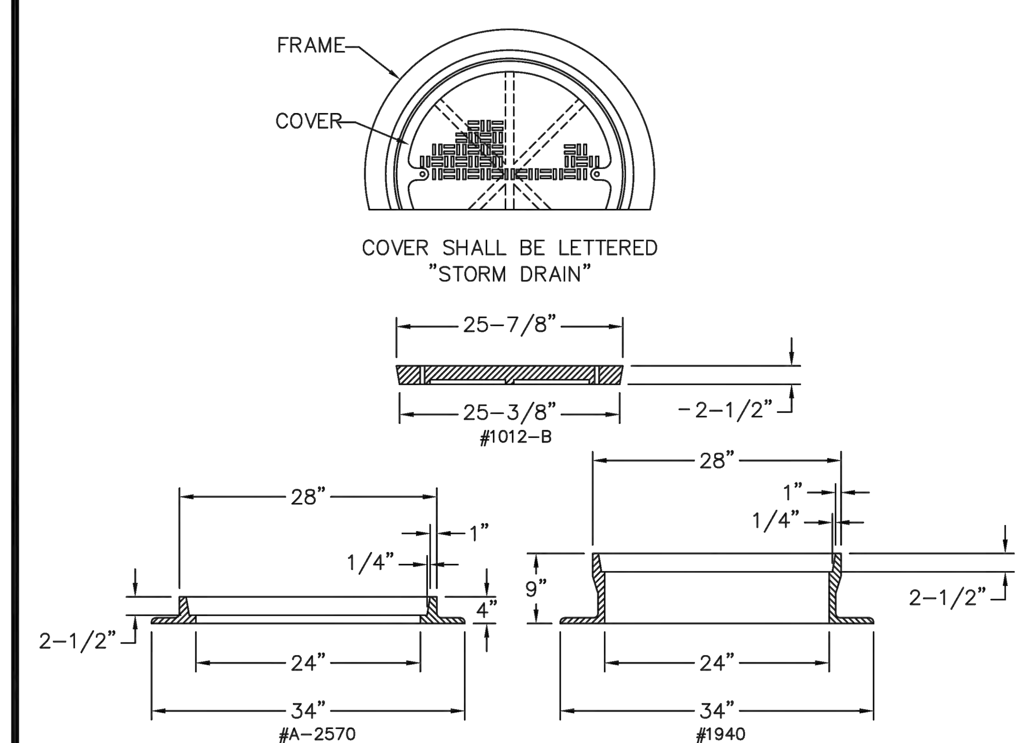
APPROVAL	TOWN OF EASTON STANDARD DETAILS
TOWN ENGINEER	NON-TRAFFIC BEARING YARD INLET
DATE 1/2020	
ISSUED: JANUARY 2020	STANDARD NO.: TOE-SD-1.07



NOTES:

1. PRECAST MANHOLE SHALL CONFORM TO ASTM C-478-78A AS MANUFACTURED BY: YORK CONCRETE SEPTIC TANKS INC. YORK PA. OR AN APPROVED EQUAL.
2. BENCH AND CHANNEL SHALL BE BRICK OR HAND FORMED CONCRETE. MIN. THICKNESS OF 4", BENCH SHALL SLOPE TO TOP OF PIPE 1/2" FALL PER FOOT.
3. MORTAR SHALL BE "TYPE S".
4. MANHOLE STEPS REQUIRED OVER THE EFFLUENT SIDE AS SHOWN.

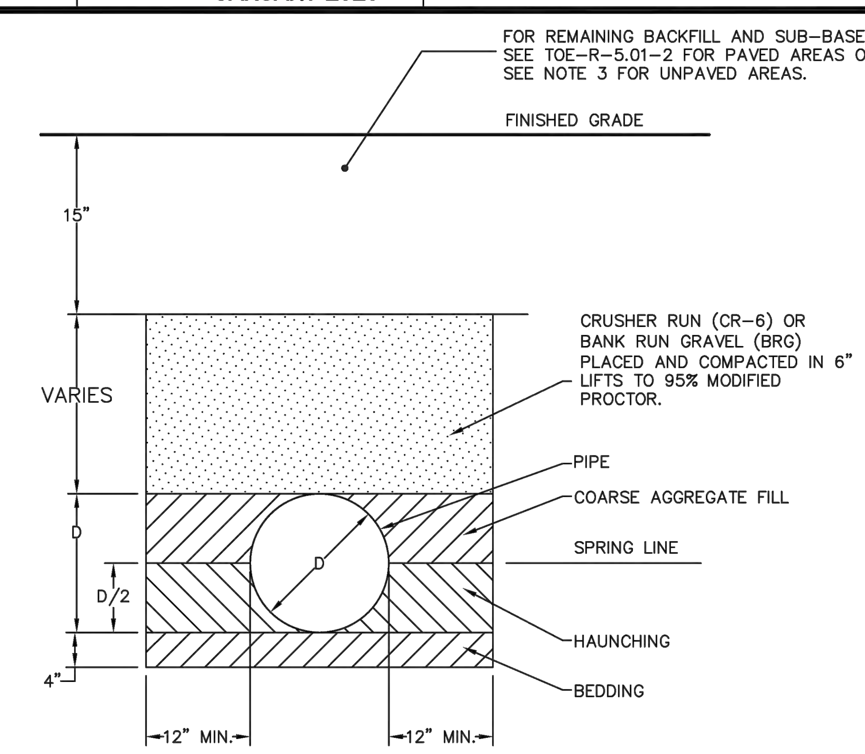
APPROVAL	TOWN OF EASTON STANDARD DETAILS
TOWN ENGINEER	PRECAST CONCRETE MANHOLE
DATE 1/2020	
ISSUED: JANUARY 2020	STANDARD NO.: TOE-SD-2.01



NOTES:

1. CASTING SHALL CONFORM TO ASTM A-48-64 CLASS 35B IRON MINIMUM.
2. CASTING SHALL HAVE GROUND OR MACHINED BEARING SURFACES.
3. CASTING SHALL BE OF UNIFORM QUALITY, FREE FROM BLOW HOLES, POROSITY, HARD SPOTS, SHRINKAGE DEFECTS, OR OTHER INJURIOUS DEFECTS.
4. CASTING SHALL BE HEAVY DUTY ROADWAY TYPE.
5. PICK HOLES" ARE REQUIRED IN COVER. "
6. FRAME & COVER SHALL BE AS INDICATED AND AS MANUFACTURED BY E.A. QUIRIN FOUNDRY, BOX 98 ST. CLAIR, PA 17970, OR AN APPROVED EQUAL.

APPROVAL	TOWN OF EASTON STANDARD DETAILS
TOWN ENGINEER	MANHOLE FRAME AND COVER
DATE 1/2020	
ISSUED: JANUARY 2020	STANDARD NO.: TOE-D-2.02



NOTES:

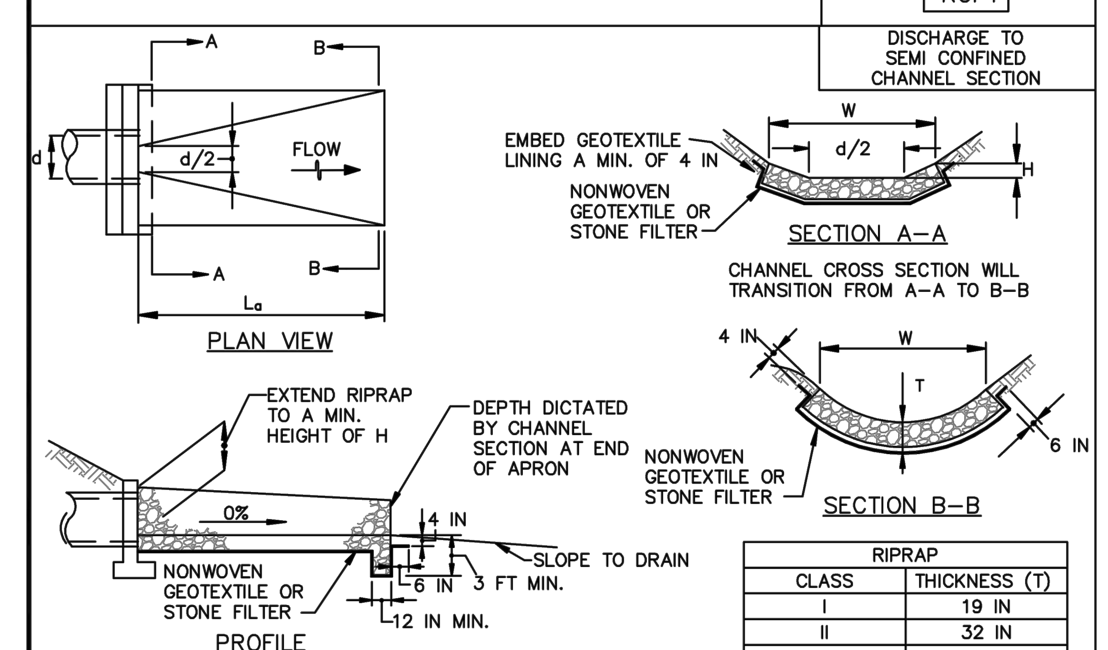
1. BEDDING, HAUNCHING AND FILL MATERIAL TO THE TOP OF THE PIPE SHALL BE COARSE AGGREGATE MEETING THE REQUIREMENTS OF ASHTO M43-SIZE NUMBER 57, UNLESS OTHERWISE SPECIFIED BY THE PIPE MANUFACTURER AND APPROVED BY THE TOWN ENGINEER.
2. DURING HAUNCHING, CONTRACTOR SHALL CAREFULLY WORK GRAVEL DOWN AROUND THE BOTTOM OF THE PIPE.
3. IN UNPAVED AREAS, FILL CR-6 OR BRG TO 6" BELOW FINISHED GRADE, PLACED AND COMPACTED IN 6" LIFTS TO 95% MODIFIED PROCTOR. TOP 6" SHALL BE TOPSOIL.

APPROVAL	TOWN OF EASTON STANDARD DETAILS
TOWN ENGINEER	TRENCH DETAIL
DATE 1/2020	
ISSUED: JANUARY 2020	STANDARD NO.: TOE-R-5.01-1

DETAIL D-4-1-A ROCK OUTLET PROTECTION I

STANDARD SYMBOL: ROP1

DISCHARGE TO SEMI CONFINED CHANNEL SECTION



RIPRAP	
CLASS	THICKNESS (T)
I	19 IN
II	32 IN
III	46 IN

CONSTRUCTION SPECIFICATIONS

1. RIPRAP AND STONE MUST CONFORM TO THE SPECIFIED CLASS.
2. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, AND PROTECT FROM PUNCTURING, CUTTING, OR TEARING. REPAIR ANY DAMAGE OTHER THAN AN OCCASIONAL SMALL HOLE BY PLACING ANOTHER PIECE OF GEOTEXTILE OVER THE DAMAGED PART OR BY COMPLETELY REPLACING THE GEOTEXTILE. PROVIDE A MINIMUM OF ONE FOOT OVERLAP FOR ALL REPAIRS AND FOR JOINING TWO PIECES OF GEOTEXTILE TOGETHER.
3. PREPARE THE SUBGRADE FOR GEOTEXTILE OR STONE FILTER (⅜ TO 1½ INCH STONE FOR 6 INCH MINIMUM DEPTH) AND RIPRAP TO THE REQUIRED LINES AND GRADES. COMPACT ANY FILL REQUIRED IN THE SUBGRADE TO A DENSITY OF APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED MATERIAL.
4. EXTEND GEOTEXTILE AT LEAST 6 INCHES BEYOND EDGES OF RIPRAP AND EMBED AT LEAST 4 INCHES AT SIDES OF THE RIPRAP.
5. CONSTRUCT RIPRAP OUTLET TO FULL COURSE THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO AVOID DISPLACEMENT OF UNDERLYING MATERIALS. PLACE STONE FOR RIPRAP OUTLET IN A MANNER THAT WILL ENSURE THAT IT IS REASONABLY HOMOGENOUS WITH THE SMALLER STONES AND SPALLS FILLING THE VOIDS BETWEEN THE LARGER STONES. PLACE RIPRAP IN A MANNER TO PREVENT DAMAGE TO THE STONE FILTER BLANKET OR GEOTEXTILE. HAND PLACE TO THE EXTENT NECESSARY.
6. WHERE NO ENDWALL IS USED, CONSTRUCT THE UPSTREAM END OF THE APRON SO THAT THE WIDTH IS TWO TIMES THE DIAMETER OF THE OUTLET PIPE, AND EXTEND THE STONE UNDER THE OUTLET BY A MINIMUM OF 18 INCHES.
7. CONSTRUCT APRON WITH 0% SLOPE ALONG ITS LENGTH AND WITHOUT OBSTRUCTIONS. PLACE STONE SO THAT IT BLENDS IN WITH EXISTING GROUND.
8. MAINTAIN LINE, GRADE, AND CROSS SECTION. KEEP OUTLET FREE OF EROSION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. AFTER HIGH FLOWS INSPECT FOR SCOUR AND DISLODGED RIPRAP. MAKE NECESSARY REPAIRS IMMEDIATELY.

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

RIPRAP SIZING TABLE

FES #	FES DIAMETER (IN.)	10-YR STORM (CFS)	LENGTH (FT)	WIDTH (FT)	THICKNESS (IN.)	RIP-RAP TYPE
1	12	5.55	10	11	19	CLASS I
2	24	8.51	11	13	19	CLASS I
3	15	2.01	8	9.25	19	CLASS I
4	12	5.08	10	11	19	CLASS I
5	24	12.57	11	13	19	CLASS I
6	30	17.56	14	16.5	19	CLASS I
7	24	15.82	11	13	19	CLASS I

STORMWATER DETAILS

OF THE LANDS OF

ASPIRE APARTMENTS

TAX MAP: 0026, GRID: 0020, PARCEL: 0186

ELECTION DISTRICT 01, TALBOT COUNTY, MARYLAND

ASPIRE OUTDOORS, LLC

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 3667

REVISIONS

REV. #	DATE	DESCRIPTION
1	6/23/2023	REVISED TO CONNECT TO GANNON ESTATES
2	7/6/2023	GANNON PLAN (BY OTHERS) ADDED TO SHEETS
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MISS UTILITY OF DELMARVA CALL BEFORE YOU DIG 811

DATE:	7/28/2023
SCALE:	N/A
DRAWN BY:	BBF
DESIGNED BY:	BBF
APPROVED BY:	BBF

SHEET NO.: C-205.03

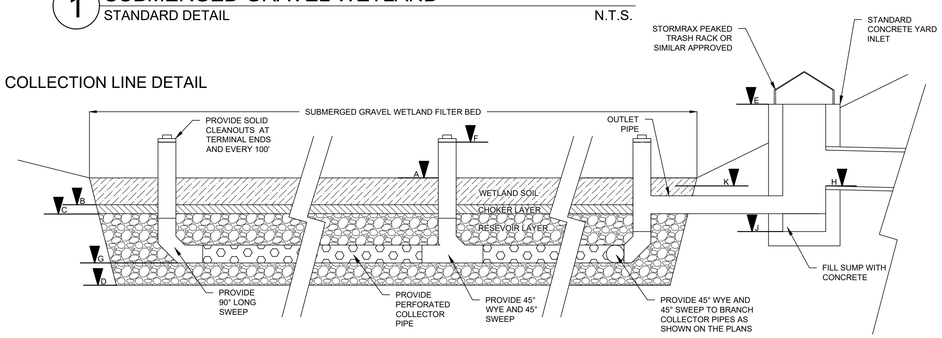
FOR REVIEW

1 SUBMERGED GRAVEL WETLAND

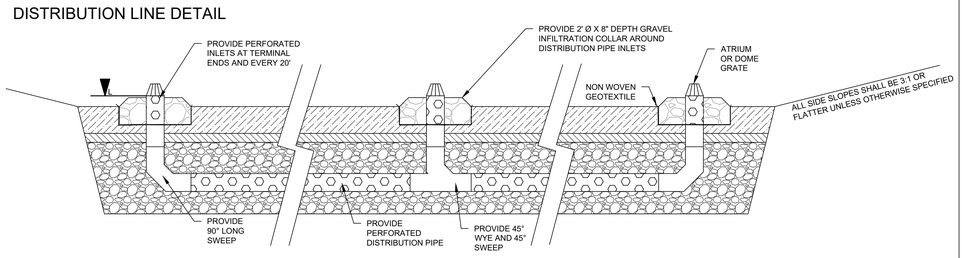
STANDARD DETAIL

N.T.S.

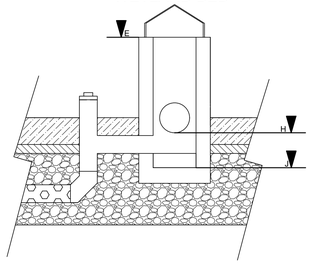
COLLECTION LINE DETAIL



DISTRIBUTION LINE DETAIL



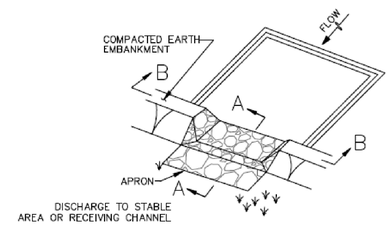
OUTLET STRUCTURE INSIDE WETLAND BED



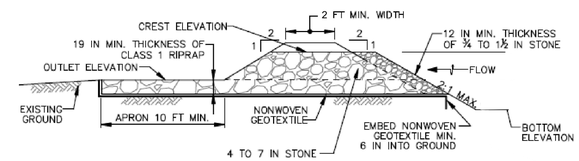
NOTES:

- 8" THICK WETLAND SOILS SHALL BE LOW Ksat SOIL (0.1-0.01 FT/DAY) CONTAINING ±50%SILT/CLAY, ±25% SAND, ±25% ORGANIC CONTENT
- ALL PIPES SHALL BE SDR-35 OR SCHEDULE 40 UNLESS SHOWN
- FILTER FABRIC IS NOT USED BETWEEN SOIL AND CHOKER STONE OR GRAVEL AND CHOKER STONE
- PERFORATIONS SHALL BE $\frac{1}{2}$" Ø @ 6" o/c AROUND THE CIRCUMFERENCE OF THE PIPE
- 4" THICK CHOKER STONE SHALL BE PEA GRAVEL OR #8 STONE, WASHED AND FREE OF FINES
- RESERVOIR GRAVEL SHALL BE $\frac{3}{4}$" RIVER GRAVEL OR #57 CRUSHED STONE, WASHED AND FREE OF FINES
- YARD INLETS SHALL BE FOUNDED ON 6" NO 57 STONE ON TOP OF GEOTEXTILE FILTER - COMPACT SUBGRADE.

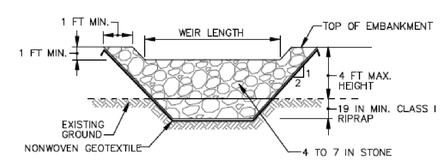
SUBMERGED GRAVEL WETLAND			
PRACTICE NAME		SGW-1	SGW-2
	COMPONENT	ELEVATION - FT	ELEVATION - FT
A	WETLAND BED	45.50	47.50
B	CHOKER TOP	44.83	46.83
C	RESEVOIR TOP	44.50	46.50
D	RESERVOIR BOTTOM	42.50	44.50
E	RIM	47.50	49.50
F	CLEANOUT	47.50	49.50
G	COLLECTOR/DISTRIBUTION PIPE INVERT	42.75	44.75
H	OUTLET	45.17	47.17
J	OUTLET STRUCTURE BOTTOM	40.75	42.75
K	IWS ELEVATION	45.17	47.17
L	COLLECTOR PIPE INLET RIM	47.00	49.00
	UNDERDRAIN SIZE - IN	6	6
	OUTLET STRUCTURE SIZE + TYPE	2'X2' CONCRETE	2'X2' CONCRETE
	OUTLET PIPE SIZE + TYPE	12" N-12	12" N-12
	BED AREA	2,056 SF	4,027 SF



ISOMETRIC VIEW



SECTION A–A



SECTION B–B

FOREBAY 1

CREST ELEV =	47.50
WEIR LENGTH =	7 FT
CREST WIDTH =	2 FT

FOREBAY 2

CREST ELEV =	49.50
WEIR LENGTH =	7 FT
CREST WIDTH =	2 FT

STORMWATER DETAILS

OF THE LANDS OF

ASPIRE APARTMENTS

TAX MAP: 0026, GRID: 0020, PARCEL: 0186

ELECTION DISTRICT 01, TALBOT COUNTY, MARYLAND

ASPIRE OUTDOORS, LLC

RAUCH inc.

Engineering | Survey | Architecture | Environmental

Main Office: 108 N Harrison St - Easton, MD 21601
Web: www.rauch-inc.com | Email: design@rauchengcom
Phone: 410 770 8081 | Fax: 410 770 3867

REVISIONS

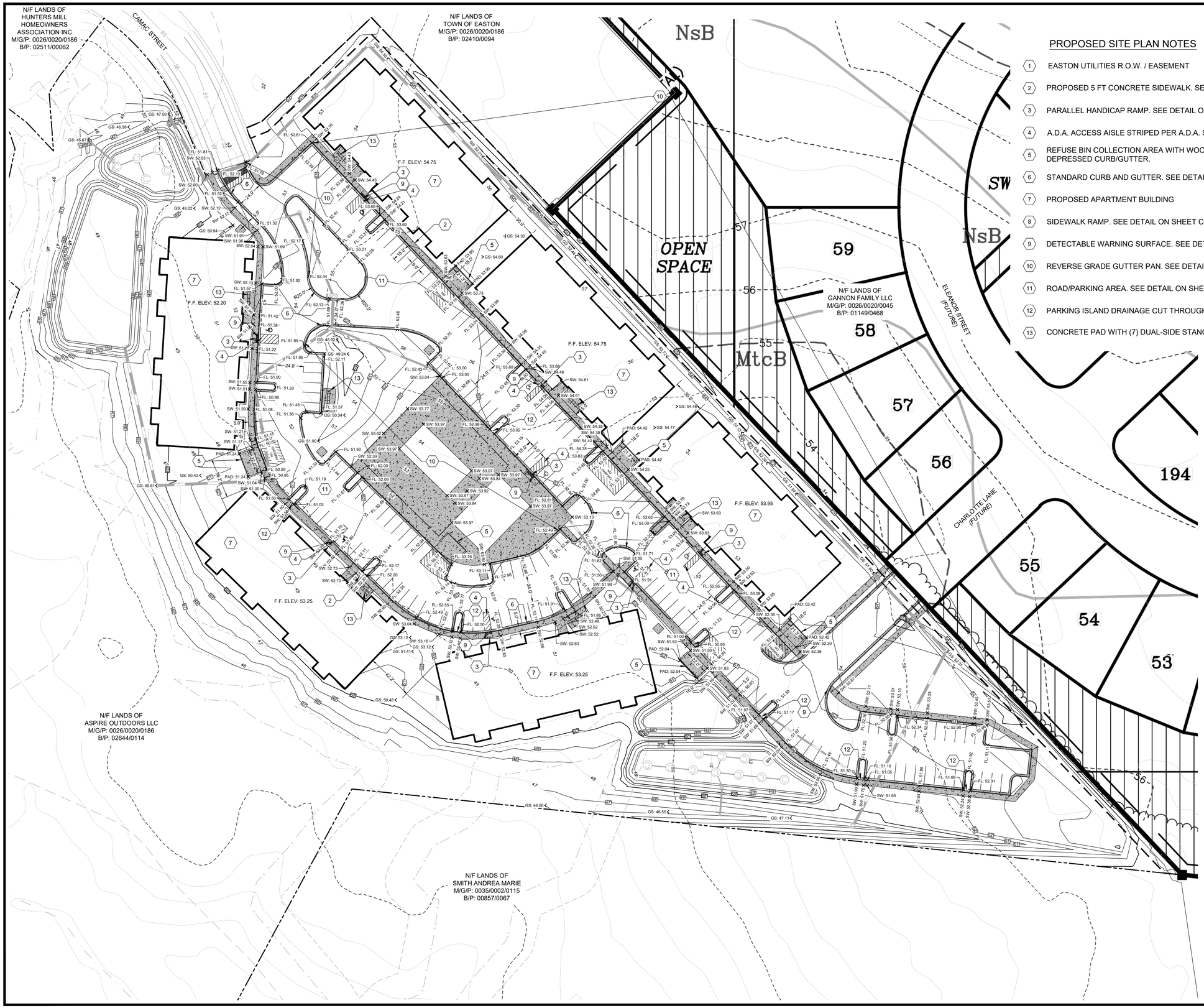
REV. #	DATE	DESCRIPTION
1	6/23/2023	REVISED TO CONNECT TO GANNON ESTATES
2	7/6/2023	GANNON PLAN (BY OTHERS) ADDED TO SHEETS
3	7/28/2023	REVISED PER ESD/RP/ZENG/EUC COMMENTS

MISS UTILITY OF DELMARVA — CALL BEFORE YOU DIG — 811

DATE:	7/28/2023
SCALE:	N/A
DRAWN BY:	BBF
DESIGNED BY:	BBF
APPROVED BY:	BBF

SHEET NO.: C-205.04

FOR REVIEW



PROPOSED SITE PLAN NOTES

1. EASTON UTILITIES R.O.W. / EASEMENT
2. PROPOSED 5 FT CONCRETE SIDEWALK. SEE DETAIL ON SHEET C-305.01
3. PARALLEL HANDICAP RAMP. SEE DETAIL ON SHEET C-305.01
4. A.D.A. ACCESS AISLE STRIPED PER A.D.A. STANDARDS
5. REFUSE BIN COLLECTION AREA WITH WOODEN FENCE AND DEPRESSED CURB/GUTTER.
6. STANDARD CURB AND GUTTER. SEE DETAIL ON SHEET C-305.01
7. PROPOSED APARTMENT BUILDING
8. SIDEWALK RAMP. SEE DETAIL ON SHEET C-305.02
9. DETECTABLE WARNING SURFACE. SEE DETAIL ON SHEET C-305.02
10. REVERSE GRADE GUTTER PAN. SEE DETAIL ON SHEET C-305.02.
11. ROAD/PARKING AREA. SEE DETAIL ON SHEET C-405.01
12. PARKING ISLAND DRAINAGE CUT THROUGH SEE DETAIL ON SHEET C-405.02
13. CONCRETE PAD WITH (7) DUAL-SIDE STANCHIONS FOR BICYCLE PARKING.

SITE GRADING PLAN

OF THE LANDS OF

ASPIRE APARTMENTS

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ELECTION DISTRICT 01, TALBOT COUNTY, MARYLAND
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MISS UTILITY OF DELMARVA — CALL BEFORE YOU DIG — 811

DATE:	7/28/2023
SCALE:	1" = 40'
DRAWN BY:	BBF
DESIGNED BY:	BBF
APPROVED BY:	BBF

SHEET NO.: C-301

FOR REVIEW

OVERLAY	• HMA SUPERPAVE 9.5 MM, PG 64-22,LEVEL 2, FOR 1-1/2" OVERLAYS. • HMA SUPERPAVE 12.5 MM, PG 64-22,LEVEL 2, FOR 2" OVERLAYS. • MATCH THE SURFACE COURSE SPECIFIED FOR THE ADJUSTMENT FULL DEPTH PAVING IF DIFFERENT FROM THE ABOVE.
COMMERCIAL ASPHALT PAVEMENT FOR ROADS	SURFACE COURSE: 2" HOT MIX ASPHALT SUPERPAVE 9.5 MM BASE COURSE: 4" HOT MIX ASPHALT SUPERPAVE, 19.0 MM PLACED IN 2-2" LIFTS. SUB BASE: 9" CR-6 GRADED AGGREGATE COMPACTED TO 95% OF ASTM D1557, MODIFIED PROCTOR METHOD.
→ RESIDENTIAL ASPHALT PAVEMENT FOR ALLEYS	SURFACE COURSE: 2" HOT MIX ASPHALT SUPERPAVE 9.5 MM BASE COURSE: 2 1/2" HOT MIX ASPHALT SUPERPAVE, 19.0 MM SUB BASE: 6" CR-6 GRADED AGGREGATE COMPACTED TO 95% OF ASTM D1557, MODIFIED PROCTOR METHOD.
CONCRETE PAVEMENT	8" PORTLAND CEMENT CONCRETE MIX#7. SUB BASE: 6" CR-6 GRADED AGGREGATE COMPACTED TO 95% OF ASTM D1557, MODIFIED PROCTOR METHOD.

TOWN OF EASTON MARYLAND FOUNDED 1710

APPROVAL
TOWN ENGINEER
DATE 1/2020

TOWN OF EASTON
STANDARD DETAILS

PAVING
SPECIFICATIONS

ISSUED: JANUARY 2020 | STANDARD NO.: TOE-R-1.01

PAVING NOTES

PAVING REQUIREMENTS

A. BASE COURSE

1. SUB-GRADE SHALL BE PLACED ON PREPARED AND COMPACTED REFILLED EXCAVATIONS TO THE COMPACTED DEPTH AS SHOWN ON DETAIL 9W-1.03. MATERIALS AND METHODS OF CONSTRUCTION SHALL MEET THE PROVISIONS OF MD SHA STANDARDS, SECTION 208.
2. GRADED AGGREGATE BASE COURSE:

a) GRADED AGGREGATE BASE COURSE SHALL BE SPREAD ON PREPARED AND COMPACTED REFILLED EXCAVATION TO THE COMPACTED DEPTH 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.

B. TACK COAT

1. COATING SHALL BE RESIDUAL ASPHALT UNIFORMLY SPREAD BETWEEN .01 AND .05 GALLONS/SQ. YARD.
2. CONTRACTOR SHALL TAKE CARE NOT TO TRACK COAT ON SURFACE COURSES.

C. HOT MIX ASPHALT PAVEMENT

1. HOT MIX ASPHALT 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 CONSTRUCTION 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% OF RECYCLED ASPHALT PAVEMENT (RAP).
4. BASE COURSES SHALL HAVE NO MORE THAN 20% RAP.
5. WEATHER RESTRICTIONS:

a) PLANT MIXED SEAL – MINIMUM SURFACE TEMPERATURE 60°F AND RISING.
b) SURFACE COURSE – MINIMUM SURFACE TEMPERATURE 40°F AND RISING.
c) BASE COURSE – MINIMUM SURFACE TEMPERATURE 32°F AND RISING.

D. CONCRETE PAVEMENT

1. CONCRETE USED IN THE RESTORATION OF STREET 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 CONCRETE 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.

E. SOIL CEMENT

1. WHERE THE CBR VALUES ARE FOUND TO BE LOW WITHIN THE PAVED AREA, THE TOWN WILL ALLOW THE SUB-GRADE 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 AMENDED SOIL AND BITUMINOUS PAVEMENT.
3. MINIMUM MIX DEPTH OF THE SOIL CEMENT MIXTURE SHALL BE 8" WITH A 5-5.5% MINIMUM CEMENT CONTENT.

TOWN OF EASTON MARYLAND FOUNDED 1710

APPROVAL
TOWN ENGINEER
DATE 1/2020

TOWN OF EASTON
STANDARD DETAILS

PAVING NOTES

ISSUED: JANUARY 2020 | STANDARD NO.: TOE-R-1.02

CONCRETE QUICK REFERENCE LIST

CAST-IN-PLACE CONCRETE SIDEWALKS AND CURBING

A. SUBMITTALS:

1. SUBMIT MIX DESIGN FOR APPROVAL PRIOR TO PLACING CONCRETE (MSHA MIX #3 FOR ALL CONCRETE SIDEWALKS, AIR ENTRAINED, MINIMUM 3500 PSI MIX). FOR CURB AND GUTTER, UTILIZE MSHA MIX #7, EXCEPT MAXIMUM WATER CEMENTITIOUS RATIO OF 0.45 AND 611 POUNDS MINIMUM CEMENTITIOUS MATERIALS , AIR ENTRAINED, MINIMUM 4200 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 TOWN OF INTENTION TO POUR CONCRETE 24 HOURS PRIOR TO PERFORMING WORK. (PHONE: 410-822-8822).
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 TO BATCH AT PLANT TO DISCHARGE AT SITE SHALL BE WITHIN 1½ 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, RAMP, 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 FOOT INTERVALS FOR CURB AND 5 FOOT INTERVALS FOR SIDEWALK. EXPANSION JOINTS FOR CURBING SHALL BE AT EACH 100 FOOT INTERVAL PLUS AT EACH POINT OF TANGENT OR CURVE. SIDEWALKS SHALL HAVE EXPANSION JOINTS AT 20 FOOT INTERVALS OR AT CHANGE OF DIRECTION.

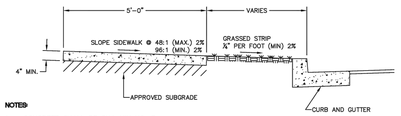
TOWN OF EASTON MARYLAND FOUNDED 1710

APPROVAL
TOWN ENGINEER
DATE 1/2020

TOWN OF EASTON
STANDARD DETAILS

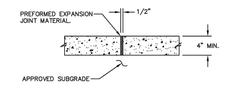
CONCRETE QUICK REFERENCE LIST

ISSUED: JANUARY 2020 | STANDARD NO.: TOE-R-1.03



NOTES:

1. CONCRETE SHALL BE SHA MIX NO. 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 48:1 SLOPE.
7. GRASS STRIPS SHALL BE SLOPED AS 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 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.



EXPANSION JOINT DETAIL

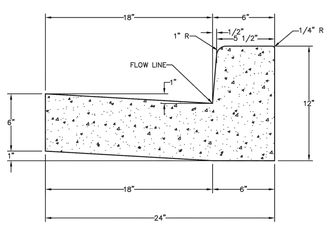
TOWN OF EASTON MARYLAND FOUNDED 1710

APPROVAL
TOWN ENGINEER
DATE 1/2020

TOWN OF EASTON
STANDARD DETAILS

CONCRETE SIDEWALK

ISSUED: JANUARY 2020 | STANDARD NO.: TOE-R-7.01



NOTES:

1. ALL CONCRETE USED FOR CURB AND GUTTER SHALL BE SHA MIX NO. 7.
2. CURB AND GUTTER SHALL HAVE CONTRACTION JOINTS EVERY 10'-0", AND EXPANSION JOINTS EVERY 40'-0". EXTRUDED CONCRETE CURB AND GUTTER SHALL HAVE 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 AND SLOPE ON CURB RETURNS SHALL BE 2% WHERE HANDICAPPED RAMPS ARE REQUIRED.

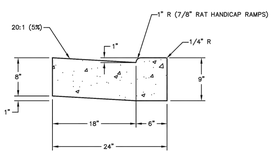
TOWN OF EASTON MARYLAND FOUNDED 1710

APPROVAL
TOWN ENGINEER
DATE 1/2020

TOWN OF EASTON
STANDARD DETAILS

STANDARD CURB AND GUTTER

ISSUED: JANUARY 2020 | STANDARD NO.: TOE-R-6.01



NOTES:

1. ALL CONCRETE USED FOR CURB AND GUTTER SHALL BE SHA MIX NO. 7.
2. CURB AND GUTTER SHALL HAVE CONTRACTION JOINTS EVERY 10'-0", AND EXPANSION JOINTS EVERY 40'-0". EXTRUDED CONCRETE CURB AND GUTTER SHALL HAVE CONTRACTION JOINTS EVERY 10'-0", AND EXPANSION JOINTS EVERY 100'-0".
3. MAXIMUM GUTTER SLOPE ON CURB RETURNS SHALL BE 2% WHERE HANDICAPPED RAMPS ARE REQUIRED.

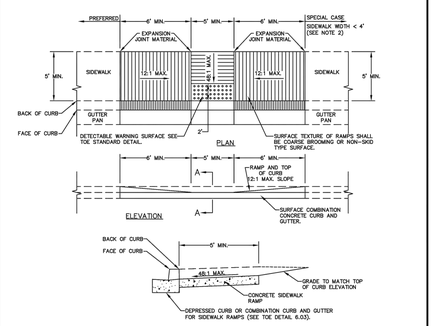
TOWN OF EASTON MARYLAND FOUNDED 1710

APPROVAL
TOWN ENGINEER
DATE 1/2020

TOWN OF EASTON
STANDARD DETAILS

STANDARD DEPRESSED CURB AND GUTTER FOR SIDEWALK RAMPS

ISSUED: JANUARY 2020 | STANDARD NO.: TOE-R-6.03



NOTES:

1. TO BE USED WHERE SIDEWALK IS ADJACENT TO THE CURB. THIS STANDARD MAY BE MODIFIED TO SUIT A PARTICULAR LOCATION.
2. WHERE 60" SIDEWALK CAN NOT BE PROVIDED. A DESIGN WAIVER MUST BE REQUESTED.
3. NO TRAVERSABLE SLOPE ON THE RAMP OR SIDEWALK SHALL EXCEED 12:1 IN THE DIRECTION OF PEDESTRIAN TRAVEL OR 48:1 PERPENDICULAR TO THE DIRECTION OF PEDESTRIAN TRAVEL. THE CROSS SLOPE OF THE LANDING AREA CAN NOT EXCEED GRADE OF ROADWAY.
4. EXPANSION JOINT MATERIAL SHALL BE INSTALLED IN ACCORDANCE WITH TOE STANDARD DETAIL.
5. SIDEWALK RAMPS TO BE SHOWN ON PLANS SYMBOLICALLY AND REFERENCED WITH THE CENTER OF THE RAMP ALIGNED TO A STATION ON THE CONSTRUCTION CENTERLINE. SEPARATE DETAILS SHALL BE SHOWN WHERE PROPOSED RAMP VARIES FROM STANDARD CASES.
6. TRANSITION PANELS TO TIE INTO EXISTING SIDEWALK MIST BE A MINIMUM OF 5' IN LENGTH.

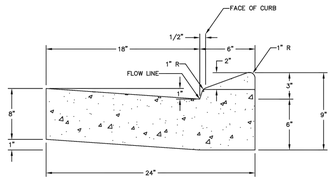
TOWN OF EASTON MARYLAND FOUNDED 1710

APPROVAL
TOWN ENGINEER
DATE 1/2020

TOWN OF EASTON
STANDARD DETAILS

SIDEWALK RAMPS PARALLEL

ISSUED: JANUARY 2020 | STANDARD NO.: TOE-R-7.04



NOTES:

1. ALL CONCRETE USED FOR CURB AND GUTTER SHALL BE SHA MIX NO. 7.
2. CURB AND GUTTER SHALL HAVE CONTRACTION JOINTS EVERY 10'-0", AND EXPANSION JOINTS EVERY 40'-0". EXTRUDED CONCRETE CURB AND GUTTER SHALL HAVE CONTRACTION JOINTS EVERY 10'-0", AND EXPANSION JOINTS EVERY 100'-0".
3. MEDIAN CURB AND GUTTER TO BE USED AT MEDIANS ONLY. SEE TOE-R-8.07 FOR MEDIAN RAMP DETAILS.

TOWN OF EASTON MARYLAND FOUNDED 1710

APPROVAL
TOWN ENGINEER
DATE 1/2020

TOWN OF EASTON
STANDARD DETAILS

MEDIAN CURB AND GUTTER (SHA TYPE C)

ISSUED: JANUARY 2020 | STANDARD NO.: TOE-R-6.04

SITE DETAILS

OF THE LANDS OF

ASPIRE APARTMENTS

TAX MAP: 0026, GRID: 0020, PARCEL: 0186
ELECTION DISTRICT 01, TALBOT COUNTY, MARYLAND
ASPIRE OUTDOORS, LLC

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REVISIONS

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2	7/6/2023	GANNON PLAN (BY OTHERS) ADDED TO SHEETS
3	7/28/2023	REVISED PER ESDP/PZ/EN/GEUC COMMENTS

MISS UTILITY OF DELMARVA — CALL TOLL FREE 811

DATE:	7/28/2023
SCALE:	N/A
DRAWN BY:	BBF
DESIGNED BY:	BBF
APPROVED BY:	BBF

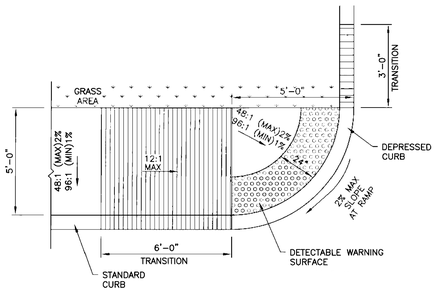
SHEET NO.: C-305.01

FOR REVIEW

A. 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 WITHIN.
2. SURFACE RESTORATION IN TOWN STREETS AND ROADS SHALL BE IN ACCORDANCE WITH THE MARYLAND 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 PW-1.06 OR AS DIRECTED TO OBTAIN A CLEAN PAVEMENT EDGE. ALL TRENCHES SHALL BE CUT BACK BY ONE (1) FOOT ON EITHER SIDE OF THE TRENCH.
4. NO STAGGERED OR IRREGULAR LONGITUDINAL TRENCH REPAIR 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 THE 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 (30) FEET, CENTERED ON THE DISTURBANCE. SHOULD 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 WIDTH FOR FIFTEEN (15) FEET BEYOND EXCAVATION FOR EACH LANE DISTURBED.
7. UNDERMINED AREAS SHALL BE GROUTED FILLED OR CUT BACK.
8. A TEMPORARY TWO (2) INCH LAYER OF COLD PATCH SHALL BE PLACED ON ALL 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 MADE PRIOR TO PAVING OPERATIONS AND REPEATED IF THERE IS ANY DAMAGE DUE TO ROLLING AND COMPACTING OPERATIONS. MANHOLE OR CATCH BASIN ADJUSTMENTS SHALL BE DONE WITH ADJUSTMENT RINGS, BRICK COURSES, OR MORTAR LAYERS, SUBJECT TO EASTON UTILITIES APPROVAL.
11. PAVING OPERATIONS SHALL BE PERFORMED IF THE FOLLOWING MINIMUM TEMPERATURES ARE MET:
A) 32 DEGREES AND RISING FOR ANY HOT MIX BASE COURSE
B) 32 DEGREES AND RISING FOR ANY HOT MIX SURFACE COURSE
12. LIFT THICKNESS SHALL BE LIMITED TO:
A) 2" FOR 9.5mm SUPERPAVE
B) 3" FOR 12.5mm SUPERPAVE
C) 3" FOR 19mm SUPERPAVE
D) 4" FOR AGGREGATE
E) 8" FOR BACKFILL.
12. CATCH BASINS, INLETS, CURBS AND ALL OTHER APPURTENANCES SHALL BE ADEQUATELY COVERED AND PROTECTED PRIOR TO APPLICATION OF BITUMINOUS MATERIALS. NO EARTH OF BITUMINOUS MATERIALS SHALL BE ALLOWED TO ENTER ANY STORM DRAINAGE SYSTEM. SUITABLE CONTAINMENT PROVISIONS SHALL BE EMPLOYED TO PREVENT SURFACE RUNOFF OF BITUMINOUS MATERIALS.
13. THE FINAL SURFACE SHALL PROVIDE A SMOOTH TRANSITION, FREE OR ABRUPT CHANGES IN GRADE, IS MADE WITH ADJACENT PAVEMENTS AND/OR SIDEWALK. NO DEPRESSIONS OR OTHER MISALIGNMENT SHALL OBSTRUCT, TRAP OR OTHERWISE MISDIRECT THE FLOW OF SURFACE WATER DRAINAGE.
14. ALL PAVEMENT SHALL BE CUT BACK ONE (1) FOOT ON EITHER SIDE OF THE TRENCH.

B. MAINTENANCE OF REFILLED EXCAVATIONS
1. ALL DEPRESSIONS APPEARING IN THE REFILLED EXCAVATION, STABILIZED BASE AND TEMPORARY PAVING SHALL BE PROPERLY REFILLED. IF THE CONTRACTOR FAILS TO MAKE REPAIRS WITHIN 48 HOURS AFTER RECEIPT OF WRITTEN NOTICE FROM THE TOWN ENGINEER, THE TOWN MAY REFILL SAID DEPRESSIONS AND THE COST THEREOF SHALL BE BILLED TO THE CONTRACTOR. IN CASE OF EMERGENCY, THE TOWN MAY REFILL ANY DEPRESSIONS OR PROTECT WITH BARRICADES WITHOUT GIVING PREVIOUS NOTICE TO THE CONTRACTOR, AND THE COST OF DOING SO SHALL BE BILLED TO THE CONTRACTOR.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY INJURY OR DAMAGE THAT MAY RESULT FROM LACK OF MAINTENANCE OF ANY REFILLED EXCAVATION AT ANY TIME.

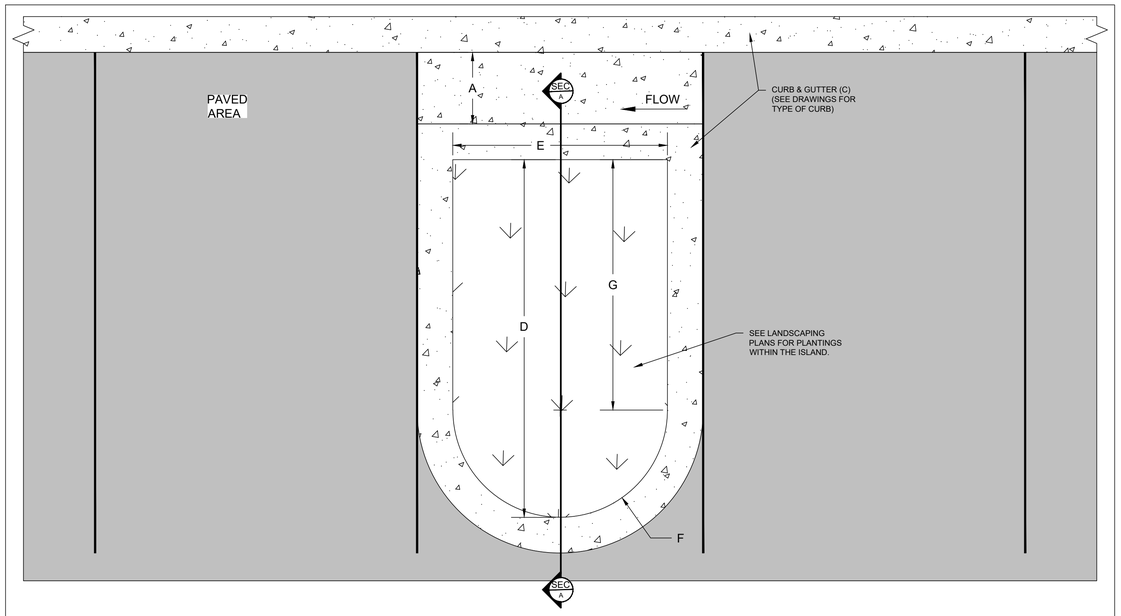
APPROVAL	TOWN OF EASTON STANDARD DETAILS
TOWN ENGINEER — DATE 1/2020	SURFACE RESTORATION AND PAVING NOTES
ISSUED: JANUARY 2020	STANDARD NO.: TOE-R-5.04

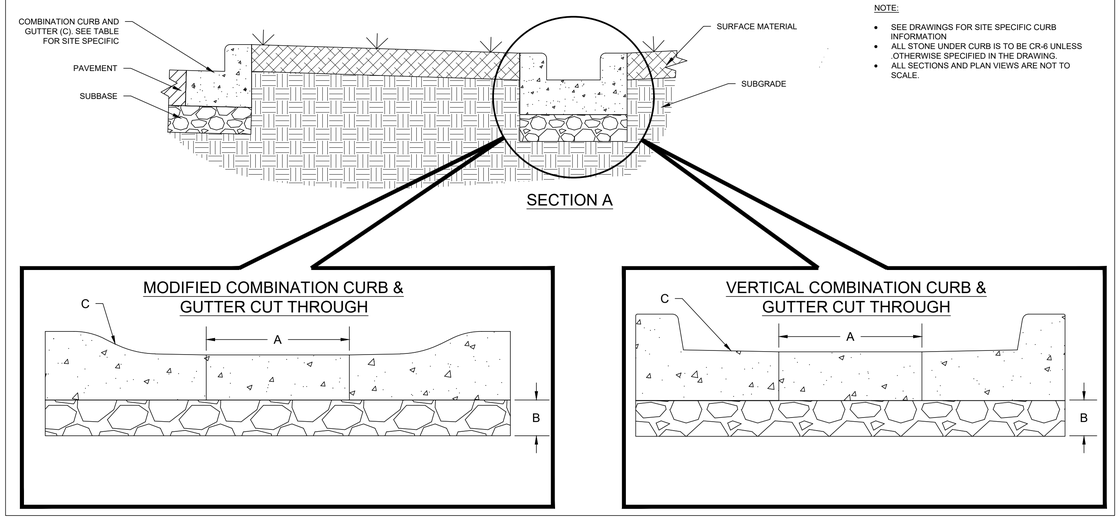


NOTES:

1. BRICK SIDEWALK AND HANDICAP RAMPS SHALL BE USED AS DIRECTED BY THE TOWN.
2. AT NO POINT SHALL THE SLOPE OF THE LANDING BE GREATER THAN 48:1 (2%), INCLUDING DIAGONAL.
3. THERE SHALL BE A LANDING PRIOR TO THE RAMPS. THE LANDING SHALL BE 3' IN LENGTH, MINIMUM.
4. DETAIL ONLY TO BE USED AS A GUIDE, CONTRACTOR TO USE GRADES SHOWN ON GRADING PLAN.

TYPE "G" SIDEWALK RAMP DETAIL





NOTE:

- SEE DRAWINGS FOR SITE SPECIFIC CURB INFORMATION
- ALL STONE UNDER CURB IS TO BE CR-6 UNLESS OTHERWISE SPECIFIED IN THE DRAWING.
- ALL SECTIONS AND PLAN VIEWS ARE NOT TO SCALE.

PARKING ISLAND CUT THROUGH DETAIL
NO SCALE

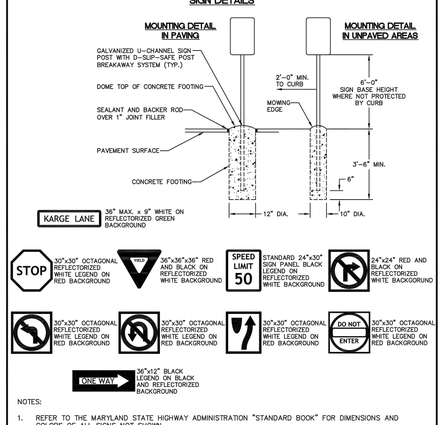
CAST-IN-PLACE CONCRETE SIDEWALKS AND CURBING

A. **Submittals**
1) Submit mix design for approval prior to placing concrete (MSHA MIX #3 for all concrete sidewalks, air entrained, minimum 3500 psi mix). For curb and gutter, utilize MSHA Mix #7, except maximum water cementitious ratio of 0.45 and 611 pounds minimum cementitious materials, air entrained, minimum 4200 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 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 to batch at plant to discharge at site shall be 1 ½ hours. Testing agency shall verify that subgrade 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 or his 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 foot intervals for curb and 5 foot intervals for sidewalk. curb & gutter shall have contraction joints every 10'-0", and expansion joints every 40'-0". Extruded concrete curb & gutter shall have contraction joints every 10'-0", and expansion joints every 100'-0" and at point of tangent or curve. Sidewalks shall have expansion joints at 20 foot intervals or at change of direction.

APPROVAL	TOWN OF EASTON STANDARD DETAILS
TOWN ENGINEER — DATE 1/2020	CONCRETE QUICK REFERENCE LIST
ISSUED: JANUARY 2020	STANDARD NO.: TOE-R-7.09

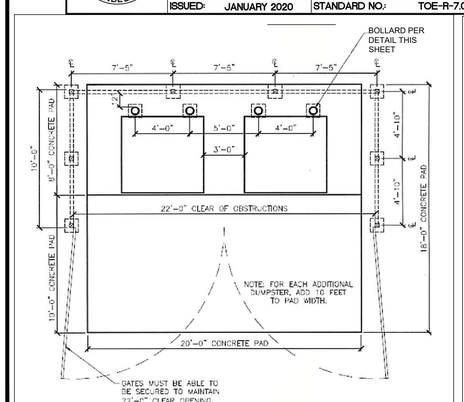
SIGN DETAILS



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, MUST CURRENT EDITION.

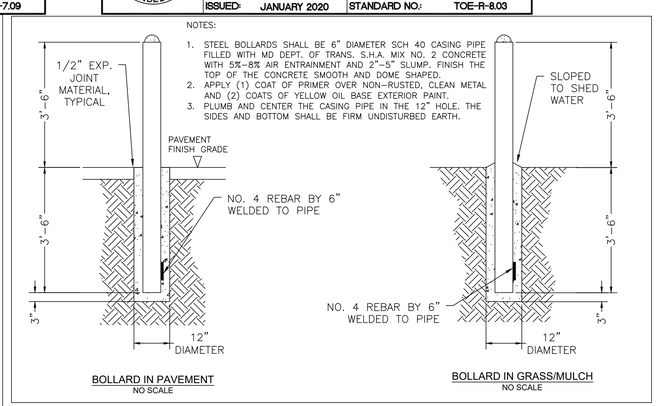
APPROVAL	TOWN OF EASTON STANDARD DETAILS
TOWN ENGINEER — DATE 1/2020	SIGN DETAILS
ISSUED: JANUARY 2020	STANDARD NO.: TOE-R-8.03



DUMPSTER PAD DETAIL
NO SCALE

NOTES:

1. STEEL BOLLARDS SHALL BE 6" DIAMETER SCH 40 CASING PIPE FILLED WITH MD DEPT. OF TRANS. S.H.A. MIX NO. 2 CONCRETE WITH 5%-8% AIR ENTRAINMENT AND 2"-5" SLUMP. FINISH THE TOP OF THE CONCRETE SMOOTH AND DOME SHAPED.
2. APPLY (1) COAT OF PRIMER OVER NON-RUSTED, CLEAN METAL AND (2) COATS OF YELLOW OIL BASE EXTERIOR PAINT.
3. PLUMB AND CENTER THE CASING PIPE IN THE 12" HOLE. THE SIDES AND BOTTOM SHALL BE FIRM UNDISTURBED EARTH.



BOLLARD IN PAVEMENT
NO SCALE

BOLLARD IN GRASS/MULCH
NO SCALE

SITE DETAILS

OF THE LANDS OF

ASPIRE APARTMENTS

TAX MAP: 0026, GRID: 0020, PARCEL: 0186
ELECTION DISTRICT 01, TALBOT COUNTY, MARYLAND
ASPIRE OUTDOORS, LLC

RAUCH INC.
Engineering | Survey | Architecture | Environmental
Main Office: 108 N Harrison St - Easton, MD 21601
Web: www.rauch-inc.com | Email: design@rauchengcom
Phone: 410 770 9081 | Fax: 410 770 3867

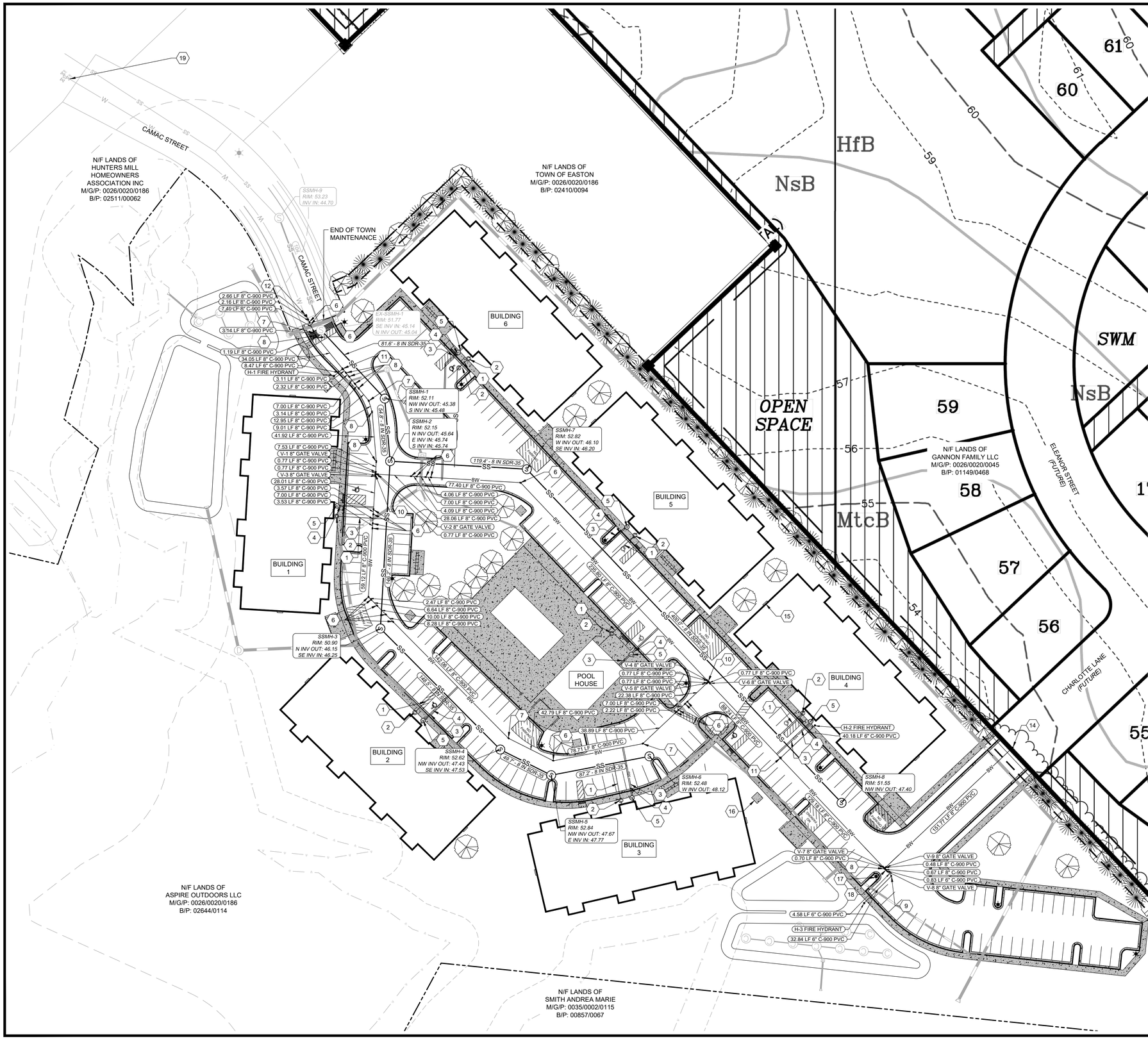
REVISIONS

REV. #	DATE	DESCRIPTION
1	6/23/2023	REVISED TO CONNECT TO GANNON ESTATES
2	7/6/2023	GANNON PLAN (BY OTHERS) ADDED TO SHEETS
3	7/28/2023	REVISED PER ESD/RP/ZEN/GEL/C COMMENTS

DATE:	7/28/2023
SCALE:	N/A
DRAWN BY:	BBF
DESIGNED BY:	BBF
APPROVED BY:	BBF

SHEET NO.: C-305.02

FOR REVIEW



PROPOSED UTILITY FEATURES

1. 6" SDR-35 SEWER LATERAL. SEE DETAIL ON SHEET C-405
2. 6" SDR-35 SEWER CLEAN OUT. SEE DETAIL ON SHEET C-405
3. 6" FIRE C-900 DR-18 WATER LINE. SEE DETAIL ON SHEET C-405
4. 4" POTABLE C-900 DR-18 PIPE WATER LINE. SEE DETAIL ON SHEET C-405
5. WATER METER. SEE DETAIL ON SHEET C-405
6. 8" 45° BEND
7. 8" 22.5° BEND
8. 8" 11.25° BEND
9. 6" 90° BEND
10. 8"x8" TEE
11. 8"x6" HYDRANT TEE
12. 12"x8" REDUCER
13. 8" 90° BEND
14. 8" CAP - FOR FUTURE CONNECTION
15. 14-METER STACK (TYPICAL)
16. ELECTRICAL TRANSFORMER PAD (TYPICAL)
17. STREETLIGHT (TYPICAL)
18. 8"x6" REDUCER
19. EXISTING WATER VALVE TO BE USED FOR CONSTRUCTION

UTILITY PLAN

OF THE LANDS OF

ASPIRE APARTMENTS

TAX MAP: 0026, GRID: 0020, PARCEL: 0186

ELECTION DISTRICT 01, TALBOT COUNTY, MARYLAND

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REVISIONS

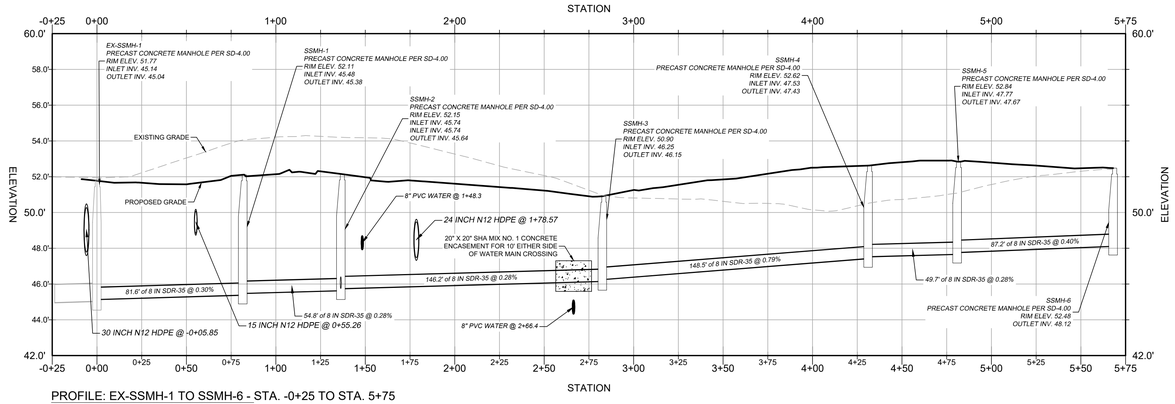
REV. #	DATE	DESCRIPTION
1	4/4/2023	REVISED PER TOWN/EUC/PZ COMMENTS
2	6/23/2023	REVISED TO CONNECT TO GANNON ESTATES
3	7/6/2023	GANNON PLAN (BY OTHERS) ADDED TO SHEETS
4	7/28/2023	REVISED PER ESDRP/ZEN/GEUC COMMENTS

MISS UTILITY OF DELMARVA — CALL BEFORE YOU DIG! — 811

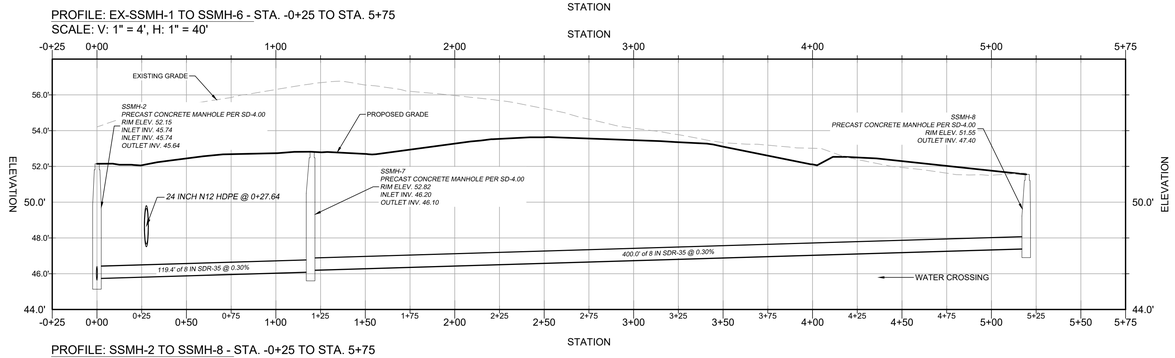
DATE:	7/31/2023
SCALE:	1" = 40'
DRAWN BY:	BBF
DESIGNED BY:	BBF
APPROVED BY:	BBF

SHEET NO.: C-401

FOR REVIEW



PROFILE: EX-SSMH-1 TO SSMH-6 - STA. -0+25 TO STA. 5+75
SCALE: V: 1" = 4', H: 1" = 40'



PROFILE: SSMH-2 TO SSMH-8 - STA. -0+25 TO STA. 5+75
SCALE: V: 1" = 4', H: 1" = 40'

STRUCTURE SCHEDULE
ASPIRE - APARTMENTS - SEWER

STRUCTURE NAME	LOCATION	STRUCTURE TYPE AND SIZE	CONNECTED PIPES	RIM ELEVATION
EX-SSMH-1	N408968.37, E1586138.39	48 DIA PRECAST CONCRETE MANHOLE PER SD-4.00	SS-1 INV IN = 45.14 SS-10 INV OUT = 45.04	51.77
SSMH-1	N408908.59, E1586193.90	48 DIA PRECAST CONCRETE MANHOLE PER SD-4.00	SS-2 INV IN = 45.48 SS-1 INV OUT = 45.38	52.11
SSMH-2	N408853.98, E1586198.58	48 DIA PRECAST CONCRETE MANHOLE PER SD-4.00	SS-3 INV IN = 45.74 SS-6 INV IN = 45.74 SS-2 INV OUT = 45.64	52.15
SSMH-3	N408708.01, E1586190.09	48 DIA PRECAST CONCRETE MANHOLE PER SD-4.00	SS-7 INV IN = 46.25 SS-6 INV OUT = 46.15	50.90
SSMH-4	N408602.49, E1586294.62	48 DIA PRECAST CONCRETE MANHOLE PER SD-4.00	SS-8 INV IN = 47.53 SS-7 INV OUT = 47.43	52.62
SSMH-5	N408580.08, E1586339.04	48 DIA PRECAST CONCRETE MANHOLE PER SD-4.00	SS-9 INV IN = 47.77 SS-8 INV OUT = 47.67	52.84
SSMH-6	N408596.55, E1586424.67	48 DIA PRECAST CONCRETE MANHOLE PER SD-4.00	SS-9 INV OUT = 48.12	52.48
SSMH-7	N408846.99, E1586317.82	48 DIA PRECAST CONCRETE MANHOLE PER SD-4.00	SS-4 INV IN = 46.20 SS-3 INV OUT = 46.10	52.82
SSMH-8	N408556.00, E1586592.28	48 DIA PRECAST CONCRETE MANHOLE PER SD-4.00	SS-4 INV OUT = 47.40	51.55
SSMH-9	N409066.14, E1586101.86	48 DIA PRECAST CONCRETE MANHOLE PER SD-4.00	SS-10 INV IN = 44.70	53.23

PIPE SCHEDULE
ASPIRE - APARTMENTS - SEWER

PIPE NAME	SIZE AND MATERIAL	LENGTH	SLOPE	UPSTREAM STRUCTURE AND INVERT	DOWNSTREAM STRUCTURE AND INVERT
SS-1	8 IN SDR-35	81.58'	0.30%	EX-SSMH-1 INV. 45.14'	SSMH-1 INV. 45.38'
SS-2	8 IN SDR-35	54.81'	0.28%	SSMH-1 INV. 45.48'	SSMH-2 INV. 45.64'
SS-3	8 IN SDR-35	119.45'	0.30%	SSMH-2 INV. 45.74'	SSMH-7 INV. 46.10'
SS-4	8 IN SDR-35	400.00'	0.30%	SSMH-7 INV. 46.20'	SSMH-8 INV. 47.40'
SS-6	8 IN SDR-35	146.22'	0.28%	SSMH-2 INV. 45.74'	SSMH-3 INV. 46.15'
SS-7	8 IN SDR-35	148.53'	0.79%	SSMH-3 INV. 46.25'	SSMH-4 INV. 47.43'
SS-8	8 IN SDR-35	49.75'	0.28%	SSMH-4 INV. 47.53'	SSMH-5 INV. 47.67'
SS-9	8 IN SDR-35	87.20'	0.40%	SSMH-5 INV. 47.77'	SSMH-6 INV. 48.12'
SS-10	12 IN SDR-35	104.37'	0.33%	SSMH-9 INV. 44.70'	EX-SSMH-1 INV. 45.04'

SEWER PROFILES

OF THE LANDS OF

ASPIRE APARTMENTS

TAX MAP: 0026, GRID: 0020, PARCEL: 0186
ELECTION DISTRICT 01, TALBOT COUNTY, MARYLAND
ASPIRE OUTDOORS, LLC

RAUCH INC.
Engineering | Survey | Architecture | Environmental
Main Office: 108 N Harrison St - Easton, MD 21601
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Phone: 410 770 8081 | Fax: 410 770 3867

REVISIONS

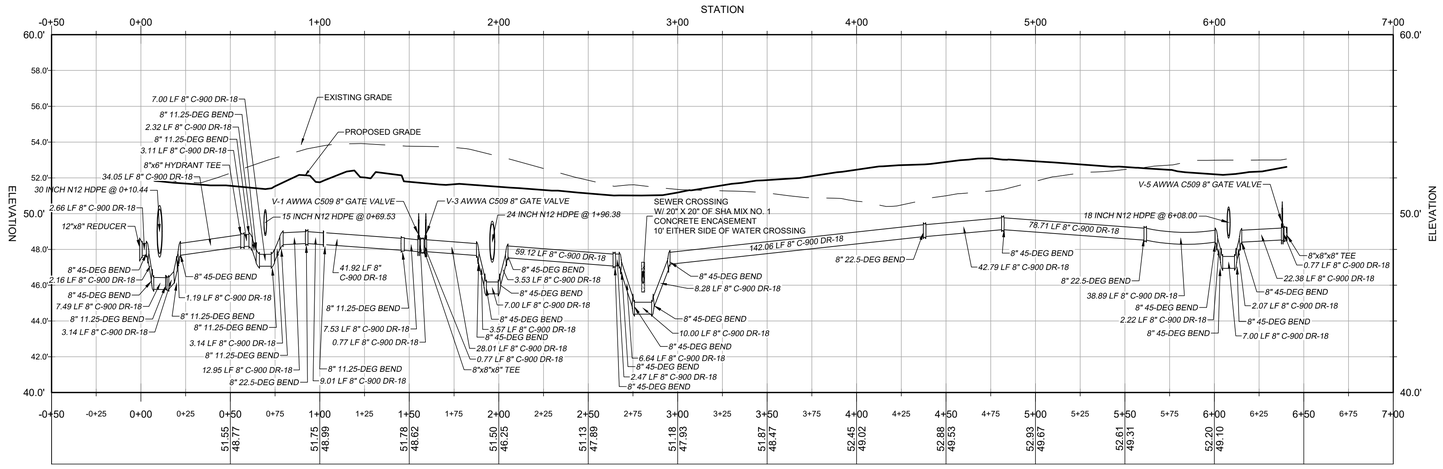
REV. #	DATE	DESCRIPTION
1	4/4/2023	REVISED PER TOWN/ELIC/PZ COMMENT
2	6/23/2023	REVISED TO CONNECT TO GANNON ESTATES
3	7/6/2023	GANNON PLAN (BY OTHERS) ADDED TO SHEETS
4	7/25/2023	REVISED PER ESDPR/PZ/ENG/ELIC COMMENTS

MISS UTILITY OF DELMARVA
CALL BEFORE YOU DIG!
811

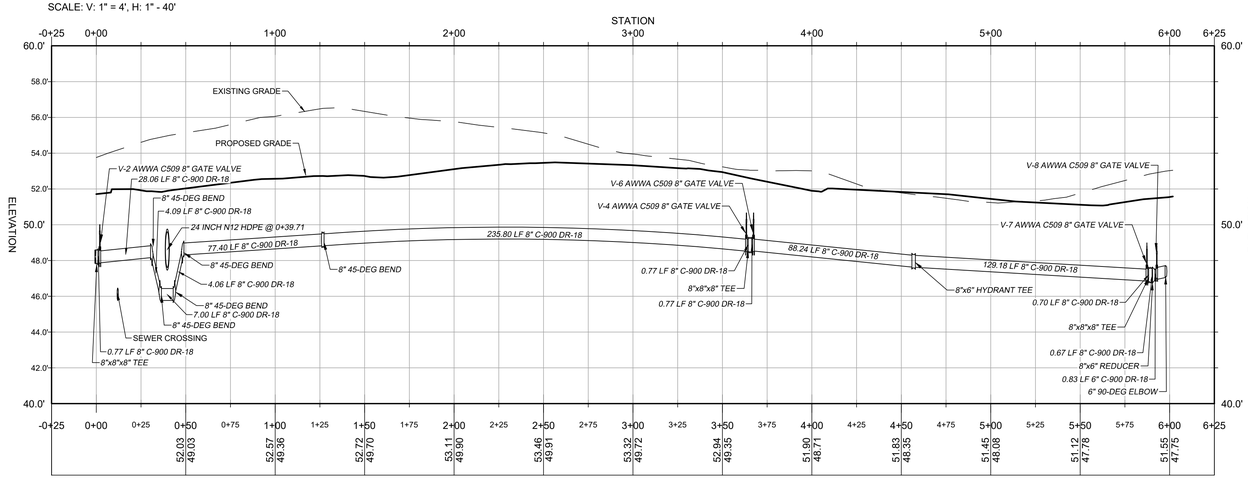
DATE:	7/28/2023
SCALE:	1" = 40'
DRAWN BY:	BBF
DESIGNED BY:	BBF
APPROVED BY:	BBF

SHEET NO.: C-403.01

FOR REVIEW



PROFILE: W - ASPIRE NORTH - ROAD 1,
STA. -0+50 TO STA. 7+00
SCALE: V: 1" = 4', H: 1" - 40'



PROFILE: W - ASPIRE NORTH - ROAD 2,
STA. -0+25 TO STA. 6+00
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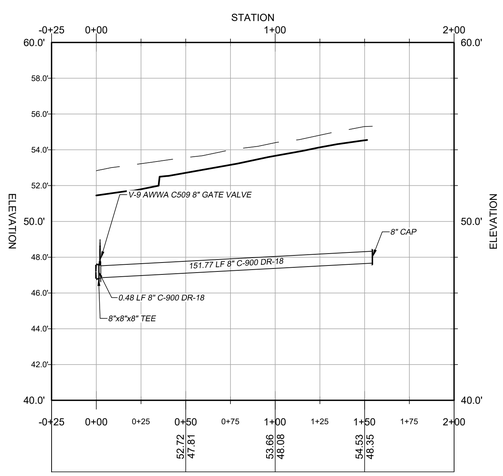

PROFILE: W - GANNON WATER CONNECTOR,
STA. -0+25 TO STA. 3+50
SCALE: V: 1" = 4', H: 1" - 40'

WATER PROFILES

OF THE LANDS OF

ASPIRE APARTMENTS

TAX MAP: 0026, GRID: 0020, PARCEL: 0186
ELECTION DISTRICT 01, TALBOT COUNTY, MARYLAND
ASPIRE OUTDOORS, LLC

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REVISIONS

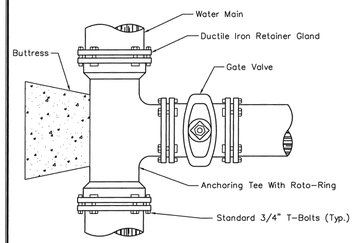
REV. #	DATE	DESCRIPTION
1	4/4/2023	REVISED PER TOWN/EUC/PZ COMMENT
2	6/23/2023	REVISED TO CONNECT TO GANNON ESTATES
3	7/6/2023	GANNON PLAN (BY OTHERS) ADDED TO SHEETS
4	7/25/2023	REVISED PER ESDR/PZ/ENG/EUC COMMENTS

MISS UTILITY OF DELMARVA — CALL BEFORE YOU DIG — 811

DATE:	7/28/2023
SCALE:	1" = 40'
DRAWN BY:	BBF
DESIGNED BY:	BBF
APPROVED BY:	BBF

SHEET NO.: C-403.02

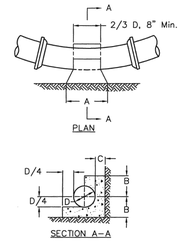
FOR REVIEW



Note:

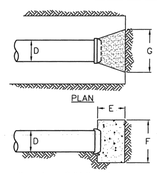
1. All Fittings Shall Be Mechanical Joint, With Ductile Iron Retainer Glands And Mega-Lug Or Equivalent Restraint.
2. Anchoring Tee Shall Be As Indicated And As Manufactured By Griffin Pipe Products, 1100 West Front St. Florance, N.J. 08518, Or An Approved Equal.
3. Retainer Gland Shall Be As Indicated And As Manufactured By Russell Pipe & Foundry Co. Inc., 910 Washington St., Alexander City, AL. 35010, Or An Approved Equal.

APPROVAL	REVISED	TOWN OF EASTON AND EASTON UTILITIES STANDARD DETAILS
EU MANAGER OF ENGINEERING DATE	AUG 1, 94	
	MAR 9, 95	
	MAR 1, 98	ANCHORING TEE
ISSUED: MAY 1, 1986		STANDARD NO. W-2.01



BUTTRESS FOR HORIZONTAL BENDS

BEND		6"	8"	10"	12"	16"
1/32	A	6"	6"	10"	1'-0"	1'-4"
	B	7"	8"	9"	10"	1'-0"
	C	7"	7"	8"	9"	9"
1/16	A	9"	1'-0"	1'-6"	1'-9"	2'-3"
	B	7"	8"	9"	10"	1'-0"
	C	8"	9"	10"	11"	1'-2"
1/8	A	1'-3"	1'-8"	2'-1"	2'-6"	3'-4"
	B	7"	8"	9"	11"	1'-3"
	C	8"	9"	10"	11"	1'-2"
1/4	A	2'-0"	2'-6"	3'-0"	3'-6"	5'-0"
	B	8"	9"	1'-0"	1'-3"	1'-6"
	C	1'-10"	1'-9"	1'-8"	1'-7"	1'-5"



BUTTRESS FOR CAPS AND PLUGS

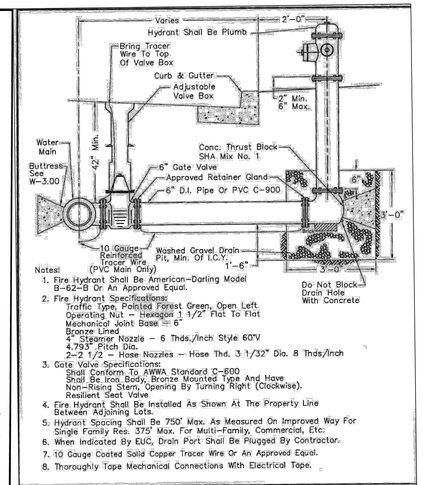
D	6"	8"	10"	12"	16"
E	6"	8"	8"	10"	1'-0"
F	1'-0"	1'-4"	1'-6"	2'-0"	2'-8"
G	1'-5"	1'-11"	2'-5"	2'-10"	3'-9"

Notes:

1. All Concrete Shall Be SHA Mix No. 1.
2. Buttress Dimensions Are Minimum. Dimensions Are Based Upon Soil Bearing Pressure Of 3000 P.S.F. And Static Water Pressure Of 150 P.S.I. Where Pressure Exceeds 150 P.S.I. Or Where Soil Bearing Pressure Is Less Than 3000 P.S.F. Special Buttress Design Is Required.

BUTTRESS FOR CAPS AND PLUGS

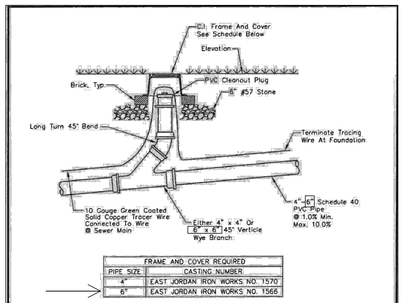
APPROVAL	REVISED	TOWN OF EASTON AND EASTON UTILITIES STANDARD DETAILS
EU MANAGER OF ENGINEERING DATE		
		BUTTRESSES FOR CAPS AND HORIZONTAL BENDS
ISSUED: MAY 1, 1986		STANDARD NO. W-3.00



Notes:

1. Fire Hydrant Shall Be American-Darling Model B-62-B Or An Approved Equal.
2. Fire Hydrant Specifications:
   Traffic Type, Painted Forest Green, Open Left.
   Operating Nut – Hexagon 1 1/2" Flat To Flat
   Mechanical Joint Base – 6"
   Bronze Lined
   4" Steamer Nozzle – 6 Thds./Inch Style 60°V
   4.793" Pitch Dia.
   2–2 1/2 – Hose Nozzles – Hose Thd. 3 1/32" Dia. 8 Thds/Inch
3. Gate Valve Specifications:
   Shall Conform To AWWA Standard C-500
   Shall Be Iron Body, Bronze Mounted Type And Have Non-Rising Stem, Opening By Turning Right (Clockwise).
   Resilient Seat Valve
4. Fire Hydrant Shall Be Installed As Shown At The Property Line Between Adjoining Lots.
5. Hydrant Spacing Shall Be 750' Max. As Measured On Improved Way For Single Family Res. 375' Max. For Multi-Family, Commercial, Etc.
6. When Indicated By EUC, Drain Port Shall Be Plugged By Contractor.
7. 10 Gauge Coated Solid Copper Tracer Wire Or An Approved Equal.
8. Thoroughly Tape Mechanical Connections With Electrical Tape.

APPROVAL	REVISED	TOWN OF EASTON AND EASTON UTILITIES STANDARD DETAILS
EU MANAGER OF ENGINEERING DATE	MAR 1, 94	
	AUG 1, 94	
	MAR 9, 95	FIRE HYDRANT
	MAR 1, 98	
	SEP 1, 09	
ISSUED: MAY 1, 1986	APR 4, 16	STANDARD NO. W-4.00

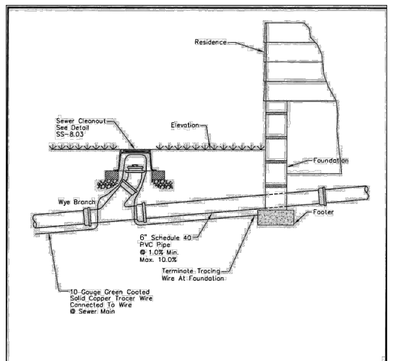


FRAME AND COVER REQUIRED	
PIPE SIZE	CASTING NUMBER
4"	EAST JORDAN IRON WORKS NO. 1570
6"	EAST JORDAN IRON WORKS NO. 1566

NOTES:

1. SERVICE CONNECTION SHALL BE PERPENDICULAR TO MAIN.
2. ADD DETECTOR TAPE TO ALL PIPE.
3. USE CLASS 50 DUCTILE IRON FOR SERVICES WITH LESS THAN 3' OF COVER.
4. NO SPLICES ON TRACER WIRE. MECHANICAL CONNECTORS ONLY IN CLEANOUTS.
5. EMBED PIPE IN #57 STONE FROM 6" BELOW INVERT TO 2" ABOVE CROWN.

APPROVAL	REVISED	EASTON UTILITIES STANDARD DETAILS
EU MANAGER OF ENGINEERING		
JAN 15, 19 DATE		GRAVITY SEWER CLEANOUTS
ISSUED: JAN 15, 2019		STANDARD NO. SS-8.03



NOTES:

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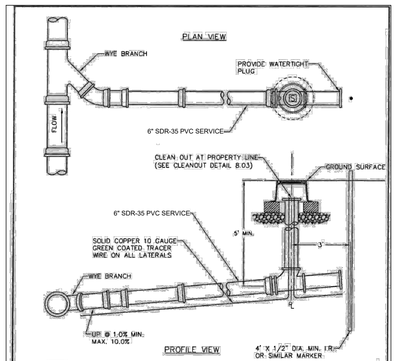
3. USE CLASS 50 DUCTILE IRON FOR SERVICES WITH LESS THAN 3' OF COVER.
4. NO SPLICES ON TRACER WIRE. MECHANICAL CONNECTORS ONLY IN CLEANOUTS.
5. EMBED PIPE IN #57 STONE FROM 6" BELOW INVERT TO 2" ABOVE CROWN.
6. INSTALLATION OF SEWER LATERAL INTO FOUNDATION PER TOWN OF EASTON STANDARD.
7. PROVIDE VIDEO INSPECTION OF LATERAL FROM CLEANOUT AT HOUSE/STRUCTURE, TO MAIN.

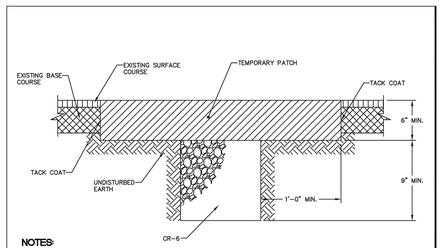
APPROVAL	REVISED	EASTON UTILITIES STANDARD DETAILS
EU MANAGER OF ENGINEERING	JUN 11, 97	
	MAR 1, 98	
JAN 15, 19 DATE	SEP 1, 09	PVC SEWER HOUSE CONNECTION
	JUL 20, 11	
	SEP 15, 14	
ISSUED: JULY 1, 1996	JAN 15, 19	STANDARD NO. SS-8.02



NOTES:

1. SERVICE CONNECTION SHALL BE PERPENDICULAR TO MAIN.
2. ADD DETECTOR TAPE TO ALL PIPE.
3. USE CLASS 50 DUCTILE IRON FOR SERVICES WITH LESS THAN 3' OF COVER.
4. NO SPLICES ON TRACER WIRE. MECHANICAL CONNECTORS ONLY IN CLEANOUTS.
5. EMBED PIPE IN #57 STONE FROM 6" BELOW INVERT TO 2" ABOVE CROWN.

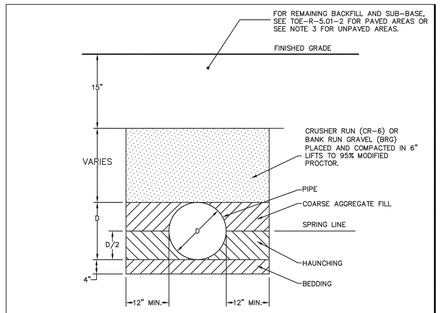
APPROVAL	REVISED	EASTON UTILITIES STANDARD DETAILS
EU MANAGER OF ENGINEERING	MAY 1, 89	
	AUG 1, 94	
JAN 15, 2019 DATE	MAR 9, 95	SEWER COLLECTION SYSTEM SEWER HOUSE SERVICE
	FEB 1, 02	
	JAN 15, 19	
ISSUED: MAY 1, 1986		STANDARD NO. SS-8.00



NOTES:

1. PAVEMENT SHALL BE SAW CUT 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 3" LIFTS (MAX).
   1. CR-6 (3" LIFTS MAX.)
   2. 9.5mm, (2" LIFTS MAX.)12.5mm, OR 19mm SUPPERPAVE. (3" LIFTS)
   3. COLD PATCH (3" LIFTS MAX.)
3. A TEMPORARY CR-6 PATCH MUST BE CONVERTED TO COLD PATCH OR SUPERPAVE WITHIN 1 WEEK OF COMPLETION OF TRENCH WORK, UNLESS APPROVED BY TOWN ENGINEER.
4. TEMPORARY TRENCH RESTORATION MUST BE CONVERTED TO A PERMANENT TRENCH RESTORATION WITHIN 30 CALENDAR DAYS OF COMPLETION OF TRENCH WORK, UNLESS APPROVED BY TOWN ENGINEER. TEMPORARY TRENCH RESTORATION DONE AFTER NOVEMBER 30TH MUST BE CONVERTED TO A PERMANENT TRENCH RESTORATION BEFORE MAY 30TH OF THE FOLLOWING YEAR.
5. TEMPORARY RESTORATION MUST BE INSPECTED AND MAINTAINED EVERY 30 DAYS UNTIL PERMANENT RESTORATION IS COMPLETED. AN INSPECTION AND MAINTENANCE LOG MUST BE KEPT.
6. CONTRACTOR MUST CONFIRM LIMITS OF PATCH REQUIRED WITH THEN TOWN ENGINEER PRIOR TO START OF PATCH WORK.

	APPROVAL	TOWN OF EASTON STANDARD DETAILS
TOWN OF EASTON MARYLAND FOUNDED 1710	TOWN ENGINEER	
	1/2020 DATE	TEMPORARY PAVEMENT REPAIR FOR UTILITY TRENCHES
	ISSUED: JANUARY 2020	STANDARD NO.: TOE-R-5.01-2



NOTES:

1. BEDDING, HAUNCHING AND FILL MATERIAL TO THE TOP OF THE PIPE SHALL BE COARSE AGGREGATE MEETING THE REQUIREMENTS OF ASHTO M43-SIZE NUMBER 57, UNLESS OTHERWISE SPECIFIED BY THE PIPE MANUFACTURER AND APPROVED BY THE TOWN ENGINEER.
2. DURING HAUNCHING, CONTRACTOR SHALL CAREFULLY WORK GRAVEL DOWN AROUND THE BOTTOM OF THE PIPE.
3. IN UNPAVED AREAS, FILL CR-6 OR BRG TO 6" BELOW FINISHED GRADE, PLACED AND COMPACTED IN 6" LIFTS TO 95% MODIFIED PROCTOR. TOP 6" SHALL BE TOPSOIL.

	APPROVAL	TOWN OF EASTON STANDARD DETAILS
TOWN OF EASTON MARYLAND FOUNDED 1710	TOWN ENGINEER	
	1/2020 DATE	TRENCH DETAIL
	ISSUED: JANUARY 2020	STANDARD NO.: TOE-R-5.01-1

UTILITY DETAILS

OF THE LANDS OF

ASPIRE APARTMENTS

TAX MAP: 0026, GRID: 0020, PARCEL: 0186

ELECTION DISTRICT 01, TALBOT COUNTY, MARYLAND

ASPIRE OUTDOORS, LLC

RAUCH INC.
Engineering | Survey | Architecture | Environmental
Main Office: 108 N Harrison St - Easton, MD 21601
Web: www.rauch-inc.com | Email: design@rauchinc.com
Phone: 410 770 9081 | Fax: 410 770 3867

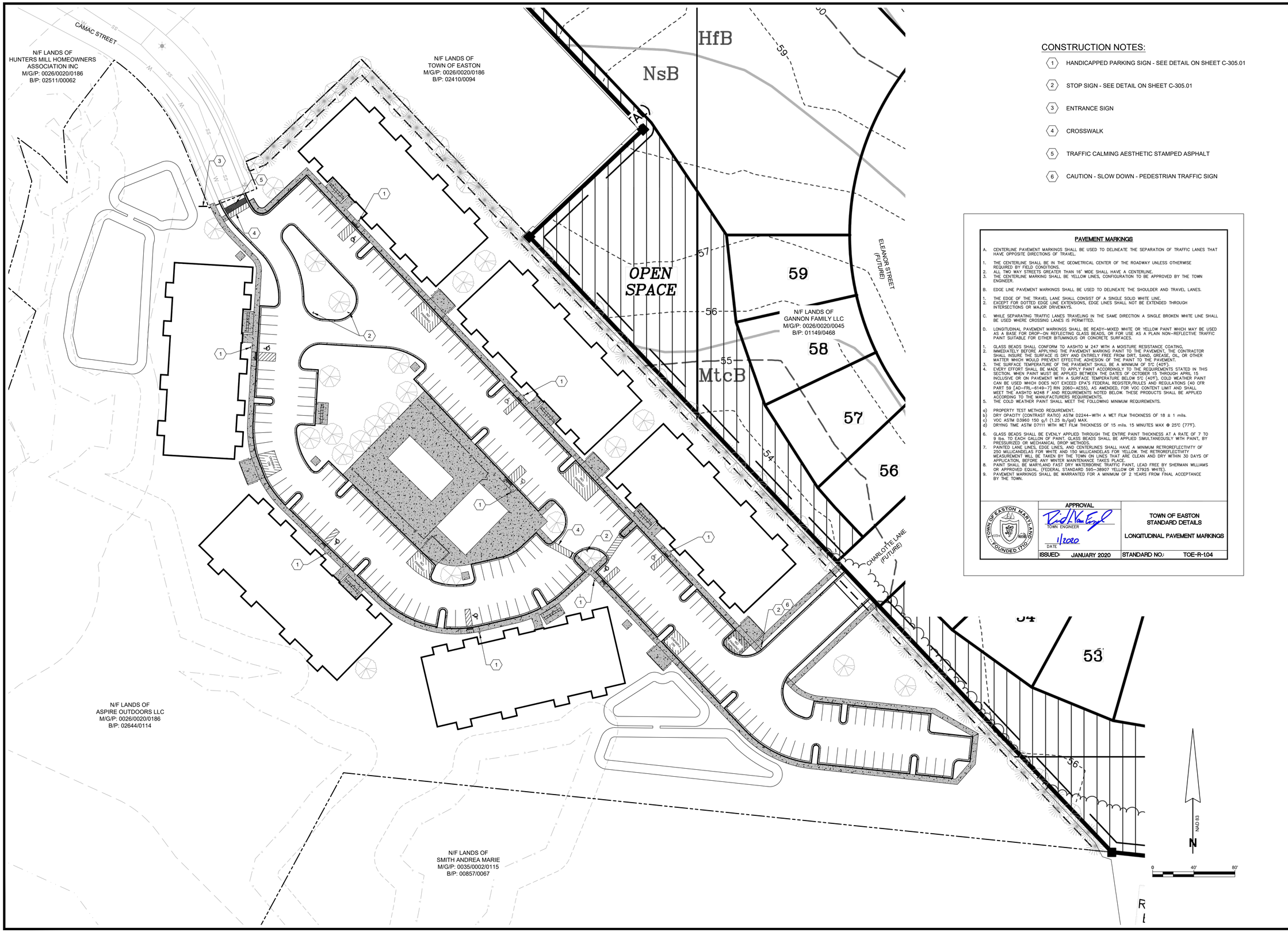
REVISIONS

REV. #	DATE	DESCRIPTION
1	4/4/2023	REVISED PER TOWN/EUC/PZ COMMENT
2	6/23/2023	REVISED TO CONNECT TO GANNON ESTATES
3	7/6/2023	GANNON PLAN (BY OTHERS) ADDED TO SHEETS

MISS UTILITY OF DELMARVA — CALL BEFORE YOU DIG — 811

DATE	7/28/2023
SCALE:	N/A
DRAWN BY:	BBF
DESIGNED BY:	BBF
APPROVED BY:	BBF
SHEET NO.:	C-405

FOR REVIEW



CONSTRUCTION NOTES:

1. HANDICAPPED PARKING SIGN - SEE DETAIL ON SHEET C-305.01
2. STOP SIGN - SEE DETAIL ON SHEET C-305.01
3. ENTRANCE SIGN
4. CROSSWALK
5. TRAFFIC CALMING AESTHETIC STAMPED ASPHALT
6. CAUTION - SLOW DOWN - PEDESTRIAN TRAFFIC SIGN

PAVEMENT MARKINGS

A. CENTERLINE PAVEMENT MARKINGS SHALL BE USED TO DELINEATE THE SEPARATION OF TRAFFIC LANES THAT HAVE OPPOSITE DIRECTIONS OF TRAVEL.

1. THE CENTERLINE SHALL BE IN THE GEOMETRICAL CENTER OF THE ROADWAY UNLESS OTHERWISE REQUIRED BY FIELD CONDITIONS.
2. ALL TWO WAY STREETS GREATER THAN 16' WIDE SHALL HAVE A CENTERLINE.
3. THE CENTERLINE MARKING SHALL BE YELLOW LINES, CONFIGURATION TO BE APPROVED BY THE TOWN ENGINEER.

B. EDGE LINE PAVEMENT MARKINGS SHALL BE USED TO DELINEATE THE SHOULDER AND TRAVEL LANES.

1. THE EDGE OF THE TRAVEL LANE SHALL CONSIST OF A SINGLE SOLID WHITE LINE.
2. EXCEPT FOR DOTTED EDGE LINE EXTENSIONS, EDGE LINES SHALL NOT BE EXTENDED THROUGH INTERSECTIONS OR MAJOR DRIVEWAYS.

C. WHILE SEPARATING TRAFFIC LANES TRAVELING IN THE SAME DIRECTION A SINGLE BROKEN WHITE LINE SHALL BE USED WHERE CROSSING LANES IS PERMITTED.

D. LONGITUDINAL PAVEMENT MARKINGS SHALL BE READY-MIXED WHITE OR YELLOW PAINT WHICH MAY BE USED AS A BASE FOR DROP-ON REFLECTING GLASS BEADS, OR FOR USE AS A PLAIN NON-REFLECTIVE TRAFFIC PAINT SUITABLE FOR EITHER BITUMINOUS OR CONCRETE SURFACES.

1. GLASS BEADS SHALL CONFORM TO AASHTO M 247 WITH A MOISTURE RESISTANCE COATING.
2. IMMEDIATELY BEFORE APPLYING THE PAVEMENT MARKING PAINT TO THE PAVEMENT, THE CONTRACTOR SHALL INSURE THE SURFACE IS DRY AND ENTIRELY FREE FROM DIRT, SAND, GREASE, OIL, OR OTHER MATTER WHICH WOULD PREVENT EFFECTIVE ADHESION OF THE PAINT TO THE PAVEMENT.
3. THE SURFACE TEMPERATURE OF THE PAVEMENT SHALL BE A MINIMUM OF 5°C (40°F).
4. EVERY EFFORT SHALL BE MADE TO APPLY PAINT ACCORDINGLY TO THE REQUIREMENTS STATED IN THIS SECTION. WHEN PAINT MUST BE APPLIED BETWEEN THE DATES OF OCTOBER 15 THROUGH APRIL 15 INCLUSIVE OR ON PAVEMENT WITH A SURFACE TEMPERATURE BELOW 5°C (40°F), COLD WEATHER PAINT CAN BE USED WHICH DOES NOT EXCEED EPA'S FEDERAL REGISTER/RULES AND REGULATIONS (40 CFR PART 59 [AD-FRL-6149-7] RIN 2060-AE55), AS AMENDED, FOR VOC CONTENT LIMIT AND SHALL MEET THE AASHTO M248 1' AND REQUIREMENTS NOTED BELOW. THESE PRODUCTS SHALL BE APPLIED ACCORDING TO THE MANUFACTURERS REQUIREMENTS.
5. THE COLD WEATHER PAINT SHALL MEET THE FOLLOWING MINIMUM REQUIREMENTS.

a) PROPERTY TEST METHOD REQUIREMENT.
b) DRY OPACITY (CONTRAST RATIO) ASTM D2244-WITH A WET FILM THICKNESS OF 18 ± 1 mils.
c) VOC ASTM D3960 150 g/l (1.25 lb/gal) MAX.
d) DRYING TIME ASTM D7111 WITH WET FILM THICKNESS OF 15 mils. 15 MINUTES MAX @ 25°C (77°F).

6. GLASS BEADS SHALL BE EVENLY APPLIED THROUGH THE ENTIRE PAINT THICKNESS AT A RATE OF 7 TO 9 lbs. TO EACH GALLON OF PAINT. GLASS BEADS SHALL BE APPLIED SIMULTANEOUSLY WITH PAINT, BY PRESSURIZED OR MECHANICAL DROP METHODS.
7. PAINTED LANE LINES, EDGE LINES, AND CENTERLINES SHALL HAVE A MINIMUM RETROREFLECTIVITY OF 250 MILLICANDELAS FOR WHITE AND 150 MILLICANDELAS FOR YELLOW. THE RETROREFLECTIVITY MEASUREMENT WILL BE TAKEN BY THE TOWN ON LINES THAT ARE CLEAN AND DRY WITHIN 30 DAYS OF APPLICATION, BEFORE ANY WINTER MAINTENANCE TAKES PLACE.
8. PAINT SHALL BE MARYLAND FAST DRY WATERBORNE TRAFFIC PAINT, LEAD FREE BY SHERMAN WILLIAMS OR APPROVED EQUAL. (FEDERAL STANDARD 595-38907 YELLOW OR 37925 WHITE).
9. PAVEMENT MARKINGS SHALL BE WARRANTED FOR A MINIMUM OF 2 YEARS FROM FINAL ACCEPTANCE BY THE TOWN.

	APPROVAL	
TOWN OF EASTON MARYLAND - FOUNDED 1710	TOWN ENGINEER DATE 1/2020	TOWN OF EASTON STANDARD DETAILS LONGITUDINAL PAVEMENT MARKINGS
	ISSUED: JANUARY 2020	STANDARD NO.: TOE-R-1.04

STRIPING & SIGNAGE PLAN

OF THE LANDS OF

ASPIRE APARTMENTS

TAX MAP: 0026, GRID: 0020, PARCEL: 0186
ELECTION DISTRICT 01, TALBOT COUNTY, MARYLAND
ASPIRE OUTDOORS, LLC

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 3867

REVISIONS

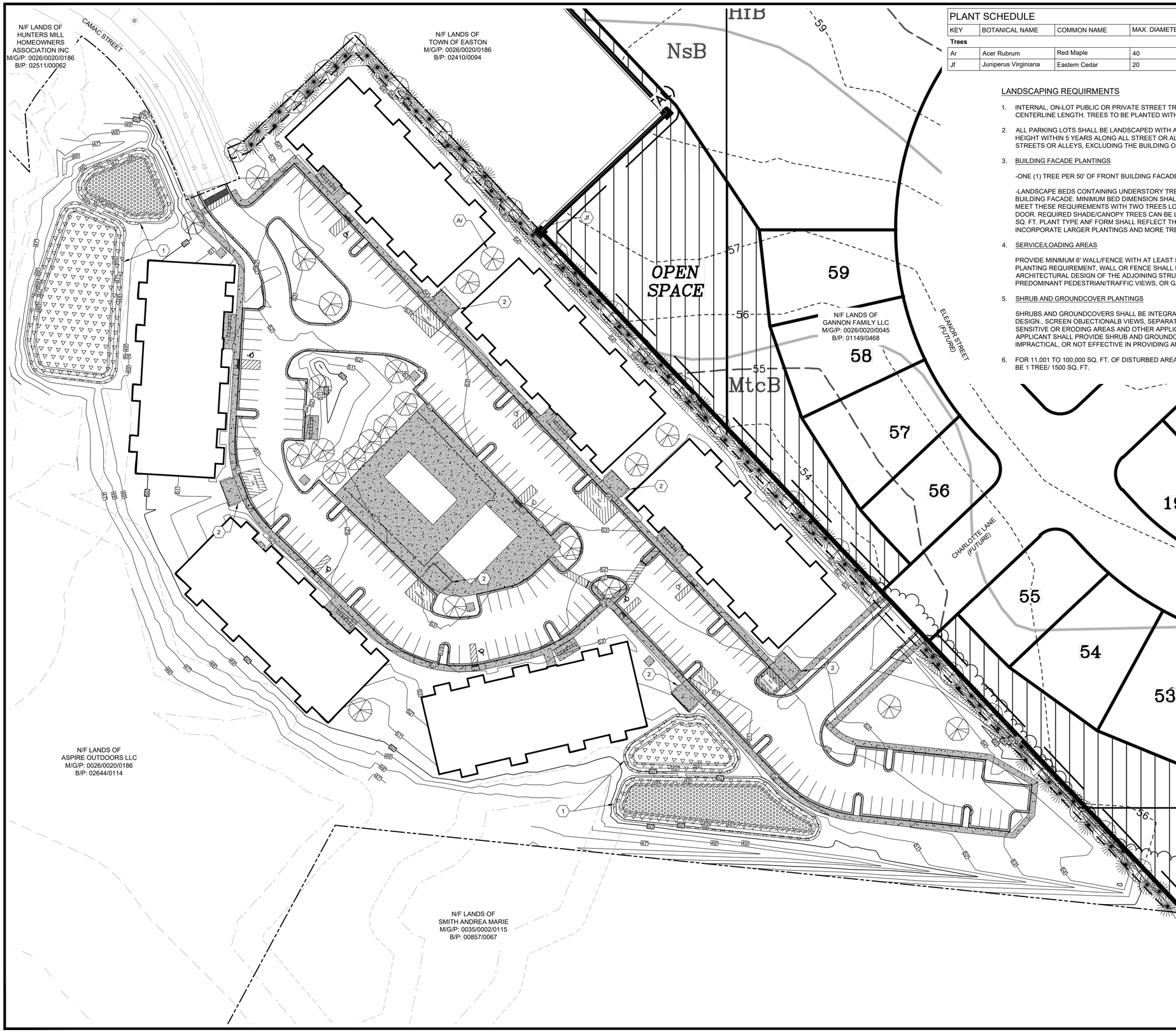
REV. #	DATE	DESCRIPTION
1	6/23/2023	REVISED TO CONNECT TO GANNON ESTATES
2	7/6/2023	GANNON PLAN (BY OTHERS) ADDED TO SHEETS
3	7/28/2023	REVISED PER ESD/RP/ZENG/EUC COMMENTS

MISS UTILITY OF DELMARVA - CALL BEFORE YOU DIG - 811

DATE:	7/28/2023
SCALE:	1" = 40'
DRAWN BY:	BBF
DESIGNED BY:	BBF
APPROVED BY:	BBF

SHEET NO.: C-501

FOR REVIEW



PLANT SCHEDULE

KEY	BOTANICAL NAME	COMMON NAME	MAX. DIAMETER (FT).	MAX. HEIGHT (FT.)	O.C. SPACING (FT.)	QUANTITY
Trees						
Ar	Acer Rubrum	Red Maple	40	60	50	47
Jf	Juniperus Virginiana	Eastern Cedar	20	50	15	71

LANDSCAPING REQUIRMENTS

1. INTERNAL, ON-LOT PUBLIC OR PRIVATE STREET TREE PLANTINGS - ONE (1) SHADE/CANOPY TREE PER 35' OF STREET CENTERLINE LENGTH. TREES TO BE PLANTED WITHIN 15' OF CURB LINE.

2. ALL PARKING LOTS SHALL BE LANDSCAPED WITH AN EVERGREEN SHRUB HEDGE WHICH WILL GROW TO A MINIMUM OOF 42" HEIGHT WITHIN 5 YEARS ALONG ALL STREET OR ALLEY FRONTAGES AND ALONG ALL, OR PORTIONS OF, SIDES VISIBLE FROM STREETS OR ALLEYS, EXCLUDING THE BUILDING OR FACILITY ACCESS SIDE(S).

3. BUILDING FACADE PLANTINGS

   -ONE (1) TREE PER 50' OF FRONT BUILDING FACADE OR PORTION THEREOF.

   -LANDSCAPE BEDS CONTAINING UNDERSTORY TREES, SHRUBS, GROUNDCOVERS THAT COVER 25% OF THE FRONT OF THE 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 ANF FORM SHALL REFLECT THE ADJACENT BUILDING FORM AND MASS. LARGE OR TALL BUILDINGS SHALL INCORPORATE LARGER PLANTINGS AND MORE TREES.

4. SERVICE/LOADING AREAS

   PROVIDE MINIMUM 6' WALL/FENCE WITH AT LEAST 50% OF FACE PLANTED WITH EVERGREEN SHRUBS OR TREES. IN LIEU OF 50% PLANTING REQUIREMENT, WALL OR FENCE SHALL BE A DECORATIVE ARCHITECTURAL STATEMENT COMPATIBLE WITH THE ARCHITECTURAL DESIGN OF THE ADJOINING STRUCTURE. ACCESS OPENING(S) TO BE ORIENTED AWAY FROM STREETS AND PREDOMINANT PEDESTRIAN/TRAFFIC VIEWS, OR GATED TO SCREEN VIEW.

5. SHRUB AND GROUNDCOVER PLANTINGS

   SHRUBS AND GROUNDCOVERS SHALL BE INTEGRATED INTO THE SITE AND LANDSCAPE PLAN TO COMPLEMENT ARCHITECTURAL DESIGN., SCREEN OBJECTIONALB VIEWS, SEPARATE PEDESTRIAN ACTIVITIES FROM VEHICULAR TRAVEL WAYS, STABILIZE SENSITIVE OR ERODING AREAS AND OTHER APPLICATIONS THAT CONTRIBUTE TO THE OVERALL LANDSCAPE APPEARANCE. THE APPLICANT SHALL PROVIDE SHRUB AND GROUNDCOVER PLANTINGS OR DEMONSTRATE WHY THEY ARE UNNECESSARY, IMPRACTICAL, OR NOT EFFECTIVE IN PROVIDING AN ACCEPTABLE LANDSCAPE APPEARANCE.

6. FOR 11,001 TO 100,000 SQ. FT. OF DISTURBED AREA, THE MINIMUM TREE PLANTING REQUIRED EXCLUDING BUFFERYARDS SHALL BE 1 TREE/ 1500 SQ. FT.

BUFFERYARD & LANDSCAPE FEATURES

1. SUBMERGED GRAVEL WETLAND AND FOREBAY PLANTINGS ARE DETAILED ON SHEET C-605.02
2. PICKET FENCE

LANDSCAPING PLAN

OF THE LANDS OF

ASPIRE APARTMENTS

TAX MAP: 0026, GRID: 0020, PARCEL: 0186

ELECTION DISTRICT 01, TALBOT COUNTY, MARYLAND

ASPIRE OUTDOORS, LLC

RAUCH inc.
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REVISIONS

REV. #	DATE	DESCRIPTION
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2	7/6/2023	GANNON PLAN (BY OTHERS) ADDED TO SHEETS
3	7/28/2023	REVISED PER ESDRP/ZENG/EUC COMMENTS

MISS UTILITY OF DELMARVA
CALL BEFORE YOU DIG!
811

DATE:	7/28/2023
SCALE:	1" = 40'
DRAWN BY:	BBF
DESIGNED BY:	BBF
APPROVED BY:	BBF

SHEET NO.: C-601

FOR REVIEW

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:

- TWO TO THREE INCHES OF SHREDDED HARDWOOD MULCH SHALL BE APPLIED TO ALL NEWLY PLANTED TREES AND SHRUBS.
- TWO TO THREE INCHES OF HARDWOOD MULCH SHALL BE APPLIED TO UPLAND HERBACEOUS PLANTING AREAS AS SHOWN ON THE PLANTING PLAN.
- 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

FROM THE 2018 TOWN OF EASTON ZONING ORDINANCE:

A. PRIOR TO ISSUANCE OF AN OCCUPANCY PERMIT, THE APPROVED PRELIMINARY LANDSCAPE PLAN SHALL BE IMPLEMENTED BY THE APPLICANT. AT COMPLETION, THE APPLICANT SHALL REQUEST THAT THE TOWN INSPECT THE COMPLETE LANDSCAPING AND ISSUE THE APPROPRIATE APPROVAL. THE TOWN RECOGNIZES THAT PLANTING SCHEDULES AND FAVORABLE WEATHER/CLIMATIC CONDITIONS DO NOT ALWAYS COINCIDE. THE APPLICANT SHALL MAKE EVERY REASONABLE EFFORT TO COORDINATE BUILDING AND SITE CONSTRUCTION WITH LANDSCAPE IMPROVEMENT INSTALLATION SO THAT ALL PROJECT CONSTRUCTION CAN BE COMPLETE PRIOR TO REQUEST FOR OCCUPANCY PERMITS. UPON DEMONSTRATING THAT SOME OR ALL OF THE REQUIRED LANDSCAPE IMPROVEMENTS SHOULD BE POSTPONED, AND SUBJECT TO THE APPROVAL OF THE TOWN, THE APPLICANT SHALL POST AN IRREVOCABLE FINANCIAL SURETY EQUAL TO THE ESTIMATED INSTALLATION COSTS AS APPROVED BY THE TOWN, GUARANTEEING THE COMPLETE IMPLEMENTATION OF THE LANDSCAPE PLAN WITHIN 6 MONTHS OF OCCUPANCY OR USE OF THE SITE OR SUBDIVISION. AFTER INSTALLATION IS COMPLETE AND INSPECTED AND APPROVED BY THE TOWN, THE APPLICANT SHALL REQUEST IN WRITING TO THE TOWN TO RELEASE ANY UNUSED PORTION OF THE SURETY.

B. THE OWNER/DEVELOPER SHALL MAINTAIN ALL LANDSCAPE IMPROVEMENTS PROVIDING ADEQUATE GROWING CONDITIONS TO INSURE HEALTHY, VIGOROUS PLANT SURVIVAL AND GROWTH. THE TOWN RESERVES THE RIGHT TO PERIODICALLY REVIEW INSTALLED LANDSCAPES AND REPORT ANY SIGNIFICANT DEFICIENCIES TO THE OWNER/DEVELOPER. AT THE END OF TWO 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 30 CALENDAR DAYS.

C. FAILURE TO MAINTAIN, REPAIR OR REPLACE THE REQUIRED AND APPROVED LANDSCAPE IMPROVEMENTS SHALL BE CONSIDERED A VIOLATION OF THIS ORDINANCE AND SHALL BE ENFORCED IN ACCORDANCE WITH SECTION 28 – 1308 OF THE TOWN OF EASTON ZONING ORDINANCE.

MAINTENANCE:

DURING CONSTRUCTION PERIOD:
THE CONTRACTOR SHALL MAINTAIN ALL PLANT MATERIAL THROUGH JOB COMPLETION AND FINAL ACCEPTANCE, ALL PLANT MATERIAL SHALL BE WATERED, WEEDED, MULCHED, PRUNED AND TREATED FOR INSECT DAMAGE, FUNGUS OR DISEASE TO ENSURE HEALTHY GROWING CONDITIONS. WATERING SHALL PROVIDE ADEQUATE MOISTURE TO SUPPORT VIGOROUS GROWTH. TYPICALLY, ALL TREES SHOULD RECEIVE APPROXIMATELY 1", OR 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. INSTRUCT OWNER REGARDING REQUIRED AND PROPER ON-GOING MAINTENANCE OF LANDSCAPE INSTALLATION.

PLANT LIST:

SYMBOL	QUAN	SCIENTIFIC NAME	COMMON NAME	SPECIFICATION
UNDERSTORY TREES				
AR	47	ACER RUBRUM	RED MAPLE	2" CALIPER, MIN
JF	71	JUNIPERUS VIRGINIANA	EASTERN CEDAR	2" CALIPER, MIN.

LANDSCAPE REQUIREMENTS SUMMARY PER ZONING ORDINANCE:

SECTION 1014.7.E.:

BUFFERYARD "C" (PUD-INFILL APARTMENTS MAY BE EXCLUDED FROM THIS REQUIREMENT):

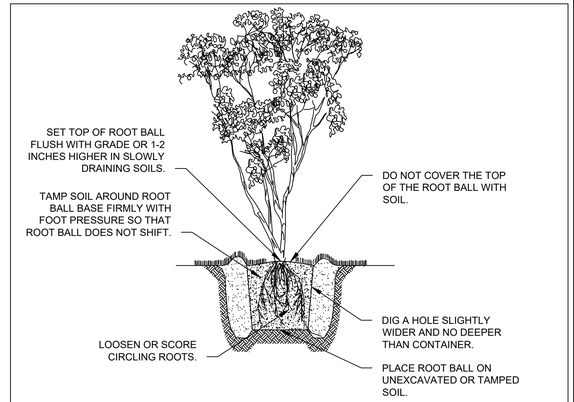
BUFFERYARD 'C' (FOR ALL RESIDENTIALLY ZONED LOTS OR LAND USE APPLICATIONS TO BUFFER ALL OTHER STREETS EQUALING OR EXCEEDING TOWN OF EASTON "RESIDENTIAL COLLECTOR DESIGNATION) THIS BUFFERYARD IS NOT REQUIRED ALONG THE STREET WHERE THE PRIMARY LOT FRONTAGE IS DESIGNATED.

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 REQUIREMENT.
c. OPTIONS:
1. Substitute 1 evergreen tree for 5 shrubs

1 CANOPY TREE
2 EVERGREEN TREE
SHRUBS N/A

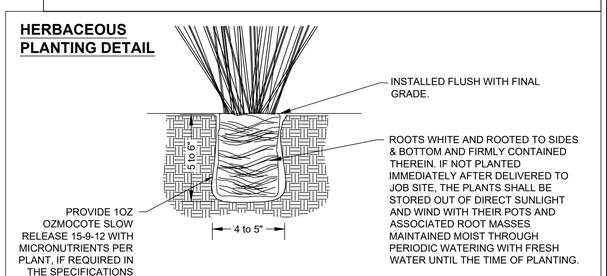
LANDSCAPING NOTES:

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 AND 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 TIMES THE DIAMETER OF THE ROOT BALL. OPEN AREA TREE PITS SHALL BE EXCAVATED TO A MINIMUM DIMENSION OF TWICE THE ROOTBALL 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 TOWN OF EASTON 2018 EDITION ZONING ORDINANCE ARTICLE X 10-62 TO A DEPTH OF 12" (OR RAISED SLIGHTLY TO ACHIEVE A 12" FRIABLE SOIL DEPTH). SHRUB PLANTING AREAS SHALL BE WORKED TO 12" MINIMUM OUTSIDE THE ROOT BALL.
6. ALL LANDSCAPE BEDS SHALL BE "V" EDGED AND MULCHED WITH MINIMUM 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) - 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 THE 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 TOWN OF EASTON.



CONTAINER TREE & SHRUB PLANTING DETAIL

HERBACEOUS PLANTING DETAIL



LANDSCAPING NOTES & DETAILS

OF THE LANDS OF

ASPIRE APARTMENTS

TAX MAP: 0026, GRID: 0020, PARCEL: 0186
ELECTION DISTRICT 01, TALBOT COUNTY, MARYLAND
ASPIRE OUTDOORS, LLC

RAUCH inc
Engineering | Survey | Architecture | Environmental
Main Office: 108 N Harrison St - Easton, MD 21601
Web: www.rauch-inc.com | Email: design@rauchengcom
Phone: 410 770 9081 | Fax: 410 770 3867

REVISIONS

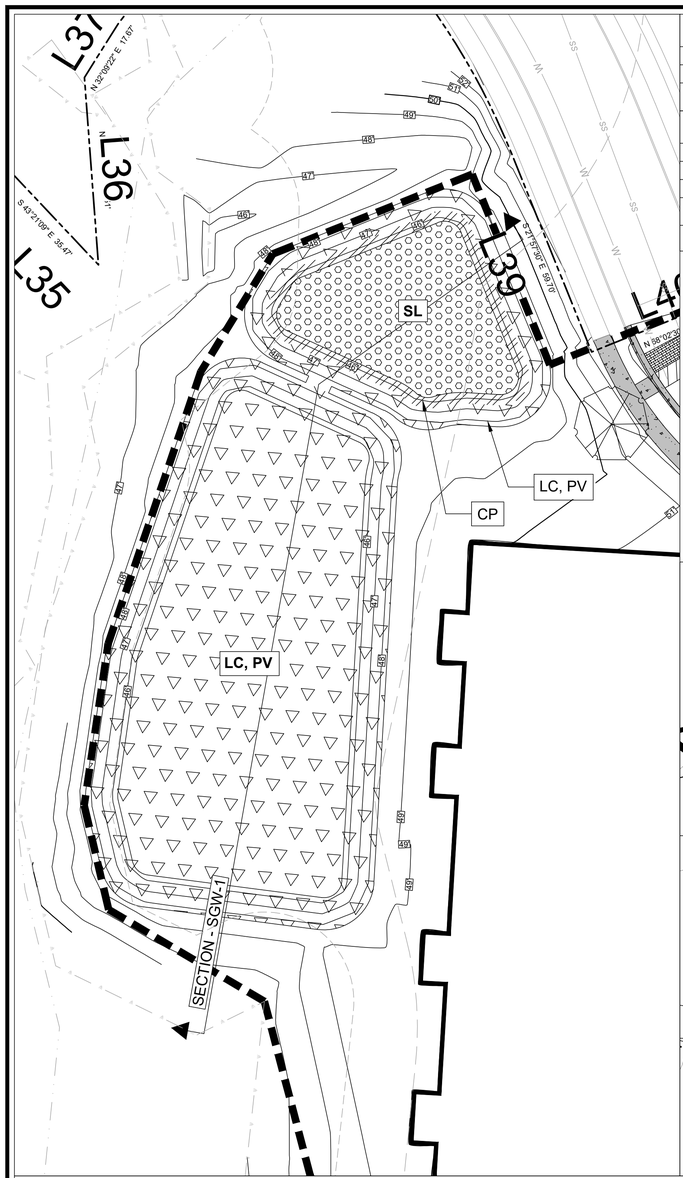
REV. #	DATE	DESCRIPTION
1	6/23/2023	REVISED TO CONNECT TO GANNON ESTATES
2	7/6/2023	GANNON PLAN (BY OTHERS) ADDED TO SHEETS
3	7/28/2023	REVISED PER ESDP/PZ/ENG/EUC COMMENTS

MISS UTILITY OF DELMARVA — CALL EACH STATE — 811

DATE:	7/28/2023
SCALE:	1" = 200'
DRAWN BY:	BBF
DESIGNED BY:	BBF
APPROVED BY:	BBF

SHEET NO.: C-605.01

FOR REVIEW



NORTH SUBMERGED GRAVEL WETLAND-FOREBAY - 2" PLUGS

PV	PANICUM VIRGATUM	SWITCHGRASS		2116	SQ-FT	1058
LC	LOTUS CORNICULATUS	BIRDS FOOT TREFOIL		2116	SQ-FT	1058
			TOTAL	**4232**		**2116**

NORTH SUBMERGED GRAVEL WETLAND - 2" PLUGS

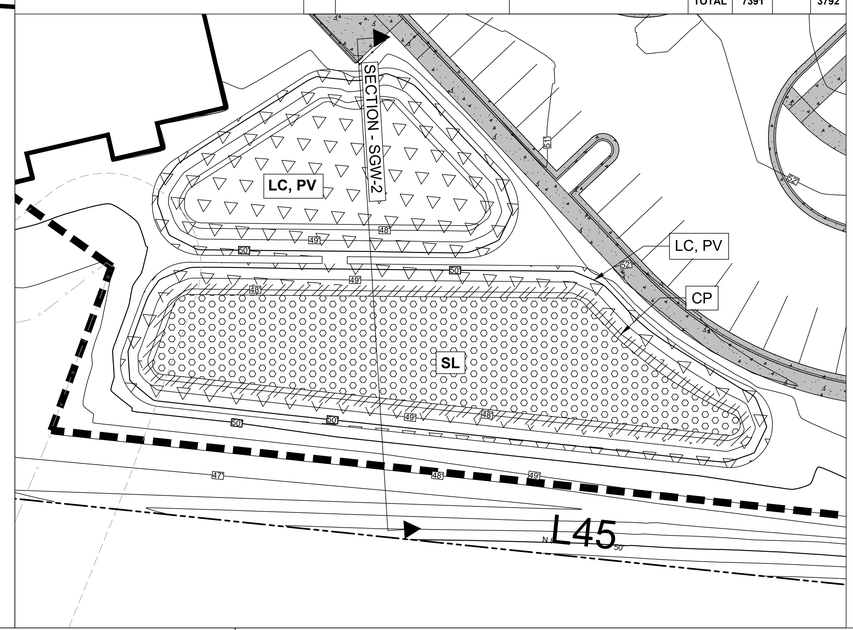
PV	PANICUM VIRGATUM	SWITCHGRASS		1284	SQ-FT	659
LC	LOTUS CONICULATUS	BIRDS FOOD TREFOIL		1284	SQ-FT	659
CP	CALTHA PALUSTRIS	MARSH MARIGOLD		1199	SQ-FT	615
SL	SAGITTARIA LANCIFOLIA L.	DUCK POTATO		6938	SQ-FT	3560
			TOTAL	**10705**		**5496**

SOUTH SUBMERGED GRAVEL WETLAND-FOREBAY - 2" PLUGS

PV	PANICUM VIRGATUM	SWITCHGRASS		715	SQ-FT	366
LC	LOTUS CORNICULATUS	BIRDS FOOT TREFOIL		716	SQ-FT	367
			TOTAL	**1431**		**713**

SOUTH SUBMERGED GRAVEL WETLAND - 2" PLUGS

PV	PANICUM VIRGATUM	SWITCHGRASS		608	SQ-FT	312
LC	LOTUS CONICULATUS	BIRDS FOOD TREFOIL		608	SQ-FT	312
CP	CALTHA PALUSTRIS	MARSH MARIGOLD		1131	SQ-FT	580
SL	SAGITTARIA LANCIFOLIA L.	DUCK POTATO		5044	SQ-FT	2588
			TOTAL	**7391**		**3792**



PLANTING OPTIONS AT POND ELEVATIONS

12"-36" DEPTH BELOW NORMAL POOL ELEVATION
WATER LILY, DEEP WATER DUCK POTATO, SAGO POND PLANT, REDHEAD GRASS

0"-12" DEPTH BELOW NORMAL POOL ELEVATION
BLUE FLAG IRIS, PICKERELWEED, DUCK POTATO, FLOWERING BULRUSH, SOFTRUSH, SEDGES, LOBELIA, POND CYPRESS, VARIOUS ASTERS

0" TO 12" ELEVATION ABOVE NORMAL POOL ELEVATION
NEW ENGLAND ASTER, MARSH ASTER, MARSH MARIGOLD (APPALACHIAN PLATEAU), TUSSOCK SEDGE, SPOTTED JOE PYE WEED, FORGET ME NOTS, INKBERRY, PURPLE OSIER DOGWOOD, PIN OAK, RIVER BIRCH, SYCAMORE, SWAMP WHITE OAK (COASTAL PLAIN), WEEPING WILLOW, DAWN REDWOOD

1' TO 4' ELEVATION ABOVE NORMAL POOL ELEVATION
PURPLE CONE FLOWER, BIRDS FOOT TREFOIL, SLENDER RUSH, DEER TONGUE GRASS, LESPEDEZA, SWITCH GRASS, SERVICEBERRY, GRAY BIRCH, HACKBERRY, SWEET PEPPER BUSH (COASTAL PLAIN), GRAY STEM DOGWOOD, RED OSIER DOGWOOD, GREEN ASH

QP2 TO CPV TO QP10 OR QF WATER SURFACE ELEVATION
(MANY WILDFLOWERS AND NATIVE GRASSES), AMERICAN HOLLY, WITCH HAZEL, NINEBARK, RED OAK, AMERICAN ELDERBERRY, AMERICAN HEMLOCK, LOWBUSH BLUEBERRY, MAPLE LEAF VIBURNUM, NANNYBERRY, BLACKHAW VIBURNUM

QF WATER SURFACE ELEVATION AND ABOVE (FLOODPLAIN)
MOSTLY ORNAMENTALS AS LONG AS SOILS DRAINS WELL. MANY NATIVES. ALL SPECIE MUST BE ABLE TO TOLERATE FLOOD PLAIN CONDITIONS. HACKBERRY, PITCH PINE, SHEEP FESCUE, WILDFLOWERS, MANY NATIVE GRASSES.

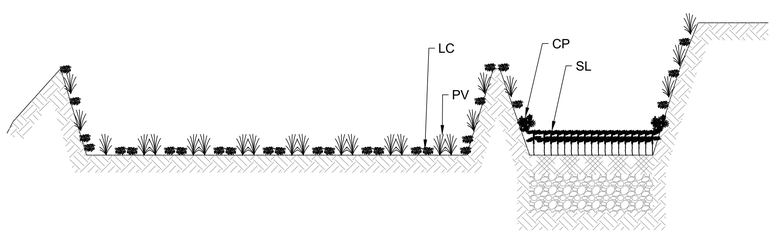
POND INSPECTION
- REGULAR INSPECTIONS SHALL BE MADE DURING THE FOLLOWING STAGES OF CONSTRUCTION:
- DURING EXCAVATION TO SUBGRADE
- DURING CONSTRUCTION OF APPURTENANT CONVEYANCE
- DURING LANDSCAPE PLANTING
- UPON COMPLETION OF FINAL GRADING AND ESTABLISHMENT OF PERMANENT STABILIZATION.

POND MAINTENANCE CRITERIA:
MAINTENANCE MEASURES
- MAINTENANCE RESPONSIBILITY FOR A POND AND ITS BUFFER SHALL BE VESTED WITH A RESPONSIBLE PARTY BY MEANS OF A LEGALLY BINDING AND ENFORCABLE MAINTENANCE AGREEMENT THAT IS EXECUTED AS A CONDITION OF PLAN APPROVAL OR LOCAL PERMITTING PROCESSES.
- THE PRINCIPAL SPILLWAY SHALL BE EQUIPPED WITH A TRASH RACK THAT PROVIDES ACCESS FOR MAINTENANCE.
- SEDIMENT REMOVAL IN THE FOREBAY SHALL OCCUR WHEN 50% OF THE TOTAL FOREBAY CAPACITY HAS BEEN LOST.
- SEDIMENTS EXCAVATED FROM STORMWATER PONDS THAT DO NOT RECEIVE RUNOFF FROM DESIGNATED HOTSPOTS ARE NOT CONSIDERED TOXIC OR HAZARDOUS MATERIAL AND CAN BE SAFELY DISPOSED BY EITHER LAND APPLICATION OR LAND FILLING. SEDIMENT TESTING MAY BE REQUIRED PRIOR TO SEDIMENT DISPOSAL WHEN A HOTSPOT LAND USE IS PRESENT.
- SEDIMENT REMOVED FROM STORMWATER PONDS SHOULD BE DISPOSED OF ACCORDING TO CURRENT EROSION AND SEDIMENT CONTROL REGULATIONS.

MAINTENANCE ACCESS
- A MAINTENANCE RIGHT-OF-WAY OR EASEMENT SHALL EXTEND TO A POND FROM A PUBLIC OR PRIVATE ROAD.
- MAINTENANCE ACCESS SHOULD BE AT LEAST 12 FEET WIDE; HAVE A MAXIMUM SLOPE OF NO MORE THAT 15%; AND BE APPROPRIATELY STABILIZED TO WITHSTAND MAINTENANCE EQUIPMENT AND VEHICLES. THE MAINTENANCE ACCESS SHOULD EXTEND TO THE FOREBAY, SAFETY BENCH, RISER, AND OUTLET, AND BE DESIGNATED TO ALLOW VEHICLES TO TURN AROUND.

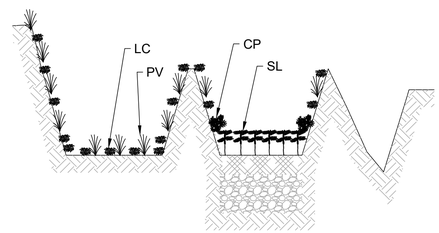
NON-CLOGGING LOW FLOW ORIFICE
- THE LOW FLOW ORIFICE SHALL HAVE A MINIMUM DIAMETER OF 3 INCHES AND SHALL BE ADEQUATELY PROTECTED FROM CLOGGING BY AN ACCEPTABLE EXTERNAL TRASH RACK. TWO EXAMPLES OF APPROVED EXTERNAL TRASH RACKS ARE PROVIDED IN DETAIL NO. 1 AND 2 OF APPENDIX D.8. THE LOW FLOW ORIFICE DIAMETER MAY BE REDUCED TO ONE INCH IF AN INTERNAL ORIFICE IS USED (E.G., AN OVER-PERFORATED VERTICAL STANDPIPE THAT IS PROTECTED BY HARDWARE CLOTH AND A STONE FILTERING JACKET). A SCHEMATIC DESIGN OF AN ACCEPTABLE INTERNAL ORIFICE PROTECTION DESIGN IS PROVIDED IN DETAIL NO. 3 OF APPENDIX D.8.
- THE PREFERRED METHOD IS A SUBMERGED REVERSE-SLOPE PIPE THAT EXTENDS DOWNWARD FROM THE RISER TO AN INFLOW POINT ONE FOOT BELOW THE NORMAL POOL ELEVATION.
- ALTERNATIVE METHODS ARE TO EMPLOY A BROAD CRESTED RECTANGULAR, V-NOTCH, OR PROPORTIONAL WEIR, PROTECTED BY A HALF-ROUND CORRUGATED METAL PIPE (CMP) OR SIMILAR DEVICE THAT EXTENDS AT LEAST 12 INCHES BELOW THE NORMAL POOL. (SEE DETAIL NO. 7 OF APPENDIX D.8.)
- THE USE OF HORIZONTAL PERFORATED PIPE PROTECTED BY GEOTEXTILE AND GRAVEL IS NOT RECOMMENDED.
- VERTICAL PIPES MAY BE USED AS AN ALTERNATIVE IF A PERMANENT POOL IS PRESENT.

RISER
- THE RISER SHALL BE LOCATED WITHIN THE EMBANKMENT FOR MAINTENANCE ACCESS, SAFETY AND AESTHETICS.
- ACCESS TO THE RISER IS TO BE PROVIDED BY LOCKABLE MANHOLE COVERS AND MANHOLE STEPS WITH EASY REACH OF VALVES AND OTHER CONTROLS. RISER OPENINGS SHOULD BE FENCED WITH PIPE OR REBAR TO PREVENT TRASH ACCUMULATION.



SGW-1 - NORTH POND
TYPICAL LANDSCAPE SECTION

NOTE:
PLANTS SPECIFIED ON DETAIL MAY BE REPLACED BY ANY OF THE PLANTS LISTED IN THE OPTIONS ON THIS SHEET ASSUMING THE PLANT IS REPLACED WITH PLANT IN THE SAME ELEVATION.



SGW-2 - SOUTH POND
TYPICAL LANDSCAPE SECTION

NOTE:
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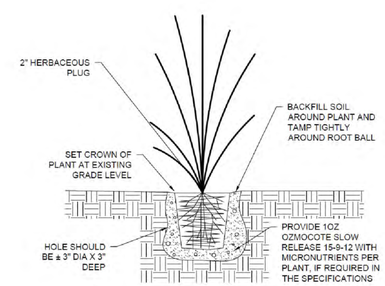

2" PLUG PLANTING DETAIL

LANDSCAPING NOTES & DETAILS

OF THE LANDS OF

ASPIRE APARTMENTS

TAX MAP: 0026, GRID: 0020, PARCEL: 0186
ELECTION DISTRICT 01, TALBOT COUNTY, MARYLAND
ASPIRE OUTDOORS, LLC

RAUCH INC
Engineering | Survey | Architecture | Environmental
Main Office: 108 N Harrison St - Easton, MD 21601
Web: www.rauch-inc.com | Email: design@rauchengcom
Phone: 410 770 8081 | Fax: 410 770 3867

REVISIONS

REV. #	DATE	DESCRIPTION
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MISS UTILITY OF DELMARVA — CALL BEFORE YOU DIG — 811

DATE:	7/28/2023
SCALE:	1" = 200'
DRAWN BY:	BBF
DESIGNED BY:	BBF
APPROVED BY:	BBF

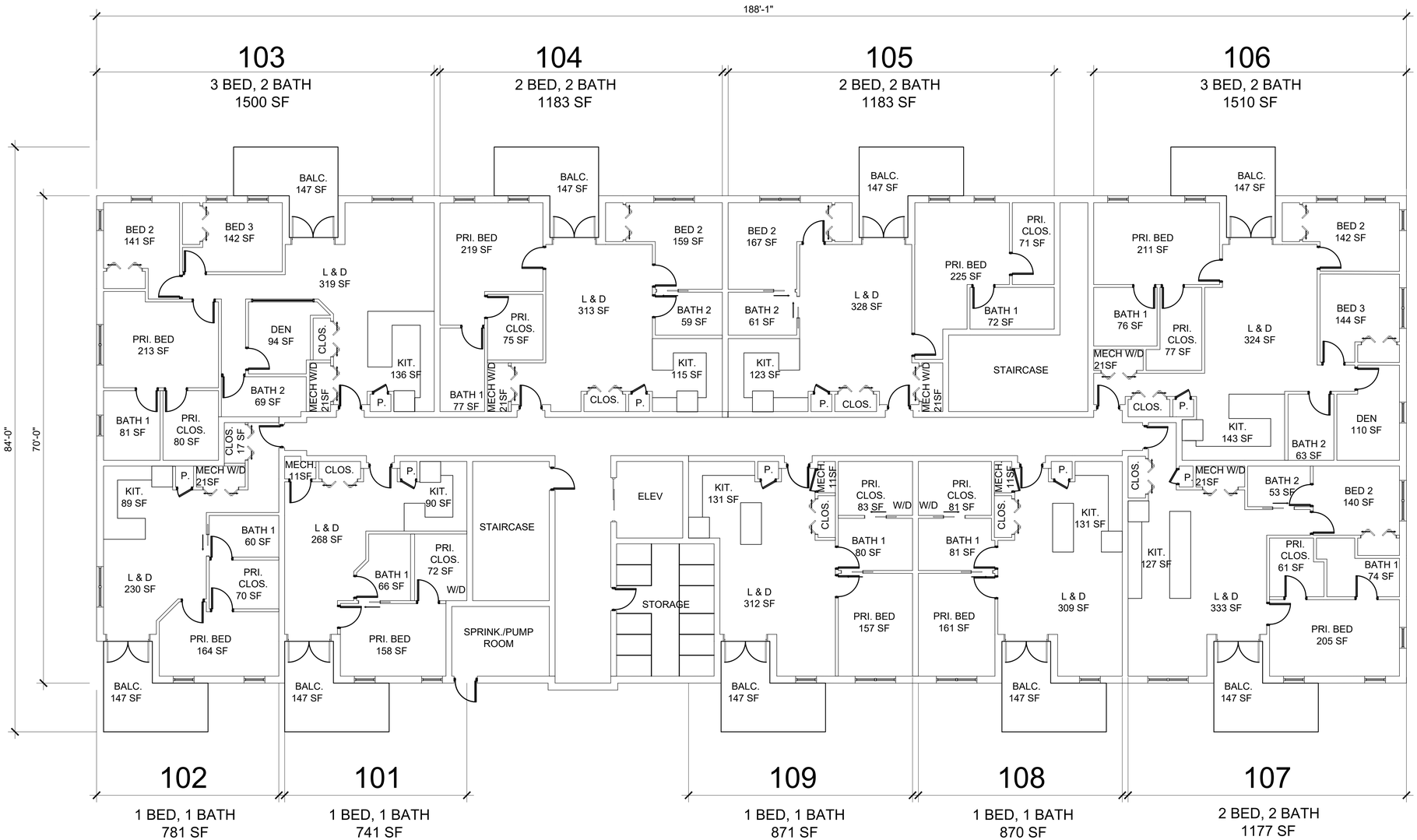
SHEET NO.: C-605.02

FOR REVIEW

Forest Conservation Worksheet 2.2 Revised Parcel 186

Net Tract Area								
A.	Total Tract Area						A =	33.00
B.	Deductions						B =	0.00
C.	Net Tract Area						C =	33.00
Land Use Category								
		Input the number "1" under the appropriate land use						
		zoning, and limit to only one entry						
	ARA	MDR	IDA	HDR	MPD	CIA		
	0	0	0	1	0	0		
D.	Afforestation Threshold (Net Tract Area x				15%	)	D =	4.95
E.	Conservation Threshold (Net Tract Area x				20%	)	E =	6.60
Existing Forest Cover								
F.	Existing Forest Cover within the Net Tract Area						F =	28.61
G.	Area of Forest Above Conservation Threshold						G =	22.01
Break Even Point								
H.	Break Even Point						H =	11.00
I.	Forest Clearing Permitted Without Mitigation						I =	17.61
Proposed Forest Clearing								
J.	Total Area of Forest to be Cleared						J =	7.05
K.	Total Area of Forest to be Retained						K =	21.57
Planting Requirements								
L.	Reforestation for Clearing Above the Conservation Threshold						L =	0.00
M.	Reforestation for Clearing Below the Conservation Threshold						M =	0.00
N.	Credit for Retention above the Conservation Threshold						N =	0.00
P.	Total Reforestation Required						P =	0.00
Q.	Total Afforestation Required						Q =	0.00
R.	Total Planting Requirement						R =	0.00
**PIL Calculation			Convert Planting Requirement to:			Sq. Ft.		0.00
			If Project is inside a Priority Funding Area:					0.00
			If Project is outside of a Priority Funding Area:					0.00

Forest Conservation Worksheet 2.2								
Net Tract Area								
A.	Total Tract Area						A =	28.78
B.	Deductions						B =	0.00
C.	Net Tract Area						C =	28.78
Land Use Category								
		Input the number "1" under the appropriate land use						
		zoning, and limit to only one entry						
	ARA	MDR	IDA	HDR	MPD	CIA		
	0	0	0	1	0	0		
D.	Afforestation Threshold (Net Tract Area x				15%	)	D =	4.32
E.	Conservation Threshold (Net Tract Area x				20%	)	E =	5.76
Existing Forest Cover								
F.	Existing Forest Cover within the Net Tract Area						F =	28.10
G.	Area of Forest Above Conservation Threshold						G =	22.34
Break Even Point								
H.	Break Even Point						H =	10.22
I.	Forest Clearing Permitted Without Mitigation						I =	17.88
Proposed Forest Clearing								
J.	Total Area of Forest to be Cleared						J =	8.61
K.	Total Area of Forest to be Retained						K =	19.49
Planting Requirements								
L.	Reforestation for Clearing Above the Conservation Threshold						L =	0.00
M.	Reforestation for Clearing Below the Conservation Threshold						M =	0.00
N.	Credit for Retention above the Conservation Threshold						N =	0.00
P.	Total Reforestation Required						P =	0.00
Q.	Total Afforestation Required						Q =	0.00
R.	Total Planting Requirement						R =	0.00
**PIL Calculation			Convert Planting Requirement to:			Sq. Ft.		0.00
			If Project is inside a Priority Funding Area:					0.00
			If Project is outside of a Priority Funding Area:					0.00



1 PROPOSED 1ST FLOOR PLAN

Scale: 1/8" = 1'-0"

PROPOSED FIRST FLOOR PLAN

ASPIRE APARTMENTS

MAP 26, GRID 20, PARCEL 186
TALBOT COUNTY
ASPIRE OUTDOORS LLC

RAUCH inc.
Engineering | Survey | Architecture | Environmental
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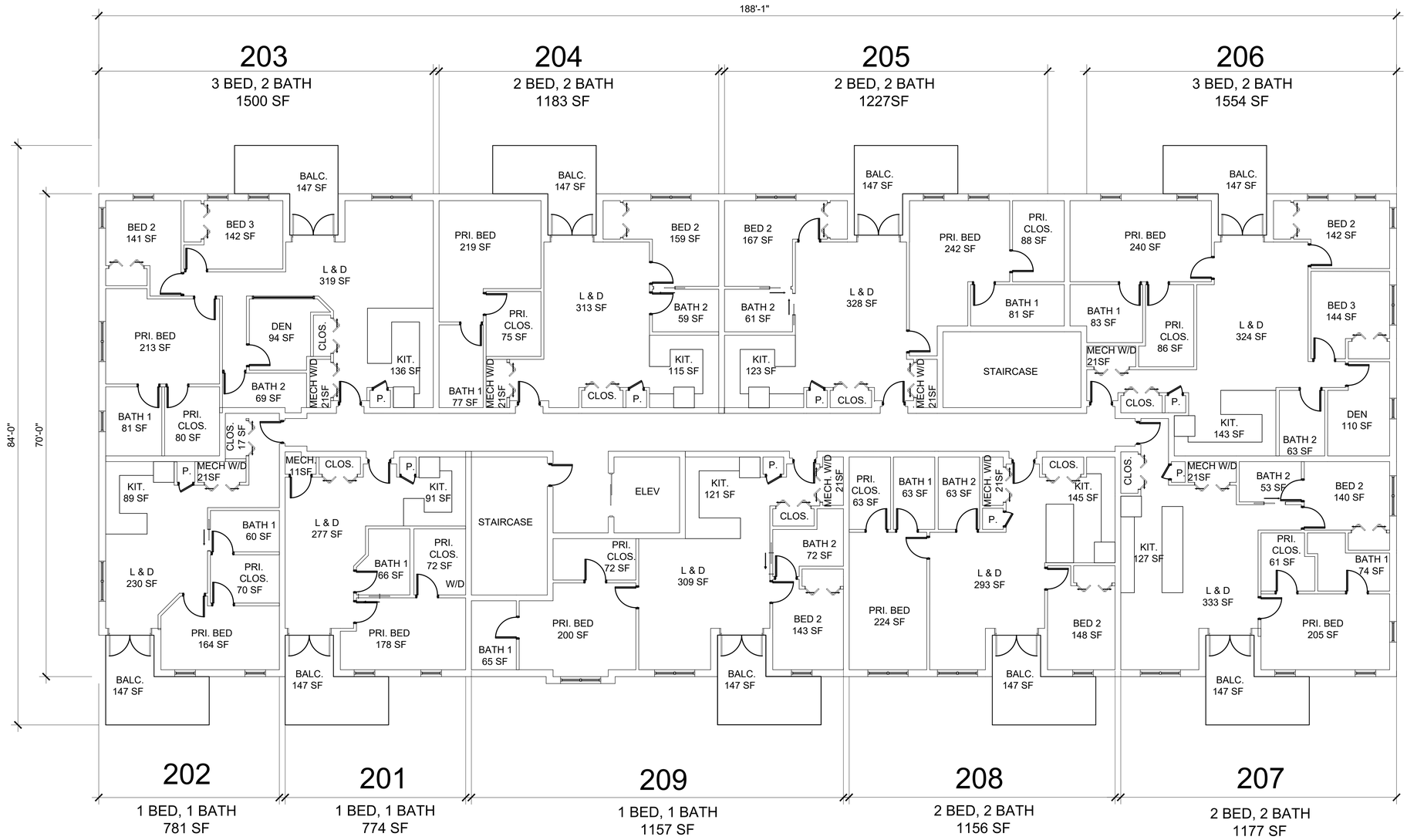

1 PROPOSED SECOND FLOOR PLAN

Scale: 1/8" = 1'-0"

PROPOSED SECOND FLOOR PLAN

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TALBOT COUNTY
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DESIGNED BY: KL, PR
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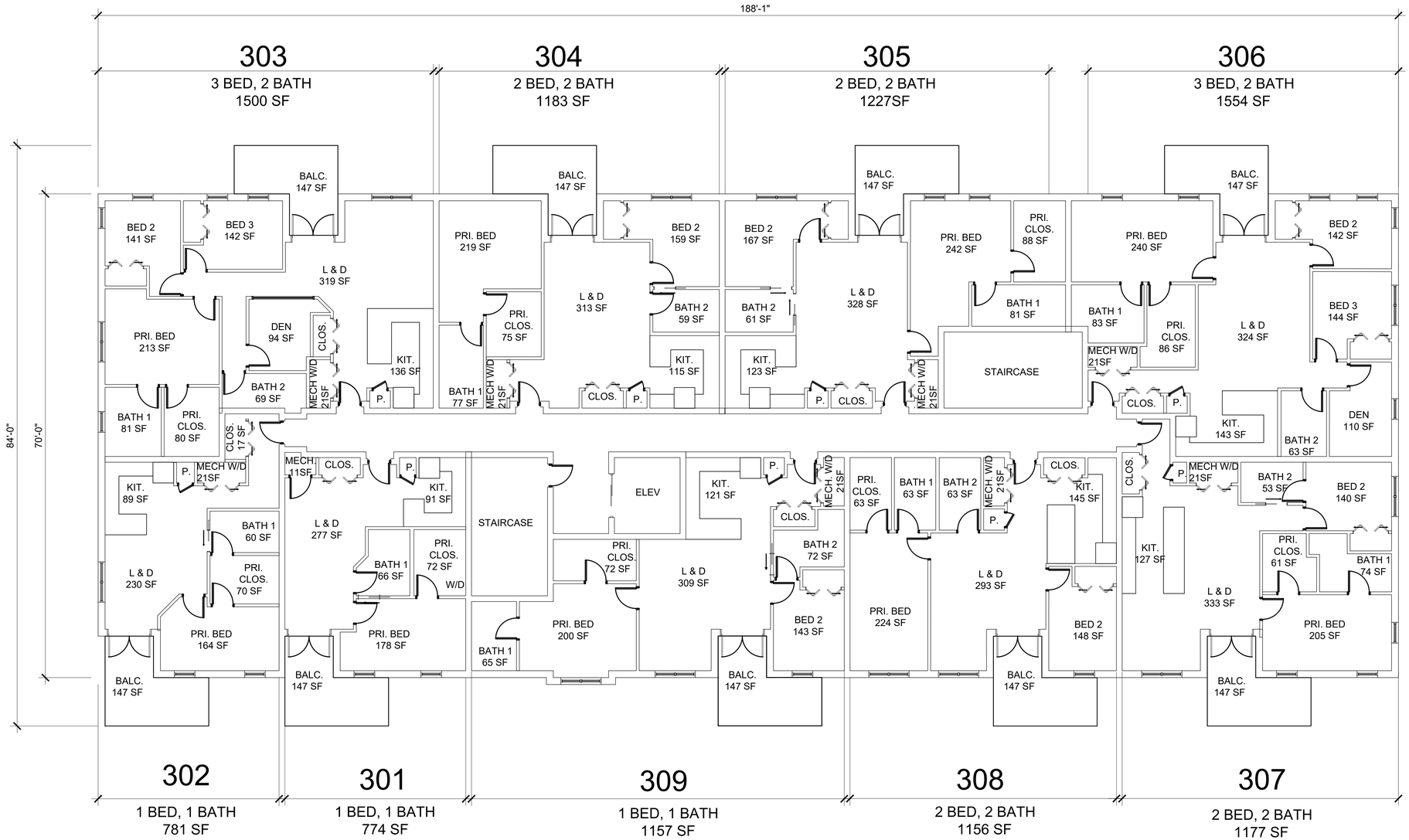

1 PROPOSED THIRD FLOOR PLAN

Scale: 1/8" = 1'-0"

PROPOSED THIRD FLOOR PLAN

ASPIRE APARTMENTS

MAP 26, GRID 20, PARCEL 186
TALBOT COUNTY
ASPIRE OUTDOORS LLC

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EXPIRATION DATE: 01/10/2024

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REV. #	DATE	DESCRIPTION

DATE: 12/07/2022
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DESIGNED BY: KL, PR
APPROVED BY:
SHEET NO.: A-103

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Rear Setback Variance Request:
75'-0" Required (Red line)
50'-0" Requested (Black line)

Red shaded parking and building areas are inside the 75'-0" setback

PROPOSED SITE PLAN NOTES

1. APARTMENT BUILDING
2. PROPERTY LINE
3. PROPOSED 5 FT CONCRETE SIDEWALK. SEE DETAIL ON SHEET C-305.01
4. HANDICAP RAMP. SEE DETAIL ON SHEET C-305.01
5. 8' WIDE A.D.A. ACCESS AISLE STRIPED PER A.D.A. STANDARDS
6. STANDARD CURB AND GUTTER. SEE DETAIL ON SHEET C-305.01
7. REFUSE BIN COLLECTION AREA WITH WOODEN FENCE
8. PICKET FENCE WITH GATE
9. 6" SDR-35 SEWER CONNECTION. SEE DETAIL ON SHEET C-505.01
10. 6" FIRE C-900 WATER LINE CONNECTION. SEE DETAIL ON SHEET C-505.01
11. 2" POTABLE SDR-9 HDPE PIPE WATER LINE. SEE DETAIL ON SHEET C-505.01
12. 6" PVC CLEANOUT
13. 6" PVC UNDERDRAIN
14. POOL HOUSE
15. POOL
16. SUBMERGED GRAVEL WETLAND - FOREBAY
17. SUBMERGED GRAVEL WETLAND - TREATMENT AREA
18. NEIGHBORHOOD CONNECTIVITY ROAD
19. LOT LINE REVISION

EXISTING FEATURES

1. ROAD
2. ROAD CENTERLINE
3. SIDEWALK
4. CURB AND GUTTER
5. FIRE HYDRANT
6. SURVEYED LOCATION OF EXISTING SEWER
7. SURVEYED LOCATION OF EXISTING WATER
8. SURVEYED PROPERTY LINES
9. 20' SETBACK - APARTMENT FROM ANY ADJOINING PROPERTY LINE
10. 20' FRONT YARD SETBACK LINE
11. **VARIANCE REQUEST:** 50' REAR YARD SETBACK LINE ADJACENT TO DETACHED SINGLE FAMILY RESIDENCE

N NAD 83

0 40' 80'

VARIANCE EXHIBIT#1 - REV.1

SITE PLAN

OF THE LANDS OF

ASPIRE APARTMENTS

TAX MAP: 0026, GRID: 0020, PARCEL: 0186
ELECTION DISTRICT 01, TALBOT COUNTY, MARYLAND
ASPIRE OUTDOORS, LLC

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Phone: 410 770 9081 | Fax: 410 770 3867

REVISIONS

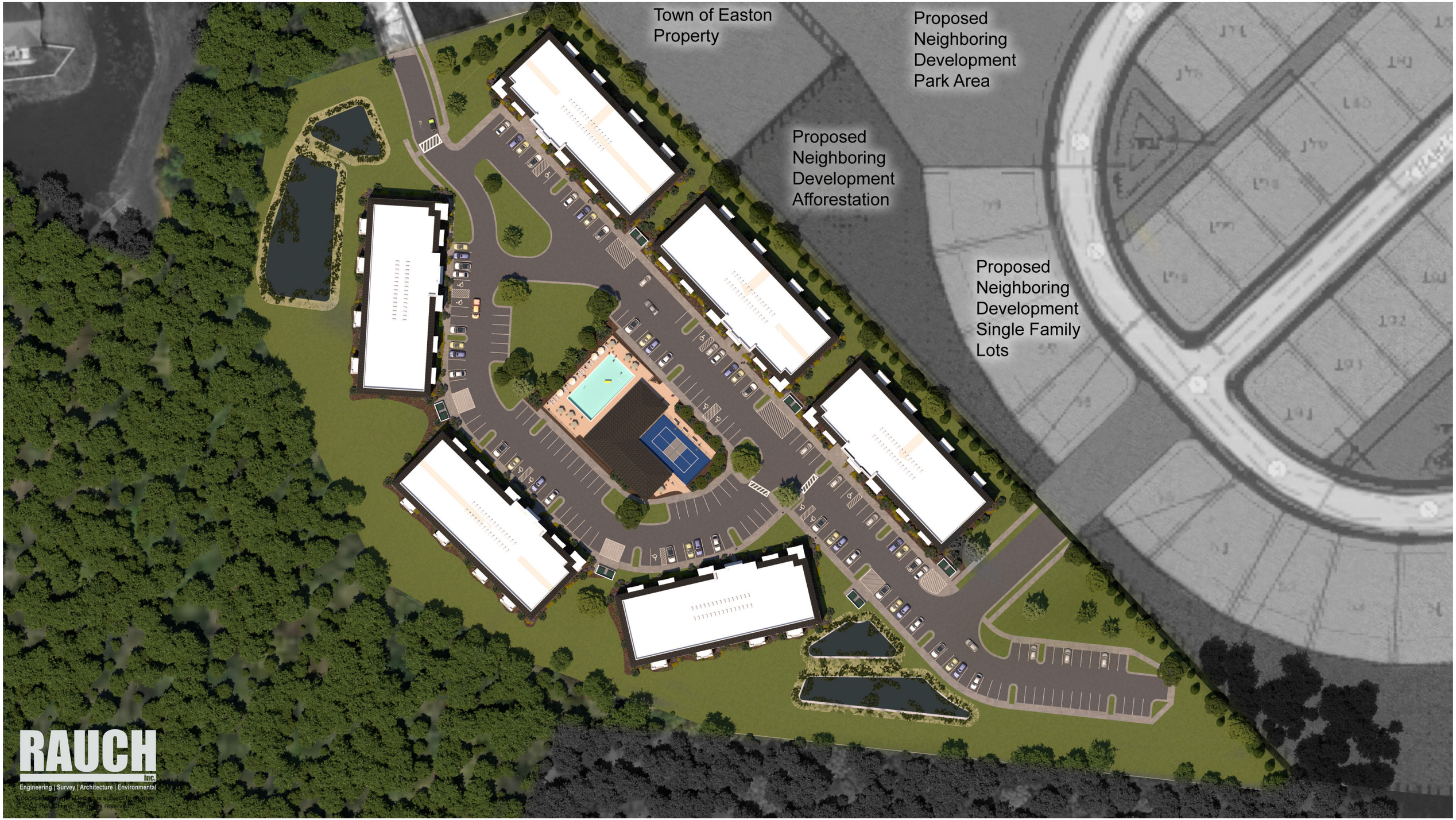
REV. #	DATE	DESCRIPTION
1	6/23/2023	REVISED TO CONNECT TO GANNON ESTATES
2	7/6/2023	GANNON PLAN (BY OTHERS) ADDED TO SHEETS

MISS UTILITY OF DELMARVA — CALL BEFORE YOU DIG — 811

DATE:	7/28/2023
SCALE:	1" = 40'
DRAWN BY:	BBF
DESIGNED BY:	BBF
APPROVED BY:	BBF

SHEET NO.: C-102

FOR REVIEW


Town of Easton Property
Proposed Neighboring Development Park Area
Proposed Neighboring Development Afforestation
Proposed Neighboring Development Single Family Lots
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Proposed
Neighboring
Development
Single Family Lots
Proposed
Neighboring Development
Afforestation
Proposed
Neighboring Development
Park Area
Town of Easton
Property
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Town of Easton
Property
Proposed Neighboring
Development Afforestation
Proposed
Neighboring Development
Park Area
Proposed
Neighboring
Development
Single Family Lots
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1 FRONT ELEVATION RENDERING

Scale: 1/8" = 1'-0"

2 FRONT PERSPECTIVE RENDERING

NOT TO SCALE

ELEVATIONS

ASPIRE APARTMENTS

MAP 26, GRID 20, PARCEL 186
TALBOT COUNTY
ASPIRE OUTDOORS LLC

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Maryland Office: 108 N. Washington St. | Easton, MD 21601

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REV. #	DATE	DESCRIPTION

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SCALE: AS SHOWN

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DESIGNED BY: KL, PR

APPROVED BY:

SHEET NO.:

A-201

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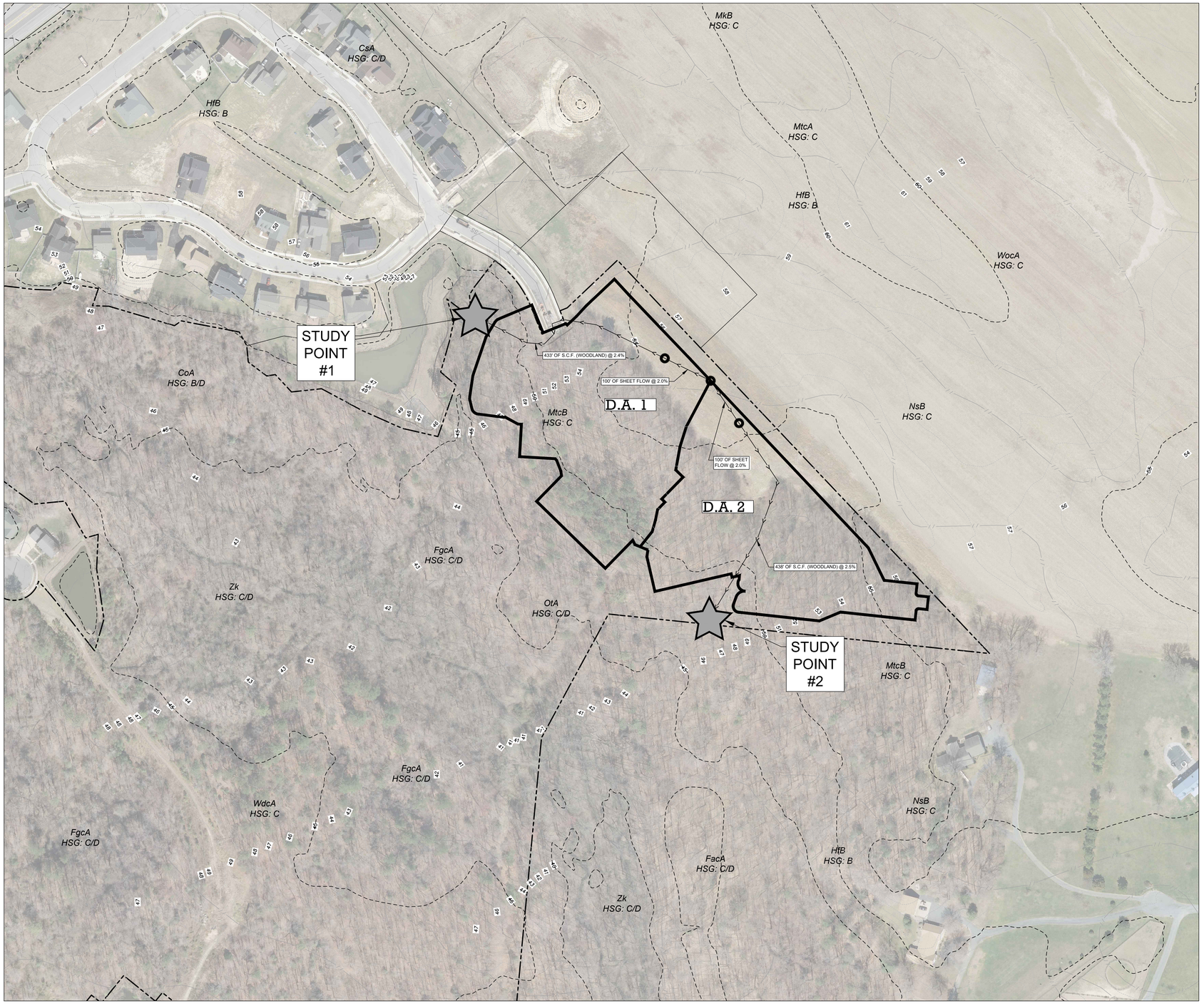

LEGEND

- DRAINAGE AREA
- FLOW PATH
- REACH
- SOIL BOUNDARY
- TIME OF CONCENTRATION METHOD DIVIDER
- REACH DIVIDER

0 100' 200'

EXISTING STORMWATER QUANTITY ANALYSIS MAP

OF THE LANDS OF

ASPIRE - APARTMENTS

TAX MAP 26, GRID 20, PARCEL 186

FIRST ELECTION DISTRICT, TALBOT COUNTY, MARYLAND

PREPARED FOR ASPIRE OUTDOORS LLC

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Phone: 410 770 9081 | Fax: 410 770 5087

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, 2024

12/1/2022

REVISIONS

REV. #	DATE	DESCRIPTION
1	7/26/2023	REVISED PER TOWN COMMENTS

MISS UTILITY OF DELMARVA — 811

DATE:	
SCALE:	1" = 100'
DRAWN BY:	BBF
DESIGNED BY:	BBF
APPROVED BY:	BBF

SHEET NO.:
SWM-QA-EX-1

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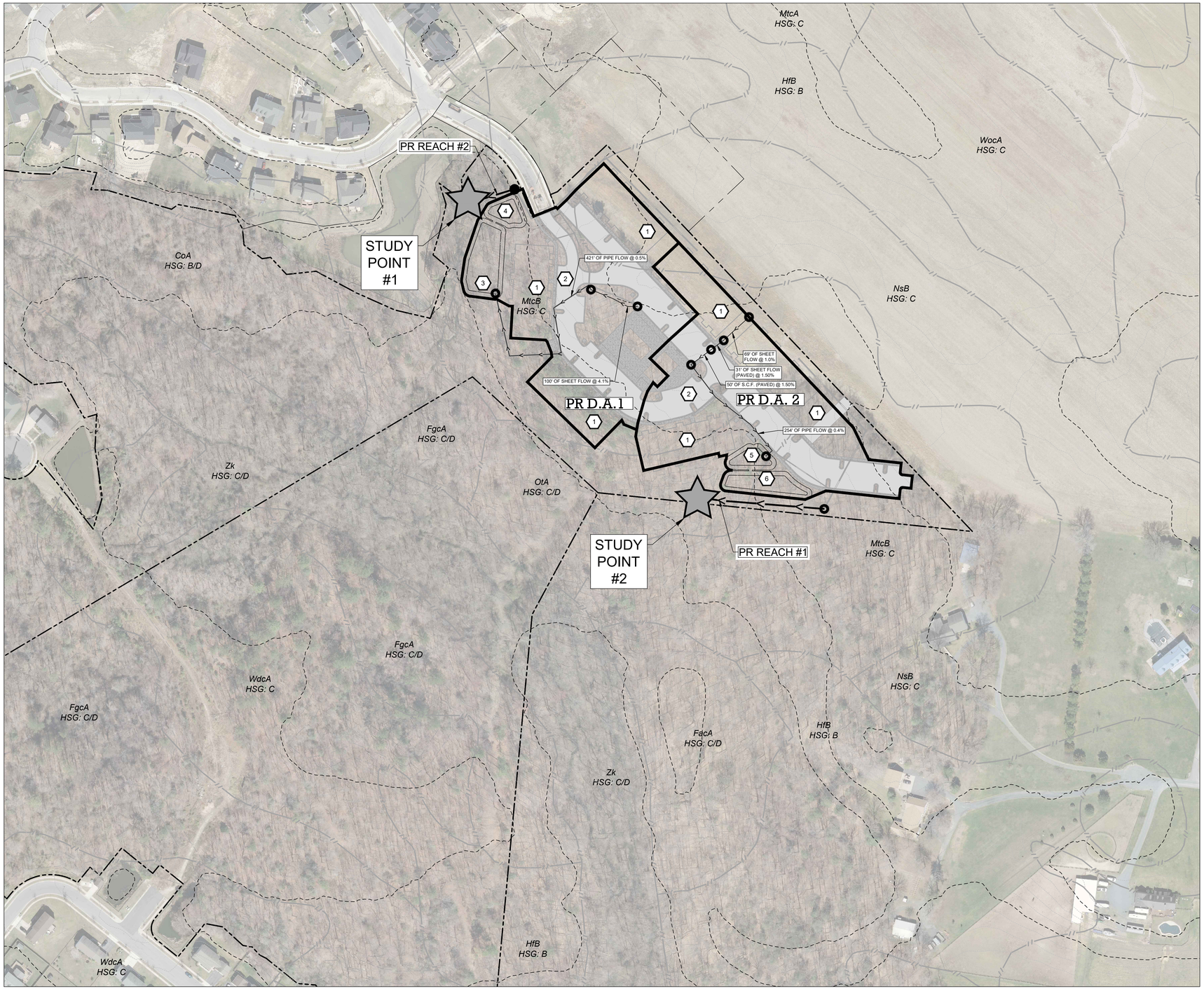

PROPOSED SITE FEATURES

1. APARTMENT BUILDING
2. ASPHALT ROAD
3. FOREBAY #1
4. SUBMERGED GRAVEL WETLANDS #1
5. FOREBAY #2
6. SUBMERGED GRAVEL WETLANDS #2

LEGEND

- DRAINAGE AREA
- FLOW PATH
- REACH
- SOIL BOUNDARY
- TIME OF CONCENTRATION METHOD DIVIDER
- REACH DIVIDER

STORM EVENT	2-YEAR (cfs)	10-YEAR (cfs)	100-YEAR (cfs)
EXISTING SP-1	4.6	10.86	19.23
PROPOSED SP-1	0.29	1.59	18.79
SP-1 CHANGE	**-4.31**	**-9.27**	**-0.44**
EXISTING SP-2	4.16	9.57	16.76
PROPOSED SP-2	1.98	5.19	14.05
SP-2 CHANGE	**-2.18**	**-4.38**	**-2.71**

TOTAL CHANGE	**-6.49**	**-13.65**	**-3.15**

0 100' 200'

PROPOSED STORMWATER QUANTITY ANALYSIS

OF THE LANDS OF

ASPIRE - APARTMENTS

TAX MAP 26, GRID 20, PARCEL 186

FIRST ELECTION DISTRICT, TALBOT COUNTY, MARYLAND

PREPARED FOR ASPIRE OUTDOORS LLC

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Phone: 410 770 9081 | Fax: 410 770 3967

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, 2024

12/1/2022

REVISIONS

REV. #	DATE	DESCRIPTION
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MISS UTILITY OF DELMARVA — CALL BEFORE YOU DIG!

811

DATE:	
SCALE:	1" = 100'
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APPROVED BY:	BBF

SHEET NO.:
SWM-QA-PR-1

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FOREST STAND DELINEATION AND NATURAL RESOURCES INVENTORY

Aspire Outdoors LLC
Town of Easton, Talbot County, Maryland

October 2022

Prepared For:
Aspire Outdoors LLC
29760 Standish Street
Easton, MD 21601

Prepared By:
RAUCH inc.
106 North Harrison Street
Easton, MD 21601

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1.0 INTRODUCTION 3
2.0 GENERAL SITE DESCRIPTION 4
3.0 METHODOLOGY 4
4.0 RESULTS 6

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1.0 INTRODUCTION

This Natural Resource Inventory (NRI), Forest Stand Delineation, and specimen survey of trees 30-inches in diameter and larger has been prepared for Aspire Outdoors, LLC to characterize existing forest cover for an environmental study. This study is intended to assess and aid in preliminary site plan development for the overall project site known as Aspire Outdoors. The overall project site comprises of two separate parcels identified as Parcel 186 and Parcel 112, totaling 65.695 acres. The subject parcels are documented on file as 50.225 acres (Parcel 186) and 15.47 acres (Parcel 112), and are located within the Town of Easton, Talbot County, Maryland. Forest stands were delineated according to guidelines within the *Maryland State Forest Conservation Technical Manual,* Third Edition, 1997, Maryland Department of Natural Resources, hereafter referred to as the State Manual, as well as Talbot County's and the Town of Easton's, Forest Stand Delineation criteria.

The Maryland Forest Conservation Act was passed by the General Assembly in 1991 and subsequently amended in 1993, 1994, and 2009 (*Maryland State Bill 666, Natural Resources, No Net Loss of Forest Policy, Forest Conservation Act*) to conserve the State's forest resources during development. The Act requires identification of existing forest stands, protection of the most desirable forest stands, and establishment of areas where new forests can be planted. The Act and regulations require that any person submitting application for subdivision, grading, or sediment and erosion control permits on units of land 40,000 square feet (0.92 acres) or greater shall submit a forest stand delineation (FSD) and forest conservation plan (FCP). These must be approved by the county or municipal government, a locally adopted forest conservation program, or the Maryland Department of Natural Resources (DNR) where no local program is in effect before other development related approvals are given.

The purpose of the FSD is to provide a tool to be used during the preliminary plan and review process to determine the most suitable and practical areas for forest conservation. Using a combination of resource mapping and field methods of ecology, it inventories and describes existing forests, and locates priority areas for retention, reforestation, or afforestation on the site as required. The FSD becomes the methodology for evaluating the existing natural features and vegetation on a site proposed for development taking into account the environmental elements that shape or influence the structure or makeup of a plant community. An approved FSD is valid for five (5) years in most Maryland Counties and two (2) years in others. To remain valid thereafter, it shall be updated and re-approved every five or two years (Environmental Division Natural Resources Program Manager dependent in this case) unless it becomes part of an approved FCP, and then subsequently acted upon through the land development process.

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2.0 GENERAL SITE DESCRIPTION

The Aspire Outdoors LLC property is located within the Mid-Atlantic Coastal Plain (U.S. Department of Agriculture, Natural Resource Conservation Service, MLRA 153C of LRR T). Both parcels are more or less bounded by the Matthewstown Run residential neighborhoods. Parcel 186 is bordered to the North by the Hunter's Mill residential neighborhood. The portions of Matthewstown Run to the southwest of Parcels 112 and 186 pre-date the portions of Matthewstown Run that are located to the northwest.

Historically, the area was characterized by a mix of agricultural and forest fallow, which is evident in the forest stands located on the subject property. Some areas of the property have been left to reforest through ecological succession, while most other areas are upland mixed hardwood stands that have been selectively cut. Evidence of this is shown through logging trails on aerial imagery and presence of three or more tree layers have become established within the canopy.

First order (headwaters) and second order streams are located on the Subject Property and divide the property flowing into the named tributary, Hosewells Branch. Hosewells Branch, confluent to Kings Creek, flows East and ultimately into the Choptank River which is located to the Southeast of the property. Wetlands are contained within the sites boundaries, which have been identified as palustrine forested (PFO). Vernal pools can be found adjacent to the stream towards the southern extent of the property as the water tables rise and, the majority of which reside in forested and stream corridor areas.

The exact project area will be determined by the Limit of Disturbance (LOD), which has been defined in the forest conservation map. Generally, the project area will be focused on upland habitat and areas of previous timber harvesting activities, minimizing impacts to priority forests.

3.0 METHODOLOGY

The current State Manual requires that an FSD be performed to characterize and quantify existing forest resources, identify forest cover in the net tract area, and identify those areas of forest with priorities for retention. In addition to a general vegetation survey and identification of specimen trees (trees of 30-inches in diameter and trees within 75% of a current champion), the Manual requires the use of formal vegetation sampling techniques.

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Our study protocol involves the delineation of all existing forest stands within the property boundaries. The forest stands are based on composition, density, size, condition, and age of the stand. The dominant, co-dominant, and associate tree species for each stand are identified and tabulated to indicate their relative frequencies and average tree diameter class and to provide descriptions of each tree stand including the identification of understory and herbaceous species. This information is utilized to isolate stands of higher quality vegetation (i.e. old growth forests, unique forest stands, contiguous forest, etc.) and any individual specimen trees, groves or clusters that should be considered for potential preservation in the planning and development process.

A forest stand or type can be characterized by studying the results of variable plot sampling (a statistical survey method, typically averaging 80-feet across in pole stocked or larger timber). Variable point sampling refers to a method in which sample trees are located with a probability proportional to their basal areas, (i.e. larger trees with larger basal areas have higher probabilities of selection than smaller trees). Basal area is defined as a measurement of the cross-sectional area of a tree trunk at breast height. Basal area of a forest stand is the sum of the basal areas of the individual trees. Furthermore, since basal area is highly correlated with tree volume, variable point sampling is an efficient method for estimating frequency of occurrence, volume, and/or economic value. Using a 10-factor wedge prism for sampling, it can be shown that each tree selected within the variable plot represents 10 square feet of basal area per acre, hence the term 10-factor point sample.

Sample point locations within each vegetation type are randomly selected (minimum of one per every four-acres of homogenous forest type and a minimum of two per stand). At each sample point location, trees that fall within the sample area are tallied and measured. This data is used to estimate the number of trees per acre, per each one-inch diameter class. In addition, the condition of the overstory trees in each vegetation type is evaluated and the understory and ground cover species identified.

Information included in the sample point data includes:

- Percent canopy closure and tree species observed including relative dominance,
- Percent and species of shrubs,
- Percent and species of forest floor covered by herbaceous plants,
- Percent of forest floor covered by downed woody debris,
- The presence or absence of exotic or invasive species.

A study of various aerial photography is also conducted to determine ground forest conditions and to make a preliminary determination of vegetation types occurring on the site. These

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vegetation types are then ground-authenticated to verify composition, extent, and ecological importance.

Both within and between the sample plots, specimen trees and trees associated with historic structures are identified and located on the plan. Plan species which are listed as threatened, endangered, or in need of conservation are also identified.
Interpretation of the field data allows us to make judgements as to the forest composition, structure, condition, function, retention potential, and management recommendations for each stand. The FSD map is prepared and includes the natural resources inventory, steep slopes, wetlands, buffer setbacks, and other natural features and constraints required by the Manual or State/County government. The NRI/FSD maps are enclosed at the end of this report. Completed data sheets and a forest stand summary are also included the Appendix.

4.0 RESULTS

This NRI/FSD and tree survey has been prepared for the Aspire Outdoors LLC development to characterize the approximate 65.70-acre Subject Property. This consisted of approximately 56.41-acres of forested area and surrounding specimen trees across the entirety of the woodlands. Forestry fieldwork was performed in 2022 on March 28th , April 1st, & October 28th.

Mesic Mixed Hardwoods

The Mesic Mixed Hardwood stand totals 12.38-acres and is generally the upland stand. These stands are depicted in the map as Stand 1, provided in the attached Forest Stand Delineation Map. The dominant indicator species of these stands is Red Maple. There is an estimated 160.9 trees per acres, having an average diameter of 10.5-inches, and a basal area of 108.3 feet2 per acre. This basal area falls within the range of fully stocked stands (100-129 feet2 per acre), meaning treesare spaced enough to prevent competition, yet closely enough to utilize the entire site.

Red Maple trees are estimated to be found at 64.4 trees per acre. Red Maple trees have an average diameter of 10-inches, and a frequency of occurrence of 40%. The stand is estimated to be 45 years old, placing the time of the most recent influential perturbation around 1977. This coincides with aerial imagery from 1981 that showed timbering activities occurring in this area (Northern portion) of the site. Co-dominate and Associate species found across the data stations include Northern Red Oak, White Oak, Willow Oak, and Loblolly Pine. The understory was comprised of American Beech, American Holly, Black Cherry, Red Maple. The groundcover species included partridge berry, crowsfoot, and lowbush blueberry. The understory was relatively low and open which is probably due to the significance of American Beech in the understory.

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Riparian Hardwood Corridor

The Riparian Hardwood Corridor is 46.03 acres in size and located along the bottomlands including the floodplain along streams and vernal pools found on the property. This forest type can be identified as Stand 2 in the Forest Stand Delineation Map. They are dominated by White Oak species (Willow Oak, Swamp Chestnut, etc.) with co-dominate species including Red Maple. The forest stand is relatively diverse with most of the sampling points having 4-5 tree species over 6" DBH and up to 7 in FSP-13.

The Riparian Hardwood Corridor has an estimated 136.2 trees per acre, with an average diameter of 11.7-inches, and a basal area of 118.8 feet2 per acre. Basal areas ranging from 100-129 are described as also being fully stocked. Canopy closure was found to be 70-75%, which correlates with well stocked forests, and further supports the results found by basal area analysis. White Oaks were calculated to occur at 16.4 trees per acre, with an average diameter of 14.4-inches, and frequency of occurrence of 12%. A stand summary of these results is provided in the Appendix. The stand is approximately 72 years old, and is likely the result of an agricultural field that was laid fallow due to poor soils. Due to frequent flooding and proximity to wetlands, most of the specimen trees found on the property were located within this forest stand. A visual of this stand is also provided in the Forest Stand Delineation Map. It should be noted that due to a tornado that went over the property, there is an increase of downed woody debris within the wetland areas that disturbed much of the larger trees.

Specimen Trees

A specimen tree is defined as any tree having a diameter at breast height of 30-inches or greater. A total of 12 specimen trees were identified throughout the Aspire Outdoors LLC property, with diameters ranging up to 44-inches. Species included White Oak, Willow Oak, Swamp Chestnut Oak, Red Maple, and Loblolly Pine. Heights and tree crowns ranged from 35-80 feet and 50-75 feet, respectively. The vast majority of specimen trees were rated to be in "Good" condition.

MD office | 106 N. Harrison St – Easton, MD 21601
email: design@raucheng.com | web: www.raucheng.com
phone: 410.770.9081 | fax: 410.770.3667

Rare, Threatened, and Endangered Species

An environmental review request for the 65.70-acre planned development was submitted to the Maryland Department of Natural Resources (DNR), Wildlife and Heritage Service, and a response was obtained from Lori Byrne, Environmental Review Coordinator, dated June 17th, 2022 shown in the Appendix. DNR has determined that the southernmost portion of the project site overlaps with the site known as Swann-Haven Ponds which consists of a series of vernal pools which should be avoided to all extents. Among the animals listed in the review, a state listed endangered species known as the Seth Forest Water Scavenger Beetle (*Hydrochus spangleri*), occurs in this type of habitat. She goes on to encourage the applicant to consider a minimum 100-foot undisturbed buffer (ideally, 300-foot undisturbed buffer) from the wetland edge to this region of the project. If development is planned for the southern area, the Natural Heritage Program would be willing to provide conservation guidelines. Fortunately, it appears that this area will not be impacted.

All woodlands at Aspire Outdoors are proposed to be retained, except for 8.10-acres of highly selective clearing, necessary for road infrastructure and stormwater outfalls are proposed. Any impacts to wetlands/waters, will be permitted through ACOE and MDE. We understand that FWS guidance includes avoidance and minimization of tree clearing, establishing a buffer setback from tree lines as and where possible, and that retained woodlands be protected through some form of easement.

The DNR environmental review also mentioned that some of the forested land at Aspire Outdoors may be considered forest interior dwelling (FID) bird habitat.

The definition of FID habitat is:

- forest at least 50-acres in size with 10 or more acres of “forest interior” habitat, containing forest buffering of 300-feet to the nearest forest edge
- riparian forest with perennial stream, at least 50-acres in size, with a total average width of at least 300-feet

The determination of FID habitat does not consider political boundaries, and may include off-site woodlands that reach into the subject property, where a portion of the subject property contributes to the overall size qualification as being FID habitat. Aspire Outdoors has no control over abutting adjacent land and landowners regarding retention of woodlands considered as being FID habitat, but the applicant has done their due diligence to maintain as much of the contiguous forests as can be avoided.

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As previously mentioned, almost all priority woodlands at Aspire Outdoors LLC are proposed to be retained, except necessary improvements to make the project feasible and meet all required comments from local agencies (i.e. Soil Conservation and State Highway Administration). The specific proposed road crossings are essential to gain access to developable land and have gone through the scrutiny of best avoiding and minimizing both forest and wetlands/waters impacts.

5.0 CONCLUSIONS AND RECOMMENDATIONS

Approximately 46.03 acres of the Riparian Hardwood Corridor forests were found in the subject property. This stand contains R4 intermittent and R2 perennial stream channels within the middle of the property. All streams require a 100-foot protection buffer setback from the top of each bank landward. The majority of the specimen trees and wetlands within the scope of the development reside within these setbacks or in the floodplain, which is favorable and will result in minimal impacts to these areas.

The Mature Mixed Hardwood stands consist of approximately 12.38 acres. This stand encompasses most of the proposed development within the scope of the project, which coincides with the upland areas. Using aerial imagery from USGS and sampling data, it appears that this stand was previously timbered in the late 1970s through early 1980s and would be a good candidate for development.

The overwhelming majority of the Riparian Hardwood Corridor stand at Aspire Outdoors LLC includes highly erodible soils, wetlands, streams, and floodplain. This stand should be left as a buffer to any potential habitats that may exist. The Town of Easton states in their regulations that subdivision and site development plans should make all reasonable attempts to preserve specimen trees, small groves, hedgerows, or other existing tree stands. It is recommended that impacts to existing forests are minimized to the greatest extent possible. This can be achieved by limiting clearing activities in the interior forest, and in circumstances where impacts cannot be avoided, drafting site designs that place lots along the forest edges.

In conclusion, all the woodlands considered priority retention forest include forest cover within buffer setbacks for wetlands and waters, the majority being located in the riparian hardwood corridors. Forest sampling data shows these areas to be associated with wetlands and waters. Impacts to these areas should be avoided.

Questions or comments regarding this NRI/FSD can be directed to RAUCH inc. at 410-770-9081.

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APPENDIX

MD office | 106 N. Harrison St – Easton, MD 21601
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Aspire Outdoors Forest Stand Summary Analysis

Stand Number or ID	*Aerial Extent in Acres*	*Estimated Trees Per Acre*	*Average Diameter (d.b.h.)*	*Basal Area Per Acre* [2]	*Stand Formation Type*	*Dominant Indicator Species*	*Dominant Species Per Acre*	*Dominant Species Mean d.b.h*	*Dominant % Frequency of Occurrence*	*Approximate Age of The Stand* [3]
MMH	12.38	160.9	10.5”	Fully Stocked	Mesic Mixed Hardwoods	Red Maple	64.4	10”	40%	45 / 1977
RHC	46.03	136.2	11.7”	Fully Stocked	Riparian Hardwood Corridor	White Oak spp.	16.4	14.4”	12%	72 / 1950

1. A forest association is an assemblage of plants having ecologically similar requirements and include one or more dominant species from which it derives a definite character. The Aspire Outdoors property occurs in the major forest group, the Mesic Mixed Hardwood Forest (Mid-Atlantic). This forest is typically found on well-drained soils with sloping gradients. It is characteristically a mixed forest dominated by Northern Red Oaks, White Oak, Red Maple, and Tulip Poplar in various proportions. Overstory associates include Oak spp. (Red & White), Red Maple, and Loblolly Pine, with a mix of American Beech and American Holly being particularly characteristic and abundant throughout the understory. This forest type occurs throughout Maryland and east of the fall line; located on the Lower Atlantic Coastal Plain Province, *Vegetation Map of Maryland, The Existing Natural Forests, 1976, G.S. Brush, C. Lenk, S. Smith*. The Aspire Outdoors Property is located within this formation type and will express Mixed Oak hardwood community through ecological time.

2. Basal area is a measurement of the cross-section of a tree in square feet at breast height. Basal area (BA) of a forest stand is the sum of the basal areas of the individual trees and is reported as BA per acre. The BA value shown in this Forest Analysis equates to a stocking which is a general description of the density of the forest stand as compared to the desirable density for best growth and management. Stands may be described as understocked; a stand of trees so widely spaced that, even with full growth potential realized, crown closure will not occur, well stocked; the situation in which a forest stand contains trees spaced widely enough to prevent competition, yet closely enough to utilize the entire site, and overstocked; the trees are so closely spaced that they are competing for resources, resulting in less than full growth potential for individual trees. Basal area per acre values are analyzed as non-stocked = 0 to 9, poorly stocked = 10 to 59, moderately stocked = 60 to 99, fully stocked = 100 to 129, and overstocked = 130 to 160. *Forestry Handbook, K.F. Wenger, 1984, pg. 318-321*. There is a correlation between stand density and canopy closure, typically recognized as understocked, under 40% crown closure, well stocked, 40-70% crown closure, overstocked, over 70% crown closure. *Essentials of Forestry Practice, C.H. Stoddard, 1968,* page 53.

3. Age dating methodology – *Valuation of Landscape Trees, Shrubs and other Plants. A Guide to the Methods and Procedures for Appraising Amenity Plants, International Society of Arboriculture, Seventh Edition, 1988,* pages 33, 34, increment boring or cutting and counting of growth rings. Stand age of the dominant overstory represents the time since the last, most influencing perturbation, such as release from agriculture, highgrading (selective harvest) etc.

Project Name:	**Aspire Outdoors LLC**
Stand # :	Mesic Mixed Hardwoods
Number of Point Samples:	6
Field Crew:	Kowalczyk, O'Neal
Date:	10.31.22

Point Sample Inventory Calculation Data Sheet, ESA, Inc.
Elementary Timber Measurements, H.V. Wiant
WVU Division of Forestry, 1990, pgs. 74-81

DBH	FACTOR	BAF TOTALS	TREES PER AC	DOM SP BAF TOTALS	DOM SP T/A	TREES/AC *MDBH	DOM SP T/A*MDBH
1	1833.52	0	0.0	0	0.0	0	0
2	458.38	0	0.0	0	0.0	0	0
3	203.72	0	0.0	0	0.0	0	0
4	114.6	0	0.0	0	0.0	0	0
5	73.34	1	12.2	0	0.0	61.11666667	0
6	50.93	1	8.5	1	8.5	50.93	50.93
7	37.42	4	24.9	2	12.5	174.6266667	87.31333333
8	28.65	2	9.6	2	9.6	76.4	76.4
9	22.64	4	15.1	0	0.0	135.84	0
10	18.34	4	12.2	2	6.1	122.2666667	61.13333333
11	15.15	4	10.1	1	2.5	111.1	27.775
12	12.74	12	25.5	7	14.9	305.76	178.36
13	10.85	8	14.5	2	3.6	188.0666667	47.01666667
14	9.35	0	0.0	0	0.0	0	0
15	8.15	9	12.2	0	0.0	183.375	0
16	7.16	6	7.2	4	4.8	114.56	76.37333333
17	6.34	5	5.3	1	1.1	89.81666667	17.96333333
18	5.66	1	0.9	1	0.9	16.98	16.98
19	5.08	1	0.8	0	0.0	16.08666667	0
20	4.58	1	0.8	0	0.0	15.26666667	0
21	4.16	0	0.0	0	0.0	0	0
22	3.79	0	0.0	0	0.0	0	0
23	3.47	1	0.6	0	0.0	13.30166667	0
24	3.18	1	0.5	0	0.0	12.72	0
25	2.93	0	0.0	0	0.0	0	0
26	2.71	0	0.0	0	0.0	0	0
27	2.52	0	0.0	0	0.0	0	0
28	2.34	0	0.0	0	0.0	0	0
29	2.18	0	0.0	0	0.0	0	0
30	2.04	0	0.0	0	0.0	0	0
31	1.91	0	0.0	0	0.0	0	0
32	1.79	0	0.0	0	0.0	0	0
33	1.68	0	0.0	0	0.0	0	0
34	1.586	0	0.0	0	0.0	0	0
35	1.496	0	0.0	0	0.0	0	0
36	1.414	0	0.0	0	0.0	0	0
37	1.339	0	0.0	0	0.0	0	0
38	1.269	0	0.0	0	0.0	0	0
39	1.205	0	0.0	0	0.0	0	0
40	1.145	0	0.0	0	0.0	0	0
		65	160.9	23	64.4	1688.213333	640.245

ESTIMATED TREES PER ACRE:	160.9
AVERAGE MEAN DIAMETER:	10.5
BASAL AREA PER ACRE:	108.3
DOMINANT SPECIES:	Red Maple
DOM SPEC TREES PER ACRE:	64.4
DOM SPEC AVG MEAN DIAMETER:	9.9
% FREQUENCY OF OCCURENCE:	40.0

Project Name:	**Aspire Outdoors LLC**	Point Sample Inventory Calculation Dat
Stand # :	Riparian Hardwood Corridor	Elementary Timber Measurement
Number of Point Samples:	8	WVU Division of Forestry, 1990,
Field Crew:	Kowalczyk, O'Neal	
Date:	10.31.22	

DBH	FACTOR	BAF TOTALS	TREES PER AC	DOM SP BAF TOTALS	DOM SP T/A
1	1833.52	0	0.0	0	0.0
2	458.38	0	0.0	0	0.0
3	203.72	0	0.0	0	0.0
4	114.6	0	0.0	0	0.0
5	73.34	0	0.0	0	0.0
6	50.93	0	0.0	0	0.0
7	37.42	6	28.1	0	0.0
8	28.65	4	14.3	1	3.6
9	22.64	6	17.0	0	0.0
10	18.34	3	6.9	0	0.0
11	15.15	5	9.5	0	0.0
12	12.74	10	15.9	2	3.2
13	10.85	7	9.5	1	1.4
14	9.35	2	2.3	0	0.0
15	8.15	7	7.1	2	2.0
16	7.16	9	8.1	2	1.8
17	6.34	4	3.2	2	1.6
18	5.66	3	2.1	1	0.7
19	5.08	5	3.2	0	0.0
20	4.58	2	1.1	0	0.0
21	4.16	3	1.6	1	0.5
22	3.79	3	1.4	1	0.5
23	3.47	1	0.4	1	0.4
24	3.18	2	0.8	0	0.0
25	2.93	2	0.7	1	0.4
26	2.71	2	0.7	0	0.0
27	2.52	3	0.9	0	0.0
28	2.34	2	0.6	0	0.0
29	2.18	0	0.0	0	0.0
30	2.04	0	0.0	0	0.0
31	1.91	0	0.0	0	0.0
32	1.79	0	0.0	0	0.0
33	1.68	2	0.4	1	0.2
34	1.586	0	0.0	0	0.0
35	1.496	0	0.0	0	0.0
36	1.414	0	0.0	0	0.0
37	1.339	1	0.2	0	0.0
38	1.269	0	0.0	0	0.0
39	1.205	1	0.2	1	0.2
40	1.145	0	0.0	0	0.0
		95	136.2	17	16.4

ESTIMATED TREES PER ACRE:	136.2
AVERAGE MEAN DIAMETER:	11.7
BASAL AREA PER ACRE:	118.8
DOMINANT SPECIES:	White Oaks
DOM SPEC TREES PER ACRE:	16.4
DOM SPEC AVG MEAN DIAMETER:	14.4
% FREQUENCY OF OCCURENCE:	12.0

June 17, 2022

Mr. Kyle A. Kowalczyk
Rauch Engineering, Inc.
106 N. Harrison Street
Easton, MD 21601

RE: Environmental Review for Aspire Outdoors, LLC - Proposed Mixed-Use Facility on Tax Map 35 Parcels 112 & 186 Town of Easton, Talbot County, Maryland.

Dear Mr. Kowalczyk:

The Wildlife and Heritage Service has determined that the southernmost part of the project site overlaps with the site known as Swann-Haven Ponds. Swann-Haven Ponds is a natural area encompassing vernal pools in a forested habitat. Fairy shrimp, marbled salamander larvae, and wood frog tadpoles are among the animals that inhabit the pool. The globally rare Seth Forest Water Scavenger Beetle (*Hydrochus spangleri*) – state-listed as endangered - is also found here. The vernal pools are surrounded by a mature mesic forest with red maple, sweetgum, white oak, willow oak, and tulip poplar.

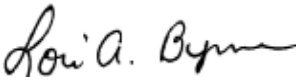
Vernal pools are defined as small, nontidal palustrine forested wetlands with a well-defined, discrete basin and the lack of a permanent, above ground outlet. The basin overlies a clay hardpan or some other impermeable soil or rock layer that impedes drainage. As the water table rises in fall and winter, the basin fills, forming a shallow pool. By spring, the pool typically reaches maximum depth following snowmelt and the onset of spring rains. By mid-late summer, the pool usually dries up completely, although some surface water may persist in relatively deep basins, especially in years with above average precipitation. This periodic, seasonal drying prevents fish populations from becoming established, an important biotic feature of vernal pools.

We would encourage the applicant to consider a minimum 100-foot undisturbed buffer (ideally, 300-foot undisturbed buffer) from the wetland edge, in order to avoid detrimental impacts to the rare species that may occur there.

Also, our remote analysis suggests that the forested area on this property contains Forest Interior Dwelling Bird habitat. Populations of many bird species which depend on this type of forested habitat are declining in Maryland and throughout the eastern United States. Interested landowners can contact us for further voluntary guidelines to help conserve this important habitat.

Please be sure to let us know if the limits of proposed disturbance or overall site boundaries change and we will provide you with an updated evaluation. Thank you for allowing us the opportunity to review this project. If you should have any further questions regarding this information, please contact me at lori.byrne@maryland.gov or at (410) 260-8573.

Sincerely,



Lori A. Byrne,
Environmental Review Coordinator
Wildlife and Heritage Service
MD Dept. of Natural Resources

ER# 2022.0550.ta
Cc: D. Limpert, DNR

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Chesapeake Bay Ecological Services Field Office
177 Admiral Cochrane Drive
Annapolis, MD 21401-7307
Phone: (410) 573-4599 Fax: (410) 266-9127
http://www.fws.gov/chesapeakebay/
http://www.fws.gov/chesapeakebay/endsppweb/ProjectReview/Index.html

In Reply Refer To: March 31, 2022
Project Code: 2022-0026583
Project Name: Aspire Outdoors LLC

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see https://www.fws.gov/birds/policies-and-regulations.php.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of

this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Wetlands

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Chesapeake Bay Ecological Services Field Office
177 Admiral Cochrane Drive
Annapolis, MD 21401-7307
(410) 573-4599

Project Summary

Project Code:	2022-0026583
Event Code:	None
Project Name:	Aspire Outdoors LLC
Project Type:	Mixed-Use Construction
Project Description:	Proposed mixed-use development on two adjacent parcels totalling approximately 63 AC of woodlands. The developer would like provide housing and recreational activities to underpriveleged communities located in Talbot County within the Town limits of Easton, MD. Project is anticipated to begin Spring 2024.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@38.783641599999996,-76.0408974369104,14z

Counties: Talbot County, Maryland

Endangered Species Act Species

There is a total of 1 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 1 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Insects

NAME	STATUS
Monarch Butterfly *Danaus plexippus*	Candidate

No critical habitat has been designated for this species.
This species only needs to be considered under the following conditions:

- The monarch is a candidate species and not yet listed or proposed for listing. There are generally no section 7 requirements for candidate species (FAQ found here: https://www.fws.gov/savethemonarch/FAQ-Section7.html).

Species profile: https://ecos.fws.gov/ecp/species/9743

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

Wetlands

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

WETLAND INFORMATION WAS NOT AVAILABLE WHEN THIS SPECIES LIST WAS GENERATED. PLEASE VISIT HTTPS://WWW.FWS.GOV/WETLANDS/DATA/MAPPER.HTML OR CONTACT THE FIELD OFFICE FOR FURTHER INFORMATION.

IPaC User Contact Information

Agency: Rauch Inc.
Name: Tyler O'Neal
Address: 106 N. Harrison St.
City: Easton
State: MD
Zip: 21601
Email tyler@raucheng.com
Phone: 3022334501

SITE ANALYSIS		
Feature	Yes	No
Forest On-Site	X	
Contiguous Forest	X	
Priority Forest	X	
Wetlands	X	
Streams	X	
Floodplains	X	
Hydric Soils	X	
Slopes > 15%		X
Historical or Cultural Features		X
Trees >30" DBH	X	
State Champion Trees		X
Easement or ROW Restrictions	X	
Existing Structures		X
Rare, Threatened or Endangered Flora		X
Rare, Threatened or Endangered Fauna	X	
Forest Interior Dwelling Species	X	

LEGEND

- PROPERTY LINE
- EXISTING TREELINE
- WdcA — EXISTING SOIL TYPE LINE
- EXISTING NON-TIDAL WETLANDS
- EXISTING WETLANDS BUFFER
- EXISTING STREAM
- EXISTING STREAM BUFFER
- ST1 — DENOTES SPECIMEN TREE
- 1 — FOREST STAND 1
- 2 — FOREST STAND 2 (PRIORITY)
- FSP-1 — DENOTES FOREST SAMPLING POINT

SOILS TYPE

CoA - CORSICA MUCKY LOAM, 0 TO 2 PERCENT SLOPES	B/D
FgcA - FALLSINGTON LOAMS, 0 TO 2 PERCENT SLOPES	C/D
MtcB - MATTAPEX SILT LOAM, 2 TO 5 PERCENT SLOPES	C
NsB - NASSAWANGO SILT LOAM, 2 TO 5 PERCENT SLOPES	C
OtA - OTHELLO SILT LOAMS, 0 TO 2 PERCENT SLOPES	C/D
WdcA - WOODSTOWN SANDY LOAM, 0 TO 2 PERCENT SLOPES	C
WdcB - WOODSTOWN SANDY LOAM, 2 TO 5 PERCENT SLOPES	C
Zk - ZEKIAH SILT LOAM, FREQUENTLY FLOODED	C/D

AREA CALCULATIONS

TOTAL ACREAGE	38.70 AC.
TOTAL EXISTING FOREST	33.35 AC.
FOREST STAND 1	6.60 AC.
FOREST STAND 2 (PRIORITY)	26.75 AC.

SPECIMEN TREES

NO.	SPECIES	DBH (")	CONDITION	DISPOSITION
1	White Oak	38.8	FAIR	SAVE
2	White Oak	33.8	GOOD	SAVE
3	White Oak	38.2	GOOD	SAVE
4	White Oak	44	POOR	SAVE
5	White Oak	36.5	GOOD	SAVE
6	White Oak	30.3	GOOD	SAVE
7	White Oak	36	GOOD	SAVE
8	White Oak	30.1	FAIR	SAVE
9	Willow Oak	32	GOOD	SAVE
10	Swamp Chestnut Oak	33.2	GOOD	SAVE
11	Red Maple	36.9	GOOD	SAVE
12	Loblolly Pine	32.9	GOOD	SAVE

NOTE: CHRIS PAJAK OF MDE'S NON-TIDAL WETLAND DIVISION PREVIOUSLY CONFIRMED WETLAND DELINEATION ON 5/5/2021. ADJACENT PROPERTY LINES, SOIL MAPPING, AND EXISTING TREE LINE ARE ALL TAKEN FROM PUBLIC SOURCES.

FOREST STAND 2 SHOULD BE RETAINED AS BEST CAN BEING PRIORITY FOREST WITH SENSITIVE ENVIRONMENTAL FEATURES. ANY DISTURBANCES TO NON-TIDAL WETLANDS OR ASSOCIATED BUFFERS WILL REQUIRE ADDITIONAL PERMITTING THROUGH MDE.

FOREST STAND DELINEATION MAP

ON THE LANDS OF

ASPIRE OUTDOORS, LLC

TAX MAP 28 GRID 20 PARCEL 186

ELECTION DISTRICT 1, TALBOT COUNTY, MARYLAND

FSD/FCP DRAWINGS FOR ASPIRE OUTDOORS, LLC

RAUCH inc
engineering design & development services
office: 410.770.9551 | fax: 410.770.3667
email: design@raucheng.com | web: www.raucheng.com
Maryland Office: 106 N. Harrison St. - Easton, MD 21601
Virginia Office: 6229 Boone Blvd., Suite 625 - Vienna, VA 22182

SEAL

DATE

REVISIONS

REV. #	DATE	DESCRIPTION

DATE: OCTOBER 2022

JOB NUMBER: 030320

SCALE: 1" = 200'

DRAWN BY: TPO

DESIGNED BY: RAUCH INC.

APPROVED BY:

FOLDER REF:

SHEET NO.: 3 OF 4

FILE NO.:

RAUCH inc.
engineering design & development services

STORMWATER MANAGEMENT ANALYSIS
FOR
ASPIRE - APARTMENTS
PREPARED FOR
ASPIRE OUTDOORS LLC

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

27th OF JULY 2023

STATE OF MARYLAND
ROBERT D. RAUCH
11024
PROFESSIONAL ENGINEER

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.

7/27/2023
ROBERT D. RAUCH, LICENCE NO. 11024 DATE
EXPIRATION DATE 7/24/2024

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

PROJECT SUMMARY

The project is located in the town of Easton, off Matthewstown Road, and at the end of Camac Street. The property map is 26, grid 20, parcel 186, deed 2644/114, land use residential, and is zoned R10A. The Town of Easton needs housing and this project proposes the construction of an apartment complex to provide a high density solution to meet Town needs. The following report will show how stormwater management requirements for the project meet the 2000 Maryland Stormwater Manual Volumes I and II as currently updated. The report will also prove the post-construction site will reduce peak runoff of the 2-year and 10-year storm compared to the pre-construction site.

SITE – PRE-CONSTRUCTION CONDITIONS

The existing site contains existing non-tidal wetlands and a perennial stream located on the property. The existing site consists of mainly woods with some agricultural field which drain to the Southwest, into the woods where a perennial stream runs off site. residential areas. The study point selected for the analysis is downstream of the existing perennial stream that runs through the site. Two drainage areas were drawn with the estimated longest time of concentration to be used in the analysis. The drainage areas have C and D soils.

SITE – POST-CONSTRUCTION CONDITIONS

We are proposing converting the site into a 6-building apartment development with a community pool and clubhouse. Adjacent to the pool will be a community area located in the central portion of the site. The impervious is proposed to be treated by a Chapter 5 structural practice. The Chapter 5 ESD structural practice includes the use of two submerged gravel wetlands.

The analysis of postconstruction was performed using 2 proposed catchments all draining to a combination swales, forebays, and submerged gravel wetlands. The outfall of these facilities all reach study points downstream of the proposed treatment facilities. Times of concentration used in most drainage areas start with sheet flow, change to shallow concentrated flow, and either discharge into an inlet or swale/stream. Proposed conditions during the 2,10-, and 100-year storm events have been analyzed and show peak flows from the development during these storms are less than existing conditions peak flows at Study Point #1 and Study Point #2.

The study points will remain unchanged. The plans included with this report detail all drainage areas with times of concentration.

WATER QUALITY – ESDv

We are proposing to take credit for two submerged gravel wetlands as the Chapter 5 practices to meet the Site's ESDv requirement.

Both Submerged Gravel Wetlands will have the required pretreatment forebay. All inflow into the forebays will enter via a storm drain pipe or surface drainage prior to spilling into the Submerged Gravel Wetlands. The outfall of the forebays will be a 2'x7' stone weir and the outfall of the Submerged Gravel Wetlands will be a 2'x2' yard inlet.

Practice Summary:

Forebay to Submerged Gravel Wetlands #1

Sub-Catchment Area #PR-DA-1	146,601 Sf
Percent Impervious:	68%
Surface Area:	7,419 Sf
Ponding Depth:	2 Ft
Media Depth:	0 Ft

Submerged Gravel Wetland #1

Surface Area:	2,056 Sf
Ponding Depth:	2 Ft
Media Depth:	2 Ft

Forebay to Submerged Gravel Wetlands #2

Sub-Catchment Area #PR-DA-2	129,109 Sf
Percent Impervious:	73%
Surface Area:	2,004 Sf
Ponding Depth:	2 Ft
Media Depth:	0 Ft

Submerged Gravel Wetland #2

Surface Area:	4,027 Sf
Ponding Depth:	2 Ft
Media Depth:	2 Ft

Site Calculation Summary:

ESDv Required =	29,281 Cf
ESDv Provided =	42,325 Cf

***ESD To the MEP Met**

WATER QUANTITY

An effort has been made to bypass all off-site drainage from the existing neighboring agricultural field by capturing this flow in a grass swale and discharging prior to the existing wetlands via a storm drain pipe. On-site volume control is provided within both submerged gravel wetlands, and their forebay. The wetlands will have forebays to capture sediment prior to reaching the facility.

The Submerged Gravel Wetlands will discharge into a proposed “V” bottom swale prior to the non-tidal wetlands and would have treated the stormwater prior to discharging. The proposed Submerged Gravel Wetlands have a 2’x 2’ outfall structure with an orifice at an invert elevation 4” below the bed elevation. From the catch basin, a 12” outfall pipe will be directed to the “V” bottom swale which discharges to the Study Points.

STORM EVENT	2-YEAR (cfs)	10-YEAR (cfs)	100-YEAR (cfs)
EXISTING SP-1	4.6	10.86	19.23
PROPOSED SP-1	0.29	1.59	18.79
SP-1 CHANGE	**-4.31**	**-9.27**	**-0.44**
EXISTING SP-2	4.16	9.57	16.76
PROPOSED SP-2	1.98	5.19	14.05
SP-2 CHANGE	**-2.18**	**-4.38**	**-2.71**

TOTAL CHANGE	**-6.49**	**-13.65**	**-3.15**

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

Project Name:	**Aspire Apartments**
Date:	**23-Jun-23**

	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)

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 perfomed 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)	*50.225*
Existing SITE Impervious Area (acres or sq-ft)	*0*
SITE percent impervious	0%
Development Category (for ESD)	**New Development**

LOD Area, A (acres)	8.56
Existing LOD Impervious Surface Area (acres)	0.00
Proposed LOD Impervious Surface Area (acres)	4.50
Rainfall Depth, P (in)	1.0

Existing LOD Imperviousness, I_{pre}	0%
Proposed LOD Imperviousness, I_{post}	53%

Water Quality Calculation for Redevelopment Only

Required Treatment Area (acres)	0.000
Runoff Coefficient, Rv	0.95

Water Quality Volume, WQv (cf)	**0**

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

% Soil Type A	0%	RCN Soil Type A	70.56
% Soil Type B	0%	RCN Soil Type B	80.52
% Soil Type C	100%	RCN Soil Type C	87.04
% Soil Type D	0%	RCN Soil Type D	89.52

Target Pre-Developed Condition, RCN_{woods}	70.00000	Post-Developed Condition, RCN	87.04

Soil Type A ESD Rainfall Target, P_E (in)	0.00
Soil Type B ESD Rainfall Target, P_E (in)	0.00
Soil Type C ESD Rainfall Target, P_E (in)	1.80
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)	1.80
ESD Runoff Depth, Q_E (in)	0.94
ESD Runoff Volume, ESDv (cf)	**29,281**
Total Treatment Volume (cf)	**29,281**

Step 5: Select Nonstructural Practices to Treat the ESD Rainfall Target
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	275,710	42,325	17910	42,325	17,910

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

Drainage Area Treated (sf)	275,710

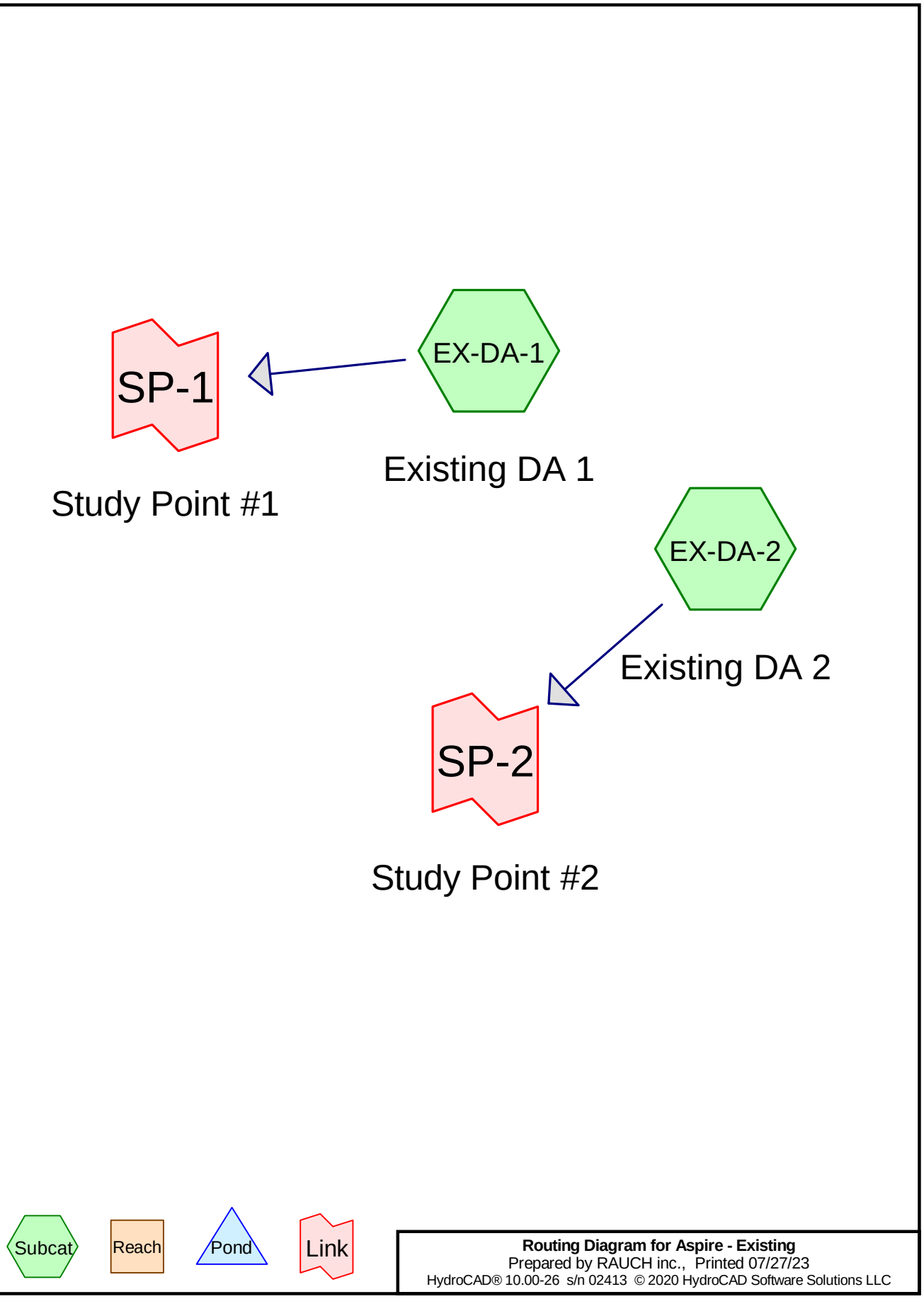
WQv or ESDv Treated (cf) using ESD practices	42,325
P_E achieved (inches)	2.60
Entire ESDv Treated Through ESD Practices?	**YES**
ESDv Remaining? (cf)	**0**
If ESDV is not fully treated, is ESD to MEP achieved?	**NO**
Redevelopment WQv Requirements Met Through ESD Practices?	**N/A**
WQv Remaining? (cf)	**0**
New Development WQv Requirements Met Through ESD Practices?	**YES**
WQv Remaining? (cf)	**0**

New Development Water Quality Volume Requirements

Required Treatment Area (acres)	8.56
Runoff Coefficient, Rv	0.52
Water Quality Volume, WQv (cf)	**16,267**

M-2

	Direct drainage				Indirect drainage										
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
Forebay to Submerged Gravel Wetland #1		68%	2.00				146,601	Bed Surface Area (sf)	Top of Ponding Surface Area (sf)	Ponding Depth (ft)	Media Depth (ft)			Submerged Gravel Wetlands	
	146,601	0.6636043	16214	21,889	0	0	21889	7,419	10,938	2	0	18,357	3,532	2	C/D
Submerged Gravel Wetland #1			1.00				146,601	Bed Surface Area (sf)	Top of Ponding Surface Area (sf)	Ponding Depth (ft)	Media Depth (ft)				
		0.05	0	0	146601	3532	3532	2,056	3,958	2	2	3,532	0		C/D
Forebay to Submerged Gravel Wetland #2		73%	2.00				129,109	Bed Surface Area (sf)	Top of Ponding Surface Area (sf)	Ponding Depth (ft)	Media Depth (ft)			Submerged Gravel Wetlands	
	129,109	0.7034757	15138	20,436	0	0	20436	2,004	4,054	2	0	6,058	14,378	4	C/D
Submerged Gravel Wetland #2			1.00				129,109	Bed Surface Area (sf)	Top of Ponding Surface Area (sf)	Ponding Depth (ft)	Media Depth (ft)				
		0.05	0	0	129109	14378	14378	4,027	7,506	2	2	14,378	0		C/D
Total	275,710			42,325		17,910						42,325	17,910		


SP-1
EX-DA-1
Existing DA 1
Study Point #1
EX-DA-2
Existing DA 2
SP-2
Study Point #2
Subcat
Reach
Pond
Link
Routing Diagram for Aspire - Existing
Prepared by RAUCH inc., Printed 07/27/23
HydroCAD® 10.00-26 s/n 02413 © 2020 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.107	85	Row crops, straight row, Good, HSG C (EX-DA-1, EX-DA-2)
4.664	70	Woods, Good, HSG C (EX-DA-1, EX-DA-2)
0.559	77	Woods, Good, HSG D (EX-DA-2)
6.330	**73**	**TOTAL AREA**

2-Year Existing Conditions Analysis

Time span=0.00-72.00 hrs, dt=0.03 hrs, 2401 points x 2
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 EX-DA-1: Existing DA 1 Runoff Area=148,969 sf 0.00% Impervious Runoff Depth=1.11"
Flow Length=533' Tc=7.7 min CN=73 Runoff=4.60 cfs 0.317 af

Subcatchment EX-DA-2: Existing DA 2 Runoff Area=126,747 sf 0.00% Impervious Runoff Depth=1.17"
Flow Length=538' Tc=7.7 min CN=74 Runoff=4.16 cfs 0.284 af

Link SP-1: Study Point #1 Inflow=4.60 cfs 0.317 af
Primary=4.60 cfs 0.317 af

Link SP-2: Study Point #2 Inflow=4.16 cfs 0.284 af
Primary=4.16 cfs 0.284 af

Total Runoff Area = 6.330 ac Runoff Volume = 0.601 af Average Runoff Depth = 1.14"
100.00% Pervious = 6.330 ac 0.00% Impervious = 0.000 ac

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

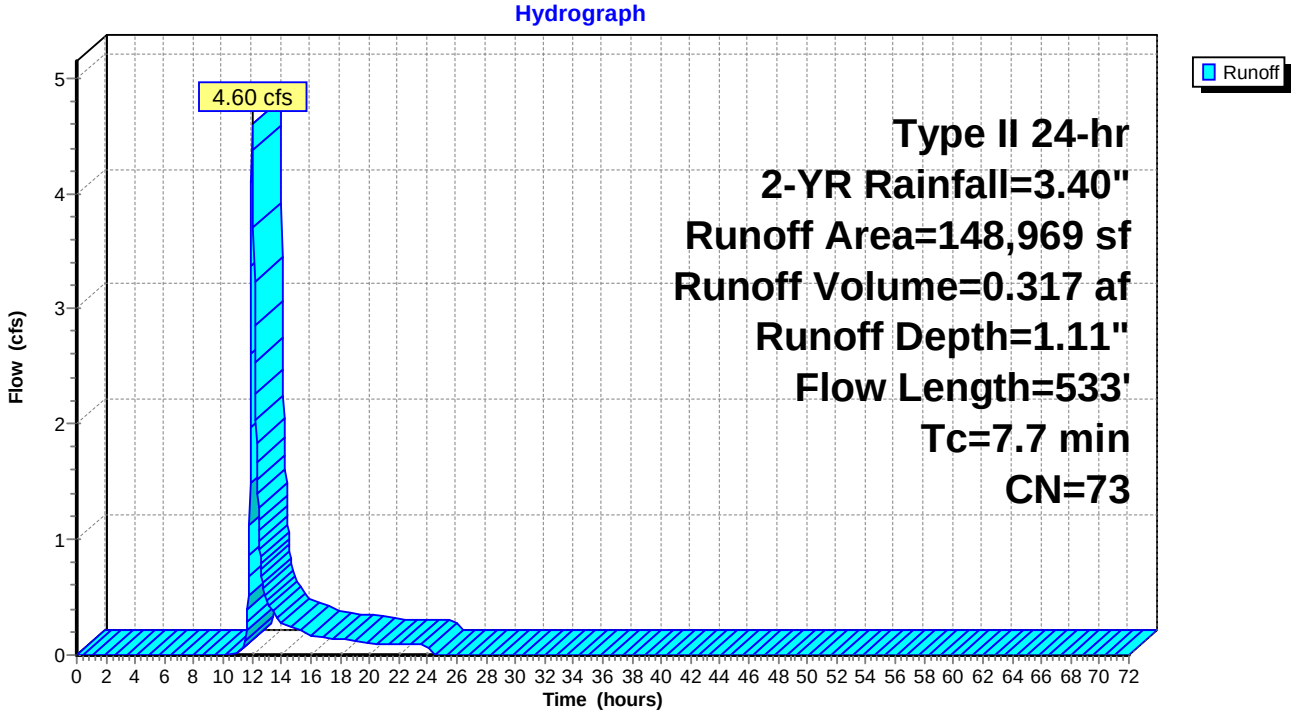
Runoff = 4.60 cfs @ 12.02 hrs, Volume= 0.317 af, Depth= 1.11"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.03 hrs
Type II 24-hr 2-YR Rainfall=3.40"

Area (sf)	CN	Description
25,140	85	Row crops, straight row, Good, HSG C
123,829	70	Woods, Good, HSG C
148,969	73	Weighted Average
148,969		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.6	100	0.0200	0.36		**Sheet Flow, Ag Field SF** Cultivated: Residue<=20% n= 0.060 P2= 3.40"
3.1	433	0.0240	2.32		**Shallow Concentrated Flow, Field and Woods** Grassed Waterway Kv= 15.0 fps
7.7	533	Total			

Subcatchment EX-DA-1: Existing DA 1



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

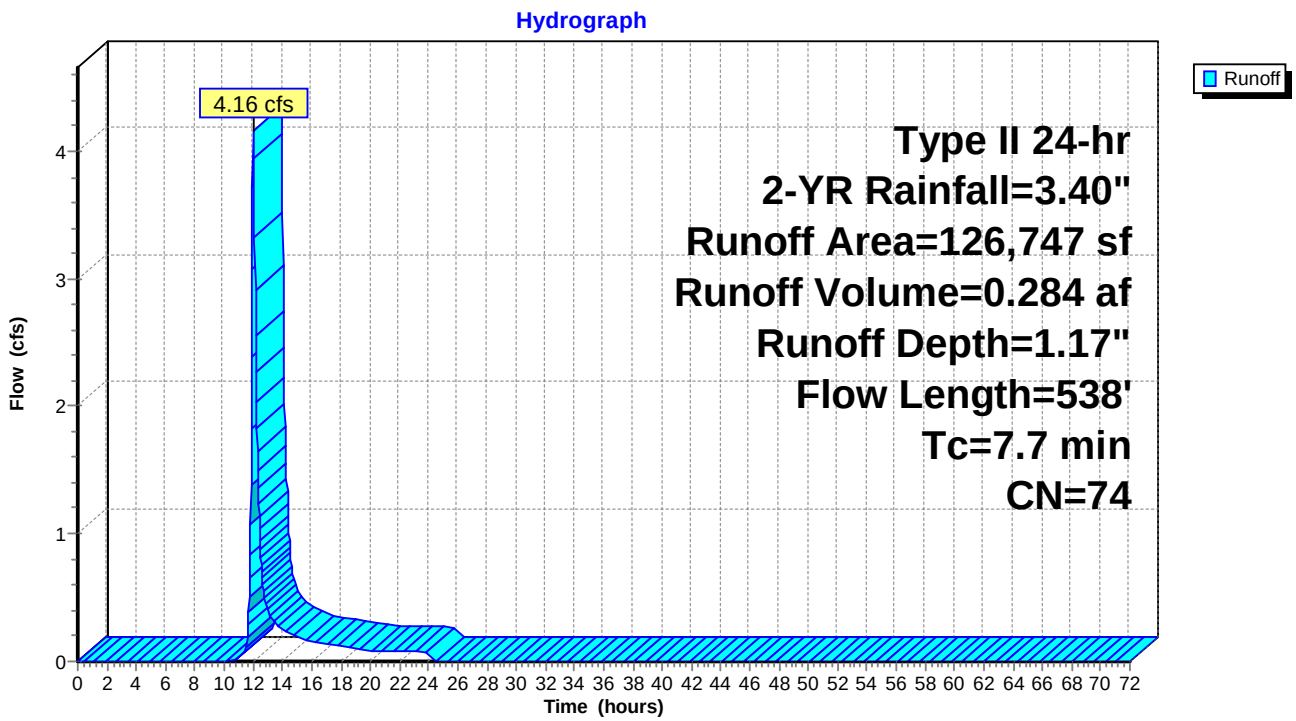
Runoff = 4.16 cfs @ 12.01 hrs, Volume= 0.284 af, Depth= 1.17"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.03 hrs
Type II 24-hr 2-YR Rainfall=3.40"

Area (sf)	CN	Description
23,082	85	Row crops, straight row, Good, HSG C
79,330	70	Woods, Good, HSG C
24,335	77	Woods, Good, HSG D
126,747	74	Weighted Average
126,747		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.6	100	0.0200	0.36		**Sheet Flow, Ag Field SF** Cultivated: Residue<=20% n= 0.060 P2= 3.40"
3.1	438	0.0250	2.37		**Shallow Concentrated Flow, Field and Woods** Grassed Waterway Kv= 15.0 fps
7.7	538	Total			

Subcatchment EX-DA-2: Existing DA 2

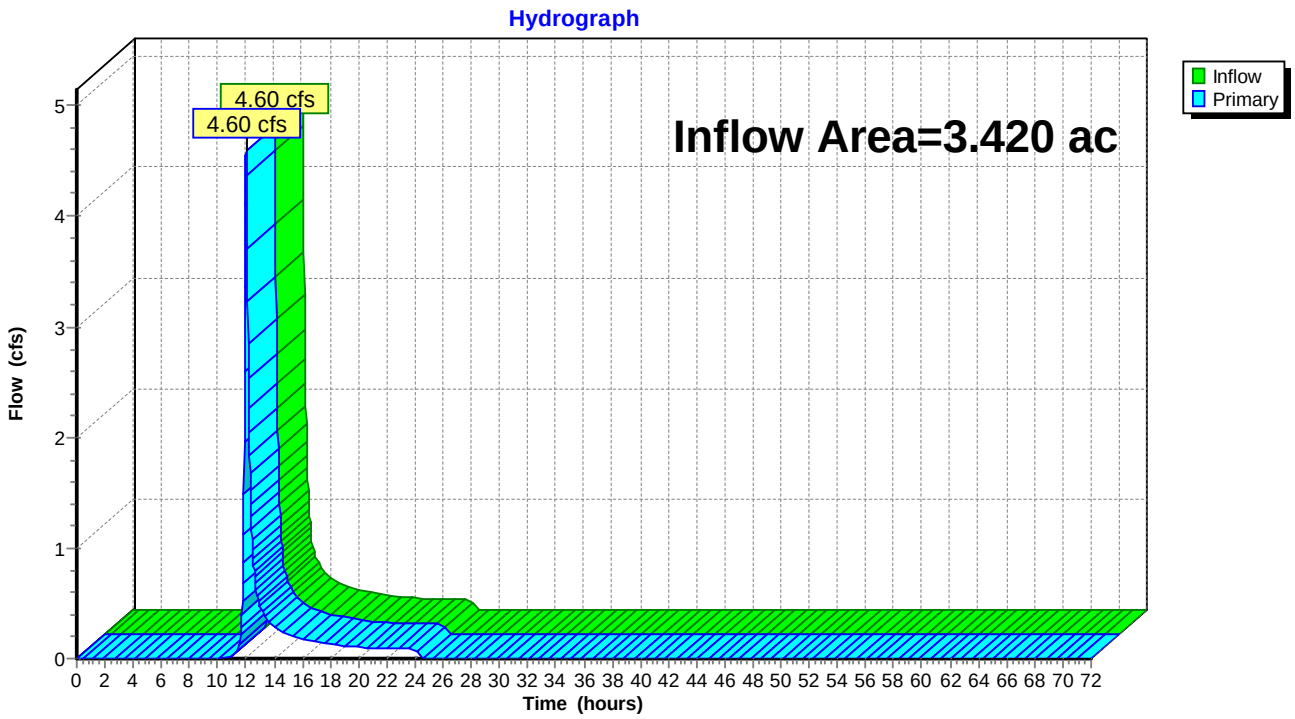


Summary for Link SP-1: Study Point #1

Inflow Area = 3.420 ac, 0.00% Impervious, Inflow Depth = 1.11" for 2-YR event
Inflow = 4.60 cfs @ 12.02 hrs, Volume= 0.317 af
Primary = 4.60 cfs @ 12.02 hrs, Volume= 0.317 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.03 hrs

Link SP-1: Study Point #1

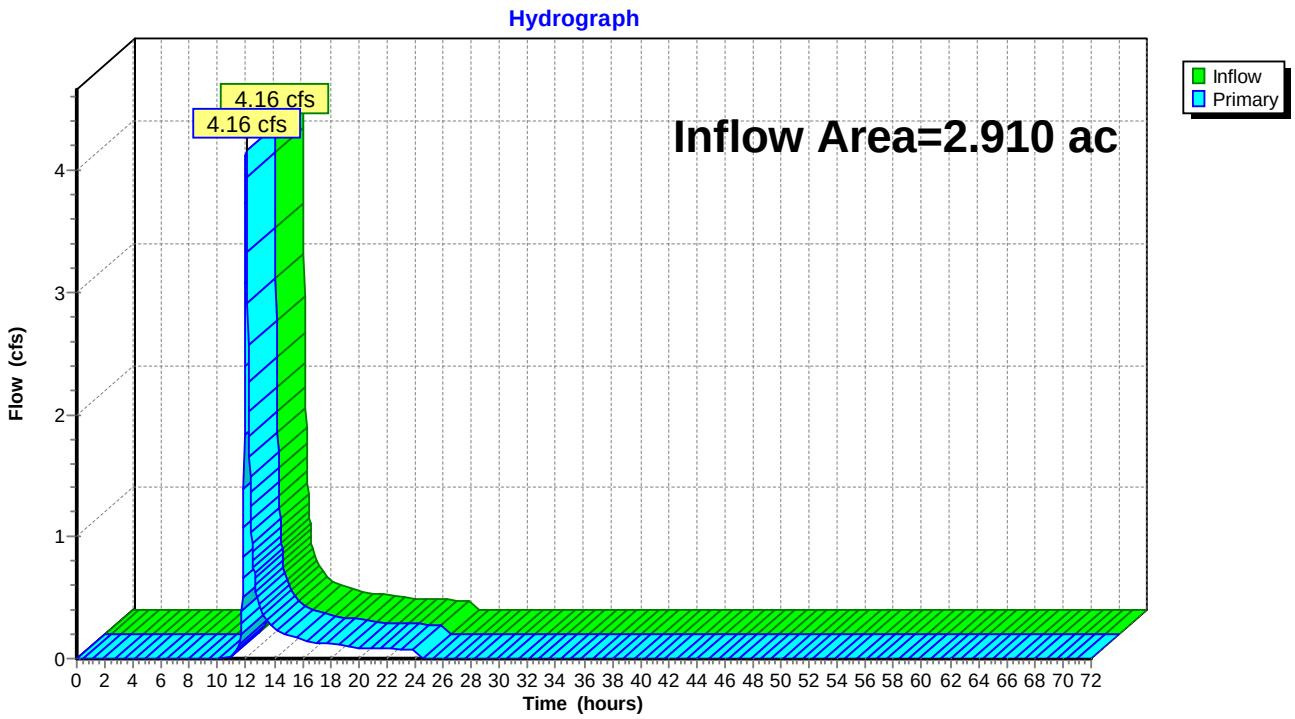


Summary for Link SP-2: Study Point #2

Inflow Area = 2.910 ac, 0.00% Impervious, Inflow Depth = 1.17" for 2-YR event
Inflow = 4.16 cfs @ 12.01 hrs, Volume= 0.284 af
Primary = 4.16 cfs @ 12.01 hrs, Volume= 0.284 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.03 hrs

Link SP-2: Study Point #2



10-Year Existing Conditions Analysis

Time span=0.00-72.00 hrs, dt=0.03 hrs, 2401 points x 2
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 EX-DA-1: Existing DA 1 Runoff Area=148,969 sf 0.00% Impervious Runoff Depth=2.52"
Flow Length=533' Tc=7.7 min CN=73 Runoff=10.86 cfs 0.718 af

Subcatchment EX-DA-2: Existing DA 2 Runoff Area=126,747 sf 0.00% Impervious Runoff Depth=2.61"
Flow Length=538' Tc=7.7 min CN=74 Runoff=9.57 cfs 0.632 af

Link SP-1: Study Point #1 Inflow=10.86 cfs 0.718 af
Primary=10.86 cfs 0.718 af

Link SP-2: Study Point #2 Inflow=9.57 cfs 0.632 af
Primary=9.57 cfs 0.632 af

Total Runoff Area = 6.330 ac Runoff Volume = 1.349 af Average Runoff Depth = 2.56"
100.00% Pervious = 6.330 ac 0.00% Impervious = 0.000 ac

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

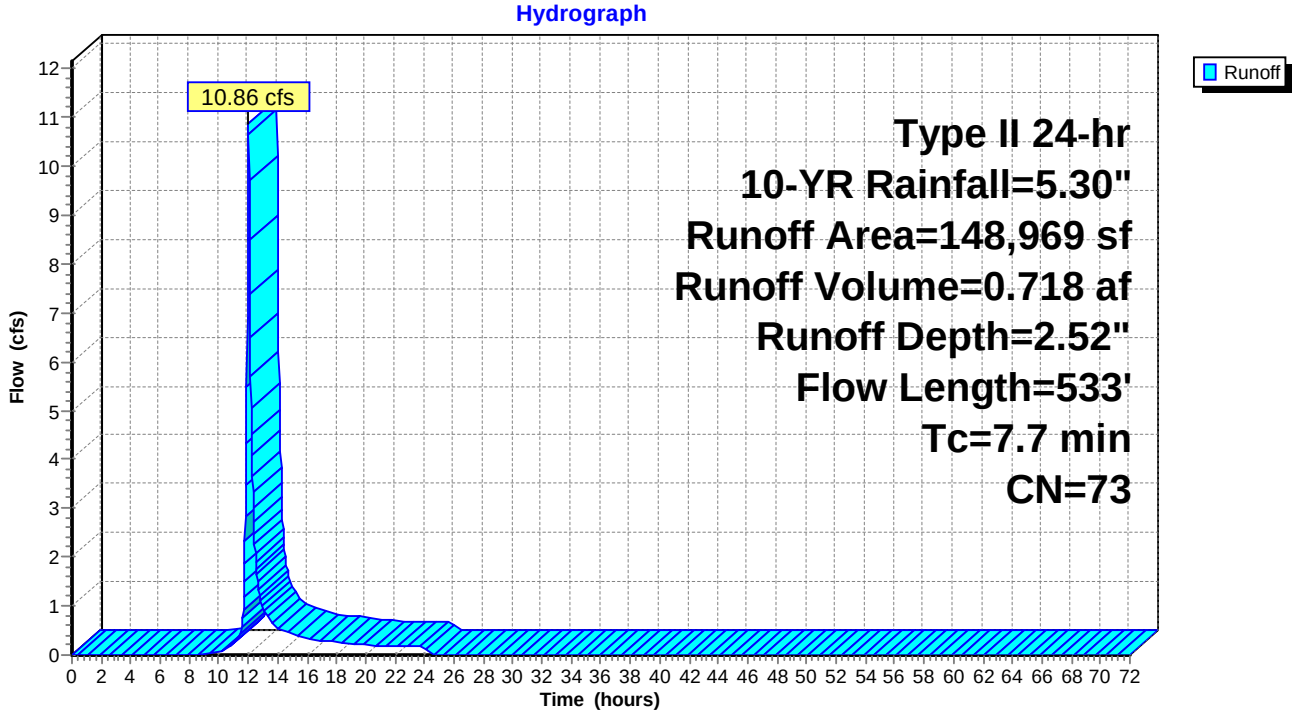
Runoff = 10.86 cfs @ 12.01 hrs, Volume= 0.718 af, Depth= 2.52"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.03 hrs
Type II 24-hr 10-YR Rainfall=5.30"

Area (sf)	CN	Description
25,140	85	Row crops, straight row, Good, HSG C
123,829	70	Woods, Good, HSG C
148,969	73	Weighted Average
148,969		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.6	100	0.0200	0.36		**Sheet Flow, Ag Field SF** Cultivated: Residue<=20% n= 0.060 P2= 3.40"
3.1	433	0.0240	2.32		**Shallow Concentrated Flow, Field and Woods** Grassed Waterway Kv= 15.0 fps
7.7	533	Total			

Subcatchment EX-DA-1: Existing DA 1



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

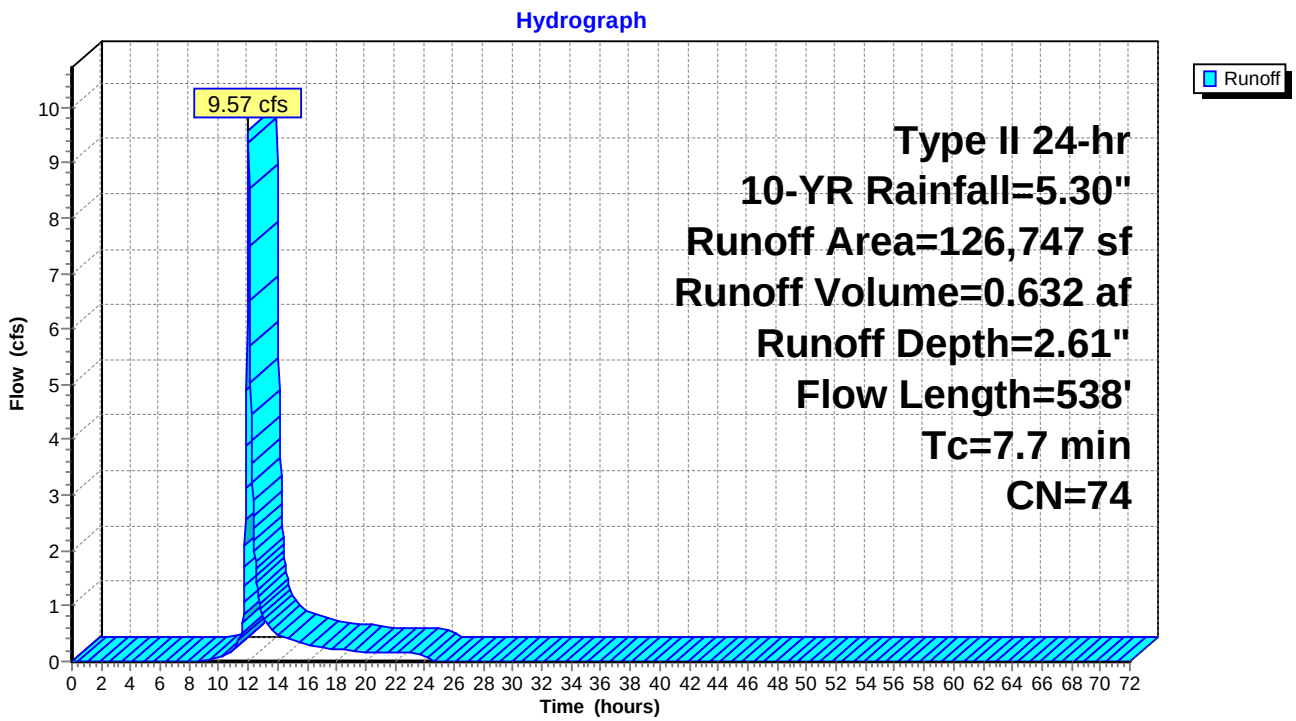
Runoff = 9.57 cfs @ 12.01 hrs, Volume= 0.632 af, Depth= 2.61"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.03 hrs
Type II 24-hr 10-YR Rainfall=5.30"

Area (sf)	CN	Description
23,082	85	Row crops, straight row, Good, HSG C
79,330	70	Woods, Good, HSG C
24,335	77	Woods, Good, HSG D
126,747	74	Weighted Average
126,747		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.6	100	0.0200	0.36		**Sheet Flow, Ag Field SF** Cultivated: Residue<=20% n= 0.060 P2= 3.40"
3.1	438	0.0250	2.37		**Shallow Concentrated Flow, Field and Woods** Grassed Waterway Kv= 15.0 fps
7.7	538	Total			

Subcatchment EX-DA-2: Existing DA 2

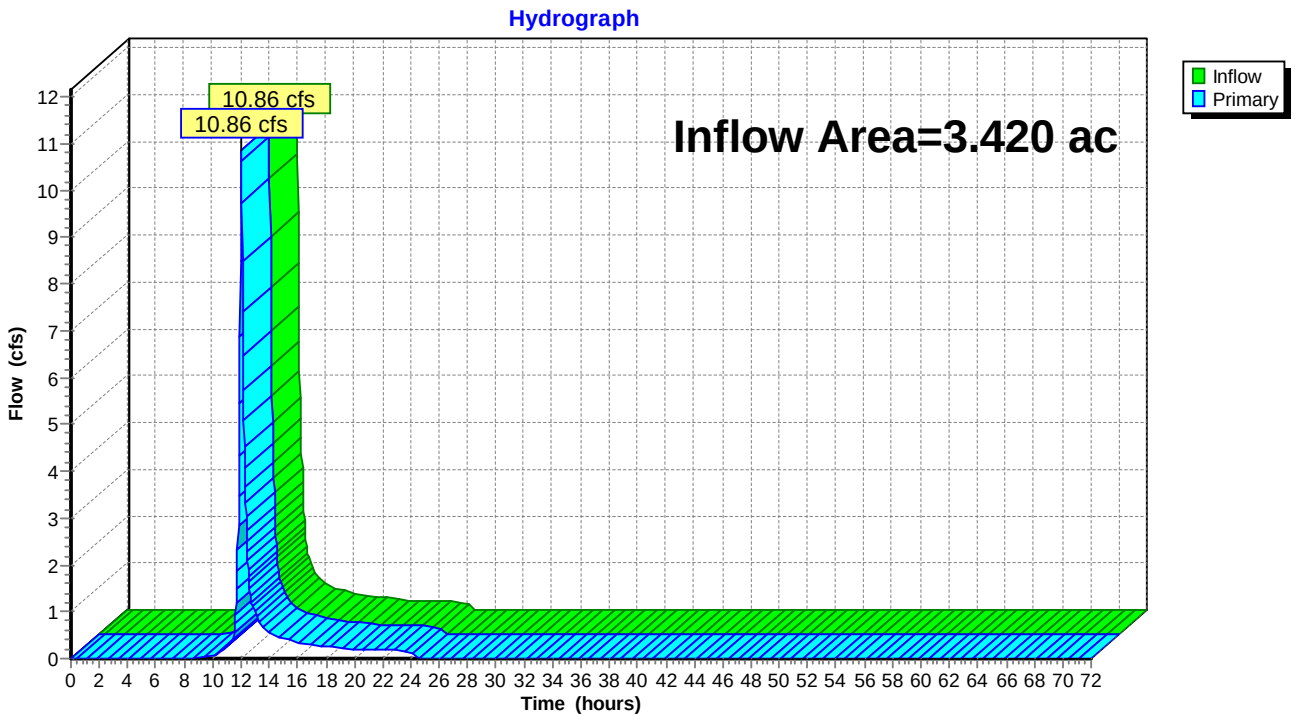


Summary for Link SP-1: Study Point #1

Inflow Area = 3.420 ac, 0.00% Impervious, Inflow Depth = 2.52" for 10-YR event
Inflow = 10.86 cfs @ 12.01 hrs, Volume= 0.718 af
Primary = 10.86 cfs @ 12.01 hrs, Volume= 0.718 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.03 hrs

Link SP-1: Study Point #1

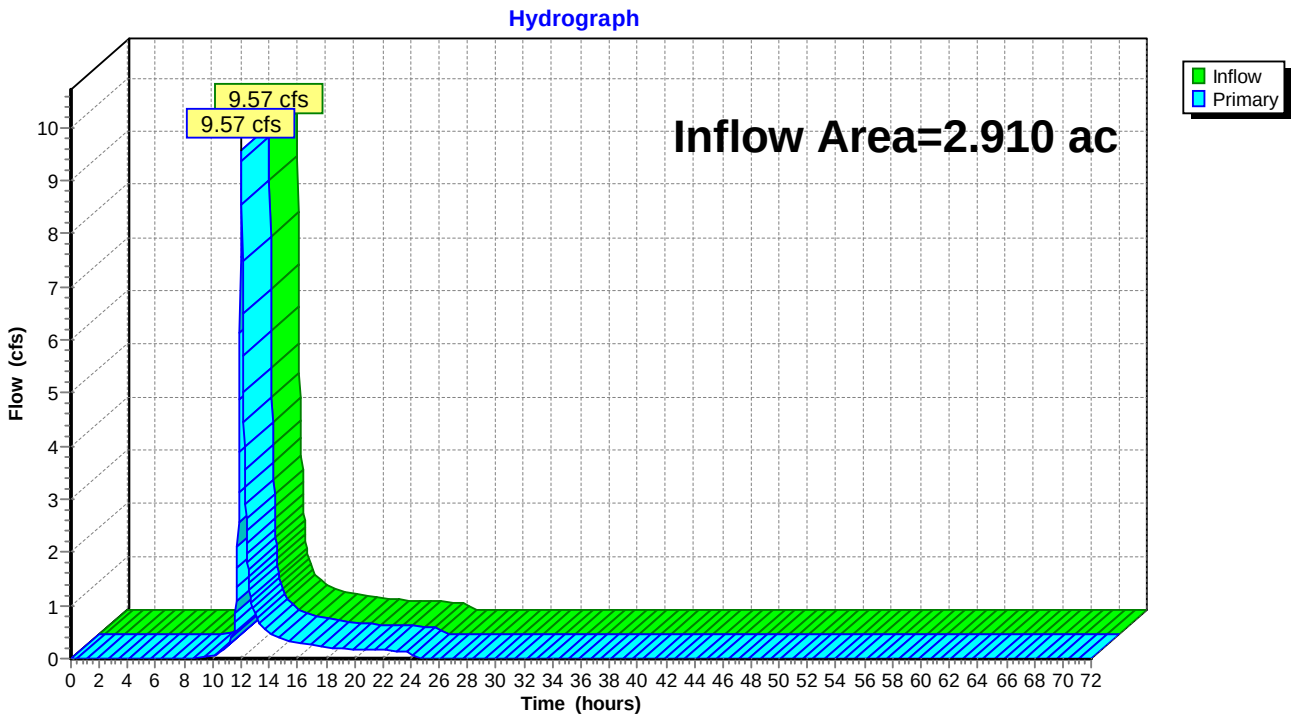


Summary for Link SP-2: Study Point #2

Inflow Area = 2.910 ac, 0.00% Impervious, Inflow Depth = 2.61" for 10-YR event
Inflow = 9.57 cfs @ 12.01 hrs, Volume= 0.632 af
Primary = 9.57 cfs @ 12.01 hrs, Volume= 0.632 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.03 hrs

Link SP-2: Study Point #2



100-Year Existing Conditions Analysis

Time span=0.00-72.00 hrs, dt=0.03 hrs, 2401 points x 2
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 EX-DA-1: Existing DA 1 Runoff Area=148,969 sf 0.00% Impervious Runoff Depth=4.46"
Flow Length=533' Tc=7.7 min CN=73 Runoff=19.23 cfs 1.270 af

Subcatchment EX-DA-2: Existing DA 2 Runoff Area=126,747 sf 0.00% Impervious Runoff Depth=4.57"
Flow Length=538' Tc=7.7 min CN=74 Runoff=16.76 cfs 1.108 af

Link SP-1: Study Point #1 Inflow=19.23 cfs 1.270 af
Primary=19.23 cfs 1.270 af

Link SP-2: Study Point #2 Inflow=16.76 cfs 1.108 af
Primary=16.76 cfs 1.108 af

Total Runoff Area = 6.330 ac Runoff Volume = 2.378 af Average Runoff Depth = 4.51"
100.00% Pervious = 6.330 ac 0.00% Impervious = 0.000 ac

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

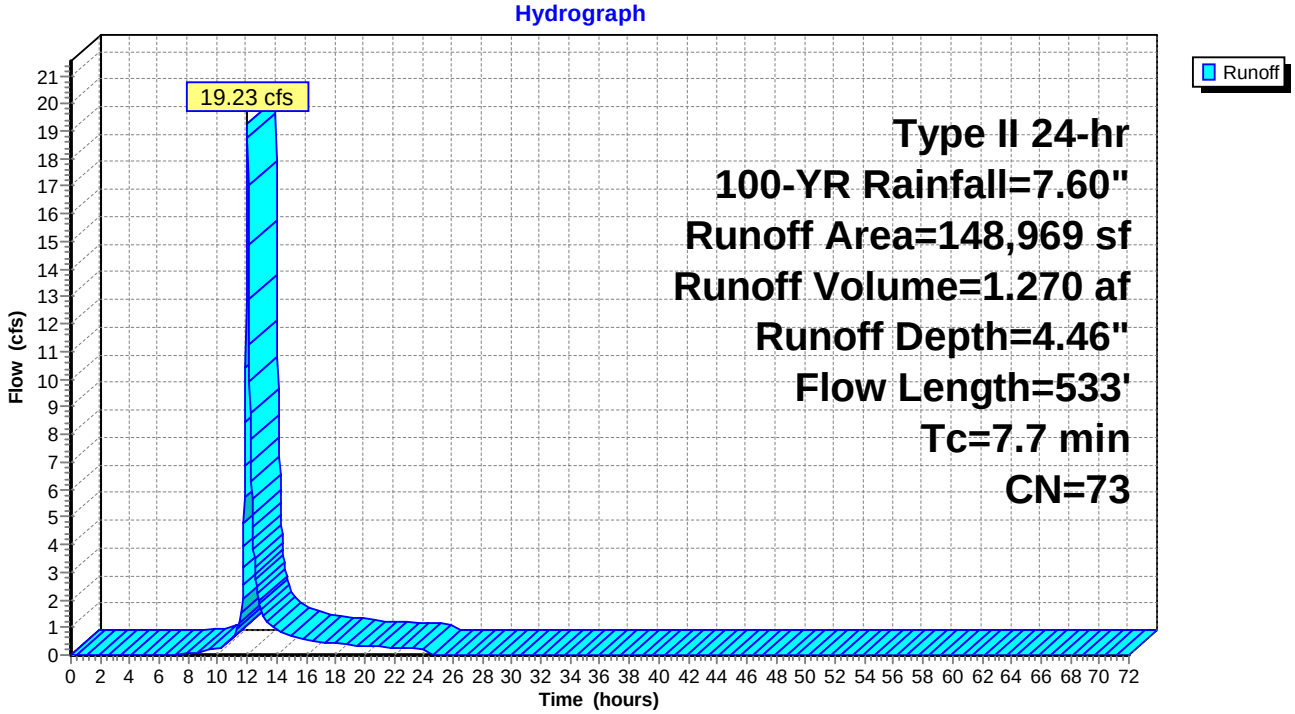
Runoff = 19.23 cfs @ 12.01 hrs, Volume= 1.270 af, Depth= 4.46"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.03 hrs
Type II 24-hr 100-YR Rainfall=7.60"

Area (sf)	CN	Description
25,140	85	Row crops, straight row, Good, HSG C
123,829	70	Woods, Good, HSG C
148,969	73	Weighted Average
148,969		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.6	100	0.0200	0.36		**Sheet Flow, Ag Field SF** Cultivated: Residue<=20% n= 0.060 P2= 3.40"
3.1	433	0.0240	2.32		**Shallow Concentrated Flow, Field and Woods** Grassed Waterway Kv= 15.0 fps
7.7	533	Total			

Subcatchment EX-DA-1: Existing DA 1



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

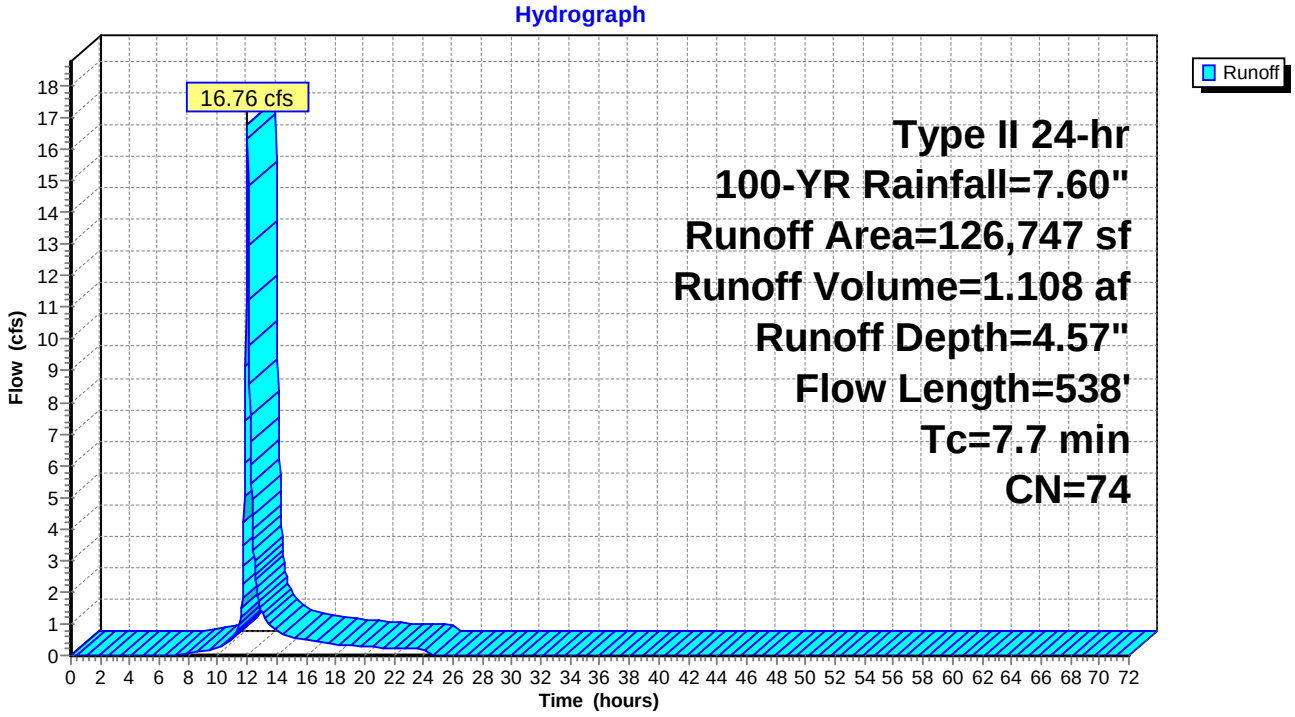
Runoff = 16.76 cfs @ 12.01 hrs, Volume= 1.108 af, Depth= 4.57"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.03 hrs
Type II 24-hr 100-YR Rainfall=7.60"

Area (sf)	CN	Description
23,082	85	Row crops, straight row, Good, HSG C
79,330	70	Woods, Good, HSG C
24,335	77	Woods, Good, HSG D
126,747	74	Weighted Average
126,747		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.6	100	0.0200	0.36		**Sheet Flow, Ag Field SF** Cultivated: Residue<=20% n= 0.060 P2= 3.40"
3.1	438	0.0250	2.37		**Shallow Concentrated Flow, Field and Woods** Grassed Waterway Kv= 15.0 fps
7.7	538	Total			

Subcatchment EX-DA-2: Existing DA 2

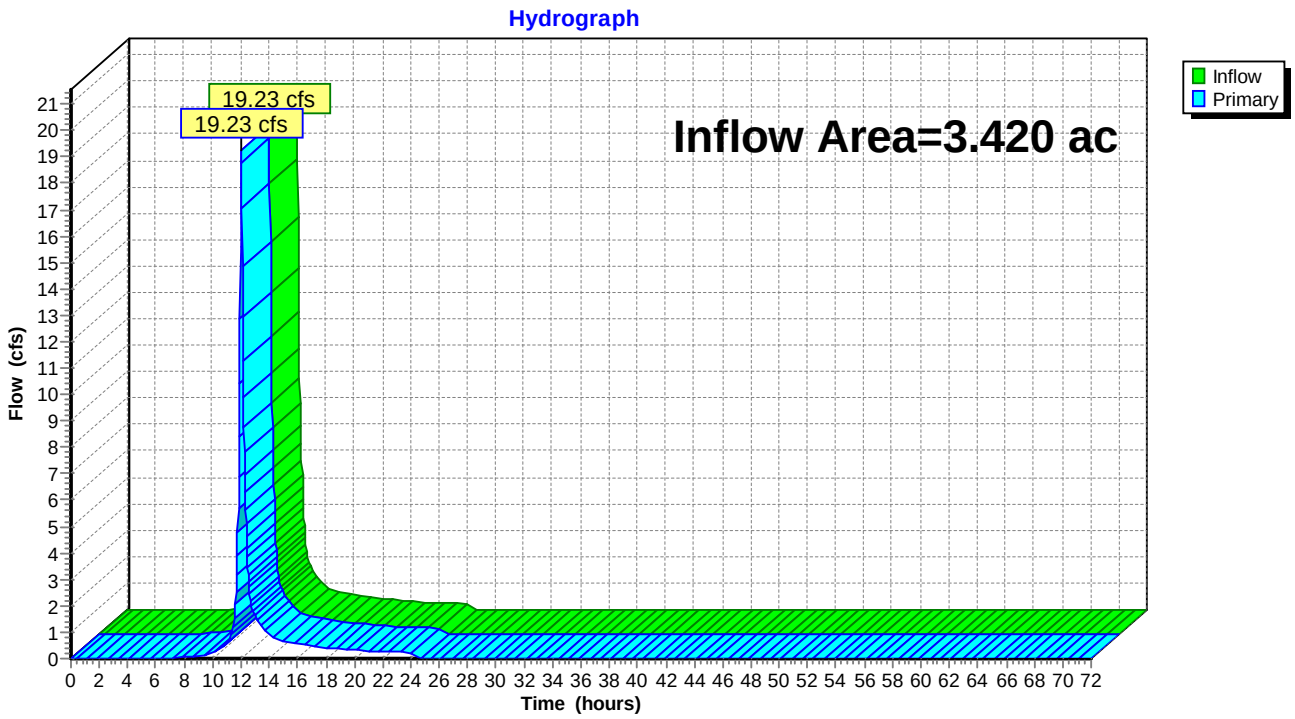


Summary for Link SP-1: Study Point #1

Inflow Area = 3.420 ac, 0.00% Impervious, Inflow Depth = 4.46" for 100-YR event
Inflow = 19.23 cfs @ 12.01 hrs, Volume= 1.270 af
Primary = 19.23 cfs @ 12.01 hrs, Volume= 1.270 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.03 hrs

Link SP-1: Study Point #1

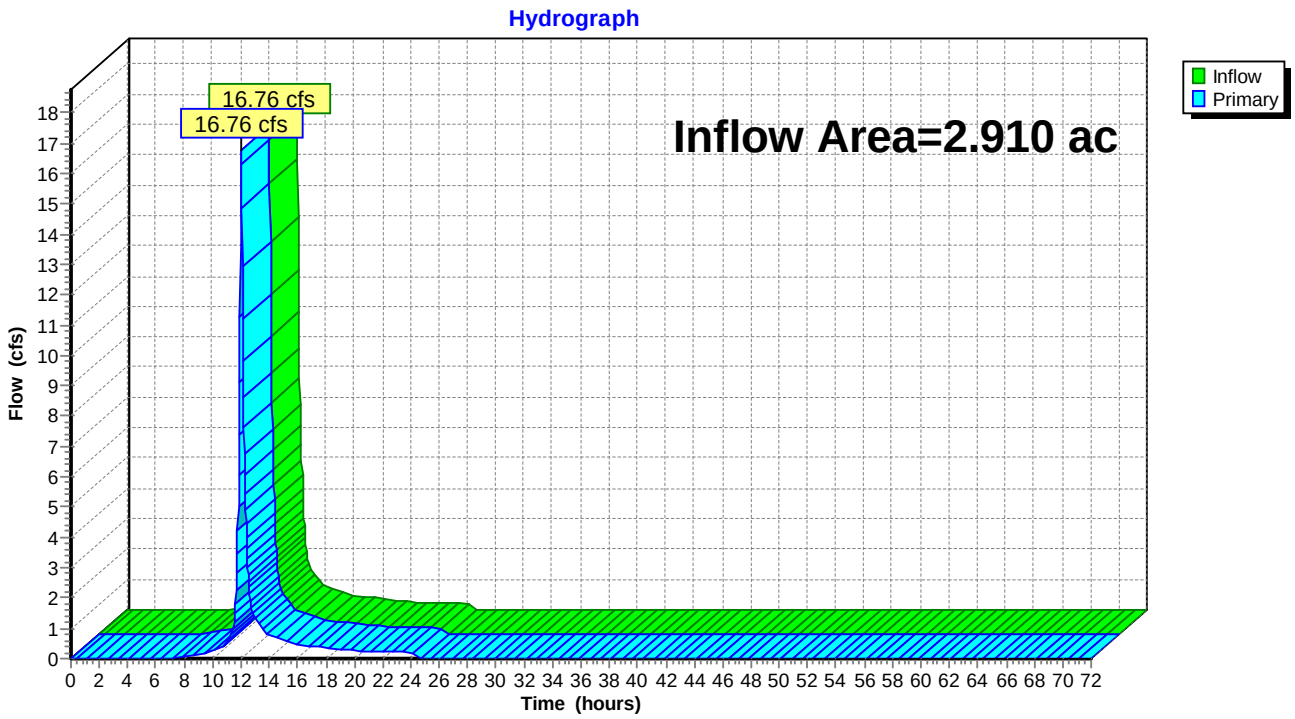


Summary for Link SP-2: Study Point #2

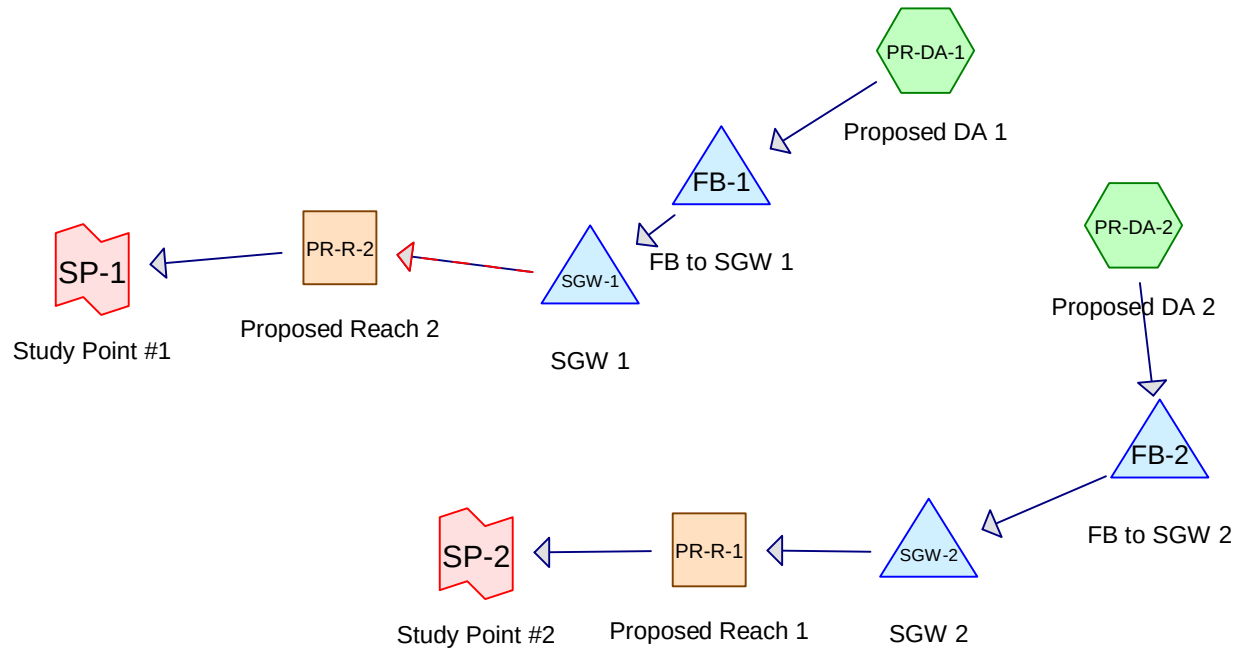
Inflow Area = 2.910 ac, 0.00% Impervious, Inflow Depth = 4.57" for 100-YR event
Inflow = 16.76 cfs @ 12.01 hrs, Volume= 1.108 af
Primary = 16.76 cfs @ 12.01 hrs, Volume= 1.108 af, Atten= 0%, Lag= 0.0 min

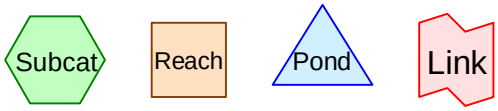
Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.03 hrs

Link SP-2: Study Point #2



Analysis of Proposed Conditions





Routing Diagram for Aspire - Proposed
Prepared by RAUCH inc., Printed 07/27/23
HydroCAD® 10.00-26 s/n 02413 © 2020 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.829	74	>75% Grass cover, Good, HSG C (PR-DA-1, PR-DA-2)
4.500	98	Paved parking, HSG C (PR-DA-1, PR-DA-2)
6.329	**91**	**TOTAL AREA**

2-Year Proposed Conditions Analysis

Time span=0.00-72.00 hrs, dt=0.03 hrs, 2401 points x 2
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 PR-DA-1: Proposed DA 1 Runoff Area=146,601 sf 66.39% Impervious Runoff Depth=2.35"
Flow Length=521' Tc=8.4 min CN=90 Runoff=9.47 cfs 0.660 af

Subcatchment PR-DA-2: Proposed DA 2 Runoff Area=129,109 sf 76.46% Impervious Runoff Depth=2.54"
Flow Length=404' Tc=11.1 min CN=92 Runoff=7.73 cfs 0.628 af

Reach PR-R-1: Proposed Reach 1 Avg. Flow Depth=0.56' Max Vel=2.08 fps Inflow=1.99 cfs 0.619 af
n=0.022 L=254.0' S=0.0055 '/' Capacity=105.34 cfs Outflow=1.98 cfs 0.619 af

Reach PR-R-2: Proposed Reach 2 Avg. Flow Depth=0.30' Max Vel=1.12 fps Inflow=0.57 cfs 0.135 af
n=0.025 L=100.0' S=0.0050 '/' Capacity=7.67 cfs Outflow=0.29 cfs 0.135 af

Pond FB-1: FB to SGW 1 Peak Elev=47.72' Storage=19,402 cf Inflow=9.47 cfs 0.660 af
Outflow=0.51 cfs 0.264 af

Pond FB-2: FB to SGW 2 Peak Elev=50.04' Storage=7,279 cf Inflow=7.73 cfs 0.628 af
Outflow=7.26 cfs 0.628 af

Pond SGW-1: SGW 1 Peak Elev=47.63' Storage=7,484 cf Inflow=0.51 cfs 0.264 af
Primary=0.57 cfs 0.135 af Secondary=0.00 cfs 0.000 af Outflow=0.57 cfs 0.133 af

Pond SGW-2: SGW 2 Peak Elev=49.60' Storage=14,253 cf Inflow=7.26 cfs 0.628 af
Outflow=1.99 cfs 0.619 af

Link SP-1: Study Point #1 Inflow=0.29 cfs 0.135 af
Primary=0.29 cfs 0.135 af

Link SP-2: Study Point #2 Inflow=1.98 cfs 0.619 af
Primary=1.98 cfs 0.619 af

Total Runoff Area = 6.329 ac Runoff Volume = 1.288 af Average Runoff Depth = 2.44"
28.90% Pervious = 1.829 ac 71.10% Impervious = 4.500 ac

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

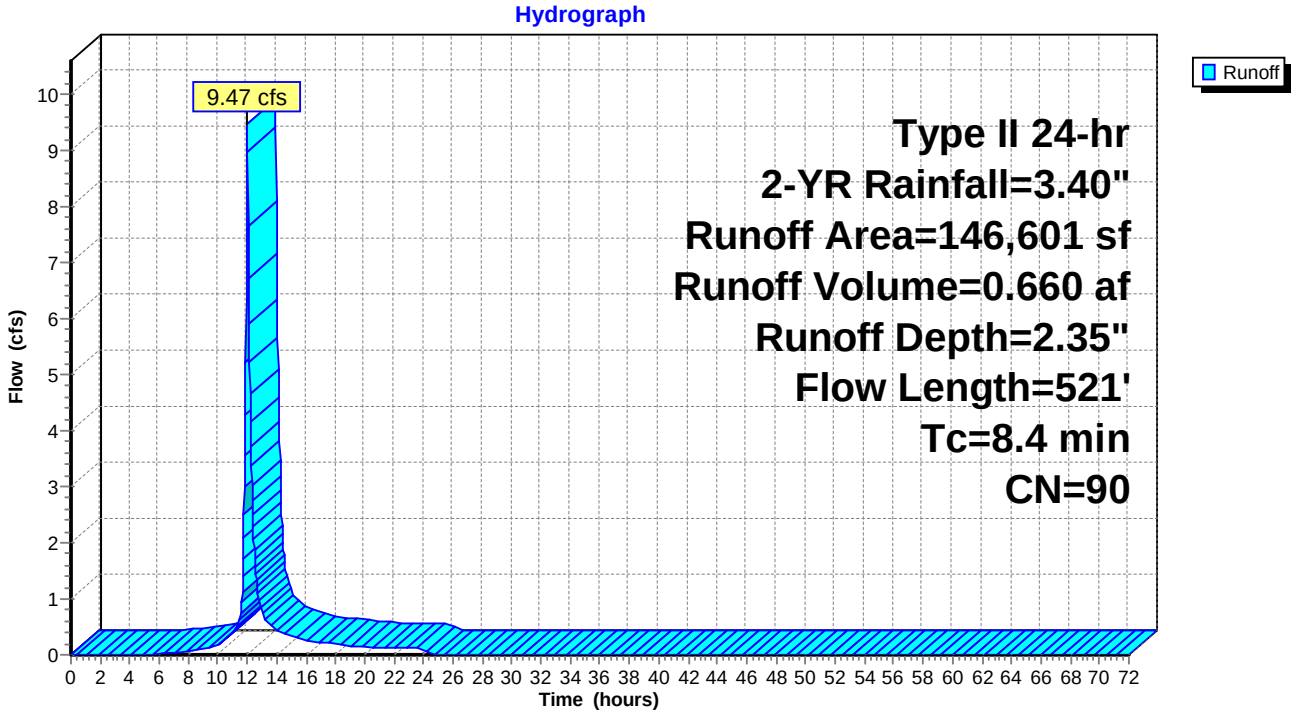
Runoff = 9.47 cfs @ 12.01 hrs, Volume= 0.660 af, Depth= 2.35"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.03 hrs
Type II 24-hr 2-YR Rainfall=3.40"

Area (sf)	CN	Description
49,279	74	>75% Grass cover, Good, HSG C
97,322	98	Paved parking, HSG C
146,601	90	Weighted Average
49,279		33.61% Pervious Area
97,322		66.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.1	100	0.0410	0.23		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.40"
1.3	421	0.0050	5.52	17.33	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.012
8.4	521	Total			

Subcatchment PR-DA-1: Proposed DA 1



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

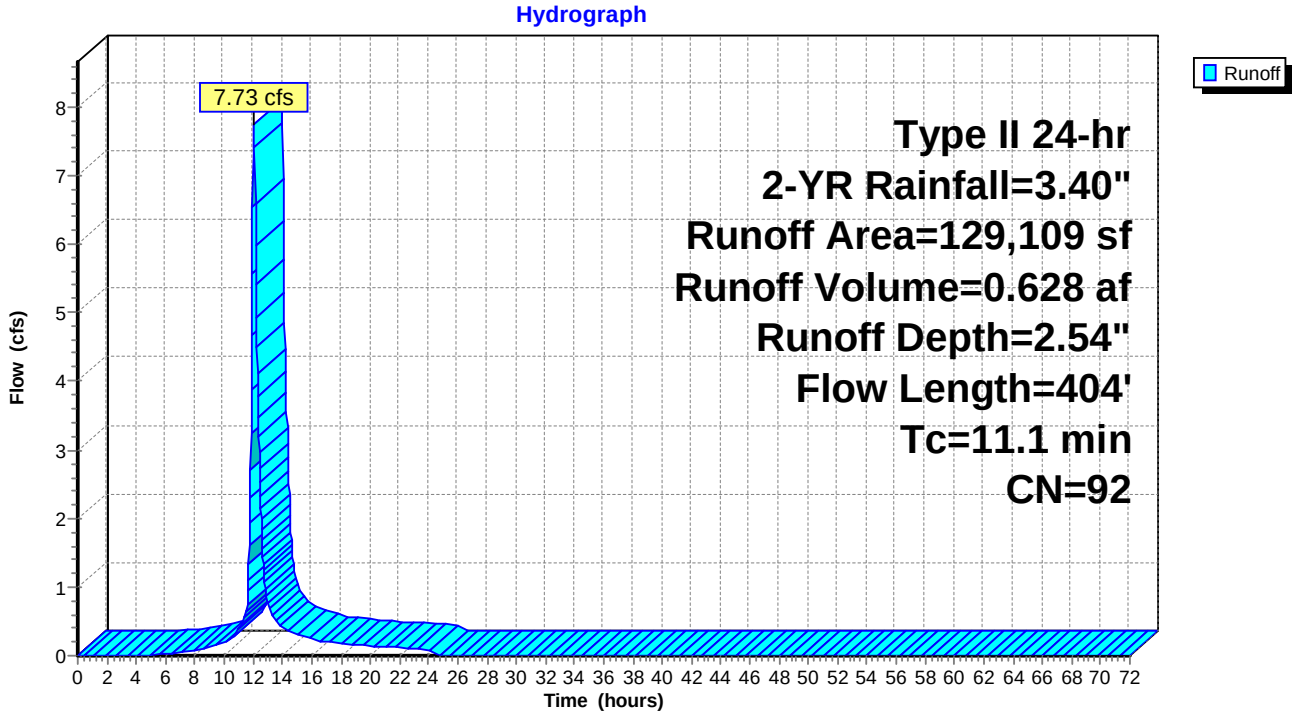
Runoff = 7.73 cfs @ 12.04 hrs, Volume= 0.628 af, Depth= 2.54"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.03 hrs
Type II 24-hr 2-YR Rainfall=3.40"

Area (sf)	CN	Description
30,393	74	>75% Grass cover, Good, HSG C
98,716	98	Paved parking, HSG C
129,109	92	Weighted Average
30,393		23.54% Pervious Area
98,716		76.46% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.3	69	0.0100	0.12		**Sheet Flow, Side Yard** Grass: Short n= 0.150 P2= 3.40"
0.5	31	0.0150	1.00		**Sheet Flow, Pave** Smooth surfaces n= 0.011 P2= 3.40"
0.3	50	0.0150	2.49		**Shallow Concentrated Flow, Pave** Paved Kv= 20.3 fps
1.0	254	0.0040	4.07	7.20	**Pipe Channel,** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.012
11.1	404	Total			

Subcatchment PR-DA-2: Proposed DA 2



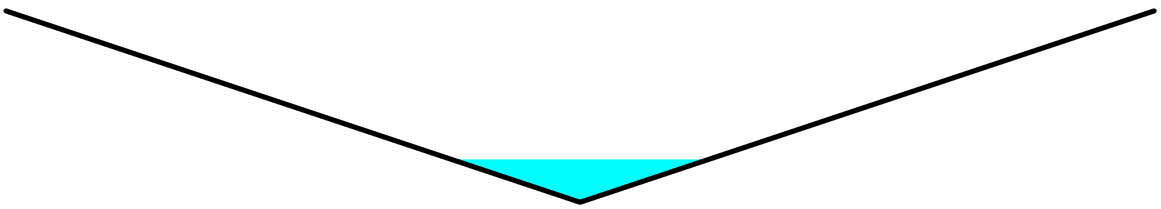
Summary for Reach PR-R-1: Proposed Reach 1

Inflow Area = 2.964 ac, 76.46% Impervious, Inflow Depth = 2.51" for 2-YR event
Inflow = 1.99 cfs @ 12.61 hrs, Volume= 0.619 af
Outflow = 1.98 cfs @ 12.63 hrs, Volume= 0.619 af, Atten= 1%, Lag= 1.7 min

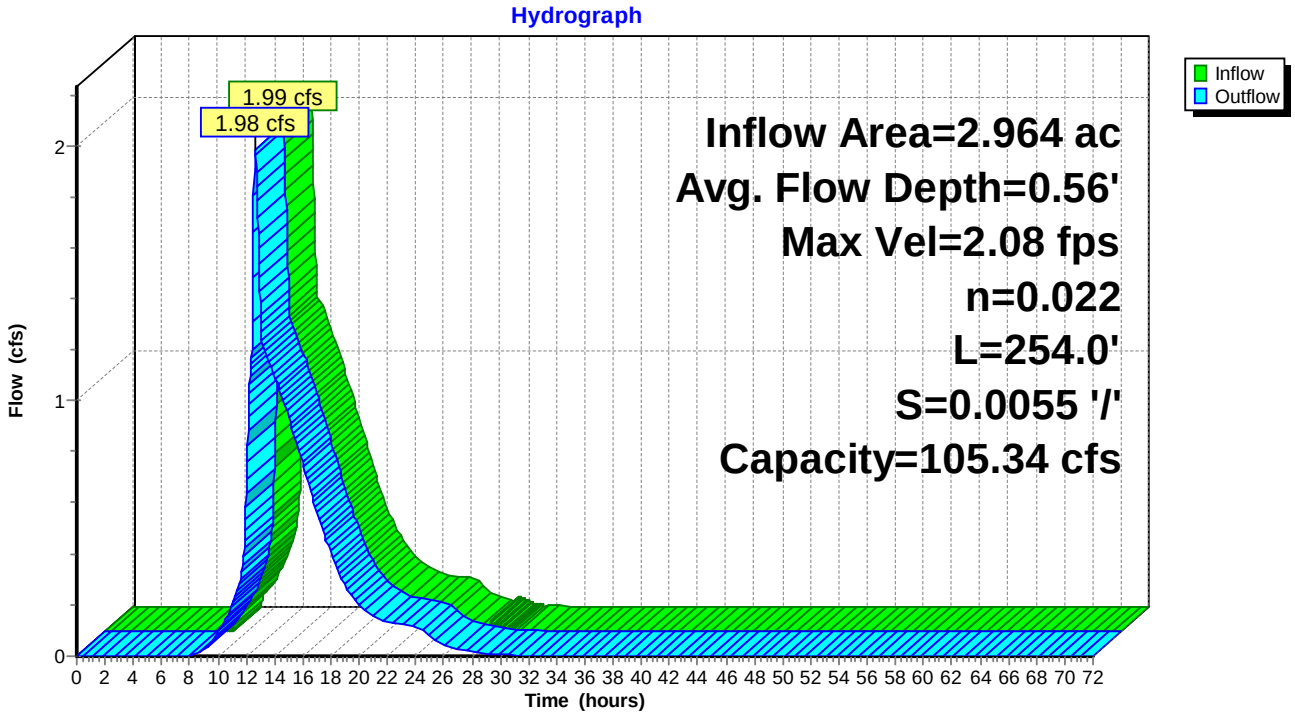
Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.03 hrs / 2
Max. Velocity= 2.08 fps, Min. Travel Time= 2.0 min
Avg. Velocity = 0.58 fps, Avg. Travel Time= 7.3 min

Peak Storage= 242 cf @ 12.63 hrs
Average Depth at Peak Storage= 0.56'
Bank-Full Depth= 2.50' Flow Area= 18.8 sf, Capacity= 105.34 cfs

0.00' x 2.50' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 3.0 '/' Top Width= 15.00'
Length= 254.0' Slope= 0.0055 '/'
Inlet Invert= 47.40', Outlet Invert= 46.00'



Reach PR-R-1: Proposed Reach 1



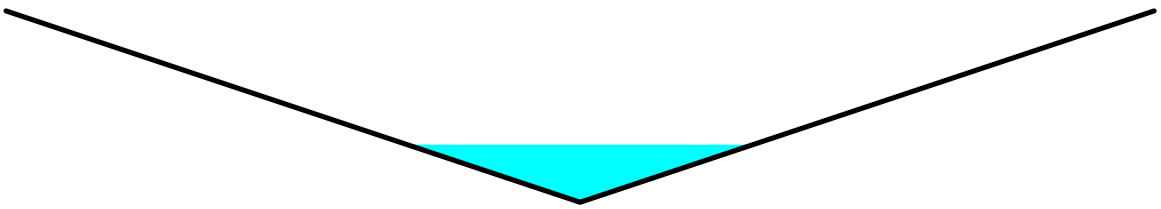
Summary for Reach PR-R-2: Proposed Reach 2

Inflow Area = 3.365 ac, 66.39% Impervious, Inflow Depth > 0.48" for 2-YR event
Inflow = 0.57 cfs @ 18.48 hrs, Volume= 0.135 af
Outflow = 0.29 cfs @ 18.50 hrs, Volume= 0.135 af, Atten= 48%, Lag= 1.2 min

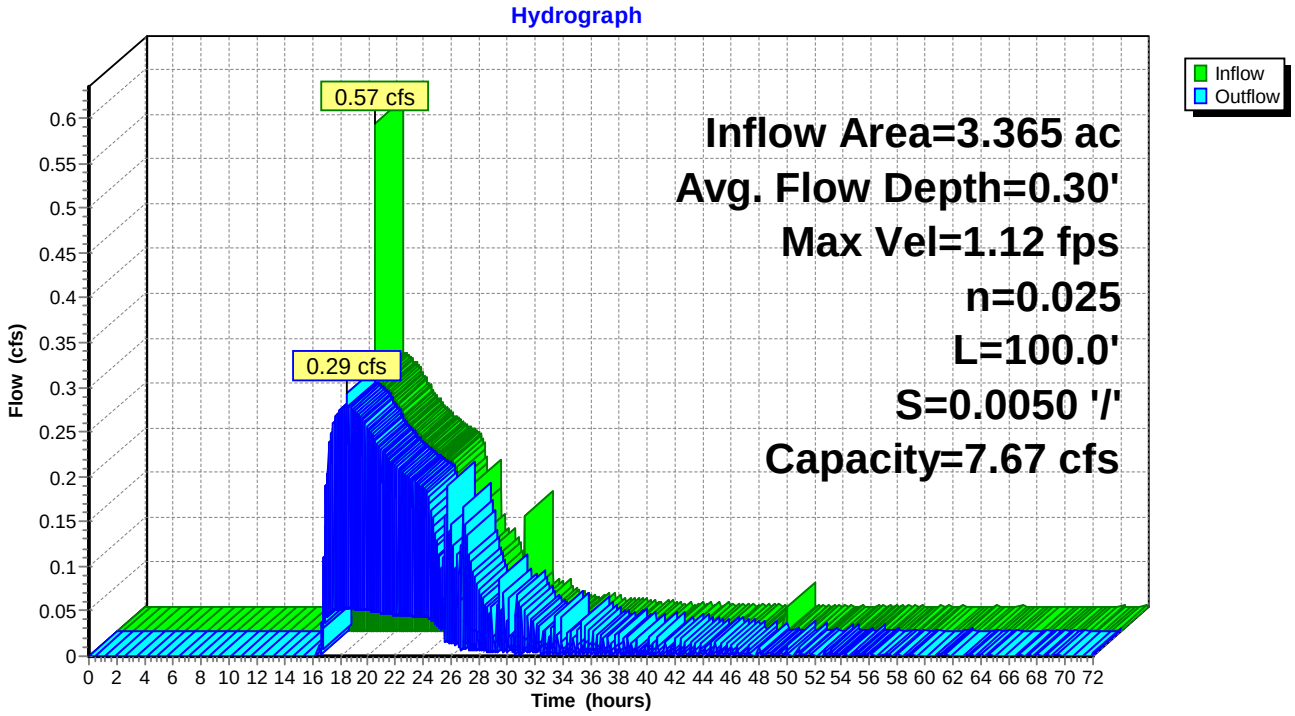
Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.03 hrs / 2
Max. Velocity= 1.12 fps, Min. Travel Time= 1.5 min
Avg. Velocity = 0.41 fps, Avg. Travel Time= 4.0 min

Peak Storage= 26 cf @ 18.50 hrs
Average Depth at Peak Storage= 0.30'
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 7.67 cfs

0.00' x 1.00' deep channel, n= 0.025
Side Slope Z-value= 3.0 '/' Top Width= 6.00'
Length= 100.0' Slope= 0.0050 '/'
Inlet Invert= 47.50', Outlet Invert= 47.00'



Reach PR-R-2: Proposed Reach 2



Summary for Pond FB-1: FB to SGW 1

Inflow Area = 3.365 ac, 66.39% Impervious, Inflow Depth = 2.35" for 2-YR event
Inflow = 9.47 cfs @ 12.01 hrs, Volume= 0.660 af
Outflow = 0.51 cfs @ 13.66 hrs, Volume= 0.264 af, Atten= 95%, Lag= 98.9 min
Primary = 0.51 cfs @ 13.66 hrs, Volume= 0.264 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.03 hrs / 2
Starting Elev= 45.17' Surf.Area= 0 sf Storage= 0 cf
Peak Elev= 47.72' @ 13.66 hrs Surf.Area= 10,028 sf Storage= 19,402 cf

Plug-Flow detention time= 412.3 min calculated for 0.264 af (40% of inflow)
Center-of-Mass det. time= 290.7 min (1,099.6 - 808.8)

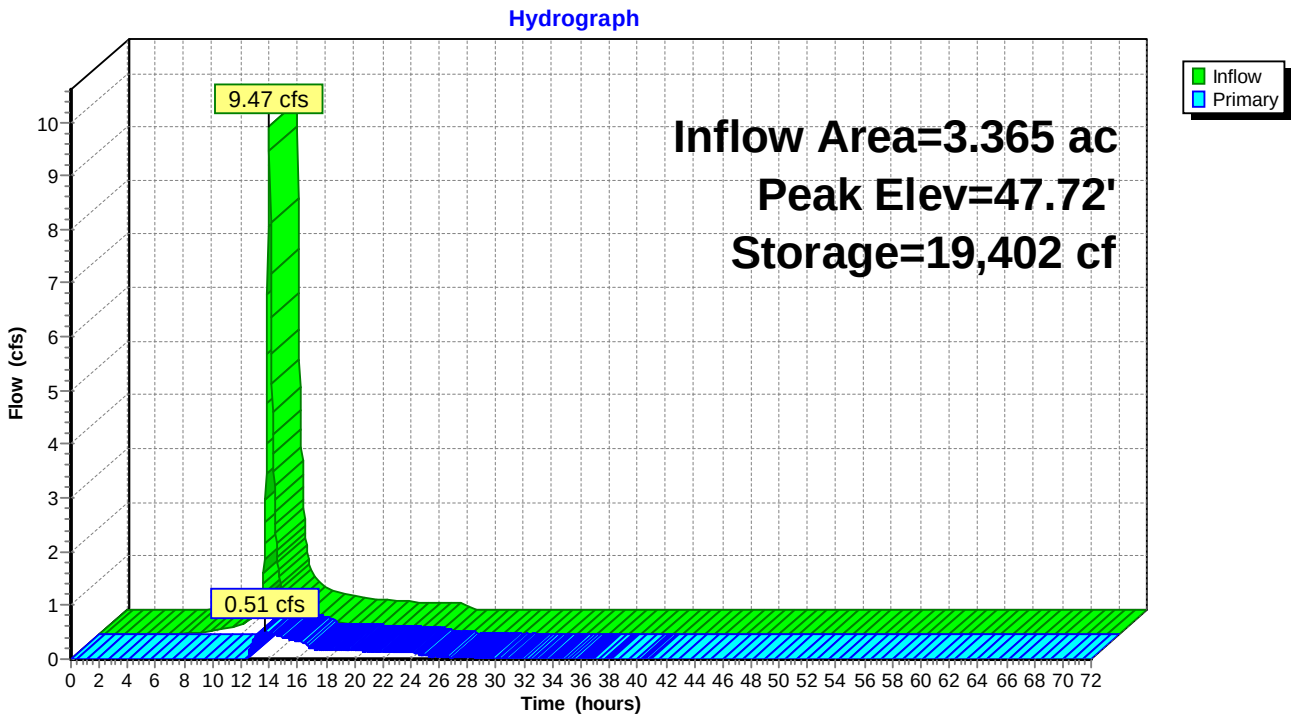
Volume	Invert	Avail.Storage	Storage Description
#1	45.50'	27,690 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
45.50	7,419	0	0
48.50	10,938	27,536	27,536
48.51	20,000	155	27,690

Device	Routing	Invert	Outlet Devices
#1	Primary	47.50'	**2.0' long x 4.0' breadth Broad-Crested Rectangular Weir** 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 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Primary OutFlow Max=0.51 cfs @ 13.66 hrs HW=47.72' TW=46.08' (Dynamic Tailwater)
└**1=Broad-Crested Rectangular Weir** (Weir Controls 0.51 cfs @ 1.14 fps)

Pond FB-1: FB to SGW 1



Summary for Pond FB-2: FB to SGW 2

Inflow Area = 2.964 ac, 76.46% Impervious, Inflow Depth = 2.54" for 2-YR event
Inflow = 7.73 cfs @ 12.04 hrs, Volume= 0.628 af
Outflow = 7.26 cfs @ 12.09 hrs, Volume= 0.628 af, Atten= 6%, Lag= 2.9 min
Primary = 7.26 cfs @ 12.09 hrs, Volume= 0.628 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.03 hrs / 2
Starting Elev= 49.50' Surf.Area= 3,371 sf Storage= 5,375 cf
Peak Elev= 50.04' @ 12.09 hrs Surf.Area= 3,737 sf Storage= 7,279 cf (1,905 cf above start)

Plug-Flow detention time= 130.8 min calculated for 0.504 af (80% of inflow)
Center-of-Mass det. time= 9.6 min (813.6 - 803.9)

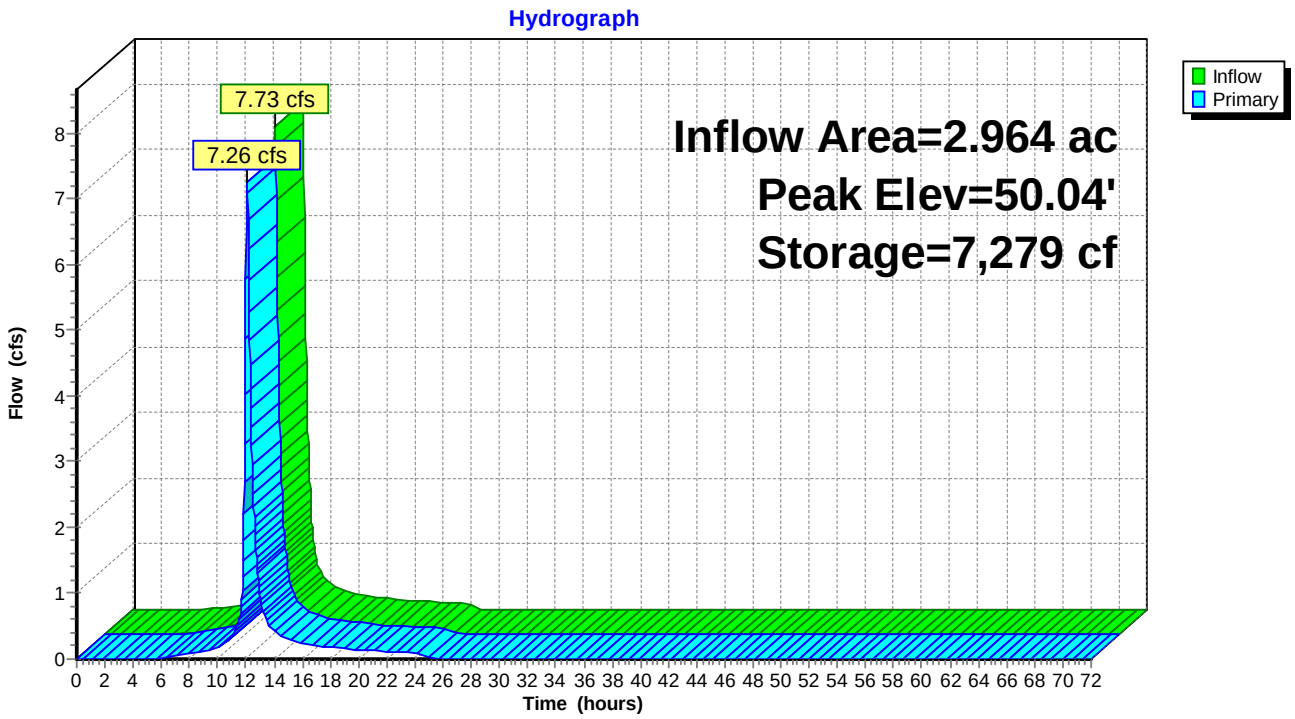
Volume	Invert	Avail.Storage	Storage Description
#1	47.50'	9,157 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
47.50	2,004	0	0
50.50	4,054	9,087	9,087
50.51	10,000	70	9,157

Device	Routing	Invert	Outlet Devices
#1	Primary	49.50'	**7.0' long x 4.0' breadth Broad-Crested Rectangular Weir** 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 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Primary OutFlow Max=7.25 cfs @ 12.09 hrs HW=50.04' TW=48.68' (Dynamic Tailwater)
└**1=Broad-Crested Rectangular Weir** (Weir Controls 7.25 cfs @ 1.93 fps)

Pond FB-2: FB to SGW 2



Summary for Pond SGW-1: SGW 1

Inflow Area = 3.365 ac, 66.39% Impervious, Inflow Depth > 0.94" for 2-YR event
Inflow = 0.51 cfs @ 13.66 hrs, Volume= 0.264 af
Outflow = 0.57 cfs @ 18.48 hrs, Volume= 0.133 af, Atten= 0%, Lag= 289.2 min
Primary = 0.57 cfs @ 18.48 hrs, Volume= 0.135 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.03 hrs / 2
Starting Elev= 45.17' Surf.Area= 2,056 sf Storage= 1,382 cf
Peak Elev= 47.63' @ 18.45 hrs Surf.Area= 3,407 sf Storage= 7,484 cf (6,102 cf above start)

Plug-Flow detention time= 630.9 min calculated for 0.102 af (38% of inflow)
Center-of-Mass det. time= 279.6 min (1,379.2 - 1,099.6)

Volume	Invert	Avail.Storage	Storage Description
#1	43.49'	11,206 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

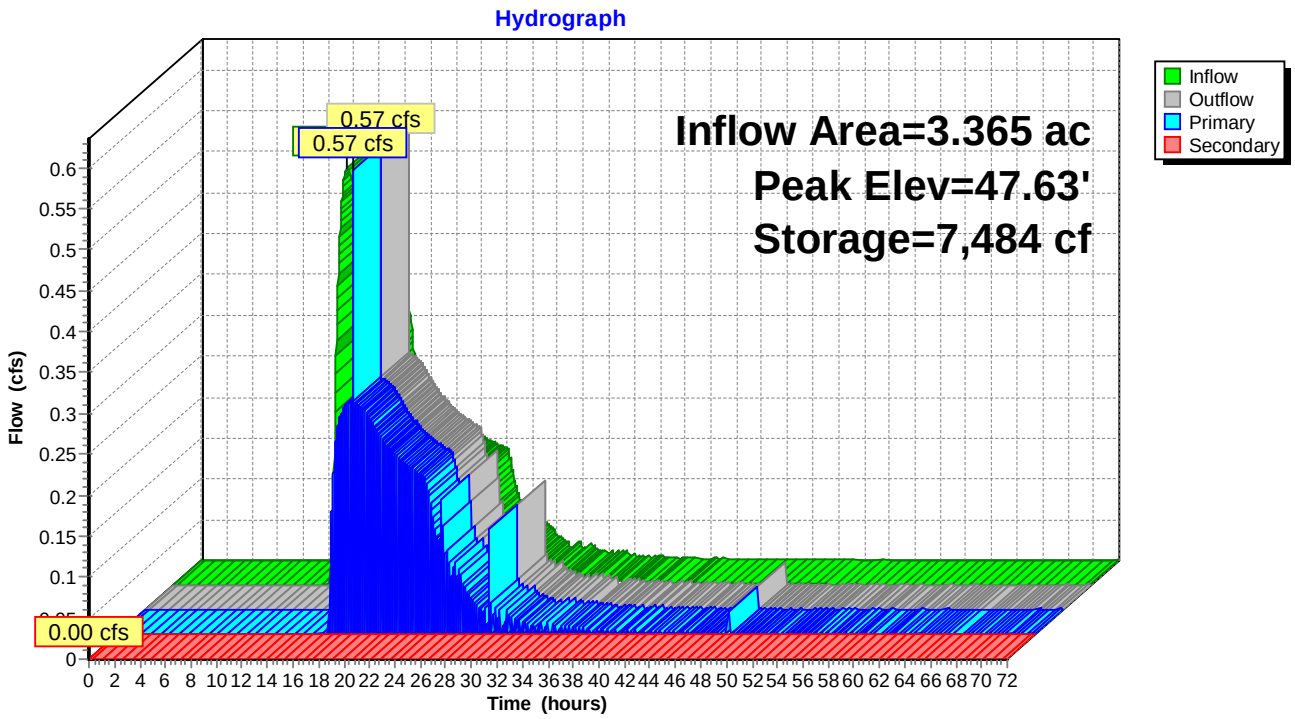
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
43.49	2,056	0.0	0	0
43.50	2,056	40.0	8	8
45.49	2,056	40.0	1,637	1,645
45.50	2,056	100.0	21	1,665
48.50	3,958	100.0	9,021	10,686
48.51	100,000	100.0	520	11,206

Device	Routing	Invert	Outlet Devices
#1	Primary	45.17'	**12.0" Round Culvert** L= 28.1' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 45.17' / 45.00' S= 0.0060 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf
#2	Device 1	47.50'	**24.0" x 24.0" Horiz. Rim** C= 0.600 Limited to weir flow at low heads
#3	Device 1	45.17'	**6.0" Vert. Collector Pipe** C= 0.600
#4	Secondary	48.50'	**75.0' long x 2.0' breadth Broad-Crested Rectangular Weir** 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 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 @ 18.48 hrs HW=47.63' TW=47.77' (Dynamic Tailwater)
└─**1=Culvert** (Controls 0.00 cfs)
  ├─**2=Rim** (Controls 0.00 cfs)
  └─**3=Collector Pipe** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=45.17' TW=47.50' (Dynamic Tailwater)
└─**4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond SGW-1: SGW 1



Summary for Pond SGW-2: SGW 2

Inflow Area = 2.964 ac, 76.46% Impervious, Inflow Depth = 2.54" for 2-YR event
Inflow = 7.26 cfs @ 12.09 hrs, Volume= 0.628 af
Outflow = 1.99 cfs @ 12.61 hrs, Volume= 0.619 af, Atten= 73%, Lag= 31.0 min
Primary = 1.99 cfs @ 12.61 hrs, Volume= 0.619 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.03 hrs / 2
Starting Elev= 47.17' Surf.Area= 4,027 sf Storage= 2,706 cf
Peak Elev= 49.60' @ 12.61 hrs Surf.Area= 6,458 sf Storage= 14,253 cf (11,547 cf above start)

Plug-Flow detention time= 198.7 min calculated for 0.557 af (89% of inflow)
Center-of-Mass det. time= 113.9 min (927.4 - 813.6)

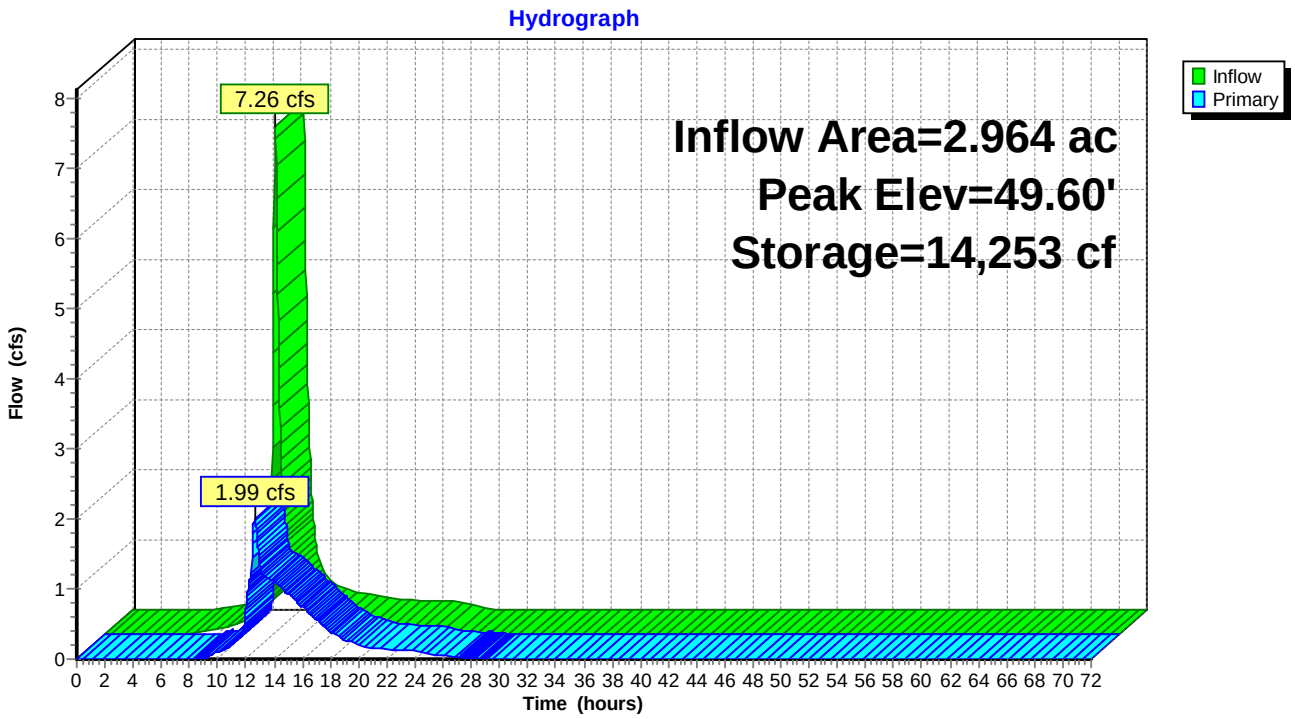
Volume	Invert	Avail.Storage	Storage Description
#1	45.49'	20,699 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
45.49	4,027	0.0	0	0
45.50	4,027	40.0	16	16
47.49	4,027	40.0	3,205	3,222
47.50	4,027	100.0	40	3,262
50.50	7,506	100.0	17,300	20,561
50.51	20,000	100.0	138	20,699

Device	Routing	Invert	Outlet Devices
#1	Primary	47.25'	**12.0" Round Culvert** L= 25.6' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.25' / 47.00' S= 0.0098 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf
#2	Device 1	49.50'	**24.0" x 24.0" Horiz. Rim** C= 0.600 Limited to weir flow at low heads
#3	Device 1	47.16'	**6.0" Vert. Collector Pipe** C= 0.600
#4	Primary	50.50'	**159.0' long x 2.0' breadth Broad-Crested Rectangular Weir** 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 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=1.99 cfs @ 12.61 hrs HW=49.60' TW=47.96' (Dynamic Tailwater)
- **1=Culvert** (Passes 1.99 cfs of 4.84 cfs potential flow)
  - **2=Rim** (Weir Controls 0.78 cfs @ 1.02 fps)
  - **3=Collector Pipe** (Orifice Controls 1.21 cfs @ 6.16 fps)
- **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond SGW-2: SGW 2

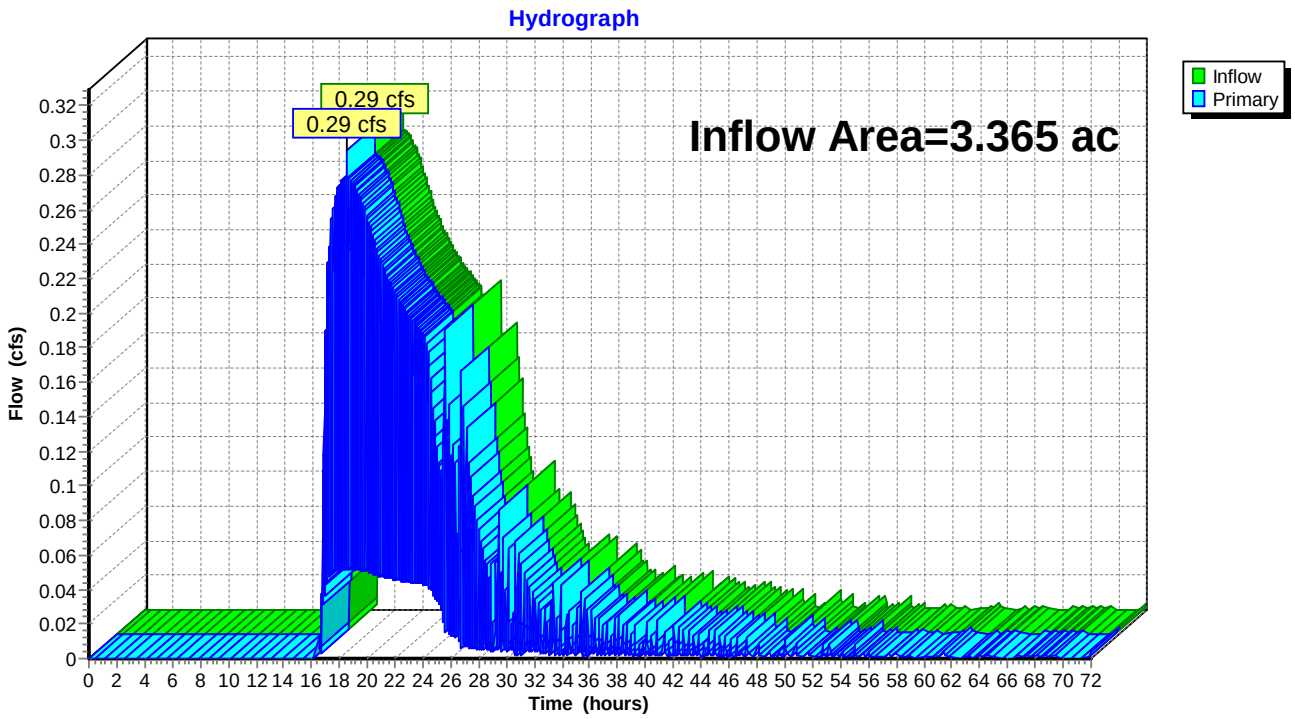


Summary for Link SP-1: Study Point #1

Inflow Area = 3.365 ac, 66.39% Impervious, Inflow Depth > 0.48" for 2-YR event
Inflow = 0.29 cfs @ 18.50 hrs, Volume= 0.135 af
Primary = 0.29 cfs @ 18.50 hrs, Volume= 0.135 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.03 hrs

Link SP-1: Study Point #1

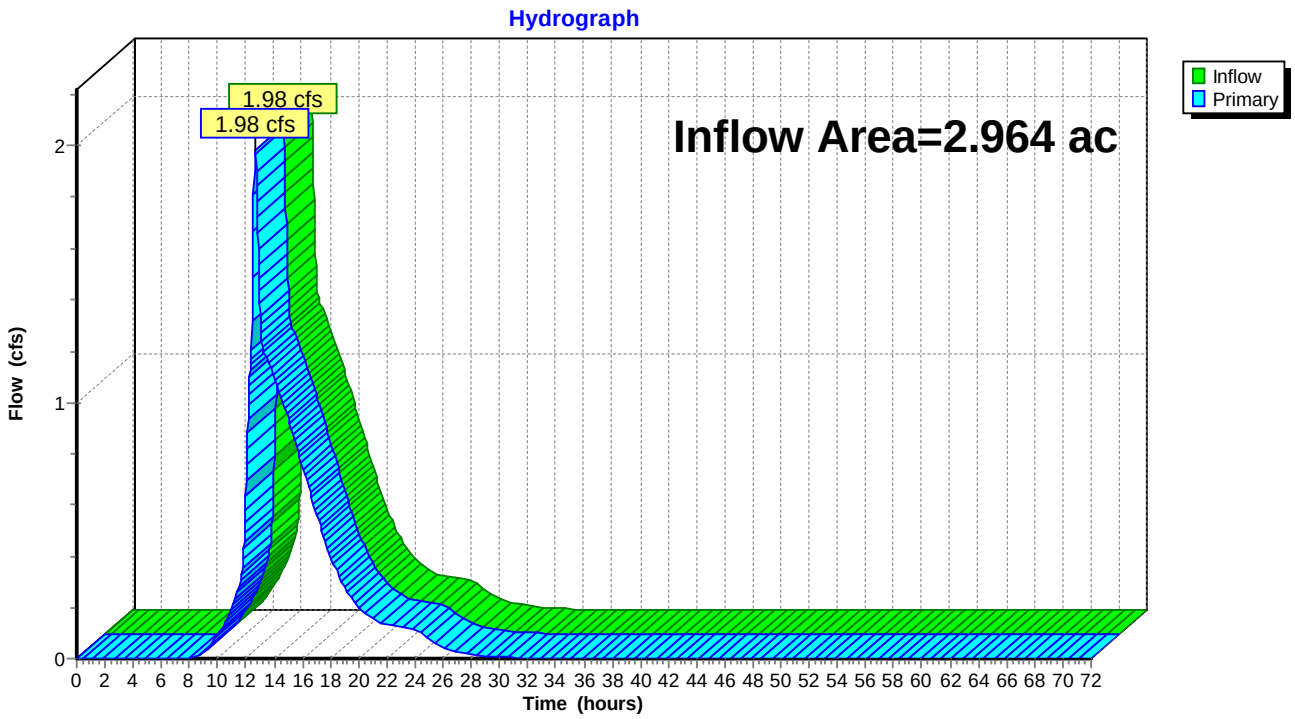


Summary for Link SP-2: Study Point #2

Inflow Area = 2.964 ac, 76.46% Impervious, Inflow Depth = 2.51" for 2-YR event
Inflow = 1.98 cfs @ 12.63 hrs, Volume= 0.619 af
Primary = 1.98 cfs @ 12.63 hrs, Volume= 0.619 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.03 hrs

Link SP-2: Study Point #2



10-Year Proposed Conditions Analysis

Time span=0.00-72.00 hrs, dt=0.03 hrs, 2401 points x 2
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 PR-DA-1: Proposed DA 1 Runoff Area=146,601 sf 66.39% Impervious Runoff Depth=4.17"
Flow Length=521' Tc=8.4 min CN=90 Runoff=16.34 cfs 1.168 af

Subcatchment PR-DA-2: Proposed DA 2 Runoff Area=129,109 sf 76.46% Impervious Runoff Depth=4.38"
Flow Length=404' Tc=11.1 min CN=92 Runoff=13.00 cfs 1.082 af

Reach PR-R-1: Proposed Reach 1 Avg. Flow Depth=0.81' Max Vel=2.65 fps Inflow=5.20 cfs 1.074 af
n=0.022 L=254.0' S=0.0055 '/' Capacity=105.34 cfs Outflow=5.19 cfs 1.074 af

Reach PR-R-2: Proposed Reach 2 Avg. Flow Depth=0.55' Max Vel=1.73 fps Inflow=1.70 cfs 0.645 af
n=0.025 L=100.0' S=0.0050 '/' Capacity=7.67 cfs Outflow=1.59 cfs 0.645 af

Pond FB-1: FB to SGW 1 Peak Elev=48.41' Storage=26,565 cf Inflow=16.34 cfs 1.168 af
Outflow=4.65 cfs 0.772 af

Pond FB-2: FB to SGW 2 Peak Elev=50.26' Storage=8,115 cf Inflow=13.00 cfs 1.082 af
Outflow=12.31 cfs 1.082 af

Pond SGW-1: SGW 1 Peak Elev=48.23' Storage=9,651 cf Inflow=4.65 cfs 0.772 af
Primary=1.70 cfs 0.645 af Secondary=0.00 cfs 0.000 af Outflow=1.70 cfs 0.641 af

Pond SGW-2: SGW 2 Peak Elev=50.10' Storage=17,627 cf Inflow=12.31 cfs 1.082 af
Outflow=5.20 cfs 1.074 af

Link SP-1: Study Point #1 Inflow=1.59 cfs 0.645 af
Primary=1.59 cfs 0.645 af

Link SP-2: Study Point #2 Inflow=5.19 cfs 1.074 af
Primary=5.19 cfs 1.074 af

Total Runoff Area = 6.329 ac Runoff Volume = 2.251 af Average Runoff Depth = 4.27"
28.90% Pervious = 1.829 ac 71.10% Impervious = 4.500 ac

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

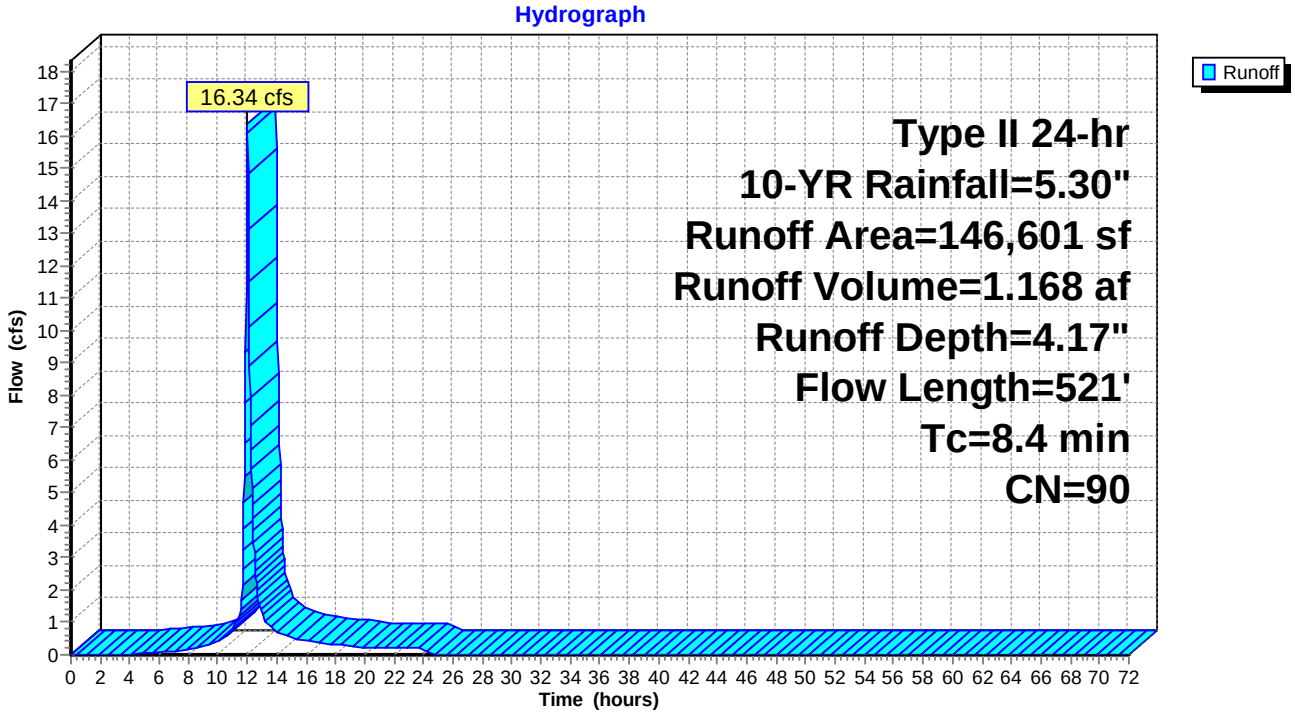
Runoff = 16.34 cfs @ 12.01 hrs, Volume= 1.168 af, Depth= 4.17"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.03 hrs
Type II 24-hr 10-YR Rainfall=5.30"

Area (sf)	CN	Description
49,279	74	>75% Grass cover, Good, HSG C
97,322	98	Paved parking, HSG C
146,601	90	Weighted Average
49,279		33.61% Pervious Area
97,322		66.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.1	100	0.0410	0.23		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.40"
1.3	421	0.0050	5.52	17.33	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.012
8.4	521	Total			

Subcatchment PR-DA-1: Proposed DA 1



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

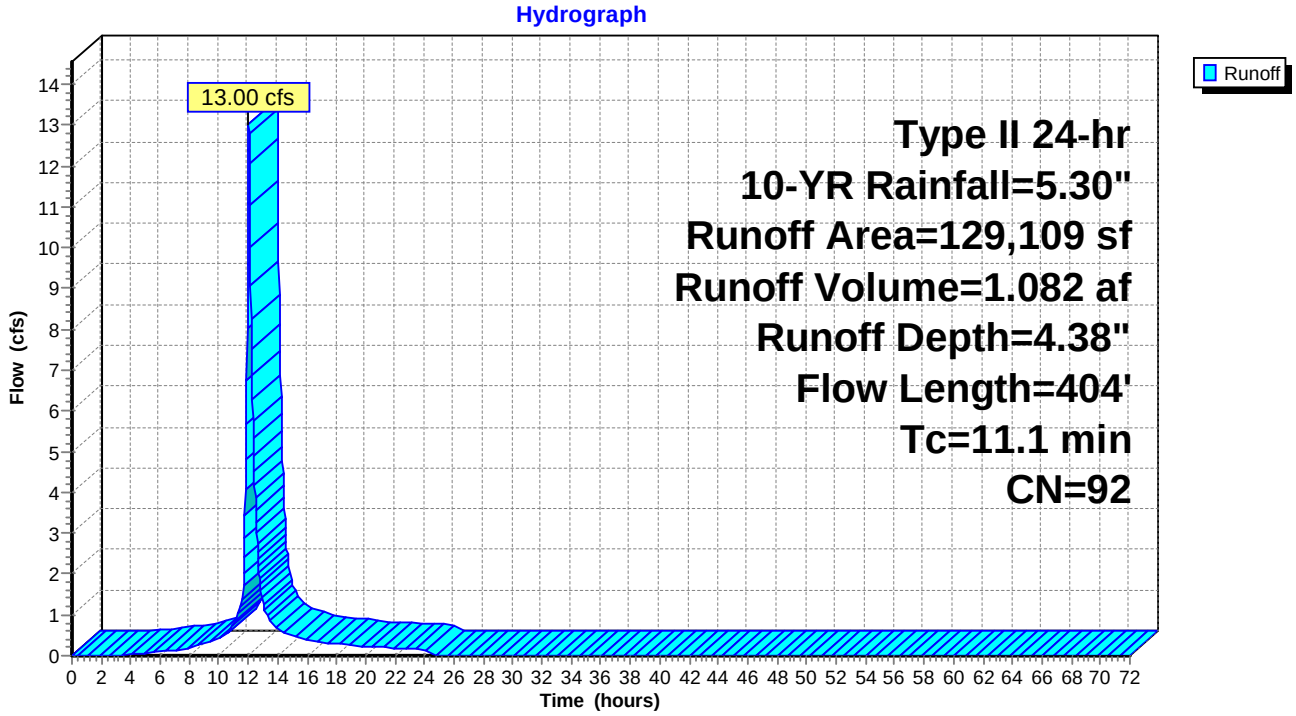
Runoff = 13.00 cfs @ 12.04 hrs, Volume= 1.082 af, Depth= 4.38"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.03 hrs
Type II 24-hr 10-YR Rainfall=5.30"

Area (sf)	CN	Description
30,393	74	>75% Grass cover, Good, HSG C
98,716	98	Paved parking, HSG C
129,109	92	Weighted Average
30,393		23.54% Pervious Area
98,716		76.46% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.3	69	0.0100	0.12		**Sheet Flow, Side Yard** Grass: Short n= 0.150 P2= 3.40"
0.5	31	0.0150	1.00		**Sheet Flow, Pave** Smooth surfaces n= 0.011 P2= 3.40"
0.3	50	0.0150	2.49		**Shallow Concentrated Flow, Pave** Paved Kv= 20.3 fps
1.0	254	0.0040	4.07	7.20	**Pipe Channel,** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.012
11.1	404	Total			

Subcatchment PR-DA-2: Proposed DA 2



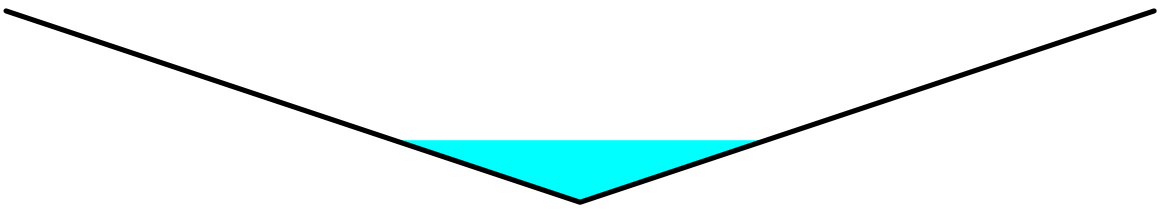
Summary for Reach PR-R-1: Proposed Reach 1

Inflow Area = 2.964 ac, 76.46% Impervious, Inflow Depth = 4.35" for 10-YR event
Inflow = 5.20 cfs @ 12.39 hrs, Volume= 1.074 af
Outflow = 5.19 cfs @ 12.41 hrs, Volume= 1.074 af, Atten= 0%, Lag= 1.3 min

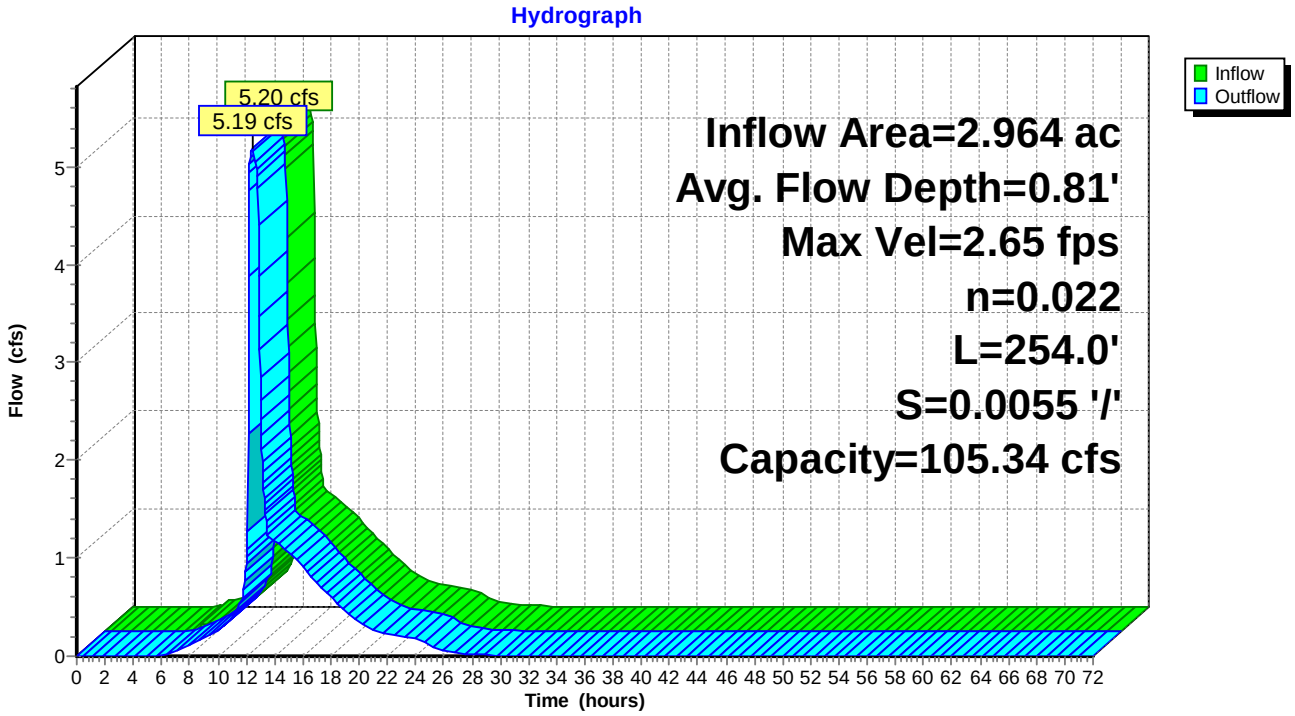
Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.03 hrs / 2
Max. Velocity= 2.65 fps, Min. Travel Time= 1.6 min
Avg. Velocity = 0.65 fps, Avg. Travel Time= 6.6 min

Peak Storage= 498 cf @ 12.41 hrs
Average Depth at Peak Storage= 0.81'
Bank-Full Depth= 2.50' Flow Area= 18.8 sf, Capacity= 105.34 cfs

0.00' x 2.50' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 3.0 '/' Top Width= 15.00'
Length= 254.0' Slope= 0.0055 '/'
Inlet Invert= 47.40', Outlet Invert= 46.00'



Reach PR-R-1: Proposed Reach 1



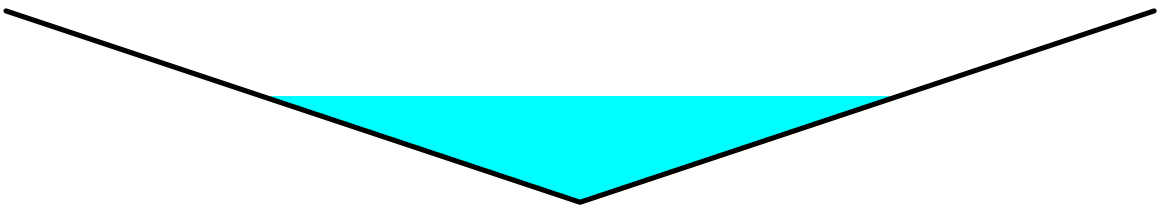
Summary for Reach PR-R-2: Proposed Reach 2

Inflow Area = 3.365 ac, 66.39% Impervious, Inflow Depth = 2.30" for 10-YR event
Inflow = 1.70 cfs @ 16.26 hrs, Volume= 0.645 af
Outflow = 1.59 cfs @ 12.94 hrs, Volume= 0.645 af, Atten= 6%, Lag= 0.0 min

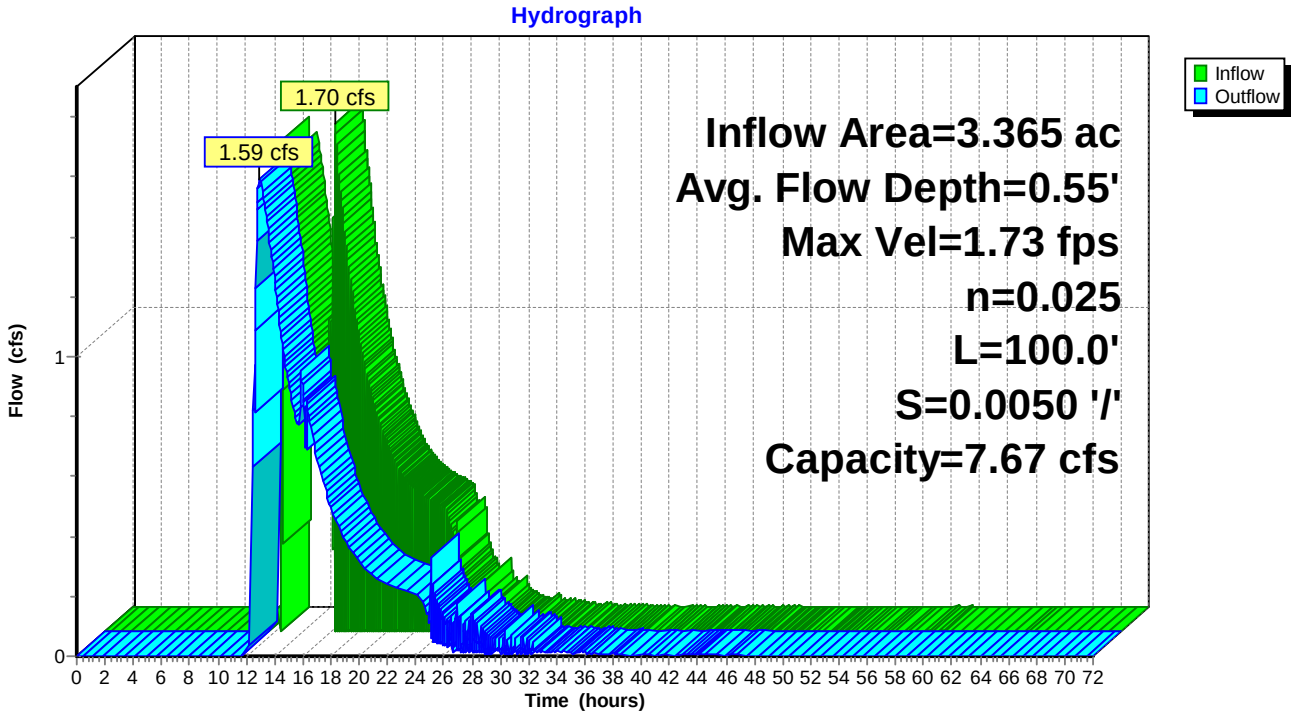
Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.03 hrs / 2
Max. Velocity= 1.73 fps, Min. Travel Time= 1.0 min
Avg. Velocity = 0.54 fps, Avg. Travel Time= 3.1 min

Peak Storage= 92 cf @ 12.94 hrs
Average Depth at Peak Storage= 0.55'
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 7.67 cfs

0.00' x 1.00' deep channel, n= 0.025
Side Slope Z-value= 3.0 '/' Top Width= 6.00'
Length= 100.0' Slope= 0.0050 '/'
Inlet Invert= 47.50', Outlet Invert= 47.00'



Reach PR-R-2: Proposed Reach 2



Summary for Pond FB-1: FB to SGW 1

Inflow Area = 3.365 ac, 66.39% Impervious, Inflow Depth = 4.17" for 10-YR event
Inflow = 16.34 cfs @ 12.01 hrs, Volume= 1.168 af
Outflow = 4.65 cfs @ 12.36 hrs, Volume= 0.772 af, Atten= 72%, Lag= 21.1 min
Primary = 4.65 cfs @ 12.36 hrs, Volume= 0.772 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.03 hrs / 2
Starting Elev= 45.17' Surf.Area= 0 sf Storage= 0 cf
Peak Elev= 48.41' @ 12.36 hrs Surf.Area= 10,833 sf Storage= 26,565 cf

Plug-Flow detention time= 267.3 min calculated for 0.772 af (66% of inflow)
Center-of-Mass det. time= 167.4 min (960.2 - 792.9)

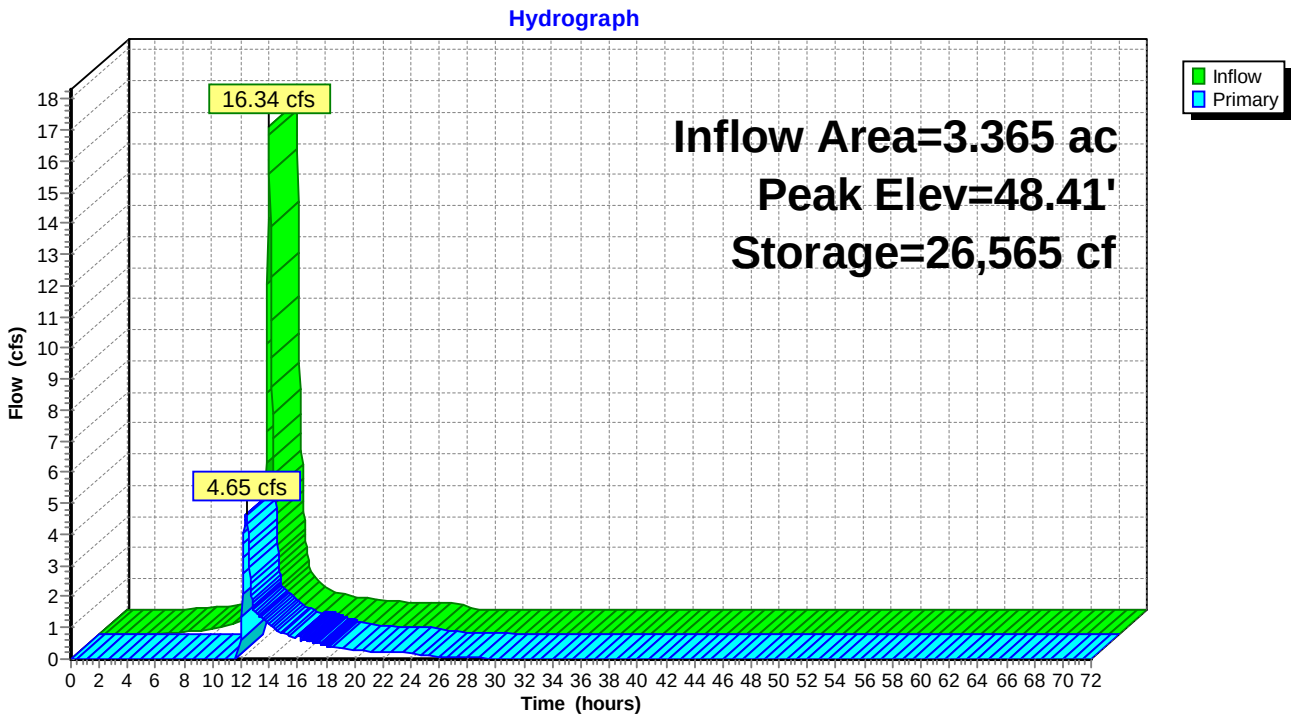
Volume	Invert	Avail.Storage	Storage Description
#1	45.50'	27,690 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
45.50	7,419	0	0
48.50	10,938	27,536	27,536
48.51	20,000	155	27,690

Device	Routing	Invert	Outlet Devices
#1	Primary	47.50'	**2.0' long x 4.0' breadth Broad-Crested Rectangular Weir** 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 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Primary OutFlow Max=4.65 cfs @ 12.36 hrs HW=48.41' TW=47.03' (Dynamic Tailwater)
└**1=Broad-Crested Rectangular Weir** (Weir Controls 4.65 cfs @ 2.55 fps)

Pond FB-1: FB to SGW 1



Summary for Pond FB-2: FB to SGW 2

Inflow Area = 2.964 ac, 76.46% Impervious, Inflow Depth = 4.38" for 10-YR event
Inflow = 13.00 cfs @ 12.04 hrs, Volume= 1.082 af
Outflow = 12.31 cfs @ 12.08 hrs, Volume= 1.082 af, Atten= 5%, Lag= 2.3 min
Primary = 12.31 cfs @ 12.08 hrs, Volume= 1.082 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.03 hrs / 2
Starting Elev= 49.50' Surf.Area= 3,371 sf Storage= 5,375 cf
Peak Elev= 50.26' @ 12.09 hrs Surf.Area= 3,887 sf Storage= 8,115 cf (2,740 cf above start)

Plug-Flow detention time= 98.6 min calculated for 0.959 af (89% of inflow)
Center-of-Mass det. time= 8.9 min (797.9 - 789.0)

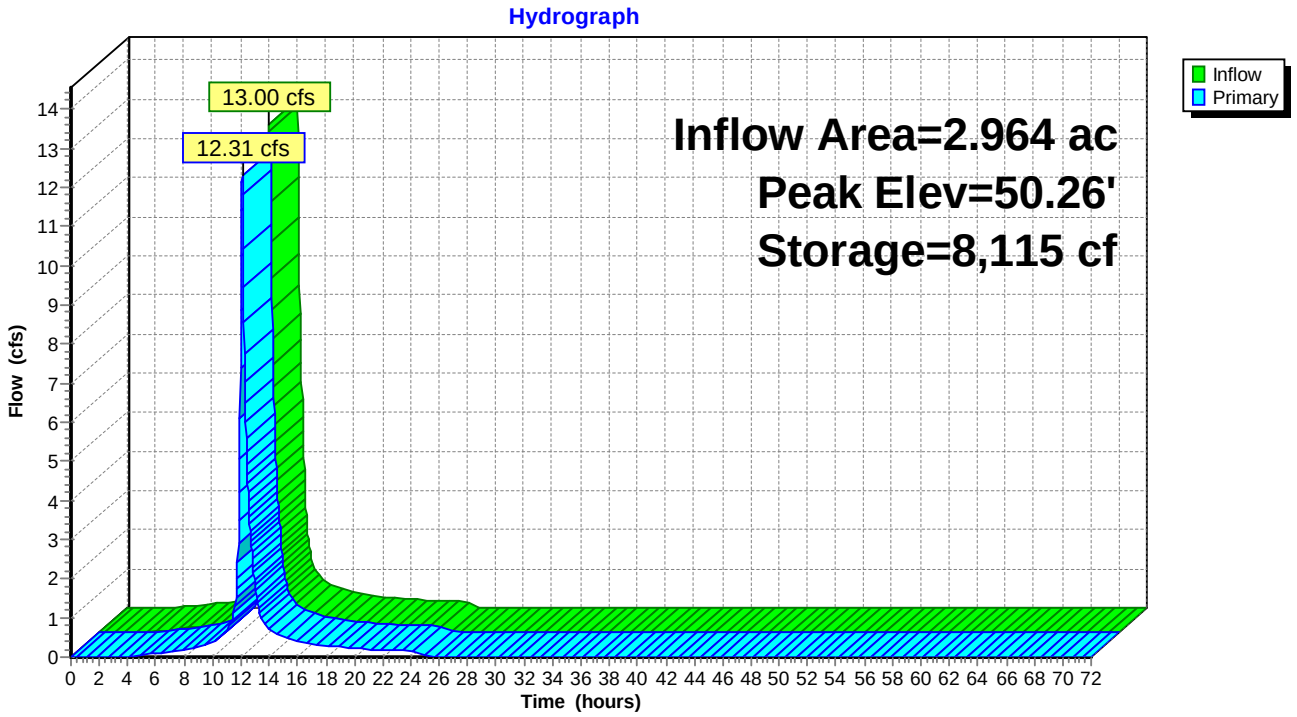
Volume	Invert	Avail.Storage	Storage Description
#1	47.50'	9,157 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
47.50	2,004	0	0
50.50	4,054	9,087	9,087
50.51	10,000	70	9,157

Device	Routing	Invert	Outlet Devices
#1	Primary	49.50'	**7.0' long x 4.0' breadth Broad-Crested Rectangular Weir** 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 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Primary OutFlow Max=12.25 cfs @ 12.08 hrs HW=50.25' TW=49.48' (Dynamic Tailwater)
└─**1=Broad-Crested Rectangular Weir** (Weir Controls 12.25 cfs @ 2.33 fps)

Pond FB-2: FB to SGW 2



Summary for Pond SGW-1: SGW 1

Inflow Area = 3.365 ac, 66.39% Impervious, Inflow Depth = 2.75" for 10-YR event
Inflow = 4.65 cfs @ 12.36 hrs, Volume= 0.772 af
Outflow = 1.70 cfs @ 16.26 hrs, Volume= 0.641 af, Atten= 63%, Lag= 233.9 min
Primary = 1.70 cfs @ 16.26 hrs, Volume= 0.645 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.03 hrs / 2
Starting Elev= 45.17' Surf.Area= 2,056 sf Storage= 1,382 cf
Peak Elev= 48.23' @ 12.92 hrs Surf.Area= 3,788 sf Storage= 9,651 cf (8,269 cf above start)

Plug-Flow detention time= 206.2 min calculated for 0.609 af (79% of inflow)
Center-of-Mass det. time= 78.3 min (1,038.5 - 960.2)

Volume	Invert	Avail.Storage	Storage Description
#1	43.49'	11,206 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

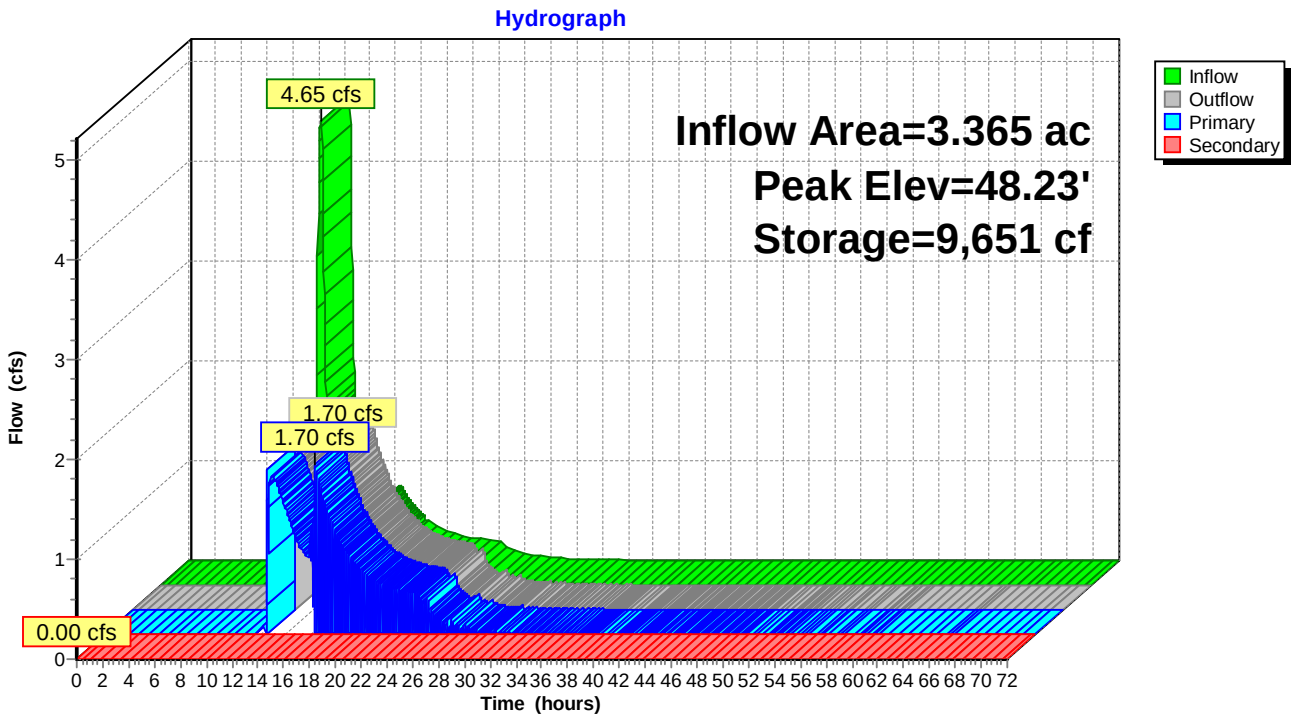
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
43.49	2,056	0.0	0	0
43.50	2,056	40.0	8	8
45.49	2,056	40.0	1,637	1,645
45.50	2,056	100.0	21	1,665
48.50	3,958	100.0	9,021	10,686
48.51	100,000	100.0	520	11,206

Device	Routing	Invert	Outlet Devices
#1	Primary	45.17'	**12.0" Round Culvert** L= 28.1' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 45.17' / 45.00' S= 0.0060 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf
#2	Device 1	47.50'	**24.0" x 24.0" Horiz. Rim** C= 0.600 Limited to weir flow at low heads
#3	Device 1	45.17'	**6.0" Vert. Collector Pipe** C= 0.600
#4	Secondary	48.50'	**75.0' long x 2.0' breadth Broad-Crested Rectangular Weir** 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 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 @ 16.26 hrs HW=47.87' TW=47.94' (Dynamic Tailwater)
└─**1=Culvert** (Controls 0.00 cfs)
  └─**2=Rim** (Controls 0.00 cfs)
  └─**3=Collector Pipe** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=45.17' TW=47.50' (Dynamic Tailwater)
└─**4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond SGW-1: SGW 1



Summary for Pond SGW-2: SGW 2

Inflow Area = 2.964 ac, 76.46% Impervious, Inflow Depth = 4.38" for 10-YR event
Inflow = 12.31 cfs @ 12.08 hrs, Volume= 1.082 af
Outflow = 5.20 cfs @ 12.39 hrs, Volume= 1.074 af, Atten= 58%, Lag= 19.0 min
Primary = 5.20 cfs @ 12.39 hrs, Volume= 1.074 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.03 hrs / 2
Starting Elev= 47.17' Surf.Area= 4,027 sf Storage= 2,706 cf
Peak Elev= 50.10' @ 12.39 hrs Surf.Area= 7,038 sf Storage= 17,627 cf (14,920 cf above start)

Plug-Flow detention time= 146.6 min calculated for 1.011 af (93% of inflow)
Center-of-Mass det. time= 90.0 min (887.9 - 797.9)

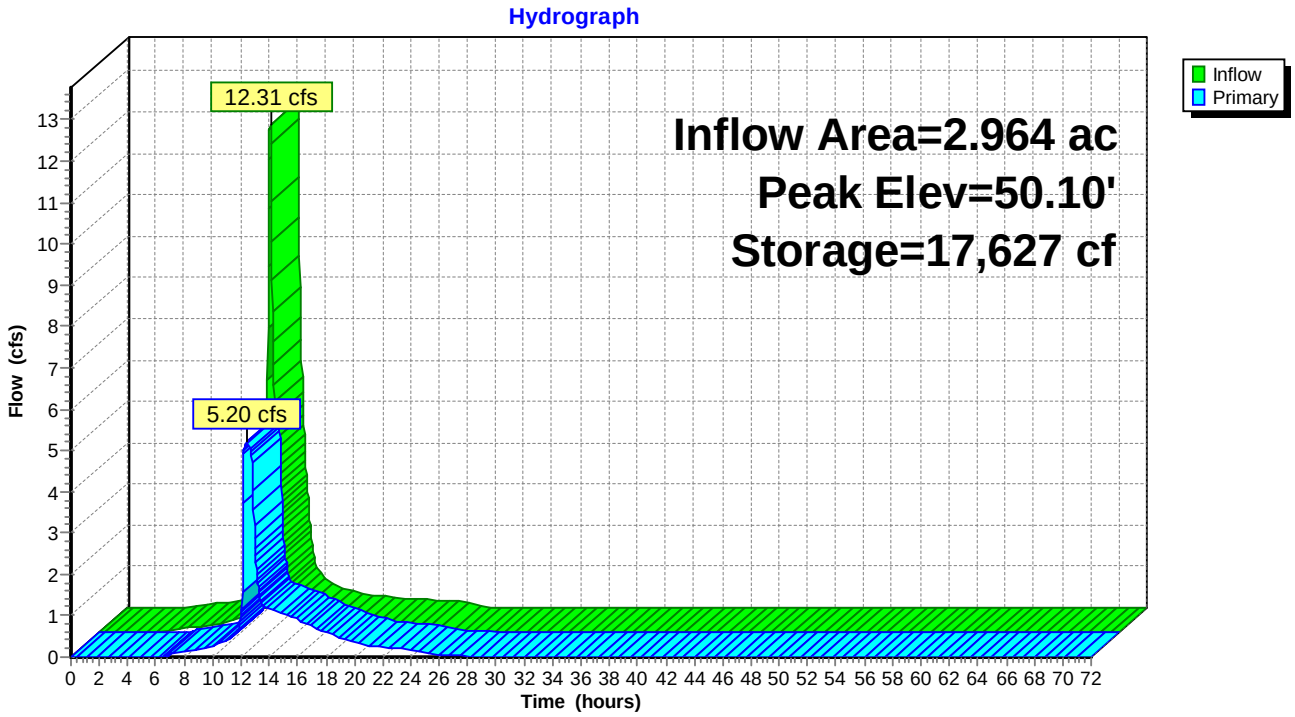
Volume	Invert	Avail.Storage	Storage Description
#1	45.49'	20,699 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
45.49	4,027	0.0	0	0
45.50	4,027	40.0	16	16
47.49	4,027	40.0	3,205	3,222
47.50	4,027	100.0	40	3,262
50.50	7,506	100.0	17,300	20,561
50.51	20,000	100.0	138	20,699

Device	Routing	Invert	Outlet Devices
#1	Primary	47.25'	**12.0" Round Culvert** L= 25.6' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.25' / 47.00' S= 0.0098 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf
#2	Device 1	49.50'	**24.0" x 24.0" Horiz. Rim** C= 0.600 Limited to weir flow at low heads
#3	Device 1	47.16'	**6.0" Vert. Collector Pipe** C= 0.600
#4	Primary	50.50'	**159.0' long x 2.0' breadth Broad-Crested Rectangular Weir** 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 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=5.20 cfs @ 12.39 hrs HW=50.10' TW=48.21' (Dynamic Tailwater)
- **1=Culvert** (Inlet Controls 5.20 cfs @ 6.62 fps)
  - **2=Rim** (Passes < 12.04 cfs potential flow)
  - **3=Collector Pipe** (Passes < 1.30 cfs potential flow)
- **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond SGW-2: SGW 2

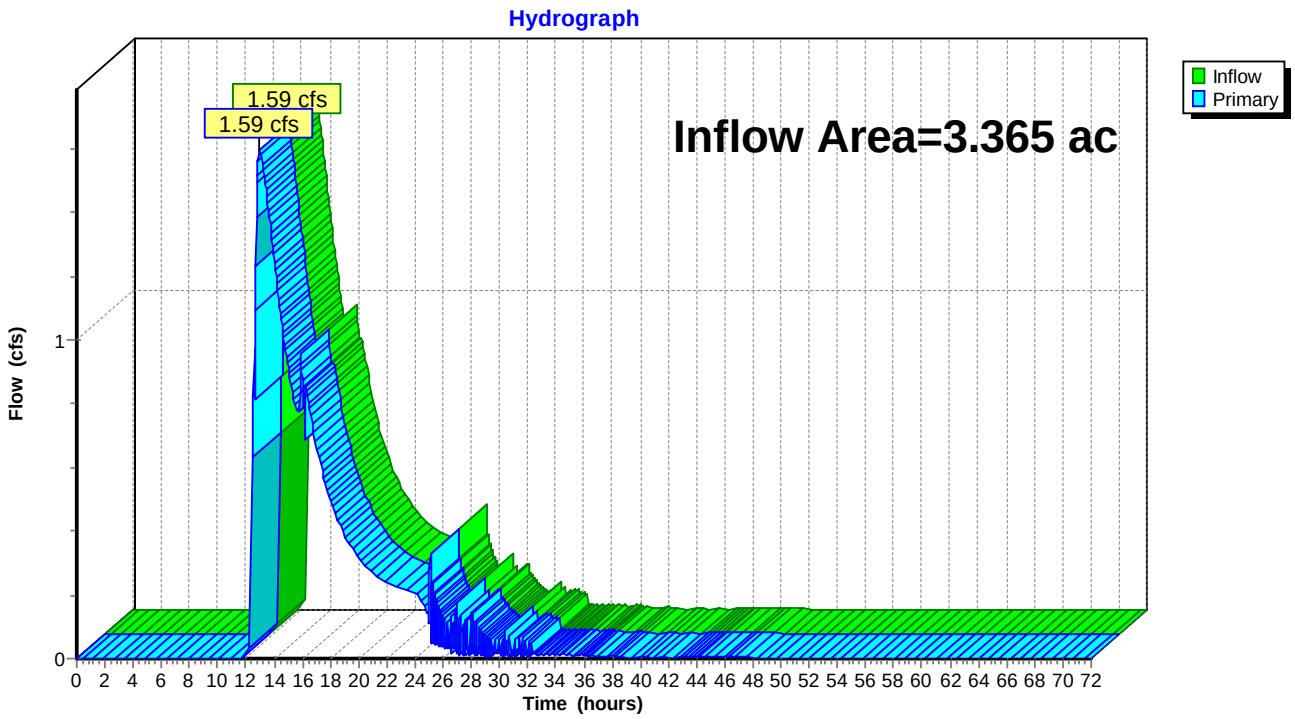


Summary for Link SP-1: Study Point #1

Inflow Area = 3.365 ac, 66.39% Impervious, Inflow Depth = 2.30" for 10-YR event
Inflow = 1.59 cfs @ 12.94 hrs, Volume= 0.645 af
Primary = 1.59 cfs @ 12.94 hrs, Volume= 0.645 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.03 hrs

Link SP-1: Study Point #1

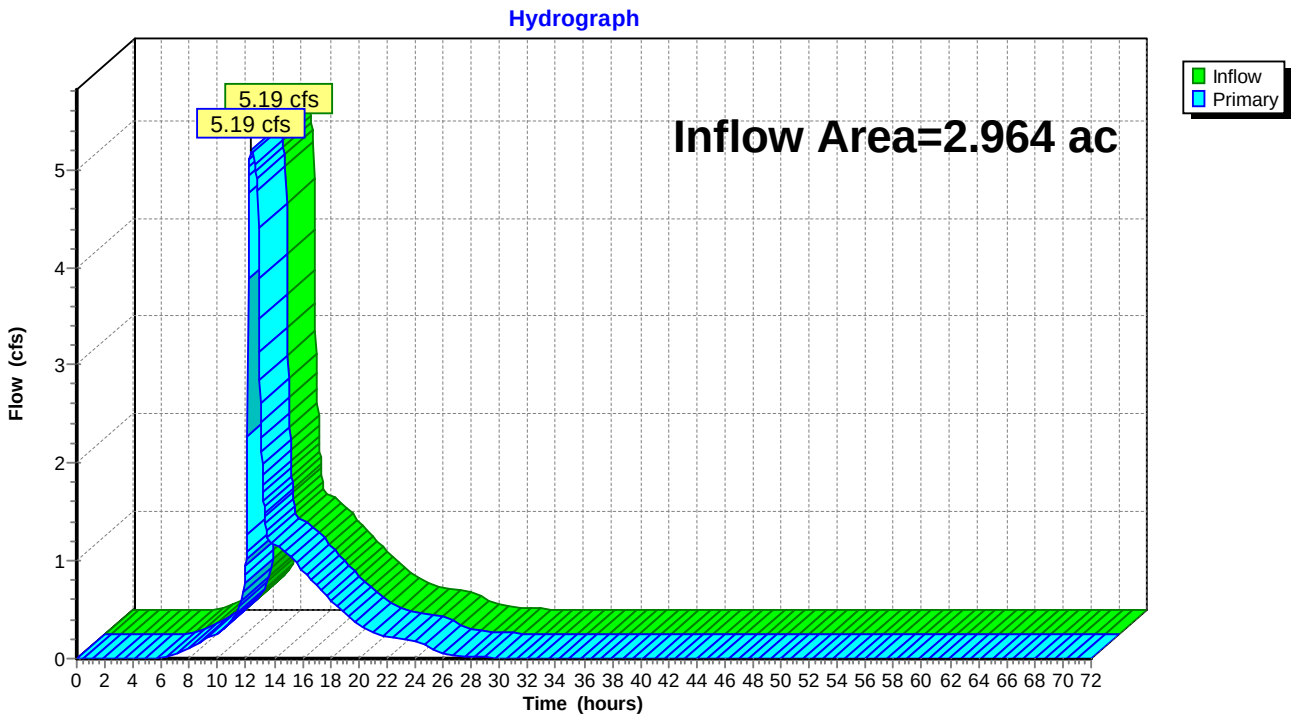


Summary for Link SP-2: Study Point #2

Inflow Area = 2.964 ac, 76.46% Impervious, Inflow Depth = 4.35" for 10-YR event
Inflow = 5.19 cfs @ 12.41 hrs, Volume= 1.074 af
Primary = 5.19 cfs @ 12.41 hrs, Volume= 1.074 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.03 hrs

Link SP-2: Study Point #2



100-Year Proposed Conditions Analysis

Time span=0.00-72.00 hrs, dt=0.03 hrs, 2401 points x 2
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 PR-DA-1: Proposed DA 1 Runoff Area=146,601 sf 66.39% Impervious Runoff Depth=6.41"
Flow Length=521' Tc=8.4 min CN=90 Runoff=24.57 cfs 1.798 af

Subcatchment PR-DA-2: Proposed DA 2 Runoff Area=129,109 sf 76.46% Impervious Runoff Depth=6.65"
Flow Length=404' Tc=11.1 min CN=92 Runoff=19.29 cfs 1.642 af

Reach PR-R-1: Proposed Reach 1 Avg. Flow Depth=1.17' Max Vel=3.40 fps Inflow=20.46 cfs 1.633 af
n=0.022 L=254.0' S=0.0055 '/' Capacity=105.34 cfs Outflow=14.05 cfs 1.633 af

Reach PR-R-2: Proposed Reach 2 Avg. Flow Depth=1.56' Max Vel=2.97 fps Inflow=26.31 cfs 1.277 af
n=0.025 L=100.0' S=0.0050 '/' Capacity=7.67 cfs Outflow=18.79 cfs 1.277 af

Pond FB-1: FB to SGW 1 Peak Elev=50.81' Storage=27,690 cf Inflow=24.57 cfs 1.798 af
Outflow=33.14 cfs 1.402 af

Pond FB-2: FB to SGW 2 Peak Elev=50.78' Storage=9,157 cf Inflow=19.29 cfs 1.642 af
Outflow=19.71 cfs 1.642 af

Pond SGW-1: SGW 1 Peak Elev=49.04' Storage=11,206 cf Inflow=33.14 cfs 1.402 af
Primary=2.64 cfs 0.963 af Secondary=25.77 cfs 0.314 af Outflow=26.31 cfs 1.271 af

Pond SGW-2: SGW 2 Peak Elev=50.61' Storage=20,699 cf Inflow=19.71 cfs 1.642 af
Outflow=20.46 cfs 1.633 af

Link SP-1: Study Point #1 Inflow=18.79 cfs 1.277 af
Primary=18.79 cfs 1.277 af

Link SP-2: Study Point #2 Inflow=14.05 cfs 1.633 af
Primary=14.05 cfs 1.633 af

Total Runoff Area = 6.329 ac Runoff Volume = 3.440 af Average Runoff Depth = 6.52"
28.90% Pervious = 1.829 ac 71.10% Impervious = 4.500 ac

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

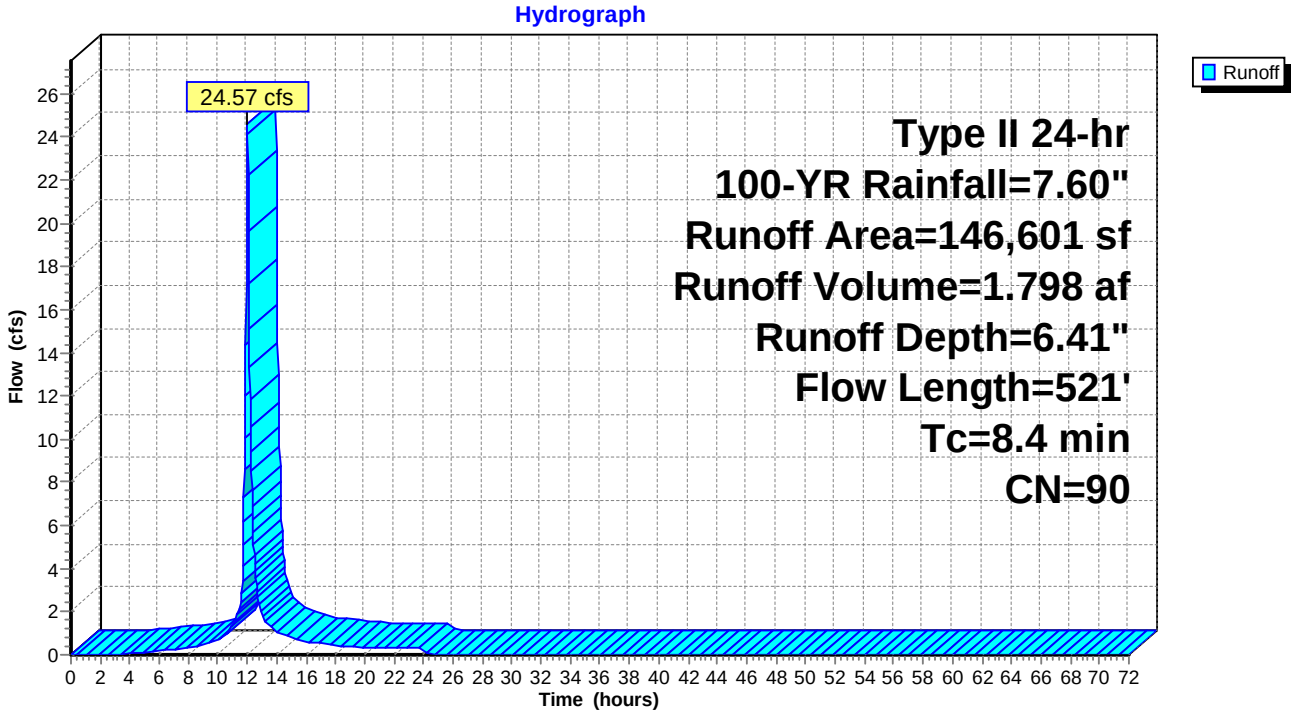
Runoff = 24.57 cfs @ 12.01 hrs, Volume= 1.798 af, Depth= 6.41"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.03 hrs
Type II 24-hr 100-YR Rainfall=7.60"

Area (sf)	CN	Description
49,279	74	>75% Grass cover, Good, HSG C
97,322	98	Paved parking, HSG C
146,601	90	Weighted Average
49,279		33.61% Pervious Area
97,322		66.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.1	100	0.0410	0.23		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.40"
1.3	421	0.0050	5.52	17.33	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.012
8.4	521	Total			

Subcatchment PR-DA-1: Proposed DA 1



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

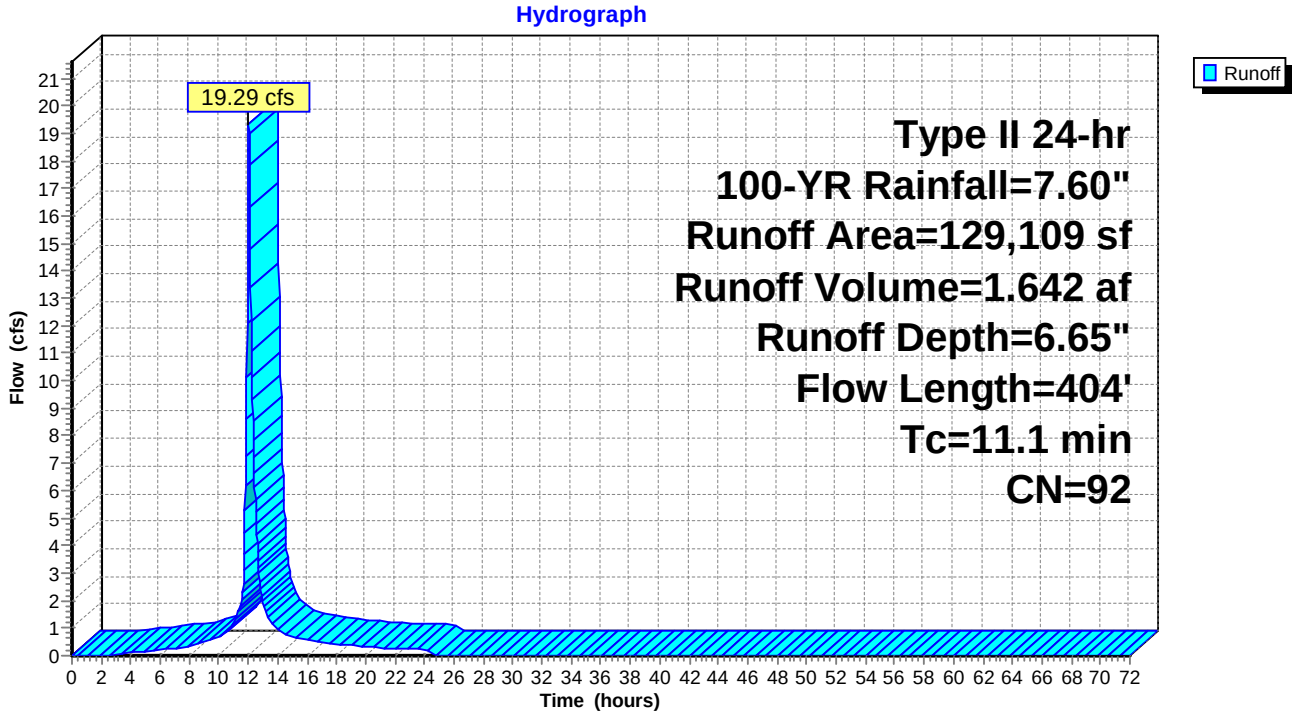
Runoff = 19.29 cfs @ 12.04 hrs, Volume= 1.642 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.03 hrs
Type II 24-hr 100-YR Rainfall=7.60"

Area (sf)	CN	Description
30,393	74	>75% Grass cover, Good, HSG C
98,716	98	Paved parking, HSG C
129,109	92	Weighted Average
30,393		23.54% Pervious Area
98,716		76.46% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.3	69	0.0100	0.12		**Sheet Flow, Side Yard** Grass: Short n= 0.150 P2= 3.40"
0.5	31	0.0150	1.00		**Sheet Flow, Pave** Smooth surfaces n= 0.011 P2= 3.40"
0.3	50	0.0150	2.49		**Shallow Concentrated Flow, Pave** Paved Kv= 20.3 fps
1.0	254	0.0040	4.07	7.20	**Pipe Channel,** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.012
11.1	404	Total			

Subcatchment PR-DA-2: Proposed DA 2



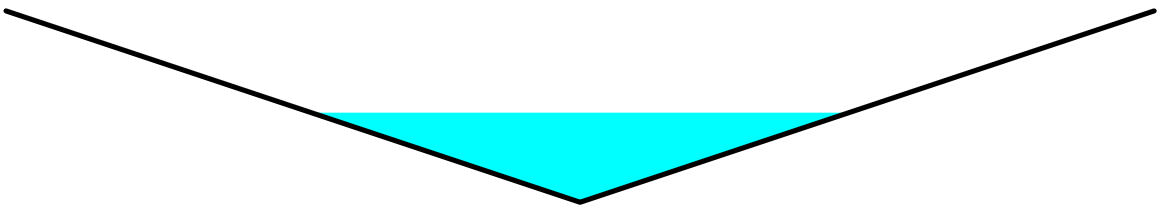
Summary for Reach PR-R-1: Proposed Reach 1

Inflow Area = 2.964 ac, 76.46% Impervious, Inflow Depth = 6.61" for 100-YR event
Inflow = 20.46 cfs @ 12.15 hrs, Volume= 1.633 af
Outflow = 14.05 cfs @ 12.18 hrs, Volume= 1.633 af, Atten= 31%, Lag= 1.8 min

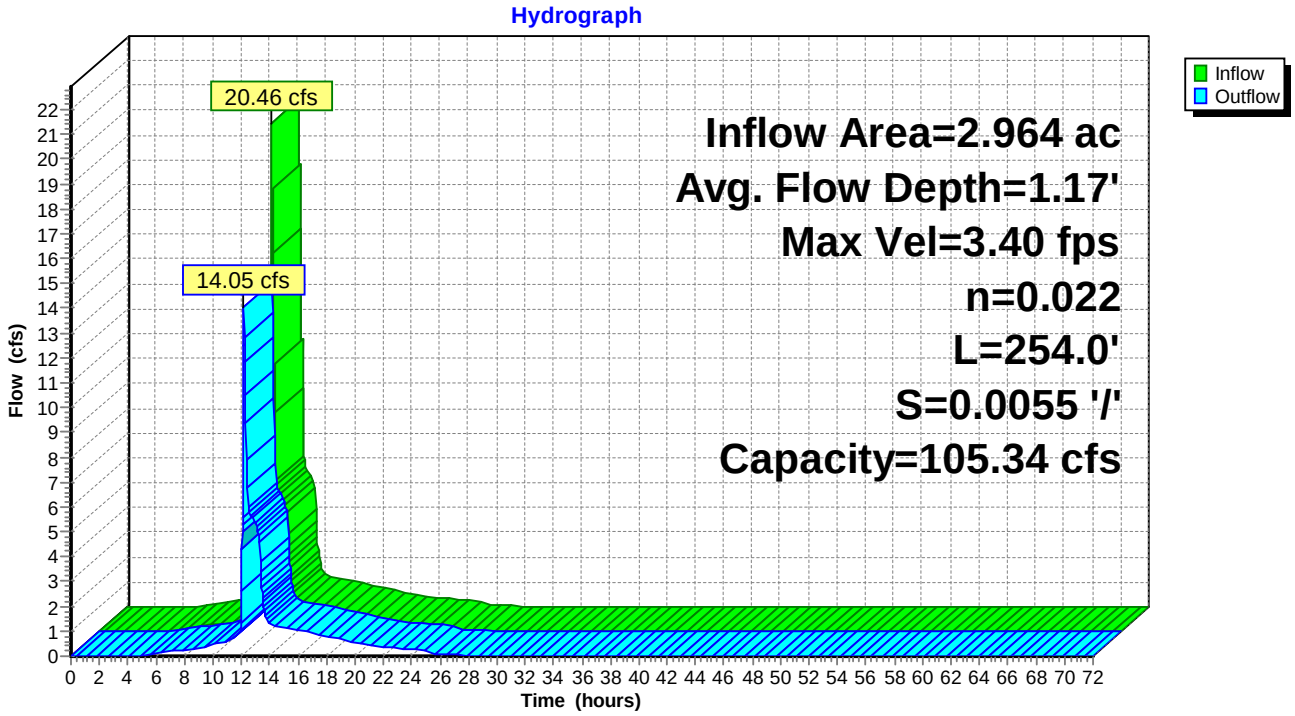
Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.03 hrs / 2
Max. Velocity= 3.40 fps, Min. Travel Time= 1.2 min
Avg. Velocity = 0.70 fps, Avg. Travel Time= 6.1 min

Peak Storage= 1,051 cf @ 12.18 hrs
Average Depth at Peak Storage= 1.17'
Bank-Full Depth= 2.50' Flow Area= 18.8 sf, Capacity= 105.34 cfs

0.00' x 2.50' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 3.0 '/' Top Width= 15.00'
Length= 254.0' Slope= 0.0055 '/'
Inlet Invert= 47.40', Outlet Invert= 46.00'



Reach PR-R-1: Proposed Reach 1



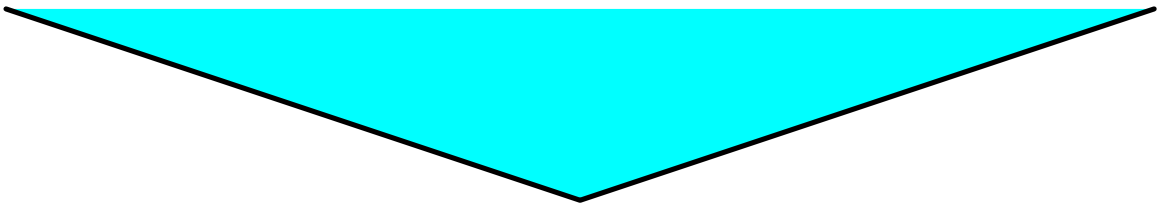
Summary for Reach PR-R-2: Proposed Reach 2

Inflow Area = 3.365 ac, 66.39% Impervious, Inflow Depth = 4.55" for 100-YR event
Inflow = 26.31 cfs @ 12.12 hrs, Volume= 1.277 af
Outflow = 18.79 cfs @ 12.13 hrs, Volume= 1.277 af, Atten= 29%, Lag= 0.6 min

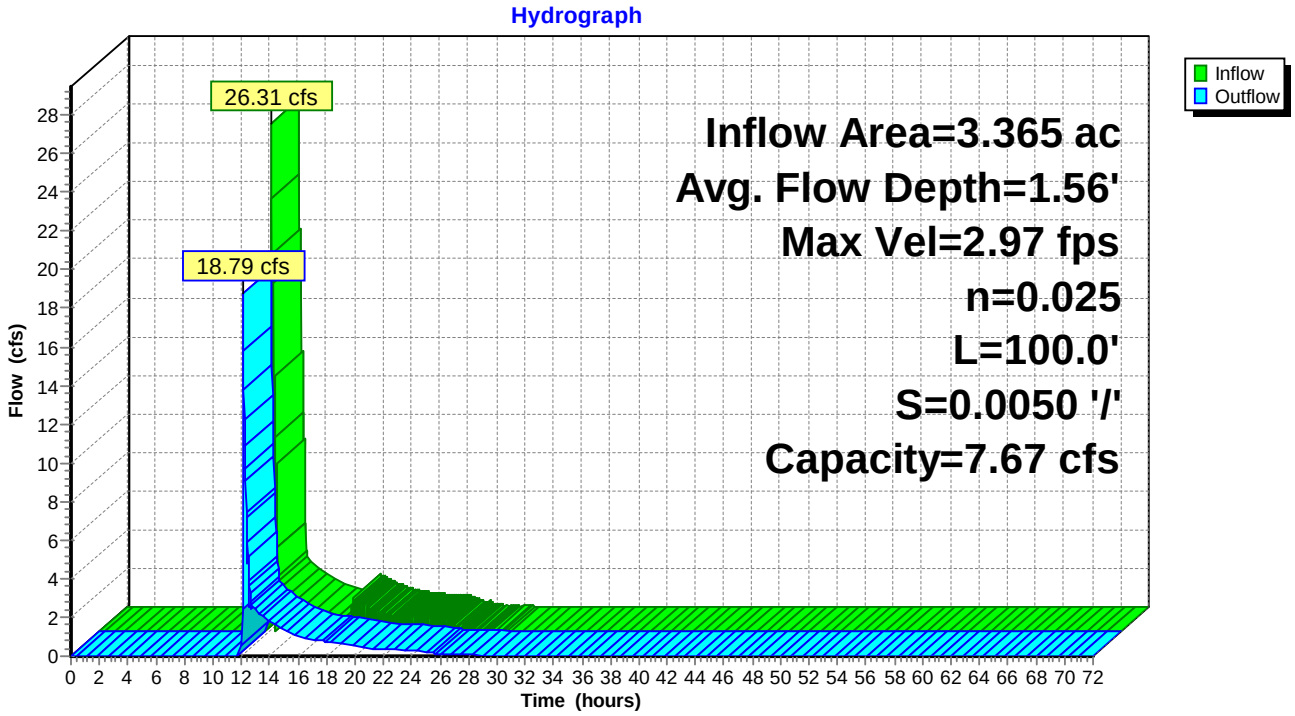
Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.03 hrs / 2
Max. Velocity= 2.97 fps, Min. Travel Time= 0.6 min
Avg. Velocity = 0.59 fps, Avg. Travel Time= 2.8 min

Peak Storage= 630 cf @ 12.13 hrs
Average Depth at Peak Storage= 1.56'
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 7.67 cfs

0.00' x 1.00' deep channel, n= 0.025
Side Slope Z-value= 3.0 '/' Top Width= 6.00'
Length= 100.0' Slope= 0.0050 '/'
Inlet Invert= 47.50', Outlet Invert= 47.00'



Reach PR-R-2: Proposed Reach 2



Summary for Pond FB-1: FB to SGW 1

Inflow Area = 3.365 ac, 66.39% Impervious, Inflow Depth = 6.41" for 100-YR event
Inflow = 24.57 cfs @ 12.01 hrs, Volume= 1.798 af
Outflow = 33.14 cfs @ 12.03 hrs, Volume= 1.402 af, Atten= 0%, Lag= 1.2 min
Primary = 33.14 cfs @ 12.03 hrs, Volume= 1.402 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.03 hrs / 2
Starting Elev= 45.17' Surf.Area= 0 sf Storage= 0 cf
Peak Elev= 50.81' @ 12.03 hrs Surf.Area= 20,000 sf Storage= 27,690 cf

Plug-Flow detention time= 205.2 min calculated for 1.401 af (78% of inflow)
Center-of-Mass det. time= 122.6 min (903.9 - 781.3)

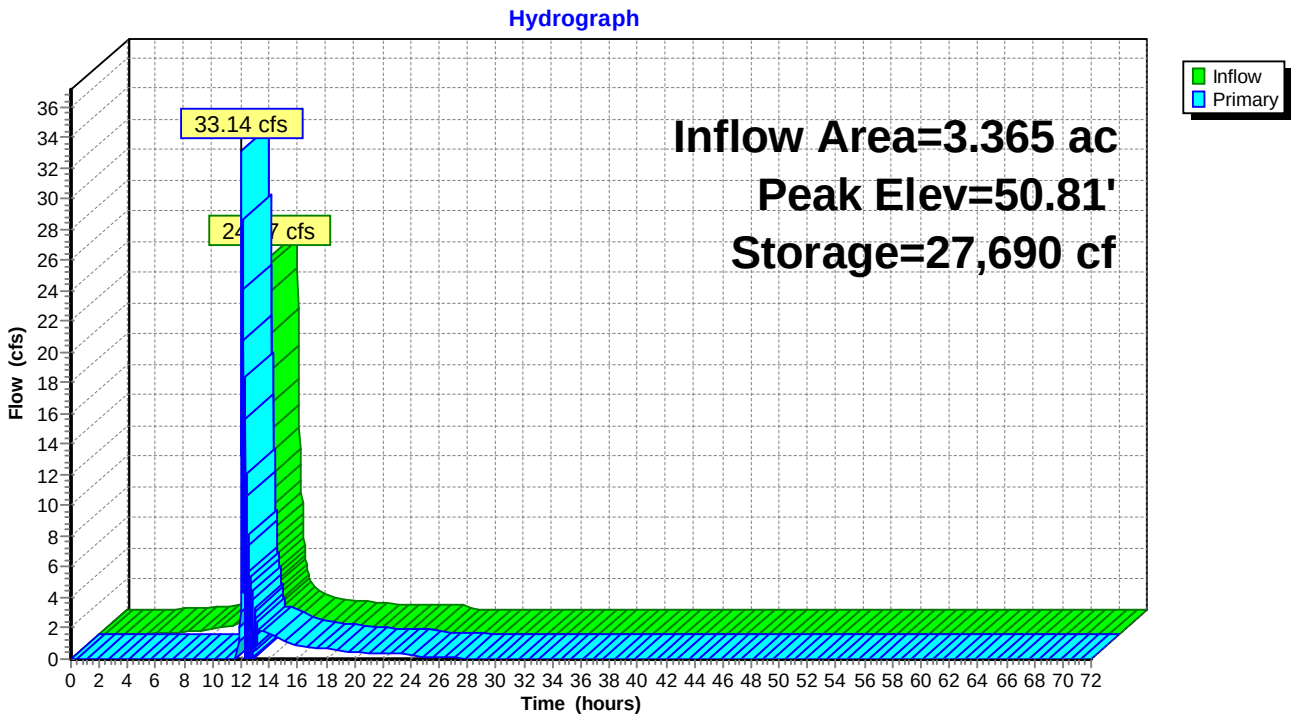
Volume	Invert	Avail.Storage	Storage Description
#1	45.50'	27,690 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
45.50	7,419	0	0
48.50	10,938	27,536	27,536
48.51	20,000	155	27,690

Device	Routing	Invert	Outlet Devices
#1	Primary	47.50'	**2.0' long x 4.0' breadth Broad-Crested Rectangular Weir** 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 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Primary OutFlow Max=32.52 cfs @ 12.03 hrs HW=50.77' TW=47.18' (Dynamic Tailwater)
└**1=Broad-Crested Rectangular Weir** (Weir Controls 32.52 cfs @ 4.97 fps)

Pond FB-1: FB to SGW 1



Summary for Pond FB-2: FB to SGW 2

Inflow Area = 2.964 ac, 76.46% Impervious, Inflow Depth = 6.65" for 100-YR event
Inflow = 19.29 cfs @ 12.04 hrs, Volume= 1.642 af
Outflow = 19.71 cfs @ 12.06 hrs, Volume= 1.642 af, Atten= 0%, Lag= 1.5 min
Primary = 19.71 cfs @ 12.06 hrs, Volume= 1.642 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.03 hrs / 2
Starting Elev= 49.50' Surf.Area= 3,371 sf Storage= 5,375 cf
Peak Elev= 50.78' @ 12.14 hrs Surf.Area= 10,000 sf Storage= 9,157 cf (3,783 cf above start)

Plug-Flow detention time= 78.3 min calculated for 1.518 af (92% of inflow)
Center-of-Mass det. time= 8.8 min (787.2 - 778.4)

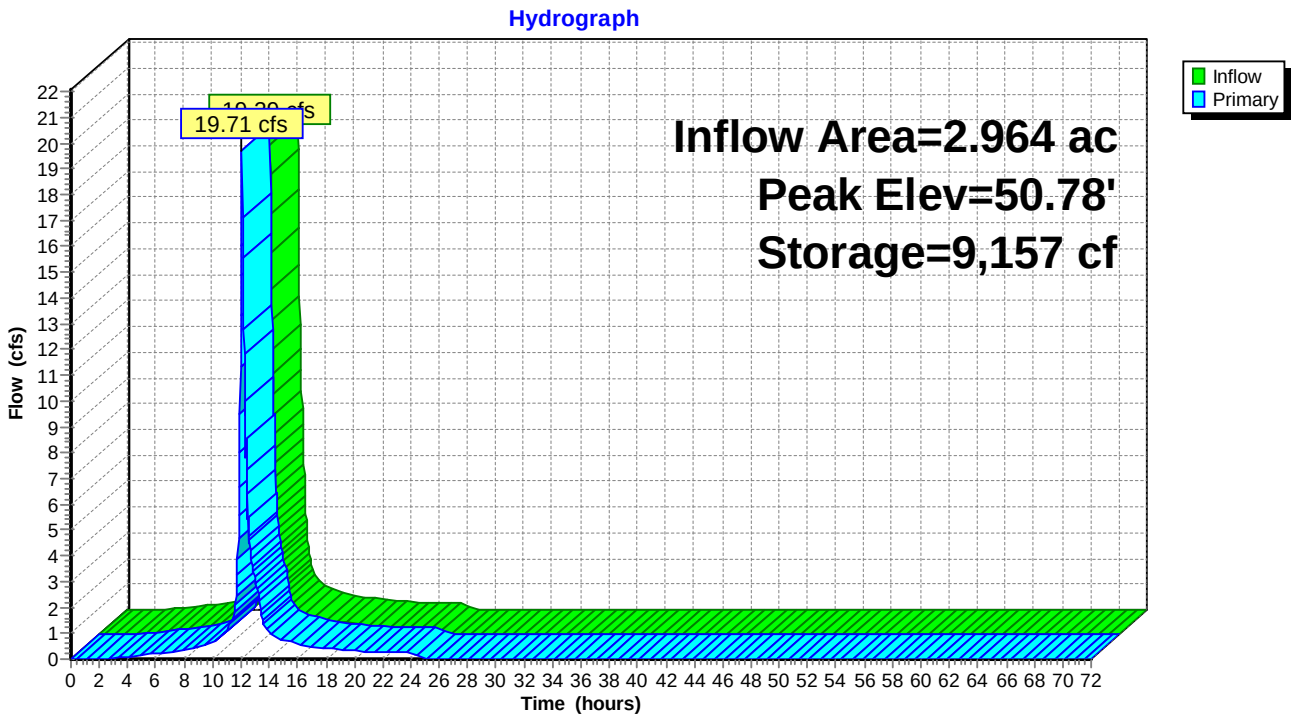
Volume	Invert	Avail.Storage	Storage Description
#1	47.50'	9,157 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
47.50	2,004	0	0
50.50	4,054	9,087	9,087
50.51	10,000	70	9,157

Device	Routing	Invert	Outlet Devices
#1	Primary	49.50'	**7.0' long x 4.0' breadth Broad-Crested Rectangular Weir** 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 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Primary OutFlow Max=19.49 cfs @ 12.06 hrs HW=50.67' TW=50.14' (Dynamic Tailwater)
└**1=Broad-Crested Rectangular Weir** (Weir Controls 19.49 cfs @ 2.38 fps)

Pond FB-2: FB to SGW 2



Summary for Pond SGW-1: SGW 1

Inflow Area = 3.365 ac, 66.39% Impervious, Inflow Depth = 5.00" for 100-YR event
Inflow = 33.14 cfs @ 12.03 hrs, Volume= 1.402 af
Outflow = 26.31 cfs @ 12.12 hrs, Volume= 1.271 af, Atten= 21%, Lag= 5.5 min
Primary = 2.64 cfs @ 12.07 hrs, Volume= 0.963 af
Secondary = 25.77 cfs @ 12.12 hrs, Volume= 0.314 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.03 hrs / 2
Starting Elev= 45.17' Surf.Area= 2,056 sf Storage= 1,382 cf
Peak Elev= 49.04' @ 12.13 hrs Surf.Area= 100,000 sf Storage= 11,206 cf (9,825 cf above start)

Plug-Flow detention time= 118.6 min calculated for 1.239 af (88% of inflow)
Center-of-Mass det. time= 43.1 min (946.9 - 903.9)

Volume	Invert	Avail.Storage	Storage Description
#1	43.49'	11,206 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

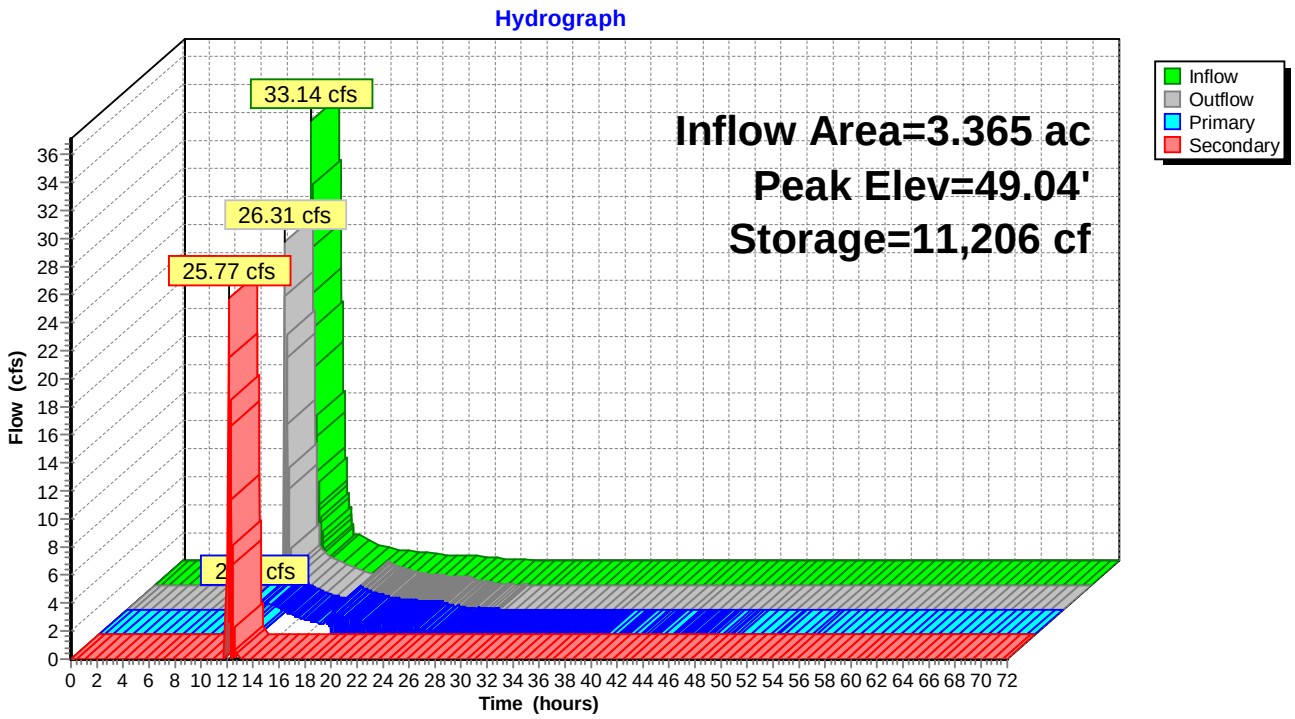
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
43.49	2,056	0.0	0	0
43.50	2,056	40.0	8	8
45.49	2,056	40.0	1,637	1,645
45.50	2,056	100.0	21	1,665
48.50	3,958	100.0	9,021	10,686
48.51	100,000	100.0	520	11,206

Device	Routing	Invert	Outlet Devices
#1	Primary	45.17'	**12.0" Round Culvert** L= 28.1' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 45.17' / 45.00' S= 0.0060 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf
#2	Device 1	47.50'	**24.0" x 24.0" Horiz. Rim** C= 0.600 Limited to weir flow at low heads
#3	Device 1	45.17'	**6.0" Vert. Collector Pipe** C= 0.600
#4	Secondary	48.50'	**75.0' long x 2.0' breadth Broad-Crested Rectangular Weir** 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 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=1.29 cfs @ 12.07 hrs HW=48.17' TW=48.05' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 1.29 cfs @ 1.64 fps)
  ├─**2=Rim** (Passes < 6.58 cfs potential flow)
  └─**3=Collector Pipe** (Passes < 0.32 cfs potential flow)

Secondary OutFlow Max=24.67 cfs @ 12.12 hrs HW=49.00' TW=48.98' (Dynamic Tailwater)
└─**4=Broad-Crested Rectangular Weir** (Weir Controls 24.67 cfs @ 0.66 fps)

Pond SGW-1: SGW 1



Summary for Pond SGW-2: SGW 2

Inflow Area = 2.964 ac, 76.46% Impervious, Inflow Depth = 6.65" for 100-YR event
Inflow = 19.71 cfs @ 12.06 hrs, Volume= 1.642 af
Outflow = 20.46 cfs @ 12.15 hrs, Volume= 1.633 af, Atten= 0%, Lag= 5.3 min
Primary = 20.46 cfs @ 12.15 hrs, Volume= 1.633 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.03 hrs / 2
Starting Elev= 47.17' Surf.Area= 4,027 sf Storage= 2,706 cf
Peak Elev= 50.61' @ 12.15 hrs Surf.Area= 20,000 sf Storage= 20,699 cf (17,993 cf above start)

Plug-Flow detention time= 121.6 min calculated for 1.571 af (96% of inflow)
Center-of-Mass det. time= 78.9 min (866.1 - 787.2)

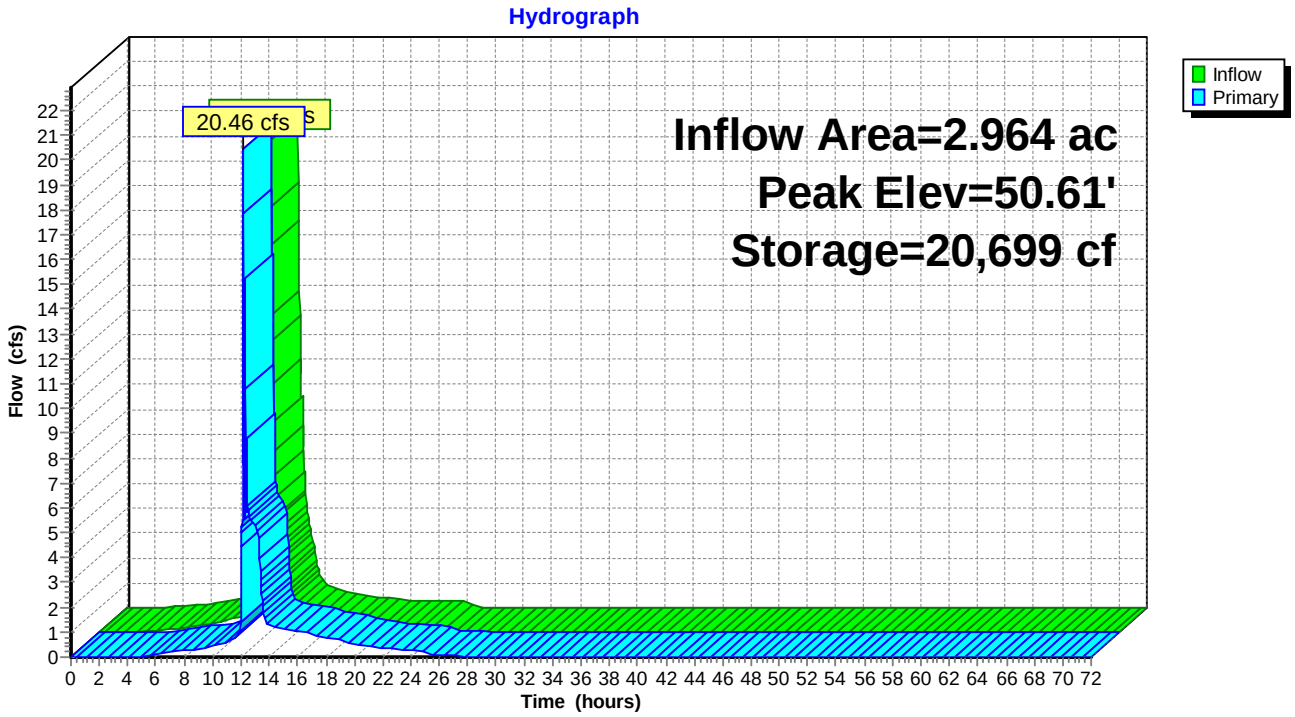
Volume	Invert	Avail.Storage	Storage Description
#1	45.49'	20,699 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
45.49	4,027	0.0	0	0
45.50	4,027	40.0	16	16
47.49	4,027	40.0	3,205	3,222
47.50	4,027	100.0	40	3,262
50.50	7,506	100.0	17,300	20,561
50.51	20,000	100.0	138	20,699

Device	Routing	Invert	Outlet Devices
#1	Primary	47.25'	**12.0" Round Culvert** L= 25.6' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.25' / 47.00' S= 0.0098 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf
#2	Device 1	49.50'	**24.0" x 24.0" Horiz. Rim** C= 0.600 Limited to weir flow at low heads
#3	Device 1	47.16'	**6.0" Vert. Collector Pipe** C= 0.600
#4	Primary	50.50'	**159.0' long x 2.0' breadth Broad-Crested Rectangular Weir** 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 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=19.85 cfs @ 12.15 hrs HW=50.61' TW=48.52' (Dynamic Tailwater)
- **1=Culvert** (Inlet Controls 5.46 cfs @ 6.95 fps)
  - **2=Rim** (Passes < 20.28 cfs potential flow)
  - **3=Collector Pipe** (Passes < 1.36 cfs potential flow)
- **4=Broad-Crested Rectangular Weir** (Weir Controls 14.39 cfs @ 0.84 fps)

Pond SGW-2: SGW 2

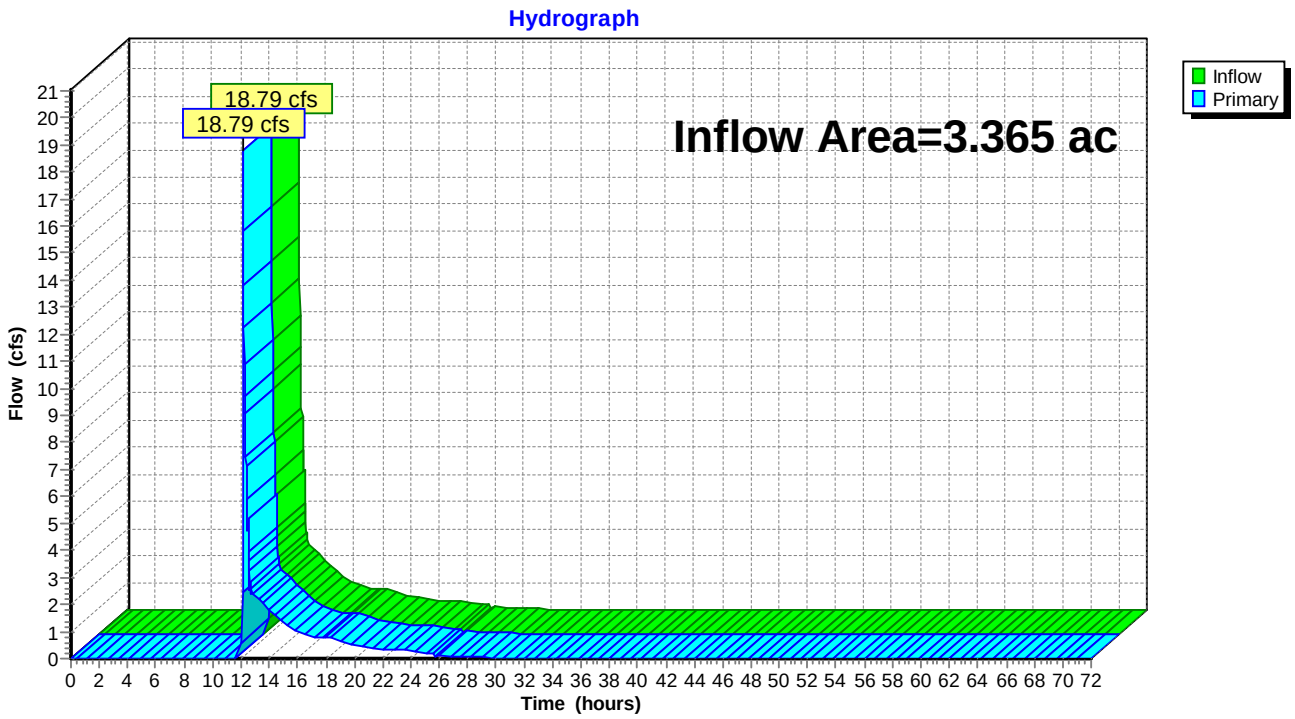


Summary for Link SP-1: Study Point #1

Inflow Area = 3.365 ac, 66.39% Impervious, Inflow Depth = 4.55" for 100-YR event
Inflow = 18.79 cfs @ 12.13 hrs, Volume= 1.277 af
Primary = 18.79 cfs @ 12.13 hrs, Volume= 1.277 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.03 hrs

Link SP-1: Study Point #1

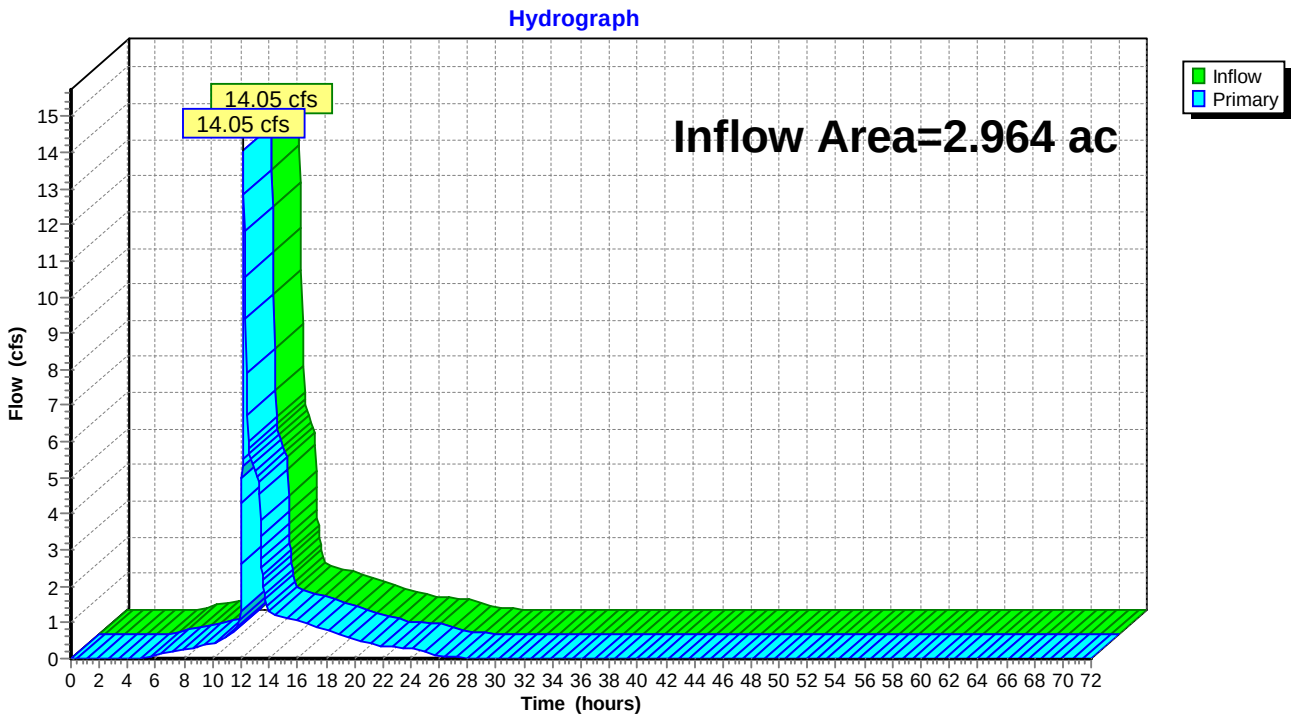


Summary for Link SP-2: Study Point #2

Inflow Area = 2.964 ac, 76.46% Impervious, Inflow Depth = 6.61" for 100-YR event
Inflow = 14.05 cfs @ 12.18 hrs, Volume= 1.633 af
Primary = 14.05 cfs @ 12.18 hrs, Volume= 1.633 af, Atten= 0%, Lag= 0.0 min

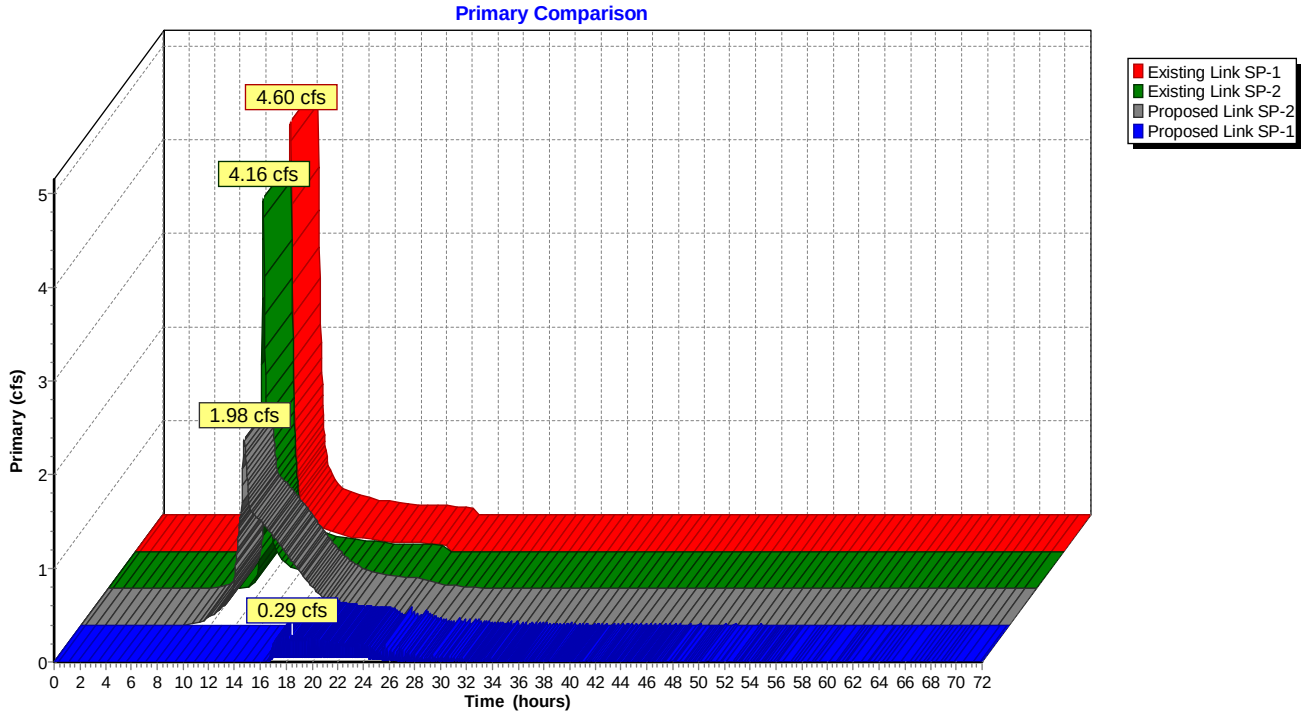
Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.03 hrs

Link SP-2: Study Point #2

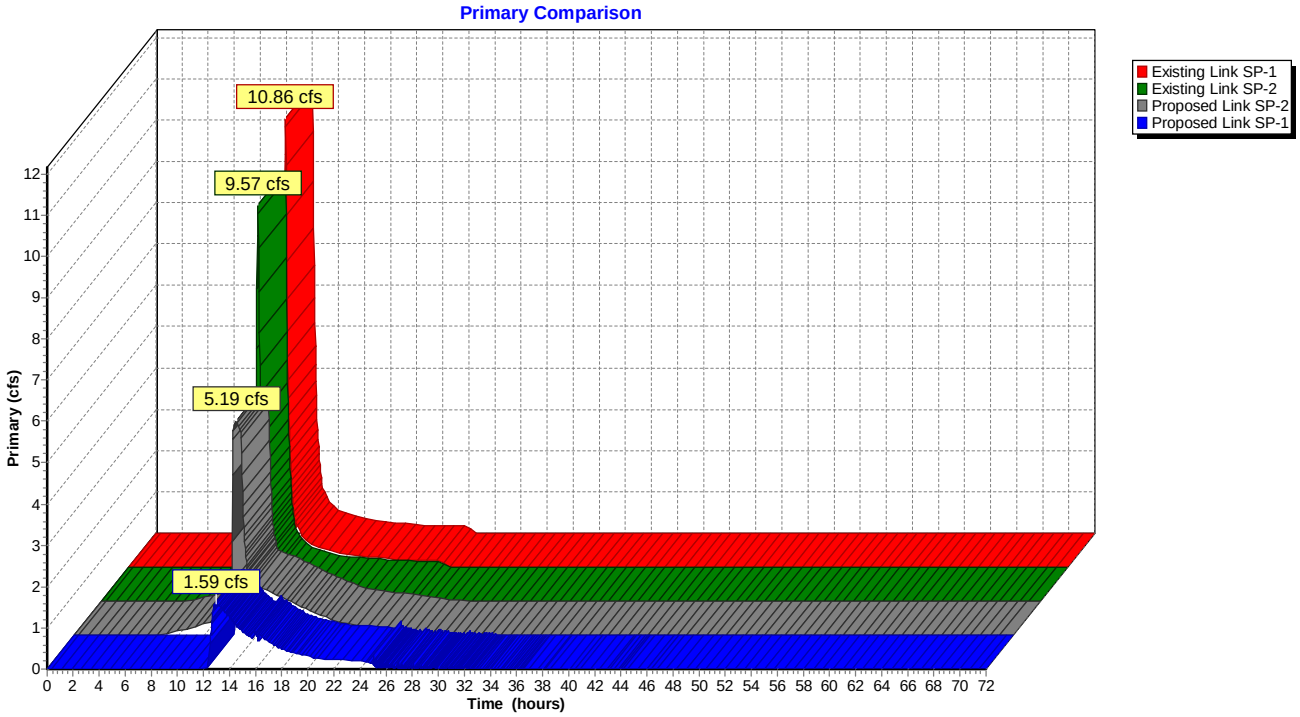


Comparisons

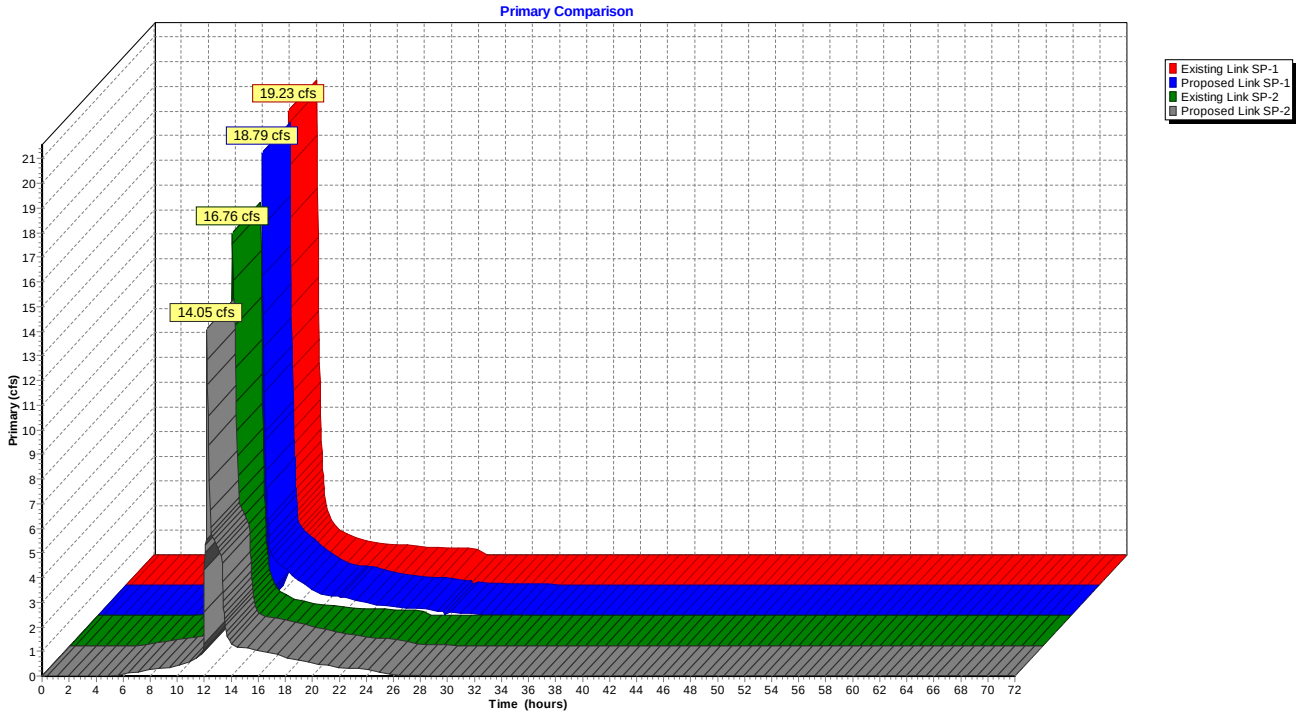
2-Year Comparison


Primary Comparison
4.60 cfs
4.16 cfs
1.98 cfs
0.29 cfs
Existing Link SP-1
Existing Link SP-2
Proposed Link SP-2
Proposed Link SP-1
Primary (cfs)
Time (hours)

10-Year Comparison


Primary Comparison
10.86 cfs
9.57 cfs
5.19 cfs
1.59 cfs
Existing Link SP-1
Existing Link SP-2
Proposed Link SP-2
Proposed Link SP-1
Primary (cfs)
Time (hours)

100-Year Comparison


Primary Comparison
19.23 cfs
18.79 cfs
16.76 cfs
14.05 cfs
Primary (cfs)
Time (hours)
Existing Link SP-1
Proposed Link SP-1
Existing Link SP-2
Proposed Link SP-2

Soils Report

United States Department of Agriculture

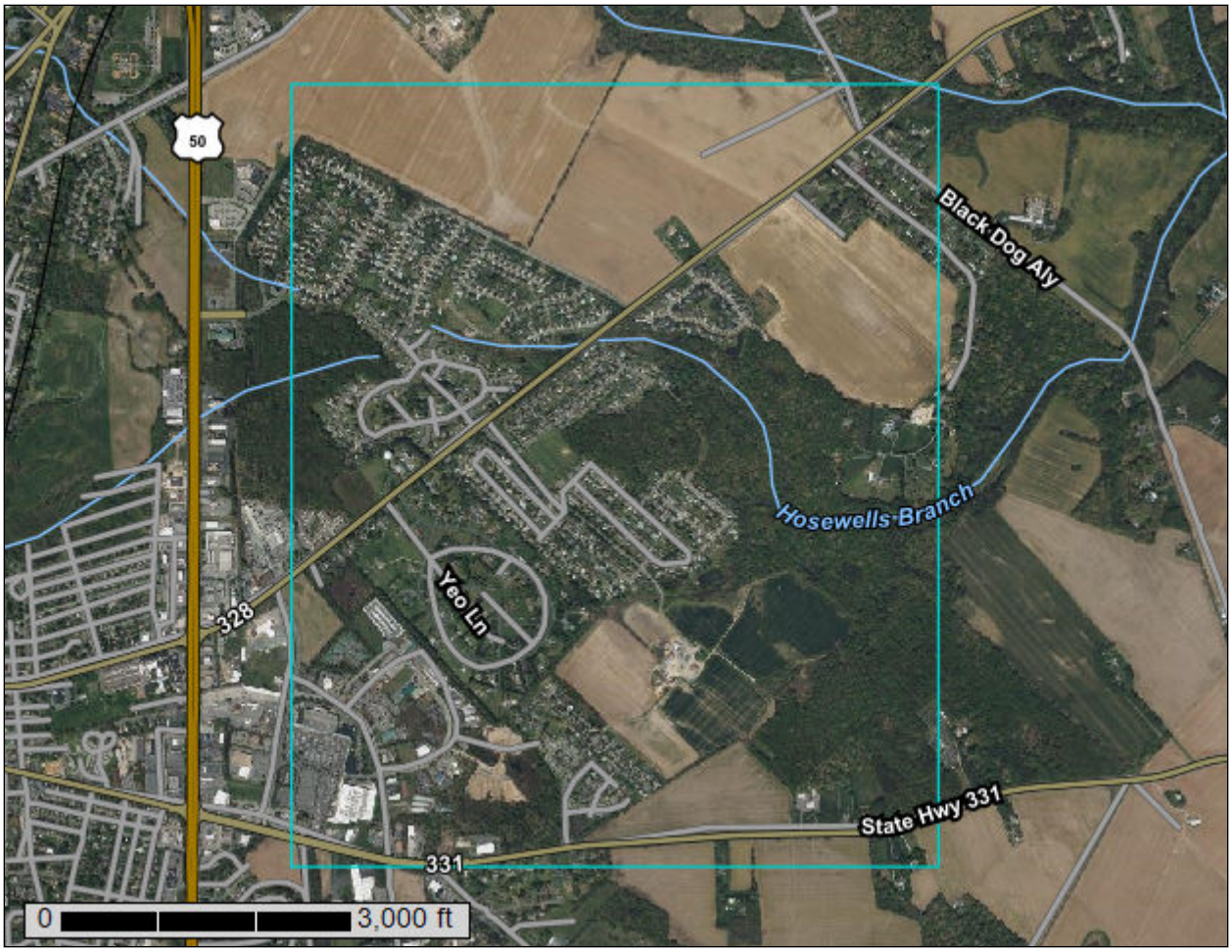
NRCS

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



December 5, 2022

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: 1:15,800 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 200 400 800 1200

Feet: 0 500 1000 2000 3000

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.

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 19, Sep 14, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 1, 2021—Oct 1, 2021

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
CoA	Corsica mucky loam, 0 to 2 percent slopes	16.0	1.3%
CsA	Crosiadore silt loam, 0 to 2 percent slopes	62.7	5.1%
CsB	Crosiadore silt loam, 2 to 5 percent slopes	5.8	0.5%
EmA	Elkton silt loam, 0 to 2 percent slopes	6.5	0.5%
FacA	Fallsington sandy loams, 0 to 2 percent slopes, Mid-Atlantic Coastal Plain	90.5	7.3%
FgcA	Fallsington loams, 0 to 2 percent slopes, Mid-Altlantic Coastal Plain	61.7	5.0%
HfA	Hambrook-Sassafras complex, 0 to 2 percent slopes	7.7	0.6%
HfB	Hambrook-Sassafras complex, 2 to 5 percent slopes	268.0	21.7%
HfC	Hambrook-Sassafras complex, 5 to 10 percent slopes	39.2	3.2%
IgB	Ingleside sandy loam, 2 to 5 percent slopes	3.5	0.3%
KgB	Klej-Galloway complex, 0 to 5 percent slopes	0.7	0.1%
KnA	Kentuck mucky silt loam, 0 to 2 percent slopes	6.4	0.5%
LgA	Lenni loam, 0 to 2 percent slopes	38.8	3.1%
MkA	Matapeake silt loam, 0 to 2 percent slopes	46.6	3.8%
MkB	Matapeake silt loam, 2 to 5 percent slopes	54.5	4.4%
MtcA	Mattapex silt loam, 0 to 2 percent slopes, Mid-Atlantic Coastal Plain	139.7	11.3%
MtcB	Mattapex silt loam, 2 to 5 percent slopes, Mid-Atlantic Coastal Plain	108.7	8.8%
MxC	Mattapex-Woodstown complex, 5 to 10 percent slopes	2.4	0.2%
NsA	Nassawango silt loam, 0 to 2 percent slopes	2.7	0.2%
NsB	Nassawango silt loam, 2 to 5 percent slopes	39.3	3.2%

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
OtA	Othello silt loams, 0 to 2 percent slopes, Mid-Atlantic Coastal Plain	18.1	1.5%
Up	Urban land	46.6	3.8%
WdcA	Woodstown sandy loam, 0 to 2 percent slopes, Mid-Atlantic Coastal Plain	71.6	5.8%
WdcB	Woodstown sandy loam, 2 to 5 percent slopes, Mid-Atlantic Coastal Plain	54.5	4.4%
WocA	Woodstown loam, 0 to 2 percent slopes, Mid-Atlantic Coastal Plain	11.3	0.9%
Zk	Zekiah silt loam, frequently flooded	32.6	2.6%
Totals for Area of Interest		**1,235.9**	**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

CoA—Corsica mucky loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 1vh02
Elevation: 0 to 200 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: Farmland of statewide importance

Map Unit Composition

Corsica, undrained, and similar soils: 55 percent
Corsica, drained, and similar soils: 25 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Corsica, Undrained

Setting

Landform: Depressions, drainageways, swales, flats
Landform position (three-dimensional): Talf
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear

Typical profile

Oi - 0 to 2 inches: slightly decomposed plant material
A - 2 to 12 inches: mucky loam
BEg - 12 to 18 inches: sandy loam
Btg - 18 to 40 inches: sandy clay loam
BCg - 40 to 48 inches: sandy loam
2Cg - 48 to 80 inches: clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: Negligible
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 0 to 10 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Available water supply, 0 to 60 inches: High (about 11.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: B/D
Hydric soil rating: Yes

Description of Corsica, Drained

Setting

Landform: Swales, flats, depressions

Landform position (three-dimensional): Talf
Down-slope shape: Concave, linear
Across-slope shape: Linear, concave

Typical profile

Ap - 0 to 12 inches: mucky loam
BEg - 12 to 18 inches: sandy loam
Btg - 18 to 40 inches: sandy clay loam
BCg - 40 to 48 inches: sandy loam
2Cg - 48 to 80 inches: clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: Negligible
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 0 to 10 inches
Frequency of flooding: None
Frequency of ponding: Rare
Available water supply, 0 to 60 inches: High (about 10.9 inches)

Interpretive groups

Land capability classification (irrigated): 3w
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: B/D
Hydric soil rating: Yes

Minor Components

Fallsington, drained

Percent of map unit: 5 percent
Landform: Flats
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

Hurlock, drained

Percent of map unit: 5 percent
Landform: Flats
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

Kentuck, undrained

Percent of map unit: 5 percent
Landform: Swales, depressions
Down-slope shape: Concave
Across-slope shape: Linear, concave
Hydric soil rating: Yes

Woodstown

Percent of map unit: 5 percent
Landform: Flats
Landform position (three-dimensional): Rise

Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

CsA—Crosiadore silt loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: nmd5
Elevation: 0 to 100 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: Farmland of statewide importance

Map Unit Composition

Crosiadore and similar soils: 75 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Crosiadore

Setting

Landform: Depressions, flats
Landform position (three-dimensional): Talf
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Parent material: Silty eolian deposits over fluviomarine sediments

Typical profile

Ap - 0 to 10 inches: silt loam
Bt - 10 to 28 inches: silt loam
2Btg - 28 to 33 inches: sandy loam
2Cg - 33 to 50 inches: sandy loam
2C1 - 50 to 57 inches: gravelly loamy sand
2C2 - 57 to 80 inches: fine sandy loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Runoff class: Low
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 10 to 20 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 8.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: C/D
Hydric soil rating: No

Minor Components

Mattapex
Percent of map unit: 10 percent
Landform: Flats
Landform position (three-dimensional): Rise
Hydric soil rating: No

Kentuck
Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

Elkton
Percent of map unit: 5 percent
Landform: Swales, flats, depressions
Hydric soil rating: Yes

Othello
Percent of map unit: 5 percent
Landform: Flats, depressions, drainageways, swales
Landform position (three-dimensional): Dip
Hydric soil rating: Yes

CsB—Crosiadore silt loam, 2 to 5 percent slopes

Map Unit Setting
National map unit symbol: 1vh03
Elevation: 0 to 100 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: Farmland of statewide importance

Map Unit Composition
Crosiadore and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Crosiadore

Setting
Landform: Depressions, flats
Landform position (three-dimensional): Talf
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Parent material: Silty eolian deposits over fluviomarine sediments

Typical profile

Ap - 0 to 10 inches: silt loam
Bt - 10 to 28 inches: silt loam
2Btg - 28 to 33 inches: sandy loam
2Cg - 33 to 50 inches: sandy loam
2C1 - 50 to 57 inches: gravelly loamy sand
2C2 - 57 to 80 inches: fine sandy loam

Properties and qualities

Slope: 2 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Runoff class: Low
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 10 to 20 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 8.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: C/D
Hydric soil rating: No

Minor Components

Mattapex

Percent of map unit: 10 percent
Landform: Flats
Landform position (three-dimensional): Rise
Hydric soil rating: No

Elkton

Percent of map unit: 5 percent
Landform: Swales, flats, depressions
Landform position (three-dimensional): Dip
Hydric soil rating: Yes

Othello

Percent of map unit: 5 percent
Landform: Flats, depressions, drainageways, swales
Landform position (three-dimensional): Dip
Hydric soil rating: Yes

EmA—Elkton silt loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: spvy
Elevation: 0 to 210 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: Farmland of statewide importance

Map Unit Composition

Elkton, undrained, and similar soils: 40 percent
Elkton, drained, and similar soils: 35 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Elkton, Undrained

Setting

Landform: Depressions, flats, drainageways, swales
Landform position (three-dimensional): Dip, talf
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Parent material: Silty eolian deposits and/or fluviomarine sediments

Typical profile

Oe - 0 to 3 inches: moderately decomposed plant material
A - 3 to 4 inches: silt loam
Eg - 4 to 13 inches: silt loam
Btg - 13 to 43 inches: silty clay loam
2BCg - 43 to 80 inches: very fine sandy loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 0 to 10 inches
Frequency of flooding: None
Frequency of ponding: Occasional
Available water supply, 0 to 60 inches: High (about 10.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: C/D
Hydric soil rating: Yes

Description of Elkton, Drained

Setting

Landform: Swales, depressions, flats
Landform position (three-dimensional): Dip, talf
Down-slope shape: Concave, linear
Across-slope shape: Linear, concave
Parent material: Silty eolian deposits and/or fluviomarine sediments

Typical profile

Ap - 0 to 10 inches: silt loam
BEg - 10 to 13 inches: silt loam

Btg - 13 to 43 inches: silty clay loam
2BCg - 43 to 80 inches: very fine sandy loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 10 to 20 inches
Frequency of flooding: None
Frequency of ponding: Rare
Available water supply, 0 to 60 inches: High (about 9.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: C/D
Hydric soil rating: Yes

Minor Components

Crosiadore

Percent of map unit: 10 percent
Landform: Depressions, flats
Landform position (three-dimensional): Rise
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Hydric soil rating: No

Mattapex

Percent of map unit: 5 percent
Landform: Swales, depressions, flats
Down-slope shape: Concave, linear
Across-slope shape: Linear, concave
Hydric soil rating: No

Keyport

Percent of map unit: 5 percent
Landform: Flats, depressions, fluviomarine terraces
Down-slope shape: Linear, concave
Across-slope shape: Linear, concave
Hydric soil rating: No

Kentuck, undrained

Percent of map unit: 5 percent
Landform: Depressions, swales
Down-slope shape: Concave
Across-slope shape: Concave, linear
Hydric soil rating: Yes

FacA—Fallsington sandy loams, 0 to 2 percent slopes, Mid-Atlantic Coastal Plain

Map Unit Setting

National map unit symbol: 2s96z
Elevation: 40 to 50 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: Farmland of statewide importance

Map Unit Composition

Fallsington, undrained, and similar soils: 48 percent
Fallsington, drained, and similar soils: 25 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Fallsington, Undrained

Setting

Landform: Depressions, flats, drainageways, swales
Landform position (three-dimensional): Dip, talf
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Parent material: Loamy fluviomarine deposits

Typical profile

Oe - 0 to 2 inches: mucky peat
A - 2 to 10 inches: sandy loam
Btg - 10 to 32 inches: sandy clay loam
BCg - 32 to 39 inches: loamy sand
Cg1 - 39 to 46 inches: sandy clay loam
Cg2 - 46 to 80 inches: sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.01 to 1.98 in/hr)
Depth to water table: About 0 to 10 inches
Frequency of flooding: None
Frequency of ponding: Occasional
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.3 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 8.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: C/D
Hydric soil rating: Yes

Description of Fallsington, Drained

Setting

Landform: Swales, depressions, flats
Landform position (three-dimensional): Dip, talf
Down-slope shape: Concave, linear
Across-slope shape: Linear, concave
Parent material: Loamy fluviomarine deposits

Typical profile

Ap - 0 to 10 inches: sandy loam
Btg - 10 to 32 inches: sandy clay loam
BCg - 32 to 39 inches: loamy sand
Cg1 - 39 to 46 inches: sandy clay loam
Cg2 - 46 to 80 inches: sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.01 to 1.98 in/hr)
Depth to water table: About 10 to 20 inches
Frequency of flooding: None
Frequency of ponding: Rare
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.3 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 8.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: C/D
Hydric soil rating: Yes

Minor Components

Marshyhope

Percent of map unit: 8 percent
Landform: Drainageways, flats, depressions
Landform position (three-dimensional): Dip, talf
Down-slope shape: Linear, concave
Across-slope shape: Concave, linear
Hydric soil rating: No

Woodstown

Percent of map unit: 7 percent
Landform: Flats, broad interstream divides, depressions, fluviomarine terraces
Landform position (two-dimensional): Summit, footslope
Landform position (three-dimensional): Tread, talf, dip
Down-slope shape: Linear, concave
Across-slope shape: Linear, concave
Hydric soil rating: No

Hammonton

Percent of map unit: 5 percent
Landform: Drainageways, flats
Landform position (three-dimensional): Dip, talf
Down-slope shape: Concave, linear
Across-slope shape: Linear
Hydric soil rating: No

Othello

Percent of map unit: 5 percent
Landform: Drainageways, swales, depressions, flats
Landform position (two-dimensional): Footslope, toeslope
Landform position (three-dimensional): Dip, talf
Down-slope shape: Concave, linear
Across-slope shape: Linear, concave
Hydric soil rating: Yes

FgcA—Fallsington loams, 0 to 2 percent slopes, Mid-Altlantic Coastal Plain

Map Unit Setting

National map unit symbol: 2s96t
Elevation: 10 to 70 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: Farmland of statewide importance

Map Unit Composition

Fallsington, undrained, and similar soils: 38 percent
Fallsington, drained, and similar soils: 37 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Fallsington, Undrained

Setting

Landform: Swales, depressions, flats, drainageways
Landform position (three-dimensional): Dip, talf
Down-slope shape: Concave, linear
Across-slope shape: Linear, concave
Parent material: Loamy fluviomarine deposits

Typical profile

Oe - 0 to 2 inches: mucky peat
A - 2 to 10 inches: loam
Btg - 10 to 32 inches: sandy clay loam
BCg - 32 to 39 inches: loamy sand

Cg1 - 39 to 46 inches: sandy clay loam
Cg2 - 46 to 80 inches: sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.01 to 1.98 in/hr)
Depth to water table: About 0 to 10 inches
Frequency of flooding: None
Frequency of ponding: Occasional
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.3 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 8.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: C/D
Hydric soil rating: Yes

Description of Fallsington, Drained

Setting

Landform: Swales, depressions, flats
Landform position (three-dimensional): Dip, talf
Down-slope shape: Concave, linear
Across-slope shape: Linear, concave
Parent material: Loamy fluviomarine deposits

Typical profile

Ap - 0 to 10 inches: loam
Btg - 10 to 32 inches: sandy clay loam
BCg - 32 to 39 inches: loamy sand
Cg1 - 39 to 46 inches: sandy clay loam
Cg2 - 46 to 80 inches: sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.01 to 1.98 in/hr)
Depth to water table: About 10 to 20 inches
Frequency of flooding: None
Frequency of ponding: Rare
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.3 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 8.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: C/D
Hydric soil rating: Yes

Minor Components

Hammonton

Percent of map unit: 7 percent
Landform: Drainageways, flats
Landform position (three-dimensional): Dip, talf
Down-slope shape: Concave, linear
Across-slope shape: Linear
Hydric soil rating: No

Woodstown

Percent of map unit: 7 percent
Landform: Broad interstream divides, depressions, fluviomarine terraces, flats
Landform position (two-dimensional): Summit, footslope
Landform position (three-dimensional): Tread, talf, dip
Down-slope shape: Linear, concave
Across-slope shape: Linear, concave
Hydric soil rating: No

Othello

Percent of map unit: 6 percent
Landform: Flats, drainageways, swales, depressions
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Talf, dip
Down-slope shape: Linear, concave
Across-slope shape: Linear, concave
Hydric soil rating: Yes

Marshyhope

Percent of map unit: 5 percent
Landform: Drainageways, flats, depressions
Landform position (three-dimensional): Dip, talf
Down-slope shape: Linear, concave
Across-slope shape: Concave, linear
Hydric soil rating: No

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
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
Hydric soil rating: No

Minor Components

Woodstown
Percent of map unit: 10 percent
Landform: Flats, depressions
Landform position (three-dimensional): Dip
Hydric soil rating: No

Mattapex
Percent of map unit: 5 percent
Landform: Depressions, flats
Landform position (three-dimensional): Dip
Hydric soil rating: No

Ingleside
Percent of map unit: 5 percent
Landform: Flats
Landform position (three-dimensional): Talf
Hydric soil rating: No

HfB—Hambrook-Sassafras complex, 2 to 5 percent slopes

Map Unit Setting
National map unit symbol: 1vh09
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, knolls, fluviomarine terraces, flats

Landform position (three-dimensional): Rise
Down-slope shape: Concave, convex, linear
Across-slope shape: Concave, convex, 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: 2 to 5 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 40 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): 2e
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B
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: 2 to 5 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): None specified

Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Woodstown

Percent of map unit: 10 percent
Landform: Flats, depressions
Landform position (three-dimensional): Dip
Hydric soil rating: No

Ingleside

Percent of map unit: 5 percent
Landform: Flats
Landform position (three-dimensional): Talf
Hydric soil rating: No

Mattapex

Percent of map unit: 5 percent
Landform: Flats, depressions
Landform position (three-dimensional): Dip
Hydric soil rating: No

HfC—Hambrook-Sassafras complex, 5 to 10 percent slopes

Map Unit Setting

National map unit symbol: 1vh0b
Elevation: 20 to 120 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: Farmland of statewide importance

Map Unit Composition

Hambrook and similar soils: 60 percent
Sassafras and similar soils: 30 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hambrook

Setting

Landform: Knolls, fluviomarine terraces, low hills
Landform position (three-dimensional): Side slope
Down-slope shape: Convex, linear
Across-slope shape: Convex, 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: 5 to 10 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
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 40 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): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Hydric soil rating: No

Description of Sassafras

Setting

Landform: Low hills, fluviomarine terraces, knolls
Landform position (three-dimensional): Side slope, riser
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: 5 to 10 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
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): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Galestown

Percent of map unit: 5 percent
Landform: Knolls, low hills
Landform position (three-dimensional): Side slope
Hydric soil rating: No

Mattapex

Percent of map unit: 5 percent
Landform: Low hills
Landform position (three-dimensional): Base slope
Hydric soil rating: No

IgB—Ingleside sandy loam, 2 to 5 percent slopes

Map Unit Setting

National map unit symbol: 1vh0f
Elevation: 10 to 140 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

Ingleside and similar soils: 75 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ingleside

Setting

Landform: Fluviomarine terraces, depressions, flats
Landform position (three-dimensional): Rise
Down-slope shape: Linear, concave
Across-slope shape: Linear, concave

Typical profile

Ap - 0 to 10 inches: sandy loam
E - 10 to 15 inches: sandy loam
Bt - 15 to 33 inches: sandy loam
BC - 33 to 43 inches: sandy loam
C1 - 43 to 56 inches: loamy sand
C2 - 56 to 80 inches: silt loam

Properties and qualities

Slope: 2 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained

Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.06 to 5.95 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 6.9 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: A
Hydric soil rating: No

Minor Components

Woodstown

Percent of map unit: 5 percent
Landform: Depressions, flats, drainageways
Landform position (three-dimensional): Dip
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Hydric soil rating: No

Downer

Percent of map unit: 5 percent
Landform: Fluviomarine terraces, knolls, flats
Landform position (three-dimensional): Rise
Down-slope shape: Linear, convex
Across-slope shape: Linear, convex
Hydric soil rating: No

Hammonton

Percent of map unit: 5 percent
Landform: Depressions, drainageways, flats
Landform position (three-dimensional): Talf
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Hydric soil rating: No

Cedartown

Percent of map unit: 5 percent
Landform: Flats, knolls, dunes
Landform position (three-dimensional): Talf
Down-slope shape: Linear, convex
Across-slope shape: Linear, convex
Hydric soil rating: No

Rosedale

Percent of map unit: 5 percent
Landform: Flats
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

KgB—Klej-Galloway complex, 0 to 5 percent slopes

Map Unit Setting

National map unit symbol: 1vh2v
Elevation: 0 to 200 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: Farmland of statewide importance

Map Unit Composition

Klej and similar soils: 45 percent
Galloway and similar soils: 35 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Klej

Setting

Landform: Depressions, flats
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Parent material: Sandy eolian deposits and/or fluviomarine sediments

Typical profile

A - 0 to 7 inches: loamy sand
E - 7 to 14 inches: loamy sand
Bw - 14 to 20 inches: loamy sand
C - 20 to 62 inches: loamy sand
Cg - 62 to 80 inches: sand

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (0.57 to 19.98 in/hr)
Depth to water table: About 10 to 20 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.4 inches)

Interpretive groups

Land capability classification (irrigated): 3w
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: A/D
Hydric soil rating: No

Description of Galloway

Setting

Landform: Depressions, flats
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Parent material: Sandy eolian deposits and/or fluviomarine sediments

Typical profile

Ap - 0 to 12 inches: loamy sand
Bw - 12 to 15 inches: loamy sand
C1 - 15 to 30 inches: loamy sand
C2 - 30 to 80 inches: sand

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): High to very high (6.38 to 99.90 in/hr)
Depth to water table: About 20 to 40 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.9 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: A
Hydric soil rating: No

Minor Components

Hurlock, drained

Percent of map unit: 5 percent
Landform: Flats, depressions, swales
Landform position (three-dimensional): Dip
Down-slope shape: Linear, concave
Across-slope shape: Linear, concave
Hydric soil rating: Yes

Berryland, drained

Percent of map unit: 5 percent
Landform: Depressions, swales, flats
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

Askecksy, drained

Percent of map unit: 5 percent
Landform: Swales, depressions, flats
Landform position (three-dimensional): Talf
Down-slope shape: Concave, linear
Across-slope shape: Linear, concave
Hydric soil rating: Yes

Runclint

Percent of map unit: 5 percent
Landform: Fluviomarine terraces, flats
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

KnA—Kentuck mucky silt loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 216cy
Elevation: 0 to 120 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: Farmland of statewide importance

Map Unit Composition

Kentuck, undrained, and similar soils: 45 percent
Kentuck, drained, and similar soils: 30 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Kentuck, Undrained

Setting

Landform: Swales, depressions
Down-slope shape: Concave
Across-slope shape: Linear, concave
Parent material: Silty eolian deposits over fluviomarine sediments

Typical profile

Oe - 0 to 3 inches: moderately decomposed plant material
A - 3 to 13 inches: mucky silt loam
Eg - 13 to 24 inches: silt loam
Btg - 24 to 45 inches: silt loam
2BCg - 45 to 57 inches: fine sandy loam
2Cg - 57 to 80 inches: sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: Negligible
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 0 to 10 inches
Frequency of flooding: None
Frequency of ponding: Frequent

Available water supply, 0 to 60 inches: Very high (about 12.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: C/D
Hydric soil rating: Yes

Description of Kentuck, Drained

Setting

Landform: Swales, depressions
Down-slope shape: Concave
Across-slope shape: Linear, concave
Parent material: Silty eolian deposits over fluviomarine sediments

Typical profile

Ap - 0 to 13 inches: mucky silt loam
Eg - 13 to 24 inches: silt loam
Btg - 24 to 45 inches: silt loam
2BCg - 45 to 57 inches: fine sandy loam
2Cg - 57 to 80 inches: sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: Low
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 0 to 10 inches
Frequency of flooding: None
Frequency of ponding: Rare
Available water supply, 0 to 60 inches: High (about 11.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: C/D
Hydric soil rating: Yes

Minor Components

Whitemarsh, undrained

Percent of map unit: 10 percent
Landform: Flats, drainageways, depressions
Landform position (three-dimensional): Talf
Down-slope shape: Linear, concave
Across-slope shape: Linear, concave
Hydric soil rating: Yes

Othello, undrained

Percent of map unit: 5 percent
Landform: Depressions, drainageways, flats
Landform position (three-dimensional): Talf
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Hydric soil rating: Yes

Crosiadore

Percent of map unit: 5 percent
Landform: Depressions, flats
Landform position (three-dimensional): Rise
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Hydric soil rating: No

Mattapex

Percent of map unit: 5 percent
Landform: Depressions, flats
Landform position (three-dimensional): Rise
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Hydric soil rating: No

LgA—Lenni loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: spw3
Elevation: 10 to 120 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: Farmland of statewide importance

Map Unit Composition

Lenni, undrained, and similar soils: 50 percent
Lenni, drained, and similar soils: 35 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lenni, Undrained

Setting

Landform: Flats, swales, depressions
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Clayey fluviomarine sediments

Typical profile

Oe - 0 to 2 inches: moderately decomposed plant material
A - 2 to 7 inches: loam
Eg - 7 to 14 inches: loam
Btg - 14 to 51 inches: clay
2Cg - 51 to 80 inches: fine sandy loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 0 to 10 inches
Frequency of flooding: None
Frequency of ponding: Occasional
Available water supply, 0 to 60 inches: Moderate (about 8.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: D
Hydric soil rating: Yes

Description of Lenni, Drained

Setting

Landform: Flats, swales, depressions
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Clayey fluviomarine sediments

Typical profile

Ap - 0 to 7 inches: loam
Eg - 7 to 14 inches: loam
Btg - 14 to 51 inches: clay
2Cg - 51 to 80 inches: fine sandy loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 10 to 20 inches
Frequency of flooding: None
Frequency of ponding: Rare
Available water supply, 0 to 60 inches: Moderate (about 7.6 inches)

Interpretive groups

Land capability classification (irrigated): 3w
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: D
Hydric soil rating: Yes

Minor Components

Keyport

Percent of map unit: 5 percent
Landform: Flats
Landform position (three-dimensional): Rise
Hydric soil rating: No

Rosedale

Percent of map unit: 5 percent

Landform: Dunes, knolls, flats
Landform position (three-dimensional): Rise
Hydric soil rating: No

Pepperbox
Percent of map unit: 5 percent
Landform: Flats, knolls
Landform position (three-dimensional): Rise
Hydric soil rating: No

MkA—Matapeake silt loam, 0 to 2 percent slopes

Map Unit Setting
National map unit symbol: spw7
Elevation: 10 to 120 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
Matapeake and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Matapeake

Setting
Landform: Flats
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Silty eolian deposits over fluviomarine sediments

Typical profile
Ap - 0 to 5 inches: silt loam
E - 5 to 11 inches: silt loam
Bt - 11 to 34 inches: silt loam
2BC - 34 to 38 inches: sandy loam
2C - 38 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 low to moderately high (0.06 to 0.57 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: High (about 9.0 inches)

Interpretive groups
Land capability classification (irrigated): 1
Land capability classification (nonirrigated): 1
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Nassawango
Percent of map unit: 10 percent
Landform: Terraces, flats
Landform position (three-dimensional): Dip, talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Butlertown
Percent of map unit: 5 percent
Landform: Flats, broad interstream divides, interfluves
Landform position (three-dimensional): Dip
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Mattapex
Percent of map unit: 5 percent
Landform: Depressions, swales, flats
Landform position (three-dimensional): Dip
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Hydric soil rating: No

MkB—Matapeake silt loam, 2 to 5 percent slopes

Map Unit Setting
National map unit symbol: 1vh0k
Elevation: 10 to 120 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
Matapeake and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Matapeake

Setting

Landform: Flats, knolls
Landform position (three-dimensional): Talf
Down-slope shape: Linear, convex
Across-slope shape: Linear, convex
Parent material: Silty eolian deposits over fluviomarine sediments

Typical profile

Ap - 0 to 5 inches: silt loam
E - 5 to 11 inches: silt loam
Bt - 11 to 34 inches: silt loam
2BC - 34 to 38 inches: sandy loam
2C - 38 to 80 inches: loamy sand

Properties and qualities

Slope: 2 to 5 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 low to moderately high (0.06 to 0.57 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: High (about 9.0 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Nassawango

Percent of map unit: 10 percent
Landform: Terraces, flats
Landform position (three-dimensional): Dip, talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Butlertown

Percent of map unit: 5 percent
Landform: Flats, interfluves, broad interstream divides
Landform position (three-dimensional): Dip, talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Mattapex

Percent of map unit: 5 percent
Landform: Depressions, flats, swales
Landform position (three-dimensional): Dip
Down-slope shape: Concave, linear

Across-slope shape: Concave, linear
Hydric soil rating: No

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

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
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
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
Hydric soil rating: No

MtcB—Mattapex silt loam, 2 to 5 percent slopes, Mid-Atlantic Coastal Plain

Map Unit Setting

National map unit symbol: 2thwx
Elevation: 0 to 100 feet
Mean annual precipitation: 41 to 50 inches
Mean annual air temperature: 52 to 58 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: 2 to 5 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): 2e
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Nassawango

Percent of map unit: 10 percent
Landform: Flats, terraces
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Crosiadore

Percent of map unit: 5 percent
Landform: Depressions, flats
Landform position (three-dimensional): Dip
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Hydric soil rating: No

Othello, drained

Percent of map unit: 5 percent
Landform: Swales, flats, depressions
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Dip
Down-slope shape: Concave, linear
Across-slope shape: Linear, concave
Hydric soil rating: Yes

MxC—Mattapex-Woodstown complex, 5 to 10 percent slopes

Map Unit Setting

National map unit symbol: 1vh0l
Elevation: 0 to 200 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: Farmland of statewide importance

Map Unit Composition

Mattapex and similar soils: 45 percent
Woodstown and similar soils: 40 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Mattapex

Setting

Landform: Swales, depressions, low hills
Landform position (three-dimensional): Side slope
Down-slope shape: Concave, linear
Across-slope shape: Linear, concave
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: silty clay loam
2C1 - 36 to 60 inches: fine sandy loam
2C2 - 60 to 80 inches: loamy sand

Properties and qualities

Slope: 5 to 10 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.14 to 0.28 in/hr)
Depth to water table: About 20 to 40 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 8.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C
Hydric soil rating: No

Description of Woodstown

Setting

Landform: Swales, low hills
Landform position (three-dimensional): Side slope, dip
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy fluviomarine sediments

Typical profile

Ap - 0 to 7 inches: loam
E - 7 to 11 inches: sandy loam
Bt - 11 to 29 inches: sandy clay loam
Cg1 - 29 to 45 inches: sandy loam
Cg2 - 45 to 80 inches: loamy sand

Properties and qualities

Slope: 5 to 10 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately 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: About 20 to 40 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 8.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Matapeake

Percent of map unit: 5 percent
Landform: Low hills
Landform position (three-dimensional): Side slope
Hydric soil rating: No

Ingleside

Percent of map unit: 5 percent
Landform: Low hills
Landform position (three-dimensional): Side slope
Hydric soil rating: No

Galestown

Percent of map unit: 5 percent
Landform: Low hills
Landform position (three-dimensional): Side slope
Hydric soil rating: No

NsA—Nassawango silt loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: spwc
Elevation: 0 to 120 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

Nassawango and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Nassawango

Setting

Landform: Terraces, flats
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Silty eolian deposits over fluviomarine sediments

Typical profile

Ap - 0 to 10 inches: silt loam
E - 10 to 16 inches: silt loam
Bt - 16 to 44 inches: silt loam
2C - 44 to 60 inches: loamy sand
2Cg - 60 to 80 inches: fine sandy 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 low to moderately high (0.06 to 0.57 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: High (about 9.3 inches)

Interpretive groups

Land capability classification (irrigated): 1
Land capability classification (nonirrigated): 1
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Othello, drained

Percent of map unit: 5 percent
Landform: Depressions, swales
Down-slope shape: Concave
Across-slope shape: Concave, linear
Hydric soil rating: Yes

Crosiadore

Percent of map unit: 5 percent
Landform: Swales, depressions, flats
Landform position (three-dimensional): Dip
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Hydric soil rating: No

Mattapex

Percent of map unit: 5 percent
Landform: Swales, depressions, flats
Landform position (three-dimensional): Dip
Down-slope shape: Concave, linear
Across-slope shape: Linear, concave
Hydric soil rating: No

Matapeake

Percent of map unit: 5 percent
Landform: Flats
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

NsB—Nassawango silt loam, 2 to 5 percent slopes

Map Unit Setting

National map unit symbol: spwd
Elevation: 10 to 120 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

Nassawango and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Nassawango

Setting

Landform: Terraces, flats
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Silty eolian deposits over fluviomarine sediments

Typical profile

Ap - 0 to 10 inches: silt loam
E - 10 to 16 inches: silt loam
Bt - 16 to 44 inches: silt loam
2C - 44 to 60 inches: loamy sand
2Cg - 60 to 80 inches: fine sandy loam

Properties and qualities

Slope: 2 to 5 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 low to moderately high (0.06 to 0.57 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: High (about 9.3 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Mattapex

Percent of map unit: 5 percent
Landform: Flats, swales, depressions
Landform position (three-dimensional): Dip
Down-slope shape: Linear, concave
Across-slope shape: Linear, concave
Hydric soil rating: No

Matapeake

Percent of map unit: 5 percent
Landform: Knolls, flats
Landform position (three-dimensional): Rise
Down-slope shape: Convex, linear
Across-slope shape: Convex, linear
Hydric soil rating: No

Crosiadore

Percent of map unit: 5 percent
Landform: Swales, depressions, flats
Landform position (three-dimensional): Dip
Down-slope shape: Concave, linear

Across-slope shape: Concave, linear
Hydric soil rating: No

Othello, drained
Percent of map unit: 5 percent
Landform: Depressions, swales
Down-slope shape: Concave
Across-slope shape: Concave, linear
Hydric soil rating: Yes

OtA—Othello silt loams, 0 to 2 percent slopes, Mid-Atlantic Coastal Plain

Map Unit Setting
National map unit symbol: 2thwn
Elevation: 0 to 100 feet
Mean annual precipitation: 40 to 50 inches
Mean annual air temperature: 46 to 68 degrees F
Frost-free period: 210 to 240 days
Farmland classification: Farmland of statewide importance

Map Unit Composition
Othello, drained, and similar soils: 48 percent
Othello, undrained, and similar soils: 28 percent
Minor components: 24 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Othello, Drained

Setting
Landform: Swales, depressions, flats
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Dip, talf
Down-slope shape: Concave, linear
Across-slope shape: Linear, concave
Parent material: Silty eolian deposits over fluviomarine deposits

Typical profile
Ap - 0 to 9 inches: silt loam
Btg - 9 to 29 inches: silt loam
2BCg - 29 to 34 inches: sandy loam
2Cg - 34 to 80 inches: loamy sand

Properties and qualities
Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly 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 10 to 20 inches
Frequency of flooding: None

Frequency of ponding: Rare
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 8.8 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: C/D
Hydric soil rating: Yes

Description of Othello, Undrained

Setting
Landform: Drainageways, swales, depressions, flats
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Dip, talf
Down-slope shape: Concave, linear
Across-slope shape: Linear, concave
Parent material: Silty eolian deposits over fluviomarine deposits

Typical profile
Oe - 0 to 2 inches: peat
A - 2 to 4 inches: silt loam
Eg - 4 to 10 inches: silt loam
Btg - 10 to 29 inches: silt loam
2BCg - 29 to 35 inches: sandy loam
2Cg - 35 to 80 inches: loamy sand

Properties and qualities
Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly 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 0 to 10 inches
Frequency of flooding: None
Frequency of ponding: Occasional
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): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: C/D
Hydric soil rating: Yes

Minor Components

Crosiadore
Percent of map unit: 7 percent
Landform: Depressions, fluviomarine terraces, flats
Landform position (two-dimensional): Footslope, summit
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Hydric soil rating: No

Mattapex

Percent of map unit: 7 percent
Landform: Broad interstream divides, swales, depressions, flats
Landform position (two-dimensional): Summit, footslope
Landform position (three-dimensional): Talf, dip
Down-slope shape: Linear, concave
Across-slope shape: Linear, concave
Hydric soil rating: No

Kentuck, undrained

Percent of map unit: 5 percent
Landform: Swales, depressions, flats
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip, talf
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Hydric soil rating: Yes

Fallsington, undrained

Percent of map unit: 5 percent
Landform: Drainageways, swales, depressions, flats
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Dip, talf
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Hydric soil rating: Yes

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

WdcA—Woodstown sandy loam, 0 to 2 percent slopes, Mid-Atlantic Coastal Plain

Map Unit Setting

National map unit symbol: 2thvt
Elevation: 0 to 90 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

Woodstown and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Woodstown

Setting

Landform: Flats, broad interstream divides, depressions, fluviomarine terraces
Landform position (two-dimensional): Summit, footslope
Landform position (three-dimensional): Tread, talf, dip
Down-slope shape: Linear, concave
Across-slope shape: Linear, concave
Parent material: Loamy fluviomarine deposits

Typical profile

Ap - 0 to 7 inches: sandy loam
E - 7 to 11 inches: sandy loam
Bt - 11 to 29 inches: sandy loam
BCg - 29 to 45 inches: fine sandy loam
Cg - 45 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 high to high (0.57 to 1.98 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: Moderate (about 8.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Hammonton

Percent of map unit: 6 percent
Landform: Broad interstream divides, flats
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Fallsington

Percent of map unit: 6 percent
Landform: Flats, swales, depressions, drainageways
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Talf, dip
Down-slope shape: Linear, concave
Across-slope shape: Linear, concave
Hydric soil rating: Yes

Hambrook

Percent of map unit: 4 percent
Landform: Flats, fluviomarine terraces
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread, talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Mattapex

Percent of map unit: 4 percent
Landform: Depressions, flats, broad interstream divides, swales
Landform position (two-dimensional): Footslope, summit
Landform position (three-dimensional): Dip, talf
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Hydric soil rating: No

WdcB—Woodstown sandy loam, 2 to 5 percent slopes, Mid-Atlantic Coastal Plain

Map Unit Setting

National map unit symbol: 2thvv
Elevation: 0 to 90 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

Woodstown and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Woodstown

Setting

Landform: Flats, broad interstream divides, depressions, fluviomarine terraces
Landform position (two-dimensional): Shoulder, footslope
Landform position (three-dimensional): Riser, dip
Down-slope shape: Convex, concave
Across-slope shape: Linear, concave
Parent material: Loamy fluviomarine deposits

Typical profile

Ap - 0 to 7 inches: sandy loam
E - 7 to 11 inches: sandy loam
Bt - 11 to 29 inches: sandy loam
BCg - 29 to 45 inches: fine sandy loam
Cg - 45 to 80 inches: loamy sand

Properties and qualities

Slope: 2 to 5 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 high to high (0.57 to 1.98 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: Moderate (about 8.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Hammonton

Percent of map unit: 6 percent
Landform: Broad interstream divides, flats
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Dip
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

Fallsington, occasionally ponded

Percent of map unit: 6 percent
Landform: Flats, swales, depressions, drainageways
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Talf, dip
Down-slope shape: Linear, concave
Across-slope shape: Linear, concave
Hydric soil rating: Yes

Hambrook

Percent of map unit: 4 percent
Landform: Flats, fluviomarine terraces
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Riser, dip
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

Mattapex

Percent of map unit: 4 percent
Landform: Broad interstream divides, swales, depressions, flats
Landform position (two-dimensional): Shoulder, footslope
Landform position (three-dimensional): Dip
Down-slope shape: Convex, concave
Across-slope shape: Linear, concave
Hydric soil rating: No

WocA—Woodstown loam, 0 to 2 percent slopes, Mid-Atlantic Coastal Plain

Map Unit Setting

National map unit symbol: 2thx4
Elevation: 0 to 90 feet
Mean annual precipitation: 40 to 50 inches
Mean annual air temperature: 55 to 59 degrees F
Frost-free period: 210 to 240 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Woodstown and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Woodstown

Setting

Landform: Flats, broad interstream divides, depressions, fluviomarine terraces
Landform position (two-dimensional): Summit, footslope
Landform position (three-dimensional): Tread, talf, dip
Down-slope shape: Linear, concave
Across-slope shape: Linear, concave
Parent material: Loamy fluviomarine deposits

Typical profile

Ap - 0 to 7 inches: loam
E - 7 to 11 inches: sandy loam
Bt - 11 to 29 inches: sandy loam
BCg - 29 to 45 inches: fine sandy loam
Cg - 45 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 high to high (0.57 to 1.98 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: Moderate (about 8.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Hammonton

Percent of map unit: 6 percent
Landform: Broad interstream divides, flats
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Fallsington

Percent of map unit: 6 percent
Landform: Swales, depressions, flats, drainageways
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Dip, talf

Down-slope shape: Concave, linear
Across-slope shape: Linear, concave
Hydric soil rating: Yes

Hambrook

Percent of map unit: 4 percent
Landform: Flats, fluviomarine terraces
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread, talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Mattapex

Percent of map unit: 4 percent
Landform: Depressions, flats, broad interstream divides, swales
Landform position (two-dimensional): Footslope, summit
Landform position (three-dimensional): Dip, talf
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Hydric soil rating: No

Zk—Zekiah silt loam, frequently flooded

Map Unit Setting

National map unit symbol: 1vh0y
Elevation: 0 to 120 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

Zekiah and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Zekiah

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear

Typical profile

A - 0 to 3 inches: silt loam
Cg - 3 to 20 inches: silt loam
2Ab - 20 to 27 inches: sandy loam
2Cg1 - 27 to 37 inches: sandy loam
2Cg2 - 37 to 50 inches: loam
2Cg3 - 50 to 80 inches: sand

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.38 to 1.98 in/hr)
Depth to water table: About 0 to 10 inches
Frequency of flooding: Frequent
Frequency of ponding: Frequent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 10.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: C/D
Hydric soil rating: Yes

Minor Components

Longmarsh

Percent of map unit: 10 percent
Landform: Flood plains
Hydric soil rating: Yes

Hurlock

Percent of map unit: 5 percent
Landform: Flood plains
Hydric soil rating: Yes

Hammonton

Percent of map unit: 5 percent
Landform: Flats
Landform position (three-dimensional): Rise
Hydric soil rating: No

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Aspire

Talbot County, Maryland
Revised January 6, 2023

Traffic Impact Study

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APPENDICES

APPENDIX A – Intersection Aerial Photographs and Turning Movement Counts

APPENDIX B – Capacity Analysis Worksheets

APPENDIX C – Signal Timing

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. 18506, Expiration Date: 11/22/2023.

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BHT:amr
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INTRODUCTION AND SUMMARY OF FINDINGS

Study Purpose

The Traffic Group, Inc. has *revised a Traffic Impact Study (TIS), previously submitted on August 30, 2022, to address the comments received from the Maryland Department of Transportation State Highway Administration (MDOT SHA) on September 26, 2022*. The purpose of the TIS is to determine the impact on the surrounding road system of a proposed residential development to be located on Matthewstown Road (MD 328) in the Town of Easton, Talbot County, MD.

The development will consist of two parcels: one with access via McCall Street and the other with access via Fisher Range Road. The construction of the residential development is anticipated to be constructed in 2025.

Revisions are in italics for the convenience of the reader.

Study Criteria/Methodology

The study was conducted in accordance with the requirements established by MDOT SHA, specifically as outlined in the MDOT SHA Access Manual which was updated in part in August 2016. Chapter 1 of the Access Manual, "Traffic Impact Study Guidelines," is currently under review.

Scope of Services

The scope of the TIS was conversations with MDOT SHA District 2, the Town of Easton, and Talbot County. Correspondence is contained in Appendix D.

- Conduct turning movement counts during the morning and evening peak hours from 7 to 9 AM and 4 to 6 PM on a weekday and from 10 AM to 2 PM on a summer Saturday at the following study intersections:

    a. US 50 @ MD 328
    b. MD 328 @ Elliot Road
    c. MD 328 @ Gannon Circle
    d. MD 328 @ Dyott Ct/Fisher Ranger Road
    e. MD 328 @ Mile Post Drive
    f. MD 328 at Hunters Mill
    g. MD 328 @ Swann Haven Road
    h. MD 328 @ Black Dog Alley

- Apply a regional growth rate to the turning movement counts for 3 years.

- Conduct trip generation and trip distribution analyses for the proposed Lands of Gannon Family residential development using the Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Edition) for inclusion in the analysis of background peak hour traffic conditions.

- Conduct trip generation and trip distribution analyses for the proposed residential development using ITE's Trip Generation Manual (11th Edition) for inclusion in the analysis of total peak hour traffic conditions.

- Prepare Level of Service evaluations for each of the study intersection and site accesses.

- Prepare queuing analyses for the study intersection and site accesses.

- Provide an overall assessment of the impact that the proposed development will have on surrounding roadways and identify any road improvements necessary to provide acceptable levels of operation.

Summary of Findings and Recommendations

Utilizing the Highway Capacity Manual (HCM) methodology, the study intersections are projected to operate at overall acceptable Levels of Service, LOS "D" or better, under total peak hour traffic conditions. Using the Critical Lane Volume (CLV) methodology, the study intersections are projected to have sufficient capacity for total peak hour traffic conditions.

The projected queues at the signalized intersections were analyzed using SimTraffic. The projected queues at the following intersections can be accommodated within the existing storage lengths:

- MD 328, Matthewstown Road and Elliot Road
- MD 328, Matthewstown Road and Dyott/Fisher Ranger Road
- MD 328, Matthewstown Road and Black Dog Alley

Signal timing adjustments are recommended to improve the queues and operations at the intersection of US 50 with MD 328, Matthewstown Road/Goldsborough Street.

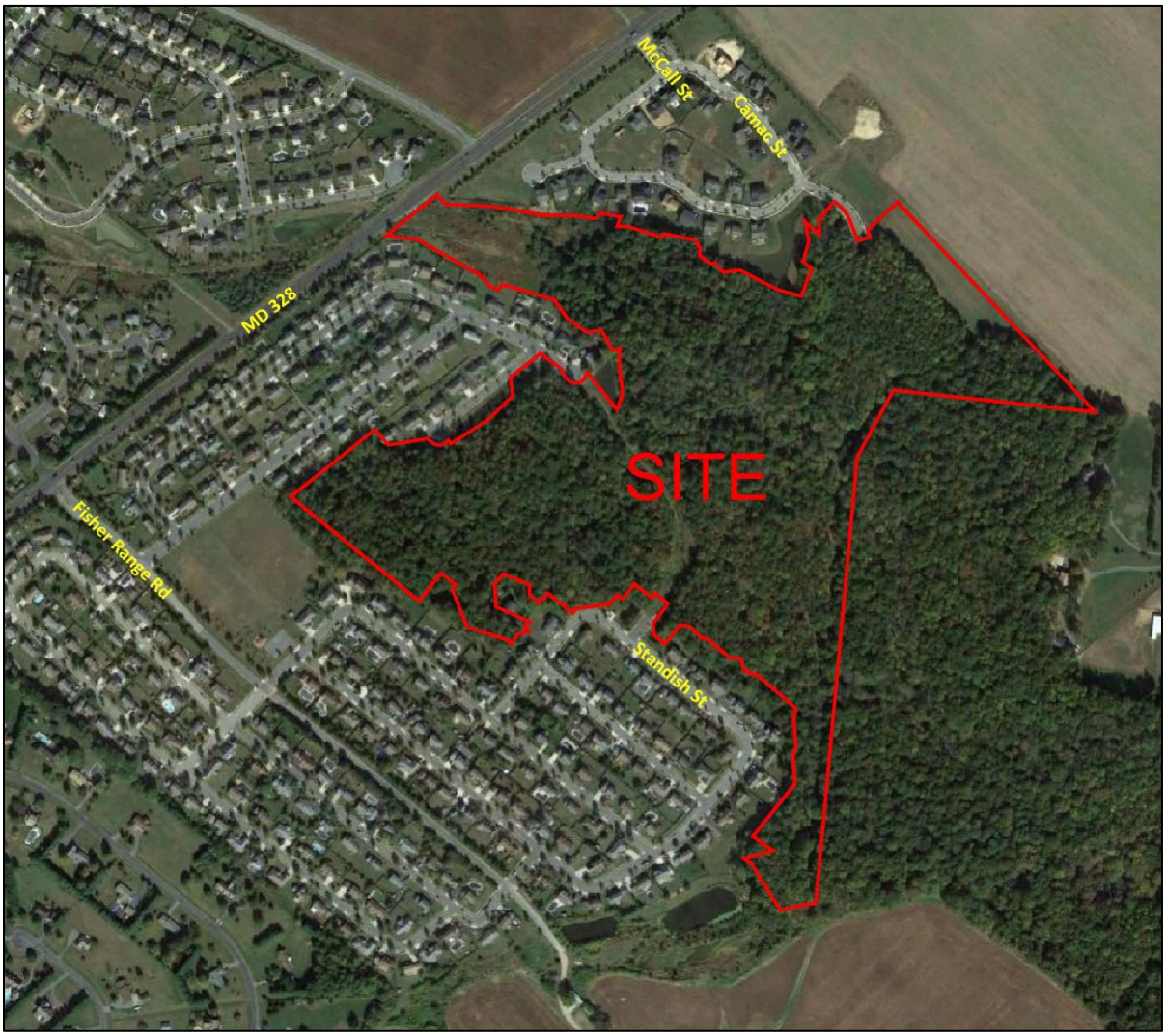
The data and methodology used to undertake this study are detailed in the sections that follow.

EXISTING TRAFFIC CONDITIONS

Site Information

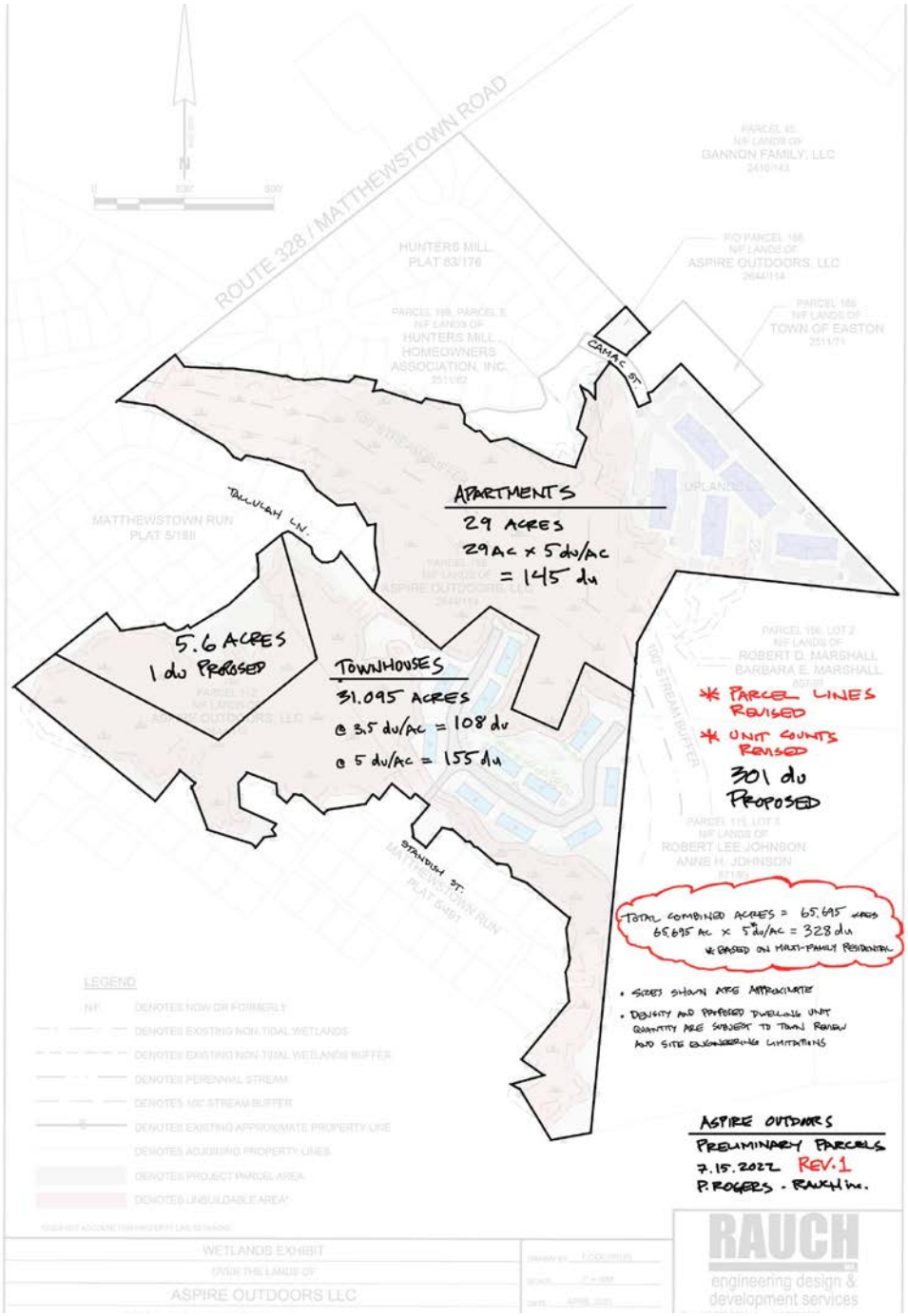
The Traffic Group, Inc. has *revised a Traffic Impact to Study, previously submitted on August 30, 2022, to address the comments received from the MDOT SHA on September 26, 2022*. The purpose of the TIS is to determine the impact on the surrounding road system of a proposed residential development to be located on Matthewstown Road (MD 328) in the Town of Easton, Talbot County, MD.

The development will consist of two parcels: one with access via McCall Street and the other with access via Fisher Range Road. The construction of the residential development is anticipated to be completed in 2025.



The northern parcel, to be accessed via McCall Street and Camac Street, consists of 29 acres and the southern parcel, to be access via Fisher Range Road to Standish Street, consists of 31.095 for a total of 65.095 acres. The maximum density for multi-family residential is 5 dwelling units/acre or, 328 dwelling units. It is likely that the number of dwelling units that will be proposed to be constructed is 301; however, the maximum number of dwelling units, 328, is used in this analysis.

A preliminary concept is provided below.



Study Area

The scope of the TIS was conversations with MDOT SHA District 2, the Town of Easton, and Talbot County. Correspondence is contained in Appendix D. The following intersections were selected for study. A site location map is provided in Figure 1.

- US 50 @ MD 328
- MD 328 @ Elliot Road
- MD 328 @ Gannon Circle
- MD 328 @ Dyott Ct/Fisher Ranger Road
- MD 328 @ Mile Post Drive
- MD 328 at Hunters Mill
- MD 328 @ Swann Haven Road
- MD 328 @ Black Dog Alley

Matthewstown Road, MD 328, is classified as a Major Collector with an AADT of 9,690 for the year 2021. The speed limit is posted as 50 mph north of the site, 40 mph adjacent to the site, and 30 mph south of the site.

The intersection of US 50 and Matthewstown Road, MD 328, is a signalized intersection. US 50 is classified as a Principal Arterial Other with an AADT of 33,990 for the year 2021. The speed limit on US 50 is posted as 35 mph.

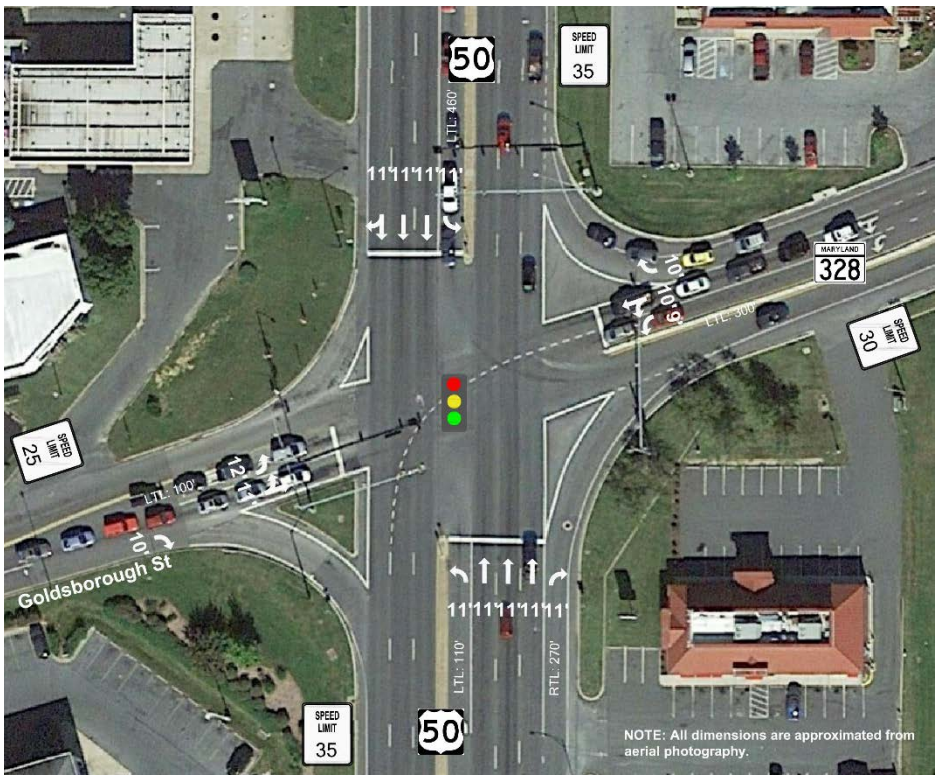
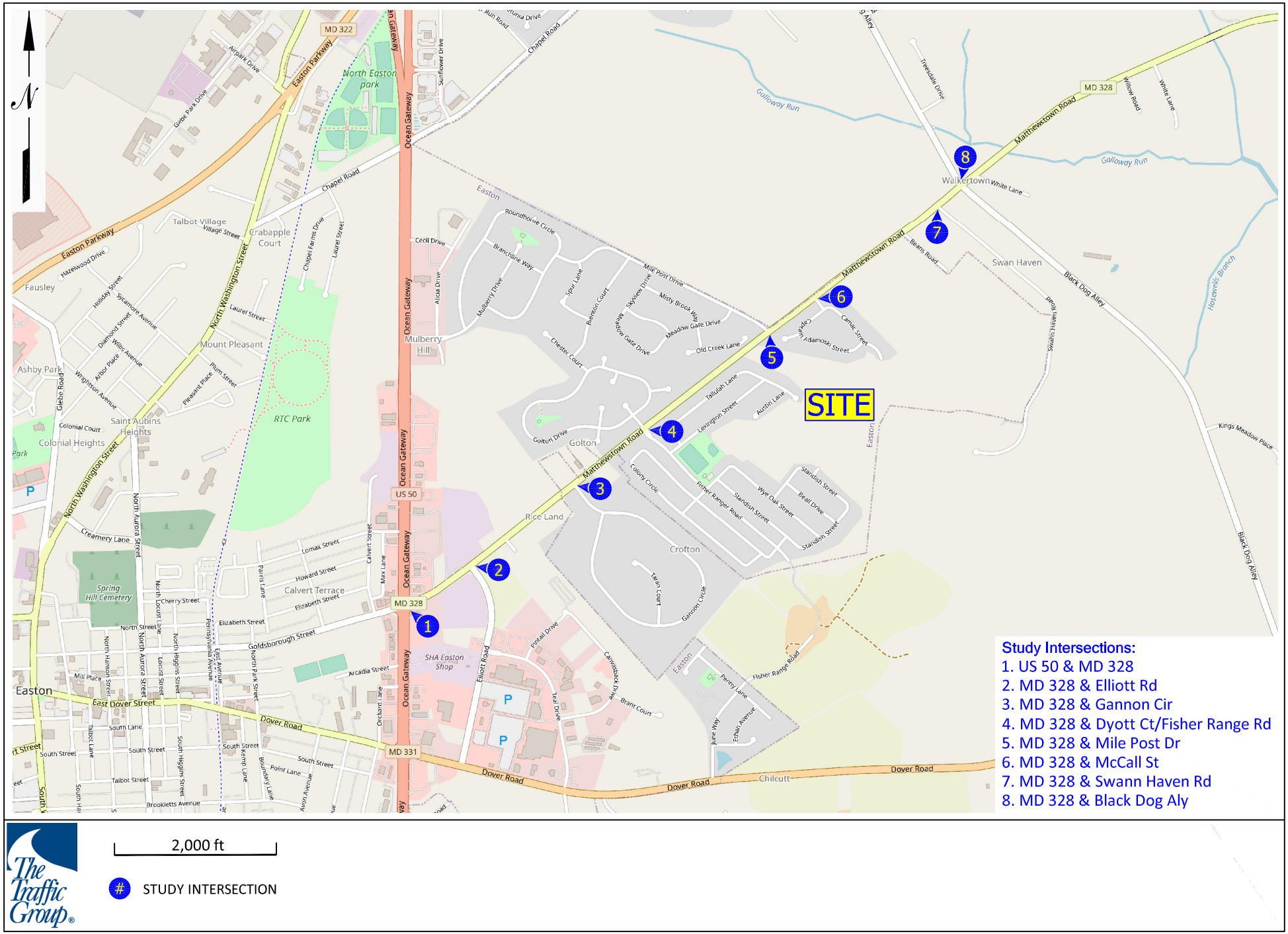


Figure 1. Site Location Map



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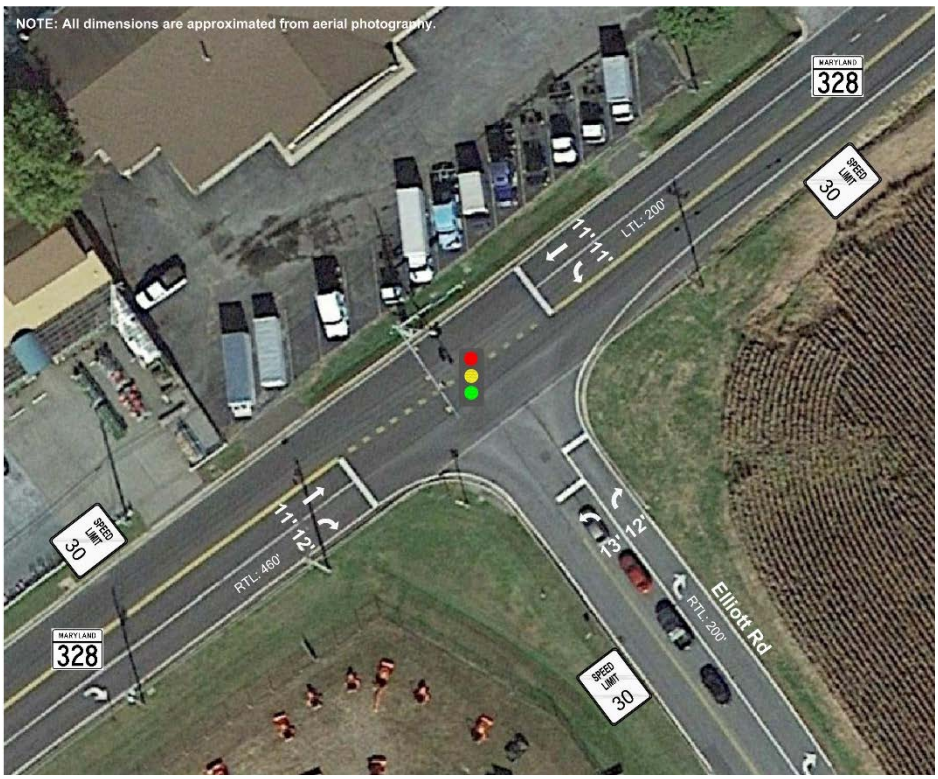
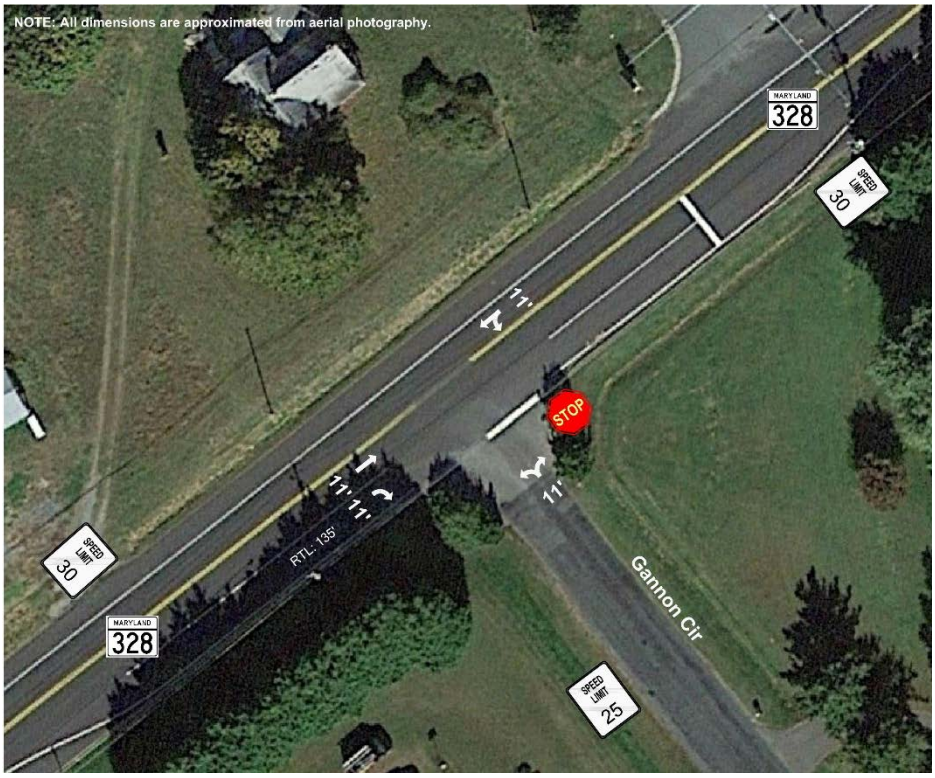
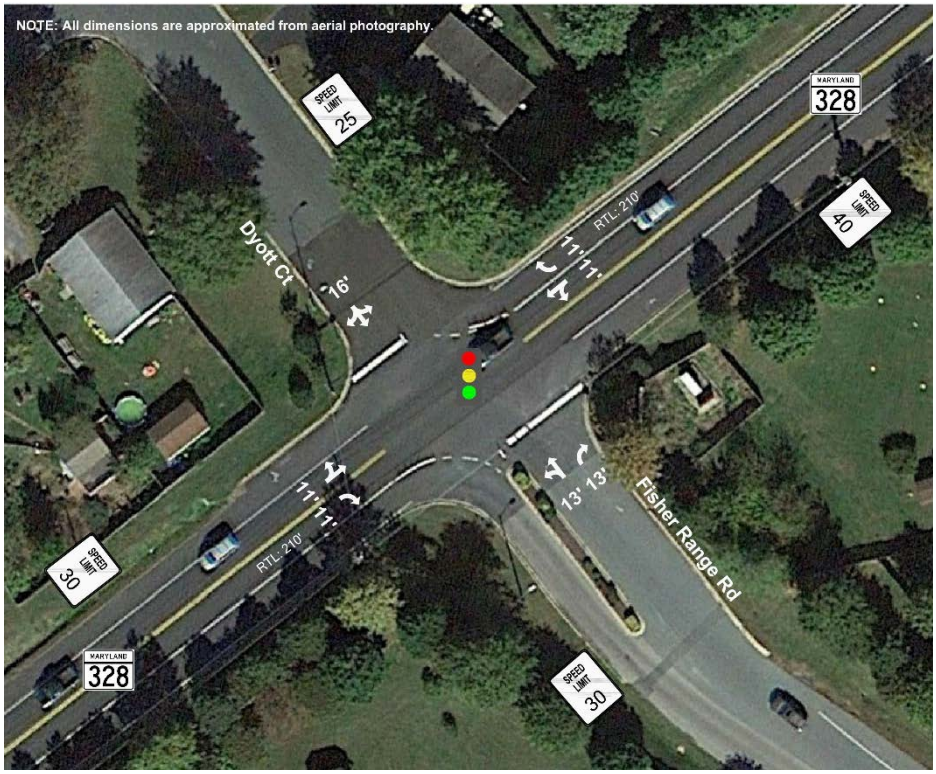
The intersection of Elliot Road and Matthewstown Road, MD 328, is a signalized intersection. Elliot Road is classified as a Local Road with unknown AADT. The speed limit on Elliot Road is posted as 30 mph.



The intersection of Gannon Court and Matthewstown Road, MD 328, is STOP controlled. Gannon Court is classed as a Local Road with unknown AADT. The speed limit on Gannon Court is posted as 25 mph.

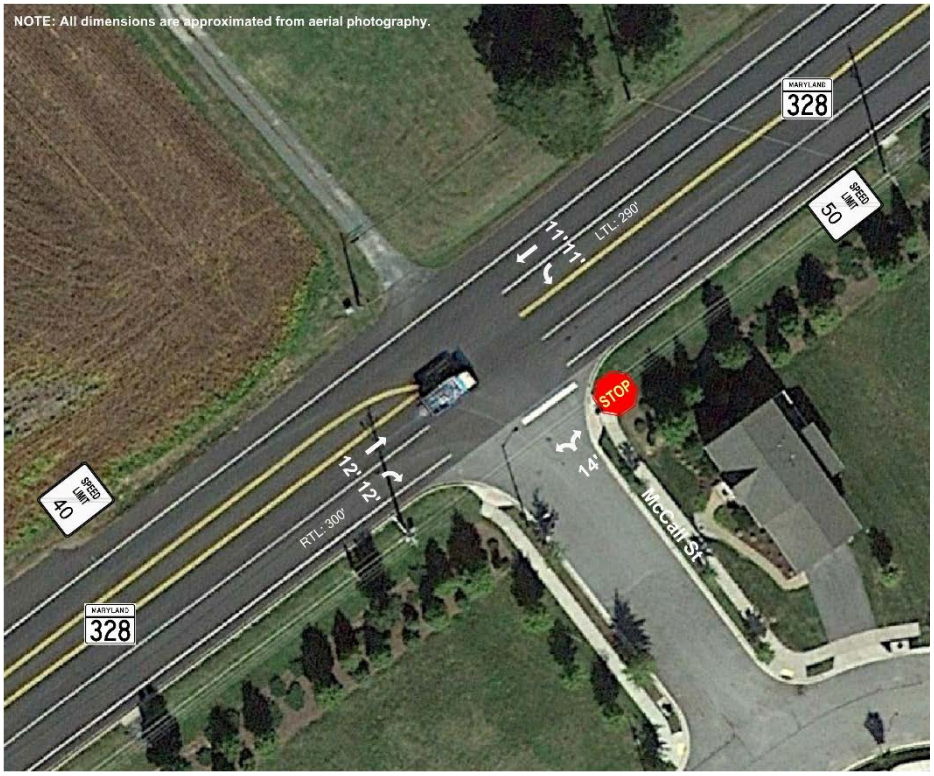


The intersection of Fisher Range Road/ Dyott Ct is a signalized intersection. Fisher Range Road is classified as a Local Road with unknown AADT. The speed limit on Fisher Range Road is posted as 30 mph. Dyott Court is classified as a Local Road with unknown AADT. The speed limit on Dyott Court is posted as 25 mph. *While the Fisher Range Road approach is not marked, it is wide enough to function as two lanes.*



The intersection of Mile Post Drive and Matthewstown Road, MD 328, is STOP controlled. Mile Post Drive is classed as a Local Road with unknown AADT. The speed limit on Mile Post Drive is posted as 30 mph.

The intersection of McCall Street and Matthewstown Road, MD 328, is STOP controlled. McCall Street is classed as a Local Road with unknown AADT. The speed limit on McCall Street is not posted.



The intersection of Swann Haven Road and Matthewstown Road, MD 328, is STOP controlled. Swann Haven Road is classed as a Local Road with unknown AADT. The speed limit on Swann Haven Road is not posted.

The intersection of Black Dog Alley and Matthewstown Road, MD 328, is a signalized intersection. Black Dog Alley is classed as a Minor Collector with an AADT of 1,884, south of MD 328 and an AADT of 3,334, north of MD 328 for the year 2021. The speed limit on Black Dog Alley is posted as 30 mph, south of MD 328 and 35 mph, north of MD 328.

The lane use and intersection traffic control are illustrated on Figure 2.

Traffic Volumes

Intersection turning movement counts were collected in June 2022 during the weekday peak hour traffic periods from 7 to 9 AM and from 4 to 6 PM and on a summer Saturday from 10 AM to 2 PM. These turning movement counts are summarized on Figure 3. The turning movement count summaries and machine count summaries are provided in Appendix A.

Analysis of Existing Traffic Conditions

Using the CLV methodology, the study intersections were evaluated for capacity for the existing weekday morning and evening peak hour periods and the summer Saturday midday peak hour period. As shown in Table 1, the study intersections have sufficient capacity.

Figure 2. Existing Lane Use and Intersection Traffic Control

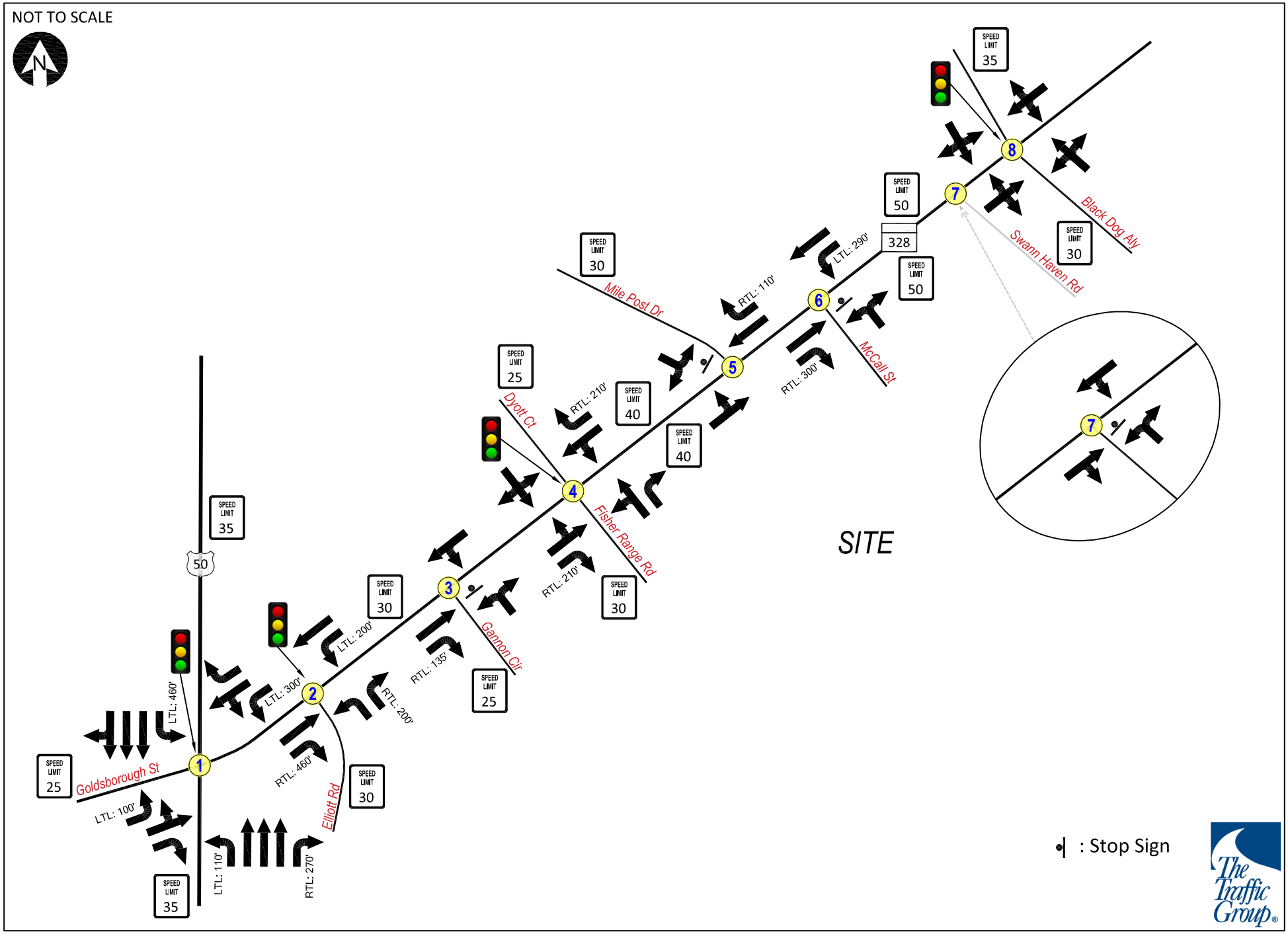


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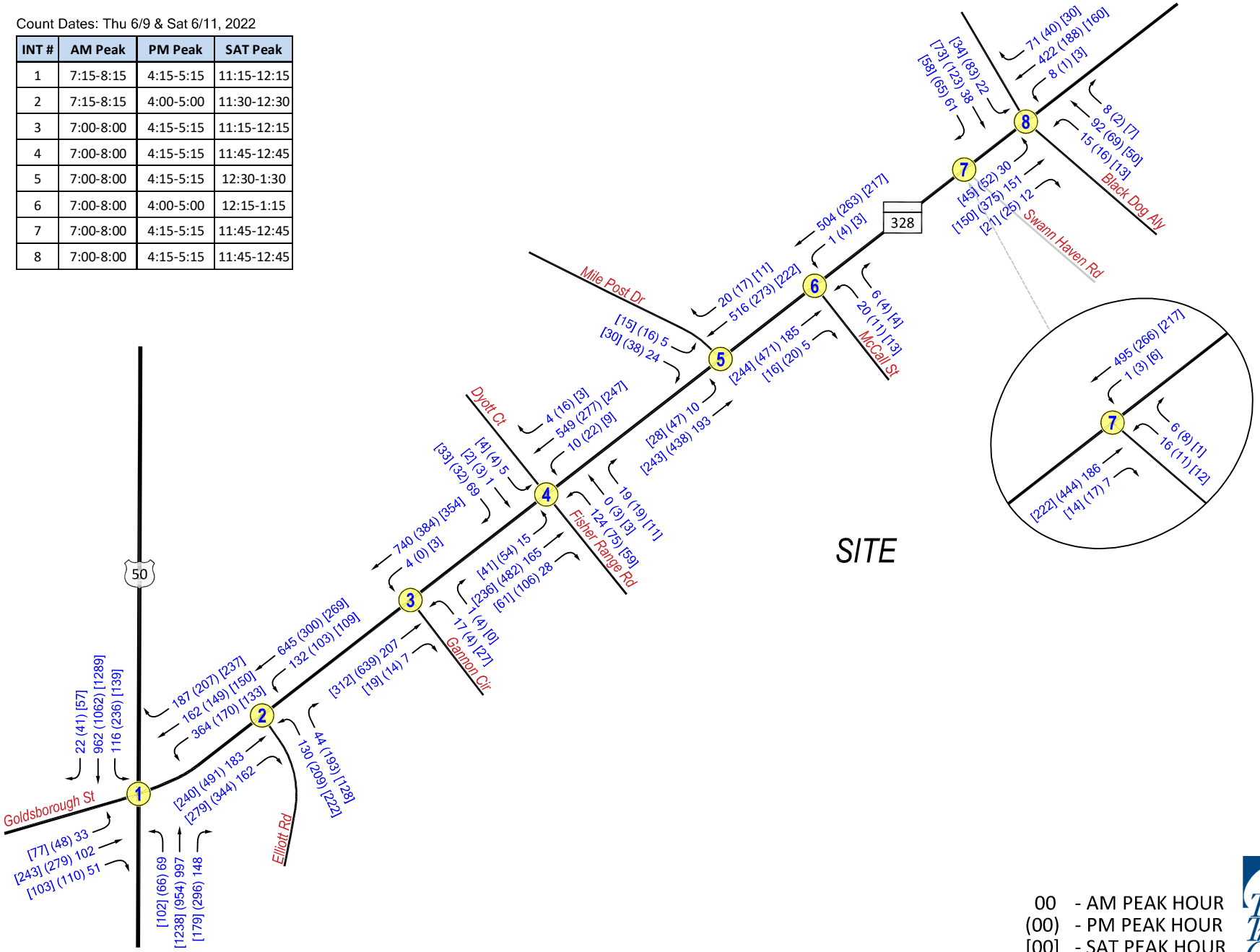
Figure 3. 2022 Existing Peak Hour Traffic Volumes

NOT TO SCALE

Count Dates: Thu 6/9 & Sat 6/11, 2022

INT #	AM Peak	PM Peak	SAT Peak
1	7:15-8:15	4:15-5:15	11:15-12:15
2	7:15-8:15	4:00-5:00	11:30-12:30
3	7:00-8:00	4:15-5:15	11:15-12:15
4	7:00-8:00	4:15-5:15	11:45-12:45
5	7:00-8:00	4:15-5:15	12:30-1:30
6	7:00-8:00	4:00-5:00	12:15-1:15
7	7:00-8:00	4:15-5:15	11:45-12:45
8	7:00-8:00	4:15-5:15	11:45-12:45



00 - AM PEAK HOUR
(00) - PM PEAK HOUR
[00] - SAT PEAK HOUR

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Table 1. Results of CLV Analysis – 2022 Existing Traffic

2022 Existing Traffic	AM Peak	PM Peak	SAT Peak
Intersection	**LOS / CLV**	**LOS / CLV**	**LOS / CLV**
1. US 50 & MD 328	A / 933	B / 1088	B / 1053
2. MD 328 & Elliott Rd	A / 775	A / 803	A / 571
3. MD 328 & Gannon Cir	A / 766	A / 647	A / 387
4. MD 328 & Fisher Range Rd	A / 775	A / 726	A / 425
5. MD 328 & Mile Post Dr	A / 555	A / 586	A / 344
6. MD 328 & McCall St	A / 530	A / 490	A / 264
7. MD 328 & Swann Haven Rd	A / 518	A / 483	A / 255
8. MD 328 & Black Dog Aly	A / 671	A / 800	A / 419

Using the HCM methodology, the study intersections were evaluated for operational Levels of Service for the existing weekday morning and evening peak hour periods and the summer Saturday midday peak hour period. As shown in Table 2, the study intersections are operating at overall acceptable Levels of Service (LOS "D" or better). The intersection capacity analysis worksheets are contained in Appendix B. Signal timing for the signalized intersections was obtained from MDOT SHA and is provided in Appendix C.

Table 2. Results of HCM Analysis – 2022 Existing Traffic

2022 Existing Traffic			AM	PM	SAT
Intersection	**Type of Control**	**Movement**	**LOS / Delay (sec)**		
1. US 50 & MD 328	Traffic Signal	Overall	C / 29.3	D / 35.3	C / 26.9
2. MD 328 & Elliott Rd	Traffic Signal	Overall	A / 10.0	B / 14.1	B / 12.6
3. MD 328 (E/W) & Gannon Cir (N/S)	Two Way Stop	NB LR WB L	C / 20.6 A / 8.0	C / 16.7 A / 0.0	C / 15.5 A / 8.0
4. MD 328 & Dyott Ct / Fisher Range Rd	Traffic Signal	Overall	A / 9.5	A / 7.8	A / 7.1
5. MD 328 (E/W) & Mile Post Dr (N/S)	Two Way Stop	EB L NB LR	A / 8.8 B / 13.4	A / 7.9 B / 12.5	A / 7.8 B / 11.0
6. MD 328 (E/W) & McCall St (N/S)	Two Way Stop	NB LR WB L	B / 14.0 A / 7.6	B / 14.5 A / 8.4	B / 11.5 A / 8.2
7. MD 328 (E/W) & Swann Haven Rd (N/S)	Two Way Stop	NB LR WB L	B / 14.3 A / 7.7	B / 13.9 A / 8.3	B / 11.9 A / 7.9
8. MD 328 & Black Dog Aly	Traffic Signal	Overall	A / 9.8	B / 11.0	A / 9.3

Notes: Results were based on Synchro 11 - HCM 6th reports.

BACKGROUND TRAFFIC CONDITIONS

Design Year

For the purpose of this TIS, the proposed residential development is anticipated to *be completed* in 2025. Historical AADT data was obtained from the MDOT SHA website for US 50 and MD 328/Goldsborough Street. As shown in Table 3, the AADT on US 50 has not significantly changes for the past 10 years. However, to be conservative, an annual growth rate of 1% for 3 years was applied to the peak hour turning movement volumes on US 50. The AADT on MD 328 has remained consistent, therefore, no growth was applied to the peak hour turning movement volumes on MD 328 *in the initial report. However, at the request of MDOT SHA, a 0.5% increase was applied to the volumes along MD 328*. Figure 4 illustrates the regional traffic growth, and Figure 5 provides the 2025 base peak hour traffic volumes.

Table 3. Historical AADT Data

LOCATION: US 50; North of MD 328					LOCATION: US 50; South of MD 328				
		AVERAGE GROWTH:	-0.18%				AVERAGE GROWTH:	0.30%	
		MATHEMATICAL GROWTH:	-0.27%				MATHEMATICAL GROWTH:	0.25%	
Year	ADT Volume	Vol. Increase	% Increase	Average %	Year	ADT Volume	Vol. Increase	% Increase	Average %
2010	35,872				2010	34,442			
2011	32,430	-3,442	-9.60%	-9.60%	2011	34,080	-362	-1.05%	-1.05%
2012	32,531	101	0.31%	-4.64%	2012	34,181	101	0.30%	-0.38%
2013	32,402	-129	-0.40%	-3.23%	2013	34,042	-139	-0.41%	-0.39%
2014	34,040	1,638	5.06%	-1.16%	2014	35,420	1,378	4.05%	0.72%
2015	35,471	1,431	4.20%	-0.08%	2015	36,911	1,491	4.21%	1.42%
2016	36,222	751	2.12%	0.28%	2016	37,692	781	2.12%	1.54%
2017	34,800	-1,422	-3.93%	-0.32%	2017	35,000	-2,692	-7.14%	0.30%
2018	34,591	-209	-0.60%	-0.35%	2018	34,791	-209	-0.60%	0.18%
2019	35,012	421	1.22%	-0.18%	2019	35,212	421	1.21%	0.30%
LOCATION: MD 328; East of US 50					LOCATION: Goldsborough St; West of US 50				
		AVERAGE GROWTH:	-0.04%				AVERAGE GROWTH:	-0.23%	
			-0.05%				MATHEMATICAL GROWTH:	-0.33%	
Year	ADT Volume	Vol. Increase	% Increase	Average %	Year	ADT Volume	Vol. Increase	% Increase	Average %
2010	10,291				2010	9,230			
2011	10,332	41	0.40%	0.40%	2011	9,271	41	0.44%	0.44%
2012	10,140	-192	-1.86%	-0.73%	2012	9,202	-69	-0.74%	-0.15%
2013	10,161	21	0.21%	-0.42%	2013	8,480	-722	-7.85%	-2.72%
2014	10,132	-29	-0.29%	-0.38%	2014	8,461	-19	-0.22%	-2.09%
2015	10,010	-122	-1.20%	-0.55%	2015	8,682	221	2.61%	-1.15%
2016	10,201	191	1.91%	-0.14%	2016	8,180	-502	-5.78%	-1.92%
2017	10,452	251	2.46%	0.23%	2017	8,381	201	2.46%	-1.30%
2018	10,240	-212	-2.03%	-0.05%	2018	8,312	-69	-0.82%	-1.24%
2019	10,241	1	0.01%	-0.04%	2019	8,960	648	7.80%	-0.23%

Source: MDOT SHA.

Figure 4. Regional Traffic Growth

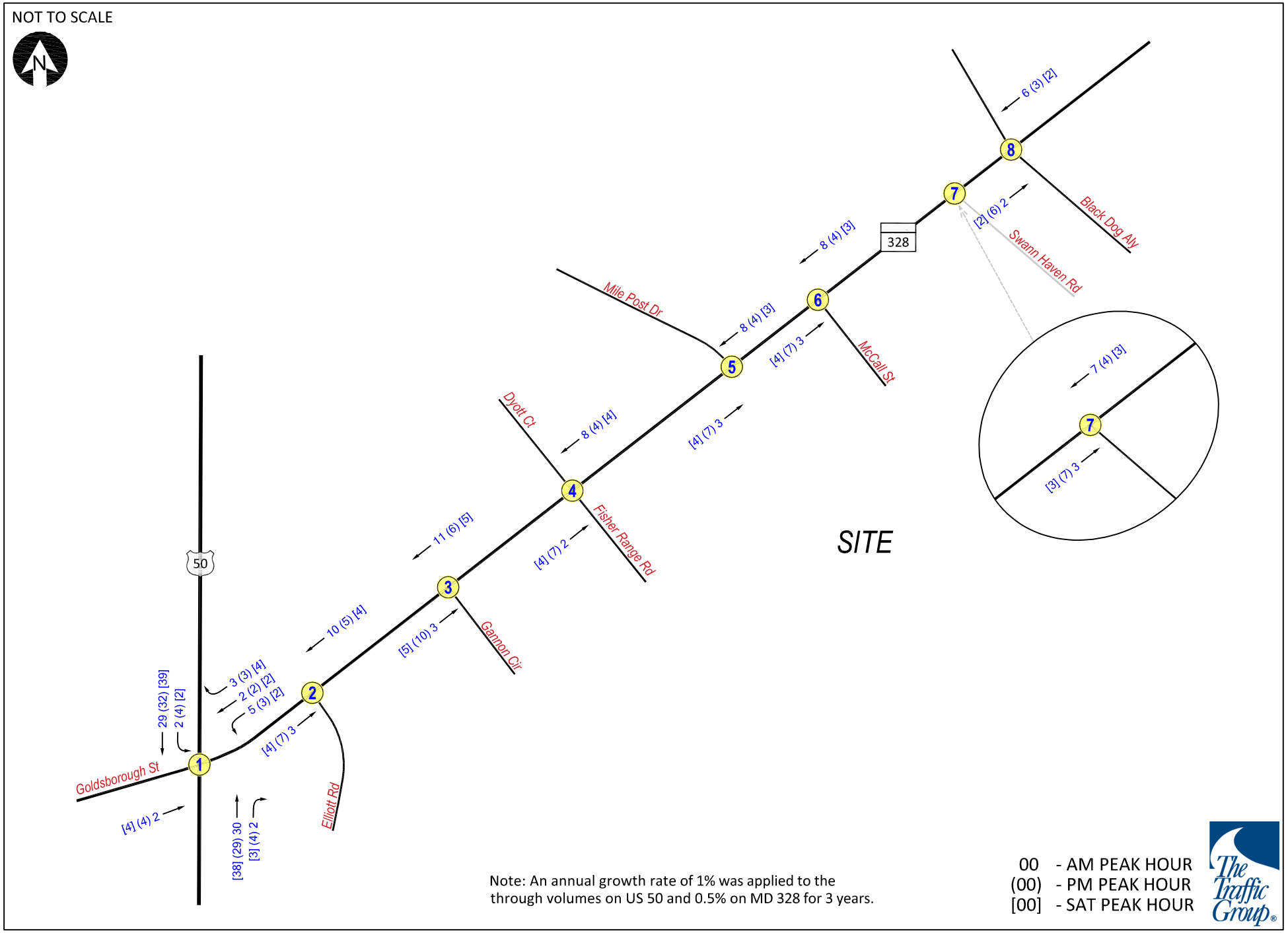

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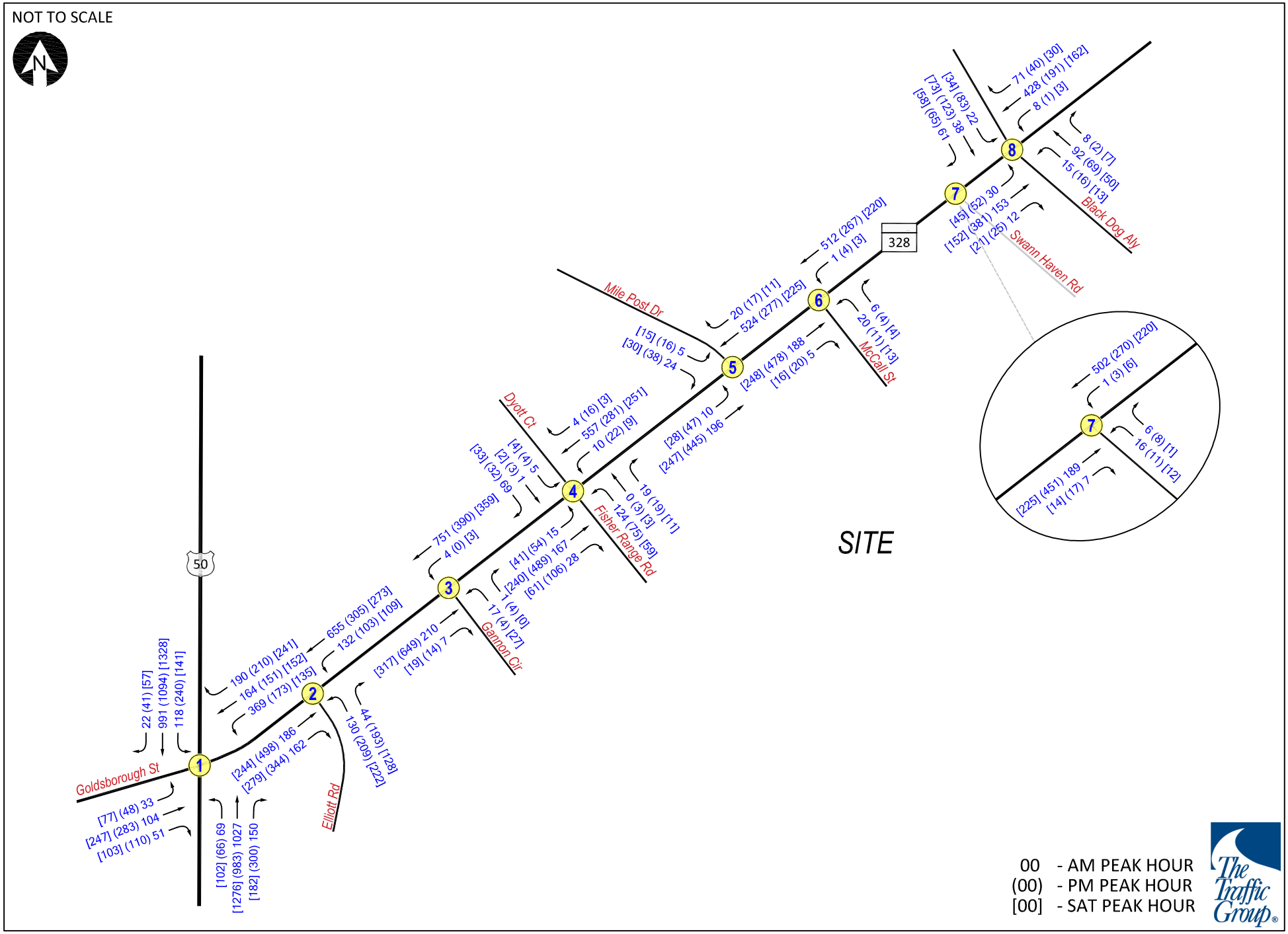
Figure 5. 2025 Base Peak Hour Traffic Volumes



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Background Traffic

The Estates of Gannon Farm was identified as a committed development to be included in the analysis of the peak hour background traffic volumes. This residential development, to consist of 202 single-family homes, is located northeast of the subject site with access onto Matthewstown Road, MD 328 as shown in Figure 6.

ITE's Trip Generation Manual (11th Edition) was consulted to determine the peak hour volumes anticipated to be generated by the Estates at Gannon Farm as shown in Table 4.

Table 4. Trip Generation for The Estates at Gannon Farm

Trip Generation Rates - ITE 11th Edition

Land Use (Source)	*Formula/Rate*	*Directional Distribution*					
		AM Peak Hour		*PM Peak Hour*		*SAT Peak Hour*	
		In	*Out*	*In*	*Out*	*In*	*Out*
Single-Family Detached (ITE-210)	Ln(AM Peak Hour Trips) = 0.91 x Ln(Units) + 0.12 Ln(PM Peak Hour Trips) = 0.94 x Ln(Units) + 0.27 Sat. Midday Peak Hour Trips = 0.86 x Units + 9.72	26%	74%	63%	37%	54%	46%

Trip Generation for The Estates at Gannon Farm

Land Use	*Size*	*AM Peak Hour*			*PM Peak Hour*			*Saturday Peak Hour*		
		In	*Out*	*Total*	*In*	*Out*	*Total*	*In*	*Out*	*Total*
Single-Family Detached	202 Units	37	104	141	121	71	192	99	84	183

These peak hour trips were distributed to the study intersections as shown on Figure 7 and added to the base peak hour traffic volumes to obtain the background peak hour traffic volumes for the year 2025 as shown on Figure 8.

Analysis of Background Traffic Conditions

Using the CLV methodology, the study intersections were evaluated for capacity for the background weekday morning and evening peak hour periods and the summer Saturday midday peak hour period. As shown in Table 5, the study intersections are projected to have sufficient capacity.

Figure 6. Location Map for Background Developments

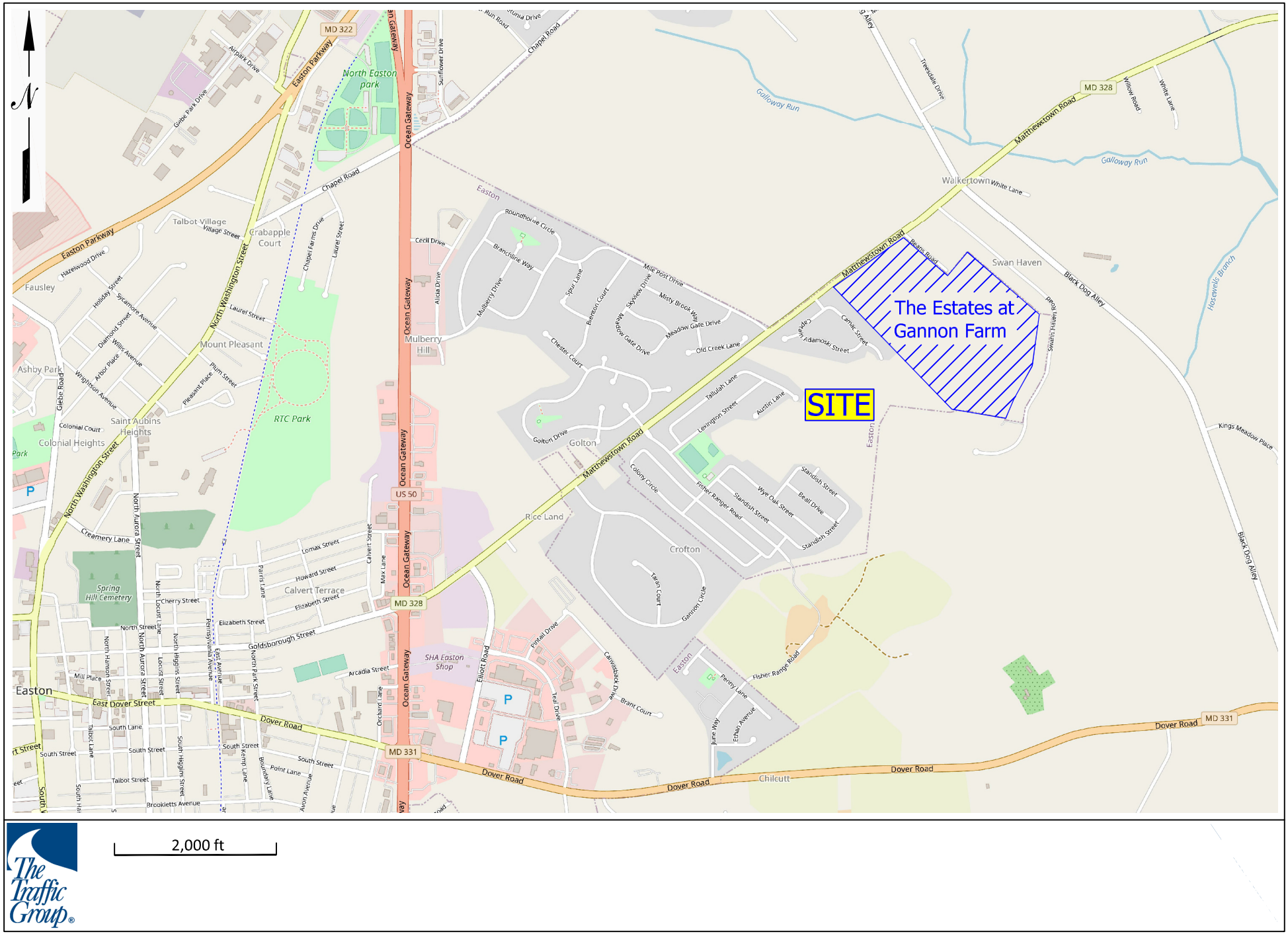

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Figure 7. Trip Assignment for The Estates at Gannon Farm

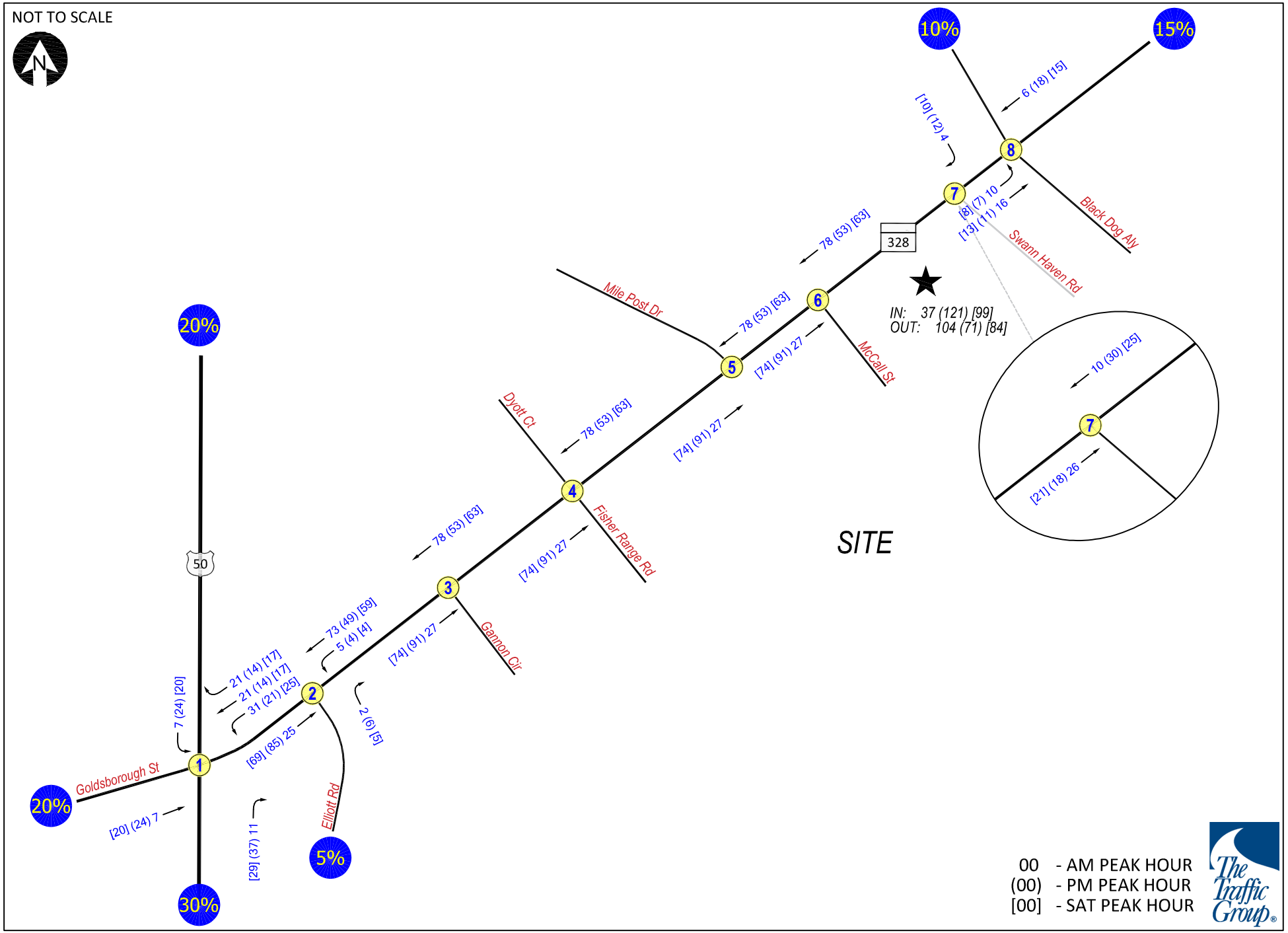

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Figure 8. 2025 Background Peak Hour Traffic Volumes

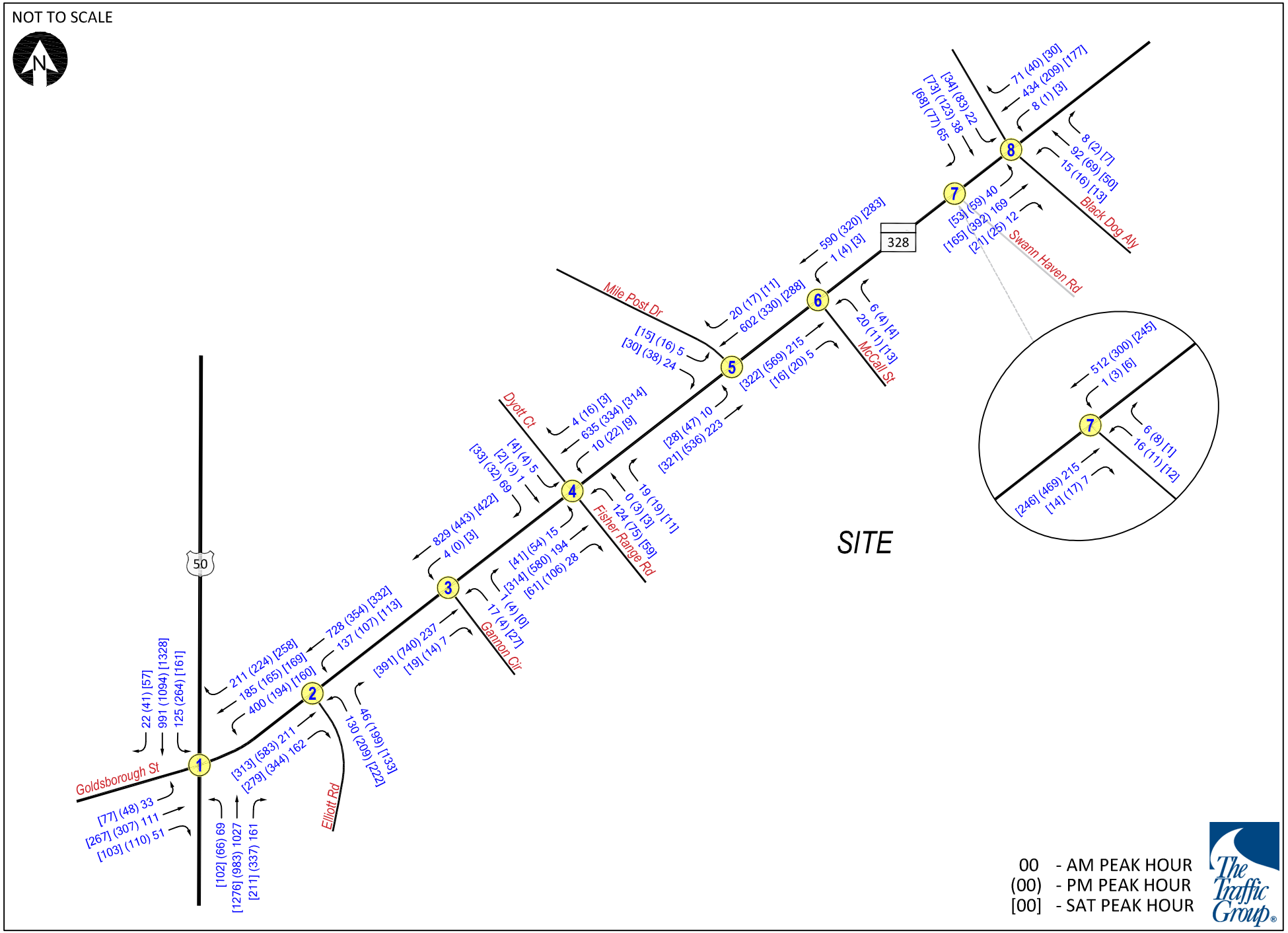

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Table 5. Results of CLV Analysis – 2025 Background Traffic

2025 Background Traffic	AM Peak	PM Peak	SAT Peak
Intersection	**LOS / CLV**	**LOS / CLV**	**LOS / CLV**
1. US 50 & MD 328	A / 998	C / 1179	B / 1135
2. MD 328 & Elliott Rd	A / 858	A / 899	A / 648
3. MD 328 & Gannon Cir	A / 855	A / 748	A / 455
4. MD 328 & Fisher Range Rd	A / 870	A / 824	A / 503
5. MD 328 & Mile Post Dr	A / 641	A / 684	A / 422
6. MD 328 & McCall St	A / 616	A / 588	A / 342
7. MD 328 & Swann Haven Rd	A / 536	A / 508	A / 279
8. MD 328 & Black Dog Aly	A / 696	A / 843	A / 486

Using the HCM methodology, the study intersections were evaluated for operational Levels of Service for the background weekday morning and evening peak hour periods and the summer Saturday midday peak hour period. As shown in Table 6, the study intersections are projected to operate at overall acceptable Levels of Service (LOS "D" or better). The intersection capacity analysis worksheets are contained in Appendix B.

Table 6. Results of HCM Analysis – 2025 Background Traffic

2025 Background Traffic			AM	PM	SAT
Intersection	**Type of Control**	**Movement**	**LOS / Delay (sec)**		
1. US 50 (N/S) & MD 328 / Goldsborough St (E/W)	Traffic Signal	Overall	C / 31.8	D / 39.6	C / 31.4
2. MD 328 (E/W) & Elliott Rd (N/S)	Traffic Signal	Overall	A / 10.0	B / 14.7	B / 12.6
3. MD 328 (E/W) & Gannon Cir (N/S)	Two Way Stop	NB LR	C / 24.0	C / 19.3	C / 18.5
		WB L	A / 8.1	A / 0.0	A / 8.3
4. MD 328 (E/W) & Dyott Ct / Fisher Range Rd (N/S)	Traffic Signal	Overall	A / 9.7	A / 7.9	A / 7.3
5. MD 328 (E/W) & Mile Post Dr (N/S)	Two Way Stop	EB L	A / 9.1	A / 8.1	A / 8.0
		NB LR	B / 14.8	B / 14.0	B / 12.1
6. MD 328 (E/W) & McCall St (N/S)	Two Way Stop	NB LR	C / 15.7	C / 16.8	B / 12.9
		WB L	A / 7.7	A / 8.8	A / 8.4
7. MD 328 (E/W) & Swann Haven Rd (N/S)	Two Way Stop	NB LR	B / 15.0	B / 14.6	B / 12.4
		WB L	A / 7.7	A / 8.4	A / 8.0
8. MD 328 (E/W) & Black Dog Aly (N/S)	Traffic Signal	Overall	A / 9.9	B / 11.3	A / 9.4

Notes: Results were based on Synchro 11 - HCM 6th reports.

TOTAL TRAFFIC CONDITIONS

Site Information

The Traffic Group, Inc. has *revised a TIS, previously submitted on August 30, 2022, to address the comments received from MDOT SHA on September 26, 2022*. The purpose of the TIS is to determine the impact on the surrounding road system of a proposed residential development to be located on Matthewstown Road (MD 328) in the Town of Easton, Talbot County, MD.

The development will consist of two parcels: one with access via McCall Street and the other with access via Fisher Range Road. The construction of the residential development is anticipated to be constructed in 2025.

Trip Generation/Distribution

Peak hour traffic volumes anticipated to be generated by the proposed development were determined utilizing information from ITE's Trip Generation Manual (11th Edition) as shown in Table 7.

Table 7. Trip Generation for Subject Site

Trip Generation Rates - ITE 11th Edition

Land Use (Source)	*Formula/Rate*	*Directional Distribution*					
		AM Peak Hour		*PM Peak Hour*		*SAT Peak Hour*	
		In	*Out*	*In*	*Out*	*In*	*Out*
Multifamily Housing, Low-Rise (ITE-220)	AM Peak Hour Trips = 0.31 x Units + 22.85 PM Peak Hour Trips = 0.43 x Units + 20.55 Sat. Midday Peak Hour Trips = 0.41 x Units Daily Trips = 6.41 x Units + 75.31	24%	76%	63%	37%	51%	49%
Single-Family Attached (ITE-215)	AM Peak Hour Trips = 0.52 x Units - 5.70 PM Peak Hour Trips = 0.60 x Units - 3.93 Ln(Sat. Midday Peak Hour Trips) = 0.82 x Ln(Units) + 0.43 Daily Trips = 7.62 x Units - 50.48	31%	69%	57%	43%	48%	52%

Trip Generation for Subject Site

Land Use	*Size*		*AM Peak Hour*			*PM Peak Hour*			*Saturday Peak Hour*			*Daily*
			In	*Out*	*Total*	*In*	*Out*	*Total*	*In*	*Out*	*Total*	
Apartments	158	units	17	55	72	55	33	88	33	32	65	1088
Townhouses	170	units	26	57	83	56	42	98	50	54	104	1245
Total	**328**	**units**	**43**	**112**	**155**	**111**	**75**	**186**	**83**	**86**	**169**	**2333**

These trips were assigned to the study intersections as shown in Figure 9A for the north parcel and Figure 9B for the south parcel. *The trip distributions vary between the north and south parcels because the north parcel is close to Black Dog Alley.* The peak hour volumes anticipated to be generated by the proposed development were added to the background peak hour volumes to obtain the total peak hour traffic volumes for the year 2025 as shown in Figure 10.

Analysis of Total Traffic Conditions

Using the CLV methodology, the study intersections were evaluated for capacity for the total weekday morning and evening peak hour periods and the summer Saturday midday peak hour period. As shown in Table 8, the study intersections are projected to have sufficient capacity.

Table 8. Results of CLV Analysis – 2025 Total Traffic

2025 Total Traffic	AM Peak	PM Peak	SAT Peak
Intersection	**LOS / CLV**	**LOS / CLV**	**LOS / CLV**
1. US 50 & MD 328	B / 1051	C / 1252	C / 1199
2. MD 328 & Elliott Rd	A / 942	A / 987	A / 716
3. MD 328 & Gannon Cir	A / 945	A / 838	A / 525
4. MD 328 & Fisher Range Rd	A / 968	A / 910	A / 582
5. MD 328 & Mile Post Dr	A / 687	A / 732	A / 455
6. MD 328 & McCall St	A / 675	A / 640	A / 390
7. MD 328 & Swann Haven Rd	A / 543	A / 519	A / 292
8. MD 328 & Black Dog Aly	A / 710	A / 865	A / 508

Using the HCM methodology, the study intersections were evaluated for operational Levels of Service for the total weekday morning and evening peak hour periods and the summer Saturday midday peak hour period. As shown in Table 9, the study intersections are projected to operate at overall acceptable Levels of Service (LOS "D" or better). The intersection capacity analysis worksheets are contained in Appendix B.

Table 9. Results of HCM Analysis – 2025 Total Traffic

2025 Total Traffic			AM	PM	SAT
Intersection	**Type of Control**	**Movement**	**LOS / Delay (sec)**		
1. US 50 (N/S) & MD 328 / Goldsborough St (E/W)	Traffic Signal	Overall	C / 34.5	D / 43.8	D / 35.5
2. MD 328 (E/W) & Elliott Rd (N/S)	Traffic Signal	Overall	B / 10.3	B / 15.7	B / 12.7
3. MD 328 (E/W) & Gannon Cir (N/S)	Two Way Stop	NB LR	D / 28.5	C / 22.3	C / 22.1
		WB L	A / 8.2	A / 0.0	A / 8.5
4. MD 328 (E/W) & Dyott Ct / Fisher Range Rd (N/S)	Traffic Signal	Overall	B / 10.9	A / 8.4	A / 8.1
5. MD 328 (E/W) & Mile Post Dr (N/S)	Two Way Stop	EB L	A / 9.3	A / 8.2	A / 8.1
		NB LR	C / 15.7	B / 14.9	B / 12.7
6. MD 328 (E/W) & McCall St (N/S)	Two Way Stop	NB LR	C / 18.8	C / 19.5	B / 13.9
		WB L	A / 7.8	A / 9.0	A / 8.6
7. MD 328 (E/W) & Swann Haven Rd (N/S)	Two Way Stop	NB LR	C / 15.4	C / 19.1	B / 12.7
		WB L	A / 7.8	B / 10.3	A / 8.0
8. MD 328 (E/W) & Black Dog Aly (N/S)	Traffic Signal	Overall	A / 9.9	B / 11.5	A / 9.3

Notes: Results were based on Synchro 11 - HCM 6th reports.

Figure 9A. Trip Assignment for Subject Site - North Parcel

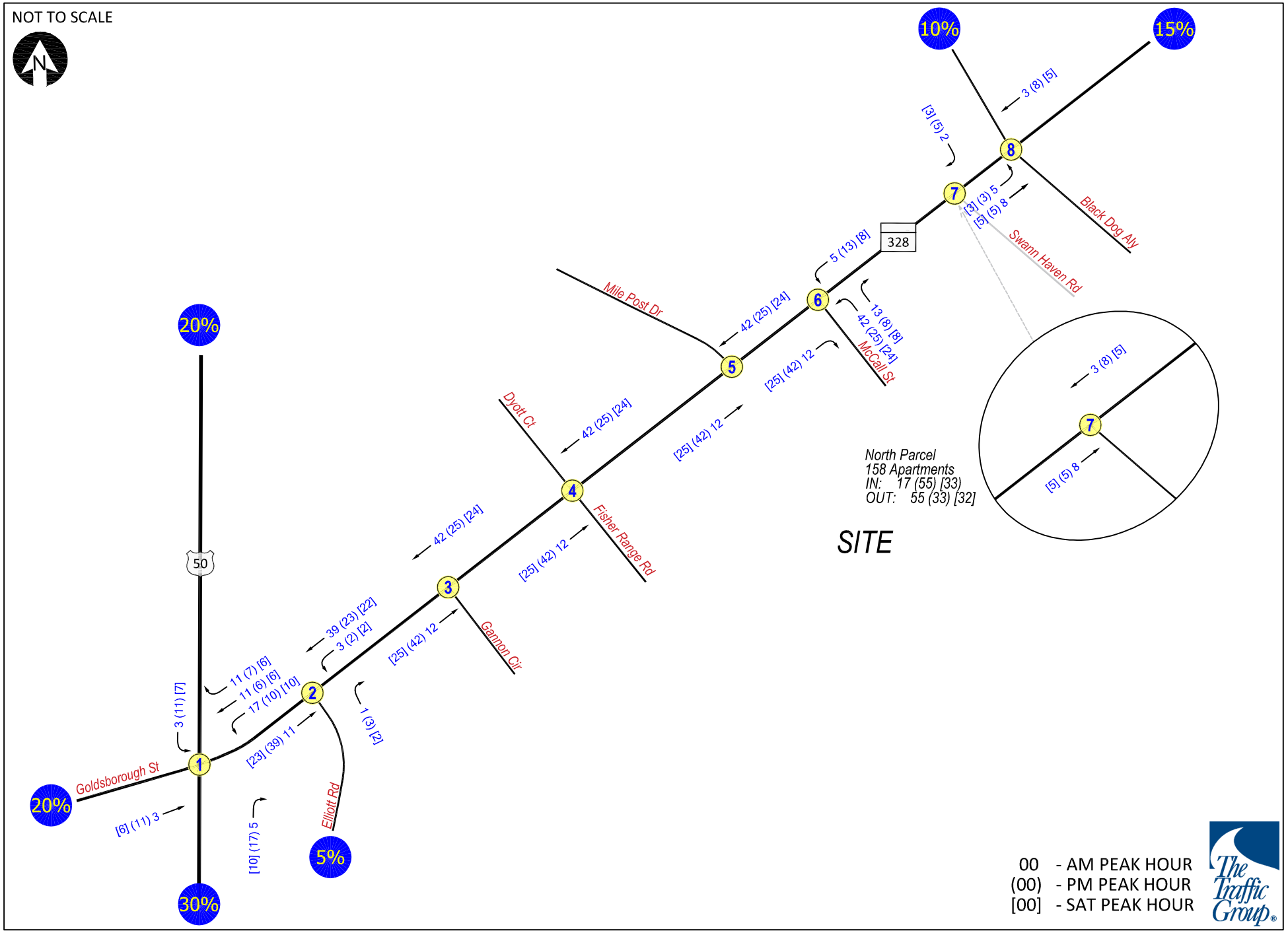

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Figure 9B. Trip Assignment for Subject Site - South Parcel

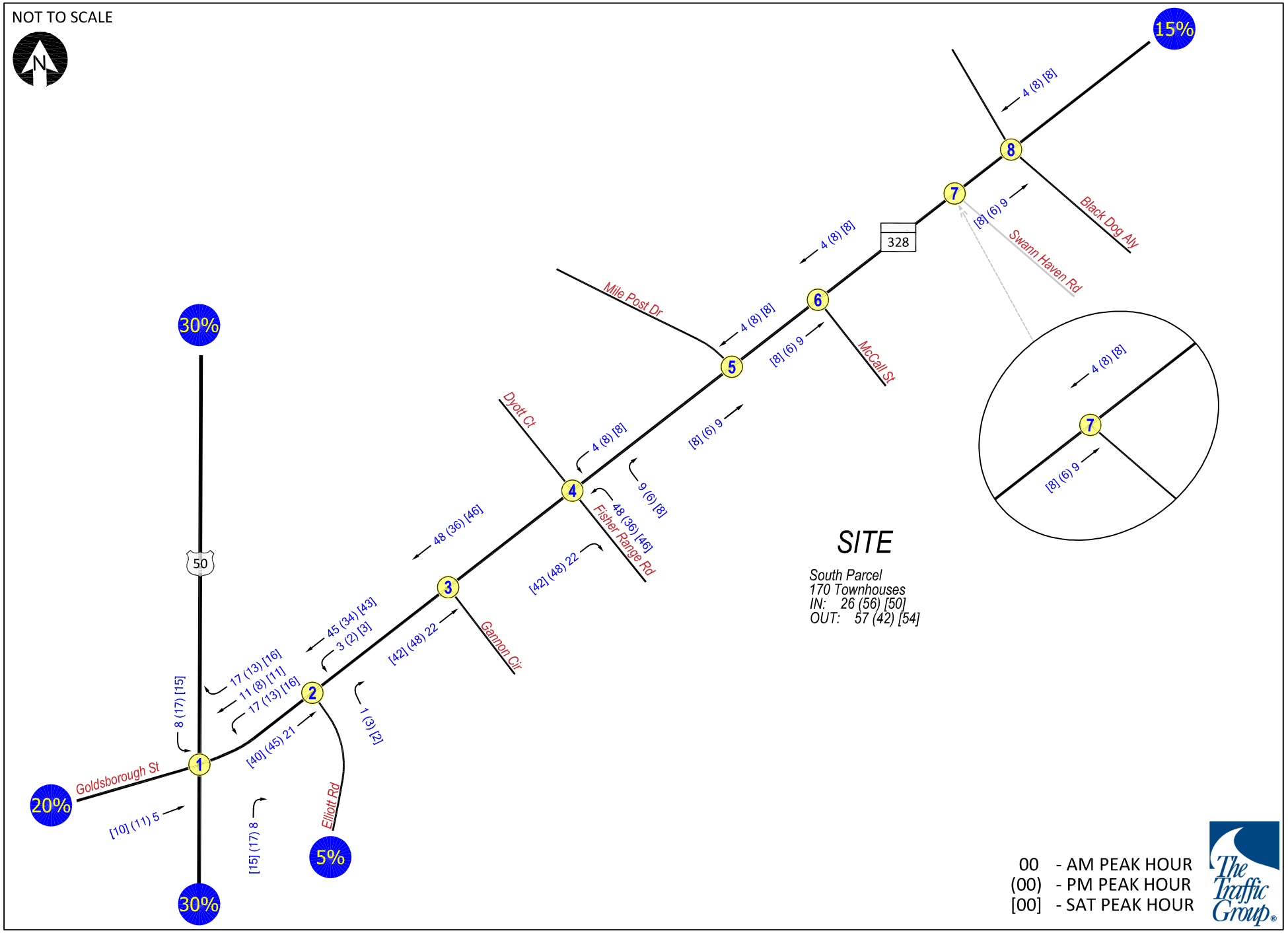

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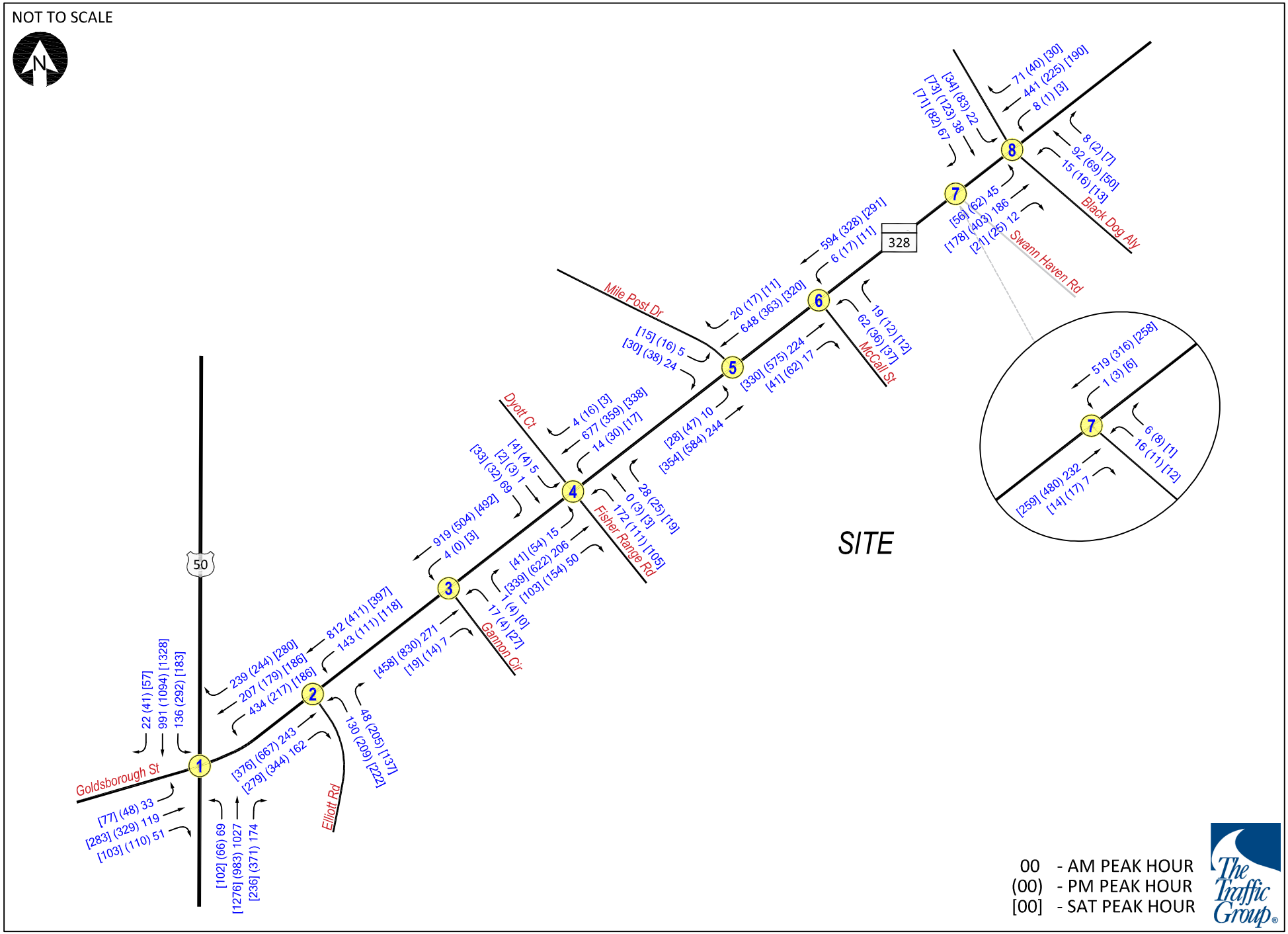
Figure 10. 2025 Total Peak Hour Traffic Volumes



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For the convenience of the reader, the results of the intersection capacity analysis, CLV methodology, for the existing, background, and total peak hour traffic conditions are provided in Table 10, and the results using the HCM methodology are provided in Table 11.

Table 10. Results of CLV Analysis – All Scenarios

Intersection	2022 Existing Traffic			2025 Background Traffic			2025 Total Traffic		
	AM Peak	PM Peak	SAT Peak	AM Peak	PM Peak	SAT Peak	AM Peak	PM Peak	SAT Peak
	LOS / CLV	LOS / CLV	LOS / CLV	LOS / CLV	LOS / CLV	LOS / CLV	LOS / CLV	LOS / CLV	LOS / CLV
1. US 50 & MD 328	A / 933	B / 1088	B / 1053	A / 998	C / 1179	B / 1135	B / 1051	C / 1252	C / 1199
2. MD 328 & Elliott Rd	A / 775	A / 803	A / 571	A / 858	A / 899	A / 648	A / 942	A / 987	A / 716
3. MD 328 & Gannon Cir	A / 766	A / 647	A / 387	A / 855	A / 748	A / 455	A / 945	A / 838	A / 525
4. MD 328 & Fisher Range Rd	A / 775	A / 726	A / 425	A / 870	A / 824	A / 503	A / 968	A / 910	A / 582
5. MD 328 & Mile Post Dr	A / 555	A / 586	A / 344	A / 641	A / 684	A / 422	A / 687	A / 732	A / 455
6. MD 328 & McCall St	A / 530	A / 490	A / 264	A / 616	A / 588	A / 342	A / 675	A / 640	A / 390
7. MD 328 & Swann Haven Rd	A / 518	A / 483	A / 255	A / 536	A / 508	A / 279	A / 543	A / 519	A / 292
8. MD 328 & Black Dog Aly	A / 671	A / 800	A / 419	A / 696	A / 843	A / 486	A / 710	A / 865	A / 508

Table 11. Results of HCM Analysis – All Scenarios

Intersection		2022 Existing Traffic			2025 Background Traffic			2025 Total Traffic		
Type of Control	Movement	AM	PM	SAT	AM	PM	SAT	AM	PM	SAT
		LOS / Delay (sec)			LOS / Delay (sec)			LOS / Delay (sec)		
1. US 50 (N/S) & MD 328/Goldsborough St (E/W)										
Traffic Signal	Overall	C / 29.3	D / 35.3	C / 26.9	C / 31.8	D / 39.6	C / 31.4	C / 34.5	D / 43.8	D / 35.5
	EB Approach	E / 69.2	F / 87.3	E / 58.5	E / 69.0	F / 88.6	E / 67.7	E / 69.7	F / 89.9	E / 74.1
	WB Approach	E / 63.7	F / 94.9	E / 63.5	E / 64.7	F / 97.7	E / 69.0	E / 66.1	F / 101	E / 71.2
	NB Approach	B / 14.7	B / 17.0	B / 15.9	B / 17.3	C / 21.6	B / 19.1	B / 19.8	C / 26.2	C / 22.6
	SB Approach	C / 20.8	C / 22.2	C / 23.1	C / 22.9	C / 25.4	C / 26.4	C / 24.8	C / 28.5	C / 29.5
2. MD 328 (E/W) & Elliott Rd (N/S)										
Traffic Signal	Overall	A / 10.0	B / 14.1	B / 12.6	A / 10.0	B / 14.7	B / 12.6	B / 10.3	B / 15.7	B / 12.7
	EB Approach	A / 10.0	B / 13.0	B / 11.7	A / 9.0	B / 13.5	B / 12.2	A / 8.2	B / 14.5	B / 12.7
	WB Approach	A / 7.6	A / 6.2	A / 6.0	A / 7.5	A / 6.6	A / 6.3	A / 7.4	A / 7.1	A / 6.6
	NB Approach	C / 20.8	C / 24.1	C / 21.0	C / 25.1	C / 26.9	C / 21.1	C / 30.6	C / 29.5	C / 21.1
3. MD 328 (E/W) & Gannon Cir (N/S)										
Two Way Stop	NB LR	C / 20.6	C / 16.7	C / 15.5	C / 24.0	C / 19.3	C / 18.5	D / 28.5	C / 22.3	C / 22.1
	WB L	A / 8.0	A / 0.0	A / 8.0	A / 8.1	A / 0.0	A / 8.3	A / 8.2	A / 0.0	A / 8.5
4. MD 328 (E/W) & Dyott Ct/Fisher Range Rd (N/S)										
Traffic Signal	Overall	A / 9.5	A / 7.8	A / 7.1	A / 9.7	A / 7.9	A / 7.3	B / 10.9	A / 8.4	A / 8.1
	EB Approach	A / 5.6	A / 7.3	A / 5.7	A / 5.2	A / 7.3	A / 6.2	A / 5.4	A / 7.4	A / 6.8
	WB Approach	A / 8.4	A / 5.9	A / 5.8	A / 8.4	A / 5.6	A / 6.2	A / 9.2	A / 5.7	A / 6.9
	NB Approach	B / 16.1	B / 15.1	B / 14.6	B / 18.8	B / 17.7	B / 14.6	C / 21.2	B / 19.9	B / 14.8
	SB Approach	B / 15.7	B / 14.8	B / 14.5	B / 18.2	B / 17.4	B / 14.5	B / 19.6	B / 18.8	B / 14.1

Table 11. Results of HCM Analysis – All Scenarios, Continued

Intersection		2022 Existing Traffic			2025 Background Traffic			2025 Total Traffic		
Type of Control	Movement	AM	PM	SAT	AM	PM	SAT	AM	PM	SAT
		LOS / Delay (sec)			LOS / Delay (sec)			LOS / Delay (sec)		
5. MD 328 (E/W) & Mile Post Dr (N/S)										
Two Way Stop	EB L	A / 8.8	A / 7.9	A / 7.8	A / 9.1	A / 8.1	A / 8.0	A / 9.3	A / 8.2	A / 8.1
	NB LR	B / 13.4	B / 12.5	B / 11.0	B / 14.8	B / 14.0	B / 12.1	C / 15.7	B / 14.9	B / 12.7
6. MD 328 (E/W) & McCall St (N/S)										
Two Way Stop	NB LR	B / 14.0	B / 14.5	B / 11.5	C / 15.7	C / 16.8	B / 12.9	C / 18.8	C / 19.5	B / 13.9
	WB L	A / 7.6	A / 8.4	A / 8.2	A / 7.7	A / 8.8	A / 8.4	A / 7.8	A / 9.0	A / 8.6
7. MD 328 (E/W) & Swann Haven Rd (N/S)										
Two Way Stop	NB LR	B / 14.3	B / 13.9	B / 11.9	B / 15.0	B / 14.6	B / 12.4	C / 15.4	C / 19.1	B / 12.7
	WB L	A / 7.7	A / 8.3	A / 7.9	A / 7.7	A / 8.4	A / 8.0	A / 7.8	B / 10.3	A / 8.0
8. MD 328 (E/W) & Black Dog Aly (N/S)										
Traffic Signal	Overall	A / 9.8	B / 11.1	A / 9.3	A / 9.9	B / 11.3	A / 9.4	A / 9.9	B / 11.5	A / 9.3
	EB Approach	A / 6.2	A / 9.4	A / 6.2	A / 6.4	A / 9.9	A / 6.3	A / 6.5	B / 10.2	A / 6.4
	WB Approach	A / 8.8	A / 7.5	A / 6.0	A / 8.9	A / 7.9	A / 6.1	A / 8.9	A / 8.1	A / 6.2
	NB Approach	B / 14.8	B / 13.4	B / 14.1	B / 14.8	B / 13.2	B / 14.1	B / 15.0	B / 13.1	B / 14.1
	SB Approach	B / 15.3	B / 16.1	B / 15.4	B / 15.4	B / 16.1	B / 15.6	B / 15.6	B / 16.1	B / 15.7

Notes: Results were based on Synchro 11 - HCM 6th reports.

Queuing Analysis

A queuing analysis was completed using SimTraffic for the signalized study intersections. As shown in Table 12, all of the queues at the following two signalized intersections can be accommodated in the existing storage lengths.

- MD 328 and Elliott Road
- MD 328 and Dyott Court/Fisher Range Road
- MD 328 and Black Dog Alley

Table 12. Results of Queuing Analysis

Intersection / Movement	Storage length (ft)	2022 Existing Traffic			2025 Background Traffic			2025 Total Traffic		
		AM	PM	Saturday	AM	PM	Saturday	AM	PM	Saturday
		95th Queue (ft)			95th Queue (ft)			95th Queue (ft)		
1. US 50 (N/S) & MD 328/Goldsborough St (E/W)										
EB L	100	71	107	122	69	114	129	68	99	135
EB LT	1500+	182	449	781	193	472	1295	202	601	1342
WB L	300	260	212	222	282	258	253	305	291	314
WB LT	830	319	275	341	349	349	372	407	428	554
WB R	300	89	67	145	119	176	227	224	240	320
NB L	110	143	146	157	145	141	144	150	142	146
NB T	1700	305	356	433	304	381	446	320	389	462
NB R	270	38	172	165	35	194	209	70	232	250
SB L	460	115	224	135	119	269	170	135	321	201
SB TR	2000+	249	312	380	254	332	395	265	331	398
2. MD 328 (E/W) & Elliott Rd (N/S)										
EB T	870	164	307	142	182	371	183	193	485	222
EB R	460	69	119	97	71	89	94	72	152	92
WB L	200	95	88	79	131	97	80	124	109	90
WB T	2000+	214	135	125	246	157	143	291	181	163
NB L	2000+	115	174	160	122	181	157	144	175	173
NB R	200	40	117	55	40	126	60	73	128	93
4. MD 328 (E/W) & Dyott Ct/Fisher Range Rd (N/S)										
EB LT	2000+	109	203	114	115	229	134	137	266	159
EB R	210	32	79	34	29	87	42	47	126	53
WB LT	2000+	200	115	93	255	145	121	265	175	135
WB R	210	13	19	7	9	29	10	36	20	7
NB LT	2000+	94	81	64	112	83	65	136	112	91
NB R	120	34	36	26	35	35	27	53	51	33
SB LTR	170	48	39	40	52	40	39	56	41	42
8. MD 328 (E/W) & Black Dog Aly (N/S)										
EB LTR	2000+	111	189	100	127	209	110	131	220	107
WB LTR	2000+	138	99	76	149	100	75	151	105	80
NB LTR	2000+	115	77	74	107	87	69	110	85	71
SB LTR	2000+	100	178	103	111	195	105	105	188	109

Notes:
1. All results are based on 10 simulation runs in SimTraffic 11.
2. Storage lengths are existing turn lane lengths or measured to the upstream signalized intersections.
3. For movements with two or more lanes, the longer storage length and longer queue are reported.

For the intersection of US 50 and MD 328, the eastbound approach on Goldsborough Street is experiencing some queuing beyond the existing storage lengths particularly for the summer Saturday midday peak hour period. This signal is split-phase, which means that vehicles on the eastbound approach on Goldsborough Street are permitted to move separately from vehicles on the westbound approach on Matthewstown Road. The lane use on Goldsborough Street and on Matthewstown Road consists of a separate left turn lane, a shared left through lane, and a right turn lane. The separate left turn lane on Goldsborough Street is 100 ft, which accommodates approximately four vehicles. Additional left turning vehicles will utilize the shared left through lane. For the summer Saturday midday peak hour, MDOT SHA provides 135 seconds of maximum green time on the mainline US 50 through movements, which results in longer queues on the side streets than for the weekday peak hour periods. For example, the maximum green time on the mainline US 50 through movements for the evening peak hour is 56.5 seconds, and the queues on eastbound Goldsborough Street are significantly shorter. Signal timing adjustments would improve the queues as well as provide for improved operations for the minor streets.

Arterial Analysis

At the request of the MDOT SHA, an arterial analysis was completed on MD 328 from US 50 to Black Dog Alley. SimTraffic was utilized for the analysis.

As noted in the User's Guide, "the arterial report uses origin destination data to only count vehicles that came from the arterial on the next upstream link. This is almost, but not exactly the same as taking the travel time of only those vehicles that travel the entire corridor. This allows the arterial report to be compared with car travel time studies."

The speed limit on MD 328 is 30 mph south of Fisher Range Road, 40 mph north of Fisher Range Road to McCall Street and 50 mph north of McCall Street.

MD 328 Arterial	2022 Existing Traffic			2025 Background Traffic			2025 Total Traffic		
	AM	PM	SAT	AM	PM	SAT	AM	PM	SAT
	Travel Time (Sec) / Arterial Speed (mph)			Travel Time (Sec) / Arterial Speed (mph)			Travel Time (Sec) / Arterial Speed (mph)		
Eastbound From US 50 to Black Dog Aly	190.1 / 31	207.0 / 28	186.4 / 32	192.8 / 31	207.7 / 28	189.9 / 31	197.2 / 30	226.0 / 26	195.4 / 30
Westbound from Black Dog Aly to US 50	263.4 / 25	291.5 / 23	291.1 / 23	264.7 / 25	304.3 / 22	302.5 / 22	273.6 / 24	314.8 / 21	316.3 / 21

Notes: All results are based on 10 simulation runs in SimTraffic 11.

RESULTS, RECOMMENDATIONS, AND CONCLUSIONS

Study Purpose

The Traffic Group, Inc. has *revised a TIS, previously submitted on August 30, 2022, to address the comments received from MDOT SHA on September 26, 2022*. The purpose of the TIS is to determine the impact on the surrounding road system of a proposed residential development to be located on Matthewstown Road (MD 328) in the Town of Easton, Talbot County, MD.

The development will consist of two parcels: one with access via McCall Street and the other with access via Fisher Range Road. The construction of the residential development is anticipated to be constructed in 2025.

Study Criteria/Methodology

The study was conducted in accordance with the requirements established by MDOT SHA, specifically as outlined in the MDOT SHA Access Manual which was updated in part in August 2016. Chapter 1 of the Access Manual, "Traffic Impact Study Guidelines," is currently under review.

Summary of Findings and Recommendations

Utilizing the HCM methodology, the study intersections are projected to operate at overall acceptable Levels of Service, LOS "D" or better, under total peak hour traffic conditions. Using the CLV methodology, the study intersections are projected to have sufficient capacity for total peak hour traffic conditions.

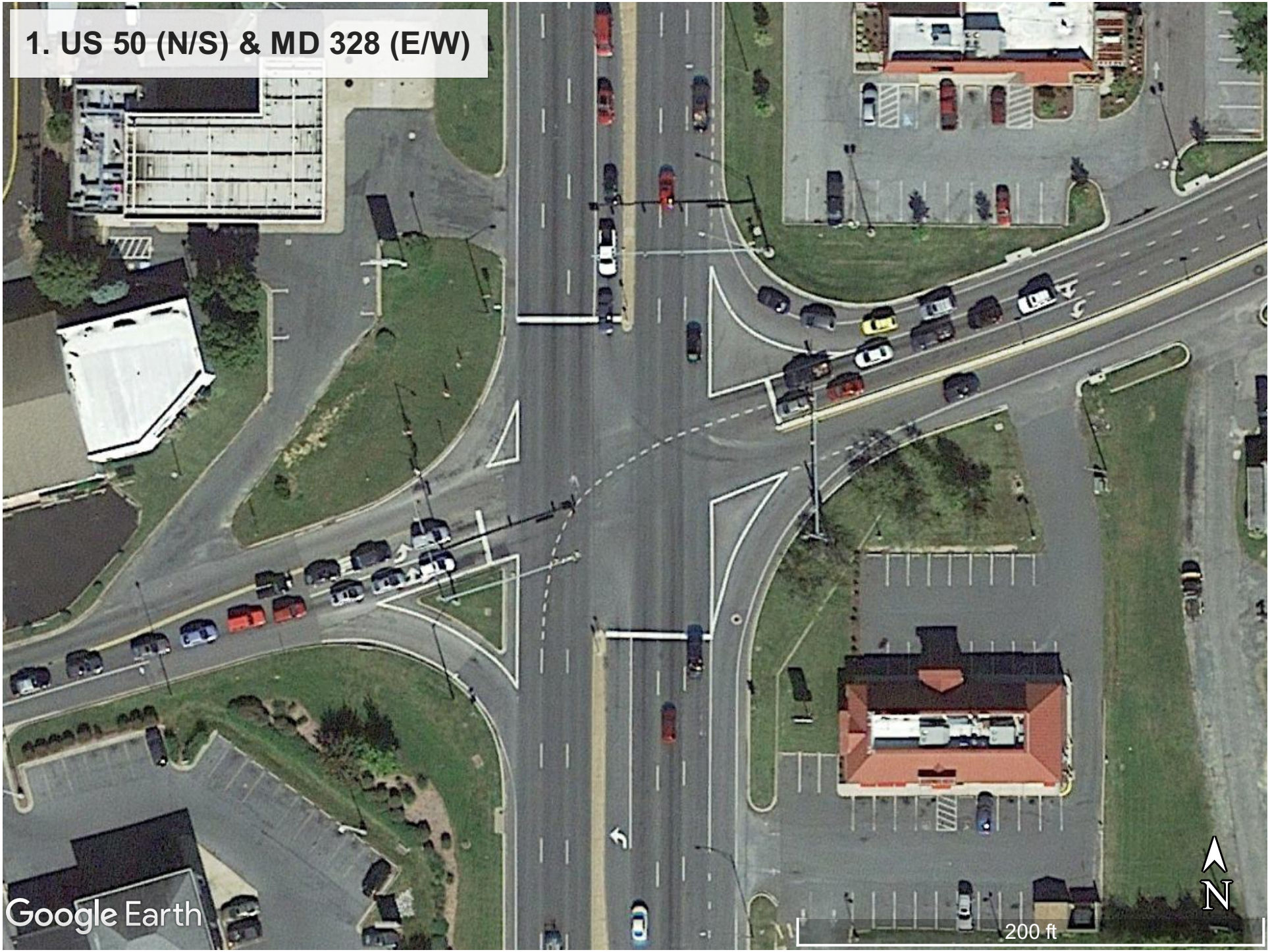
The projected queues at the signalized intersections were analyzed using SimTraffic. The projected queues at the following intersections can be accommodated within the existing storage lengths:

- MD 328, Matthewstown Road and Elliot Road
- MD 328, Matthewstown Road and Dyott/Fisher Ranger Road
- MD 328, Matthewstown Road and Black Dog Alley

Signal timing adjustments are recommended to improve the queues and operations at the intersection of US 50 with MD 328, Matthewstown Road/Goldsborough Street.

APPENDIX A

Intersection Aerial Photographs and Turning Movement Counts


1. US 50 (N/S) & MD 328 (E/W)
Google Earth
200 ft
N

TOTALS TURNING MOVEMENT COUNT - SUMMARY

Counted by: VCU

Intersection of: US 50 | Date: June 09, 2022 | Thursday

and: MD 328 | Weather: Sunny/Warm

Location: Talbot County, Maryland | Entered by: SN | Star Rating: 4

TIME	TRAFFIC FROM NORTH on: US 50					TRAFFIC FROM SOUTH on: US 50					TRAFFIC FROM EAST on: MD 328					TRAFFIC FROM WEST on: MD 328					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
AM																					
7:00 - 7:15	6	188	21	7	222	22	180	15	0	217	54	21	83	0	158	14	13	8	0	35	632
7:15 - 7:30	8	237	21	3	269	34	234	15	1	284	52	30	78	0	160	10	20	7	0	37	750
7:30 - 7:45	2	189	26	4	221	42	231	20	0	293	52	48	106	0	206	10	26	9	0	45	765
7:45 - 8:00	7	263	25	1	296	43	251	17	2	313	49	52	95	0	196	19	27	13	0	59	864
8:00 - 8:15	5	273	29	7	314	29	281	12	2	324	34	32	85	0	151	12	29	4	0	45	834
8:15 - 8:30	9	173	27	7	216	38	187	14	1	240	48	43	69	0	160	8	37	11	0	56	672
8:30 - 8:45	9	216	32	5	262	41	225	14	2	282	36	37	63	0	136	16	23	14	0	53	733
8:45 - 9:00	10	223	43	5	281	31	240	15	4	290	56	28	54	0	138	17	21	5	0	43	752
2 Hr Totals	56	1762	224	39	2081	280	1829	122	12	2243	381	291	633	0	1305	106	196	71	0	373	6002
1 Hr Totals																					
7:00 - 8:00	23	877	93	15	1008	141	896	67	3	1107	207	151	362	0	720	53	86	37	0	176	3011
7:15 - 8:15	22	962	101	15	1100	148	997	64	5	1214	187	162	364	0	713	51	102	33	0	186	3213
7:30 - 8:30	23	898	107	19	1047	152	950	63	5	1170	183	175	355	0	713	49	119	37	0	205	3135
7:45 - 8:45	30	925	113	20	1088	151	944	57	7	1159	167	164	312	0	643	55	116	42	0	213	3103
8:00 - 9:00	33	885	131	24	1073	139	933	55	9	1136	174	140	271	0	585	53	110	34	0	197	2991
PEAK HOUR																					
7:15 - 8:15	22	962	101	15	1100	148	997	64	5	1214	187	162	364	0	713	51	102	33	0	186	3213
PM																					
4:00 - 4:15	6	260	55	6	327	86	197	7	5	295	49	31	41	0	121	33	71	18	0	122	865
4:15 - 4:30	6	277	54	5	342	82	241	13	2	338	59	30	41	0	130	21	59	8	0	88	898
4:30 - 4:45	11	254	54	3	322	83	239	23	1	346	52	33	43	0	128	33	81	17	0	131	927
4:45 - 5:00	12	251	63	7	333	69	223	14	1	307	39	41	40	0	120	26	83	13	0	122	882
5:00 - 5:15	12	280	41	9	342	62	251	9	3	325	57	45	46	0	148	30	56	10	0	96	911
5:15 - 5:30	8	227	48	4	287	72	209	17	3	301	42	33	39	0	114	22	59	11	0	92	794
5:30 - 5:45	9	227	46	3	285	69	224	23	2	318	39	39	43	0	121	19	48	17	0	84	808
5:45 - 6:00	11	270	48	7	336	41	188	16	1	246	46	27	34	0	107	12	40	7	0	59	748
2 Hr Totals	75	2046	409	44	2574	564	1772	122	18	2476	383	279	327	0	989	196	497	101	0	794	6833
1 Hr Totals																					
4:00 - 5:00	35	1042	226	21	1324	320	900	57	9	1286	199	135	165	0	499	113	294	56	0	463	3572
4:15 - 5:15	41	1062	212	24	1339	296	954	59	7	1316	207	149	170	0	526	110	279	48	0	437	3618
4:30 - 5:30	43	1012	206	23	1284	286	922	63	8	1279	190	152	168	0	510	111	279	51	0	441	3514
4:45 - 5:45	41	985	198	23	1247	272	907	63	9	1251	177	158	168	0	503	97	246	51	0	394	3395
5:00 - 6:00	40	1004	183	23	1250	244	872	65	9	1190	184	144	162	0	490	83	203	45	0	331	3261
PEAK HOUR																					
4:15 - 5:15	41	1062	212	24	1339	296	954	59	7	1316	207	149	170	0	526	110	279	48	0	437	3618

TOTALS TURNING MOVEMENT COUNT - SUMMARY

Counted by: VCU

Intersection of: US 50 | Date: June 11, 2022 | Saturday

and: MD 328 | Weather: Sunny/Warm

Location: Talbot County, Maryland | Entered by: SN | Star Rating: 4

TIME	TRAFFIC FROM NORTH on: US 50					TRAFFIC FROM SOUTH on: US 50					TRAFFIC FROM EAST on: MD 328					TRAFFIC FROM WEST on: MD 328					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
AM																					
10:00 - 10:15	21	339	22	4	386	44	261	17	4	326	34	27	23	0	84	32	35	13	0	80	876
10:15 - 10:30	10	298	42	9	359	24	235	17	4	280	36	42	37	0	115	22	46	10	0	78	832
10:30 - 10:45	12	317	24	7	360	26	245	19	4	294	42	45	34	0	121	21	40	17	0	78	853
10:45 - 11:00	9	374	33	1	417	33	273	23	2	331	35	25	28	0	88	25	38	11	0	74	910
11:00 - 11:15	7	300	49	3	359	34	294	25	3	356	59	37	30	0	126	34	59	10	0	103	944
11:15 - 11:30	16	371	28	3	418	44	273	19	0	336	64	38	41	0	143	31	41	26	0	98	995
11:30 - 11:45	13	263	36	2	314	53	296	17	0	366	49	46	37	0	132	22	95	18	0	135	947
11:45 - 12:00	18	390	33	2	443	38	332	27	7	404	62	34	30	0	126	22	41	20	0	83	1056
12:00 - 12:15	10	265	29	6	310	44	337	28	4	413	62	32	25	0	119	28	66	13	0	107	949
12:15 - 12:30	9	312	39	4	364	51	328	27	4	410	57	32	33	0	122	31	37	14	0	82	978
12:30 - 12:45	11	265	45	9	330	51	282	16	2	351	36	37	24	0	97	23	48	14	0	85	863
12:45 - 1:00	13	327	34	10	384	42	357	16	2	417	39	30	35	0	104	22	45	10	0	77	982
1:00 - 1:15	12	261	36	5	314	36	263	17	0	316	47	37	23	1	108	24	39	12	0	75	813
1:15 - 1:30	9	302	39	3	353	39	344	25	7	415	40	37	32	0	109	28	52	14	0	94	971
1:30 - 1:45	13	303	33	3	352	55	269	15	2	341	48	33	25	0	106	21	27	26	0	74	873
1:45 - 2:00	10	267	23	3	303	32	274	19	1	326	50	29	37	0	116	25	36	17	0	78	823
4 Hr Totals	193	4954	545	74	5766	646	4663	327	46	5682	760	561	494	1	1816	411	745	245	0	1401	14665
1 Hr Totals																					
10:00 - 11:00	52	1328	121	21	1522	127	1014	76	14	1231	147	139	122	0	408	100	159	51	0	310	3471
10:15 - 11:15	38	1289	148	20	1495	117	1047	84	13	1261	172	149	129	0	450	102	183	48	0	333	3539
10:30 - 11:30	44	1362	134	14	1554	137	1085	86	9	1317	200	145	133	0	478	111	178	64	0	353	3702
10:45 - 11:45	45	1308	146	9	1508	164	1136	84	5	1389	207	146	136	0	489	112	233	65	0	410	3796
11:00 - 12:00	54	1324	146	10	1534	169	1195	88	10	1462	234	155	138	0	527	109	236	74	0	419	3942
11:15 - 12:15	57	1289	126	13	1485	179	1238	91	11	1519	237	150	133	0	520	103	243	77	0	423	3947
11:30 - 12:30	50	1230	137	14	1431	186	1293	99	15	1593	230	144	125	0	499	103	239	65	0	407	3930
11:45 - 12:45	48	1232	146	21	1447	184	1279	98	17	1578	217	135	112	0	464	104	192	61	0	357	3846
12:00 - 1:00	43	1169	147	29	1388	188	1304	87	12	1591	194	131	117	0	442	104	196	51	0	351	3772
12:15 - 1:15	45	1165	154	28	1392	180	1230	76	8	1494	179	136	115	1	431	100	169	50	0	319	3636
12:30 - 1:30	45	1155	154	27	1381	168	1246	74	11	1499	162	141	114	1	418	97	184	50	0	331	3629
12:45 - 1:45	47	1193	142	21	1403	172	1233	73	11	1489	174	137	115	1	427	95	163	62	0	320	3639
1:00 - 2:00	44	1133	131	14	1322	162	1150	76	10	1398	185	136	117	1	439	98	154	69	0	321	3480
PEAK HOUR																					
11:15 - 12:15	57	1289	126	13	1485	179	1238	91	11	1519	237	150	133	0	520	103	243	77	0	423	3947

2. MD 328 (E/W) & Elliott Rd (S)
Google Earth
N
100 ft

TOTALS TURNING MOVEMENT COUNT - SUMMARY

Counted by: VCU

Intersection of: MD 328 | Date: June 09, 2022 | Thursday

and: Elliott Road | Weather: Sunny/Warm

Location: Talbot County, Maryland | Entered by: SN | Star Rating: 4

TIME	TRAFFIC FROM NORTH on:					TRAFFIC FROM SOUTH on: Elliott Road					TRAFFIC FROM EAST on: MD 328					TRAFFIC FROM WEST on: MD 328					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
AM																					
7:00 - 7:15	0	0	0	0	0	9	0	18	0	27	0	138	24	0	162	23	41	0	0	64	253
7:15 - 7:30	0	0	0	0	0	11	0	26	0	37	0	153	27	0	180	21	47	0	0	68	285
7:30 - 7:45	0	0	0	0	0	10	0	36	0	46	0	181	28	0	209	41	49	0	0	90	345
7:45 - 8:00	0	0	0	0	0	12	0	36	0	48	0	174	57	0	231	50	49	0	0	99	378
8:00 - 8:15	0	0	0	0	0	11	0	32	0	43	0	137	20	0	157	50	38	0	0	88	288
8:15 - 8:30	0	0	0	0	0	14	0	35	0	49	0	124	20	0	144	39	42	0	0	81	274
8:30 - 8:45	0	0	0	0	0	20	0	21	0	41	0	111	24	0	135	49	64	0	0	113	289
8:45 - 9:00	0	0	0	0	0	15	0	37	0	52	0	109	30	0	139	46	38	0	0	84	275
2 Hr Totals	0	0	0	0	0	102	0	241	0	343	0	1127	230	0	1357	319	368	0	0	687	2387
1 Hr Totals																					
7:00 - 8:00	0	0	0	0	0	42	0	116	0	158	0	646	136	0	782	135	186	0	0	321	1261
7:15 - 8:15	0	0	0	0	0	44	0	130	0	174	0	645	132	0	777	162	183	0	0	345	1296
7:30 - 8:30	0	0	0	0	0	47	0	139	0	186	0	616	125	0	741	180	178	0	0	358	1285
7:45 - 8:45	0	0	0	0	0	57	0	124	0	181	0	546	121	0	667	188	193	0	0	381	1229
8:00 - 9:00	0	0	0	0	0	60	0	125	0	185	0	481	94	0	575	184	182	0	0	366	1126
PEAK HOUR																					
7:15 - 8:15	0	0	0	0	0	44	0	130	0	174	0	645	132	0	777	162	183	0	0	345	1296
PM																					
4:00 - 4:15	0	0	0	0	0	53	0	57	0	110	0	64	27	0	91	75	115	0	0	190	391
4:15 - 4:30	0	0	0	0	0	38	0	49	0	87	0	73	33	0	106	92	126	0	0	218	411
4:30 - 4:45	0	0	0	0	0	59	0	59	0	118	0	80	27	0	107	76	126	0	0	202	427
4:45 - 5:00	0	0	0	0	0	43	0	44	0	87	0	83	16	0	99	101	124	0	0	225	411
5:00 - 5:15	0	0	0	0	0	49	0	61	0	110	0	73	33	0	106	61	109	0	0	170	386
5:15 - 5:30	0	0	0	0	0	37	0	55	0	92	0	64	24	0	88	68	96	0	0	164	344
5:30 - 5:45	0	0	0	0	0	29	0	51	0	80	0	70	29	0	99	58	106	0	0	164	343
5:45 - 6:00	0	0	0	0	0	21	0	45	0	66	0	65	27	0	92	41	89	0	0	130	288
2 Hr Totals	0	0	0	0	0	329	0	421	0	750	0	572	216	0	788	572	891	0	0	1463	3001
1 Hr Totals																					
4:00 - 5:00	0	0	0	0	0	193	0	209	0	402	0	300	103	0	403	344	491	0	0	835	1640
4:15 - 5:15	0	0	0	0	0	189	0	213	0	402	0	309	109	0	418	330	485	0	0	815	1635
4:30 - 5:30	0	0	0	0	0	188	0	219	0	407	0	300	100	0	400	306	455	0	0	761	1568
4:45 - 5:45	0	0	0	0	0	158	0	211	0	369	0	290	102	0	392	288	435	0	0	723	1484
5:00 - 6:00	0	0	0	0	0	136	0	212	0	348	0	272	113	0	385	228	400	0	0	628	1361
PEAK HOUR																					
4:00 - 5:00	0	0	0	0	0	193	0	209	0	402	0	300	103	0	403	344	491	0	0	835	1640

TOTALS TURNING MOVEMENT COUNT - SUMMARY

Counted by: VCU

Intersection of: MD 328 | Date: June 11, 2022 | Saturday

and: Elliott Road | Weather: Sunny/Warm

Location: Talbot County, Maryland | Entered by: SN | Star Rating: 4

TIME	TRAFFIC FROM NORTH on:					TRAFFIC FROM SOUTH on: Elliott Road					TRAFFIC FROM EAST on: MD 328					TRAFFIC FROM WEST on: MD 328					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
AM																					
10:00 - 10:15	0	0	0	0	0	21	0	46	0	67	0	60	20	0	80	55	54	0	0	109	256
10:15 - 10:30	0	0	0	0	0	21	0	49	0	70	0	70	21	0	91	67	43	0	0	110	271
10:30 - 10:45	0	0	0	0	0	29	0	54	0	83	0	74	34	0	108	51	43	0	0	94	285
10:45 - 11:00	0	0	0	0	0	28	0	48	0	76	0	63	37	0	100	72	42	0	0	114	290
11:00 - 11:15	0	0	0	0	0	27	0	55	0	82	0	54	27	0	81	76	49	0	0	125	288
11:15 - 11:30	0	0	0	0	0	29	0	69	0	98	0	77	37	0	114	54	64	0	0	118	330
11:30 - 11:45	0	0	0	0	0	23	0	52	0	75	0	63	30	0	93	85	54	0	0	139	307
11:45 - 12:00	0	0	0	0	0	29	0	54	0	83	0	78	27	0	105	68	52	0	0	120	308
12:00 - 12:15	0	0	0	0	0	34	0	60	0	94	0	53	29	0	82	67	55	0	0	122	298
12:15 - 12:30	0	0	0	0	0	42	0	56	0	98	0	75	23	0	98	59	79	0	0	138	334
12:30 - 12:45	0	0	0	0	0	24	0	44	0	68	0	65	19	0	84	87	57	0	0	144	296
12:45 - 1:00	0	0	0	0	0	32	0	47	0	79	0	60	32	0	92	71	58	0	0	129	300
1:00 - 1:15	0	0	0	0	0	43	0	48	0	91	0	42	21	0	63	55	56	0	0	111	265
1:15 - 1:30	0	0	0	0	0	31	0	56	0	87	0	63	33	0	96	60	70	0	0	130	313
1:30 - 1:45	0	0	0	0	0	33	0	46	0	79	0	60	20	0	80	57	51	0	0	108	267
1:45 - 2:00	0	0	0	0	0	20	0	47	0	67	0	66	18	0	84	43	49	0	0	92	243
4 Hr Totals	0	0	0	0	0	466	0	831	0	1297	0	1023	428	0	1451	1027	876	0	0	1903	4651
1 Hr Totals																					
10:00 - 11:00	0	0	0	0	0	99	0	197	0	296	0	267	112	0	379	245	182	0	0	427	1102
10:15 - 11:15	0	0	0	0	0	105	0	206	0	311	0	261	119	0	380	266	177	0	0	443	1134
10:30 - 11:30	0	0	0	0	0	113	0	226	0	339	0	268	135	0	403	253	198	0	0	451	1193
10:45 - 11:45	0	0	0	0	0	107	0	224	0	331	0	257	131	0	388	287	209	0	0	496	1215
11:00 - 12:00	0	0	0	0	0	108	0	230	0	338	0	272	121	0	393	283	219	0	0	502	1233
11:15 - 12:15	0	0	0	0	0	115	0	235	0	350	0	271	123	0	394	274	225	0	0	499	1243
11:30 - 12:30	0	0	0	0	0	128	0	222	0	350	0	269	109	0	378	279	240	0	0	519	1247
11:45 - 12:45	0	0	0	0	0	129	0	214	0	343	0	271	98	0	369	281	243	0	0	524	1236
12:00 - 1:00	0	0	0	0	0	132	0	207	0	339	0	253	103	0	356	284	249	0	0	533	1228
12:15 - 1:15	0	0	0	0	0	141	0	195	0	336	0	242	95	0	337	272	250	0	0	522	1195
12:30 - 1:30	0	0	0	0	0	130	0	195	0	325	0	230	105	0	335	273	241	0	0	514	1174
12:45 - 1:45	0	0	0	0	0	139	0	197	0	336	0	225	106	0	331	243	235	0	0	478	1145
1:00 - 2:00	0	0	0	0	0	127	0	197	0	324	0	231	92	0	323	215	226	0	0	441	1088
PEAK HOUR																					
11:30 - 12:30	0	0	0	0	0	128	0	222	0	350	0	269	109	0	378	279	240	0	0	519	1247

3. MD 328 (E/W) & Gannon Cir (S)
Google Earth
N
100 ft

TOTALS TURNING MOVEMENT COUNT - SUMMARY

Counted by: VCU

Intersection of: MD 328 | Date: June 09, 2022 | Thursday

and: Gannon Circle | Weather: Sunny/Warm

Location: Talbot County, Maryland | Entered by: SN | Star Rating: 4

TIME	TRAFFIC FROM NORTH on:					TRAFFIC FROM SOUTH on: Gannon Circle					TRAFFIC FROM EAST on: MD 328					TRAFFIC FROM WEST on: MD 328					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
AM																					
7:00 - 7:15	0	0	0	0	0	0	0	3	0	3	0	160	1	0	161	1	48	0	0	49	213
7:15 - 7:30	0	0	0	0	0	0	0	4	0	4	0	184	0	0	184	2	55	0	0	57	245
7:30 - 7:45	0	0	0	0	0	0	0	6	0	6	0	183	0	0	183	2	52	0	0	54	243
7:45 - 8:00	0	0	0	0	0	1	0	4	0	5	0	213	3	0	216	2	52	0	0	54	275
8:00 - 8:15	0	0	0	0	0	1	0	3	0	4	0	140	0	0	140	3	43	0	0	46	190
8:15 - 8:30	0	0	0	0	0	0	0	8	0	8	0	133	0	0	133	1	56	0	0	57	198
8:30 - 8:45	0	0	0	0	0	0	0	7	0	7	0	136	0	0	136	1	74	0	0	75	218
8:45 - 9:00	0	0	0	0	0	1	0	2	0	3	0	128	1	0	129	1	54	0	0	55	187
2 Hr Totals	0	0	0	0	0	3	0	37	0	40	0	1277	5	0	1282	13	434	0	0	447	1769
1 Hr Totals																					
7:00 - 8:00	0	0	0	0	0	1	0	17	0	18	0	740	4	0	744	7	207	0	0	214	976
7:15 - 8:15	0	0	0	0	0	2	0	17	0	19	0	720	3	0	723	9	202	0	0	211	953
7:30 - 8:30	0	0	0	0	0	2	0	21	0	23	0	669	3	0	672	8	203	0	0	211	906
7:45 - 8:45	0	0	0	0	0	2	0	22	0	24	0	622	3	0	625	7	225	0	0	232	881
8:00 - 9:00	0	0	0	0	0	2	0	20	0	22	0	537	1	0	538	6	227	0	0	233	793
PEAK HOUR																					
7:00 - 8:00	0	0	0	0	0	1	0	17	0	18	0	740	4	0	744	7	207	0	0	214	976
PM																					
4:00 - 4:15	0	0	0	0	0	2	0	1	0	3	0	79	0	0	79	4	153	0	0	157	239
4:15 - 4:30	0	0	0	0	0	3	0	0	0	3	0	114	0	0	114	2	151	0	0	153	270
4:30 - 4:45	0	0	0	0	0	1	0	2	0	3	0	86	0	0	86	4	176	0	0	180	269
4:45 - 5:00	0	0	0	0	0	0	0	1	0	1	0	85	0	0	85	4	158	0	0	162	248
5:00 - 5:15	0	0	0	0	0	0	0	1	0	1	0	99	0	0	99	4	154	0	0	158	258
5:15 - 5:30	0	0	0	0	0	1	0	3	0	4	0	88	1	0	89	7	118	0	0	125	218
5:30 - 5:45	0	0	0	0	0	2	0	2	0	4	0	91	0	0	91	2	138	0	0	140	235
5:45 - 6:00	0	0	0	0	0	1	0	4	0	5	0	88	1	0	89	6	109	0	0	115	209
2 Hr Totals	0	0	0	0	0	10	0	14	0	24	0	730	2	0	732	33	1157	0	0	1190	1946
1 Hr Totals																					
4:00 - 5:00	0	0	0	0	0	6	0	4	0	10	0	364	0	0	364	14	638	0	0	652	1026
4:15 - 5:15	0	0	0	0	0	4	0	4	0	8	0	384	0	0	384	14	639	0	0	653	1045
4:30 - 5:30	0	0	0	0	0	2	0	7	0	9	0	358	1	0	359	19	606	0	0	625	993
4:45 - 5:45	0	0	0	0	0	3	0	7	0	10	0	363	1	0	364	17	568	0	0	585	959
5:00 - 6:00	0	0	0	0	0	4	0	10	0	14	0	366	2	0	368	19	519	0	0	538	920
PEAK HOUR																					
4:15 - 5:15	0	0	0	0	0	4	0	4	0	8	0	384	0	0	384	14	639	0	0	653	1045

TOTALS TURNING MOVEMENT COUNT - SUMMARY

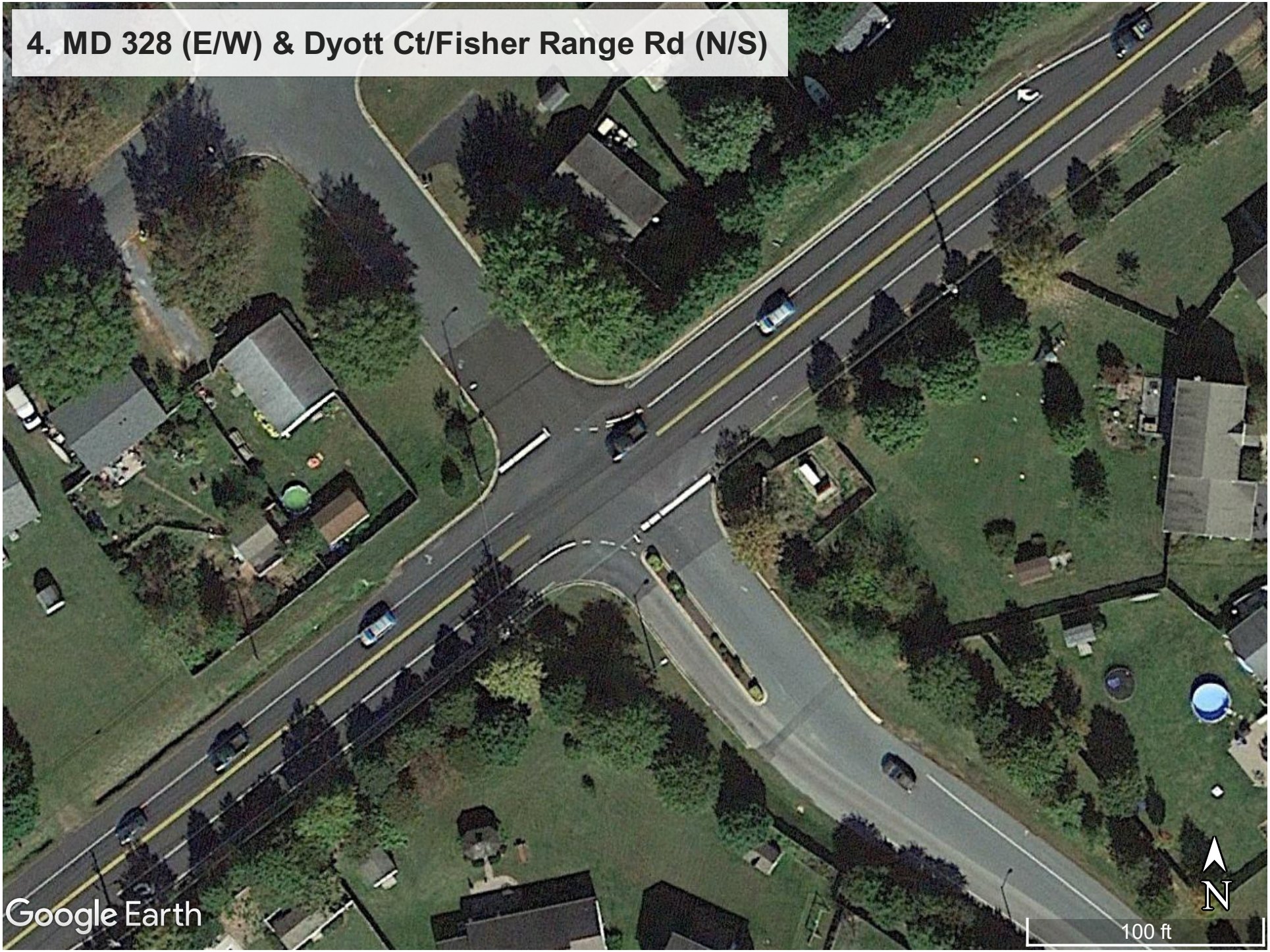
Counted by: VCU

Intersection of: MD 328 | Date: June 11, 2022 | Saturday

and: Gannon Circle | Weather: Sunny/Warm

Location: Talbot County, Maryland | Entered by: SN | Star Rating: 4

TIME	TRAFFIC FROM NORTH on:					TRAFFIC FROM SOUTH on: Gannon Circle					TRAFFIC FROM EAST on: MD 328					TRAFFIC FROM WEST on: MD 328					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
AM																					
10:00 - 10:15	0	0	0	0	0	1	0	1	0	2	0	80	1	0	81	1	76	0	0	77	160
10:15 - 10:30	0	0	0	0	0	0	0	4	0	4	0	88	0	0	88	4	58	0	0	62	154
10:30 - 10:45	0	0	0	0	0	0	0	5	0	5	0	99	0	0	99	4	69	0	0	73	177
10:45 - 11:00	0	0	0	0	0	0	0	3	0	3	0	80	0	0	80	2	60	0	0	62	145
11:00 - 11:15	0	0	0	0	0	0	0	5	0	5	0	78	1	0	79	2	71	0	0	73	157
11:15 - 11:30	0	0	0	0	0	0	0	4	0	4	0	107	1	0	108	5	86	0	0	91	203
11:30 - 11:45	0	0	0	0	0	0	0	12	0	12	0	79	0	0	79	4	74	0	0	78	169
11:45 - 12:00	0	0	0	0	0	0	0	6	0	6	0	86	0	0	86	1	76	0	0	77	169
12:00 - 12:15	0	0	0	0	0	0	0	5	0	5	0	82	2	0	84	9	76	0	0	85	174
12:15 - 12:30	0	0	0	0	0	0	0	4	0	4	0	83	0	0	83	4	111	0	0	115	202
12:30 - 12:45	0	0	0	0	0	1	0	1	0	2	0	84	0	0	84	6	75	0	0	81	167
12:45 - 1:00	0	0	0	0	0	0	0	3	0	3	0	81	0	0	81	4	84	0	0	88	172
1:00 - 1:15	0	0	0	0	0	0	0	4	0	4	0	62	0	0	62	4	91	0	0	95	161
1:15 - 1:30	0	0	0	0	0	0	0	5	0	5	0	85	1	0	86	3	95	0	0	98	189
1:30 - 1:45	0	0	0	0	0	0	0	1	0	1	0	77	0	0	77	4	78	0	0	82	160
1:45 - 2:00	0	0	0	0	0	0	0	6	0	6	0	84	1	0	85	1	66	0	0	67	158
4 Hr Totals	0	0	0	0	0	2	0	69	0	71	0	1335	7	0	1342	58	1246	0	0	1304	2717
1 Hr Totals																					
10:00 - 11:00	0	0	0	0	0	1	0	13	0	14	0	347	1	0	348	11	263	0	0	274	636
10:15 - 11:15	0	0	0	0	0	0	0	17	0	17	0	345	1	0	346	12	258	0	0	270	633
10:30 - 11:30	0	0	0	0	0	0	0	17	0	17	0	364	2	0	366	13	286	0	0	299	682
10:45 - 11:45	0	0	0	0	0	0	0	24	0	24	0	344	2	0	346	13	291	0	0	304	674
11:00 - 12:00	0	0	0	0	0	0	0	27	0	27	0	350	2	0	352	12	307	0	0	319	698
11:15 - 12:15	0	0	0	0	0	0	0	27	0	27	0	354	3	0	357	19	312	0	0	331	715
11:30 - 12:30	0	0	0	0	0	0	0	27	0	27	0	330	2	0	332	18	337	0	0	355	714
11:45 - 12:45	0	0	0	0	0	1	0	16	0	17	0	335	2	0	337	20	338	0	0	358	712
12:00 - 1:00	0	0	0	0	0	1	0	13	0	14	0	330	2	0	332	23	346	0	0	369	715
12:15 - 1:15	0	0	0	0	0	1	0	12	0	13	0	310	0	0	310	18	361	0	0	379	702
12:30 - 1:30	0	0	0	0	0	1	0	13	0	14	0	312	1	0	313	17	345	0	0	362	689
12:45 - 1:45	0	0	0	0	0	0	0	13	0	13	0	305	1	0	306	15	348	0	0	363	682
1:00 - 2:00	0	0	0	0	0	0	0	16	0	16	0	308	2	0	310	12	330	0	0	342	668
PEAK HOUR																					
11:15 - 12:15	0	0	0	0	0	0	0	27	0	27	0	354	3	0	357	19	312	0	0	331	715


4. MD 328 (E/W) & Dyott Ct/Fisher Range Rd (N/S)
Google Earth
N
100 ft

TOTALS TURNING MOVEMENT COUNT - SUMMARY

Counted by: VCU

Intersection of: MD 328 | Date: June 09, 2022 | Thursday

and: Fisher Range Road - Dyott Court | Weather: Sunny/Warm

Location: Talbot County, Maryland | Entered by: SN | Star Rating: 4

TIME	TRAFFIC FROM NORTH on: Dyott Court					TRAFFIC FROM SOUTH on: Fisher Range Road					TRAFFIC FROM EAST on: MD 328					TRAFFIC FROM WEST on: MD 328					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
AM																					
7:00 - 7:15	18	1	1	0	20	7	0	39	0	46	1	105	3	0	109	9	36	2	0	47	222
7:15 - 7:30	23	0	1	0	24	4	0	28	0	32	0	135	4	0	139	8	42	4	0	54	249
7:30 - 7:45	15	0	2	0	17	5	0	29	0	34	2	140	0	0	142	2	48	4	0	54	247
7:45 - 8:00	13	0	1	0	14	3	0	28	0	31	1	169	3	0	173	9	39	5	0	53	271
8:00 - 8:15	18	0	2	0	20	9	0	20	0	29	0	101	3	0	104	9	34	3	0	46	199
8:15 - 8:30	12	0	1	0	13	3	0	16	0	19	0	105	3	0	108	8	42	4	0	54	194
8:30 - 8:45	8	0	0	0	8	1	0	15	0	16	0	109	1	0	110	9	60	4	0	73	207
8:45 - 9:00	10	0	0	0	10	1	0	22	0	23	0	94	5	0	99	9	41	3	0	53	185
2 Hr Totals	117	1	8	0	126	33	0	197	0	230	4	958	22	0	984	63	342	29	0	434	1774
1 Hr Totals																					
7:00 - 8:00	69	1	5	0	75	19	0	124	0	143	4	549	10	0	563	28	165	15	0	208	989
7:15 - 8:15	69	0	6	0	75	21	0	105	0	126	3	545	10	0	558	28	163	16	0	207	966
7:30 - 8:30	58	0	6	0	64	20	0	93	0	113	3	515	9	0	527	28	163	16	0	207	911
7:45 - 8:45	51	0	4	0	55	16	0	79	0	95	1	484	10	0	495	35	175	16	0	226	871
8:00 - 9:00	48	0	3	0	51	14	0	73	0	87	0	409	12	0	421	35	177	14	0	226	785
PEAK HOUR																					
7:00 - 8:00	69	1	5	0	75	19	0	124	0	143	4	549	10	0	563	28	165	15	0	208	989
PM																					
4:00 - 4:15	11	1	3	0	15	5	1	16	0	22	2	56	4	0	62	31	106	14	0	151	250
4:15 - 4:30	6	1	1	0	8	6	2	23	0	31	1	83	9	0	93	26	119	11	0	156	288
4:30 - 4:45	11	2	1	0	14	3	1	16	0	20	3	65	4	0	72	27	140	10	0	177	283
4:45 - 5:00	6	0	2	0	8	7	0	21	0	28	7	58	4	0	69	30	106	18	0	154	259
5:00 - 5:15	9	0	0	0	9	3	0	15	0	18	5	71	5	0	81	23	117	15	0	155	263
5:15 - 5:30	8	0	2	0	10	1	0	18	0	19	3	61	4	0	68	16	89	15	0	120	217
5:30 - 5:45	6	0	2	0	8	3	0	17	0	20	1	73	6	0	80	26	100	13	0	139	247
5:45 - 6:00	10	1	3	0	14	5	0	19	0	24	1	55	5	0	61	31	68	10	0	109	208
2 Hr Totals	67	5	14	0	86	33	4	145	0	182	23	522	41	0	586	210	845	106	0	1161	2015
1 Hr Totals																					
4:00 - 5:00	34	4	7	0	45	21	4	76	0	101	13	262	21	0	296	114	471	53	0	638	1080
4:15 - 5:15	32	3	4	0	39	19	3	75	0	97	16	277	22	0	315	106	482	54	0	642	1093
4:30 - 5:30	34	2	5	0	41	14	1	70	0	85	18	255	17	0	290	96	452	58	0	606	1022
4:45 - 5:45	29	0	6	0	35	14	0	71	0	85	16	263	19	0	298	95	412	61	0	568	986
5:00 - 6:00	33	1	7	0	41	12	0	69	0	81	10	260	20	0	290	96	374	53	0	523	935
PEAK HOUR																					
4:15 - 5:15	32	3	4	0	39	19	3	75	0	97	16	277	22	0	315	106	482	54	0	642	1093

TOTALS TURNING MOVEMENT COUNT - SUMMARY

Counted by: VCU

Intersection of: MD 328 | Date: June 11, 2022 | Saturday

and: Fisher Range Road - Dyott Court | Weather: Sunny/Warm

Location: Talbot County, Maryland | Entered by: SN | Star Rating: 4

TIME	TRAFFIC FROM NORTH on: Dyott Court					TRAFFIC FROM SOUTH on: Fisher Range Road					TRAFFIC FROM EAST on: MD 328					TRAFFIC FROM WEST on: MD 328					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
AM																					
10:00 - 10:15	6	0	1	0	7	2	0	19	0	21	0	59	0	0	59	21	48	8	0	77	164
10:15 - 10:30	7	0	0	0	7	3	0	11	0	14	1	65	1	0	67	13	42	3	0	58	146
10:30 - 10:45	9	1	0	0	10	4	0	19	0	23	1	75	4	0	80	12	50	5	0	67	180
10:45 - 11:00	10	0	1	0	11	5	0	13	0	18	0	57	0	0	57	14	39	9	0	62	148
11:00 - 11:15	6	0	1	0	7	2	0	13	0	15	1	63	1	0	65	5	51	14	0	70	157
11:15 - 11:30	19	0	1	0	20	5	0	15	0	20	0	69	4	0	73	16	60	10	0	86	199
11:30 - 11:45	10	0	3	0	13	2	0	21	0	23	0	48	4	0	52	8	62	4	0	74	162
11:45 - 12:00	6	1	1	0	8	4	2	19	0	25	0	64	4	0	68	14	53	8	0	75	176
12:00 - 12:15	10	0	1	0	11	2	0	11	0	13	0	64	2	0	66	14	55	7	0	76	166
12:15 - 12:30	9	1	1	0	11	3	1	19	0	23	1	55	0	0	56	19	77	16	0	112	202
12:30 - 12:45	8	0	1	0	9	2	0	10	0	12	2	64	3	0	69	14	51	10	0	75	165
12:45 - 1:00	13	0	0	0	13	1	0	11	0	12	2	58	3	0	63	21	55	9	0	85	173
1:00 - 1:15	8	0	0	0	8	1	0	10	0	11	3	42	3	0	48	8	79	4	0	91	158
1:15 - 1:30	10	0	0	0	10	4	1	14	0	19	1	63	3	0	67	17	70	7	0	94	190
1:30 - 1:45	8	0	1	0	9	3	1	8	0	12	1	60	3	0	64	14	58	6	0	78	163
1:45 - 2:00	3	1	2	0	6	2	0	23	0	25	1	57	3	0	61	11	47	8	0	66	158
4 Hr Totals	142	4	14	0	160	45	5	236	0	286	14	963	38	0	1015	221	897	128	0	1246	2707
1 Hr Totals																					
10:00 - 11:00	32	1	2	0	35	14	0	62	0	76	2	256	5	0	263	60	179	25	0	264	638
10:15 - 11:15	32	1	2	0	35	14	0	56	0	70	3	260	6	0	269	44	182	31	0	257	631
10:30 - 11:30	44	1	3	0	48	16	0	60	0	76	2	264	9	0	275	47	200	38	0	285	684
10:45 - 11:45	45	0	6	0	51	14	0	62	0	76	1	237	9	0	247	43	212	37	0	292	666
11:00 - 12:00	41	1	6	0	48	13	2	68	0	83	1	244	13	0	258	43	226	36	0	305	694
11:15 - 12:15	45	1	6	0	52	13	2	66	0	81	0	245	14	0	259	52	230	29	0	311	703
11:30 - 12:30	35	2	6	0	43	11	3	70	0	84	1	231	10	0	242	55	247	35	0	337	706
11:45 - 12:45	33	2	4	0	39	11	3	59	0	73	3	247	9	0	259	61	236	41	0	338	709
12:00 - 1:00	40	1	3	0	44	8	1	51	0	60	5	241	8	0	254	68	238	42	0	348	706
12:15 - 1:15	38	1	2	0	41	7	1	50	0	58	8	219	9	0	236	62	262	39	0	363	698
12:30 - 1:30	39	0	1	0	40	8	1	45	0	54	8	227	12	0	247	60	255	30	0	345	686
12:45 - 1:45	39	0	1	0	40	9	2	43	0	54	7	223	12	0	242	60	262	26	0	348	684
1:00 - 2:00	29	1	3	0	33	10	2	55	0	67	6	222	12	0	240	50	254	25	0	329	669
PEAK HOUR																					
11:45 - 12:45	33	2	4	0	39	11	3	59	0	73	3	247	9	0	259	61	236	41	0	338	709

5. MD 328 (E/W) & Mile Post Dr (N)
Google Earth
N
100 ft

TOTALS TURNING MOVEMENT COUNT - SUMMARY

Counted by: VCU

Intersection of: MD 328 | Date: June 09, 2022 | Thursday

and: Mile Post Drive | Weather: Sunny/Warm

Location: Talbot County, Maryland | Entered by: SN | Star Rating: 4

TIME	TRAFFIC FROM NORTH on: Mile Post Drive					TRAFFIC FROM SOUTH on:					TRAFFIC FROM EAST on: MD 328					TRAFFIC FROM WEST on: MD 328					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
AM																					
7:00 - 7:15	4	0	1	0	5	0	0	0	0	0	3	106	0	0	109	0	55	3	0	58	172
7:15 - 7:30	8	0	0	0	8	0	0	0	0	0	5	123	0	0	128	0	45	2	0	47	183
7:30 - 7:45	5	0	2	0	7	0	0	0	0	0	5	126	0	0	131	0	48	4	0	52	190
7:45 - 8:00	7	0	2	0	9	0	0	0	0	0	7	161	0	0	168	0	45	1	0	46	223
8:00 - 8:15	9	0	4	0	13	0	0	0	0	0	6	88	0	0	94	0	47	2	0	49	156
8:15 - 8:30	5	0	2	0	7	0	0	0	0	0	4	104	0	0	108	0	47	5	0	52	167
8:30 - 8:45	4	0	3	0	7	0	0	0	0	0	6	101	0	0	107	0	52	3	0	55	169
8:45 - 9:00	5	0	1	0	6	0	0	0	0	0	4	95	0	0	99	0	41	4	0	45	150
2 Hr Totals	47	0	15	0	62	0	0	0	0	0	40	904	0	0	944	0	380	24	0	404	1410
1 Hr Totals																					
7:00 - 8:00	24	0	5	0	29	0	0	0	0	0	20	516	0	0	536	0	193	10	0	203	768
7:15 - 8:15	29	0	8	0	37	0	0	0	0	0	23	498	0	0	521	0	185	9	0	194	752
7:30 - 8:30	26	0	10	0	36	0	0	0	0	0	22	479	0	0	501	0	187	12	0	199	736
7:45 - 8:45	25	0	11	0	36	0	0	0	0	0	23	454	0	0	477	0	191	11	0	202	715
8:00 - 9:00	23	0	10	0	33	0	0	0	0	0	20	388	0	0	408	0	187	14	0	201	642
PEAK HOUR																					
7:00 - 8:00	24	0	5	0	29	0	0	0	0	0	20	516	0	0	536	0	193	10	0	203	768
PM																					
4:00 - 4:15	6	0	0	0	6	0	0	0	0	0	8	50	0	0	58	0	111	11	0	122	186
4:15 - 4:30	10	0	4	0	14	0	0	0	0	0	6	68	0	0	74	0	115	16	0	131	219
4:30 - 4:45	6	0	1	0	7	0	0	0	0	0	3	68	0	0	71	0	111	7	0	118	196
4:45 - 5:00	16	0	5	0	21	0	0	0	0	0	2	78	0	0	80	0	97	14	0	111	212
5:00 - 5:15	6	0	6	0	12	0	0	0	0	0	6	59	0	0	65	0	115	10	0	125	202
5:15 - 5:30	7	0	4	0	11	0	0	0	0	0	9	58	0	0	67	0	110	6	0	116	194
5:30 - 5:45	10	0	4	0	14	0	0	0	0	0	4	64	0	0	68	0	94	9	1	104	186
5:45 - 6:00	3	0	2	0	5	0	0	0	0	0	4	56	0	0	60	0	85	15	0	100	165
2 Hr Totals	64	0	26	0	90	0	0	0	0	0	42	501	0	0	543	0	838	88	1	927	1560
1 Hr Totals																					
4:00 - 5:00	38	0	10	0	48	0	0	0	0	0	19	264	0	0	283	0	434	48	0	482	813
4:15 - 5:15	38	0	16	0	54	0	0	0	0	0	17	273	0	0	290	0	438	47	0	485	829
4:30 - 5:30	35	0	16	0	51	0	0	0	0	0	20	263	0	0	283	0	433	37	0	470	804
4:45 - 5:45	39	0	19	0	58	0	0	0	0	0	21	259	0	0	280	0	416	39	1	456	794
5:00 - 6:00	26	0	16	0	42	0	0	0	0	0	23	237	0	0	260	0	404	40	1	445	747
PEAK HOUR																					
4:15 - 5:15	38	0	16	0	54	0	0	0	0	0	17	273	0	0	290	0	438	47	0	485	829

TOTALS TURNING MOVEMENT COUNT - SUMMARY

Counted by: VCU

Intersection of: MD 328 | Date: June 11, 2022 | Saturday

and: Mile Post Drive | Weather: Sunny/Warm

Location: Talbot County, Maryland | Entered by: SN | Star Rating: 4

TIME	TRAFFIC FROM NORTH on: Mile Post Drive					TRAFFIC FROM SOUTH on: MD 328					TRAFFIC FROM EAST on: MD 328					TRAFFIC FROM WEST on: MD 328					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
AM																					
10:00 - 10:15	11	0	1	0	12	0	0	0	0	0	3	47	0	0	50	0	40	6	0	46	108
10:15 - 10:30	9	0	5	0	14	0	0	0	0	0	0	57	0	0	57	0	43	2	0	45	116
10:30 - 10:45	12	0	5	0	17	0	0	0	0	0	2	67	0	0	69	0	49	7	0	56	142
10:45 - 11:00	7	0	2	0	9	0	0	0	0	0	4	51	0	0	55	0	41	2	0	43	107
11:00 - 11:15	12	0	6	0	18	0	0	0	0	0	4	51	0	0	55	0	48	7	0	55	128
11:15 - 11:30	15	0	2	0	17	0	0	0	0	0	1	63	0	0	64	0	60	6	0	66	147
11:30 - 11:45	2	0	2	0	4	0	0	0	0	0	4	48	0	0	52	0	56	6	0	62	118
11:45 - 12:00	9	0	4	0	13	0	0	0	0	0	1	61	0	0	62	0	51	9	0	60	135
12:00 - 12:15	8	0	4	0	12	0	0	0	0	0	2	54	0	0	56	0	53	4	0	57	125
12:15 - 12:30	4	0	2	0	6	0	0	0	0	0	4	56	0	0	60	0	69	8	0	77	143
12:30 - 12:45	13	0	5	0	18	0	0	0	0	0	2	57	0	0	59	0	56	6	0	62	139
12:45 - 1:00	6	0	3	0	9	0	0	0	0	0	6	57	0	0	63	0	52	4	0	56	128
1:00 - 1:15	2	0	4	0	6	0	0	0	0	0	2	46	0	0	48	0	71	6	0	77	131
1:15 - 1:30	9	0	3	0	12	0	0	0	0	0	1	62	0	0	63	0	64	12	0	76	151
1:30 - 1:45	11	0	1	0	12	0	0	0	0	0	1	47	0	0	48	0	49	8	0	57	117
1:45 - 2:00	13	0	1	0	14	0	0	0	0	0	2	51	0	0	53	0	47	8	0	55	122
4 Hr Totals	143	0	50	0	193	0	0	0	0	0	39	875	0	0	914	0	849	101	0	950	2057
1 Hr Totals																					
10:00 - 11:00	39	0	13	0	52	0	0	0	0	0	9	222	0	0	231	0	173	17	0	190	473
10:15 - 11:15	40	0	18	0	58	0	0	0	0	0	10	226	0	0	236	0	181	18	0	199	493
10:30 - 11:30	46	0	15	0	61	0	0	0	0	0	11	232	0	0	243	0	198	22	0	220	524
10:45 - 11:45	36	0	12	0	48	0	0	0	0	0	13	213	0	0	226	0	205	21	0	226	500
11:00 - 12:00	38	0	14	0	52	0	0	0	0	0	10	223	0	0	233	0	215	28	0	243	528
11:15 - 12:15	34	0	12	0	46	0	0	0	0	0	8	226	0	0	234	0	220	25	0	245	525
11:30 - 12:30	23	0	12	0	35	0	0	0	0	0	11	219	0	0	230	0	229	27	0	256	521
11:45 - 12:45	34	0	15	0	49	0	0	0	0	0	9	228	0	0	237	0	229	27	0	256	542
12:00 - 1:00	31	0	14	0	45	0	0	0	0	0	14	224	0	0	238	0	230	22	0	252	535
12:15 - 1:15	25	0	14	0	39	0	0	0	0	0	14	216	0	0	230	0	248	24	0	272	541
12:30 - 1:30	30	0	15	0	45	0	0	0	0	0	11	222	0	0	233	0	243	28	0	271	549
12:45 - 1:45	28	0	11	0	39	0	0	0	0	0	10	212	0	0	222	0	236	30	0	266	527
1:00 - 2:00	35	0	9	0	44	0	0	0	0	0	6	206	0	0	212	0	231	34	0	265	521
PEAK HOUR																					
12:30 - 1:30	30	0	15	0	45	0	0	0	0	0	11	222	0	0	233	0	243	28	0	271	549

6. MD 328 (E/W) & McCall St (S)
Google Earth
N
100 ft

TOTALS TURNING MOVEMENT COUNT - SUMMARY

Counted by: VCU

Intersection of: MD 328 | Date: June 09, 2022 | Thursday

and: McCall Street | Weather: Sunny/Warm

Location: Talbot County, Maryland | Entered by: SN | Star Rating: 4

TIME	TRAFFIC FROM NORTH on: Private Driveway					TRAFFIC FROM SOUTH on: McCall Street					TRAFFIC FROM EAST on: MD 328					TRAFFIC FROM WEST on: MD 328					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
AM																					
7:00 - 7:15	0	0	0	0	0	1	0	5	0	6	0	102	1	0	103	1	47	0	0	48	157
7:15 - 7:30	0	0	0	0	0	2	0	6	0	8	0	130	0	0	130	0	49	0	0	49	187
7:30 - 7:45	0	0	0	0	0	2	0	4	0	6	0	120	0	0	120	3	47	0	0	50	176
7:45 - 8:00	0	0	0	0	0	1	0	5	0	6	0	152	0	0	152	1	42	0	0	43	201
8:00 - 8:15	0	0	0	0	0	2	0	4	0	6	0	86	0	0	86	4	47	0	0	51	143
8:15 - 8:30	0	0	0	0	0	0	0	6	0	6	0	95	0	0	95	1	52	0	0	53	154
8:30 - 8:45	0	0	0	0	0	0	0	5	0	5	0	95	0	0	95	2	44	0	0	46	146
8:45 - 9:00	0	0	0	0	0	0	0	1	0	1	0	89	2	0	91	0	39	0	0	39	131
2 Hr Totals	0	0	0	0	0	8	0	36	0	44	0	869	3	0	872	12	367	0	0	379	1295
1 Hr Totals																					
7:00 - 8:00	0	0	0	0	0	6	0	20	0	26	0	504	1	0	505	5	185	0	0	190	721
7:15 - 8:15	0	0	0	0	0	7	0	19	0	26	0	488	0	0	488	8	185	0	0	193	707
7:30 - 8:30	0	0	0	0	0	5	0	19	0	24	0	453	0	0	453	9	188	0	0	197	674
7:45 - 8:45	0	0	0	0	0	3	0	20	0	23	0	428	0	0	428	8	185	0	0	193	644
8:00 - 9:00	0	0	0	0	0	2	0	16	0	18	0	365	2	0	367	7	182	0	0	189	574
PEAK HOUR																					
7:00 - 8:00	0	0	0	0	0	6	0	20	0	26	0	504	1	0	505	5	185	0	0	190	721
PM																					
4:00 - 4:15	0	0	0	0	0	1	0	2	0	3	0	65	2	0	67	2	114	0	0	116	186
4:15 - 4:30	0	0	0	0	0	0	0	4	0	4	0	74	0	0	74	5	120	0	0	125	203
4:30 - 4:45	0	0	0	0	0	3	0	4	0	7	0	65	0	0	65	6	130	0	0	136	208
4:45 - 5:00	0	0	0	0	0	0	0	1	0	1	0	59	2	0	61	7	107	0	0	114	176
5:00 - 5:15	0	0	0	0	0	2	0	2	0	4	0	65	1	0	66	4	111	0	0	115	185
5:15 - 5:30	0	0	0	0	0	0	0	2	0	2	0	70	2	0	72	1	90	0	0	91	165
5:30 - 5:45	0	0	0	0	0	2	0	4	1	7	0	73	1	0	74	9	90	0	0	99	180
5:45 - 6:00	0	0	0	0	0	0	0	3	1	4	0	52	1	0	53	5	62	0	0	67	124
2 Hr Totals	0	0	0	0	0	8	0	22	2	32	0	523	9	0	532	39	824	0	0	863	1427
1 Hr Totals																					
4:00 - 5:00	0	0	0	0	0	4	0	11	0	15	0	263	4	0	267	20	471	0	0	491	773
4:15 - 5:15	0	0	0	0	0	5	0	11	0	16	0	263	3	0	266	22	468	0	0	490	772
4:30 - 5:30	0	0	0	0	0	5	0	9	0	14	0	259	5	0	264	18	438	0	0	456	734
4:45 - 5:45	0	0	0	0	0	4	0	9	1	14	0	267	6	0	273	21	398	0	0	419	706
5:00 - 6:00	0	0	0	0	0	4	0	11	2	17	0	260	5	0	265	19	353	0	0	372	654
PEAK HOUR																					
4:00 - 5:00	0	0	0	0	0	4	0	11	0	15	0	263	4	0	267	20	471	0	0	491	773

TOTALS TURNING MOVEMENT COUNT - SUMMARY

Counted by: VCU

Intersection of: MD 328 | Date: June 11, 2022 | Saturday

and: McCall Street | Weather: Sunny/Warm

Location: Talbot County, Maryland | Entered by: SN | Star Rating: 4

TIME	TRAFFIC FROM NORTH on: Private Driveway					TRAFFIC FROM SOUTH on: McCall Street					TRAFFIC FROM EAST on: MD 328					TRAFFIC FROM WEST on: MD 328					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
AM																					
10:00 - 10:15	0	0	0	0	0	2	0	4	1	7	0	44	0	0	44	0	49	0	0	49	100
10:15 - 10:30	0	0	0	0	0	0	0	3	0	3	0	60	1	0	61	3	48	0	0	51	115
10:30 - 10:45	0	0	0	0	0	0	0	3	0	3	0	65	0	0	65	3	51	0	0	54	122
10:45 - 11:00	0	0	0	0	0	0	0	1	0	1	0	48	1	0	49	0	43	0	1	44	94
11:00 - 11:15	0	0	0	0	0	2	0	2	0	4	0	55	0	0	55	3	53	0	0	56	115
11:15 - 11:30	0	0	0	0	0	0	0	3	0	3	0	60	1	0	61	1	56	0	0	57	121
11:30 - 11:45	0	0	0	0	0	1	0	1	0	2	0	47	0	0	47	4	57	0	0	61	110
11:45 - 12:00	0	0	0	0	0	0	0	3	0	3	0	63	2	0	65	2	53	0	0	55	123
12:00 - 12:15	0	0	0	0	0	0	0	2	0	2	0	57	0	0	57	4	54	0	0	58	117
12:15 - 12:30	0	0	0	0	0	1	0	2	0	3	0	51	0	0	51	5	70	0	0	75	129
12:30 - 12:45	0	0	0	0	0	1	0	4	0	5	0	62	0	0	62	2	53	0	0	55	122
12:45 - 1:00	0	0	0	0	0	1	0	3	0	4	0	57	2	0	59	5	50	0	0	55	118
1:00 - 1:15	0	0	0	0	0	1	0	4	0	5	0	47	1	0	48	4	71	0	0	75	128
1:15 - 1:30	0	0	0	0	0	1	0	1	0	2	0	57	0	0	57	8	60	0	0	68	127
1:30 - 1:45	0	0	0	0	0	2	0	3	0	5	0	50	1	0	51	3	47	0	0	50	106
1:45 - 2:00	0	0	0	0	0	0	0	3	0	3	0	46	0	0	46	1	47	0	0	48	97
4 Hr Totals	0	0	0	0	0	12	0	42	1	55	0	869	9	0	878	48	862	0	1	911	1844
1 Hr Totals																					
10:00 - 11:00	0	0	0	0	0	2	0	11	1	14	0	217	2	0	219	6	191	0	1	198	431
10:15 - 11:15	0	0	0	0	0	2	0	9	0	11	0	228	2	0	230	9	195	0	1	205	446
10:30 - 11:30	0	0	0	0	0	2	0	9	0	11	0	228	2	0	230	7	203	0	1	211	452
10:45 - 11:45	0	0	0	0	0	3	0	7	0	10	0	210	2	0	212	8	209	0	1	218	440
11:00 - 12:00	0	0	0	0	0	3	0	9	0	12	0	225	3	0	228	10	219	0	0	229	469
11:15 - 12:15	0	0	0	0	0	1	0	9	0	10	0	227	3	0	230	11	220	0	0	231	471
11:30 - 12:30	0	0	0	0	0	2	0	8	0	10	0	218	2	0	220	15	234	0	0	249	479
11:45 - 12:45	0	0	0	0	0	2	0	11	0	13	0	233	2	0	235	13	230	0	0	243	491
12:00 - 1:00	0	0	0	0	0	3	0	11	0	14	0	227	2	0	229	16	227	0	0	243	486
12:15 - 1:15	0	0	0	0	0	4	0	13	0	17	0	217	3	0	220	16	244	0	0	260	497
12:30 - 1:30	0	0	0	0	0	4	0	12	0	16	0	223	3	0	226	19	234	0	0	253	495
12:45 - 1:45	0	0	0	0	0	5	0	11	0	16	0	211	4	0	215	20	228	0	0	248	479
1:00 - 2:00	0	0	0	0	0	4	0	11	0	15	0	200	2	0	202	16	225	0	0	241	458
PEAK HOUR																					
12:15 - 1:15	0	0	0	0	0	4	0	13	0	17	0	217	3	0	220	16	244	0	0	260	497

7. MD 328 (E/W) & Swann Haven Rd (S)
Google Earth
N
100 ft

TOTALS TURNING MOVEMENT COUNT - SUMMARY

Counted by: VCU

Intersection of: MD 328 | Date: June 09, 2022 | Thursday

and: Swann Haven Road | Weather: Sunny/Warm

Location: Talbot County, Maryland | Entered by: SN | Star Rating: 4

TIME	TRAFFIC FROM NORTH on:					TRAFFIC FROM SOUTH on: Swann Haven Road					TRAFFIC FROM EAST on: MD 328					TRAFFIC FROM WEST on: MD 328					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
AM																					
7:00 - 7:15	0	0	0	0	0	3	0	12	0	15	0	91	1	0	92	2	51	0	0	53	160
7:15 - 7:30	0	0	0	0	0	1	0	2	0	3	0	120	0	0	120	2	46	0	0	48	171
7:30 - 7:45	0	0	0	0	0	2	0	1	0	3	0	126	0	0	126	1	43	0	0	44	173
7:45 - 8:00	0	0	0	0	0	0	0	1	0	1	0	158	0	0	158	2	46	0	0	48	207
8:00 - 8:15	0	0	0	0	0	3	0	1	0	4	0	88	1	0	89	1	43	0	0	44	137
8:15 - 8:30	0	0	0	0	0	1	0	3	0	4	0	90	0	0	90	1	46	0	0	47	141
8:30 - 8:45	0	0	0	0	0	0	0	5	0	5	0	86	0	0	86	1	45	0	0	46	137
8:45 - 9:00	0	0	0	0	0	1	0	4	0	5	0	91	1	0	92	3	44	0	0	47	144
2 Hr Totals	0	0	0	0	0	11	0	29	0	40	0	850	3	0	853	13	364	0	0	377	1270
1 Hr Totals																					
7:00 - 8:00	0	0	0	0	0	6	0	16	0	22	0	495	1	0	496	7	186	0	0	193	711
7:15 - 8:15	0	0	0	0	0	6	0	5	0	11	0	492	1	0	493	6	178	0	0	184	688
7:30 - 8:30	0	0	0	0	0	6	0	6	0	12	0	462	1	0	463	5	178	0	0	183	658
7:45 - 8:45	0	0	0	0	0	4	0	10	0	14	0	422	1	0	423	5	180	0	0	185	622
8:00 - 9:00	0	0	0	0	0	5	0	13	0	18	0	355	2	0	357	6	178	0	0	184	559
PEAK HOUR																					
7:00 - 8:00	0	0	0	0	0	6	0	16	0	22	0	495	1	0	496	7	186	0	0	193	711
PM																					
4:00 - 4:15	0	0	0	0	0	0	0	2	0	2	0	56	1	0	57	4	102	0	0	106	165
4:15 - 4:30	0	0	0	0	0	5	0	4	0	9	0	76	1	0	77	5	110	0	0	115	201
4:30 - 4:45	0	0	0	0	0	1	0	2	0	3	0	58	2	0	60	4	116	0	0	120	183
4:45 - 5:00	0	0	0	0	0	1	0	3	0	4	0	61	0	0	61	3	106	0	0	109	174
5:00 - 5:15	0	0	0	0	0	1	0	2	0	3	0	71	0	0	71	5	112	0	0	117	191
5:15 - 5:30	0	0	0	0	0	0	0	1	0	1	0	68	0	0	68	3	89	0	0	92	161
5:30 - 5:45	0	0	0	0	0	3	0	5	0	8	0	59	2	0	61	1	92	0	0	93	162
5:45 - 6:00	0	0	0	0	0	2	0	5	0	7	0	52	2	0	54	1	74	0	0	75	136
2 Hr Totals	0	0	0	0	0	13	0	24	0	37	0	501	8	0	509	26	801	0	0	827	1373
1 Hr Totals																					
4:00 - 5:00	0	0	0	0	0	7	0	11	0	18	0	251	4	0	255	16	434	0	0	450	723
4:15 - 5:15	0	0	0	0	0	8	0	11	0	19	0	266	3	0	269	17	444	0	0	461	749
4:30 - 5:30	0	0	0	0	0	3	0	8	0	11	0	258	2	0	260	15	423	0	0	438	709
4:45 - 5:45	0	0	0	0	0	5	0	11	0	16	0	259	2	0	261	12	399	0	0	411	688
5:00 - 6:00	0	0	0	0	0	6	0	13	0	19	0	250	4	0	254	10	367	0	0	377	650
PEAK HOUR																					
4:15 - 5:15	0	0	0	0	0	8	0	11	0	19	0	266	3	0	269	17	444	0	0	461	749

TOTALS TURNING MOVEMENT COUNT - SUMMARY

Counted by: VCU

Intersection of: MD 328 | Date: June 11, 2022 | Saturday

and: Swann Haven Road | Weather: Sunny/Warm

Location: Talbot County, Maryland | Entered by: SN | Star Rating: 4

TIME	TRAFFIC FROM NORTH on:					TRAFFIC FROM SOUTH on: Swann Haven Road					TRAFFIC FROM EAST on: MD 328					TRAFFIC FROM WEST on: MD 328					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
AM																					
10:00 - 10:15	0	0	0	0	0	1	0	3	0	4	0	40	0	0	40	2	39	0	0	41	85
10:15 - 10:30	0	0	0	0	0	2	0	1	0	3	0	56	0	0	56	2	42	0	0	44	103
10:30 - 10:45	0	0	0	0	0	3	0	3	0	6	0	62	2	0	64	2	51	0	0	53	123
10:45 - 11:00	0	0	0	0	0	0	0	2	0	2	0	49	1	0	50	1	35	0	0	36	88
11:00 - 11:15	0	0	0	0	0	2	0	1	0	3	0	53	1	0	54	0	57	0	0	57	114
11:15 - 11:30	0	0	0	0	0	1	0	5	0	6	0	57	3	0	60	3	56	0	0	59	125
11:30 - 11:45	0	0	0	0	0	1	0	1	0	2	0	51	2	0	53	2	52	0	0	54	109
11:45 - 12:00	0	0	0	0	0	0	0	5	0	5	0	56	2	0	58	5	52	0	0	57	120
12:00 - 12:15	0	0	0	0	0	1	0	4	0	5	0	53	2	0	55	1	53	0	0	54	114
12:15 - 12:30	0	0	0	0	0	0	0	1	0	1	0	54	0	0	54	5	64	0	0	69	124
12:30 - 12:45	0	0	0	0	0	0	0	2	0	2	0	54	2	0	56	3	53	0	0	56	114
12:45 - 1:00	0	0	0	0	0	0	0	4	0	4	0	59	1	0	60	5	45	0	0	50	114
1:00 - 1:15	0	0	0	0	0	0	0	0	0	0	0	51	1	0	52	4	58	0	0	62	114
1:15 - 1:30	0	0	0	0	0	1	0	3	0	4	0	56	0	1	57	0	57	0	0	57	118
1:30 - 1:45	0	0	0	0	0	0	0	2	0	2	0	52	1	0	53	0	47	0	0	47	102
1:45 - 2:00	0	0	0	0	0	3	0	0	0	3	0	45	0	0	45	2	41	0	0	43	91
4 Hr Totals	0	0	0	0	0	15	0	37	0	52	0	848	18	1	867	37	802	0	0	839	1758
1 Hr Totals																					
10:00 - 11:00	0	0	0	0	0	6	0	9	0	15	0	207	3	0	210	7	167	0	0	174	399
10:15 - 11:15	0	0	0	0	0	7	0	7	0	14	0	220	4	0	224	5	185	0	0	190	428
10:30 - 11:30	0	0	0	0	0	6	0	11	0	17	0	221	7	0	228	6	199	0	0	205	450
10:45 - 11:45	0	0	0	0	0	4	0	9	0	13	0	210	7	0	217	6	200	0	0	206	436
11:00 - 12:00	0	0	0	0	0	4	0	12	0	16	0	217	8	0	225	10	217	0	0	227	468
11:15 - 12:15	0	0	0	0	0	3	0	15	0	18	0	217	9	0	226	11	213	0	0	224	468
11:30 - 12:30	0	0	0	0	0	2	0	11	0	13	0	214	6	0	220	13	221	0	0	234	467
11:45 - 12:45	0	0	0	0	0	1	0	12	0	13	0	217	6	0	223	14	222	0	0	236	472
12:00 - 1:00	0	0	0	0	0	1	0	11	0	12	0	220	5	0	225	14	215	0	0	229	466
12:15 - 1:15	0	0	0	0	0	0	0	7	0	7	0	218	4	0	222	17	220	0	0	237	466
12:30 - 1:30	0	0	0	0	0	1	0	9	0	10	0	220	4	1	225	12	213	0	0	225	460
12:45 - 1:45	0	0	0	0	0	1	0	9	0	10	0	218	3	1	222	9	207	0	0	216	448
1:00 - 2:00	0	0	0	0	0	4	0	5	0	9	0	204	2	1	207	6	203	0	0	209	425
PEAK HOUR																					
11:45 - 12:45	0	0	0	0	0	1	0	12	0	13	0	217	6	0	223	14	222	0	0	236	472

8. MD 328 (E/W) & Black Dog Rd (N/S)
Google Earth
N
100 ft

TOTALS TURNING MOVEMENT COUNT - SUMMARY

Counted by: VCU

Intersection of: MD 328 | Date: June 09, 2022 | Thursday

and: Black Dog Alley | Weather: Sunny/Warm

Location: Talbot County, Maryland | Entered by: SN | Star Rating: 4

TIME	TRAFFIC FROM NORTH on: Black Dog Alley					TRAFFIC FROM SOUTH on: Black Dog Alley					TRAFFIC FROM EAST on: MD 328					TRAFFIC FROM WEST on: MD 328					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
AM																					
7:00 - 7:15	16	7	6	0	29	1	21	6	0	28	17	71	2	0	90	5	42	4	0	51	198
7:15 - 7:30	11	5	5	0	21	1	32	2	0	35	14	107	4	0	125	3	37	7	0	47	228
7:30 - 7:45	6	8	10	0	24	3	23	3	0	29	18	120	0	0	138	2	38	12	0	52	243
7:45 - 8:00	28	18	1	0	47	3	16	4	0	23	22	124	2	0	148	2	34	7	0	43	261
8:00 - 8:15	12	14	9	0	35	0	19	3	0	22	14	73	2	0	89	11	30	11	0	52	198
8:15 - 8:30	11	19	4	0	34	0	20	2	0	22	16	77	0	0	93	2	32	8	0	42	191
8:30 - 8:45	9	10	5	0	24	1	25	6	0	32	14	78	3	0	95	1	37	12	0	50	201
8:45 - 9:00	23	7	4	0	34	2	14	2	0	18	9	60	0	0	69	0	35	5	0	40	161
2 Hr Totals	116	88	44	0	248	11	170	28	0	209	124	710	13	0	847	26	285	66	0	377	1681
1 Hr Totals																					
7:00 - 8:00	61	38	22	0	121	8	92	15	0	115	71	422	8	0	501	12	151	30	0	193	930
7:15 - 8:15	57	45	25	0	127	7	90	12	0	109	68	424	8	0	500	18	139	37	0	194	930
7:30 - 8:30	57	59	24	0	140	6	78	12	0	96	70	394	4	0	468	17	134	38	0	189	893
7:45 - 8:45	60	61	19	0	140	4	80	15	0	99	66	352	7	0	425	16	133	38	0	187	851
8:00 - 9:00	55	50	22	0	127	3	78	13	0	94	53	288	5	0	346	14	134	36	0	184	751
PEAK HOUR																					
7:00 - 8:00	61	38	22	0	121	8	92	15	0	115	71	422	8	0	501	12	151	30	0	193	930
PM																					
4:00 - 4:15	17	31	14	0	62	1	14	6	0	21	5	39	1	0	45	4	81	22	0	107	235
4:15 - 4:30	20	28	28	0	76	0	16	2	0	18	11	53	0	0	64	8	90	12	0	110	268
4:30 - 4:45	12	24	15	0	51	1	18	5	0	24	12	47	0	0	59	4	103	15	0	122	256
4:45 - 5:00	11	35	17	0	63	1	17	5	0	23	10	39	1	0	50	9	89	10	0	108	244
5:00 - 5:15	22	36	23	0	81	0	18	4	0	22	7	49	0	0	56	4	93	15	0	112	271
5:15 - 5:30	12	22	23	0	57	2	18	8	0	28	19	47	0	0	66	10	66	11	0	87	238
5:30 - 5:45	19	18	19	0	56	1	22	2	0	25	10	46	0	0	56	8	67	18	0	93	230
5:45 - 6:00	16	29	12	0	57	4	13	3	0	20	10	35	0	0	45	5	51	18	0	74	196
2 Hr Totals	129	223	151	0	503	10	136	35	0	181	84	355	2	0	441	52	640	121	0	813	1938
1 Hr Totals																					
4:00 - 5:00	60	118	74	0	252	3	65	18	0	86	38	178	2	0	218	25	363	59	0	447	1003
4:15 - 5:15	65	123	83	0	271	2	69	16	0	87	40	188	1	0	229	25	375	52	0	452	1039
4:30 - 5:30	57	117	78	0	252	4	71	22	0	97	48	182	1	0	231	27	351	51	0	429	1009
4:45 - 5:45	64	111	82	0	257	4	75	19	0	98	46	181	1	0	228	31	315	54	0	400	983
5:00 - 6:00	69	105	77	0	251	7	71	17	0	95	46	177	0	0	223	27	277	62	0	366	935
PEAK HOUR																					
4:15 - 5:15	65	123	83	0	271	2	69	16	0	87	40	188	1	0	229	25	375	52	0	452	1039

TOTALS TURNING MOVEMENT COUNT - SUMMARY

Counted by: VCU

Intersection of: MD 328 | Date: June 11, 2022 | Saturday

and: Black Dog Alley | Weather: Sunny/Warm

Location: Talbot County, Maryland | Entered by: SN | Star Rating: 4

TIME	TRAFFIC FROM NORTH on: Black Dog Alley					TRAFFIC FROM SOUTH on: Black Dog Alley					TRAFFIC FROM EAST on: MD 328					TRAFFIC FROM WEST on: MD 328					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
AM																					
10:00 - 10:15	8	13	4	0	25	0	9	0	0	9	5	34	2	0	41	4	30	8	0	42	117
10:15 - 10:30	7	11	4	0	22	1	16	2	0	19	10	49	1	0	60	8	30	10	0	48	149
10:30 - 10:45	26	20	7	0	53	1	6	1	0	8	3	39	1	0	43	3	36	10	0	49	153
10:45 - 11:00	13	19	7	0	39	1	20	0	0	21	9	36	1	0	46	2	32	9	0	43	149
11:00 - 11:15	14	19	9	0	42	1	7	4	0	12	6	35	1	0	42	4	40	11	0	55	151
11:15 - 11:30	18	12	2	0	32	0	15	4	0	19	11	38	3	0	52	5	41	11	0	57	160
11:30 - 11:45	14	15	6	0	35	1	6	1	0	8	6	33	0	0	39	2	45	8	0	55	137
11:45 - 12:00	11	15	5	0	31	3	14	1	0	18	10	51	0	0	61	7	32	9	0	48	158
12:00 - 12:15	15	16	13	0	44	1	11	2	0	14	8	37	2	0	47	4	38	13	0	55	160
12:15 - 12:30	14	21	9	0	44	1	13	5	0	19	7	36	0	0	43	5	40	11	0	56	162
12:30 - 12:45	18	21	7	0	46	2	12	5	0	19	5	36	1	0	42	5	40	12	0	57	164
12:45 - 1:00	19	18	7	0	44	2	9	3	0	14	6	35	1	0	42	2	31	7	0	40	140
1:00 - 1:15	11	30	5	0	46	2	12	7	0	21	5	34	2	0	41	3	49	11	0	63	171
1:15 - 1:30	15	23	8	0	46	1	17	0	0	18	5	38	0	0	43	3	45	12	0	60	167
1:30 - 1:45	8	20	8	0	36	1	9	1	0	11	7	43	0	0	50	3	34	10	0	47	144
1:45 - 2:00	11	13	1	0	25	2	12	3	0	17	6	33	2	0	41	8	29	8	0	45	128
4 Hr Totals	222	286	102	0	610	20	188	39	0	247	109	607	17	0	733	68	592	160	0	820	2410
1 Hr Totals																					
10:00 - 11:00	54	63	22	0	139	3	51	3	0	57	27	158	5	0	190	17	128	37	0	182	568
10:15 - 11:15	60	69	27	0	156	4	49	7	0	60	28	159	4	0	191	17	138	40	0	195	602
10:30 - 11:30	71	70	25	0	166	3	48	9	0	60	29	148	6	0	183	14	149	41	0	204	613
10:45 - 11:45	59	65	24	0	148	3	48	9	0	60	32	142	5	0	179	13	158	39	0	210	597
11:00 - 12:00	57	61	22	0	140	5	42	10	0	57	33	157	4	0	194	18	158	39	0	215	606
11:15 - 12:15	58	58	26	0	142	5	46	8	0	59	35	159	5	0	199	18	156	41	0	215	615
11:30 - 12:30	54	67	33	0	154	6	44	9	0	59	31	157	2	0	190	18	155	41	0	214	617
11:45 - 12:45	58	73	34	0	165	7	50	13	0	70	30	160	3	0	193	21	150	45	0	216	644
12:00 - 1:00	66	76	36	0	178	6	45	15	0	66	26	144	4	0	174	16	149	43	0	208	626
12:15 - 1:15	62	90	28	0	180	7	46	20	0	73	23	141	4	0	168	15	160	41	0	216	637
12:30 - 1:30	63	92	27	0	182	7	50	15	0	72	21	143	4	0	168	13	165	42	0	220	642
12:45 - 1:45	53	91	28	0	172	6	47	11	0	64	23	150	3	0	176	11	159	40	0	210	622
1:00 - 2:00	45	86	22	0	153	6	50	11	0	67	23	148	4	0	175	17	157	41	0	215	610
PEAK HOUR																					
11:45 - 12:45	58	73	34	0	165	7	50	13	0	70	30	160	3	0	193	21	150	45	0	216	644

APPENDIX B

Capacity Analysis Worksheets

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: MD 328 **Date of Count:** 6/9/2022
N/S Road: US 50 **Day of Week:** Thursday
Conditions: 2022 Existing Traffic **Analyst:** Ming-Yu Chien

Peak: 7:15 -8:15
Peak: 4:15 -5:15

US 50

R	T	L	
41	1062	236	PM
22	962	116	AM

TR T T L

MD 328

	R	T	L
R	187	207	
T	162	149	
L	364	170	
	AM	PM	

R
LT
L

PM	AM	
48	33	L
279	102	T
110	51	R

L
LT
R

L T T T R

MD 328

	L	T	R
AM	69	997	148
PM	66	954	296

US 50

Capacity Analysis - East/West Split

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
EB	102	1.00	102				102
WB	526	0.60	316				316
NB	997	0.40	399	116	1.00	116	515
SB	984	0.40	394	69	1.00	69	
						CLV TOTAL=	933
						Level of Service (LOS)=	A

Evening Peak Hour

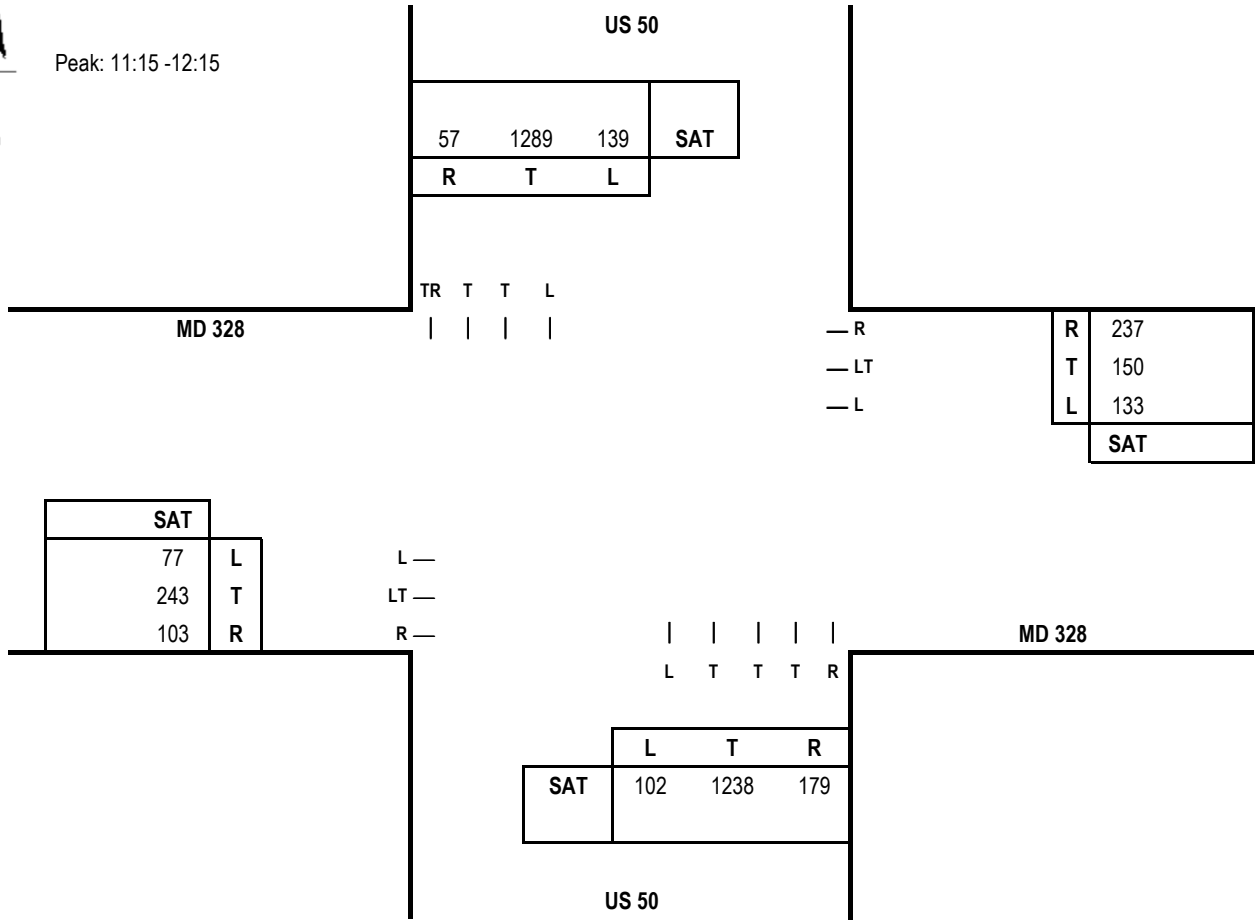
Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
EB	279	1.00	279				279
WB	319	0.60	191				191
NB	954	0.40	382	236	1.00	236	618
SB	1103	0.40	441	66	1.00	66	
						CLV TOTAL=	1,088
						Level of Service (LOS)=	B

Scenario ID - EXIST1 AM V/C =0.58 PM V/C =0.68

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: MD 328 **Date of Count:** 6/11/2022
N/S Road: US 50 **Day of Week:** Saturday
Conditions: 2022 Existing Traffic **Analyst:** Ming-Yu Chien

Peak: 11:15 -12:15



Capacity Analysis - East/West Split

Sat. Midday Peak Hour							
	Thru Volumes			+ Opposing Lefts			SAT
Dir	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
EB	243	1.00	243				243
WB	283	0.60	170				170
NB	1238	0.40	495	139	1.00	139	640
SB	1346	0.40	538	102	1.00	102	
						CLV TOTAL=	1,053
						Level of Service (LOS)=	B

Scenario ID - EXIST1 SAT V/C =0.66

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: MD 328 **Date of Count:** 6/9/2022
N/S Road: US 50 **Day of Week:** Thursday
Conditions: 2025 Background Traffic **Analyst:** Ming-Yu Chien

Peak: 7:15 -8:15
Peak: 4:15 -5:15

US 50

	R	T	L
PM	41	1094	264
AM	22	991	125

TR T T L

MD 328

	R	T	L
R	211	224	
T	185	165	
L	400	194	
	AM	PM	

R
LT
L

	PM	AM
L	48	33
T	307	111
R	110	51

L
LT
R

L T T T R

MD 328

	L	T	R
AM	69	1027	161
PM	66	983	337

US 50

Capacity Analysis - East/West Split

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
EB	111	1.00	111				111
WB	585	0.60	351				351
NB	1027	0.40	411	125	1.00	125	536
SB	1013	0.40	405	69	1.00	69	
						CLV TOTAL=	998
						Level of Service (LOS)=	A

Evening Peak Hour

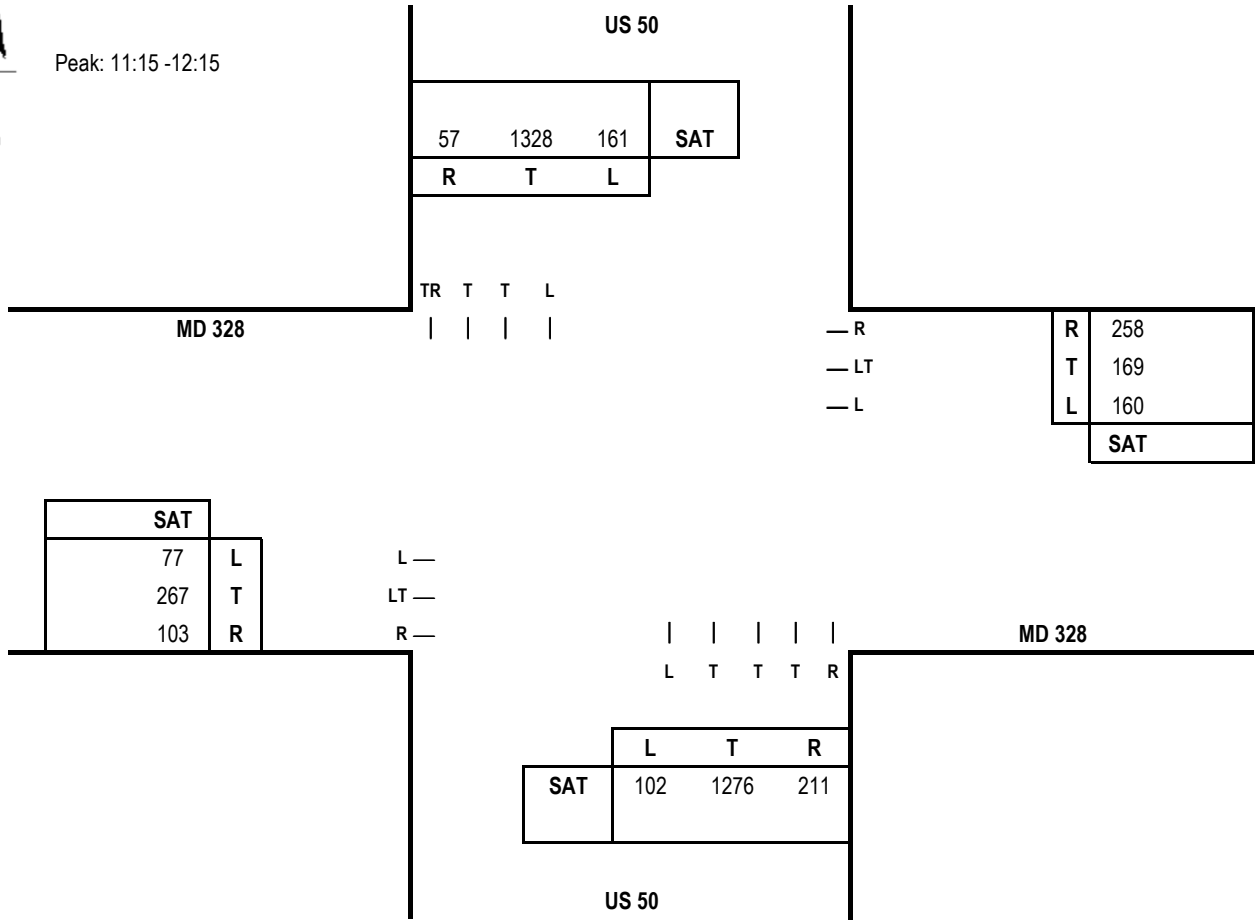
Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
EB	307	1.00	307				307
WB	359	0.60	215				215
NB	983	0.40	393	264	1.00	264	657
SB	1135	0.40	454	66	1.00	66	
						CLV TOTAL=	1,179
						Level of Service (LOS)=	C

Scenario ID - BACK1 AM V/C =0.62 PM V/C =0.74

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: MD 328 **Date of Count:** 6/11/2022
N/S Road: US 50 **Day of Week:** Saturday
Conditions: 2025 Background Traffic **Analyst:** Ming-Yu Chien

Peak: 11:15 -12:15



Capacity Analysis - East/West Split

Sat. Midday Peak Hour							
	Thru Volumes			+ Opposing Lefts			SAT
Dir	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
EB	267	1.00	267				267
WB	329	0.60	197				197
NB	1276	0.40	510	161	1.00	161	671
SB	1385	0.40	554	102	1.00	102	
						CLV TOTAL=	1,135
						Level of Service (LOS)=	B

Scenario ID - BACK1 SAT V/C =0.71

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: MD 328 **Date of Count:** 6/9/2022
N/S Road: US 50 **Day of Week:** Thursday
Conditions: 2025 Total Traffic **Analyst:** Ming-Yu Chien

Peak: 7:15 -8:15
Peak: 4:15 -5:15

US 50

R	T	L	
41	1094	292	PM
22	991	136	AM

TR T T L

MD 328

R	239	244
T	207	179
L	434	217
	AM	PM

R
LT
L

PM	AM	
48	33	L
329	119	T
110	51	R

L
LT
R

L T T T R

MD 328

	L	T	R
AM	69	1027	174
PM	66	983	371

US 50

Capacity Analysis - East/West Split

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
EB	119	1.00	119				119
WB	641	0.60	385				385
NB	1027	0.40	411	136	1.00	136	547
SB	1013	0.40	405	69	1.00	69	
						CLV TOTAL=	1,051
						Level of Service (LOS)=	B

Evening Peak Hour

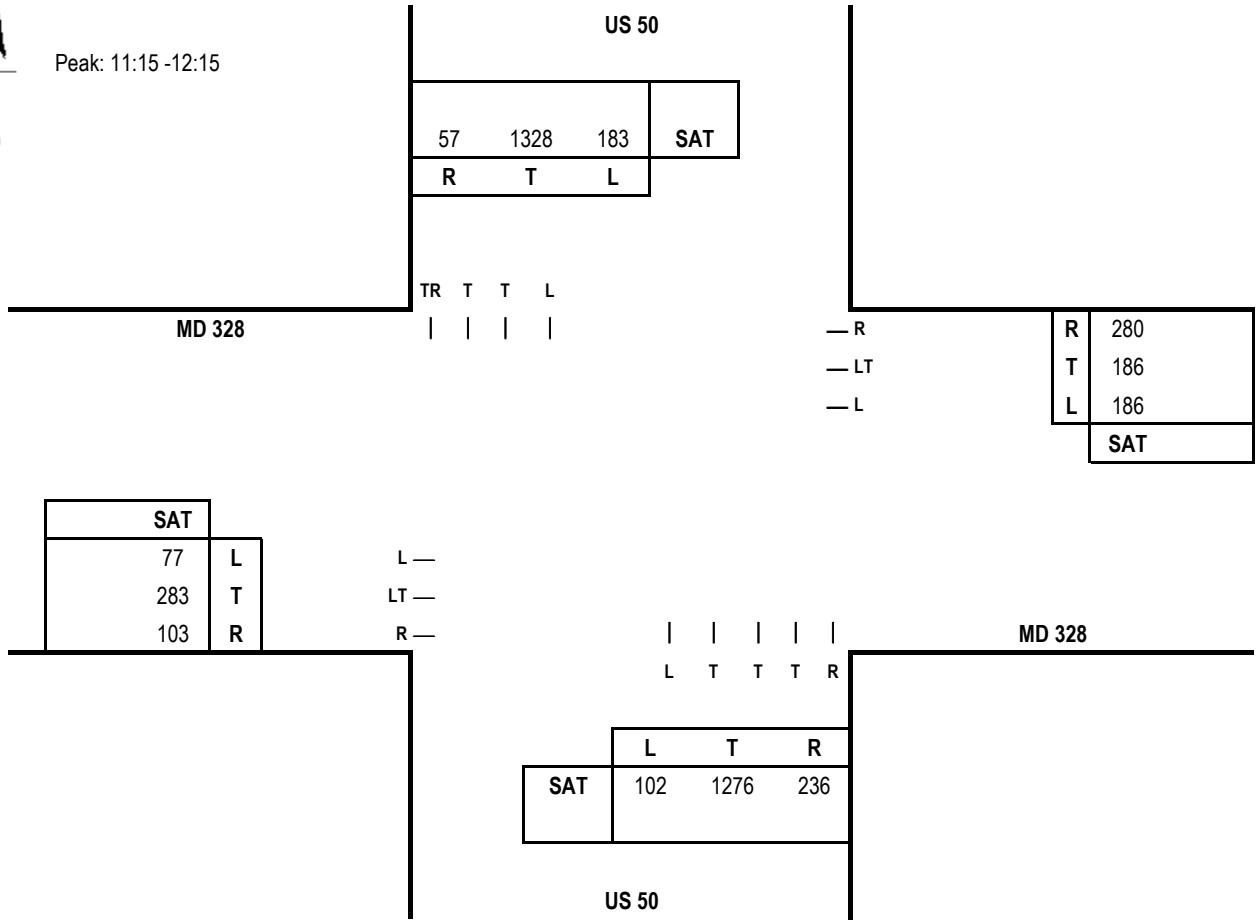
Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
EB	329	1.00	329				329
WB	396	0.60	238				238
NB	983	0.40	393	292	1.00	292	685
SB	1135	0.40	454	66	1.00	66	
						CLV TOTAL=	1,252
						Level of Service (LOS)=	C

Scenario ID - TOT1 AM V/C =0.66 PM V/C =0.78

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: MD 328 **Date of Count:** 6/11/2022
N/S Road: US 50 **Day of Week:** Saturday
Conditions: 2025 Total Traffic **Analyst:** Ming-Yu Chien

Peak: 11:15 -12:15



Capacity Analysis - East/West Split

Sat. Midday Peak Hour							
	Thru Volumes			+ Opposing Lefts			SAT
Dir	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
EB	283	1.00	283				283
WB	372	0.60	223				223
NB	1276	0.40	510	183	1.00	183	693
SB	1385	0.40	554	102	1.00	102	
						CLV TOTAL=	1,199
						Level of Service (LOS)=	C

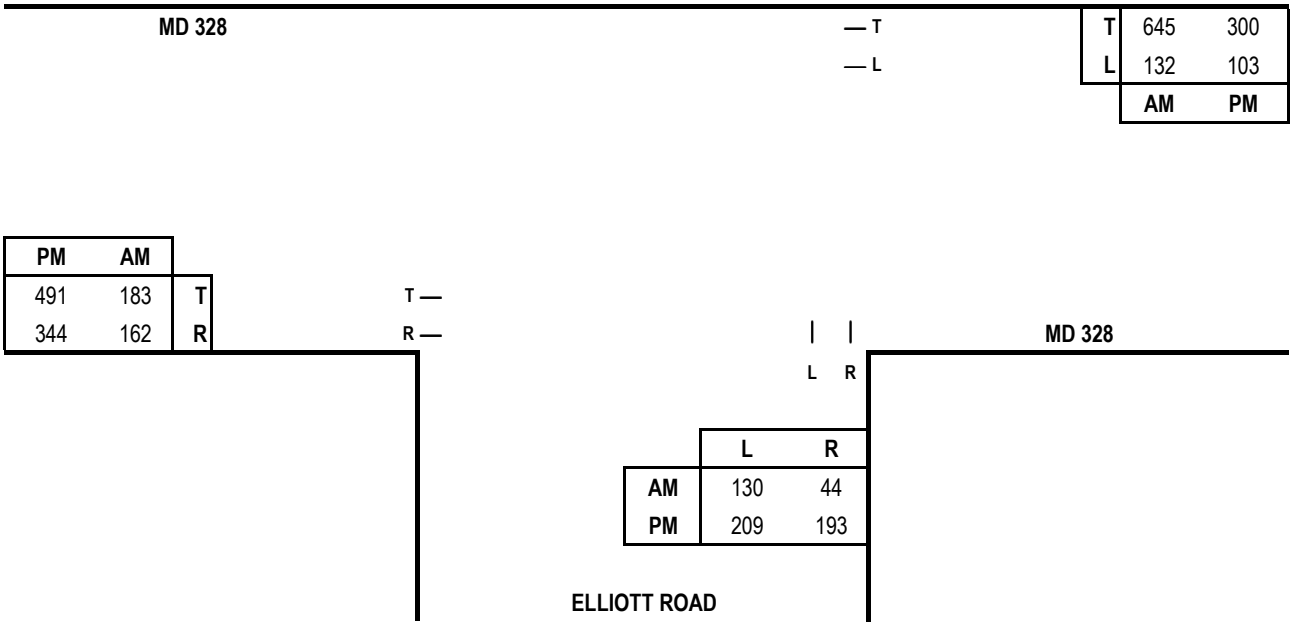
Scenario ID - TOT1 SAT V/C =0.75

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: MD 328 **Date of Count:** 6/9/2022
N/S Road: Elliott Road **Day of Count:** Thursday
Conditions: 2022 Existing Traffic **Analyst:** Ming-Yu Chien

N

Peak: 7:15 -8:15
Peak: 4:00 -5:00



Capacity Analysis

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
NB	130	1.00	130				130
EB	183	1.00	183	132	1.00	132	645
WB	645	1.00	645				
						CLV TOTAL=	775
						Level of Service (LOS)=	A

CLV V/C =0.48

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
NB	209	1.00	209				209
EB	491	1.00	491	103	1.00	103	594
WB	300	1.00	300				
						CLV TOTAL=	803
						Level of Service (LOS)=	A

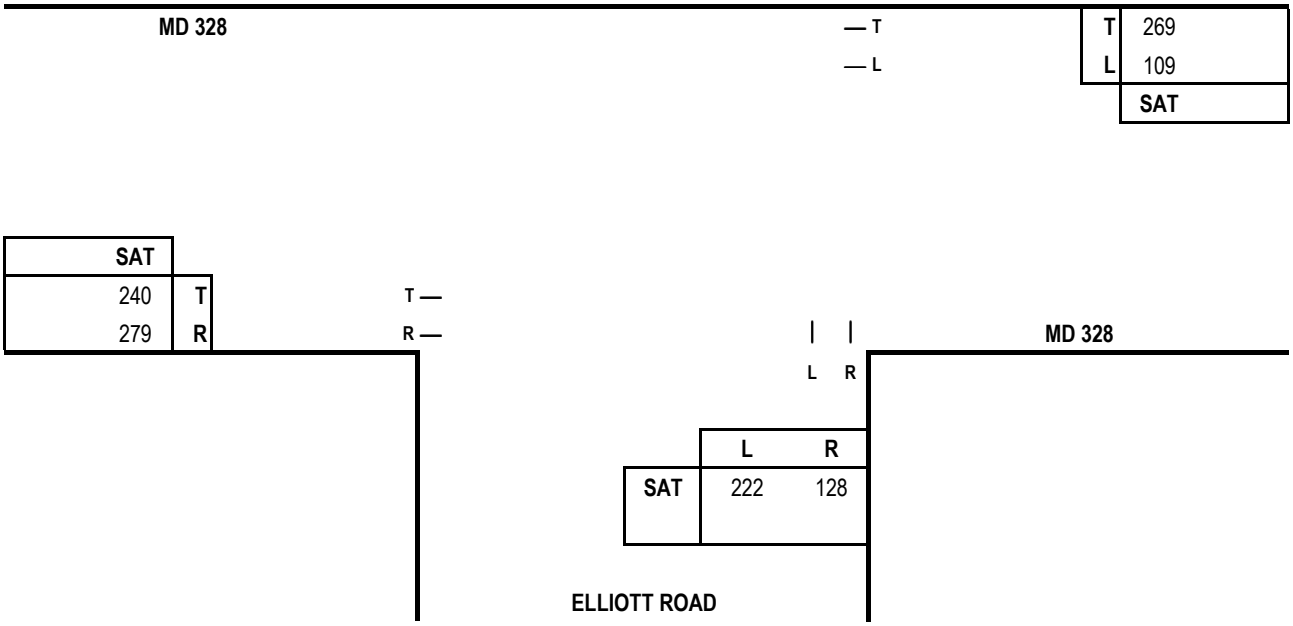
CLV V/C =0.5

Scenario ID - EXIST2

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: MD 328 **Date of Count:** 6/11/2022
N/S Road: Elliott Road **Day of Count:** Saturday
Conditions: 2022 Existing Traffic **Analyst:** Ming-Yu Chien

Peak: 11:30 -12:30



Capacity Analysis

Sat. Midday Peak Hour							
	Thru Volumes			+ Opposing Lefts			SAT
Dir	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
NB	222	1.00	222				222
EB	240	1.00	240	109	1.00	109	349
WB	269	1.00	269				
						CLV TOTAL=	571
						Level of Service (LOS)=	A

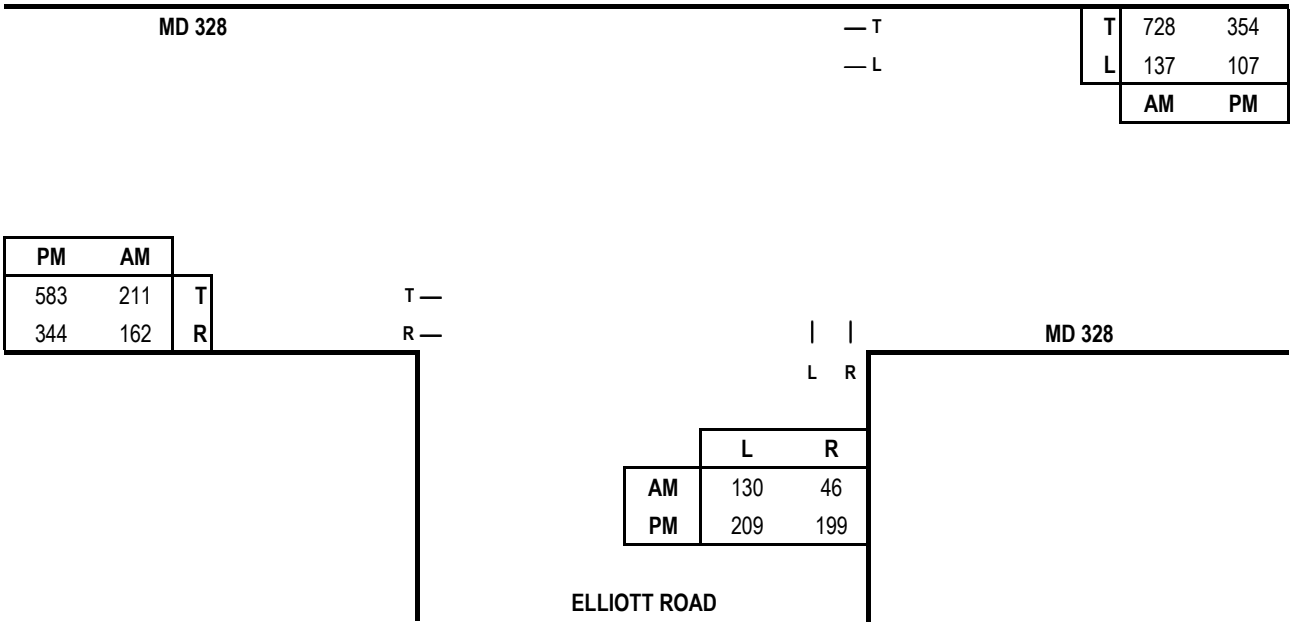
Scenario ID - EXIST2 CLV V/C =0.36

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: MD 328 **Date of Count:** 6/9/2022
N/S Road: Elliott Road **Day of Count:** Thursday
Conditions: 2025 Background Traffic **Analyst:** Ming-Yu Chien

N

Peak: 7:15 -8:15
Peak: 4:00 -5:00



Capacity Analysis

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
NB	130	1.00	130				130
EB	211	1.00	211	137	1.00	137	728
WB	728	1.00	728				

CLV TOTAL= **858**
Level of Service (LOS)= **A**

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
NB	209	1.00	209				209
EB	583	1.00	583	107	1.00	107	690
WB	354	1.00	354				

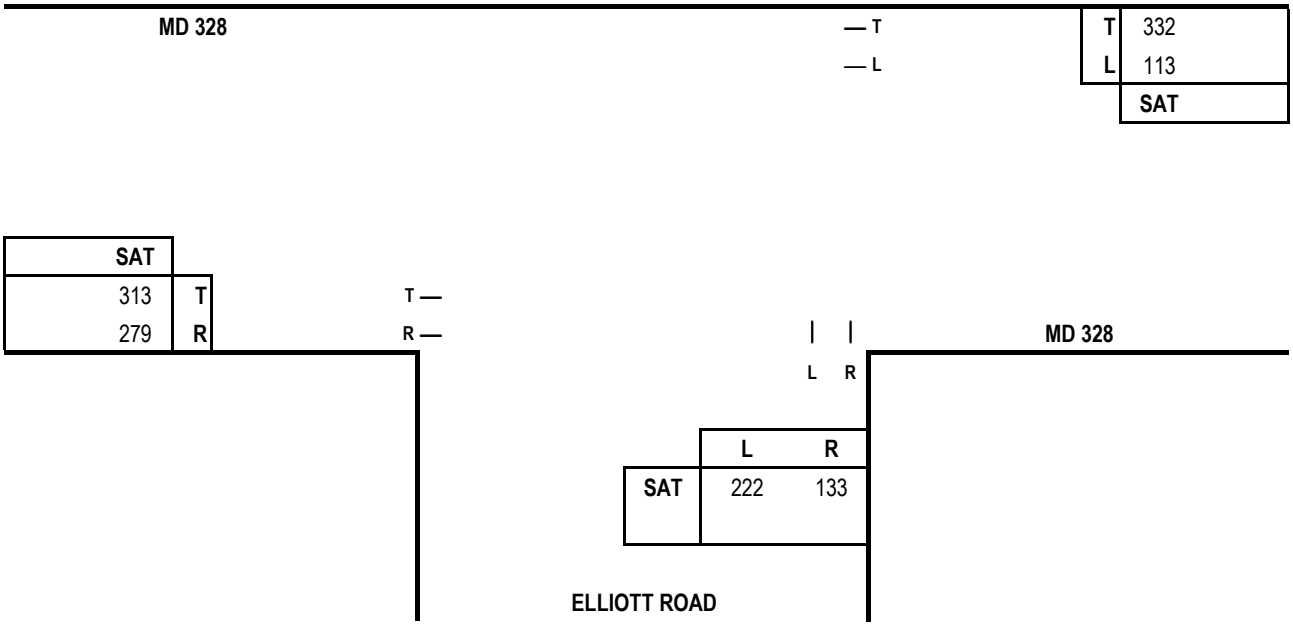
CLV TOTAL= **899**
Level of Service (LOS)= **A**

Scenario ID - BACK2 CLV V/C =0.54 CLV V/C =0.56

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: MD 328 **Date of Count:** 6/11/2022
N/S Road: Elliott Road **Day of Count:** Saturday
Conditions: 2025 Background Traffic **Analyst:** Ming-Yu Chien

Peak: 11:30 -12:30



Capacity Analysis

Sat. Midday Peak Hour							
	Thru Volumes			+ Opposing Lefts			SAT
Dir	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
NB	222	1.00	222				222
EB	313	1.00	313	113	1.00	113	426
WB	332	1.00	332				
						CLV TOTAL=	648
						Level of Service (LOS)=	A

Scenario ID - BACK2 CLV V/C =0.41

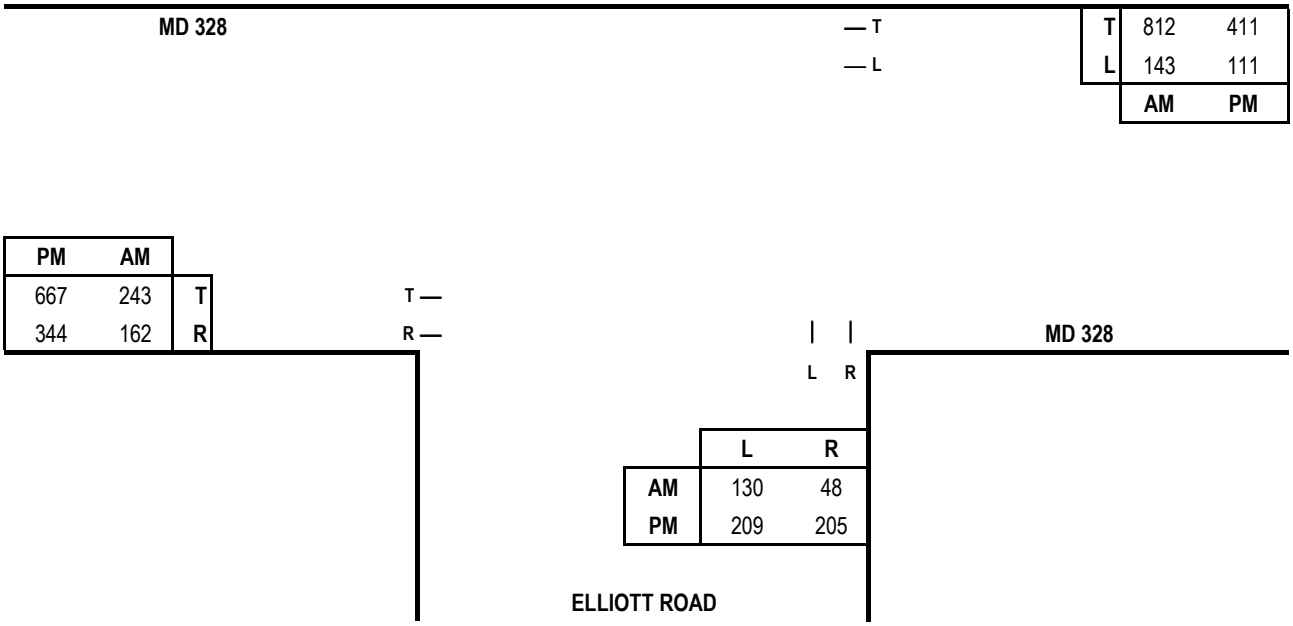
CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: MD 328
N/S Road: Elliott Road
Conditions: 2025 Total Traffic

Date of Count: 6/9/2022
Day of Count: Thursday
Analyst: Ming-Yu Chien

N

Peak: 7:15 -8:15
Peak: 4:00 -5:00



Capacity Analysis

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
NB	130	1.00	130				130
EB	243	1.00	243	143	1.00	143	812
WB	812	1.00	812				
						CLV TOTAL=	**942**
						Level of Service (LOS)=	**A**

Scenario ID - TOT2 CLV V/C =0.59

Evening Peak Hour

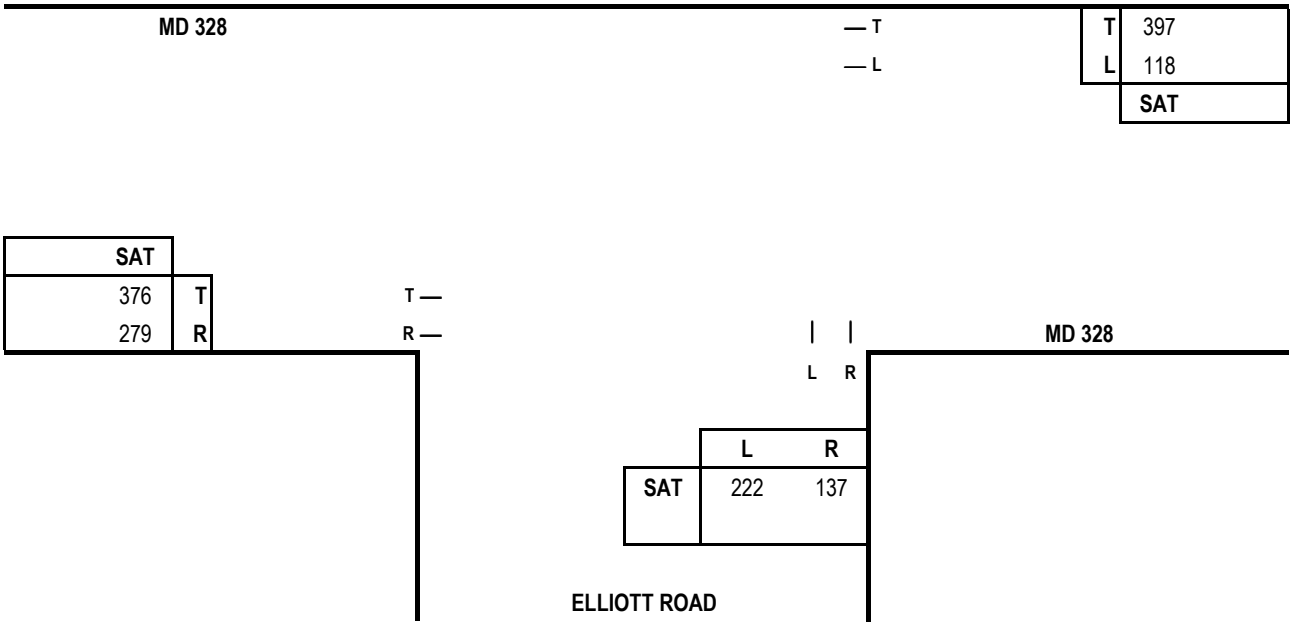
Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
NB	209	1.00	209				209
EB	667	1.00	667	111	1.00	111	778
WB	411	1.00	411				
						CLV TOTAL=	**987**
						Level of Service (LOS)=	**A**

CLV V/C =0.62

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: MD 328 **Date of Count:** 6/11/2022
N/S Road: Elliott Road **Day of Count:** Saturday
Conditions: 2025 Total Traffic **Analyst:** Ming-Yu Chien

Peak: 11:30 -12:30



Capacity Analysis

Sat. Midday Peak Hour							
	Thru Volumes			+ Opposing Lefts			SAT
Dir	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
NB	222	1.00	222				222
EB	376	1.00	376	118	1.00	118	494
WB	397	1.00	397				
						CLV TOTAL=	716
						Level of Service (LOS)=	A

Scenario ID - TOT2 CLV V/C =0.45

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: MD 328 **Date of Count:** 6/9/2022
N/S Road: Gannon Circle **Day of Count:** Thursday
Conditions: 2022 Existing Traffic **Analyst:** Ming-Yu Chien

N

Peak: 7:00 -8:00
Peak: 4:15 -5:15

MD 328 — LT

	AM	PM
T	740	384
L	4	0
adjusted lefts	8	0

PM	AM	
639	207	T
14	7	R

T —
R —

MD 328

LR

	L	R
AM	17	1
PM	4	4

GANNON CIRCLE

Capacity Analysis

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
NB	18	1.00	18				18
EB	207	1.00	207	4	1.00	4	748
WB	748	1.00	748				

CLV TOTAL= **766**
Level of Service (LOS)= **A**

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
NB	8	1.00	8				8
EB	639	1.00	639	0	1.00	0	639
WB	384	1.00	384				

CLV TOTAL= **647**
Level of Service (LOS)= **A**

Scenario ID - EXIST3

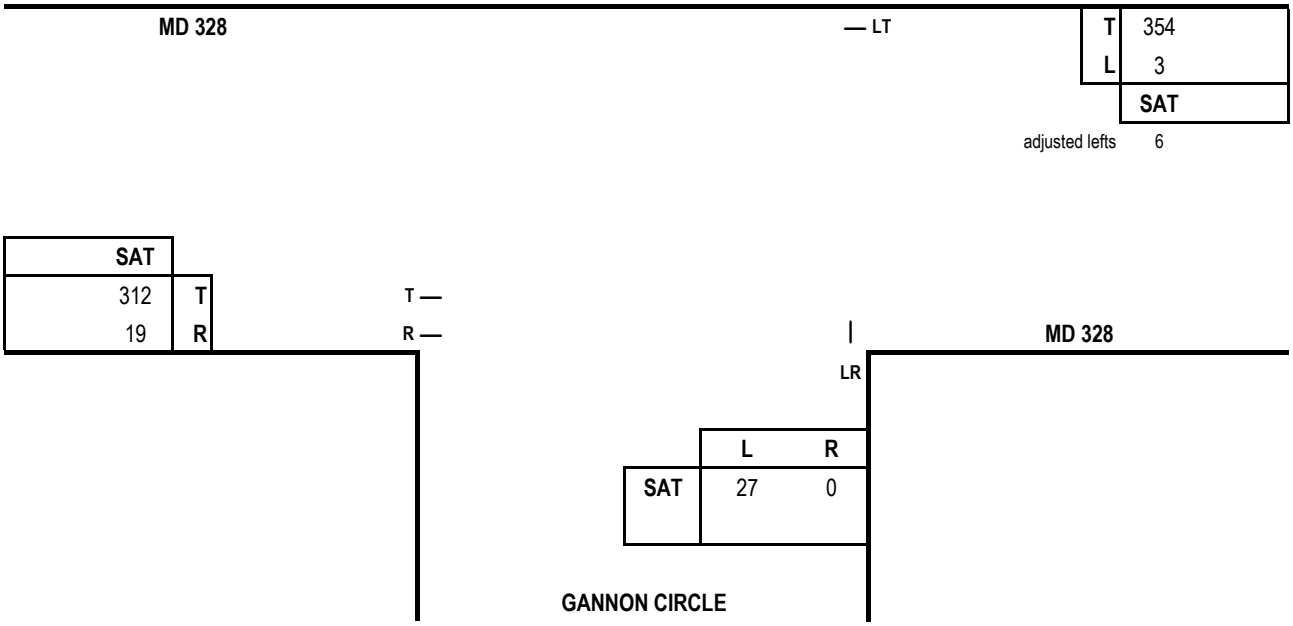
CLV V/C =0.48

CLV V/C =0.4

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: MD 328 **Date of Count:** 6/11/2022
N/S Road: Gannon Circle **Day of Count:** Saturday
Conditions: 2022 Existing Traffic **Analyst:** Ming-Yu Chien

Peak: 11:15 -12:15



Capacity Analysis

Sat. Midday Peak Hour							
	Thru Volumes			+ Opposing Lefts			SAT
Dir	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
NB	27	1.00	27				27
EB	312	1.00	312	3	1.00	3	360
WB	360	1.00	360				
						CLV TOTAL=	387
						Level of Service (LOS)=	A

Scenario ID - EXIST3 CLV V/C =0.24

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: MD 328 **Date of Count:** 6/9/2022
N/S Road: Gannon Circle **Day of Count:** Thursday
Conditions: 2025 Background Traffic **Analyst:** Ming-Yu Chien

N

Peak: 7:00 -8:00
Peak: 4:15 -5:15

MD 328 — LT

T	829	443
L	4	0
	AM	**PM**
adjusted lefts	8	0

PM	AM	
740	237	T
14	7	R

T —
R —

MD 328

LR

	L	R
AM	17	1
PM	4	4

GANNON CIRCLE

Capacity Analysis

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
NB	18	1.00	18				18
EB	237	1.00	237	4	1.00	4	837
WB	837	1.00	837				
						CLV TOTAL=	**855**
						Level of Service (LOS)=	**A**

Scenario ID - BACK3 CLV V/C =0.53

Evening Peak Hour

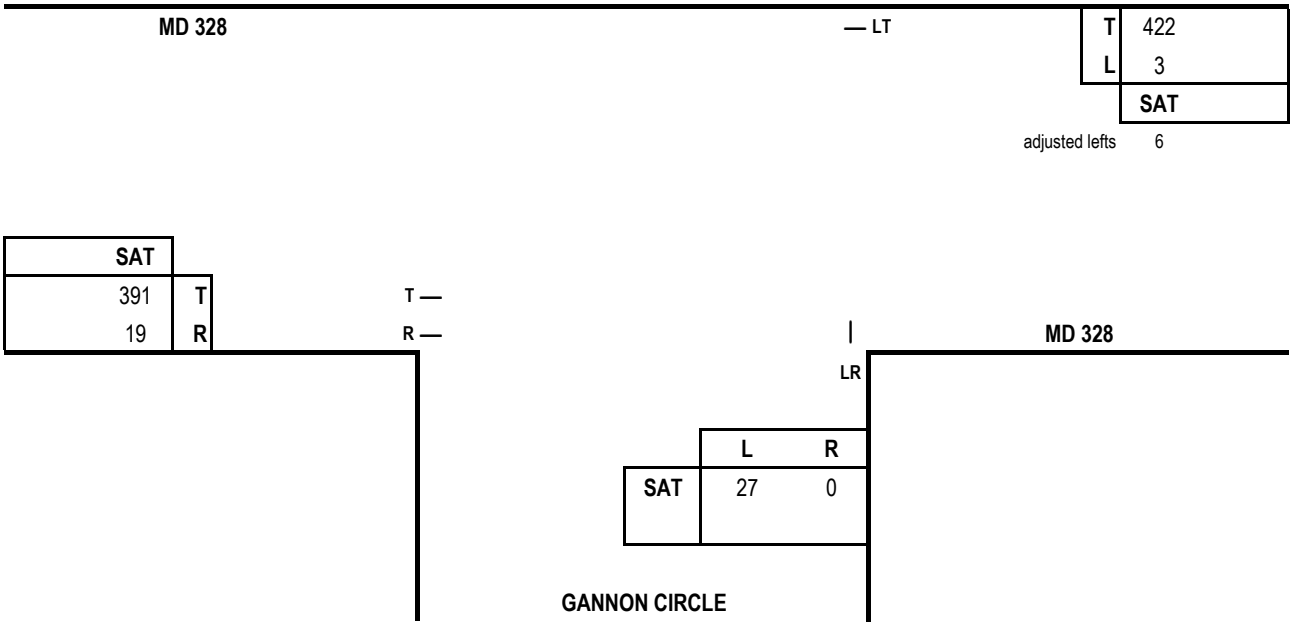
Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
NB	8	1.00	8				8
EB	740	1.00	740	0	1.00	0	740
WB	443	1.00	443				
						CLV TOTAL=	**748**
						Level of Service (LOS)=	**A**

CLV V/C =0.47

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: MD 328 **Date of Count:** 6/11/2022
N/S Road: Gannon Circle **Day of Count:** Saturday
Conditions: 2025 Background Traffic **Analyst:** Ming-Yu Chien

Peak: 11:15 -12:15



Capacity Analysis

Sat. Midday Peak Hour							
	Thru Volumes			+ Opposing Lefts			SAT
Dir	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
NB	27	1.00	27				27
EB	391	1.00	391	3	1.00	3	428
WB	428	1.00	428				
						CLV TOTAL=	455
						Level of Service (LOS)=	A

Scenario ID - BACK3 CLV V/C =0.28

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: MD 328 **Date of Count:** 6/9/2022
N/S Road: Gannon Circle **Day of Count:** Thursday
Conditions: 2025 Total Traffic **Analyst:** Ming-Yu Chien

N

Peak: 7:00 -8:00
Peak: 4:15 -5:15

MD 328 — LT

	AM	PM
T	919	504
L	4	0
adjusted lefts	8	0

PM	AM	
830	271	T
14	7	R

T —
R —

MD 328

LR

	L	R
AM	17	1
PM	4	4

GANNON CIRCLE

Capacity Analysis

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
NB	18	1.00	18				18
EB	271	1.00	271	4	1.00	4	927
WB	927	1.00	927				
						CLV TOTAL=	**945**
						Level of Service (LOS)=	**A**

Scenario ID - TOT3 CLV V/C =0.59

Evening Peak Hour

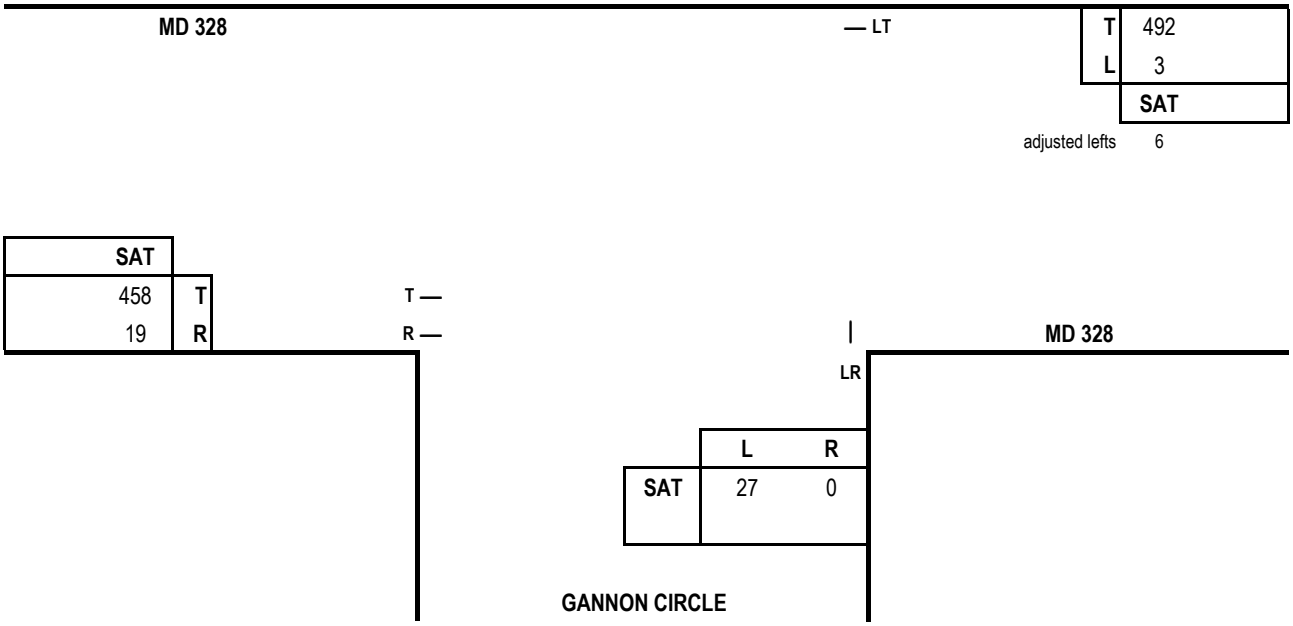
Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
NB	8	1.00	8				8
EB	830	1.00	830	0	1.00	0	830
WB	504	1.00	504				
						CLV TOTAL=	**838**
						Level of Service (LOS)=	**A**

CLV V/C =0.52

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: MD 328 **Date of Count:** 6/11/2022
N/S Road: Gannon Circle **Day of Count:** Saturday
Conditions: 2025 Total Traffic **Analyst:** Ming-Yu Chien

Peak: 11:15 -12:15



Capacity Analysis

Sat. Midday Peak Hour							
	Thru Volumes			+ Opposing Lefts			SAT
Dir	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
NB	27	1.00	27				27
EB	458	1.00	458	3	1.00	3	498
WB	498	1.00	498				
						CLV TOTAL=	525
						Level of Service (LOS)=	A

Scenario ID - TOT3 CLV V/C =0.33

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: MD 328 **Date of Count:** 6/9/2022
N/S Road: Dyott Court/Fisher Range Road **Day of Count:** Thursday
Conditions: 2022 Existing Traffic **Analyst:** Ming-Yu Chien

Peak: 7:00 -8:00
Peak: 4:15 -5:15

DYOTT COURT

R	T	L		adjusted lefts
32	3	4	PM	4
69	1	5	AM	6

LTR

MD 328

	R	T	L
R	4	16	
T	549	277	
L	10	22	
	AM	PM	
adjusted lefts	11	44	

— R
— LT

108 30 adjusted lefts

PM	AM	
54	15	L
482	165	T
106	28	R

LT —
R —

MD 328

LT R

adjusted lefts		L	T	R
136	AM	124	0	19
83	PM	75	3	19

FISHER RANGE ROAD

Capacity Analysis

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
NB	136	1.00	136	5	1.00	5	200
SB	76	1.00	76	124	1.00	124	
EB	195	1.00	195	10	1.00	10	575
WB	560	1.00	560	15	1.00	15	

CLV TOTAL= **775**
Level of Service (LOS)= **A**

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
NB	86	1.00	86	4	1.00	4	114
SB	39	1.00	39	75	1.00	75	
EB	590	1.00	590	22	1.00	22	612
WB	321	1.00	321	54	1.00	54	

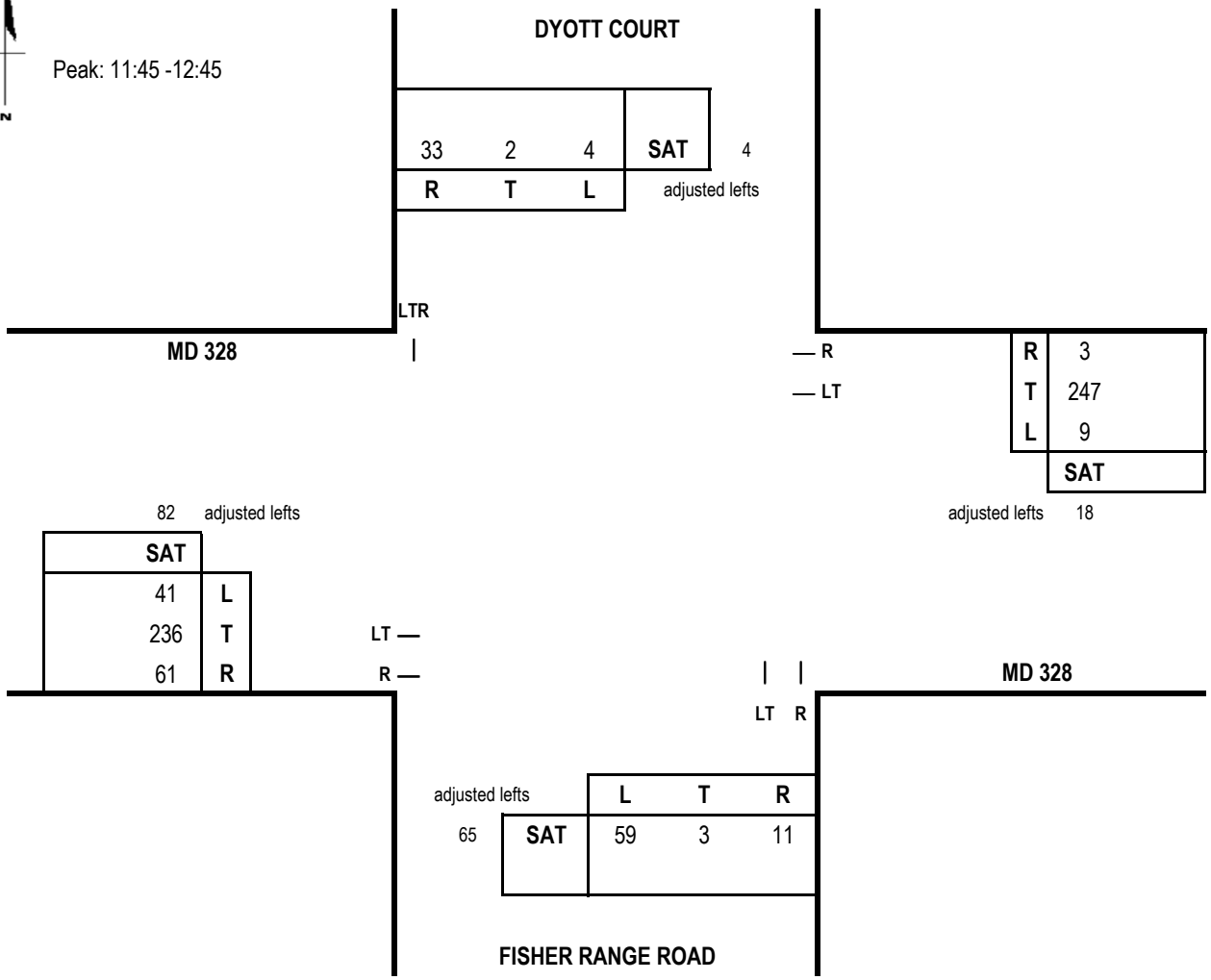
CLV TOTAL= **726**
Level of Service (LOS)= **A**

Scenario ID - EXIST4
AM V/C =0.48
PM V/C =0.45

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: MD 328 **Date of Count:** 6/11/2022
N/S Road: Dyott Court/Fisher Range Road **Day of Count:** Saturday
Conditions: 2022 Existing Traffic **Analyst:** Ming-Yu Chien

Peak: 11:45 -12:45



Capacity Analysis

Sat. Midday Peak Hour							
	Thru Volumes			+ Opposing Lefts			SAT
Dir	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
NB	68	1.00	68	4	1.00	4	98
SB	39	1.00	39	59	1.00	59	
EB	318	1.00	318	9	1.00	9	327
WB	265	1.00	265	41	1.00	41	
						CLV TOTAL=	425
						Level of Service (LOS)=	A

Scenario ID - EXIST4

SAT V/C =0.27

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: MD 328 **Date of Count:** 6/9/2022
N/S Road: Dyott Court/Fisher Range Road **Day of Count:** Thursday
Conditions: 2025 Background Traffic **Analyst:** Ming-Yu Chien

Peak: 7:00 -8:00
Peak: 4:15 -5:15

DYOTT COURT

	R	T	L	adjusted lefts
PM	32	3	4	4
AM	69	1	5	6

MD 328

LTR

	R	T	L
AM	4	635	10
PM	16	334	22

R
LT

adjusted lefts 20 66

108 45 adjusted lefts

	PM	AM
L	54	15
T	580	194
R	106	28

LT
R

MD 328

LT R

adjusted lefts

		L	T	R
136	AM	124	0	19
83	PM	75	3	19

FISHER RANGE ROAD

Capacity Analysis

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
NB	136	1.00	136	5	1.00	5	200
SB	76	1.00	76	124	1.00	124	
EB	239	1.00	239	10	1.00	10	670
WB	655	1.00	655	15	1.00	15	

CLV TOTAL= **870**
Level of Service (LOS)= **A**

Evening Peak Hour

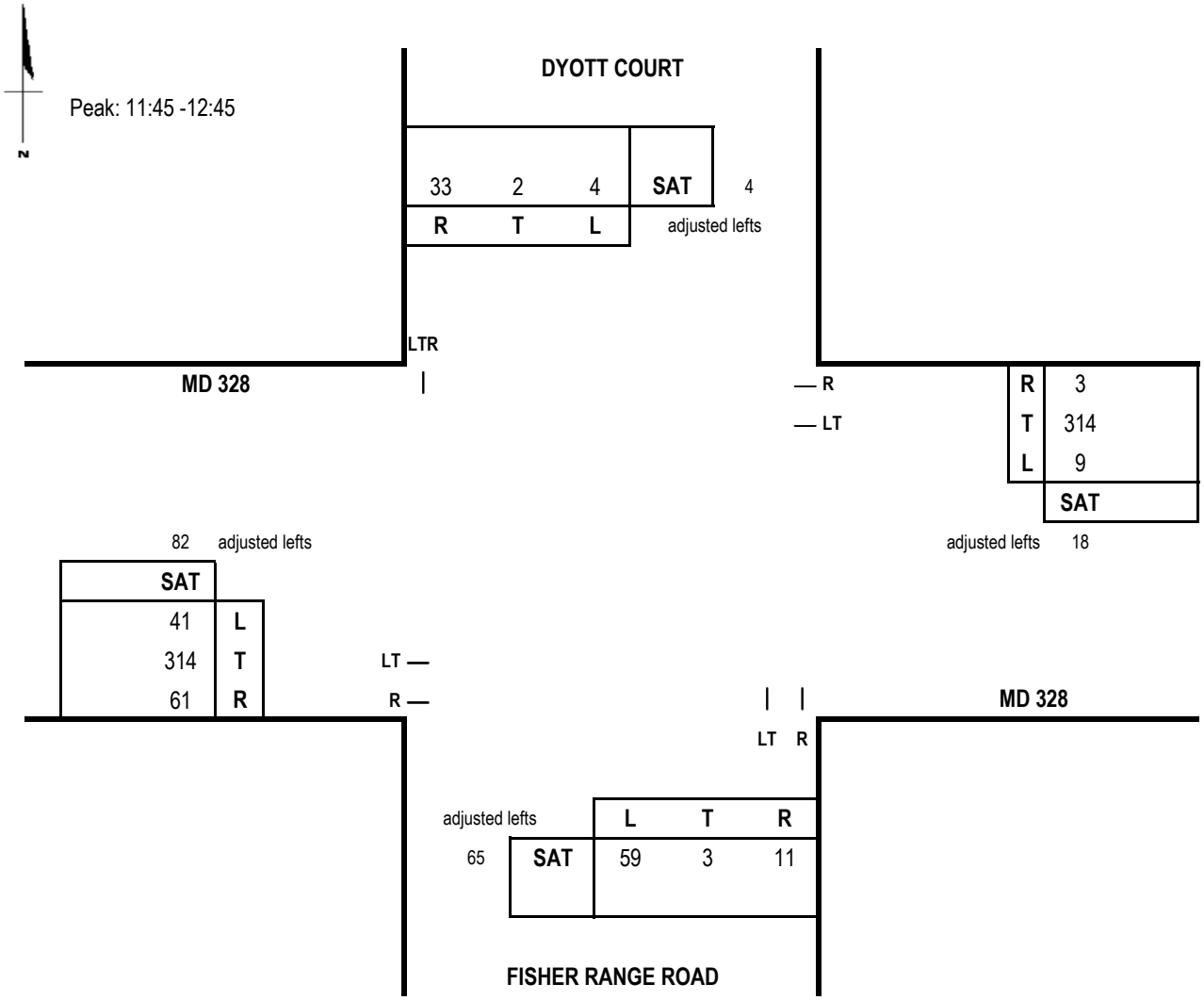
Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
NB	86	1.00	86	4	1.00	4	114
SB	39	1.00	39	75	1.00	75	
EB	688	1.00	688	22	1.00	22	710
WB	400	1.00	400	54	1.00	54	

CLV TOTAL= **824**
Level of Service (LOS)= **A**

Scenario ID - BACK4 AM V/C =0.54 PM V/C =0.52

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: MD 328 **Date of Count:** 6/11/2022
N/S Road: Dyott Court/Fisher Range Road **Day of Count:** Saturday
Conditions: 2025 Background Traffic **Analyst:** Ming-Yu Chien



Capacity Analysis

Sat. Midday Peak Hour							
	Thru Volumes			+ Opposing Lefts			SAT
Dir	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
NB	68	1.00	68	4	1.00	4	98
SB	39	1.00	39	59	1.00	59	
EB	396	1.00	396	9	1.00	9	405
WB	332	1.00	332	41	1.00	41	
						CLV TOTAL=	503
						Level of Service (LOS)=	A

Scenario ID - BACK4

SAT V/C =0.31

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: MD 328 **Date of Count:** 6/9/2022
N/S Road: Dyott Court/Fisher Range Road **Day of Count:** Thursday
Conditions: 2025 Total Traffic **Analyst:** Ming-Yu Chien

Peak: 7:00 -8:00
Peak: 4:15 -5:15

DYOTT COURT

	R	T	L	adjusted lefts
PM	32	3	4	4
AM	69	1	5	6

MD 328

LTR

	R	T	L
AM	4	677	14
PM	16	359	30

R
LT

adjusted lefts 28 90

108 45 adjusted lefts

	PM	AM
L	54	15
T	622	206
R	154	50

LT
R

MD 328

LT R

adjusted lefts

		L	T	R
189	AM	172	0	28
122	PM	111	3	25

FISHER RANGE ROAD

Capacity Analysis

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
NB	189	1.00	189	5	1.00	5	248
SB	76	1.00	76	172	1.00	172	
EB	251	1.00	251	14	1.00	14	720
WB	705	1.00	705	15	1.00	15	

CLV TOTAL= **968**
Level of Service (LOS)= **A**

Evening Peak Hour

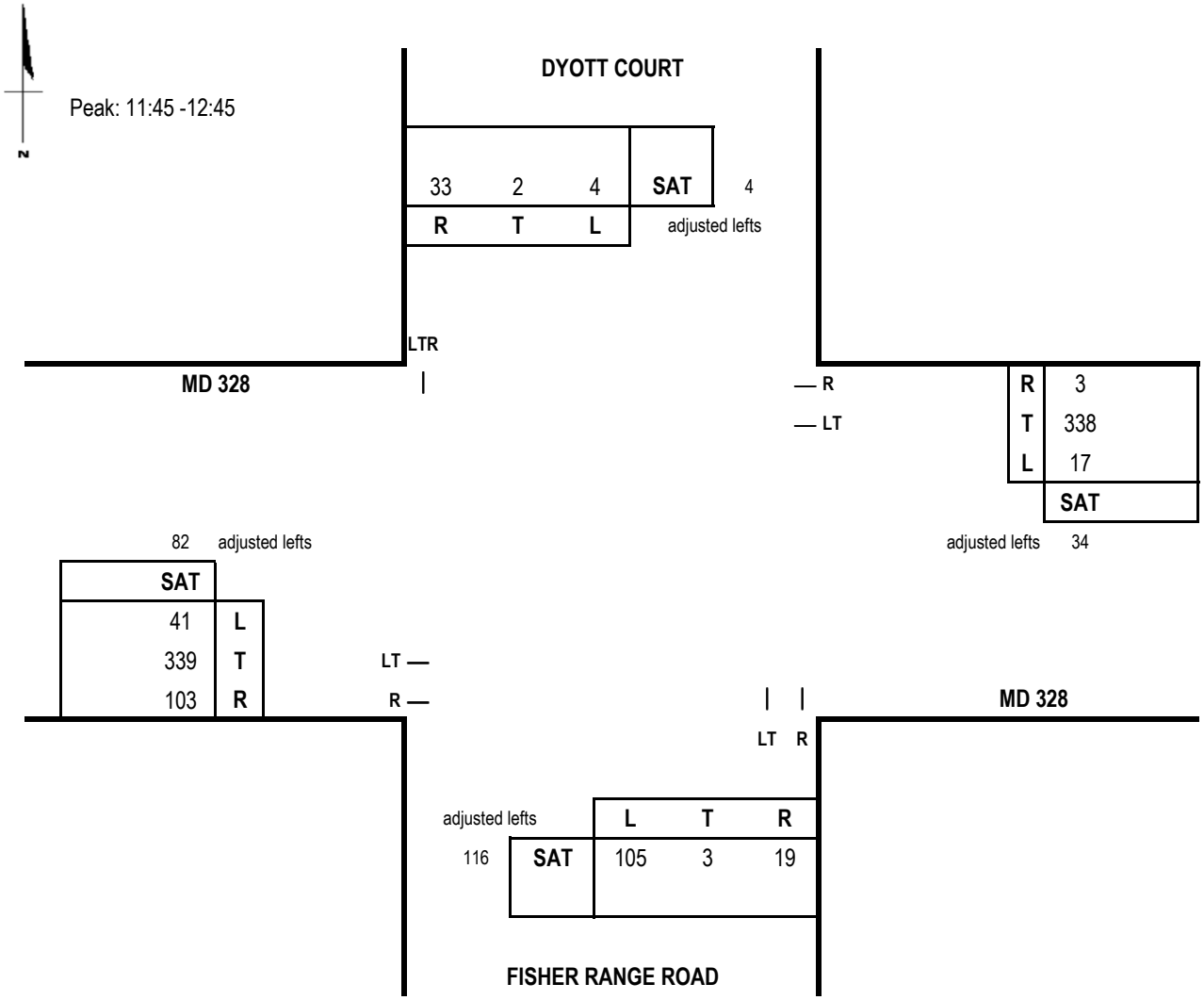
Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
NB	125	1.00	125	4	1.00	4	150
SB	39	1.00	39	111	1.00	111	
EB	730	1.00	730	30	1.00	30	760
WB	449	1.00	449	54	1.00	54	

CLV TOTAL= **910**
Level of Service (LOS)= **A**

Scenario ID - TOT4 AM V/C =0.61 PM V/C =0.57

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: MD 328 **Date of Count:** 6/11/2022
N/S Road: Dyott Court/Fisher Range Road **Day of Count:** Saturday
Conditions: 2025 Total Traffic **Analyst:** Ming-Yu Chien



Capacity Analysis

Sat. Midday Peak Hour							
	Thru Volumes			+ Opposing Lefts			SAT
Dir	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
NB	119	1.00	119	4	1.00	4	144
SB	39	1.00	39	105	1.00	105	
EB	421	1.00	421	17	1.00	17	438
WB	372	1.00	372	41	1.00	41	
						CLV TOTAL=	582
						Level of Service (LOS)=	A

Scenario ID - TOT4

SAT V/C =0.36

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: MD 328 **Date of Count:** 6/9/2022
N/S Road: Mile Post Drive **Day of Count:** Thursday
Conditions: 2022 Existing Traffic **Analyst:** Ming-Yu Chien

Peak: 7:00 -8:00
Peak: 4:15 -5:15

MILE POST DRIVE

R	L	
38	16	PM
24	5	AM

LR

MD 328

— R
— T

	AM	PM
R	20	17
T	516	273

94 20 adjusted lefts

PM	AM	
47	10	L
438	193	T

LT —

MD 328

Capacity Analysis

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
SB	29	1.00	29				29
EB	213	1.00	213				526
WB	516	1.00	516	10	1.00	10	
						CLV TOTAL=	555
						Level of Service (LOS)=	A

CLV V/C =0.35

Evening Peak Hour

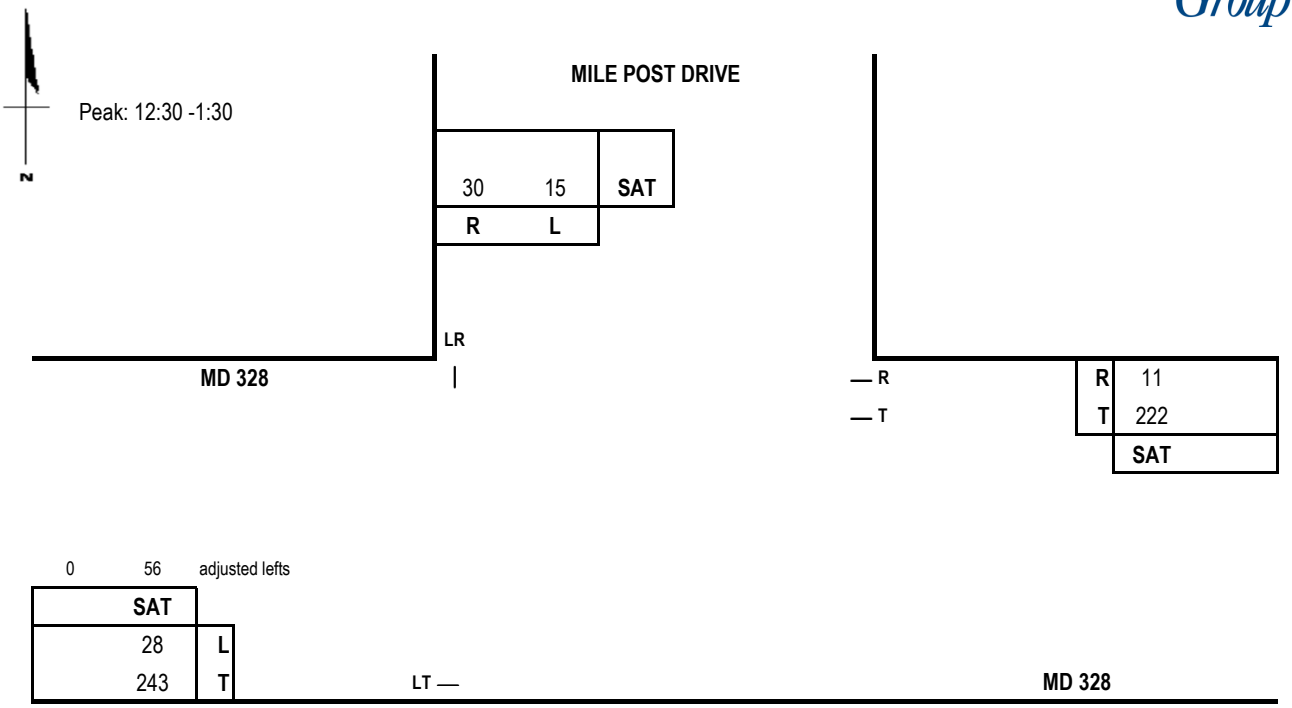
Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
SB	54	1.00	54				54
EB	532	1.00	532				532
WB	273	1.00	273	47	1.00	47	
						CLV TOTAL=	586
						Level of Service (LOS)=	A

CLV V/C =0.37

Scenario ID - EXIST5

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: MD 328 **Date of Count:** 6/11/2022
N/S Road: Mile Post Drive **Day of Count:** Saturday
Conditions: 2022 Existing Traffic **Analyst:** Ming-Yu Chien



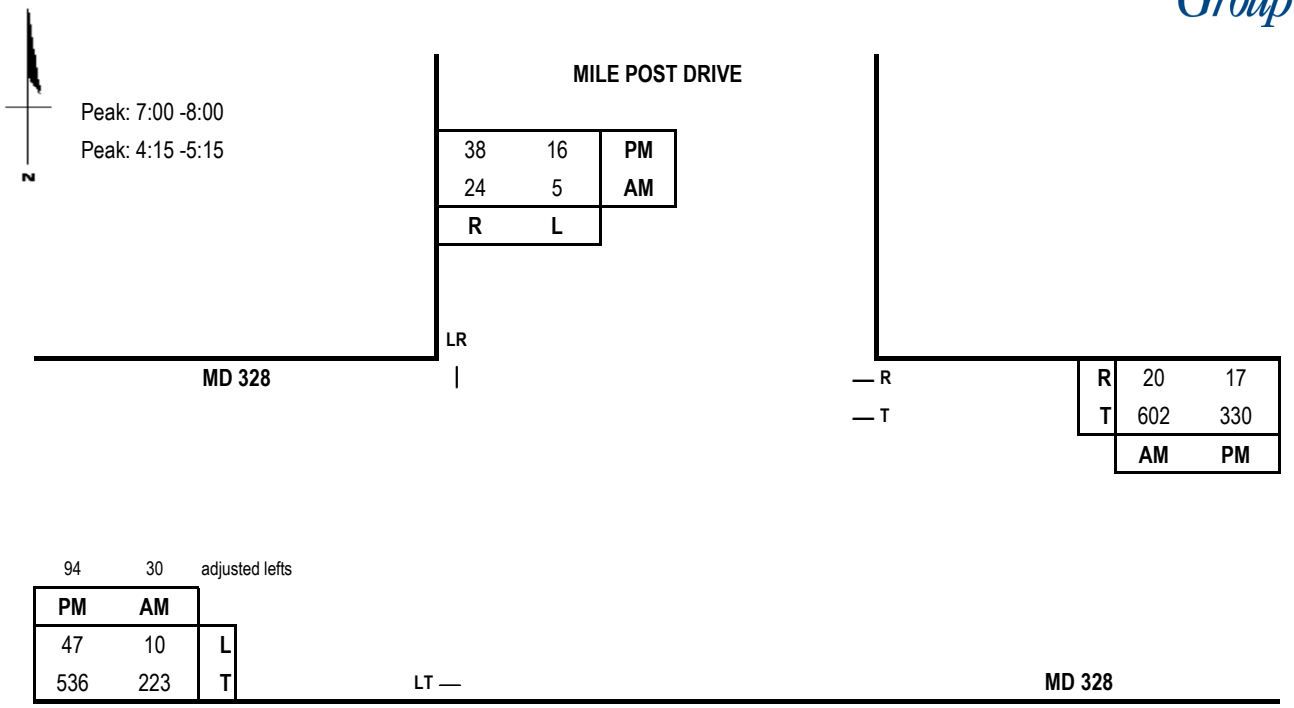
Capacity Analysis

Sat. Midday Peak Hour							
	Thru Volumes			+ Opposing Lefts			SAT
Dir	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
SB	45	1.00	45				45
EB	299	1.00	299				299
WB	222	1.00	222	28	1.00	28	
						CLV TOTAL=	344
						Level of Service (LOS)=	A

Scenario ID - EXIST5 CLV V/C =0.22

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: MD 328 **Date of Count:** 6/9/2022
N/S Road: Mile Post Drive **Day of Count:** Thursday
Conditions: 2025 Background Traffic **Analyst:** Ming-Yu Chien



Capacity Analysis

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
SB	29	1.00	29				29
EB	253	1.00	253				612
WB	602	1.00	602	10	1.00	10	
						CLV TOTAL=	**641**
						Level of Service (LOS)=	**A**

Scenario ID - BACK5 CLV V/C =0.4

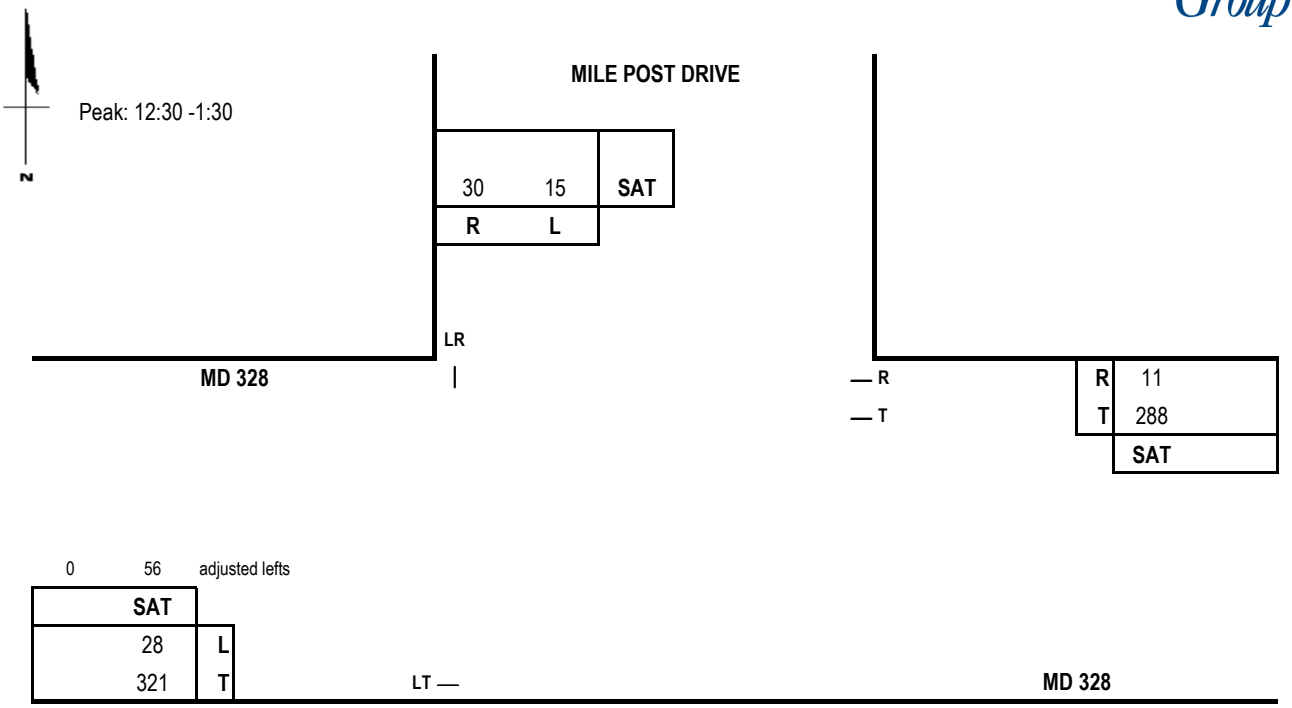
Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
SB	54	1.00	54				54
EB	630	1.00	630				630
WB	330	1.00	330	47	1.00	47	
						CLV TOTAL=	**684**
						Level of Service (LOS)=	**A**

CLV V/C =0.43

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: MD 328 **Date of Count:** 6/11/2022
N/S Road: Mile Post Drive **Day of Count:** Saturday
Conditions: 2025 Background Traffic **Analyst:** Ming-Yu Chien



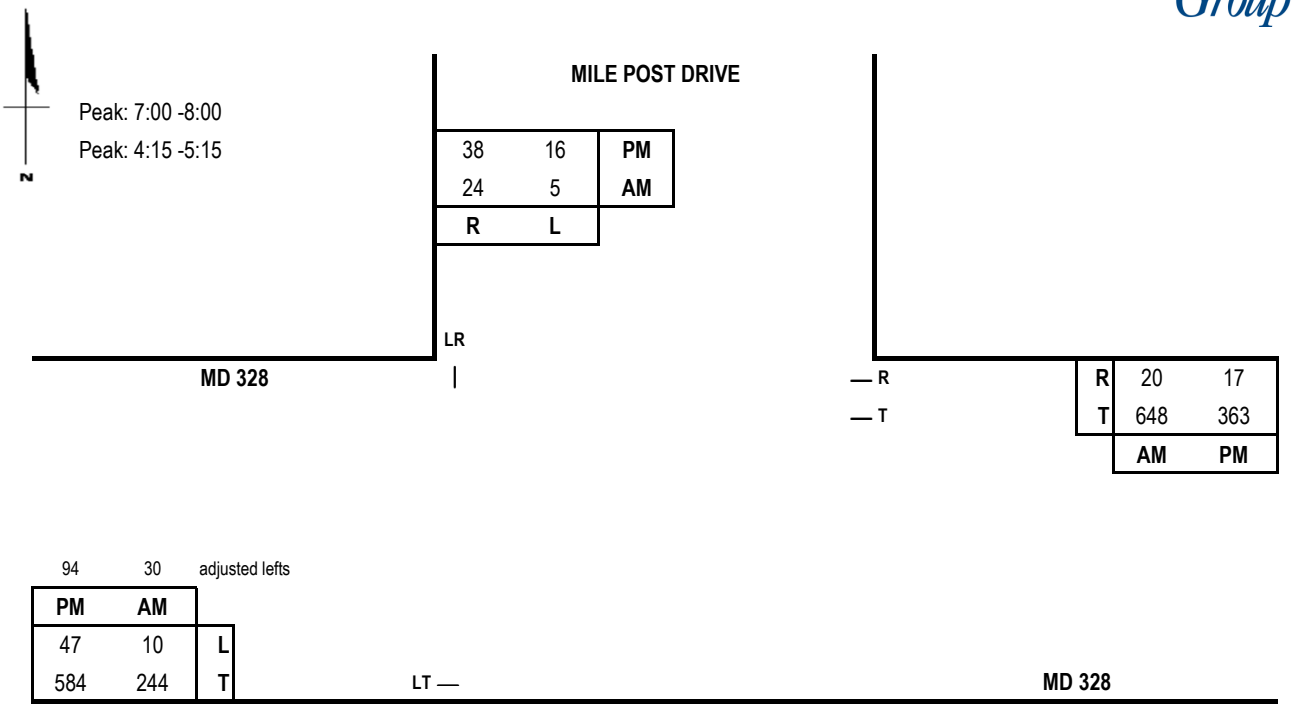
Capacity Analysis

Sat. Midday Peak Hour							
	Thru Volumes			+ Opposing Lefts			SAT
Dir	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
SB	45	1.00	45				45
EB	377	1.00	377				377
WB	288	1.00	288	28	1.00	28	
						CLV TOTAL=	422
						Level of Service (LOS)=	A

Scenario ID - BACK5 CLV V/C =0.26

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: MD 328 **Date of Count:** 6/9/2022
N/S Road: Mile Post Drive **Day of Count:** Thursday
Conditions: 2025 Total Traffic **Analyst:** Ming-Yu Chien



Capacity Analysis

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
SB	29	1.00	29				29
EB	274	1.00	274				658
WB	648	1.00	648	10	1.00	10	
						CLV TOTAL=	**687**
						Level of Service (LOS)=	**A**

Scenario ID - TOT5 CLV V/C =0.43

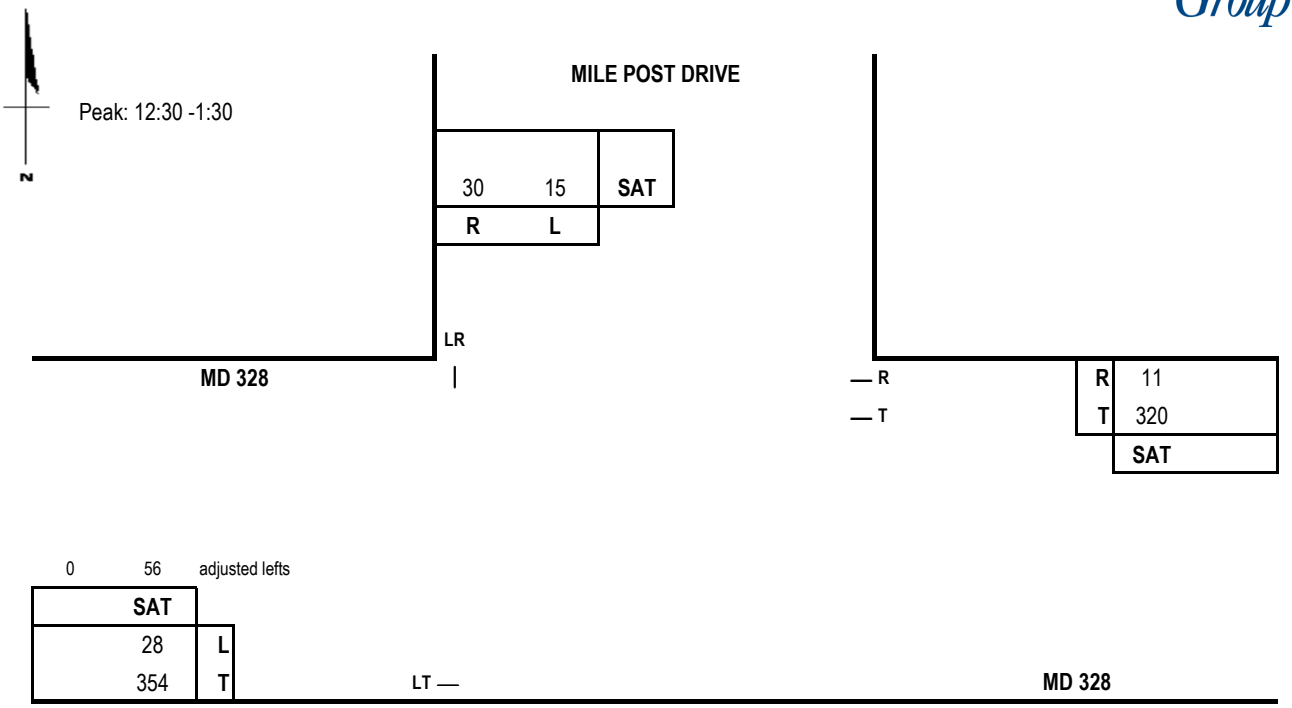
Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
SB	54	1.00	54				54
EB	678	1.00	678				678
WB	363	1.00	363	47	1.00	47	
						CLV TOTAL=	**732**
						Level of Service (LOS)=	**A**

CLV V/C =0.46

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: MD 328 **Date of Count:** 6/11/2022
N/S Road: Mile Post Drive **Day of Count:** Saturday
Conditions: 2025 Total Traffic **Analyst:** Ming-Yu Chien



Capacity Analysis

Sat. Midday Peak Hour							
	Thru Volumes			+ Opposing Lefts			SAT
Dir	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
SB	45	1.00	45				45
EB	410	1.00	410				410
WB	320	1.00	320	28	1.00	28	
						CLV TOTAL=	455
						Level of Service (LOS)=	A

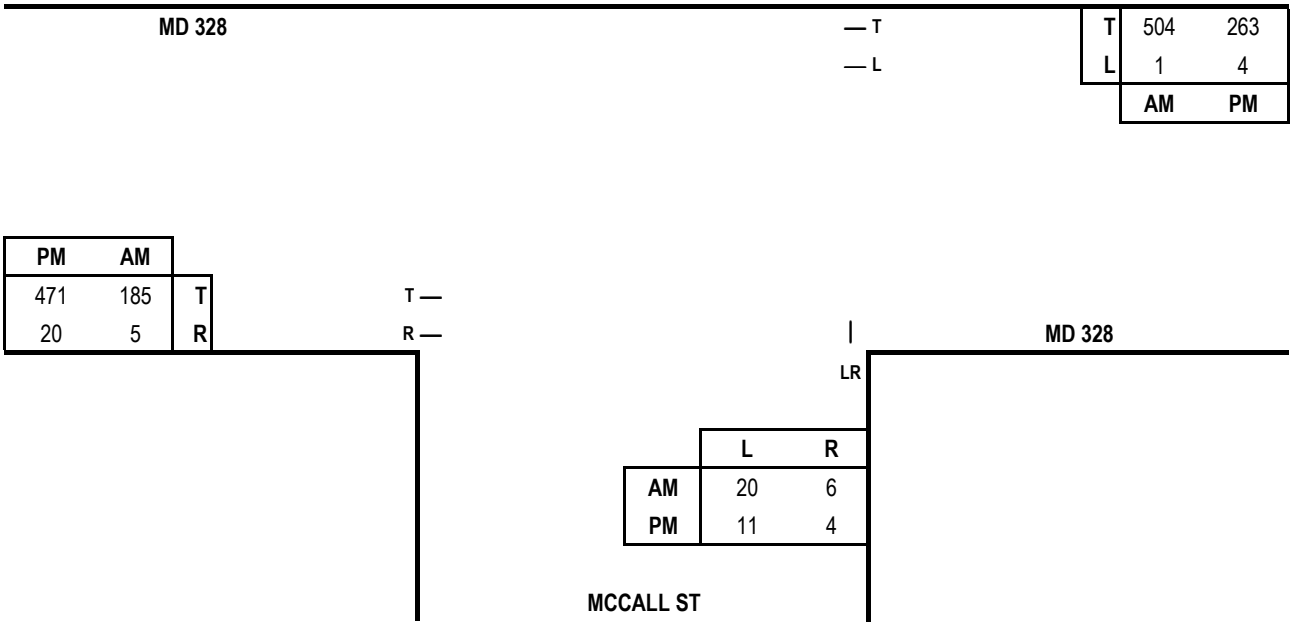
Scenario ID - TOT5 CLV V/C =0.28

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: MD 328 **Date of Count:** 6/9/2022
N/S Road: Mccall St **Day of Count:** Thursday
Conditions: 2022 Existing Traffic **Analyst:** Ming-Yu Chien

N

Peak: 7:00 -8:00
Peak: 4:00 -5:00



Capacity Analysis

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
NB	26	1.00	26				26
EB	185	1.00	185	1	1.00	1	504
WB	504	1.00	504				
						CLV TOTAL=	**530**
						Level of Service (LOS)=	**A**

Scenario ID - EXIST6 CLV V/C =0.33

Evening Peak Hour

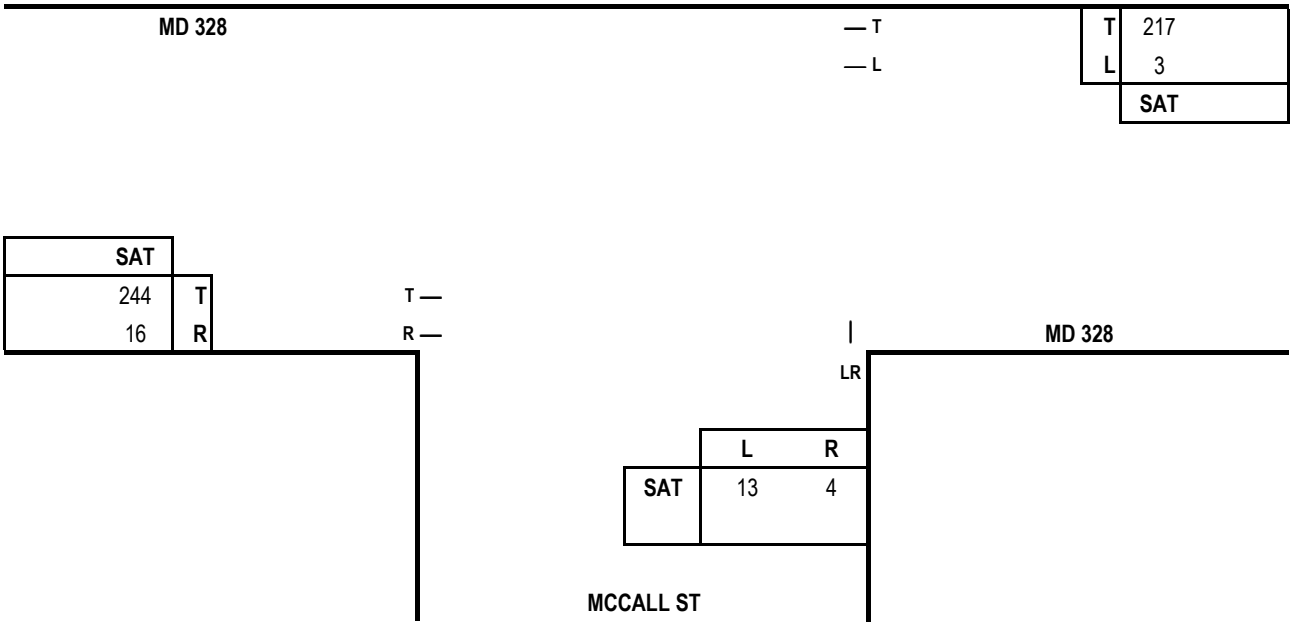
Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
NB	15	1.00	15				15
EB	471	1.00	471	4	1.00	4	475
WB	263	1.00	263				
						CLV TOTAL=	**490**
						Level of Service (LOS)=	**A**

CLV V/C =0.31

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: MD 328 **Date of Count:** 6/11/2022
N/S Road: Mccall St **Day of Count:** Saturday
Conditions: 2022 Existing Traffic **Analyst:** Ming-Yu Chien

Peak: 11:15 -12:15



Capacity Analysis

Sat. Midday Peak Hour							
	Thru Volumes			+ Opposing Lefts			SAT
Dir	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
NB	17	1.00	17				17
EB	244	1.00	244	3	1.00	3	247
WB	217	1.00	217				
						CLV TOTAL=	264
						Level of Service (LOS)=	A

Scenario ID - EXIST6 CLV V/C =0.17

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: MD 328 **Date of Count:** 6/9/2022
N/S Road: Mccall St **Day of Count:** Thursday
Conditions: 2025 Background Traffic **Analyst:** Ming-Yu Chien

N

Peak: 7:00 -8:00
Peak: 4:00 -5:00

MD 328

— T	T	590	320
— L	L	1	4
		AM	PM

PM	AM	
569	215	T
20	5	R

T —
R —

LR

MD 328

	L	R
AM	20	6
PM	11	4

MCCALL ST

Capacity Analysis

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
NB	26	1.00	26				26
EB	215	1.00	215	1	1.00	1	590
WB	590	1.00	590				
						CLV TOTAL=	616
						Level of Service (LOS)=	A

Scenario ID - BACK6 CLV V/C =0.39

Evening Peak Hour

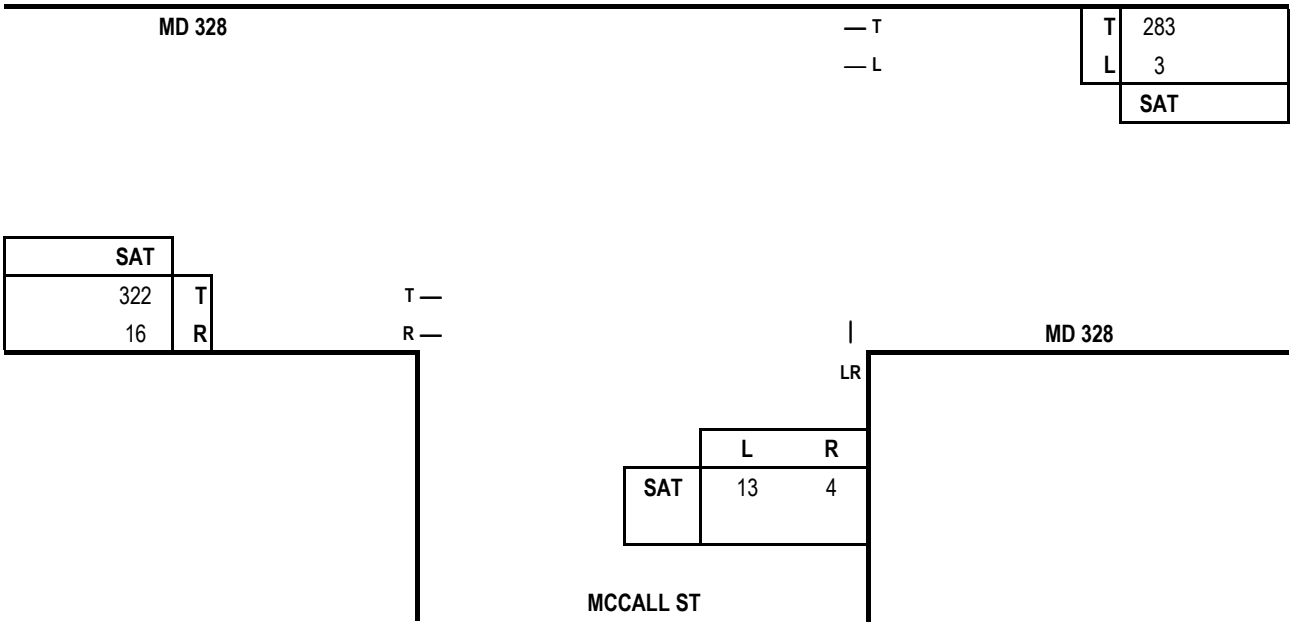
Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
NB	15	1.00	15				15
EB	569	1.00	569	4	1.00	4	573
WB	320	1.00	320				
						CLV TOTAL=	588
						Level of Service (LOS)=	A

CLV V/C =0.37

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: MD 328 **Date of Count:** 6/11/2022
N/S Road: Mccall St **Day of Count:** Saturday
Conditions: 2025 Background Traffic **Analyst:** Ming-Yu Chien

Peak: 11:15 -12:15



Capacity Analysis

Sat. Midday Peak Hour							
	Thru Volumes			+ Opposing Lefts			SAT
Dir	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
NB	17	1.00	17				17
EB	322	1.00	322	3	1.00	3	325
WB	283	1.00	283				
						CLV TOTAL=	342
						Level of Service (LOS)=	A

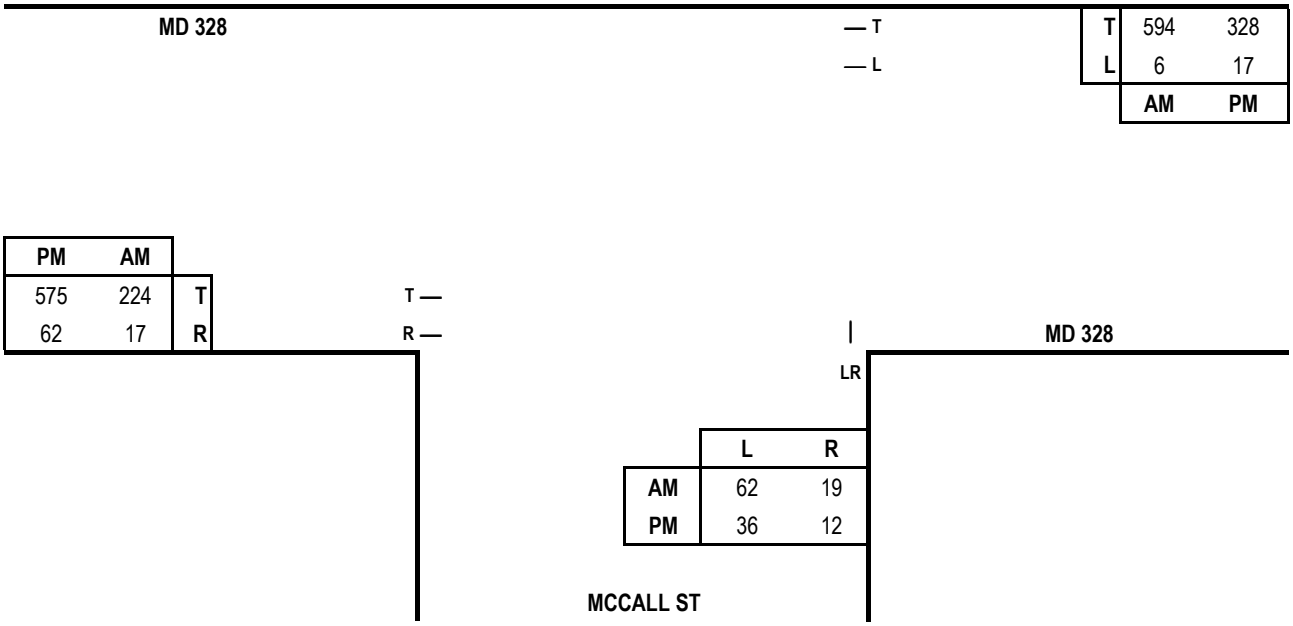
Scenario ID - BACK6 CLV V/C =0.21

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: MD 328 **Date of Count:** 6/9/2022
N/S Road: Mccall St **Day of Count:** Thursday
Conditions: 2025 Total Traffic **Analyst:** Ming-Yu Chien

N

Peak: 7:00 -8:00
Peak: 4:00 -5:00



Capacity Analysis

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
NB	81	1.00	81				81
EB	224	1.00	224	6	1.00	6	594
WB	594	1.00	594				
						CLV TOTAL=	**675**
						Level of Service (LOS)=	**A**

Scenario ID - TOT6 CLV V/C =0.42

Evening Peak Hour

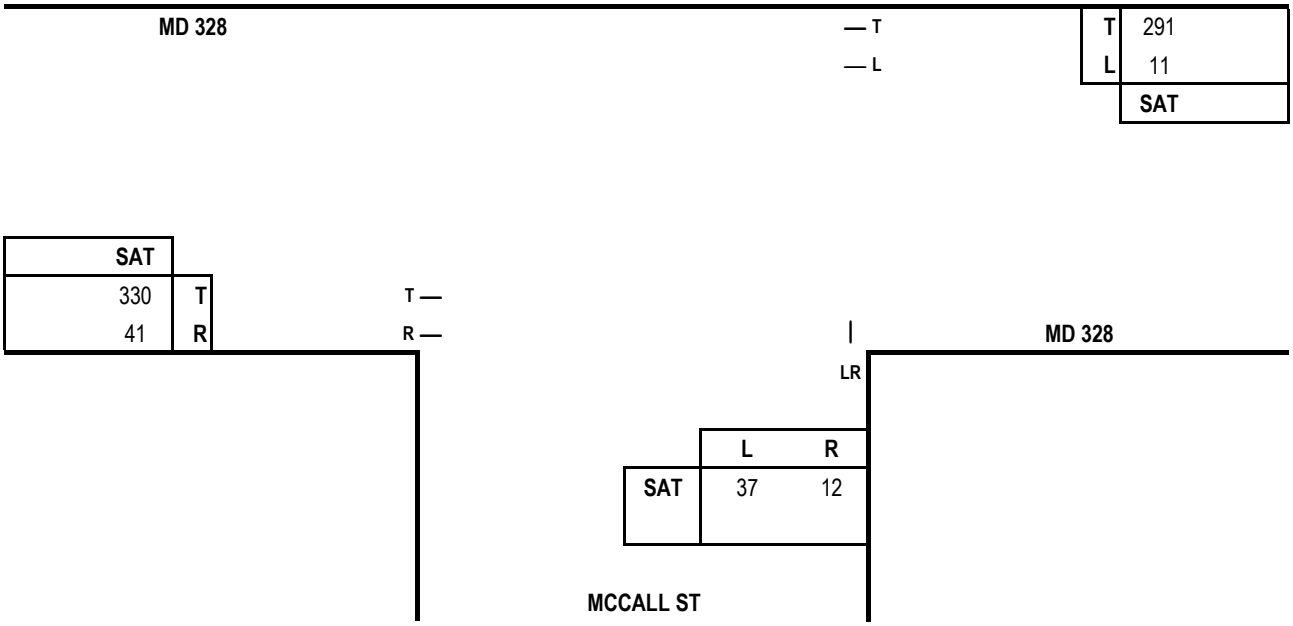
Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
NB	48	1.00	48				48
EB	575	1.00	575	17	1.00	17	592
WB	328	1.00	328				
						CLV TOTAL=	**640**
						Level of Service (LOS)=	**A**

CLV V/C =0.4

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: MD 328 **Date of Count:** 6/11/2022
N/S Road: Mccall St **Day of Count:** Saturday
Conditions: 2025 Total Traffic **Analyst:** Ming-Yu Chien

Peak: 11:15 -12:15



Capacity Analysis

Sat. Midday Peak Hour							
	Thru Volumes			+ Opposing Lefts			SAT
Dir	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
NB	49	1.00	49				49
EB	330	1.00	330	11	1.00	11	341
WB	291	1.00	291				
						CLV TOTAL=	390
						Level of Service (LOS)=	A

Scenario ID - TOT6 CLV V/C =0.24

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: MD 328 **Date of Count:** 6/9/2022
N/S Road: Swann Haven Rd **Day of Count:** Thursday
Conditions: 2022 Existing Traffic **Analyst:** Ming-Yu Chien

N

Peak: 7:00 -8:00
Peak: 4:15 -5:15

MD 328 — LT

	AM	PM
T	495	266
L	1	3
adjusted lefts	1	6

PM	AM	
444	186	T
17	7	R

TR —

	L	R
AM	16	6
PM	11	8

LR

MD 328

SWANN HAVEN RD

Capacity Analysis

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
NB	22	1.00	22				22
EB	193	1.00	193	1	1.00	1	496
WB	496	1.00	496				
						CLV TOTAL=	518
						Level of Service (LOS)=	A

Scenario ID - EXIST7 CLV V/C =0.32

Evening Peak Hour

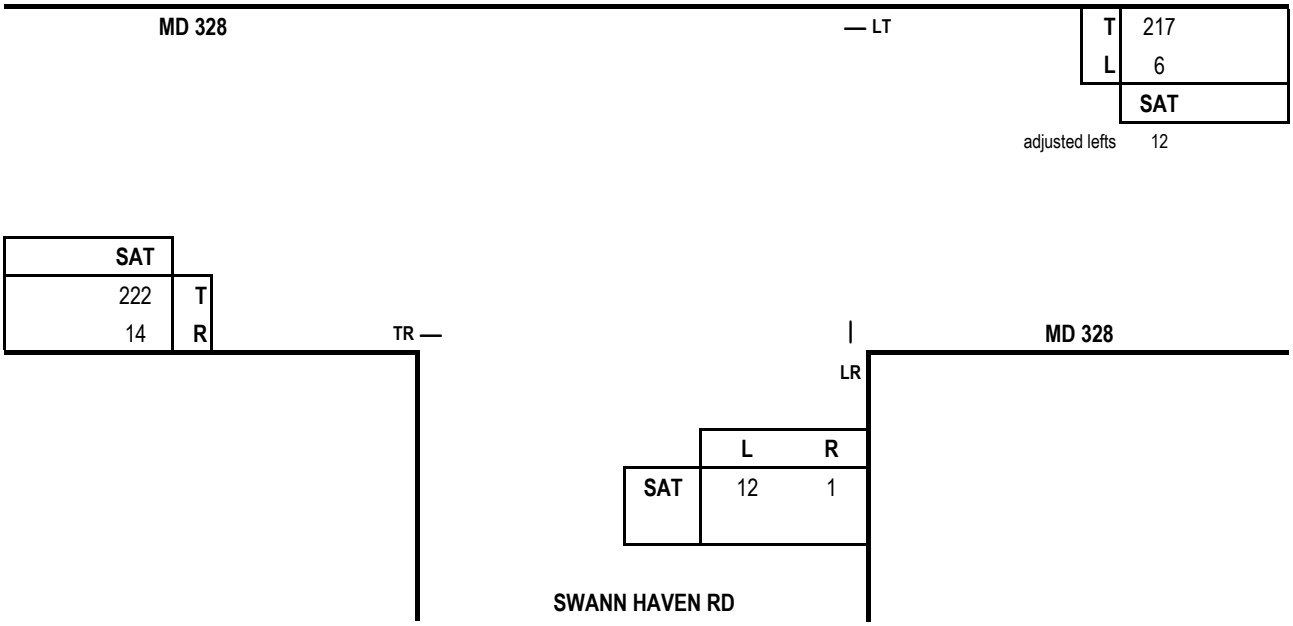
Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
NB	19	1.00	19				19
EB	461	1.00	461	3	1.00	3	464
WB	272	1.00	272				
						CLV TOTAL=	483
						Level of Service (LOS)=	A

CLV V/C =0.3

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: MD 328 **Date of Count:** 6/11/2022
N/S Road: Swann Haven Rd **Day of Count:** Saturday
Conditions: 2022 Existing Traffic **Analyst:** Ming-Yu Chien

Peak: 11:45 -12:45



Capacity 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				13
EB	236	1.00	236	6	1.00	6	242
WB	229	1.00	229				
						CLV TOTAL=	255
						Level of Service (LOS)=	A

Scenario ID - EXIST7 CLV V/C =0.16

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: MD 328 **Date of Count:** 6/9/2022
N/S Road: Swann Haven Rd **Day of Count:** Thursday
Conditions: 2025 Background Traffic **Analyst:** Ming-Yu Chien

N

Peak: 7:00 -8:00
Peak: 4:15 -5:15

MD 328 — LT

T	512	300
L	1	3
	AM	**PM**
adjusted lefts	2	6

PM	AM	
469	215	T
17	7	R

TR —

	L	**R**
AM	16	6
PM	11	8

LR

MD 328

SWANN HAVEN RD

Capacity Analysis

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
NB	22	1.00	22				22
EB	222	1.00	222	1	1.00	1	514
WB	514	1.00	514				
						CLV TOTAL=	**536**
						Level of Service (LOS)=	**A**

Scenario ID - BACK7 CLV V/C =0.34

Evening Peak Hour

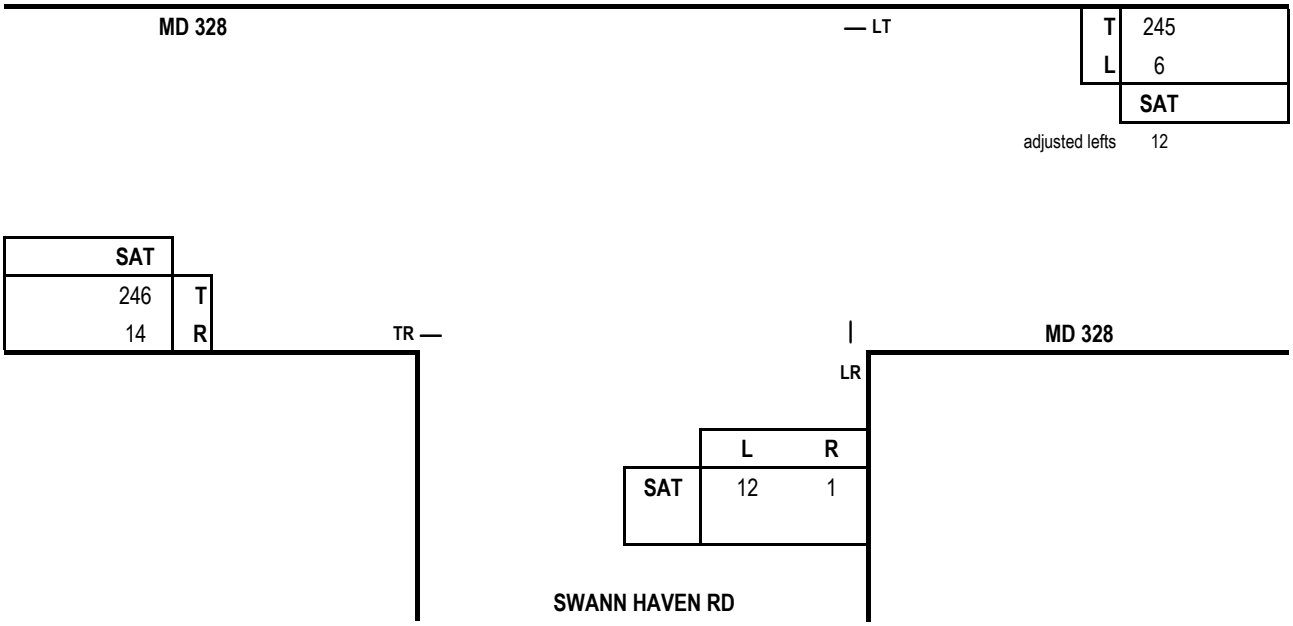
Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
NB	19	1.00	19				19
EB	486	1.00	486	3	1.00	3	489
WB	306	1.00	306				
						CLV TOTAL=	**508**
						Level of Service (LOS)=	**A**

CLV V/C =0.32

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: MD 328 **Date of Count:** 6/11/2022
N/S Road: Swann Haven Rd **Day of Count:** Saturday
Conditions: 2025 Background Traffic **Analyst:** Ming-Yu Chien

Peak: 11:45 -12:45



Capacity 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				13
EB	260	1.00	260	6	1.00	6	266
WB	257	1.00	257				
						CLV TOTAL=	279
						Level of Service (LOS)=	A

Scenario ID - BACK7 CLV V/C =0.17

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: MD 328 **Date of Count:** 6/9/2022
N/S Road: Swann Haven Rd **Day of Count:** Thursday
Conditions: 2025 Total Traffic **Analyst:** Ming-Yu Chien

N

Peak: 7:00 -8:00
Peak: 4:15 -5:15

MD 328 — LT

T	519	316
L	1	3
	AM	**PM**
adjusted lefts	2	6

PM	AM	
480	232	T
17	7	R

TR —

MD 328

LR

	L	R
AM	16	6
PM	11	8

SWANN HAVEN RD

Capacity Analysis

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
NB	22	1.00	22				22
EB	239	1.00	239	1	1.00	1	521
WB	521	1.00	521				
						CLV TOTAL=	**543**
						Level of Service (LOS)=	**A**

Scenario ID - TOT7 CLV V/C =0.34

Evening Peak Hour

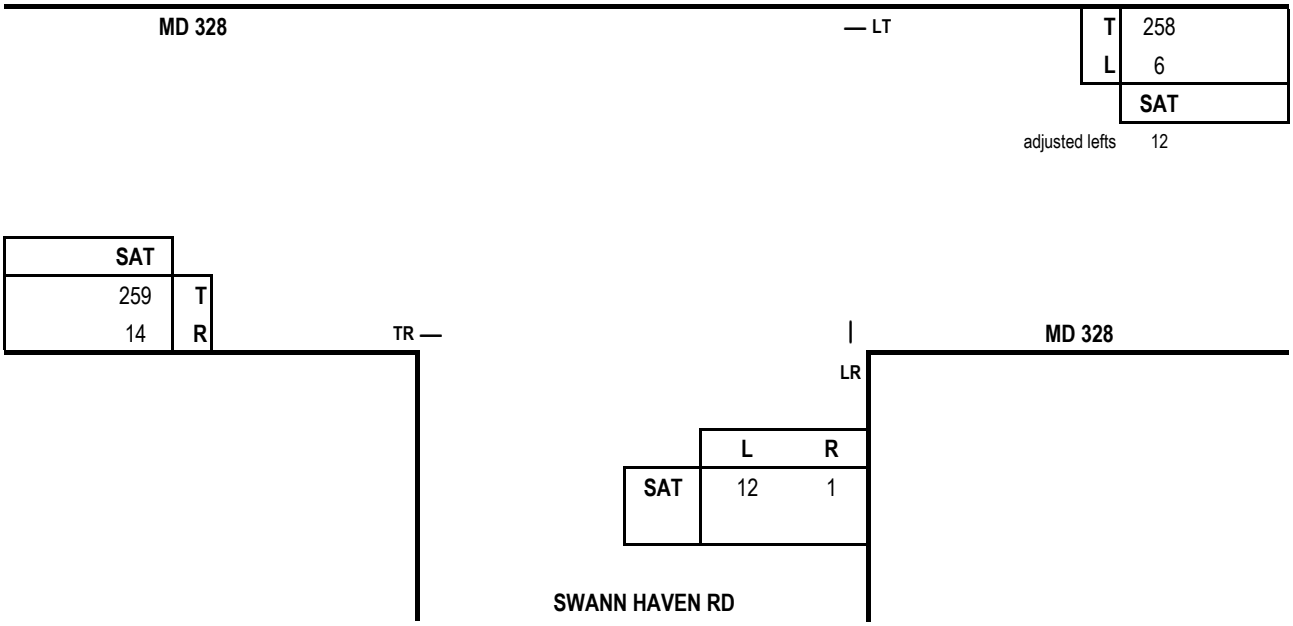
Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
NB	19	1.00	19				19
EB	497	1.00	497	3	1.00	3	500
WB	322	1.00	322				
						CLV TOTAL=	**519**
						Level of Service (LOS)=	**A**

CLV V/C =0.32

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: MD 328 **Date of Count:** 6/11/2022
N/S Road: Swann Haven Rd **Day of Count:** Saturday
Conditions: 2025 Total Traffic **Analyst:** Ming-Yu Chien

Peak: 11:45 -12:45



Capacity 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				13
EB	273	1.00	273	6	1.00	6	279
WB	270	1.00	270				
						CLV TOTAL=	292
						Level of Service (LOS)=	A

Scenario ID - TOT7 CLV V/C =0.18

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: MD 328 **Date of Count:** 6/9/2022
N/S Road: Black Dog Aly **Day of Count:** Thursday
Conditions: 2022 Existing Traffic **Analyst:** Ming-Yu Chien

Peak: 7:00 -8:00
Peak: 4:15 -5:15

BLACK DOG ALY

	R	T	L	adjusted lefts
PM	65	123	83	91
AM	61	38	22	24

LTR

MD 328

LTR

	R	T	L
AM	71	422	8
PM	40	188	1
adjusted lefts AM	9		
adjusted lefts PM	2		

	PM	AM	adjusted lefts
L	52	30	104
T	375	151	60
R	25	12	

LTR

LTR

MD 328

	L	T	R	adjusted lefts
AM	15	92	8	17
PM	16	69	2	18

BLACK DOG ALY

Capacity Analysis

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
NB	117	1.00	117	22	1.00	22	139
SB	123	1.00	123	15	1.00	15	
EB	223	1.00	223	8	1.00	8	532
WB	502	1.00	502	30	1.00	30	
						CLV TOTAL=	**671**
						Level of Service (LOS)=	**A**

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
NB	89	1.00	89	83	1.00	83	295
SB	279	1.00	279	16	1.00	16	
EB	504	1.00	504	1	1.00	1	505
WB	230	1.00	230	52	1.00	52	
						CLV TOTAL=	**800**
						Level of Service (LOS)=	**A**

Scenario ID - EXIST8

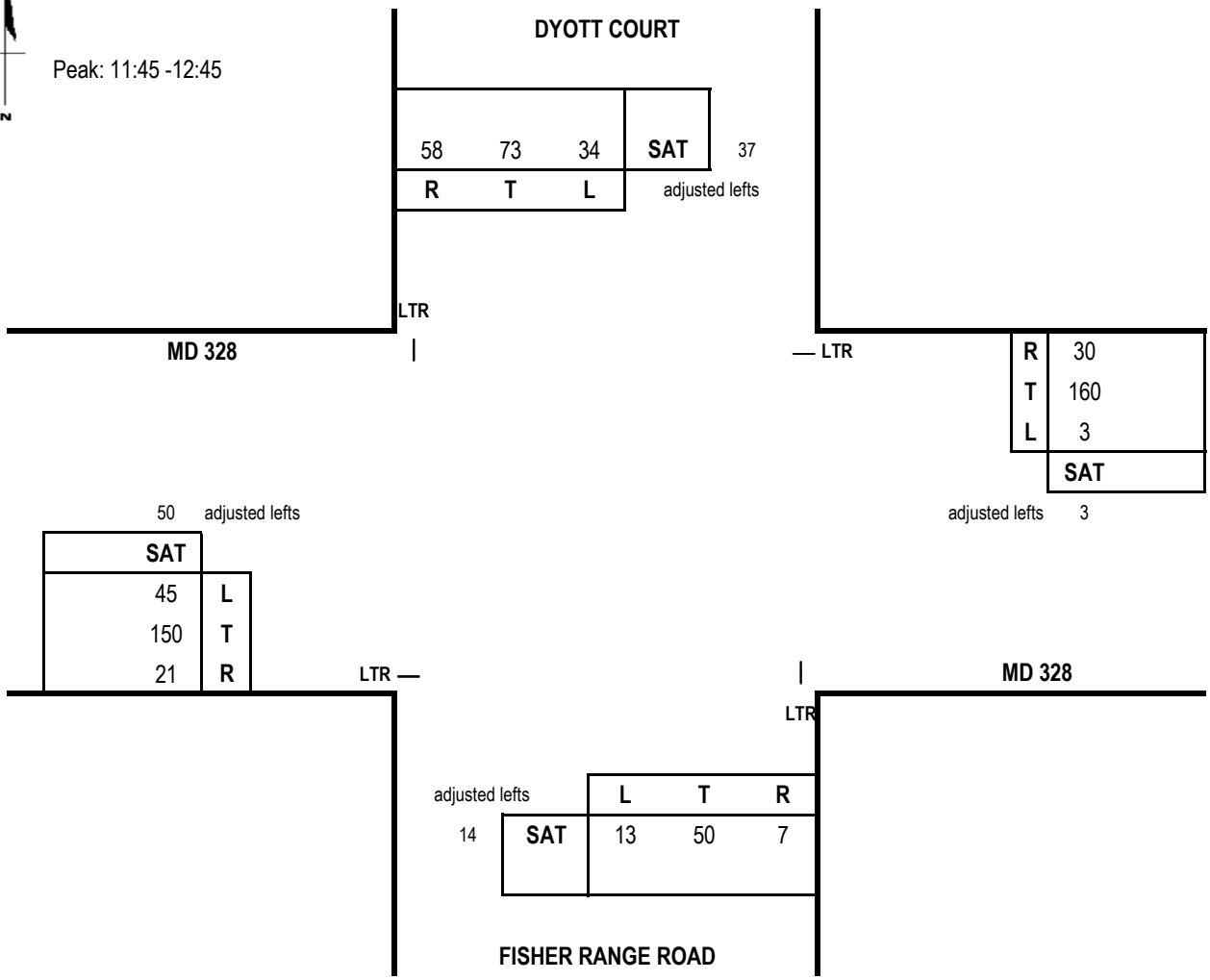
AM V/C =0.42

PM V/C =0.5

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: MD 328 **Date of Count:** 6/11/2022
N/S Road: Dyott Court/Fisher Range Road **Day of Count:** Saturday
Conditions: 2022 Existing Traffic **Analyst:** Ming-Yu Chien

Peak: 11:45 -12:45



Capacity Analysis

Sat. Midday Peak Hour							
	Thru Volumes			+ Opposing Lefts			SAT
Dir	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
NB	71	1.00	71	34	1.00	34	181
SB	168	1.00	168	13	1.00	13	
EB	221	1.00	221	3	1.00	3	238
WB	193	1.00	193	45	1.00	45	
						CLV TOTAL=	419
						Level of Service (LOS)=	A

Scenario ID - EXIST8

SAT V/C =0.26

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: MD 328 **Date of Count:** 6/9/2022
N/S Road: Black Dog Aly **Day of Count:** Thursday
Conditions: 2025 Background Traffic **Analyst:** Ming-Yu Chien

Peak: 7:00 -8:00
Peak: 4:15 -5:15

BLACK DOG ALY

	R	T	L	adjusted lefts
PM	77	123	83	91
AM	65	38	22	24

MD 328 LTR

LTR

	R	T	L
AM	9	434	8
PM	2	209	1

adjusted lefts

	L	T	R	adjusted lefts
PM	59	392	25	118
AM	40	169	12	80

LTR

MD 328 LTR

	L	T	R	adjusted lefts
AM	15	92	8	17
PM	16	69	2	32

BLACK DOG ALY

Capacity Analysis

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
NB	117	1.00	117	22	1.00	22	142
SB	127	1.00	127	15	1.00	15	
EB	261	1.00	261	8	1.00	8	554
WB	514	1.00	514	40	1.00	40	

CLV TOTAL= **696**
Level of Service (LOS)= **A**

Evening Peak Hour

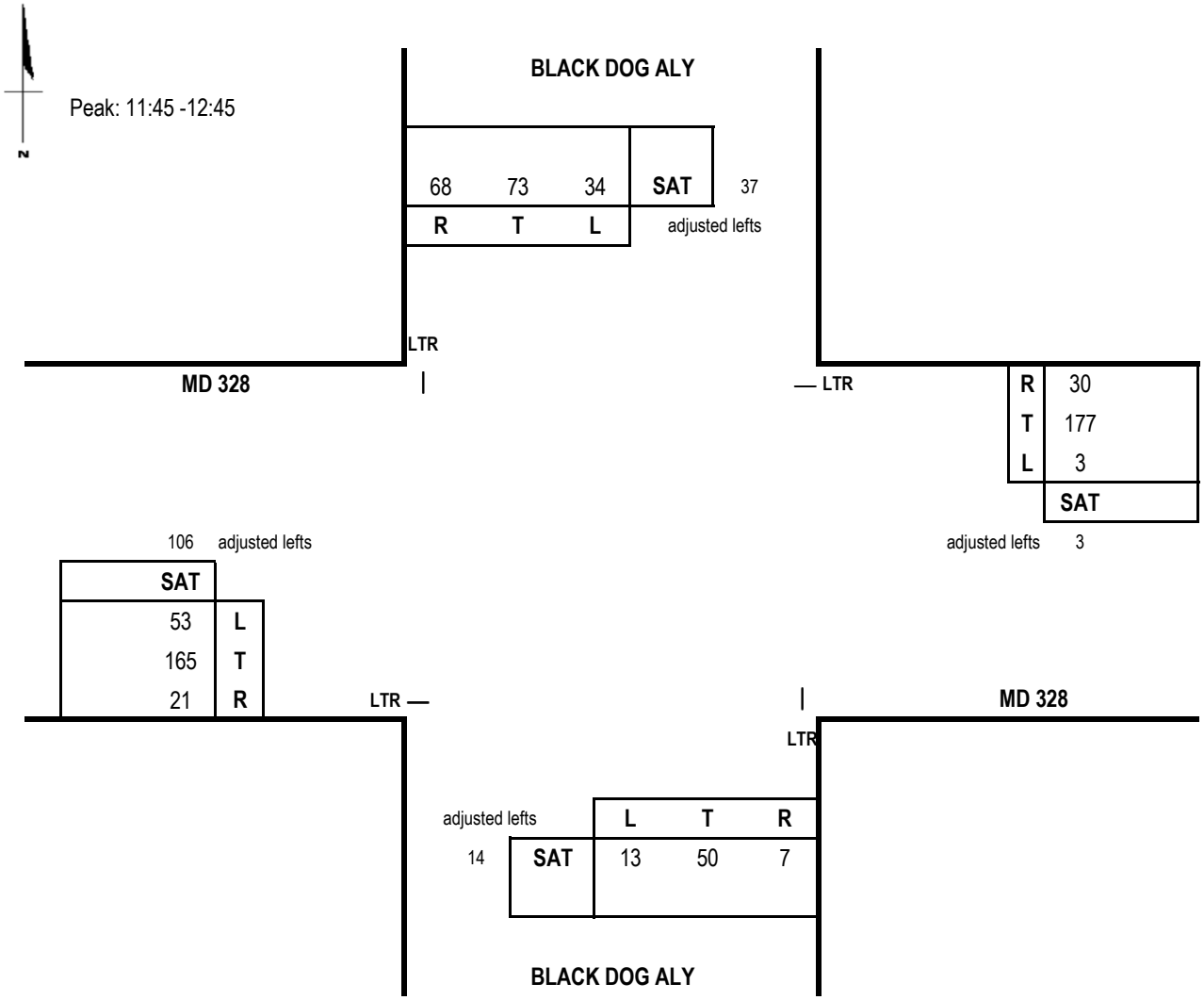
Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
NB	103	1.00	103	83	1.00	83	307
SB	291	1.00	291	16	1.00	16	
EB	535	1.00	535	1	1.00	1	536
WB	251	1.00	251	59	1.00	59	

CLV TOTAL= **843**
Level of Service (LOS)= **A**

Scenario ID - BACK8 AM V/C =0.44 PM V/C =0.53

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: MD 328 **Date of Count:** 6/11/2022
N/S Road: Black Dog Aly **Day of Count:** Saturday
Conditions: 2025 Background Traffic **Analyst:** Ming-Yu Chien



Capacity Analysis

Sat. Midday Peak Hour							
	Thru Volumes			+ Opposing Lefts			SAT
Dir	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
NB	71	1.00	71	34	1.00	34	191
SB	178	1.00	178	13	1.00	13	
EB	292	1.00	292	3	1.00	3	295
WB	210	1.00	210	53	1.00	53	
						CLV TOTAL=	**486**
						Level of Service (LOS)=	**A**

Scenario ID - BACK8

SAT V/C =0.3

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: MD 328 **Date of Count:** 6/9/2022
N/S Road: Black Dog Aly **Day of Count:** Thursday
Conditions: 2025 Total Traffic **Analyst:** Ming-Yu Chien

Peak: 7:00 -8:00
Peak: 4:15 -5:15

BLACK DOG ALY

	R	T	L	adjusted lefts
PM	82	123	83	91
AM	67	38	22	24

MD 328 LTR

LTR

	R	T	L
AM	9	441	8
PM	2	225	1
adjusted lefts		71	40

	PM	AM	
	62	45	L
	403	186	T
	25	12	R
adjusted lefts	124	90	

LTR

MD 328

LTR

		L	T	R
17	AM	15	92	8
32	PM	16	69	2

BLACK DOG ALY

Capacity Analysis

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
NB	117	1.00	117	22	1.00	22	144
SB	129	1.00	129	15	1.00	15	
EB	288	1.00	288	8	1.00	8	566
WB	521	1.00	521	45	1.00	45	
						CLV TOTAL=	**710**
						Level of Service (LOS)=	**A**

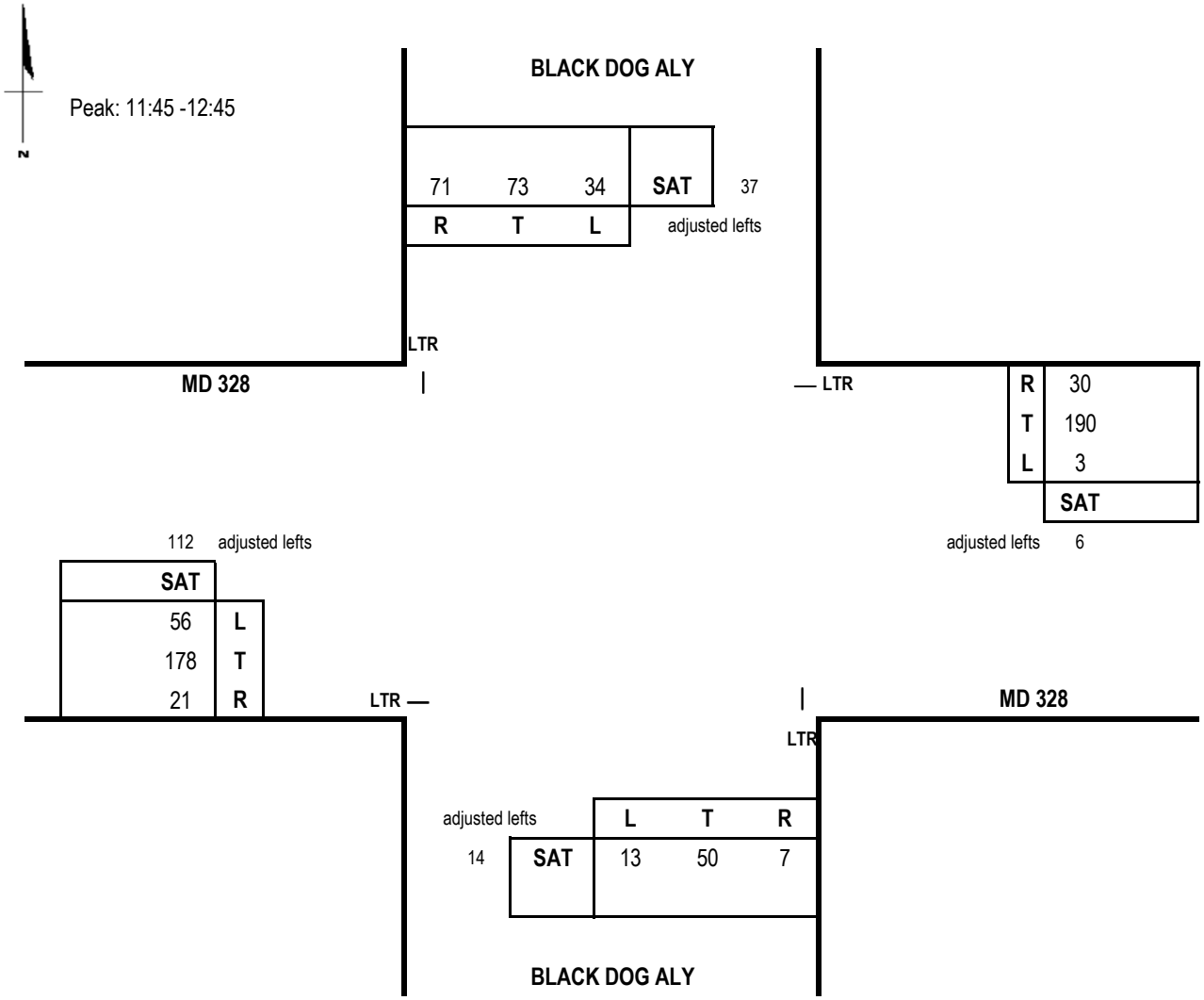
Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
NB	103	1.00	103	83	1.00	83	312
SB	296	1.00	296	16	1.00	16	
EB	552	1.00	552	1	1.00	1	553
WB	267	1.00	267	62	1.00	62	
						CLV TOTAL=	**865**
						Level of Service (LOS)=	**A**

Scenario ID - TOT8 AM V/C =0.44 PM V/C =0.54

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: MD 328 **Date of Count:** 6/11/2022
N/S Road: Black Dog Aly **Day of Count:** Saturday
Conditions: 2025 Total Traffic **Analyst:** Ming-Yu Chien



Capacity Analysis

Sat. Midday Peak Hour							
	Thru Volumes			+ Opposing Lefts			SAT
Dir	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
NB	71	1.00	71	34	1.00	34	194
SB	181	1.00	181	13	1.00	13	
EB	311	1.00	311	3	1.00	3	314
WB	226	1.00	226	56	1.00	56	
						CLV TOTAL=	508
						Level of Service (LOS)=	A

Scenario ID - TOT8

SAT V/C =0.32

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	102	51	364	162	187	69	997	148	116	962	22
Future Volume (veh/h)	33	102	51	364	162	187	69	997	148	116	962	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1781	1781	1856	1826	1856	1781	1781	1767	1781	1781
Adj Flow Rate, veh/h	35	110	0	282	326	0	74	1072	0	125	1034	24
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	4	4	8	3	3	5	3	8	8	9	8	8
Cap, veh/h	134	140		336	368		317	2412		334	2509	58
Arrive On Green	0.08	0.08	0.00	0.20	0.20	0.00	0.05	0.66	0.00	0.05	0.51	0.51
Sat Flow, veh/h	1753	1841	1510	1696	1856	1547	1767	4863	1510	1682	4890	113
Grp Volume(v), veh/h	35	110	0	282	326	0	74	1072	0	125	685	373
Grp Sat Flow(s),veh/h/ln	1753	1841	1510	1696	1856	1547	1767	1621	1510	1682	1621	1761
Q Serve(g_s), s	2.5	7.9	0.0	21.6	23.1	0.0	2.8	14.3	0.0	4.9	17.6	17.6
Cycle Q Clear(g_c), s	2.5	7.9	0.0	21.6	23.1	0.0	2.8	14.3	0.0	4.9	17.6	17.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.06
Lane Grp Cap(c), veh/h	134	140		336	368		317	2412		334	1663	904
V/C Ratio(X)	0.26	0.78		0.84	0.89		0.23	0.44		0.37	0.41	0.41
Avail Cap(c_a), veh/h	234	245		402	440		498	2412		478	1663	904
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.72	0.72	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.8	61.3	0.0	52.0	52.6	0.0	16.3	14.0	0.0	15.9	20.3	20.3
Incr Delay (d2), s/veh	1.2	10.9	0.0	9.4	13.0	0.0	0.4	0.6	0.0	0.5	0.8	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.1	7.5	0.0	14.5	16.9	0.0	2.0	8.1	0.0	3.4	11.0	12.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.0	72.2	0.0	61.5	65.7	0.0	16.7	14.6	0.0	16.4	21.1	21.7
LnGrp LOS	E	E		E	E		B	B		B	C	C
Approach Vol, veh/h		145			608			1146			1183	
Approach Delay, s/veh		69.2			63.7			14.7			20.8	
Approach LOS		E			E			B			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.5	73.5		16.3	10.2	75.8		32.8
Change Period (Y+Rc), s	5.5	6.5		6.0	5.5	6.5		6.0
Max Green Setting (Gmax), s	18.5	42.5		18.0	18.5	42.5		32.0
Max Q Clear Time (g_c+I1), s	6.9	16.3		9.9	4.8	19.6		25.1
Green Ext Time (p_c), s	0.2	14.2		0.4	0.1	12.5		1.7

Intersection Summary	
HCM 6th Ctrl Delay	29.3
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	183	162	132	645	130	44
Future Volume (veh/h)	183	162	132	645	130	44
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1767	1841	1870	1856	1899	1870
Adj Flow Rate, veh/h	213	188	153	750	151	51
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	9	4	2	3	5	2
Cap, veh/h	744	657	637	1130	272	239
Arrive On Green	0.42	0.42	0.09	0.61	0.15	0.15
Sat Flow, veh/h	1767	1560	1781	1856	1809	1585
Grp Volume(v), veh/h	213	188	153	750	151	51
Grp Sat Flow(s),veh/h/ln	1767	1560	1781	1856	1809	1585
Q Serve(g_s), s	4.0	4.0	2.1	13.2	3.9	1.4
Cycle Q Clear(g_c), s	4.0	4.0	2.1	13.2	3.9	1.4
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	744	657	637	1130	272	239
V/C Ratio(X)	0.29	0.29	0.24	0.66	0.55	0.21
Avail Cap(c_a), veh/h	1592	1406	1729	3158	1086	952
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.5	9.5	6.0	6.4	19.7	18.6
Incr Delay (d2), s/veh	0.4	0.5	0.3	1.4	1.8	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.4	2.2	1.1	6.6	2.9	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	10.0	10.0	6.2	7.8	21.4	19.1
LnGrp LOS	A	B	A	A	C	B
Approach Vol, veh/h	401			903	202	
Approach Delay, s/veh	10.0			7.6	20.8	
Approach LOS	A			A	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		36.4		13.5	9.4	27.0
Change Period (Y+Rc), s		6.0		6.0	5.0	6.0
Max Green Setting (Gmax), s		85.0		30.0	35.0	45.0
Max Q Clear Time (g_c+I1), s		15.2		5.9	4.1	6.0
Green Ext Time (p_c), s		15.2		0.6	0.7	4.4

Intersection Summary	
HCM 6th Ctrl Delay	10.0
HCM 6th LOS	A

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↱		↰	↱↑	
Traffic Vol, veh/h	207	7	4	740	17	1
Future Vol, veh/h	207	7	4	740	17	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	135	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	6	17	25	3	2	100
Mvmt Flow	233	8	4	831	19	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	241	0	1072	233
Stage 1	-	-	-	-	233	-
Stage 2	-	-	-	-	839	-
Critical Hdwy	-	-	4.35	-	6.42	7.2
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.425	-	3.518	4.2
Pot Cap-1 Maneuver	-	-	1202	-	244	614
Stage 1	-	-	-	-	806	-
Stage 2	-	-	-	-	424	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1202	-	243	614
Mov Cap-2 Maneuver	-	-	-	-	243	-
Stage 1	-	-	-	-	806	-
Stage 2	-	-	-	-	421	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	20.6
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	251	-	-	1202	-
HCM Lane V/C Ratio	0.081	-	-	0.004	-
HCM Control Delay (s)	20.6	-	-	8	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	165	28	10	549	4	124	0	19	5	1	69
Future Volume (veh/h)	15	165	28	10	549	4	124	0	19	5	1	69
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1811	1796	1856	1856	1900	1945	1945	1976	1976	1976	1976
Adj Flow Rate, veh/h	16	181	31	11	603	4	136	0	21	5	1	76
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	6	6	7	3	3	0	2	2	0	0	0	0
Cap, veh/h	117	886	796	90	962	842	428	0	293	96	14	273
Arrive On Green	0.52	0.52	0.52	0.52	0.52	0.52	0.18	0.00	0.18	0.18	0.18	0.18
Sat Flow, veh/h	51	1694	1522	9	1841	1610	1489	0	1675	41	82	1558
Grp Volume(v), veh/h	197	0	31	614	0	4	136	0	21	82	0	0
Grp Sat Flow(s),veh/h/ln	1745	0	1522	1850	0	1610	1489	0	1675	1681	0	0
Q Serve(g_s), s	0.0	0.0	0.4	0.0	0.0	0.1	1.4	0.0	0.5	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.5	0.0	0.4	10.2	0.0	0.1	3.2	0.0	0.5	1.8	0.0	0.0
Prop In Lane	0.08		1.00	0.02		1.00	1.00		1.00	0.06		0.93
Lane Grp Cap(c), veh/h	1003	0	796	1052	0	842	428	0	293	383	0	0
V/C Ratio(X)	0.20	0.00	0.04	0.58	0.00	0.00	0.32	0.00	0.07	0.21	0.00	0.00
Avail Cap(c_a), veh/h	2430	0	2123	2652	0	2245	1146	0	1167	1252	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	5.5	0.0	5.0	7.3	0.0	4.9	15.9	0.0	14.8	15.4	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	1.1	0.0	0.0	0.4	0.0	0.1	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.2	0.0	0.2	5.2	0.0	0.0	1.9	0.0	0.3	1.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.7	0.0	5.0	8.4	0.0	4.9	16.3	0.0	14.9	15.7	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	B	A	B	B	A	A
Approach Vol, veh/h		228			618			157			82	
Approach Delay, s/veh		5.6			8.4			16.1			15.7	
Approach LOS		A			A			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		29.5		13.5		29.5		13.5				
Change Period (Y+Rc), s		7.0		6.0		7.0		6.0				
Max Green Setting (Gmax), s		60.0		30.0		60.0		30.0				
Max Q Clear Time (g_c+I1), s		12.2		3.8		4.5		5.2				
Green Ext Time (p_c), s		10.3		0.4		2.9		0.8				

Intersection Summary												
HCM 6th Ctrl Delay			9.5									
HCM 6th LOS			A									

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	193	516	20	5	24
Future Vol, veh/h	10	193	516	20	5	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	110	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	0	5	8	5	0	0
Mvmt Flow	12	224	600	23	6	28

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	623	0	-	0	848	600
Stage 1	-	-	-	-	600	-
Stage 2	-	-	-	-	248	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	968	-	-	-	334	505
Stage 1	-	-	-	-	552	-
Stage 2	-	-	-	-	798	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	968	-	-	-	329	505
Mov Cap-2 Maneuver	-	-	-	-	329	-
Stage 1	-	-	-	-	544	-
Stage 2	-	-	-	-	798	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	13.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	968	-	-	-	462
HCM Lane V/C Ratio	0.012	-	-	-	0.073
HCM Control Delay (s)	8.8	0	-	-	13.4
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	185	5	1	504	20	6
Future Vol, veh/h	185	5	1	504	20	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	300	290	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	4	0	0	4	0	0
Mvmt Flow	206	6	1	560	22	7

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	212	0	768	206
Stage 1	-	-	-	-	206	-
Stage 2	-	-	-	-	562	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1370	-	373	840
Stage 1	-	-	-	-	833	-
Stage 2	-	-	-	-	575	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1370	-	373	840
Mov Cap-2 Maneuver	-	-	-	-	373	-
Stage 1	-	-	-	-	833	-
Stage 2	-	-	-	-	574	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	14
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	428	-	-	1370	-
HCM Lane V/C Ratio	0.067	-	-	0.001	-
HCM Control Delay (s)	14	-	-	7.6	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	186	7	1	495	16	6
Future Vol, veh/h	186	7	1	495	16	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	4	29	0	4	6	17
Mvmt Flow	216	8	1	576	19	7

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	224	0	798	220
Stage 1	-	-	-	-	220	-
Stage 2	-	-	-	-	578	-
Critical Hdwy	-	-	4.1	-	6.46	6.37
Critical Hdwy Stg 1	-	-	-	-	5.46	-
Critical Hdwy Stg 2	-	-	-	-	5.46	-
Follow-up Hdwy	-	-	2.2	-	3.554	3.453
Pot Cap-1 Maneuver	-	-	1357	-	350	784
Stage 1	-	-	-	-	807	-
Stage 2	-	-	-	-	553	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1357	-	350	784
Mov Cap-2 Maneuver	-	-	-	-	350	-
Stage 1	-	-	-	-	807	-
Stage 2	-	-	-	-	552	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	14.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	412	-	-	1357	-
HCM Lane V/C Ratio	0.062	-	-	0.001	-
HCM Control Delay (s)	14.3	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	151	12	8	422	71	15	92	8	22	38	61
Future Volume (veh/h)	30	151	12	8	422	71	15	92	8	22	38	61
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1796	1796	1796	1841	1841	1841	1884	1884	1884	1693	1693	1693
Adj Flow Rate, veh/h	34	170	13	9	474	80	17	103	9	25	43	69
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	7	7	7	4	4	4	6	6	6	14	14	14
Cap, veh/h	168	690	48	94	753	125	123	292	24	134	109	140
Arrive On Green	0.49	0.49	0.49	0.49	0.49	0.49	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	133	1400	98	8	1528	254	122	1557	126	154	584	749
Grp Volume(v), veh/h	217	0	0	563	0	0	129	0	0	137	0	0
Grp Sat Flow(s),veh/h/ln	1631	0	0	1790	0	0	1805	0	0	1487	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.9	0.0	0.0	9.4	0.0	0.0	2.5	0.0	0.0	3.2	0.0	0.0
Prop In Lane	0.16		0.06	0.02		0.14	0.13		0.07	0.18		0.50
Lane Grp Cap(c), veh/h	906	0	0	972	0	0	438	0	0	383	0	0
V/C Ratio(X)	0.24	0.00	0.00	0.58	0.00	0.00	0.29	0.00	0.00	0.36	0.00	0.00
Avail Cap(c_a), veh/h	2384	0	0	2725	0	0	1407	0	0	1178	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.0	0.0	0.0	7.6	0.0	0.0	14.4	0.0	0.0	14.7	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.0	1.2	0.0	0.0	0.4	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.0	0.0	0.0	3.5	0.0	0.0	1.6	0.0	0.0	1.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.2	0.0	0.0	8.8	0.0	0.0	14.8	0.0	0.0	15.3	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	B	A	A	B	A	A
Approach Vol, veh/h		217			563			129			137	
Approach Delay, s/veh		6.2			8.8			14.8			15.3	
Approach LOS		A			A			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		27.0		13.6		27.0		13.6				
Change Period (Y+Rc), s		7.0		6.0		7.0		6.0				
Max Green Setting (Gmax), s		60.0		30.0		60.0		30.0				
Max Q Clear Time (g_c+I1), s		11.4		5.2		4.9		4.5				
Green Ext Time (p_c), s		8.1		0.7		2.7		0.7				

Intersection Summary			
HCM 6th Ctrl Delay			9.8
HCM 6th LOS			A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	48	279	110	170	149	207	66	954	296	236	1062	41
Future Volume (veh/h)	48	279	110	170	149	207	66	954	296	236	1062	41
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1856	1810	1885	1856	1900	1811	1870	1856	1856	1856
Adj Flow Rate, veh/h	49	285	0	162	167	0	67	973	0	241	1084	42
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	1	3	1	1	3	0	6	2	3	3	3
Cap, veh/h	303	318		186	204		315	2538		421	2809	109
Arrive On Green	0.17	0.17	0.00	0.11	0.11	0.00	0.04	0.68	0.00	0.08	0.56	0.56
Sat Flow, veh/h	1795	1885	1572	1724	1885	1572	1810	4944	1585	1767	5004	194
Grp Volume(v), veh/h	49	285	0	162	167	0	67	973	0	241	731	395
Grp Sat Flow(s),veh/h/ln	1795	1885	1572	1724	1885	1572	1810	1648	1585	1767	1689	1821
Q Serve(g_s), s	4.2	26.7	0.0	16.7	15.6	0.0	3.2	15.2	0.0	11.3	21.8	21.8
Cycle Q Clear(g_c), s	4.2	26.7	0.0	16.7	15.6	0.0	3.2	15.2	0.0	11.3	21.8	21.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.11
Lane Grp Cap(c), veh/h	303	318		186	204		315	2538		421	1896	1022
V/C Ratio(X)	0.16	0.90		0.87	0.82		0.21	0.38		0.57	0.39	0.39
Avail Cap(c_a), veh/h	409	429		249	272		590	2538		605	1896	1022
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.92	0.92	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	64.0	73.3	0.0	79.0	78.5	0.0	20.0	16.3	0.0	18.0	22.1	22.1
Incr Delay (d2), s/veh	0.3	17.9	0.0	19.9	12.5	0.0	0.3	0.4	0.0	0.9	0.6	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.6	20.8	0.0	13.1	12.9	0.0	2.5	9.0	0.0	8.4	13.8	14.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.3	91.2	0.0	98.9	91.1	0.0	20.3	16.7	0.0	18.9	22.7	23.2
LnGrp LOS	E	F		F	F		C	B		B	C	C
Approach Vol, veh/h		334			329			1040			1367	
Approach Delay, s/veh		87.3			94.9			17.0			22.2	
Approach LOS		F			F			B			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	19.3	98.9		36.3	10.6	107.6		25.5
Change Period (Y+Rc), s	5.5	6.5		6.0	5.5	6.5		6.0
Max Green Setting (Gmax), s	32.5	56.5		41.0	32.5	56.5		26.0
Max Q Clear Time (g_c+I1), s	13.3	17.2		28.7	5.2	23.8		18.7
Green Ext Time (p_c), s	0.5	15.6		1.7	0.1	16.4		0.8

Intersection Summary	
HCM 6th Ctrl Delay	35.3
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	491	344	103	300	209	193
Future Volume (veh/h)	491	344	103	300	209	193
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1885	1841	1856	1945	1870
Adj Flow Rate, veh/h	511	358	107	312	218	201
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	1	4	3	2	2
Cap, veh/h	822	708	402	1124	330	283
Arrive On Green	0.44	0.44	0.07	0.61	0.18	0.18
Sat Flow, veh/h	1856	1598	1753	1856	1853	1585
Grp Volume(v), veh/h	511	358	107	312	218	201
Grp Sat Flow(s),veh/h/ln	1856	1598	1753	1856	1853	1585
Q Serve(g_s), s	11.8	8.9	1.6	4.4	6.1	6.6
Cycle Q Clear(g_c), s	11.8	8.9	1.6	4.4	6.1	6.6
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	822	708	402	1124	330	283
V/C Ratio(X)	0.62	0.51	0.27	0.28	0.66	0.71
Avail Cap(c_a), veh/h	1502	1294	1379	2838	1000	856
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.9	11.1	8.0	5.2	21.3	21.5
Incr Delay (d2), s/veh	1.6	1.2	0.5	0.3	2.3	3.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	7.9	5.2	0.9	2.3	4.7	9.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	13.5	12.3	8.5	5.5	23.5	24.8
LnGrp LOS	B	B	A	A	C	C
Approach Vol, veh/h	869			419	419	
Approach Delay, s/veh	13.0			6.2	24.1	
Approach LOS	B			A	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		39.7		15.9	9.0	30.6
Change Period (Y+Rc), s		6.0		6.0	5.0	6.0
Max Green Setting (Gmax), s		85.0		30.0	35.0	45.0
Max Q Clear Time (g_c+I1), s		6.4		8.6	3.6	13.8
Green Ext Time (p_c), s		4.4		1.3	0.5	10.9

Intersection Summary	
HCM 6th Ctrl Delay	14.1
HCM 6th LOS	B

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↱		↰	↱↑	
Traffic Vol, veh/h	639	14	0	384	4	4
Future Vol, veh/h	639	14	0	384	4	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	135	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	2	0	0	2	0	25
Mvmt Flow	659	14	0	396	4	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	673	0	1055	659
Stage 1	-	-	-	-	659	-
Stage 2	-	-	-	-	396	-
Critical Hdwy	-	-	4.1	-	6.4	6.45
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.525
Pot Cap-1 Maneuver	-	-	927	-	252	426
Stage 1	-	-	-	-	518	-
Stage 2	-	-	-	-	684	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	927	-	252	426
Mov Cap-2 Maneuver	-	-	-	-	252	-
Stage 1	-	-	-	-	518	-
Stage 2	-	-	-	-	684	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	16.7
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	317	-	-	927	-
HCM Lane V/C Ratio	0.026	-	-	-	-
HCM Control Delay (s)	16.7	-	-	0	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	54	482	106	22	277	16	75	3	19	4	3	32
Future Volume (veh/h)	54	482	106	22	277	16	75	3	19	4	3	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1900	1870	1870	1900	1976	1976	1899	1976	1976	1976
Adj Flow Rate, veh/h	57	507	112	23	292	17	79	3	20	4	3	34
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	0	2	2	0	0	0	5	0	0	0
Cap, veh/h	150	875	838	120	916	838	403	12	254	109	35	223
Arrive On Green	0.52	0.52	0.52	0.52	0.52	0.52	0.16	0.16	0.16	0.16	0.16	0.16
Sat Flow, veh/h	99	1682	1610	47	1761	1610	1441	78	1609	70	220	1408
Grp Volume(v), veh/h	564	0	112	315	0	17	82	0	20	41	0	0
Grp Sat Flow(s),veh/h/ln	1782	0	1610	1808	0	1610	1519	0	1609	1698	0	0
Q Serve(g_s), s	0.0	0.0	1.4	0.0	0.0	0.2	0.9	0.0	0.4	0.0	0.0	0.0
Cycle Q Clear(g_c), s	8.5	0.0	1.4	3.9	0.0	0.2	1.8	0.0	0.4	0.8	0.0	0.0
Prop In Lane	0.10		1.00	0.07		1.00	0.96		1.00	0.10		0.83
Lane Grp Cap(c), veh/h	1025	0	838	1036	0	838	415	0	254	366	0	0
V/C Ratio(X)	0.55	0.00	0.13	0.30	0.00	0.02	0.20	0.00	0.08	0.11	0.00	0.00
Avail Cap(c_a), veh/h	2687	0	2389	2679	0	2389	1269	0	1194	1341	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.7	0.0	5.0	5.6	0.0	4.7	15.0	0.0	14.5	14.7	0.0	0.0
Incr Delay (d2), s/veh	1.0	0.0	0.2	0.4	0.0	0.0	0.2	0.0	0.1	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.1	0.0	0.6	1.9	0.0	0.1	1.1	0.0	0.3	0.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.7	0.0	5.2	5.9	0.0	4.7	15.3	0.0	14.6	14.8	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	B	A	B	B	A	A
Approach Vol, veh/h		676			332			102			41	
Approach Delay, s/veh		7.3			5.9			15.1			14.8	
Approach LOS		A			A			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		28.0		12.4		28.0		12.4				
Change Period (Y+Rc), s		7.0		6.0		7.0		6.0				
Max Green Setting (Gmax), s		60.0		30.0		60.0		30.0				
Max Q Clear Time (g_c+I1), s		5.9		2.8		10.5		3.8				
Green Ext Time (p_c), s		4.7		0.2		10.6		0.5				

Intersection Summary			
HCM 6th Ctrl Delay		7.8	
HCM 6th LOS		A	

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	47	438	273	17	16	38
Future Vol, veh/h	47	438	273	17	16	38
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	110	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	3	3	6	6	0
Mvmt Flow	49	456	284	18	17	40

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	302	0	-	0	838	284
Stage 1	-	-	-	-	284	-
Stage 2	-	-	-	-	554	-
Critical Hdwy	4.1	-	-	-	6.46	6.2
Critical Hdwy Stg 1	-	-	-	-	5.46	-
Critical Hdwy Stg 2	-	-	-	-	5.46	-
Follow-up Hdwy	2.2	-	-	-	3.554	3.3
Pot Cap-1 Maneuver	1270	-	-	-	331	760
Stage 1	-	-	-	-	755	-
Stage 2	-	-	-	-	568	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1270	-	-	-	314	760
Mov Cap-2 Maneuver	-	-	-	-	314	-
Stage 1	-	-	-	-	716	-
Stage 2	-	-	-	-	568	-

Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	12.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1270	-	-	-	535
HCM Lane V/C Ratio	0.039	-	-	-	0.105
HCM Control Delay (s)	7.9	0	-	-	12.5
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	471	20	4	263	11	4
Future Vol, veh/h	471	20	4	263	11	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	300	290	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	4	5	0	3	0	0
Mvmt Flow	506	22	4	283	12	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	528	0	797	506
Stage 1	-	-	-	-	506	-
Stage 2	-	-	-	-	291	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1049	-	358	570
Stage 1	-	-	-	-	610	-
Stage 2	-	-	-	-	763	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1049	-	357	570
Mov Cap-2 Maneuver	-	-	-	-	357	-
Stage 1	-	-	-	-	610	-
Stage 2	-	-	-	-	760	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	14.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	397	-	-	1049	-
HCM Lane V/C Ratio	0.041	-	-	0.004	-
HCM Control Delay (s)	14.5	-	-	8.4	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	444	17	3	266	11	8
Future Vol, veh/h	444	17	3	266	11	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	18	0	2	0	25
Mvmt Flow	477	18	3	286	12	9

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	495	0	778	486
Stage 1	-	-	-	-	486	-
Stage 2	-	-	-	-	292	-
Critical Hdwy	-	-	4.1	-	6.4	6.45
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.525
Pot Cap-1 Maneuver	-	-	1079	-	368	537
Stage 1	-	-	-	-	623	-
Stage 2	-	-	-	-	762	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1079	-	367	537
Mov Cap-2 Maneuver	-	-	-	-	367	-
Stage 1	-	-	-	-	623	-
Stage 2	-	-	-	-	760	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	13.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	423	-	-	1079	-
HCM Lane V/C Ratio	0.048	-	-	0.003	-
HCM Control Delay (s)	13.9	-	-	8.3	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	375	25	1	188	40	16	69	2	83	123	65
Future Volume (veh/h)	52	375	25	1	188	40	16	69	2	83	123	65
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1856	1856	1856	1930	1930	1930	1856	1856	1856
Adj Flow Rate, veh/h	54	391	26	1	196	42	17	72	2	86	128	68
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	3	3	3	3	3	3	3	3	3
Cap, veh/h	146	724	45	84	684	146	136	395	10	198	204	93
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	115	1566	98	1	1481	316	155	1662	41	377	860	393
Grp Volume(v), veh/h	471	0	0	239	0	0	91	0	0	282	0	0
Grp Sat Flow(s),veh/h/ln	1779	0	0	1798	0	0	1858	0	0	1630	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.5	0.0	0.0
Cycle Q Clear(g_c), s	7.9	0.0	0.0	3.6	0.0	0.0	1.6	0.0	0.0	6.8	0.0	0.0
Prop In Lane	0.11		0.06	0.00		0.18	0.19		0.02	0.30		0.24
Lane Grp Cap(c), veh/h	915	0	0	914	0	0	540	0	0	496	0	0
V/C Ratio(X)	0.51	0.00	0.00	0.26	0.00	0.00	0.17	0.00	0.00	0.57	0.00	0.00
Avail Cap(c_a), veh/h	2512	0	0	2571	0	0	1331	0	0	1219	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	8.4	0.0	0.0	7.2	0.0	0.0	13.2	0.0	0.0	15.1	0.0	0.0
Incr Delay (d2), s/veh	1.0	0.0	0.0	0.3	0.0	0.0	0.1	0.0	0.0	1.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.5	0.0	0.0	1.5	0.0	0.0	1.1	0.0	0.0	3.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.4	0.0	0.0	7.5	0.0	0.0	13.4	0.0	0.0	16.1	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	B	A	A	B	A	A
Approach Vol, veh/h		471			239			91			282	
Approach Delay, s/veh		9.4			7.5			13.4			16.1	
Approach LOS		A			A			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		27.0		16.3		27.0		16.3				
Change Period (Y+Rc), s		7.0		6.0		7.0		6.0				
Max Green Setting (Gmax), s		60.0		30.0		60.0		30.0				
Max Q Clear Time (g_c+I1), s		5.6		8.8		9.9		3.6				
Green Ext Time (p_c), s		2.8		1.6		6.4		0.4				

Intersection Summary			
HCM 6th Ctrl Delay			11.1
HCM 6th LOS			B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	77	243	103	133	150	237	102	1238	179	139	1289	57
Future Volume (veh/h)	77	243	103	133	150	237	102	1238	179	139	1289	57
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1900	1810	1885	1885	1900	1870	1885	1885	1885	1885
Adj Flow Rate, veh/h	83	261	0	143	161	0	110	1331	0	149	1386	61
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	0	1	1	1	0	2	1	1	1	1
Cap, veh/h	293	308		186	204		255	2480		303	2513	111
Arrive On Green	0.16	0.16	0.00	0.11	0.11	0.00	0.06	0.65	0.00	0.06	0.50	0.50
Sat Flow, veh/h	1781	1870	1610	1724	1885	1598	1810	5106	1598	1795	5054	222
Grp Volume(v), veh/h	83	261	0	143	161	0	110	1331	0	149	941	506
Grp Sat Flow(s),veh/h/ln	1781	1870	1610	1724	1885	1598	1810	1702	1598	1795	1716	1845
Q Serve(g_s), s	5.4	17.8	0.0	10.6	10.9	0.0	4.0	18.5	0.0	5.4	24.9	24.9
Cycle Q Clear(g_c), s	5.4	17.8	0.0	10.6	10.9	0.0	4.0	18.5	0.0	5.4	24.9	24.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.12
Lane Grp Cap(c), veh/h	293	308		186	204		255	2480		303	1706	918
V/C Ratio(X)	0.28	0.85		0.77	0.79		0.43	0.54		0.49	0.55	0.55
Avail Cap(c_a), veh/h	476	500		460	504		584	5260		609	3535	1901
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.0	53.1	0.0	56.8	57.0	0.0	17.9	15.2	0.0	16.9	22.8	22.8
Incr Delay (d2), s/veh	0.6	8.5	0.0	6.5	6.7	0.0	1.2	0.4	0.0	0.9	0.6	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.4	14.0	0.0	8.6	9.5	0.0	3.0	10.0	0.0	4.1	15.2	16.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.6	61.6	0.0	63.3	63.7	0.0	19.0	15.6	0.0	17.8	23.4	23.9
LnGrp LOS	D	E		E	E		B	B		B	C	C
Approach Vol, veh/h		344			304			1441			1596	
Approach Delay, s/veh		58.5			63.5			15.9			23.1	
Approach LOS		E			E			B			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	13.1	70.2		27.6	11.6	71.7		20.2
Change Period (Y+Rc), s	5.5	6.5		6.0	5.5	6.5		6.0
Max Green Setting (Gmax), s	30.0	135.0		35.0	30.0	135.0		35.0
Max Q Clear Time (g_c+I1), s	7.4	20.5		19.8	6.0	26.9		12.9
Green Ext Time (p_c), s	0.3	34.3		1.8	0.3	38.3		1.3

Intersection Summary		
HCM 6th Ctrl Delay		26.9
HCM 6th LOS		C

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	240	279	109	269	222	128
Future Volume (veh/h)	240	279	109	269	222	128
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1885	1885	1885	1961	1900
Adj Flow Rate, veh/h	258	300	117	289	239	138
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	1	1	1	1	0
Cap, veh/h	746	637	547	1091	339	293
Arrive On Green	0.40	0.40	0.08	0.58	0.18	0.18
Sat Flow, veh/h	1870	1598	1795	1885	1867	1610
Grp Volume(v), veh/h	258	300	117	289	239	138
Grp Sat Flow(s),veh/h/ln	1870	1598	1795	1885	1867	1610
Q Serve(g_s), s	4.8	7.0	1.7	3.8	6.0	3.8
Cycle Q Clear(g_c), s	4.8	7.0	1.7	3.8	6.0	3.8
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	746	637	547	1091	339	293
V/C Ratio(X)	0.35	0.47	0.21	0.26	0.70	0.47
Avail Cap(c_a), veh/h	1679	1434	1657	3197	1117	964
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.5	11.1	6.7	5.2	19.2	18.4
Incr Delay (d2), s/veh	0.6	1.2	0.3	0.3	2.7	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.2	4.0	0.9	2.0	4.7	0.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.1	12.3	7.0	5.5	21.9	19.5
LnGrp LOS	B	B	A	A	C	B
Approach Vol, veh/h	558			406	377	
Approach Delay, s/veh	11.7			6.0	21.0	
Approach LOS	B			A	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		35.0		15.1	9.0	26.0
Change Period (Y+Rc), s		6.0		6.0	5.0	6.0
Max Green Setting (Gmax), s		85.0		30.0	35.0	45.0
Max Q Clear Time (g_c+I1), s		5.8		8.0	3.7	9.0
Green Ext Time (p_c), s		4.0		1.1	0.5	6.1

Intersection Summary	
HCM 6th Ctrl Delay	12.6
HCM 6th LOS	B

Intersection	
Int Delay, s/veh	0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↱		↰	⅄	
Traffic Vol, veh/h	312	19	3	354	27	0
Future Vol, veh/h	312	19	3	354	27	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	135	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	1	0	0	1	0	0
Mvmt Flow	355	22	3	402	31	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	377	0	763	355
Stage 1	-	-	-	-	355	-
Stage 2	-	-	-	-	408	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1193	-	375	693
Stage 1	-	-	-	-	714	-
Stage 2	-	-	-	-	676	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1193	-	374	693
Mov Cap-2 Maneuver	-	-	-	-	374	-
Stage 1	-	-	-	-	714	-
Stage 2	-	-	-	-	674	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	15.5
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	374	-	-	1193	-
HCM Lane V/C Ratio	0.082	-	-	0.003	-
HCM Control Delay (s)	15.5	-	-	8	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	236	61	9	247	3	59	3	11	4	2	33
Future Volume (veh/h)	41	236	61	9	247	3	59	3	11	4	2	33
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1900	1870	1870	1900	1976	1976	1976	1976	1976	1976
Adj Flow Rate, veh/h	47	268	69	10	281	3	67	3	12	5	2	38
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	0	2	2	0	0	0	0	0	0	0
Cap, veh/h	176	839	826	104	944	826	400	14	257	116	27	219
Arrive On Green	0.51	0.51	0.51	0.51	0.51	0.51	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	137	1636	1610	17	1841	1610	1432	94	1675	85	177	1427
Grp Volume(v), veh/h	315	0	69	291	0	3	70	0	12	45	0	0
Grp Sat Flow(s),veh/h/ln	1773	0	1610	1857	0	1610	1526	0	1675	1690	0	0
Q Serve(g_s), s	0.0	0.0	0.8	0.0	0.0	0.0	0.5	0.0	0.2	0.0	0.0	0.0
Cycle Q Clear(g_c), s	3.8	0.0	0.8	3.5	0.0	0.0	1.4	0.0	0.2	0.9	0.0	0.0
Prop In Lane	0.15		1.00	0.03		1.00	0.96		1.00	0.11		0.84
Lane Grp Cap(c), veh/h	1016	0	826	1048	0	826	415	0	257	362	0	0
V/C Ratio(X)	0.31	0.00	0.08	0.28	0.00	0.00	0.17	0.00	0.05	0.12	0.00	0.00
Avail Cap(c_a), veh/h	2753	0	2480	2918	0	2480	1316	0	1289	1386	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	5.6	0.0	4.8	5.5	0.0	4.6	14.5	0.0	14.1	14.3	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.0	0.1	0.3	0.0	0.0	0.2	0.0	0.1	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.8	0.0	0.3	1.6	0.0	0.0	0.9	0.0	0.1	0.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.9	0.0	4.9	5.8	0.0	4.6	14.7	0.0	14.1	14.5	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	B	A	B	B	A	A
Approach Vol, veh/h		384			294			82			45	
Approach Delay, s/veh		5.7			5.8			14.6			14.5	
Approach LOS		A			A			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		27.0		12.0		27.0		12.0				
Change Period (Y+Rc), s		7.0		6.0		7.0		6.0				
Max Green Setting (Gmax), s		60.0		30.0		60.0		30.0				
Max Q Clear Time (g_c+I1), s		5.5		2.9		5.8		3.4				
Green Ext Time (p_c), s		4.0		0.2		5.1		0.4				

Intersection Summary												
HCM 6th Ctrl Delay			7.1									
HCM 6th LOS			A									

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	28	243	222	11	15	30
Future Vol, veh/h	28	243	222	11	15	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	110	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	2	1	9	0	0
Mvmt Flow	31	267	244	12	16	33

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	256	0	-	0	573	244
Stage 1	-	-	-	-	244	-
Stage 2	-	-	-	-	329	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1321	-	-	-	484	800
Stage 1	-	-	-	-	801	-
Stage 2	-	-	-	-	734	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1321	-	-	-	470	800
Mov Cap-2 Maneuver	-	-	-	-	470	-
Stage 1	-	-	-	-	779	-
Stage 2	-	-	-	-	734	-

Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	11
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1321	-	-	-	648
HCM Lane V/C Ratio	0.023	-	-	-	0.076
HCM Control Delay (s)	7.8	0	-	-	11
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↱	↰	↑	↰↱	
Traffic Vol, veh/h	244	16	3	217	13	4
Future Vol, veh/h	244	16	3	217	13	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	300	290	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	3	0	33	1	8	0
Mvmt Flow	254	17	3	226	14	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	271	0	486	254
Stage 1	-	-	-	-	254	-
Stage 2	-	-	-	-	232	-
Critical Hdwy	-	-	4.43	-	6.48	6.2
Critical Hdwy Stg 1	-	-	-	-	5.48	-
Critical Hdwy Stg 2	-	-	-	-	5.48	-
Follow-up Hdwy	-	-	2.497	-	3.572	3.3
Pot Cap-1 Maneuver	-	-	1133	-	530	790
Stage 1	-	-	-	-	775	-
Stage 2	-	-	-	-	793	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1133	-	528	790
Mov Cap-2 Maneuver	-	-	-	-	528	-
Stage 1	-	-	-	-	775	-
Stage 2	-	-	-	-	791	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	11.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	573	-	-	1133	-
HCM Lane V/C Ratio	0.031	-	-	0.003	-
HCM Control Delay (s)	11.5	-	-	8.2	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	222	14	6	217	12	1
Future Vol, veh/h	222	14	6	217	12	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	4	0	17	2	8	100
Mvmt Flow	234	15	6	228	13	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	249	0	482	242
Stage 1	-	-	-	-	242	-
Stage 2	-	-	-	-	240	-
Critical Hdwy	-	-	4.27	-	6.48	7.2
Critical Hdwy Stg 1	-	-	-	-	5.48	-
Critical Hdwy Stg 2	-	-	-	-	5.48	-
Follow-up Hdwy	-	-	2.353	-	3.572	4.2
Pot Cap-1 Maneuver	-	-	1234	-	532	606
Stage 1	-	-	-	-	784	-
Stage 2	-	-	-	-	786	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1234	-	529	606
Mov Cap-2 Maneuver	-	-	-	-	529	-
Stage 1	-	-	-	-	784	-
Stage 2	-	-	-	-	781	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	11.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	534	-	-	1234	-
HCM Lane V/C Ratio	0.026	-	-	0.005	-
HCM Control Delay (s)	11.9	-	-	7.9	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	150	21	3	160	30	13	50	7	34	73	58
Future Volume (veh/h)	45	150	21	3	160	30	13	50	7	34	73	58
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1885	1885	1885	1914	1914	1914	1870	1870	1870
Adj Flow Rate, veh/h	46	153	21	3	163	31	13	51	7	35	74	59
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	1	1	1	4	4	4	2	2	2
Cap, veh/h	219	651	80	93	756	142	135	272	33	149	161	109
Arrive On Green	0.49	0.49	0.49	0.49	0.49	0.49	0.18	0.18	0.18	0.18	0.18	0.18
Sat Flow, veh/h	225	1323	163	5	1537	288	156	1471	178	221	868	589
Grp Volume(v), veh/h	220	0	0	197	0	0	71	0	0	168	0	0
Grp Sat Flow(s),veh/h/ln	1712	0	0	1830	0	0	1806	0	0	1678	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0
Cycle Q Clear(g_c), s	2.8	0.0	0.0	2.5	0.0	0.0	1.3	0.0	0.0	3.5	0.0	0.0
Prop In Lane	0.21		0.10	0.02		0.16	0.18		0.10	0.21		0.35
Lane Grp Cap(c), veh/h	950	0	0	991	0	0	440	0	0	418	0	0
V/C Ratio(X)	0.23	0.00	0.00	0.20	0.00	0.00	0.16	0.00	0.00	0.40	0.00	0.00
Avail Cap(c_a), veh/h	2593	0	0	2807	0	0	1408	0	0	1334	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	5.9	0.0	0.0	5.8	0.0	0.0	13.9	0.0	0.0	14.8	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.2	0.0	0.0	0.2	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.0	0.0	0.0	0.9	0.0	0.0	0.9	0.0	0.0	2.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.2	0.0	0.0	6.0	0.0	0.0	14.1	0.0	0.0	15.4	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	B	A	A	B	A	A
Approach Vol, veh/h		220			197			71			168	
Approach Delay, s/veh		6.2			6.0			14.1			15.4	
Approach LOS		A			A			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		26.8		13.4		26.8		13.4				
Change Period (Y+Rc), s		7.0		6.0		7.0		6.0				
Max Green Setting (Gmax), s		60.0		30.0		60.0		30.0				
Max Q Clear Time (g_c+I1), s		4.5		5.5		4.8		3.3				
Green Ext Time (p_c), s		2.3		0.9		2.6		0.3				

Intersection Summary			
HCM 6th Ctrl Delay		9.3	
HCM 6th LOS		A	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	111	51	400	185	211	69	1027	161	125	991	22
Future Volume (veh/h)	33	111	51	400	185	211	69	1027	161	125	991	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1781	1781	1856	1826	1856	1781	1781	1767	1781	1781
Adj Flow Rate, veh/h	35	119	0	314	361	0	74	1104	0	134	1066	24
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	4	4	8	3	3	5	3	8	8	9	8	8
Cap, veh/h	142	149		364	398		295	2284		316	2405	54
Arrive On Green	0.08	0.08	0.00	0.21	0.21	0.00	0.05	0.62	0.00	0.06	0.49	0.49
Sat Flow, veh/h	1753	1841	1510	1696	1856	1547	1767	4863	1510	1682	4894	110
Grp Volume(v), veh/h	35	119	0	314	361	0	74	1104	0	134	706	384
Grp Sat Flow(s),veh/h/ln	1753	1841	1510	1696	1856	1547	1767	1621	1510	1682	1621	1762
Q Serve(g_s), s	2.5	8.6	0.0	24.1	25.6	0.0	2.9	16.5	0.0	5.5	19.1	19.1
Cycle Q Clear(g_c), s	2.5	8.6	0.0	24.1	25.6	0.0	2.9	16.5	0.0	5.5	19.1	19.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.06
Lane Grp Cap(c), veh/h	142	149		364	398		295	2284		316	1593	866
V/C Ratio(X)	0.25	0.80		0.86	0.91		0.25	0.48		0.42	0.44	0.44
Avail Cap(c_a), veh/h	234	245		402	440		475	2284		452	1593	866
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.65	0.65	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.1	60.9	0.0	51.1	51.7	0.0	18.2	16.5	0.0	17.8	22.3	22.3
Incr Delay (d2), s/veh	1.1	11.0	0.0	11.2	15.1	0.0	0.4	0.7	0.0	0.7	0.9	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.1	7.9	0.0	15.8	18.5	0.0	2.2	9.2	0.0	3.9	11.9	12.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.2	71.9	0.0	62.3	66.8	0.0	18.6	17.3	0.0	18.5	23.2	24.0
LnGrp LOS	E	E		E	E		B	B		B	C	C
Approach Vol, veh/h		154			675			1178			1224	
Approach Delay, s/veh		69.0			64.7			17.3			22.9	
Approach LOS		E			E			B			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	13.2	69.9		17.0	10.2	72.8		35.0
Change Period (Y+Rc), s	5.5	6.5		6.0	5.5	6.5		6.0
Max Green Setting (Gmax), s	18.5	42.5		18.0	18.5	42.5		32.0
Max Q Clear Time (g_c+I1), s	7.5	18.5		10.6	4.9	21.1		27.6
Green Ext Time (p_c), s	0.2	13.9		0.4	0.1	12.3		1.4

Intersection Summary	
HCM 6th Ctrl Delay	31.8
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	211	162	137	728	130	46
Future Volume (veh/h)	211	162	137	728	130	46
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1767	1841	1870	1856	1899	1870
Adj Flow Rate, veh/h	245	188	159	847	151	53
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	9	4	2	3	5	2
Cap, veh/h	862	761	656	1217	243	213
Arrive On Green	0.49	0.49	0.08	0.66	0.13	0.13
Sat Flow, veh/h	1767	1560	1781	1856	1809	1585
Grp Volume(v), veh/h	245	188	159	847	151	53
Grp Sat Flow(s),veh/h/ln	1767	1560	1781	1856	1809	1585
Q Serve(g_s), s	4.7	4.0	2.2	16.5	4.5	1.7
Cycle Q Clear(g_c), s	4.7	4.0	2.2	16.5	4.5	1.7
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	862	761	656	1217	243	213
V/C Ratio(X)	0.28	0.25	0.24	0.70	0.62	0.25
Avail Cap(c_a), veh/h	1390	1228	1604	2758	949	832
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	8.7	8.5	5.4	6.2	23.4	22.2
Incr Delay (d2), s/veh	0.4	0.4	0.3	1.6	2.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.8	2.1	1.1	8.0	3.5	2.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	9.1	8.9	5.7	7.8	26.0	22.8
LnGrp LOS	A	A	A	A	C	C
Approach Vol, veh/h	433			1006	204	
Approach Delay, s/veh	9.0			7.5	25.1	
Approach LOS	A			A	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		43.5		13.7	9.6	33.9
Change Period (Y+Rc), s		6.0		6.0	5.0	6.0
Max Green Setting (Gmax), s		85.0		30.0	35.0	45.0
Max Q Clear Time (g_c+I1), s		18.5		6.5	4.2	6.7
Green Ext Time (p_c), s		19.0		0.6	0.7	4.8

Intersection Summary	
HCM 6th Ctrl Delay	10.1
HCM 6th LOS	B

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	237	7	4	829	17	1
Future Vol, veh/h	237	7	4	829	17	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	135	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	6	17	25	3	2	100
Mvmt Flow	266	8	4	931	19	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	274	0	1205	266
Stage 1	-	-	-	-	266	-
Stage 2	-	-	-	-	939	-
Critical Hdwy	-	-	4.35	-	6.42	7.2
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.425	-	3.518	4.2
Pot Cap-1 Maneuver	-	-	1168	-	203	586
Stage 1	-	-	-	-	779	-
Stage 2	-	-	-	-	380	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1168	-	202	586
Mov Cap-2 Maneuver	-	-	-	-	202	-
Stage 1	-	-	-	-	779	-
Stage 2	-	-	-	-	377	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	24
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	210	-	-	1168	-
HCM Lane V/C Ratio	0.096	-	-	0.004	-
HCM Control Delay (s)	24	-	-	8.1	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	194	28	10	635	4	124	0	19	5	1	69
Future Volume (veh/h)	15	194	28	10	635	4	124	0	19	5	1	69
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1811	1796	1856	1856	1900	1945	1945	1976	1976	1976	1976
Adj Flow Rate, veh/h	16	213	31	11	698	4	136	0	21	5	1	76
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	6	6	7	3	3	0	2	2	0	0	0	0
Cap, veh/h	105	970	869	80	1052	919	389	0	267	86	13	248
Arrive On Green	0.57	0.57	0.57	0.57	0.57	0.57	0.16	0.00	0.16	0.16	0.16	0.16
Sat Flow, veh/h	45	1699	1522	8	1843	1610	1503	0	1675	41	82	1558
Grp Volume(v), veh/h	229	0	31	709	0	4	136	0	21	82	0	0
Grp Sat Flow(s),veh/h/ln	1744	0	1522	1851	0	1610	1503	0	1675	1681	0	0
Q Serve(g_s), s	0.0	0.0	0.4	0.0	0.0	0.1	1.6	0.0	0.5	0.0	0.0	0.0
Cycle Q Clear(g_c), s	3.0	0.0	0.4	12.8	0.0	0.1	3.7	0.0	0.5	2.1	0.0	0.0
Prop In Lane	0.07		1.00	0.02		1.00	1.00		1.00	0.06		0.93
Lane Grp Cap(c), veh/h	1075	0	869	1132	0	919	389	0	267	347	0	0
V/C Ratio(X)	0.21	0.00	0.04	0.63	0.00	0.00	0.35	0.00	0.08	0.24	0.00	0.00
Avail Cap(c_a), veh/h	2181	0	1896	2372	0	2006	1026	0	1043	1118	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	5.1	0.0	4.5	7.2	0.0	4.4	18.4	0.0	17.2	17.9	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	1.2	0.0	0.0	0.5	0.0	0.1	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.5	0.0	0.2	6.6	0.0	0.0	2.3	0.0	0.3	1.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.3	0.0	4.6	8.4	0.0	4.5	19.0	0.0	17.4	18.2	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	B	A	B	B	A	A
Approach Vol, veh/h		260			713			157			82	
Approach Delay, s/veh		5.2			8.4			18.8			18.2	
Approach LOS		A			A			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		34.5		13.7		34.5		13.7				
Change Period (Y+Rc), s		7.0		6.0		7.0		6.0				
Max Green Setting (Gmax), s		60.0		30.0		60.0		30.0				
Max Q Clear Time (g_c+I1), s		14.8		4.1		5.0		5.7				
Green Ext Time (p_c), s		12.7		0.4		3.4		0.8				

Intersection Summary			
HCM 6th Ctrl Delay			9.7
HCM 6th LOS			A

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	223	602	20	5	24
Future Vol, veh/h	10	223	602	20	5	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	110	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	0	5	8	5	0	0
Mvmt Flow	12	259	700	23	6	28

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	723	0	-	0	983	700
Stage 1	-	-	-	-	700	-
Stage 2	-	-	-	-	283	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	889	-	-	-	278	443
Stage 1	-	-	-	-	496	-
Stage 2	-	-	-	-	770	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	889	-	-	-	274	443
Mov Cap-2 Maneuver	-	-	-	-	274	-
Stage 1	-	-	-	-	488	-
Stage 2	-	-	-	-	770	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	14.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	889	-	-	-	400
HCM Lane V/C Ratio	0.013	-	-	-	0.084
HCM Control Delay (s)	9.1	0	-	-	14.8
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↱	↰	↑	↰↱	
Traffic Vol, veh/h	215	5	1	590	20	6
Future Vol, veh/h	215	5	1	590	20	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	300	290	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	4	0	0	4	0	0
Mvmt Flow	239	6	1	656	22	7

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	245	0	897	239
Stage 1	-	-	-	-	239	-
Stage 2	-	-	-	-	658	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1333	-	313	805
Stage 1	-	-	-	-	805	-
Stage 2	-	-	-	-	519	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1333	-	313	805
Mov Cap-2 Maneuver	-	-	-	-	313	-
Stage 1	-	-	-	-	805	-
Stage 2	-	-	-	-	518	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	15.7
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	364	-	-	1333	-
HCM Lane V/C Ratio	0.079	-	-	0.001	-
HCM Control Delay (s)	15.7	-	-	7.7	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	215	7	1	512	16	6
Future Vol, veh/h	215	7	1	512	16	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	4	29	0	4	6	17
Mvmt Flow	250	8	1	595	19	7

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	258	0	851	254
Stage 1	-	-	-	-	254	-
Stage 2	-	-	-	-	597	-
Critical Hdwy	-	-	4.1	-	6.46	6.37
Critical Hdwy Stg 1	-	-	-	-	5.46	-
Critical Hdwy Stg 2	-	-	-	-	5.46	-
Follow-up Hdwy	-	-	2.2	-	3.554	3.453
Pot Cap-1 Maneuver	-	-	1318	-	325	749
Stage 1	-	-	-	-	779	-
Stage 2	-	-	-	-	542	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1318	-	325	749
Mov Cap-2 Maneuver	-	-	-	-	325	-
Stage 1	-	-	-	-	779	-
Stage 2	-	-	-	-	541	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	15
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	384	-	-	1318	-
HCM Lane V/C Ratio	0.067	-	-	0.001	-
HCM Control Delay (s)	15	-	-	7.7	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	169	12	8	434	71	15	92	8	22	38	65
Future Volume (veh/h)	40	169	12	8	434	71	15	92	8	22	38	65
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1796	1796	1796	1841	1841	1841	1884	1884	1884	1693	1693	1693
Adj Flow Rate, veh/h	45	190	13	9	488	80	17	103	9	25	43	73
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	7	7	7	4	4	4	6	6	6	14	14	14
Cap, veh/h	187	673	42	94	758	123	123	291	24	132	106	144
Arrive On Green	0.49	0.49	0.49	0.49	0.49	0.49	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	168	1363	85	8	1535	248	121	1557	126	149	567	769
Grp Volume(v), veh/h	248	0	0	577	0	0	129	0	0	141	0	0
Grp Sat Flow(s),veh/h/ln	1615	0	0	1791	0	0	1804	0	0	1485	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
Cycle Q Clear(g_c), s	3.3	0.0	0.0	9.8	0.0	0.0	2.5	0.0	0.0	3.3	0.0	0.0
Prop In Lane	0.18		0.05	0.02		0.14	0.13		0.07	0.18		0.52
Lane Grp Cap(c), veh/h	902	0	0	974	0	0	438	0	0	382	0	0
V/C Ratio(X)	0.27	0.00	0.00	0.59	0.00	0.00	0.29	0.00	0.00	0.37	0.00	0.00
Avail Cap(c_a), veh/h	2331	0	0	2717	0	0	1401	0	0	1173	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.1	0.0	0.0	7.7	0.0	0.0	14.5	0.0	0.0	14.8	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.0	1.2	0.0	0.0	0.4	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.2	0.0	0.0	3.6	0.0	0.0	1.7	0.0	0.0	1.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.4	0.0	0.0	8.9	0.0	0.0	14.8	0.0	0.0	15.4	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	B	A	A	B	A	A
Approach Vol, veh/h		248			577			129			141	
Approach Delay, s/veh		6.4			8.9			14.8			15.4	
Approach LOS		A			A			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		27.1		13.6		27.1		13.6				
Change Period (Y+Rc), s		7.0		6.0		7.0		6.0				
Max Green Setting (Gmax), s		60.0		30.0		60.0		30.0				
Max Q Clear Time (g_c+I1), s		11.8		5.3		5.3		4.5				
Green Ext Time (p_c), s		8.4		0.8		3.2		0.7				

Intersection Summary			
HCM 6th Ctrl Delay			9.9
HCM 6th LOS			A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	48	307	110	194	165	224	66	983	337	264	1094	41
Future Volume (veh/h)	48	307	110	194	165	224	66	983	337	264	1094	41
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1856	1810	1885	1856	1900	1811	1870	1856	1856	1856
Adj Flow Rate, veh/h	49	313	0	183	189	0	67	1003	0	269	1116	42
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	1	3	1	1	3	0	6	2	3	3	3
Cap, veh/h	328	345		207	226		292	2343		406	2676	101
Arrive On Green	0.18	0.18	0.00	0.12	0.12	0.00	0.04	0.63	0.00	0.09	0.53	0.53
Sat Flow, veh/h	1795	1885	1572	1724	1885	1572	1810	4944	1585	1767	5010	188
Grp Volume(v), veh/h	49	313	0	183	189	0	67	1003	0	269	752	406
Grp Sat Flow(s),veh/h/ln	1795	1885	1572	1724	1885	1572	1810	1648	1585	1767	1689	1822
Q Serve(g_s), s	4.1	29.3	0.0	18.8	17.7	0.0	3.4	18.5	0.0	13.7	24.0	24.0
Cycle Q Clear(g_c), s	4.1	29.3	0.0	18.8	17.7	0.0	3.4	18.5	0.0	13.7	24.0	24.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.10
Lane Grp Cap(c), veh/h	328	345		207	226		292	2343		406	1804	973
V/C Ratio(X)	0.15	0.91		0.89	0.84		0.23	0.43		0.66	0.42	0.42
Avail Cap(c_a), veh/h	409	429		249	272		564	2343		566	1804	973
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.90	0.90	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	61.8	72.1	0.0	78.0	77.5	0.0	23.3	20.9	0.0	21.4	25.1	25.1
Incr Delay (d2), s/veh	0.3	20.7	0.0	24.2	15.7	0.0	0.4	0.6	0.0	1.4	0.7	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.5	22.8	0.0	14.7	14.5	0.0	2.7	10.9	0.0	9.9	15.1	16.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.0	92.7	0.0	102.2	93.2	0.0	23.7	21.5	0.0	22.8	25.8	26.5
LnGrp LOS	E	F		F	F		C	C		C	C	C
Approach Vol, veh/h		362			372			1070			1427	
Approach Delay, s/veh		88.6			97.7			21.6			25.4	
Approach LOS		F			F			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	21.7	91.8		38.9	10.9	102.6		27.6
Change Period (Y+Rc), s	5.5	6.5		6.0	5.5	6.5		6.0
Max Green Setting (Gmax), s	32.5	56.5		41.0	32.5	56.5		26.0
Max Q Clear Time (g_c+I1), s	15.7	20.5		31.3	5.4	26.0		20.8
Green Ext Time (p_c), s	0.5	15.6		1.6	0.1	16.3		0.7

Intersection Summary	
HCM 6th Ctrl Delay	39.6
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	583	344	107	354	209	199
Future Volume (veh/h)	583	344	107	354	209	199
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1885	1841	1856	1945	1870
Adj Flow Rate, veh/h	607	358	111	369	218	207
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	1	4	3	2	2
Cap, veh/h	889	765	367	1167	328	281
Arrive On Green	0.48	0.48	0.07	0.63	0.18	0.18
Sat Flow, veh/h	1856	1598	1753	1856	1853	1585
Grp Volume(v), veh/h	607	358	111	369	218	207
Grp Sat Flow(s),veh/h/ln	1856	1598	1753	1856	1853	1585
Q Serve(g_s), s	15.7	9.3	1.8	5.7	6.8	7.6
Cycle Q Clear(g_c), s	15.7	9.3	1.8	5.7	6.8	7.6
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	889	765	367	1167	328	281
V/C Ratio(X)	0.68	0.47	0.30	0.32	0.66	0.74
Avail Cap(c_a), veh/h	1351	1163	1239	2552	899	769
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.5	10.8	8.9	5.3	23.7	24.1
Incr Delay (d2), s/veh	2.0	1.0	0.7	0.3	2.3	3.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.9	5.4	1.0	3.1	5.4	0.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	14.5	11.8	9.6	5.6	26.0	27.9
LnGrp LOS	B	B	A	A	C	C
Approach Vol, veh/h	965			480	425	
Approach Delay, s/veh	13.5			6.6	26.9	
Approach LOS	B			A	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		44.9		16.9	9.3	35.6
Change Period (Y+Rc), s		6.0		6.0	5.0	6.0
Max Green Setting (Gmax), s		85.0		30.0	35.0	45.0
Max Q Clear Time (g_c+I1), s		7.7		9.6	3.8	17.7
Green Ext Time (p_c), s		5.4		1.3	0.5	12.0

Intersection Summary	
HCM 6th Ctrl Delay	14.7
HCM 6th LOS	B

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	740	14	0	443	4	4
Future Vol, veh/h	740	14	0	443	4	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	135	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	2	0	0	2	0	25
Mvmt Flow	763	14	0	457	4	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	777	0	1220	763
Stage 1	-	-	-	-	763	-
Stage 2	-	-	-	-	457	-
Critical Hdwy	-	-	4.1	-	6.4	6.45
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.525
Pot Cap-1 Maneuver	-	-	848	-	201	370
Stage 1	-	-	-	-	464	-
Stage 2	-	-	-	-	642	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	848	-	201	370
Mov Cap-2 Maneuver	-	-	-	-	201	-
Stage 1	-	-	-	-	464	-
Stage 2	-	-	-	-	642	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	19.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	260	-	-	848	-
HCM Lane V/C Ratio	0.032	-	-	-	-
HCM Control Delay (s)	19.3	-	-	0	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	54	580	106	22	334	16	75	3	19	4	3	32
Future Volume (veh/h)	54	580	106	22	334	16	75	3	19	4	3	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1900	1870	1870	1900	1976	1976	1899	1976	1976	1976
Adj Flow Rate, veh/h	57	611	112	23	352	17	79	3	20	4	3	34
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	0	2	2	0	0	0	5	0	0	0
Cap, veh/h	134	970	920	106	1010	920	365	11	235	96	32	206
Arrive On Green	0.57	0.57	0.57	0.57	0.57	0.57	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	86	1697	1610	40	1768	1610	1447	77	1609	69	221	1409
Grp Volume(v), veh/h	668	0	112	375	0	17	82	0	20	41	0	0
Grp Sat Flow(s),veh/h/ln	1783	0	1610	1808	0	1610	1524	0	1609	1699	0	0
Q Serve(g_s), s	0.1	0.0	1.5	0.0	0.0	0.2	1.1	0.0	0.5	0.0	0.0	0.0
Cycle Q Clear(g_c), s	11.1	0.0	1.5	4.9	0.0	0.2	2.0	0.0	0.5	1.0	0.0	0.0
Prop In Lane	0.09		1.00	0.06		1.00	0.96		1.00	0.10		0.83
Lane Grp Cap(c), veh/h	1104	0	920	1116	0	920	376	0	235	334	0	0
V/C Ratio(X)	0.61	0.00	0.12	0.34	0.00	0.02	0.22	0.00	0.09	0.12	0.00	0.00
Avail Cap(c_a), veh/h	2371	0	2099	2366	0	2099	1116	0	1049	1179	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.6	0.0	4.5	5.3	0.0	4.3	17.6	0.0	17.0	17.2	0.0	0.0
Incr Delay (d2), s/veh	1.1	0.0	0.1	0.4	0.0	0.0	0.3	0.0	0.2	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.5	0.0	0.6	2.4	0.0	0.1	1.3	0.0	0.3	0.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.7	0.0	4.7	5.7	0.0	4.3	17.9	0.0	17.2	17.4	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	B	A	B	B	A	A
Approach Vol, veh/h		780			392			102			41	
Approach Delay, s/veh		7.3			5.6			17.7			17.4	
Approach LOS		A			A			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		33.3		12.7		33.3		12.7				
Change Period (Y+Rc), s		7.0		6.0		7.0		6.0				
Max Green Setting (Gmax), s		60.0		30.0		60.0		30.0				
Max Q Clear Time (g_c+I1), s		6.9		3.0		13.1		4.0				
Green Ext Time (p_c), s		5.7		0.2		13.2		0.5				

Intersection Summary			
HCM 6th Ctrl Delay			7.9
HCM 6th LOS			A

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	47	536	330	17	16	38
Future Vol, veh/h	47	536	330	17	16	38
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	110	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	3	3	6	6	0
Mvmt Flow	49	558	344	18	17	40

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	362	0	-	0	1000	344
Stage 1	-	-	-	-	344	-
Stage 2	-	-	-	-	656	-
Critical Hdwy	4.1	-	-	-	6.46	6.2
Critical Hdwy Stg 1	-	-	-	-	5.46	-
Critical Hdwy Stg 2	-	-	-	-	5.46	-
Follow-up Hdwy	2.2	-	-	-	3.554	3.3
Pot Cap-1 Maneuver	1208	-	-	-	265	703
Stage 1	-	-	-	-	709	-
Stage 2	-	-	-	-	509	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1208	-	-	-	249	703
Mov Cap-2 Maneuver	-	-	-	-	249	-
Stage 1	-	-	-	-	667	-
Stage 2	-	-	-	-	509	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	14
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1208	-	-	-	456
HCM Lane V/C Ratio	0.041	-	-	-	0.123
HCM Control Delay (s)	8.1	0	-	-	14
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.4

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↱	↰	↑	↰↱	
Traffic Vol, veh/h	569	20	4	320	11	4
Future Vol, veh/h	569	20	4	320	11	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	300	290	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	4	5	0	3	0	0
Mvmt Flow	612	22	4	344	12	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	634	0	964	612
Stage 1	-	-	-	-	612	-
Stage 2	-	-	-	-	352	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	959	-	286	497
Stage 1	-	-	-	-	545	-
Stage 2	-	-	-	-	716	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	959	-	285	497
Mov Cap-2 Maneuver	-	-	-	-	285	-
Stage 1	-	-	-	-	545	-
Stage 2	-	-	-	-	713	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	16.8
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	322	-	-	959	-
HCM Lane V/C Ratio	0.05	-	-	0.004	-
HCM Control Delay (s)	16.8	-	-	8.8	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	469	17	3	300	11	8
Future Vol, veh/h	469	17	3	300	11	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	18	0	2	0	25
Mvmt Flow	504	18	3	323	12	9

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	522	0	842	513
Stage 1	-	-	-	-	513	-
Stage 2	-	-	-	-	329	-
Critical Hdwy	-	-	4.1	-	6.4	6.45
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.525
Pot Cap-1 Maneuver	-	-	1055	-	337	518
Stage 1	-	-	-	-	605	-
Stage 2	-	-	-	-	734	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1055	-	336	518
Mov Cap-2 Maneuver	-	-	-	-	336	-
Stage 1	-	-	-	-	605	-
Stage 2	-	-	-	-	732	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	14.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	394	-	-	1055	-
HCM Lane V/C Ratio	0.052	-	-	0.003	-
HCM Control Delay (s)	14.6	-	-	8.4	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	59	392	25	1	209	40	16	69	2	83	123	77
Future Volume (veh/h)	59	392	25	1	209	40	16	69	2	83	123	77
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1856	1856	1856	1930	1930	1930	1856	1856	1856
Adj Flow Rate, veh/h	61	408	26	1	218	42	17	72	2	86	128	80
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	3	3	3	3	3	3	3	3	3
Cap, veh/h	151	707	42	83	691	133	135	408	10	195	203	109
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	129	1546	93	1	1511	290	153	1664	41	359	826	443
Grp Volume(v), veh/h	495	0	0	261	0	0	91	0	0	294	0	0
Grp Sat Flow(s),veh/h/ln	1767	0	0	1802	0	0	1857	0	0	1628	0	0
Q Serve(g_s), s	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.7	0.0	0.0
Cycle Q Clear(g_c), s	8.7	0.0	0.0	4.0	0.0	0.0	1.6	0.0	0.0	7.2	0.0	0.0
Prop In Lane	0.12		0.05	0.00		0.16	0.19		0.02	0.29		0.27
Lane Grp Cap(c), veh/h	901	0	0	907	0	0	554	0	0	506	0	0
V/C Ratio(X)	0.55	0.00	0.00	0.29	0.00	0.00	0.16	0.00	0.00	0.58	0.00	0.00
Avail Cap(c_a), veh/h	2467	0	0	2550	0	0	1316	0	0	1205	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	8.8	0.0	0.0	7.5	0.0	0.0	13.1	0.0	0.0	15.1	0.0	0.0
Incr Delay (d2), s/veh	1.1	0.0	0.0	0.4	0.0	0.0	0.1	0.0	0.0	1.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.9	0.0	0.0	1.7	0.0	0.0	1.1	0.0	0.0	4.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.9	0.0	0.0	7.9	0.0	0.0	13.2	0.0	0.0	16.1	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	B	A	A	B	A	A
Approach Vol, veh/h		495			261			91			294	
Approach Delay, s/veh		9.9			7.9			13.2			16.1	
Approach LOS		A			A			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		27.0		16.7		27.0		16.7				
Change Period (Y+Rc), s		7.0		6.0		7.0		6.0				
Max Green Setting (Gmax), s		60.0		30.0		60.0		30.0				
Max Q Clear Time (g_c+I1), s		6.0		9.2		10.7		3.6				
Green Ext Time (p_c), s		3.1		1.7		6.8		0.4				

Intersection Summary			
HCM 6th Ctrl Delay			11.3
HCM 6th LOS			B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	77	267	103	160	169	258	102	1276	211	161	1328	57
Future Volume (veh/h)	77	267	103	160	169	258	102	1276	211	161	1328	57
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1900	1810	1885	1885	1900	1870	1885	1885	1885	1885
Adj Flow Rate, veh/h	83	287	0	172	182	0	110	1372	0	173	1428	61
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	0	1	1	1	0	2	1	1	1	1
Cap, veh/h	312	328		209	228		238	2412		293	2486	106
Arrive On Green	0.18	0.18	0.00	0.12	0.12	0.00	0.06	0.63	0.00	0.07	0.49	0.49
Sat Flow, veh/h	1781	1870	1610	1724	1885	1598	1810	5106	1598	1795	5061	216
Grp Volume(v), veh/h	83	287	0	172	182	0	110	1372	0	173	968	521
Grp Sat Flow(s),veh/h/ln	1781	1870	1610	1724	1885	1598	1810	1702	1598	1795	1716	1846
Q Serve(g_s), s	5.8	21.6	0.0	14.1	13.6	0.0	4.5	22.5	0.0	7.1	28.9	28.9
Cycle Q Clear(g_c), s	5.8	21.6	0.0	14.1	13.6	0.0	4.5	22.5	0.0	7.1	28.9	28.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.12
Lane Grp Cap(c), veh/h	312	328		209	228		238	2412		293	1685	907
V/C Ratio(X)	0.27	0.88		0.82	0.80		0.46	0.57		0.59	0.57	0.57
Avail Cap(c_a), veh/h	431	453		417	456		530	4768		549	3204	1724
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.6	58.1	0.0	62.0	61.8	0.0	20.9	18.4	0.0	20.2	26.1	26.1
Incr Delay (d2), s/veh	0.5	14.1	0.0	7.9	6.3	0.0	1.4	0.5	0.0	1.4	0.7	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.8	17.1	0.0	10.9	11.2	0.0	3.5	12.3	0.0	5.5	17.5	18.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.1	72.2	0.0	70.0	68.1	0.0	22.3	18.8	0.0	21.6	26.7	27.3
LnGrp LOS	D	E		E	E		C	B		C	C	C
Approach Vol, veh/h		370			354			1482			1662	
Approach Delay, s/veh		67.7			69.0			19.1			26.4	
Approach LOS		E			E			B			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	14.9	74.8		31.3	12.2	77.5		23.5
Change Period (Y+Rc), s	5.5	6.5		6.0	5.5	6.5		6.0
Max Green Setting (Gmax), s	30.0	135.0		35.0	30.0	135.0		35.0
Max Q Clear Time (g_c+I1), s	9.1	24.5		23.6	6.5	30.9		16.1
Green Ext Time (p_c), s	0.3	36.2		1.7	0.3	40.1		1.4

Intersection Summary	
HCM 6th Ctrl Delay	31.4
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	313	279	113	332	222	133
Future Volume (veh/h)	313	279	113	332	222	133
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1885	1885	1885	1961	1900
Adj Flow Rate, veh/h	337	300	122	357	239	143
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	1	1	1	1	0
Cap, veh/h	745	636	502	1092	340	293
Arrive On Green	0.40	0.40	0.08	0.58	0.18	0.18
Sat Flow, veh/h	1870	1598	1795	1885	1867	1610
Grp Volume(v), veh/h	337	300	122	357	239	143
Grp Sat Flow(s),veh/h/ln	1870	1598	1795	1885	1867	1610
Q Serve(g_s), s	6.6	7.0	1.8	4.9	6.0	4.0
Cycle Q Clear(g_c), s	6.6	7.0	1.8	4.9	6.0	4.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	745	636	502	1092	340	293
V/C Ratio(X)	0.45	0.47	0.24	0.33	0.70	0.49
Avail Cap(c_a), veh/h	1676	1431	1606	3190	1115	962
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.1	11.2	7.1	5.5	19.3	18.4
Incr Delay (d2), s/veh	0.9	1.2	0.4	0.4	2.7	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.4	4.0	1.0	2.6	4.7	0.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	12.0	12.4	7.5	5.9	21.9	19.7
LnGrp LOS	B	B	A	A	C	B
Approach Vol, veh/h	637			479	382	
Approach Delay, s/veh	12.2			6.3	21.1	
Approach LOS	B			A	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		35.1		15.1	9.1	26.0
Change Period (Y+Rc), s		6.0		6.0	5.0	6.0
Max Green Setting (Gmax), s		85.0		30.0	35.0	45.0
Max Q Clear Time (g_c+I1), s		6.9		8.0	3.8	9.0
Green Ext Time (p_c), s		5.1		1.2	0.5	7.4

Intersection Summary	
HCM 6th Ctrl Delay	12.6
HCM 6th LOS	B

Intersection	
Int Delay, s/veh	0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	391	19	3	422	27	0
Future Vol, veh/h	391	19	3	422	27	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	135	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	1	0	0	1	0	0
Mvmt Flow	444	22	3	480	31	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	466	0	930	444
Stage 1	-	-	-	-	444	-
Stage 2	-	-	-	-	486	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1106	-	299	618
Stage 1	-	-	-	-	651	-
Stage 2	-	-	-	-	623	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1106	-	298	618
Mov Cap-2 Maneuver	-	-	-	-	298	-
Stage 1	-	-	-	-	651	-
Stage 2	-	-	-	-	621	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	18.5
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	298	-	-	1106	-
HCM Lane V/C Ratio	0.103	-	-	0.003	-
HCM Control Delay (s)	18.5	-	-	8.3	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	314	61	9	314	3	59	3	11	4	2	33
Future Volume (veh/h)	41	314	61	9	314	3	59	3	11	4	2	33
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1900	1870	1870	1900	1976	1976	1976	1976	1976	1976
Adj Flow Rate, veh/h	47	357	69	10	357	3	67	3	12	5	2	38
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	0	2	2	0	0	0	0	0	0	0
Cap, veh/h	156	863	826	102	947	826	400	14	257	116	27	219
Arrive On Green	0.51	0.51	0.51	0.51	0.51	0.51	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	103	1682	1610	13	1845	1610	1432	94	1675	85	177	1427
Grp Volume(v), veh/h	404	0	69	367	0	3	70	0	12	45	0	0
Grp Sat Flow(s),veh/h/ln	1785	0	1610	1858	0	1610	1526	0	1675	1690	0	0
Q Serve(g_s), s	0.0	0.0	0.8	0.0	0.0	0.0	0.5	0.0	0.2	0.0	0.0	0.0
Cycle Q Clear(g_c), s	5.2	0.0	0.8	4.6	0.0	0.0	1.4	0.0	0.2	0.9	0.0	0.0
Prop In Lane	0.12		1.00	0.03		1.00	0.96		1.00	0.11		0.84
Lane Grp Cap(c), veh/h	1019	0	826	1048	0	826	415	0	257	362	0	0
V/C Ratio(X)	0.40	0.00	0.08	0.35	0.00	0.00	0.17	0.00	0.05	0.12	0.00	0.00
Avail Cap(c_a), veh/h	2769	0	2479	2920	0	2479	1315	0	1289	1386	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	5.9	0.0	4.8	5.7	0.0	4.6	14.5	0.0	14.1	14.3	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.1	0.4	0.0	0.0	0.2	0.0	0.1	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.5	0.0	0.3	2.2	0.0	0.0	0.9	0.0	0.1	0.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.4	0.0	4.9	6.2	0.0	4.6	14.7	0.0	14.1	14.5	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	B	A	B	B	A	A
Approach Vol, veh/h		473			370			82			45	
Approach Delay, s/veh		6.2			6.2			14.6			14.5	
Approach LOS		A			A			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		27.0		12.0		27.0		12.0				
Change Period (Y+Rc), s		7.0		6.0		7.0		6.0				
Max Green Setting (Gmax), s		60.0		30.0		60.0		30.0				
Max Q Clear Time (g_c+I1), s		6.6		2.9		7.2		3.4				
Green Ext Time (p_c), s		5.3		0.2		6.7		0.4				

Intersection Summary			
HCM 6th Ctrl Delay			7.3
HCM 6th LOS			A

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	28	321	288	11	15	30
Future Vol, veh/h	28	321	288	11	15	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	110	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	2	1	9	0	0
Mvmt Flow	31	353	316	12	16	33

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	328	0	-	0	731	316
Stage 1	-	-	-	-	316	-
Stage 2	-	-	-	-	415	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1243	-	-	-	392	729
Stage 1	-	-	-	-	744	-
Stage 2	-	-	-	-	671	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1243	-	-	-	380	729
Mov Cap-2 Maneuver	-	-	-	-	380	-
Stage 1	-	-	-	-	721	-
Stage 2	-	-	-	-	671	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	12.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1243	-	-	-	558
HCM Lane V/C Ratio	0.025	-	-	-	0.089
HCM Control Delay (s)	8	0	-	-	12.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	322	16	3	283	13	4
Future Vol, veh/h	322	16	3	283	13	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	300	290	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	3	0	33	1	8	0
Mvmt Flow	335	17	3	295	14	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	352	0	636	335
Stage 1	-	-	-	-	335	-
Stage 2	-	-	-	-	301	-
Critical Hdwy	-	-	4.43	-	6.48	6.2
Critical Hdwy Stg 1	-	-	-	-	5.48	-
Critical Hdwy Stg 2	-	-	-	-	5.48	-
Follow-up Hdwy	-	-	2.497	-	3.572	3.3
Pot Cap-1 Maneuver	-	-	1054	-	433	712
Stage 1	-	-	-	-	711	-
Stage 2	-	-	-	-	737	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1054	-	432	712
Mov Cap-2 Maneuver	-	-	-	-	432	-
Stage 1	-	-	-	-	711	-
Stage 2	-	-	-	-	735	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	12.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	476	-	-	1054	-
HCM Lane V/C Ratio	0.037	-	-	0.003	-
HCM Control Delay (s)	12.9	-	-	8.4	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	246	14	6	245	12	1
Future Vol, veh/h	246	14	6	245	12	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	4	0	17	2	8	100
Mvmt Flow	259	15	6	258	13	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	274	0	537	267
Stage 1	-	-	-	-	267	-
Stage 2	-	-	-	-	270	-
Critical Hdwy	-	-	4.27	-	6.48	7.2
Critical Hdwy Stg 1	-	-	-	-	5.48	-
Critical Hdwy Stg 2	-	-	-	-	5.48	-
Follow-up Hdwy	-	-	2.353	-	3.572	4.2
Pot Cap-1 Maneuver	-	-	1207	-	495	585
Stage 1	-	-	-	-	764	-
Stage 2	-	-	-	-	762	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1207	-	492	585
Mov Cap-2 Maneuver	-	-	-	-	492	-
Stage 1	-	-	-	-	764	-
Stage 2	-	-	-	-	757	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	12.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	498	-	-	1207	-
HCM Lane V/C Ratio	0.027	-	-	0.005	-
HCM Control Delay (s)	12.4	-	-	8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	165	21	3	177	30	13	50	7	34	73	68
Future Volume (veh/h)	53	165	21	3	177	30	13	50	7	34	73	68
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1885	1885	1885	1914	1914	1914	1870	1870	1870
Adj Flow Rate, veh/h	54	168	21	3	181	31	13	51	7	35	74	69
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	1	1	1	4	4	4	2	2	2
Cap, veh/h	229	643	72	93	770	130	134	273	33	145	152	121
Arrive On Green	0.49	0.49	0.49	0.49	0.49	0.49	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	245	1306	147	5	1565	265	156	1471	178	207	817	648
Grp Volume(v), veh/h	243	0	0	215	0	0	71	0	0	178	0	0
Grp Sat Flow(s),veh/h/ln	1697	0	0	1835	0	0	1804	0	0	1673	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0
Cycle Q Clear(g_c), s	3.1	0.0	0.0	2.7	0.0	0.0	1.3	0.0	0.0	3.8	0.0	0.0
Prop In Lane	0.22		0.09	0.01		0.14	0.18		0.10	0.20		0.39
Lane Grp Cap(c), veh/h	944	0	0	993	0	0	441	0	0	418	0	0
V/C Ratio(X)	0.26	0.00	0.00	0.22	0.00	0.00	0.16	0.00	0.00	0.43	0.00	0.00
Avail Cap(c_a), veh/h	2561	0	0	2804	0	0	1401	0	0	1326	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.0	0.0	0.0	5.9	0.0	0.0	13.9	0.0	0.0	14.9	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.2	0.0	0.0	0.2	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.1	0.0	0.0	1.0	0.0	0.0	0.9	0.0	0.0	2.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.3	0.0	0.0	6.1	0.0	0.0	14.1	0.0	0.0	15.6	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	B	A	A	B	A	A
Approach Vol, veh/h		243			215			71			178	
Approach Delay, s/veh		6.3			6.1			14.1			15.6	
Approach LOS		A			A			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		26.9		13.5		26.9		13.5				
Change Period (Y+Rc), s		7.0		6.0		7.0		6.0				
Max Green Setting (Gmax), s		60.0		30.0		60.0		30.0				
Max Q Clear Time (g_c+I1), s		4.7		5.8		5.1		3.3				
Green Ext Time (p_c), s		2.5		1.0		2.9		0.3				

Intersection Summary												
HCM 6th Ctrl Delay			9.4									
HCM 6th LOS			A									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	119	51	434	207	239	69	1027	174	136	991	22
Future Volume (veh/h)	33	119	51	434	207	239	69	1027	174	136	991	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1781	1781	1856	1826	1856	1781	1781	1767	1781	1781
Adj Flow Rate, veh/h	35	128	0	345	394	0	74	1104	0	146	1066	24
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	4	4	8	3	3	5	3	8	8	9	8	8
Cap, veh/h	151	158		387	424		284	2165		309	2309	52
Arrive On Green	0.09	0.09	0.00	0.23	0.23	0.00	0.05	0.59	0.00	0.06	0.47	0.47
Sat Flow, veh/h	1753	1841	1510	1696	1856	1547	1767	4863	1510	1682	4894	110
Grp Volume(v), veh/h	35	128	0	345	394	0	74	1104	0	146	706	384
Grp Sat Flow(s),veh/h/ln	1753	1841	1510	1696	1856	1547	1767	1621	1510	1682	1621	1762
Q Serve(g_s), s	2.5	9.2	0.0	26.6	28.1	0.0	3.1	17.9	0.0	6.3	19.9	19.9
Cycle Q Clear(g_c), s	2.5	9.2	0.0	26.6	28.1	0.0	3.1	17.9	0.0	6.3	19.9	19.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.06
Lane Grp Cap(c), veh/h	151	158		387	424		284	2165		309	1529	831
V/C Ratio(X)	0.23	0.81		0.89	0.93		0.26	0.51		0.47	0.46	0.46
Avail Cap(c_a), veh/h	234	245		402	440		462	2165		435	1529	831
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.57	0.57	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.5	60.6	0.0	50.4	51.0	0.0	19.9	18.9	0.0	19.6	24.1	24.1
Incr Delay (d2), s/veh	0.9	12.2	0.0	13.2	17.3	0.0	0.5	0.9	0.0	0.8	1.0	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.1	8.5	0.0	17.1	19.9	0.0	2.3	10.1	0.0	4.5	12.3	13.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.5	72.8	0.0	63.6	68.3	0.0	20.4	19.8	0.0	20.4	25.1	25.9
LnGrp LOS	E	E		E	E		C	B		C	C	C
Approach Vol, veh/h		163			739			1178			1236	
Approach Delay, s/veh		69.7			66.1			19.8			24.8	
Approach LOS		E			E			B			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	14.0	66.6		17.6	10.4	70.2		36.8
Change Period (Y+Rc), s	5.5	6.5		6.0	5.5	6.5		6.0
Max Green Setting (Gmax), s	18.5	42.5		18.0	18.5	42.5		32.0
Max Q Clear Time (g_c+I1), s	8.3	19.9		11.2	5.1	21.9		30.1
Green Ext Time (p_c), s	0.2	13.3		0.4	0.1	12.1		0.8

Intersection Summary	
HCM 6th Ctrl Delay	34.5
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	243	162	143	812	130	48
Future Volume (veh/h)	243	162	143	812	130	48
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1767	1841	1870	1856	1899	1870
Adj Flow Rate, veh/h	283	188	166	944	151	56
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	9	4	2	3	5	2
Cap, veh/h	966	853	667	1294	216	189
Arrive On Green	0.55	0.55	0.07	0.70	0.12	0.12
Sat Flow, veh/h	1767	1560	1781	1856	1809	1585
Grp Volume(v), veh/h	283	188	166	944	151	56
Grp Sat Flow(s),veh/h/ln	1767	1560	1781	1856	1809	1585
Q Serve(g_s), s	5.7	4.1	2.3	20.5	5.3	2.1
Cycle Q Clear(g_c), s	5.7	4.1	2.3	20.5	5.3	2.1
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	966	853	667	1294	216	189
V/C Ratio(X)	0.29	0.22	0.25	0.73	0.70	0.30
Avail Cap(c_a), veh/h	1214	1072	1486	2408	828	726
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	8.0	7.7	4.9	6.1	27.7	26.3
Incr Delay (d2), s/veh	0.4	0.3	0.3	1.7	4.1	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.4	2.2	1.2	9.6	4.3	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	8.4	7.9	5.2	7.8	31.8	27.2
LnGrp LOS	A	A	A	A	C	C
Approach Vol, veh/h	471			1110	207	
Approach Delay, s/veh	8.2			7.4	30.6	
Approach LOS	A			A	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		51.7		13.8	9.9	41.8
Change Period (Y+Rc), s		6.0		6.0	5.0	6.0
Max Green Setting (Gmax), s		85.0		30.0	35.0	45.0
Max Q Clear Time (g_c+I1), s		22.5		7.3	4.3	7.7
Green Ext Time (p_c), s		23.2		0.6	0.8	5.4

Intersection Summary	
HCM 6th Ctrl Delay	10.3
HCM 6th LOS	B

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	271	7	4	919	17	1
Future Vol, veh/h	271	7	4	919	17	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	135	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	6	17	25	3	2	100
Mvmt Flow	304	8	4	1033	19	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	312	0	1345	304
Stage 1	-	-	-	-	304	-
Stage 2	-	-	-	-	1041	-
Critical Hdwy	-	-	4.35	-	6.42	7.2
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.425	-	3.518	4.2
Pot Cap-1 Maneuver	-	-	1129	-	167	554
Stage 1	-	-	-	-	748	-
Stage 2	-	-	-	-	340	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1129	-	166	554
Mov Cap-2 Maneuver	-	-	-	-	166	-
Stage 1	-	-	-	-	748	-
Stage 2	-	-	-	-	337	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	28.5
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	173	-	-	1129	-
HCM Lane V/C Ratio	0.117	-	-	0.004	-
HCM Control Delay (s)	28.5	-	-	8.2	0
HCM Lane LOS	D	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	206	50	14	677	4	172	0	28	5	1	69
Future Volume (veh/h)	15	206	50	14	677	4	172	0	28	5	1	69
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1811	1796	1856	1856	1900	1945	1945	1976	1976	1976	1976
Adj Flow Rate, veh/h	16	226	55	15	744	4	189	0	31	5	1	76
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	6	6	7	3	3	0	2	2	0	0	0	0
Cap, veh/h	97	992	890	75	1074	942	391	0	288	78	15	271
Arrive On Green	0.58	0.58	0.58	0.58	0.58	0.58	0.17	0.00	0.17	0.17	0.17	0.17
Sat Flow, veh/h	44	1696	1522	12	1836	1610	1492	0	1675	38	86	1571
Grp Volume(v), veh/h	242	0	55	759	0	4	189	0	31	82	0	0
Grp Sat Flow(s),veh/h/ln	1740	0	1522	1847	0	1610	1492	0	1675	1695	0	0
Q Serve(g_s), s	0.0	0.0	0.8	0.0	0.0	0.1	3.9	0.0	0.8	0.0	0.0	0.0
Cycle Q Clear(g_c), s	3.4	0.0	0.8	15.4	0.0	0.1	6.2	0.0	0.8	2.3	0.0	0.0
Prop In Lane	0.07		1.00	0.02		1.00	1.00		1.00	0.06		0.93
Lane Grp Cap(c), veh/h	1089	0	890	1149	0	942	391	0	288	363	0	0
V/C Ratio(X)	0.22	0.00	0.06	0.66	0.00	0.00	0.48	0.00	0.11	0.23	0.00	0.00
Avail Cap(c_a), veh/h	1967	0	1707	2131	0	1805	926	0	939	1010	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	5.3	0.0	4.8	7.8	0.0	4.6	20.7	0.0	18.7	19.3	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.1	1.4	0.0	0.0	0.9	0.0	0.2	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.8	0.0	0.4	8.2	0.0	0.0	3.8	0.0	0.6	1.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.5	0.0	4.8	9.2	0.0	4.6	21.6	0.0	18.8	19.6	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	B	B	A	A
Approach Vol, veh/h		297			763			220			82	
Approach Delay, s/veh		5.4			9.2			21.2			19.6	
Approach LOS		A			A			C			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		38.3		15.2		38.3		15.2				
Change Period (Y+Rc), s		7.0		6.0		7.0		6.0				
Max Green Setting (Gmax), s		60.0		30.0		60.0		30.0				
Max Q Clear Time (g_c+I1), s		17.4		4.3		5.4		8.2				
Green Ext Time (p_c), s		13.9		0.4		3.8		1.2				

Intersection Summary	
HCM 6th Ctrl Delay	10.9
HCM 6th LOS	B

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	244	648	20	5	24
Future Vol, veh/h	10	244	648	20	5	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	110	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	0	5	8	5	0	0
Mvmt Flow	12	284	753	23	6	28

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	776	0	-	0	1061	753
Stage 1	-	-	-	-	753	-
Stage 2	-	-	-	-	308	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	849	-	-	-	250	413
Stage 1	-	-	-	-	469	-
Stage 2	-	-	-	-	750	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	849	-	-	-	246	413
Mov Cap-2 Maneuver	-	-	-	-	246	-
Stage 1	-	-	-	-	461	-
Stage 2	-	-	-	-	750	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	15.7
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	849	-	-	-	370
HCM Lane V/C Ratio	0.014	-	-	-	0.091
HCM Control Delay (s)	9.3	0	-	-	15.7
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Intersection	
Int Delay, s/veh	1.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↱	↰	↑	↰↱	
Traffic Vol, veh/h	224	17	6	594	62	19
Future Vol, veh/h	224	17	6	594	62	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	300	290	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	4	0	0	4	0	0
Mvmt Flow	249	19	7	660	69	21

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	268	0	923	249
Stage 1	-	-	-	-	249	-
Stage 2	-	-	-	-	674	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1307	-	302	795
Stage 1	-	-	-	-	797	-
Stage 2	-	-	-	-	510	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1307	-	300	795
Mov Cap-2 Maneuver	-	-	-	-	300	-
Stage 1	-	-	-	-	797	-
Stage 2	-	-	-	-	507	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	18.8
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	351	-	-	1307	-
HCM Lane V/C Ratio	0.256	-	-	0.005	-
HCM Control Delay (s)	18.8	-	-	7.8	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	1	-	-	0	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	232	7	1	519	16	6
Future Vol, veh/h	232	7	1	519	16	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	4	29	0	4	6	17
Mvmt Flow	270	8	1	603	19	7

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	278	0	879	274
Stage 1	-	-	-	-	274	-
Stage 2	-	-	-	-	605	-
Critical Hdwy	-	-	4.1	-	6.46	6.37
Critical Hdwy Stg 1	-	-	-	-	5.46	-
Critical Hdwy Stg 2	-	-	-	-	5.46	-
Follow-up Hdwy	-	-	2.2	-	3.554	3.453
Pot Cap-1 Maneuver	-	-	1296	-	313	730
Stage 1	-	-	-	-	763	-
Stage 2	-	-	-	-	537	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1296	-	313	730
Mov Cap-2 Maneuver	-	-	-	-	313	-
Stage 1	-	-	-	-	763	-
Stage 2	-	-	-	-	536	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	15.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	371	-	-	1296	-
HCM Lane V/C Ratio	0.069	-	-	0.001	-
HCM Control Delay (s)	15.4	-	-	7.8	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	186	12	8	441	71	15	92	8	22	38	67
Future Volume (veh/h)	45	186	12	8	441	71	15	92	8	22	38	67
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1796	1796	1796	1841	1841	1841	1884	1884	1884	1693	1693	1693
Adj Flow Rate, veh/h	51	209	13	9	496	80	17	103	9	25	43	75
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	7	7	7	4	4	4	6	6	6	14	14	14
Cap, veh/h	192	676	38	93	767	122	122	289	23	130	104	145
Arrive On Green	0.50	0.50	0.50	0.50	0.50	0.50	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	177	1358	77	8	1539	245	122	1557	126	147	559	779
Grp Volume(v), veh/h	273	0	0	585	0	0	129	0	0	143	0	0
Grp Sat Flow(s),veh/h/ln	1611	0	0	1792	0	0	1804	0	0	1485	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
Cycle Q Clear(g_c), s	3.7	0.0	0.0	10.0	0.0	0.0	2.5	0.0	0.0	3.4	0.0	0.0
Prop In Lane	0.19		0.05	0.02		0.14	0.13		0.07	0.17		0.52
Lane Grp Cap(c), veh/h	906	0	0	981	0	0	434	0	0	379	0	0
V/C Ratio(X)	0.30	0.00	0.00	0.60	0.00	0.00	0.30	0.00	0.00	0.38	0.00	0.00
Avail Cap(c_a), veh/h	2299	0	0	2692	0	0	1387	0	0	1162	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.1	0.0	0.0	7.7	0.0	0.0	14.6	0.0	0.0	15.0	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.0	0.0	1.2	0.0	0.0	0.4	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.3	0.0	0.0	3.7	0.0	0.0	1.7	0.0	0.0	1.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.5	0.0	0.0	8.9	0.0	0.0	15.0	0.0	0.0	15.6	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	B	A	A	B	A	A
Approach Vol, veh/h		273			585			129			143	
Approach Delay, s/veh		6.5			8.9			15.0			15.6	
Approach LOS		A			A			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		27.5		13.6		27.5		13.6				
Change Period (Y+Rc), s		7.0		6.0		7.0		6.0				
Max Green Setting (Gmax), s		60.0		30.0		60.0		30.0				
Max Q Clear Time (g_c+I1), s		12.0		5.4		5.7		4.5				
Green Ext Time (p_c), s		8.5		0.8		3.6		0.7				

Intersection Summary			
HCM 6th Ctrl Delay			9.9
HCM 6th LOS			A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	48	329	110	217	179	244	66	983	371	292	1094	41
Future Volume (veh/h)	48	329	110	217	179	244	66	983	371	292	1094	41
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1856	1810	1885	1856	1900	1811	1870	1856	1856	1856
Adj Flow Rate, veh/h	49	336	0	202	210	0	67	1003	0	298	1116	42
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	1	3	1	1	3	0	6	2	3	3	3
Cap, veh/h	349	366		224	245		280	2166		404	2563	96
Arrive On Green	0.19	0.19	0.00	0.13	0.13	0.00	0.04	0.58	0.00	0.10	0.51	0.51
Sat Flow, veh/h	1795	1885	1572	1724	1885	1572	1810	4944	1585	1767	5010	188
Grp Volume(v), veh/h	49	336	0	202	210	0	67	1003	0	298	752	406
Grp Sat Flow(s),veh/h/ln	1795	1885	1572	1724	1885	1572	1810	1648	1585	1767	1689	1822
Q Serve(g_s), s	4.1	31.5	0.0	20.8	19.6	0.0	3.7	20.9	0.0	16.3	25.2	25.2
Cycle Q Clear(g_c), s	4.1	31.5	0.0	20.8	19.6	0.0	3.7	20.9	0.0	16.3	25.2	25.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.10
Lane Grp Cap(c), veh/h	349	366		224	245		280	2166		404	1727	932
V/C Ratio(X)	0.14	0.92		0.90	0.86		0.24	0.46		0.74	0.44	0.44
Avail Cap(c_a), veh/h	409	429		249	272		550	2166		539	1727	932
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.89	0.89	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	60.1	71.1	0.0	77.2	76.7	0.0	26.5	25.5	0.0	24.7	27.6	27.6
Incr Delay (d2), s/veh	0.2	23.0	0.0	28.3	19.4	0.0	0.4	0.7	0.0	3.0	0.8	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.4	24.5	0.0	16.2	16.0	0.0	3.0	12.4	0.0	11.6	15.8	17.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.3	94.2	0.0	105.5	96.1	0.0	26.9	26.2	0.0	27.7	28.4	29.1
LnGrp LOS	E	F		F	F		C	C		C	C	C
Approach Vol, veh/h		385			412			1070			1456	
Approach Delay, s/veh		89.9			100.7			26.2			28.5	
Approach LOS		F			F			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	24.3	85.3		40.9	11.1	98.6		29.4
Change Period (Y+Rc), s	5.5	6.5		6.0	5.5	6.5		6.0
Max Green Setting (Gmax), s	32.5	56.5		41.0	32.5	56.5		26.0
Max Q Clear Time (g_c+I1), s	18.3	22.9		33.5	5.7	27.2		22.8
Green Ext Time (p_c), s	0.5	15.1		1.5	0.1	15.9		0.6

Intersection Summary	
HCM 6th Ctrl Delay	43.8
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	667	344	111	411	209	205
Future Volume (veh/h)	667	344	111	411	209	205
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1885	1841	1856	1945	1870
Adj Flow Rate, veh/h	695	358	116	428	218	214
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	1	4	3	2	2
Cap, veh/h	939	809	332	1198	328	281
Arrive On Green	0.51	0.51	0.07	0.65	0.18	0.18
Sat Flow, veh/h	1856	1598	1753	1856	1853	1585
Grp Volume(v), veh/h	695	358	116	428	218	214
Grp Sat Flow(s),veh/h/ln	1856	1598	1753	1856	1853	1585
Q Serve(g_s), s	20.0	9.7	1.9	7.2	7.4	8.7
Cycle Q Clear(g_c), s	20.0	9.7	1.9	7.2	7.4	8.7
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	939	809	332	1198	328	281
V/C Ratio(X)	0.74	0.44	0.35	0.36	0.66	0.76
Avail Cap(c_a), veh/h	1233	1061	1123	2328	820	702
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.2	10.6	10.4	5.5	26.0	26.5
Incr Delay (d2), s/veh	2.8	0.8	0.9	0.4	2.3	4.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	12.5	5.6	1.2	4.0	6.0	0.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	16.0	11.5	11.3	5.9	28.3	30.8
LnGrp LOS	B	B	B	A	C	C
Approach Vol, veh/h	1053			544	432	
Approach Delay, s/veh	14.5			7.1	29.5	
Approach LOS	B			A	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		49.7		18.0	9.4	40.3
Change Period (Y+Rc), s		6.0		6.0	5.0	6.0
Max Green Setting (Gmax), s		85.0		30.0	35.0	45.0
Max Q Clear Time (g_c+I1), s		9.2		10.7	3.9	22.0
Green Ext Time (p_c), s		6.5		1.3	0.5	12.3

Intersection Summary	
HCM 6th Ctrl Delay	15.7
HCM 6th LOS	B

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	830	14	0	504	4	4
Future Vol, veh/h	830	14	0	504	4	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	135	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	2	0	0	2	0	25
Mvmt Flow	856	14	0	520	4	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	870	0	1376	856
Stage 1	-	-	-	-	856	-
Stage 2	-	-	-	-	520	-
Critical Hdwy	-	-	4.1	-	6.4	6.45
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.525
Pot Cap-1 Maneuver	-	-	783	-	162	325
Stage 1	-	-	-	-	420	-
Stage 2	-	-	-	-	601	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	783	-	162	325
Mov Cap-2 Maneuver	-	-	-	-	162	-
Stage 1	-	-	-	-	420	-
Stage 2	-	-	-	-	601	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	22.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	216	-	-	783	-
HCM Lane V/C Ratio	0.038	-	-	-	-
HCM Control Delay (s)	22.3	-	-	0	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	54	622	154	30	359	16	111	3	25	4	3	32
Future Volume (veh/h)	54	622	154	30	359	16	111	3	25	4	3	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1900	1870	1870	1900	1976	1976	1899	1976	1976	1976
Adj Flow Rate, veh/h	57	655	162	32	378	17	117	3	26	4	3	34
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	0	2	2	0	0	0	5	0	0	0
Cap, veh/h	126	1009	955	112	1013	955	358	8	238	88	33	208
Arrive On Green	0.59	0.59	0.59	0.59	0.59	0.59	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	82	1700	1610	59	1707	1610	1468	51	1609	65	225	1409
Grp Volume(v), veh/h	712	0	162	410	0	17	120	0	26	41	0	0
Grp Sat Flow(s),veh/h/ln	1782	0	1610	1765	0	1610	1519	0	1609	1699	0	0
Q Serve(g_s), s	0.7	0.0	2.3	0.0	0.0	0.2	2.5	0.0	0.7	0.0	0.0	0.0
Cycle Q Clear(g_c), s	12.8	0.0	2.3	5.7	0.0	0.2	3.5	0.0	0.7	1.0	0.0	0.0
Prop In Lane	0.08		1.00	0.08		1.00	0.97		1.00	0.10		0.83
Lane Grp Cap(c), veh/h	1135	0	955	1125	0	955	366	0	238	330	0	0
V/C Ratio(X)	0.63	0.00	0.17	0.36	0.00	0.02	0.33	0.00	0.11	0.12	0.00	0.00
Avail Cap(c_a), veh/h	2178	0	1925	2113	0	1925	1022	0	962	1081	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.7	0.0	4.6	5.3	0.0	4.2	19.6	0.0	18.5	18.7	0.0	0.0
Incr Delay (d2), s/veh	1.2	0.0	0.2	0.4	0.0	0.0	0.5	0.0	0.2	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.5	0.0	1.0	2.9	0.0	0.1	2.2	0.0	0.5	0.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.0	0.0	4.8	5.7	0.0	4.2	20.1	0.0	18.7	18.8	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	B	B	A	A
Approach Vol, veh/h		874			427			146			41	
Approach Delay, s/veh		7.4			5.7			19.9			18.8	
Approach LOS		A			A			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		36.8		13.4		36.8		13.4				
Change Period (Y+Rc), s		7.0		6.0		7.0		6.0				
Max Green Setting (Gmax), s		60.0		30.0		60.0		30.0				
Max Q Clear Time (g_c+I1), s		7.7		3.0		14.8		5.5				
Green Ext Time (p_c), s		6.5		0.2		15.0		0.7				

Intersection Summary	
HCM 6th Ctrl Delay	8.4
HCM 6th LOS	A

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	47	584	363	17	16	38
Future Vol, veh/h	47	584	363	17	16	38
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	110	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	3	3	6	6	0
Mvmt Flow	49	608	378	18	17	40

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	396	0	-	0	1084	378
Stage 1	-	-	-	-	378	-
Stage 2	-	-	-	-	706	-
Critical Hdwy	4.1	-	-	-	6.46	6.2
Critical Hdwy Stg 1	-	-	-	-	5.46	-
Critical Hdwy Stg 2	-	-	-	-	5.46	-
Follow-up Hdwy	2.2	-	-	-	3.554	3.3
Pot Cap-1 Maneuver	1174	-	-	-	236	673
Stage 1	-	-	-	-	684	-
Stage 2	-	-	-	-	482	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1174	-	-	-	221	673
Mov Cap-2 Maneuver	-	-	-	-	221	-
Stage 1	-	-	-	-	641	-
Stage 2	-	-	-	-	482	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	14.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1174	-	-	-	419
HCM Lane V/C Ratio	0.042	-	-	-	0.134
HCM Control Delay (s)	8.2	0	-	-	14.9
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5

Intersection	
Int Delay, s/veh	1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↱	↰	↑	↰↱	
Traffic Vol, veh/h	575	62	17	328	36	12
Future Vol, veh/h	575	62	17	328	36	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	300	290	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	4	5	0	3	0	0
Mvmt Flow	618	67	18	353	39	13

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	685	0	1007	618
Stage 1	-	-	-	-	618	-
Stage 2	-	-	-	-	389	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	918	-	269	493
Stage 1	-	-	-	-	542	-
Stage 2	-	-	-	-	689	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	918	-	264	493
Mov Cap-2 Maneuver	-	-	-	-	264	-
Stage 1	-	-	-	-	542	-
Stage 2	-	-	-	-	675	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	19.5
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	299	-	-	918	-
HCM Lane V/C Ratio	0.173	-	-	0.02	-
HCM Control Delay (s)	19.5	-	-	9	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.6	-	-	0.1	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	473	480	3	316	11	8
Future Vol, veh/h	473	480	3	316	11	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	18	0	2	0	25
Mvmt Flow	509	516	3	340	12	9

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1025	0	1113	767
Stage 1	-	-	-	-	767	-
Stage 2	-	-	-	-	346	-
Critical Hdwy	-	-	4.1	-	6.4	6.45
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.525
Pot Cap-1 Maneuver	-	-	685	-	233	367
Stage 1	-	-	-	-	462	-
Stage 2	-	-	-	-	721	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	685	-	232	367
Mov Cap-2 Maneuver	-	-	-	-	232	-
Stage 1	-	-	-	-	462	-
Stage 2	-	-	-	-	717	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	19.1
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	275	-	-	685	-
HCM Lane V/C Ratio	0.074	-	-	0.005	-
HCM Control Delay (s)	19.1	-	-	10.3	0
HCM Lane LOS	C	-	-	B	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	62	403	25	1	225	40	16	69	2	83	123	82
Future Volume (veh/h)	62	403	25	1	225	40	16	69	2	83	123	82
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1856	1856	1856	1930	1930	1930	1856	1856	1856
Adj Flow Rate, veh/h	65	420	26	1	234	42	17	72	2	86	128	85
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	3	3	3	3	3	3	3	3	3
Cap, veh/h	154	699	41	83	697	125	135	414	10	193	202	115
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	135	1535	90	1	1531	274	153	1663	41	352	813	463
Grp Volume(v), veh/h	511	0	0	277	0	0	91	0	0	299	0	0
Grp Sat Flow(s),veh/h/ln	1760	0	0	1805	0	0	1857	0	0	1628	0	0
Q Serve(g_s), s	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.8	0.0	0.0
Cycle Q Clear(g_c), s	9.3	0.0	0.0	4.3	0.0	0.0	1.6	0.0	0.0	7.3	0.0	0.0
Prop In Lane	0.13		0.05	0.00		0.15	0.19		0.02	0.29		0.28
Lane Grp Cap(c), veh/h	894	0	0	904	0	0	559	0	0	510	0	0
V/C Ratio(X)	0.57	0.00	0.00	0.31	0.00	0.00	0.16	0.00	0.00	0.59	0.00	0.00
Avail Cap(c_a), veh/h	2445	0	0	2543	0	0	1310	0	0	1199	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.0	0.0	0.0	7.7	0.0	0.0	13.0	0.0	0.0	15.1	0.0	0.0
Incr Delay (d2), s/veh	1.2	0.0	0.0	0.4	0.0	0.0	0.1	0.0	0.0	1.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.2	0.0	0.0	1.9	0.0	0.0	1.1	0.0	0.0	4.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.2	0.0	0.0	8.1	0.0	0.0	13.1	0.0	0.0	16.1	0.0	0.0
LnGrp LOS	B	A	A	A	A	A	B	A	A	B	A	A
Approach Vol, veh/h		511			277			91			299	
Approach Delay, s/veh		10.2			8.1			13.1			16.1	
Approach LOS		B			A			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		27.0		16.9		27.0		16.9				
Change Period (Y+Rc), s		7.0		6.0		7.0		6.0				
Max Green Setting (Gmax), s		60.0		30.0		60.0		30.0				
Max Q Clear Time (g_c+I1), s		6.3		9.3		11.3		3.6				
Green Ext Time (p_c), s		3.3		1.7		7.2		0.4				

Intersection Summary												
HCM 6th Ctrl Delay			11.5									
HCM 6th LOS			B									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	77	283	103	186	186	280	102	1276	236	183	1328	57
Future Volume (veh/h)	77	283	103	186	186	280	102	1276	236	183	1328	57
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1900	1810	1885	1885	1900	1870	1885	1885	1885	1885
Adj Flow Rate, veh/h	83	304	0	200	200	0	110	1372	0	197	1428	61
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	0	1	1	1	0	2	1	1	1	1
Cap, veh/h	324	340		235	257		230	2306		292	2420	103
Arrive On Green	0.18	0.18	0.00	0.14	0.14	0.00	0.06	0.60	0.00	0.07	0.48	0.48
Sat Flow, veh/h	1781	1870	1610	1724	1885	1598	1810	5106	1598	1795	5061	216
Grp Volume(v), veh/h	83	304	0	200	200	0	110	1372	0	197	968	521
Grp Sat Flow(s),veh/h/ln	1781	1870	1610	1724	1885	1598	1810	1702	1598	1795	1716	1846
Q Serve(g_s), s	6.1	24.3	0.0	17.4	15.7	0.0	5.0	25.6	0.0	8.9	31.4	31.4
Cycle Q Clear(g_c), s	6.1	24.3	0.0	17.4	15.7	0.0	5.0	25.6	0.0	8.9	31.4	31.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.12
Lane Grp Cap(c), veh/h	324	340		235	257		230	2306		292	1640	883
V/C Ratio(X)	0.26	0.89		0.85	0.78		0.48	0.60		0.67	0.59	0.59
Avail Cap(c_a), veh/h	407	427		394	431		499	4499		512	3023	1627
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.8	61.2	0.0	64.6	63.9	0.0	23.6	21.9	0.0	23.5	29.1	29.1
Incr Delay (d2), s/veh	0.5	18.3	0.0	8.8	5.0	0.0	1.5	0.5	0.0	2.0	0.7	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.1	19.3	0.0	13.0	12.6	0.0	3.9	14.3	0.0	7.0	19.0	20.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.3	79.6	0.0	73.5	69.0	0.0	25.2	22.4	0.0	25.5	29.8	30.4
LnGrp LOS	D	E		E	E		C	C		C	C	C
Approach Vol, veh/h		387			400			1482			1686	
Approach Delay, s/veh		74.1			71.2			22.6			29.5	
Approach LOS		E			E			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	16.8	75.7		33.9	12.7	79.7		26.9
Change Period (Y+Rc), s	5.5	6.5		6.0	5.5	6.5		6.0
Max Green Setting (Gmax), s	30.0	135.0		35.0	30.0	135.0		35.0
Max Q Clear Time (g_c+I1), s	10.9	27.6		26.3	7.0	33.4		19.4
Green Ext Time (p_c), s	0.4	36.0		1.6	0.3	39.8		1.5

Intersection Summary	
HCM 6th Ctrl Delay	35.5
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	376	279	118	397	222	137
Future Volume (veh/h)	376	279	118	397	222	137
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1885	1885	1885	1961	1900
Adj Flow Rate, veh/h	404	300	127	427	239	147
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	1	1	1	1	0
Cap, veh/h	743	635	465	1092	340	293
Arrive On Green	0.40	0.40	0.08	0.58	0.18	0.18
Sat Flow, veh/h	1870	1598	1795	1885	1867	1610
Grp Volume(v), veh/h	404	300	127	427	239	147
Grp Sat Flow(s),veh/h/ln	1870	1598	1795	1885	1867	1610
Q Serve(g_s), s	8.4	7.0	1.8	6.2	6.0	4.1
Cycle Q Clear(g_c), s	8.4	7.0	1.8	6.2	6.0	4.1
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	743	635	465	1092	340	293
V/C Ratio(X)	0.54	0.47	0.27	0.39	0.70	0.50
Avail Cap(c_a), veh/h	1673	1429	1565	3184	1113	960
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.7	11.2	7.5	5.8	19.3	18.5
Incr Delay (d2), s/veh	1.3	1.2	0.4	0.5	2.6	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.6	4.1	1.0	3.2	4.7	0.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	13.0	12.4	8.0	6.2	21.9	19.8
LnGrp LOS	B	B	A	A	C	B
Approach Vol, veh/h	704			554	386	
Approach Delay, s/veh	12.7			6.6	21.1	
Approach LOS	B			A	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		35.2		15.2	9.2	26.0
Change Period (Y+Rc), s		6.0		6.0	5.0	6.0
Max Green Setting (Gmax), s		85.0		30.0	35.0	45.0
Max Q Clear Time (g_c+I1), s		8.2		8.0	3.8	10.4
Green Ext Time (p_c), s		6.4		1.2	0.6	8.5

Intersection Summary	
HCM 6th Ctrl Delay	12.7
HCM 6th LOS	B

Intersection	
Int Delay, s/veh	0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	458	19	3	492	27	0
Future Vol, veh/h	458	19	3	492	27	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	135	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	1	0	0	1	0	0
Mvmt Flow	520	22	3	559	31	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	542	0	1085	520
Stage 1	-	-	-	-	520	-
Stage 2	-	-	-	-	565	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1037	-	242	560
Stage 1	-	-	-	-	601	-
Stage 2	-	-	-	-	573	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1037	-	241	560
Mov Cap-2 Maneuver	-	-	-	-	241	-
Stage 1	-	-	-	-	601	-
Stage 2	-	-	-	-	571	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	22.1
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	241	-	-	1037	-
HCM Lane V/C Ratio	0.127	-	-	0.003	-
HCM Control Delay (s)	22.1	-	-	8.5	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	339	103	17	338	3	105	3	19	4	2	33
Future Volume (veh/h)	41	339	103	17	338	3	105	3	19	4	2	33
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1900	1870	1870	1900	1976	1976	1976	1976	1976	1976
Adj Flow Rate, veh/h	47	385	117	19	384	3	119	3	22	5	2	38
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	0	2	2	0	0	0	0	0	0	0
Cap, veh/h	148	843	805	109	904	805	434	9	294	113	33	251
Arrive On Green	0.50	0.50	0.50	0.50	0.50	0.50	0.18	0.18	0.18	0.18	0.18	0.18
Sat Flow, veh/h	98	1687	1610	29	1809	1610	1458	51	1675	77	187	1429
Grp Volume(v), veh/h	432	0	117	403	0	3	122	0	22	45	0	0
Grp Sat Flow(s),veh/h/ln	1785	0	1610	1838	0	1610	1509	0	1675	1692	0	0
Q Serve(g_s), s	0.0	0.0	1.6	0.0	0.0	0.0	1.8	0.0	0.4	0.0	0.0	0.0
Cycle Q Clear(g_c), s	6.0	0.0	1.6	5.5	0.0	0.0	2.7	0.0	0.4	0.9	0.0	0.0
Prop In Lane	0.11		1.00	0.05		1.00	0.98		1.00	0.11		0.84
Lane Grp Cap(c), veh/h	992	0	805	1013	0	805	442	0	294	397	0	0
V/C Ratio(X)	0.44	0.00	0.15	0.40	0.00	0.00	0.28	0.00	0.07	0.11	0.00	0.00
Avail Cap(c_a), veh/h	2698	0	2414	2791	0	2414	1277	0	1255	1350	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.5	0.0	5.4	6.4	0.0	5.0	14.7	0.0	13.8	14.0	0.0	0.0
Incr Delay (d2), s/veh	0.6	0.0	0.2	0.5	0.0	0.0	0.3	0.0	0.1	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.0	0.0	0.7	2.8	0.0	0.0	1.6	0.0	0.3	0.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.2	0.0	5.6	6.9	0.0	5.0	15.0	0.0	13.9	14.1	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	B	A	B	B	A	A
Approach Vol, veh/h		549			406			144			45	
Approach Delay, s/veh		6.8			6.9			14.8			14.1	
Approach LOS		A			A			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		27.0		13.0		27.0		13.0				
Change Period (Y+Rc), s		7.0		6.0		7.0		6.0				
Max Green Setting (Gmax), s		60.0		30.0		60.0		30.0				
Max Q Clear Time (g_c+I1), s		7.5		2.9		8.0		4.7				
Green Ext Time (p_c), s		6.0		0.2		7.8		0.7				

Intersection Summary			
HCM 6th Ctrl Delay		8.1	
HCM 6th LOS		A	

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	28	354	320	11	15	30
Future Vol, veh/h	28	354	320	11	15	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	110	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	2	1	9	0	0
Mvmt Flow	31	389	352	12	16	33

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	364	0	-	0	803	352
Stage 1	-	-	-	-	352	-
Stage 2	-	-	-	-	451	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1206	-	-	-	355	696
Stage 1	-	-	-	-	716	-
Stage 2	-	-	-	-	646	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1206	-	-	-	343	696
Mov Cap-2 Maneuver	-	-	-	-	343	-
Stage 1	-	-	-	-	692	-
Stage 2	-	-	-	-	646	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	12.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1206	-	-	-	518
HCM Lane V/C Ratio	0.026	-	-	-	0.095
HCM Control Delay (s)	8.1	0	-	-	12.7
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

Intersection	
Int Delay, s/veh	1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↱	↰	↑	↰↱	
Traffic Vol, veh/h	330	41	11	291	37	12
Future Vol, veh/h	330	41	11	291	37	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	300	290	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	3	0	33	1	8	0
Mvmt Flow	344	43	11	303	39	13

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	387	0	669	344
Stage 1	-	-	-	-	344	-
Stage 2	-	-	-	-	325	-
Critical Hdwy	-	-	4.43	-	6.48	6.2
Critical Hdwy Stg 1	-	-	-	-	5.48	-
Critical Hdwy Stg 2	-	-	-	-	5.48	-
Follow-up Hdwy	-	-	2.497	-	3.572	3.3
Pot Cap-1 Maneuver	-	-	1021	-	414	703
Stage 1	-	-	-	-	705	-
Stage 2	-	-	-	-	719	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1021	-	409	703
Mov Cap-2 Maneuver	-	-	-	-	409	-
Stage 1	-	-	-	-	705	-
Stage 2	-	-	-	-	711	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	13.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	456	-	-	1021	-
HCM Lane V/C Ratio	0.112	-	-	0.011	-
HCM Control Delay (s)	13.9	-	-	8.6	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.4	-	-	0	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	259	14	6	258	12	1
Future Vol, veh/h	259	14	6	258	12	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	4	0	17	2	8	100
Mvmt Flow	273	15	6	272	13	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	288	0	565	281
Stage 1	-	-	-	-	281	-
Stage 2	-	-	-	-	284	-
Critical Hdwy	-	-	4.27	-	6.48	7.2
Critical Hdwy Stg 1	-	-	-	-	5.48	-
Critical Hdwy Stg 2	-	-	-	-	5.48	-
Follow-up Hdwy	-	-	2.353	-	3.572	4.2
Pot Cap-1 Maneuver	-	-	1193	-	476	573
Stage 1	-	-	-	-	753	-
Stage 2	-	-	-	-	751	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1193	-	473	573
Mov Cap-2 Maneuver	-	-	-	-	473	-
Stage 1	-	-	-	-	753	-
Stage 2	-	-	-	-	746	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	12.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	479	-	-	1193	-
HCM Lane V/C Ratio	0.029	-	-	0.005	-
HCM Control Delay (s)	12.7	-	-	8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	178	21	3	190	30	13	50	7	34	73	71
Future Volume (veh/h)	56	178	21	3	190	30	13	50	7	34	73	71
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1885	1885	1885	1914	1914	1914	1870	1870	1870
Adj Flow Rate, veh/h	57	182	21	3	194	31	13	51	7	35	74	72
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	1	1	1	4	4	4	2	2	2
Cap, veh/h	227	650	68	93	779	123	134	274	33	144	149	124
Arrive On Green	0.49	0.49	0.49	0.49	0.49	0.49	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	240	1320	137	5	1583	250	156	1472	178	204	803	665
Grp Volume(v), veh/h	260	0	0	228	0	0	71	0	0	181	0	0
Grp Sat Flow(s),veh/h/ln	1697	0	0	1837	0	0	1805	0	0	1671	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0
Cycle Q Clear(g_c), s	3.4	0.0	0.0	2.9	0.0	0.0	1.3	0.0	0.0	3.9	0.0	0.0
Prop In Lane	0.22		0.08	0.01		0.14	0.18		0.10	0.19		0.40
Lane Grp Cap(c), veh/h	944	0	0	995	0	0	441	0	0	417	0	0
V/C Ratio(X)	0.28	0.00	0.00	0.23	0.00	0.00	0.16	0.00	0.00	0.43	0.00	0.00
Avail Cap(c_a), veh/h	2556	0	0	2805	0	0	1399	0	0	1323	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.1	0.0	0.0	5.9	0.0	0.0	13.9	0.0	0.0	15.0	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.2	0.0	0.0	0.2	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.2	0.0	0.0	1.0	0.0	0.0	0.9	0.0	0.0	2.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.4	0.0	0.0	6.2	0.0	0.0	14.1	0.0	0.0	15.7	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	B	A	A	B	A	A
Approach Vol, veh/h		260			228			71			181	
Approach Delay, s/veh		6.4			6.2			14.1			15.7	
Approach LOS		A			A			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		26.9		13.5		26.9		13.5				
Change Period (Y+Rc), s		7.0		6.0		7.0		6.0				
Max Green Setting (Gmax), s		60.0		30.0		60.0		30.0				
Max Q Clear Time (g_c+I1), s		4.9		5.9		5.4		3.3				
Green Ext Time (p_c), s		2.6		1.0		3.2		0.3				

Intersection Summary												
HCM 6th Ctrl Delay			9.3									
HCM 6th LOS			A									

Summary of All Intervals

Run Number	1	2	3	4	5	6	7
Start Time	6:30	6:30	6:30	6:30	6:30	6:30	6:30
End Time	8:00	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	90	90	90	90	90	90	90
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	3788	3816	3893	3764	3720	3911	3747
Vehs Exited	3804	3818	3873	3777	3742	3902	3757
Starting Vehs	150	132	125	153	154	144	152
Ending Vehs	134	130	145	140	132	153	142
Travel Distance (mi)	3380	3420	3472	3372	3271	3506	3358
Travel Time (hr)	147.3	148.3	152.7	145.4	143.2	151.3	146.4
Total Delay (hr)	40.1	39.8	42.4	38.8	39.0	40.5	39.7
Total Stops	3353	3475	3640	3379	3318	3345	3405
Fuel Used (gal)	112.8	114.7	116.2	112.2	109.2	116.2	111.7

Summary of All Intervals

Run Number	8	9	10	Avg
Start Time	6:30	6:30	6:30	6:30
End Time	8:00	8:00	8:00	8:00
Total Time (min)	90	90	90	90
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	3810	3822	3869	3812
Vehs Exited	3787	3840	3898	3820
Starting Vehs	134	158	149	140
Ending Vehs	157	140	120	133
Travel Distance (mi)	3457	3501	3522	3426
Travel Time (hr)	150.1	151.5	152.3	148.8
Total Delay (hr)	40.6	40.4	40.5	40.2
Total Stops	3512	3454	3461	3431
Fuel Used (gal)	115.6	116.2	116.7	114.1

Interval #0 Information Seeding

Start Time	6:30
End Time	7:00
Total Time (min)	30

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	6	7
Vehs Entered	3788	3816	3893	3764	3720	3911	3747
Vehs Exited	3804	3818	3873	3777	3742	3902	3757
Starting Vehs	150	132	125	153	154	144	152
Ending Vehs	134	130	145	140	132	153	142
Travel Distance (mi)	3380	3420	3472	3372	3271	3506	3358
Travel Time (hr)	147.3	148.3	152.7	145.4	143.2	151.3	146.4
Total Delay (hr)	40.1	39.8	42.4	38.8	39.0	40.5	39.7
Total Stops	3353	3475	3640	3379	3318	3345	3405
Fuel Used (gal)	112.8	114.7	116.2	112.2	109.2	116.2	111.7

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	8	9	10	Avg
Vehs Entered	3810	3822	3869	3812
Vehs Exited	3787	3840	3898	3820
Starting Vehs	134	158	149	140
Ending Vehs	157	140	120	133
Travel Distance (mi)	3457	3501	3522	3426
Travel Time (hr)	150.1	151.5	152.3	148.8
Total Delay (hr)	40.6	40.4	40.5	40.2
Total Stops	3512	3454	3461	3431
Fuel Used (gal)	115.6	116.2	116.7	114.1

Intersection: 1: US 50 & Goldsborough St/MD 328

Movement	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB
Directions Served	L	LT	L	LT	R	L	T	T	T	R	L	T
Maximum Queue (ft)	115	212	308	386	172	134	338	333	263	73	154	264
Average Queue (ft)	15	106	164	209	8	57	207	187	135	5	58	163
95th Queue (ft)	71	182	260	319	89	143	305	290	241	38	115	242
Link Distance (ft)		1151		866			1576	1576	1576			2028
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	100		300		300	110				270	460	
Storage Blk Time (%)	0	16	0	1	0	0	28		0			
Queuing Penalty (veh)	0	3	0	3	0	1	19		0			

Intersection: 1: US 50 & Goldsborough St/MD 328

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (ft)	275	259
Average Queue (ft)	165	130
95th Queue (ft)	249	226
Link Distance (ft)	2028	2028
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: Elliott Rd & MD 328

Movement	EB	EB	WB	WB	NB	NB
Directions Served	T	R	L	T	L	R
Maximum Queue (ft)	225	79	140	272	140	47
Average Queue (ft)	61	37	42	114	63	18
95th Queue (ft)	164	69	95	214	115	40
Link Distance (ft)	866			1552	480	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		460	200			200
Storage Blk Time (%)				1		
Queuing Penalty (veh)				1		

Intersection: 4: Fisher Range Rd/Dyott Ct & MD 328

Movement	EB	EB	WB	WB	NB	NB	SB
Directions Served	LT	R	LT	R	LT	R	LTR
Maximum Queue (ft)	140	49	245	20	116	40	53
Average Queue (ft)	47	8	110	2	54	10	25
95th Queue (ft)	109	32	200	13	94	34	48
Link Distance (ft)	1046		1883		531		338
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		210		210		120	
Storage Blk Time (%)	0		0		0	0	
Queuing Penalty (veh)	0		0		0	0	

Intersection: 8: Black Dog Aly & MD 328

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	134	187	150	126
Average Queue (ft)	50	72	59	52
95th Queue (ft)	111	138	115	100
Link Distance (ft)	322	1114	595	438
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Zone Summary

Zone wide Queuing Penalty: 27

Summary of All Intervals

Run Number	1	2	3	4	5	6	7
Start Time	3:30	3:30	3:30	3:30	3:30	3:30	3:30
End Time	5:00	5:00	5:00	5:00	5:00	5:00	5:00
Total Time (min)	90	90	90	90	90	90	90
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	4490	4402	4330	4478	4340	4493	4469
Vehs Exited	4482	4394	4391	4459	4383	4516	4422
Starting Vehs	181	177	209	161	186	214	155
Ending Vehs	189	185	148	180	143	191	202
Travel Distance (mi)	3875	3814	3723	3831	3732	3840	3837
Travel Time (hr)	183.6	177.8	173.4	182.3	171.9	179.5	177.8
Total Delay (hr)	60.3	56.2	54.8	60.3	52.4	57.2	55.4
Total Stops	4345	4260	4184	4458	4132	4251	4241
Fuel Used (gal)	135.0	133.0	129.3	134.0	129.4	133.0	132.8

Summary of All Intervals

Run Number	8	9	10	Avg
Start Time	3:30	3:30	3:30	3:30
End Time	5:00	5:00	5:00	5:00
Total Time (min)	90	90	90	90
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	4356	4387	4454	4419
Vehs Exited	4350	4374	4505	4426
Starting Vehs	156	195	200	184
Ending Vehs	162	208	149	170
Travel Distance (mi)	3751	3690	3908	3800
Travel Time (hr)	174.5	174.2	181.8	177.7
Total Delay (hr)	55.0	56.2	57.7	56.6
Total Stops	4227	4129	4428	4266
Fuel Used (gal)	130.5	128.5	135.3	132.1

Interval #0 Information Seeding

Start Time	3:30
End Time	4:00
Total Time (min)	30

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	4:00
End Time	5:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	6	7
Vehs Entered	4490	4402	4330	4478	4340	4493	4469
Vehs Exited	4482	4394	4391	4459	4383	4516	4422
Starting Vehs	181	177	209	161	186	214	155
Ending Vehs	189	185	148	180	143	191	202
Travel Distance (mi)	3875	3814	3723	3831	3732	3840	3837
Travel Time (hr)	183.6	177.8	173.4	182.3	171.9	179.5	177.8
Total Delay (hr)	60.3	56.2	54.8	60.3	52.4	57.2	55.4
Total Stops	4345	4260	4184	4458	4132	4251	4241
Fuel Used (gal)	135.0	133.0	129.3	134.0	129.4	133.0	132.8

Interval #1 Information Recording

Start Time	4:00
End Time	5:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	8	9	10	Avg
Vehs Entered	4356	4387	4454	4419
Vehs Exited	4350	4374	4505	4426
Starting Vehs	156	195	200	184
Ending Vehs	162	208	149	170
Travel Distance (mi)	3751	3690	3908	3800
Travel Time (hr)	174.5	174.2	181.8	177.7
Total Delay (hr)	55.0	56.2	57.7	56.6
Total Stops	4227	4129	4428	4266
Fuel Used (gal)	130.5	128.5	135.3	132.1

Intersection: 1: US 50 & Goldsborough St/MD 328

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB
Directions Served	L	LT	R	L	LT	R	L	T	T	T	R	L
Maximum Queue (ft)	125	492	11	259	290	79	134	385	362	342	218	271
Average Queue (ft)	28	293	0	120	190	5	60	243	226	173	70	121
95th Queue (ft)	107	449	11	212	275	67	146	356	344	297	172	224
Link Distance (ft)		1151	1151		866			1576	1576	1576		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	100			300		300	110				270	460
Storage Blk Time (%)	0	56		0	0	0	0	35		1	0	
Queuing Penalty (veh)	0	14		0	1	0	0	23		1	0	

Intersection: 1: US 50 & Goldsborough St/MD 328

Movement	SB	SB	SB
Directions Served	T	T	TR
Maximum Queue (ft)	322	329	307
Average Queue (ft)	197	196	172
95th Queue (ft)	312	311	301
Link Distance (ft)	2028	2028	2028
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: Elliott Rd & MD 328

Movement	EB	EB	WB	WB	NB	NB
Directions Served	T	R	L	T	L	R
Maximum Queue (ft)	399	174	102	171	197	178
Average Queue (ft)	154	58	49	69	102	57
95th Queue (ft)	307	119	88	135	174	117
Link Distance (ft)	866			1552	480	
Upstream Blk Time (%)	0					
Queuing Penalty (veh)	0					
Storage Bay Dist (ft)		460	200			200
Storage Blk Time (%)	0	0		0	0	0
Queuing Penalty (veh)	0	0		0	1	0

Intersection: 4: Fisher Range Rd/Dyott Ct & MD 328

Movement	EB	EB	WB	WB	NB	NB	SB
Directions Served	LT	R	LT	R	LT	R	LTR
Maximum Queue (ft)	265	121	157	26	98	51	50
Average Queue (ft)	97	19	56	4	43	11	16
95th Queue (ft)	203	79	115	19	81	36	39
Link Distance (ft)	1046		1883		531		338
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		210		210		120	
Storage Blk Time (%)	1	0			0		
Queuing Penalty (veh)	1	0			0		

Intersection: 8: Black Dog Aly & MD 328

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	228	120	95	213
Average Queue (ft)	104	49	40	102
95th Queue (ft)	189	99	77	178
Link Distance (ft)	322	1114	595	438
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Zone Summary

Zone wide Queuing Penalty: 41

Summary of All Intervals

Run Number	1	2	3	4	5	6	7
Start Time	11:00	11:00	11:00	11:00	11:00	11:00	11:00
End Time	12:30	12:30	12:30	12:30	12:30	12:30	12:30
Total Time (min)	90	90	90	90	90	90	90
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	4459	4592	4470	4526	4347	4627	4517
Vehs Exited	4492	4555	4470	4545	4373	4658	4491
Starting Vehs	207	158	188	189	162	184	137
Ending Vehs	174	195	188	170	136	153	163
Travel Distance (mi)	3498	3546	3456	3522	3389	3597	3484
Travel Time (hr)	168.7	177.9	163.4	167.1	155.4	175.2	173.5
Total Delay (hr)	56.9	63.9	52.5	54.2	46.5	59.8	61.7
Total Stops	3873	3973	3742	3806	3604	4038	3863
Fuel Used (gal)	121.4	124.6	119.0	121.7	115.3	125.6	122.0

Summary of All Intervals

Run Number	8	9	10	Avg
Start Time	11:00	11:00	11:00	11:00
End Time	12:30	12:30	12:30	12:30
Total Time (min)	90	90	90	90
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	4528	4610	4612	4528
Vehs Exited	4549	4608	4575	4532
Starting Vehs	181	184	134	168
Ending Vehs	160	186	171	166
Travel Distance (mi)	3520	3636	3575	3522
Travel Time (hr)	173.9	175.7	179.6	171.0
Total Delay (hr)	60.8	59.4	65.2	58.1
Total Stops	3867	3927	4075	3879
Fuel Used (gal)	123.4	126.2	125.9	122.5

Interval #0 Information Seeding

Start Time	11:00
End Time	11:30
Total Time (min)	30

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	11:30
End Time	12:30
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	6	7
Vehs Entered	4459	4592	4470	4526	4347	4627	4517
Vehs Exited	4492	4555	4470	4545	4373	4658	4491
Starting Vehs	207	158	188	189	162	184	137
Ending Vehs	174	195	188	170	136	153	163
Travel Distance (mi)	3498	3546	3456	3522	3389	3597	3484
Travel Time (hr)	168.7	177.9	163.4	167.1	155.4	175.2	173.5
Total Delay (hr)	56.9	63.9	52.5	54.2	46.5	59.8	61.7
Total Stops	3873	3973	3742	3806	3604	4038	3863
Fuel Used (gal)	121.4	124.6	119.0	121.7	115.3	125.6	122.0

Interval #1 Information Recording

Start Time	11:30
End Time	12:30
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	8	9	10	Avg
Vehs Entered	4528	4610	4612	4528
Vehs Exited	4549	4608	4575	4532
Starting Vehs	181	184	134	168
Ending Vehs	160	186	171	166
Travel Distance (mi)	3520	3636	3575	3522
Travel Time (hr)	173.9	175.7	179.6	171.0
Total Delay (hr)	60.8	59.4	65.2	58.1
Total Stops	3867	3927	4075	3879
Fuel Used (gal)	123.4	126.2	125.9	122.5

Intersection: 1: US 50 & Goldsborough St/MD 328

Movement	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB
Directions Served	L	LT	L	LT	R	L	T	T	T	R	L	T
Maximum Queue (ft)	125	791	271	444	281	134	473	444	408	295	176	367
Average Queue (ft)	39	444	107	198	22	75	262	244	196	38	71	223
95th Queue (ft)	122	781	222	341	145	157	433	414	366	165	135	377
Link Distance (ft)		1151		866			1576	1576	1576			2028
Upstream Blk Time (%)		0										
Queuing Penalty (veh)		0										
Storage Bay Dist (ft)	100		300		300	110				270	460	
Storage Blk Time (%)	0	70	0	2	0	2	32		3	0		
Queuing Penalty (veh)	1	27	0	5	0	7	33		5	0		

Intersection: 1: US 50 & Goldsborough St/MD 328

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (ft)	371	343
Average Queue (ft)	228	202
95th Queue (ft)	380	361
Link Distance (ft)	2028	2028
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: Elliott Rd & MD 328

Movement	EB	EB	WB	WB	NB	NB
Directions Served	T	R	L	T	L	R
Maximum Queue (ft)	174	127	98	160	187	66
Average Queue (ft)	71	52	44	63	95	31
95th Queue (ft)	142	97	79	125	160	55
Link Distance (ft)	866			1552	480	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		460	200			200
Storage Blk Time (%)				0	0	
Queuing Penalty (veh)				0	0	

Intersection: 4: Fisher Range Rd/Dyott Ct & MD 328

Movement	EB	EB	WB	WB	NB	NB	SB
Directions Served	LT	R	LT	R	LT	R	LTR
Maximum Queue (ft)	151	44	116	10	74	28	48
Average Queue (ft)	54	11	44	1	32	7	17
95th Queue (ft)	114	34	93	7	64	26	40
Link Distance (ft)	1046		1883		531		338
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		210		210		120	
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 8: Black Dog Aly & MD 328

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	126	94	99	130
Average Queue (ft)	49	37	34	55
95th Queue (ft)	100	76	74	103
Link Distance (ft)	322	1114	595	438
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Zone Summary

Zone wide Queuing Penalty: 77

Summary of All Intervals

Run Number	1	2	3	4	5	6	7
Start Time	6:30	6:30	6:30	6:30	6:30	6:30	6:30
End Time	8:00	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	90	90	90	90	90	90	90
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	3882	3986	4037	3924	3846	4138	3994
Vehs Exited	3835	3984	4053	3912	3857	4116	4008
Starting Vehs	134	140	160	160	155	158	160
Ending Vehs	181	142	144	172	144	180	146
Travel Distance (mi)	3515	3643	3638	3605	3520	3822	3649
Travel Time (hr)	154.0	158.5	159.0	157.0	155.5	171.3	160.9
Total Delay (hr)	42.9	43.0	43.7	43.2	43.7	50.1	45.0
Total Stops	3538	3657	3565	3615	3615	4005	3807
Fuel Used (gal)	118.1	122.0	121.2	120.6	118.1	128.5	122.7

Summary of All Intervals

Run Number	8	9	10	Avg
Start Time	6:30	6:30	6:30	6:30
End Time	8:00	8:00	8:00	8:00
Total Time (min)	90	90	90	90
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	3988	4108	4043	3991
Vehs Exited	4030	4084	4074	3995
Starting Vehs	189	163	169	157
Ending Vehs	147	187	138	156
Travel Distance (mi)	3728	3756	3729	3660
Travel Time (hr)	164.8	165.1	160.7	160.7
Total Delay (hr)	46.6	46.0	42.8	44.7
Total Stops	3759	3809	3606	3699
Fuel Used (gal)	125.7	126.3	123.1	122.6

Interval #0 Information Seeding

Start Time	6:30
End Time	7:00
Total Time (min)	30

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	6	7
Vehs Entered	3882	3986	4037	3924	3846	4138	3994
Vehs Exited	3835	3984	4053	3912	3857	4116	4008
Starting Vehs	134	140	160	160	155	158	160
Ending Vehs	181	142	144	172	144	180	146
Travel Distance (mi)	3515	3643	3638	3605	3520	3822	3649
Travel Time (hr)	154.0	158.5	159.0	157.0	155.5	171.3	160.9
Total Delay (hr)	42.9	43.0	43.7	43.2	43.7	50.1	45.0
Total Stops	3538	3657	3565	3615	3615	4005	3807
Fuel Used (gal)	118.1	122.0	121.2	120.6	118.1	128.5	122.7

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	8	9	10	Avg
Vehs Entered	3988	4108	4043	3991
Vehs Exited	4030	4084	4074	3995
Starting Vehs	189	163	169	157
Ending Vehs	147	187	138	156
Travel Distance (mi)	3728	3756	3729	3660
Travel Time (hr)	164.8	165.1	160.7	160.7
Total Delay (hr)	46.6	46.0	42.8	44.7
Total Stops	3759	3809	3606	3699
Fuel Used (gal)	125.7	126.3	123.1	122.6

Intersection: 1: US 50 & Goldsborough St/MD 328

Movement	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB
Directions Served	L	LT	L	LT	R	L	T	T	T	R	L	T
Maximum Queue (ft)	94	227	317	442	257	134	332	322	263	61	145	272
Average Queue (ft)	14	113	176	222	15	60	212	195	143	8	63	174
95th Queue (ft)	69	193	282	349	119	145	304	288	245	35	119	250
Link Distance (ft)		1151		866			1576	1576	1576			2028
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	100		300		300	110				270	460	
Storage Blk Time (%)	0	21	0	1	0	0	30		0			
Queuing Penalty (veh)	0	3	0	5	0	0	21		0			

Intersection: 1: US 50 & Goldsborough St/MD 328

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (ft)	281	254
Average Queue (ft)	176	141
95th Queue (ft)	254	233
Link Distance (ft)	2028	2028
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: Elliott Rd & MD 328

Movement	EB	EB	WB	WB	NB	NB
Directions Served	T	R	L	T	L	R
Maximum Queue (ft)	239	87	209	292	147	47
Average Queue (ft)	71	37	52	129	66	18
95th Queue (ft)	182	71	131	246	122	40
Link Distance (ft)	866			1552	480	
Upstream Blk Time (%)	0					
Queuing Penalty (veh)	0					
Storage Bay Dist (ft)		460	200			200
Storage Blk Time (%)				1	0	
Queuing Penalty (veh)				2	0	

Intersection: 4: Fisher Range Rd/Dyott Ct & MD 328

Movement	EB	EB	WB	WB	NB	NB	SB
Directions Served	LT	R	LT	R	LT	R	LTR
Maximum Queue (ft)	144	45	322	20	137	38	62
Average Queue (ft)	50	7	129	1	61	11	27
95th Queue (ft)	115	29	255	9	112	35	52
Link Distance (ft)	1046		1883		531		338
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		210		210		120	
Storage Blk Time (%)			1		1	0	
Queuing Penalty (veh)			0		0	0	

Intersection: 8: Black Dog Aly & MD 328

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	159	190	130	134
Average Queue (ft)	59	78	58	57
95th Queue (ft)	127	149	107	111
Link Distance (ft)	322	1114	595	438
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Zone Summary

Zone wide Queuing Penalty: 32

Summary of All Intervals

Run Number	1	2	3	4	5	6	7
Start Time	3:30	3:30	3:30	3:30	3:30	3:30	3:30
End Time	5:00	5:00	5:00	5:00	5:00	5:00	5:00
Total Time (min)	90	90	90	90	90	90	90
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	4594	4575	4653	4736	4575	4679	4703
Vehs Exited	4585	4553	4670	4715	4573	4691	4684
Starting Vehs	181	206	192	198	198	206	222
Ending Vehs	190	228	175	219	200	194	241
Travel Distance (mi)	4123	4029	4126	4205	4120	4145	4189
Travel Time (hr)	199.1	191.2	194.3	198.9	197.8	197.4	199.5
Total Delay (hr)	67.7	63.2	63.0	65.5	66.7	65.8	66.3
Total Stops	4732	4460	4711	4666	4683	4647	4777
Fuel Used (gal)	144.5	141.1	142.8	147.2	144.4	144.4	146.4

Summary of All Intervals

Run Number	8	9	10	Avg
Start Time	3:30	3:30	3:30	3:30
End Time	5:00	5:00	5:00	5:00
Total Time (min)	90	90	90	90
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	4454	4586	4705	4629
Vehs Exited	4469	4606	4754	4631
Starting Vehs	223	214	227	203
Ending Vehs	208	194	178	196
Travel Distance (mi)	3994	4168	4235	4133
Travel Time (hr)	188.6	200.8	204.2	197.2
Total Delay (hr)	61.7	68.3	69.7	65.8
Total Stops	4450	4854	4893	4687
Fuel Used (gal)	139.7	145.9	149.0	144.5

Interval #0 Information Seeding

Start Time	3:30
End Time	4:00
Total Time (min)	30

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	4:00
End Time	5:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	6	7
Vehs Entered	4594	4575	4653	4736	4575	4679	4703
Vehs Exited	4585	4553	4670	4715	4573	4691	4684
Starting Vehs	181	206	192	198	198	206	222
Ending Vehs	190	228	175	219	200	194	241
Travel Distance (mi)	4123	4029	4126	4205	4120	4145	4189
Travel Time (hr)	199.1	191.2	194.3	198.9	197.8	197.4	199.5
Total Delay (hr)	67.7	63.2	63.0	65.5	66.7	65.8	66.3
Total Stops	4732	4460	4711	4666	4683	4647	4777
Fuel Used (gal)	144.5	141.1	142.8	147.2	144.4	144.4	146.4

Interval #1 Information Recording

Start Time	4:00
End Time	5:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	8	9	10	Avg
Vehs Entered	4454	4586	4705	4629
Vehs Exited	4469	4606	4754	4631
Starting Vehs	223	214	227	203
Ending Vehs	208	194	178	196
Travel Distance (mi)	3994	4168	4235	4133
Travel Time (hr)	188.6	200.8	204.2	197.2
Total Delay (hr)	61.7	68.3	69.7	65.8
Total Stops	4450	4854	4893	4687
Fuel Used (gal)	139.7	145.9	149.0	144.5

Intersection: 1: US 50 & Goldsborough St/MD 328

Movement	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB
Directions Served	L	LT	L	LT	R	L	T	T	T	R	L	T
Maximum Queue (ft)	125	511	296	430	276	134	410	404	370	276	314	335
Average Queue (ft)	32	314	154	227	29	56	276	256	198	81	147	211
95th Queue (ft)	114	472	258	349	176	141	381	366	315	194	269	322
Link Distance (ft)		1151		866			1576	1576	1576			2028
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	100		300		300	110				270	460	
Storage Blk Time (%)	0	60	0	2	0	0	40		1	0		
Queuing Penalty (veh)	0	14	0	7	0	0	27		3	0		

Intersection: 1: US 50 & Goldsborough St/MD 328

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (ft)	345	317
Average Queue (ft)	211	189
95th Queue (ft)	332	310
Link Distance (ft)	2028	2028
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: Elliott Rd & MD 328

Movement	EB	EB	WB	WB	NB	NB
Directions Served	T	R	L	T	L	R
Maximum Queue (ft)	502	110	130	199	238	179
Average Queue (ft)	179	53	51	80	103	63
95th Queue (ft)	371	89	97	157	181	126
Link Distance (ft)	866			1552	480	
Upstream Blk Time (%)	0					
Queuing Penalty (veh)	0					
Storage Bay Dist (ft)		460	200			200
Storage Blk Time (%)				0	1	0
Queuing Penalty (veh)				0	1	0

Intersection: 4: Fisher Range Rd/Dyott Ct & MD 328

Movement	EB	EB	WB	WB	NB	NB	SB
Directions Served	LT	R	LT	R	LT	R	LTR
Maximum Queue (ft)	278	178	188	46	96	46	47
Average Queue (ft)	112	20	71	4	44	11	17
95th Queue (ft)	229	87	145	29	83	35	40
Link Distance (ft)	1046		1883		531		338
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		210		210		120	
Storage Blk Time (%)	1	0	0	0	0		
Queuing Penalty (veh)	1	0	0	0	0		

Intersection: 8: Black Dog Aly & MD 328

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	260	116	113	237
Average Queue (ft)	113	51	44	111
95th Queue (ft)	209	100	87	195
Link Distance (ft)	322	1114	595	438
Upstream Blk Time (%)	0			
Queuing Penalty (veh)	0			
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Zone Summary

Zone wide Queuing Penalty: 55

Summary of All Intervals

Run Number	1	2	3	4	5	6	7
Start Time	11:30	11:30	11:30	11:30	11:30	11:30	11:30
End Time	1:00	1:00	1:00	1:00	1:00	1:00	1:00
Total Time (min)	90	90	90	90	90	90	90
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	4750	4775	4800	4674	4744	4701	4783
Vehs Exited	4786	4764	4763	4662	4730	4723	4741
Starting Vehs	208	217	161	234	196	187	200
Ending Vehs	172	228	198	246	210	165	242
Travel Distance (mi)	3877	3885	3864	3759	3863	3833	3808
Travel Time (hr)	199.4	200.9	216.7	214.8	207.3	190.6	204.5
Total Delay (hr)	75.3	76.7	93.1	94.9	83.7	68.3	82.7
Total Stops	4341	4492	4450	4249	4466	4261	4134
Fuel Used (gal)	137.0	137.1	140.9	138.0	139.3	135.4	137.5

Summary of All Intervals

Run Number	8	9	10	Avg
Start Time	11:30	11:30	11:30	11:30
End Time	1:00	1:00	1:00	1:00
Total Time (min)	90	90	90	90
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	4754	4763	4624	4740
Vehs Exited	4703	4728	4649	4725
Starting Vehs	169	218	232	196
Ending Vehs	220	253	207	206
Travel Distance (mi)	3871	3885	3751	3840
Travel Time (hr)	271.1	200.1	206.9	211.2
Total Delay (hr)	147.2	75.7	87.3	88.5
Total Stops	4367	4420	4337	4353
Fuel Used (gal)	154.1	137.8	136.2	139.3

Interval #0 Information Seeding

Start Time	11:30
End Time	12:00
Total Time (min)	30

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	12:00
End Time	1:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	6	7
Vehs Entered	4750	4775	4800	4674	4744	4701	4783
Vehs Exited	4786	4764	4763	4662	4730	4723	4741
Starting Vehs	208	217	161	234	196	187	200
Ending Vehs	172	228	198	246	210	165	242
Travel Distance (mi)	3877	3885	3864	3759	3863	3833	3808
Travel Time (hr)	199.4	200.9	216.7	214.8	207.3	190.6	204.5
Total Delay (hr)	75.3	76.7	93.1	94.9	83.7	68.3	82.7
Total Stops	4341	4492	4450	4249	4466	4261	4134
Fuel Used (gal)	137.0	137.1	140.9	138.0	139.3	135.4	137.5

Interval #1 Information Recording

Start Time	12:00
End Time	1:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	8	9	10	Avg
Vehs Entered	4754	4763	4624	4740
Vehs Exited	4703	4728	4649	4725
Starting Vehs	169	218	232	196
Ending Vehs	220	253	207	206
Travel Distance (mi)	3871	3885	3751	3840
Travel Time (hr)	271.1	200.1	206.9	211.2
Total Delay (hr)	147.2	75.7	87.3	88.5
Total Stops	4367	4420	4337	4353
Fuel Used (gal)	154.1	137.8	136.2	139.3

Intersection: 1: US 50 & Goldsborough St/MD 328

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB
Directions Served	L	LT	R	L	LT	R	L	T	T	T	R	L
Maximum Queue (ft)	125	1096	583	315	489	325	134	446	450	391	294	230
Average Queue (ft)	46	869	242	137	227	48	66	278	262	210	58	87
95th Queue (ft)	129	1295	993	253	372	227	144	446	434	382	209	170
Link Distance (ft)		1151	1151		866			1576	1576	1576		
Upstream Blk Time (%)		21	4									
Queuing Penalty (veh)		0	0									
Storage Bay Dist (ft)	100			300		300	110				270	460
Storage Blk Time (%)	0	82		0	3	0	1	34		3	0	
Queuing Penalty (veh)	0	31		0	10	0	5	35		7	0	

Intersection: 1: US 50 & Goldsborough St/MD 328

Movement	SB	SB	SB
Directions Served	T	T	TR
Maximum Queue (ft)	374	389	361
Average Queue (ft)	229	235	214
95th Queue (ft)	386	395	374
Link Distance (ft)	2028	2028	2028
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: Elliott Rd & MD 328

Movement	EB	EB	WB	WB	NB	NB
Directions Served	T	R	L	T	L	R
Maximum Queue (ft)	231	115	94	169	182	72
Average Queue (ft)	97	52	46	76	96	33
95th Queue (ft)	183	94	80	143	157	60
Link Distance (ft)	866			1552	480	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		460	200			200
Storage Blk Time (%)				0	0	
Queuing Penalty (veh)				0	0	

Intersection: 4: Fisher Range Rd/Dyott Ct & MD 328

Movement	EB	EB	WB	WB	NB	NB	SB
Directions Served	LT	R	LT	R	LT	R	LTR
Maximum Queue (ft)	175	65	146	20	86	33	46
Average Queue (ft)	59	11	59	1	33	7	16
95th Queue (ft)	134	42	121	10	65	27	39
Link Distance (ft)	1046		1883		531		338
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		210		210		120	
Storage Blk Time (%)	0		0		0		
Queuing Penalty (veh)	0		0		0		

Intersection: 8: Black Dog Aly & MD 328

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	142	102	83	134
Average Queue (ft)	53	37	34	58
95th Queue (ft)	110	75	69	105
Link Distance (ft)	322	1114	595	438
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Zone Summary

Zone wide Queuing Penalty: 89

Summary of All Intervals

Run Number	1	2	3	4	5	6	7
Start Time	6:30	6:30	6:30	6:30	6:30	6:30	6:30
End Time	8:00	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	90	90	90	90	90	90	90
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	4159	4210	4176	4196	4162	4217	4309
Vehs Exited	4108	4217	4189	4164	4168	4243	4296
Starting Vehs	155	171	179	166	178	204	167
Ending Vehs	206	164	166	198	172	178	180
Travel Distance (mi)	3867	3935	3915	3842	3878	3919	4027
Travel Time (hr)	174.4	178.6	179.6	172.5	177.2	176.6	182.6
Total Delay (hr)	51.6	53.7	55.1	50.0	53.5	51.8	54.4
Total Stops	4229	4206	4401	4058	4141	4230	4347
Fuel Used (gal)	131.2	133.9	132.9	129.6	132.1	133.6	136.1

Summary of All Intervals

Run Number	8	9	10	Avg
Start Time	6:30	6:30	6:30	6:30
End Time	8:00	8:00	8:00	8:00
Total Time (min)	90	90	90	90
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	4189	4193	4174	4200
Vehs Exited	4195	4218	4176	4195
Starting Vehs	177	199	166	176
Ending Vehs	171	174	164	172
Travel Distance (mi)	3958	3858	3904	3910
Travel Time (hr)	178.0	172.4	175.2	176.7
Total Delay (hr)	52.1	49.1	51.5	52.3
Total Stops	4209	4044	4179	4204
Fuel Used (gal)	133.8	130.3	132.3	132.6

Interval #0 Information Seeding

Start Time	6:30
End Time	7:00
Total Time (min)	30

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	6	7
Vehs Entered	4159	4210	4176	4196	4162	4217	4309
Vehs Exited	4108	4217	4189	4164	4168	4243	4296
Starting Vehs	155	171	179	166	178	204	167
Ending Vehs	206	164	166	198	172	178	180
Travel Distance (mi)	3867	3935	3915	3842	3878	3919	4027
Travel Time (hr)	174.4	178.6	179.6	172.5	177.2	176.6	182.6
Total Delay (hr)	51.6	53.7	55.1	50.0	53.5	51.8	54.4
Total Stops	4229	4206	4401	4058	4141	4230	4347
Fuel Used (gal)	131.2	133.9	132.9	129.6	132.1	133.6	136.1

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	8	9	10	Avg
Vehs Entered	4189	4193	4174	4200
Vehs Exited	4195	4218	4176	4195
Starting Vehs	177	199	166	176
Ending Vehs	171	174	164	172
Travel Distance (mi)	3958	3858	3904	3910
Travel Time (hr)	178.0	172.4	175.2	176.7
Total Delay (hr)	52.1	49.1	51.5	52.3
Total Stops	4209	4044	4179	4204
Fuel Used (gal)	133.8	130.3	132.3	132.6

Intersection: 1: US 50 & Goldsborough St/MD 328

Movement	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB
Directions Served	L	LT	L	LT	R	L	T	T	T	R	L	T
Maximum Queue (ft)	117	223	324	533	325	134	356	349	293	139	165	284
Average Queue (ft)	14	117	208	261	44	61	230	215	165	13	74	183
95th Queue (ft)	68	202	305	407	224	150	320	309	268	70	135	261
Link Distance (ft)		1151		866			1576	1576	1576			2028
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	100		300		300	110				270	460	
Storage Blk Time (%)	0	21	0	3	0	0	35		0	0		
Queuing Penalty (veh)	0	3	1	13	0	0	24		0	0		

Intersection: 1: US 50 & Goldsborough St/MD 328

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (ft)	292	256
Average Queue (ft)	184	151
95th Queue (ft)	265	237
Link Distance (ft)	2028	2028
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: Elliott Rd & MD 328

Movement	EB	EB	WB	WB	NB	NB
Directions Served	T	R	L	T	L	R
Maximum Queue (ft)	268	91	170	390	178	53
Average Queue (ft)	76	36	51	150	77	20
95th Queue (ft)	193	72	124	291	144	43
Link Distance (ft)	866			1552	480	
Upstream Blk Time (%)	0					
Queuing Penalty (veh)	0					
Storage Bay Dist (ft)		460	200			200
Storage Blk Time (%)				2	0	
Queuing Penalty (veh)				3	0	

Intersection: 4: Fisher Range Rd/Dyott Ct & MD 328

Movement	EB	EB	WB	WB	NB	NB	SB
Directions Served	LT	R	LT	R	LT	R	LTR
Maximum Queue (ft)	182	67	307	48	160	89	62
Average Queue (ft)	60	13	156	3	80	16	28
95th Queue (ft)	137	47	265	36	136	53	56
Link Distance (ft)	1046		1883		531		338
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		210		210		120	
Storage Blk Time (%)	0		2		3	0	
Queuing Penalty (veh)	0		0		1	0	

Intersection: 8: Black Dog Aly & MD 328

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	160	184	134	137
Average Queue (ft)	67	83	59	56
95th Queue (ft)	131	151	110	105
Link Distance (ft)	322	1114	595	438
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Zone Summary

Zone wide Queuing Penalty: 46

Summary of All Intervals

Run Number	1	2	3	4	5	6	7
Start Time	6:30	6:30	6:30	6:30	6:30	6:30	6:30
End Time	8:00	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	90	90	90	90	90	90	90
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	5101	5198	5138	5190	5122	5332	5234
Vehs Exited	5064	5245	5154	5185	5102	5332	5222
Starting Vehs	187	257	223	208	216	230	217
Ending Vehs	224	210	207	213	236	230	229
Travel Distance (mi)	4371	4442	4469	4453	4404	4584	4470
Travel Time (hr)	213.4	217.9	221.0	222.0	218.0	230.7	219.5
Total Delay (hr)	73.7	76.1	78.7	79.4	76.9	83.9	76.4
Total Stops	5060	5157	5145	5246	5224	5547	5280
Fuel Used (gal)	154.5	156.5	157.9	158.7	157.1	163.1	158.6

Summary of All Intervals

Run Number	8	9	10	Avg
Start Time	6:30	6:30	6:30	6:30
End Time	8:00	8:00	8:00	8:00
Total Time (min)	90	90	90	90
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	5319	5218	5255	5212
Vehs Exited	5303	5194	5258	5207
Starting Vehs	215	207	216	217
Ending Vehs	231	231	213	217
Travel Distance (mi)	4554	4547	4514	4481
Travel Time (hr)	231.0	228.9	224.7	222.7
Total Delay (hr)	85.0	83.6	80.5	79.4
Total Stops	5543	5362	5295	5289
Fuel Used (gal)	162.3	162.3	160.7	159.2

Interval #0 Information Seeding

Start Time	6:30
End Time	7:00
Total Time (min)	30

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	6	7
Vehs Entered	5101	5198	5138	5190	5122	5332	5234
Vehs Exited	5064	5245	5154	5185	5102	5332	5222
Starting Vehs	187	257	223	208	216	230	217
Ending Vehs	224	210	207	213	236	230	229
Travel Distance (mi)	4371	4442	4469	4453	4404	4584	4470
Travel Time (hr)	213.4	217.9	221.0	222.0	218.0	230.7	219.5
Total Delay (hr)	73.7	76.1	78.7	79.4	76.9	83.9	76.4
Total Stops	5060	5157	5145	5246	5224	5547	5280
Fuel Used (gal)	154.5	156.5	157.9	158.7	157.1	163.1	158.6

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	8	9	10	Avg
Vehs Entered	5319	5218	5255	5212
Vehs Exited	5303	5194	5258	5207
Starting Vehs	215	207	216	217
Ending Vehs	231	231	213	217
Travel Distance (mi)	4554	4547	4514	4481
Travel Time (hr)	231.0	228.9	224.7	222.7
Total Delay (hr)	85.0	83.6	80.5	79.4
Total Stops	5543	5362	5295	5289
Fuel Used (gal)	162.3	162.3	160.7	159.2

Intersection: 1: US 50 & Goldsborough St/MD 328

Movement	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB
Directions Served	L	LT	L	LT	R	L	T	T	T	R	L	T
Maximum Queue (ft)	125	613	324	505	325	134	424	404	377	284	357	330
Average Queue (ft)	26	394	173	259	51	58	287	265	215	111	179	210
95th Queue (ft)	99	601	291	428	240	142	389	372	330	232	321	327
Link Distance (ft)		1151		866			1576	1576	1576			2028
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	100		300		300	110				270	460	
Storage Blk Time (%)	0	66	0	5	0	0	43		1	0		
Queuing Penalty (veh)	0	16	1	17	0	0	28		5	0		

Intersection: 1: US 50 & Goldsborough St/MD 328

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (ft)	343	313
Average Queue (ft)	213	191
95th Queue (ft)	331	314
Link Distance (ft)	2028	2028
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: Elliott Rd & MD 328

Movement	EB	EB	WB	WB	NB	NB
Directions Served	T	R	L	T	L	R
Maximum Queue (ft)	764	186	147	217	222	169
Average Queue (ft)	239	62	57	97	104	68
95th Queue (ft)	485	152	109	181	175	128
Link Distance (ft)	866			1552	480	
Upstream Blk Time (%)	0					
Queuing Penalty (veh)	0					
Storage Bay Dist (ft)		460	200			200
Storage Blk Time (%)	0	0		0	0	0
Queuing Penalty (veh)	1	0		0	1	0

Intersection: 4: Fisher Range Rd/Dyott Ct & MD 328

Movement	EB	EB	WB	WB	NB	NB	SB
Directions Served	LT	R	LT	R	LT	R	LTR
Maximum Queue (ft)	361	218	222	32	134	77	52
Average Queue (ft)	135	33	87	4	62	16	18
95th Queue (ft)	266	126	175	20	112	51	41
Link Distance (ft)	1046		1883		531		338
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		210		210		120	
Storage Blk Time (%)	2	0	0		1	0	
Queuing Penalty (veh)	3	0	0		0	0	

Intersection: 8: Black Dog Aly & MD 328

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	269	138	105	233
Average Queue (ft)	127	52	42	109
95th Queue (ft)	220	105	85	188
Link Distance (ft)	322	1114	595	438
Upstream Blk Time (%)	0			
Queuing Penalty (veh)	0			
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Zone Summary

Zone wide Queuing Penalty: 73

Summary of All Intervals

Run Number	1	2	3	4	5	6	7
Start Time	11:00	11:00	11:00	11:00	11:00	11:00	11:00
End Time	12:30	12:30	12:30	12:30	12:30	12:30	12:30
Total Time (min)	90	90	90	90	90	90	90
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	4737	4838	4834	4827	4804	4870	4850
Vehs Exited	4779	4866	4809	4804	4756	4863	4834
Starting Vehs	217	211	195	232	170	214	219
Ending Vehs	175	183	220	255	218	221	235
Travel Distance (mi)	3994	3995	3951	4007	3937	4006	4009
Travel Time (hr)	222.7	271.8	246.7	289.1	234.8	258.0	235.2
Total Delay (hr)	94.4	143.9	120.1	160.6	108.4	129.6	107.1
Total Stops	4924	4693	4632	4663	4596	4748	4675
Fuel Used (gal)	146.4	157.4	150.3	161.4	146.8	154.4	149.6

Summary of All Intervals

Run Number	8	9	10	Avg
Start Time	11:00	11:00	11:00	11:00
End Time	12:30	12:30	12:30	12:30
Total Time (min)	90	90	90	90
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	4880	4980	4911	4853
Vehs Exited	4853	4970	4877	4840
Starting Vehs	206	231	201	206
Ending Vehs	233	241	235	219
Travel Distance (mi)	4013	4093	4001	4001
Travel Time (hr)	259.7	270.7	255.8	254.4
Total Delay (hr)	131.1	139.9	127.2	126.2
Total Stops	4712	4768	4784	4720
Fuel Used (gal)	155.3	160.1	153.8	153.6

Interval #0 Information Seeding

Start Time	11:00
End Time	11:30
Total Time (min)	30

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	11:30
End Time	12:30
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	6	7
Vehs Entered	4737	4838	4834	4827	4804	4870	4850
Vehs Exited	4779	4866	4809	4804	4756	4863	4834
Starting Vehs	217	211	195	232	170	214	219
Ending Vehs	175	183	220	255	218	221	235
Travel Distance (mi)	3994	3995	3951	4007	3937	4006	4009
Travel Time (hr)	222.7	271.8	246.7	289.1	234.8	258.0	235.2
Total Delay (hr)	94.4	143.9	120.1	160.6	108.4	129.6	107.1
Total Stops	4924	4693	4632	4663	4596	4748	4675
Fuel Used (gal)	146.4	157.4	150.3	161.4	146.8	154.4	149.6

Interval #1 Information Recording

Start Time	11:30
End Time	12:30
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	8	9	10	Avg
Vehs Entered	4880	4980	4911	4853
Vehs Exited	4853	4970	4877	4840
Starting Vehs	206	231	201	206
Ending Vehs	233	241	235	219
Travel Distance (mi)	4013	4093	4001	4001
Travel Time (hr)	259.7	270.7	255.8	254.4
Total Delay (hr)	131.1	139.9	127.2	126.2
Total Stops	4712	4768	4784	4720
Fuel Used (gal)	155.3	160.1	153.8	153.6

Intersection: 1: US 50 & Goldsborough St/MD 328

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB
Directions Served	L	LT	R	L	LT	R	L	T	T	T	R	L
Maximum Queue (ft)	125	1190	1170	324	693	325	134	479	461	422	295	268
Average Queue (ft)	49	1118	765	173	292	94	69	299	280	231	77	107
95th Queue (ft)	135	1342	1621	314	554	320	146	462	445	402	250	201
Link Distance (ft)		1151	1151		866			1576	1576	1576		
Upstream Blk Time (%)		70	21		0							
Queuing Penalty (veh)		0	0		1							
Storage Bay Dist (ft)	100			300		300	110				270	460
Storage Blk Time (%)	0	82		0	9	0	1	36		4	0	
Queuing Penalty (veh)	0	31		1	35	0	6	37		10	0	

Intersection: 1: US 50 & Goldsborough St/MD 328

Movement	SB	SB	SB
Directions Served	T	T	TR
Maximum Queue (ft)	394	392	366
Average Queue (ft)	239	240	220
95th Queue (ft)	393	398	376
Link Distance (ft)	2028	2028	2028
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: Elliott Rd & MD 328

Movement	EB	EB	WB	WB	NB	NB
Directions Served	T	R	L	T	L	R
Maximum Queue (ft)	273	115	120	194	208	148
Average Queue (ft)	117	51	47	87	103	41
95th Queue (ft)	222	92	90	163	173	93
Link Distance (ft)	866			1552	480	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		460	200			200
Storage Blk Time (%)				0	1	0
Queuing Penalty (veh)				0	1	0

Intersection: 4: Fisher Range Rd/Dyott Ct & MD 328

Movement	EB	EB	WB	WB	NB	NB	SB
Directions Served	LT	R	LT	R	LT	R	LTR
Maximum Queue (ft)	225	78	162	13	116	33	53
Average Queue (ft)	75	17	71	1	49	11	18
95th Queue (ft)	159	53	135	7	91	33	42
Link Distance (ft)	1046		1883		531		338
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		210		210		120	
Storage Blk Time (%)	0		0		0		
Queuing Penalty (veh)	0		0		0		

Intersection: 8: Black Dog Aly & MD 328

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	134	113	94	137
Average Queue (ft)	55	38	34	59
95th Queue (ft)	107	80	71	109
Link Distance (ft)	322	1114	595	438
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Zone Summary

Zone wide Queuing Penalty: 122

Arterial Level of Service: EB MD 328

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Elliott Rd	2	10.1	31.0	0.2	21
Gannon Cir	3	2.5	37.9	0.3	29
Fisher Range Rd	4	6.9	32.2	0.2	23
Mile Post Dr	5	2.9	35.5	0.4	38
McCall St	6	0.6	12.5	0.1	39
Swann Haven Rd	7	1.7	28.1	0.4	46
Black Dog Aly	8	7.9	13.0	0.1	20
Total		32.6	190.1	1.6	31

Arterial Level of Service: WB MD 328

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Black Dog Aly	8	9.2	24.9	0.2	32
Swann Haven Rd	7	2.9	8.0	0.1	32
McCall St	6	1.6	33.6	0.4	38
Mile Post Dr	5	1.4	13.3	0.1	37
Dyott Ct	4	9.7	50.8	0.4	26
Gannon Cir	3	3.4	28.6	0.2	26
Elliott Rd	2	9.3	45.3	0.3	24
US 50	1	40.5	58.9	0.2	11
Total		78.0	263.4	1.9	25

Arterial Level of Service: EB MD 328

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Elliott Rd	2	15.3	36.6	0.2	18
Gannon Cir	3	4.4	40.4	0.3	27
Fisher Range Rd	4	8.1	33.2	0.2	23
Mile Post Dr	5	4.8	38.0	0.4	35
McCall St	6	1.2	13.1	0.1	38
Swann Haven Rd	7	3.4	29.5	0.4	44
Black Dog Aly	8	11.1	16.3	0.1	16
Total		48.2	207.0	1.6	28

Arterial Level of Service: WB MD 328

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Black Dog Aly	8	9.3	24.8	0.2	32
Swann Haven Rd	7	2.7	7.8	0.1	33
McCall St	6	0.8	32.2	0.4	40
Mile Post Dr	5	0.9	12.9	0.1	38
Dyott Ct	4	6.7	49.8	0.4	27
Gannon Cir	3	2.1	27.5	0.2	27
Elliott Rd	2	8.3	44.0	0.3	25
US 50	1	73.2	92.3	0.2	7
Total		104.0	291.5	1.9	23

Arterial Level of Service: EB MD 328

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Elliott Rd	2	9.6	30.2	0.2	22
Gannon Cir	3	2.9	37.4	0.3	30
Fisher Range Rd	4	6.0	30.1	0.2	25
Mile Post Dr	5	3.0	35.8	0.4	37
McCall St	6	0.7	12.9	0.1	38
Swann Haven Rd	7	1.8	27.4	0.4	47
Black Dog Aly	8	7.5	12.6	0.1	20
Total		31.5	186.4	1.6	32

Arterial Level of Service: WB MD 328

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Black Dog Aly	8	7.3	22.7	0.2	35
Swann Haven Rd	7	2.5	7.6	0.1	34
McCall St	6	0.7	32.2	0.4	40
Mile Post Dr	5	0.8	13.0	0.1	38
Dyott Ct	4	5.3	48.2	0.4	28
Gannon Cir	3	2.0	26.4	0.2	28
Elliott Rd	2	7.7	43.9	0.3	25
US 50	1	77.8	97.1	0.2	7
Total		104.1	291.1	1.9	23

Arterial Level of Service: EB MD 328

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Elliott Rd	2	11.4	32.3	0.2	20
Gannon Cir	3	2.7	38.2	0.3	29
Fisher Range Rd	4	7.0	32.0	0.2	23
Mile Post Dr	5	3.1	35.4	0.4	38
McCall St	6	0.7	12.7	0.1	38
Swann Haven Rd	7	2.0	28.3	0.4	46
Black Dog Aly	8	8.9	14.0	0.1	18
Total		35.9	192.8	1.6	31

Arterial Level of Service: WB MD 328

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Black Dog Aly	8	9.7	25.4	0.2	31
Swann Haven Rd	7	3.0	8.2	0.1	31
McCall St	6	1.7	32.3	0.4	40
Mile Post Dr	5	1.5	13.4	0.1	37
Dyott Ct	4	10.6	51.7	0.4	26
Gannon Cir	3	3.6	28.8	0.2	26
Elliott Rd	2	10.1	46.1	0.3	24
US 50	1	40.3	58.9	0.2	11
Total		80.5	264.7	1.9	25

Arterial Level of Service: EB MD 328

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Elliott Rd	2	15.4	36.9	0.2	18
Gannon Cir	3	4.6	40.5	0.3	27
Fisher Range Rd	4	8.6	33.4	0.2	22
Mile Post Dr	5	5.2	38.5	0.4	35
McCall St	6	1.4	13.3	0.1	37
Swann Haven Rd	7	3.2	27.7	0.4	47
Black Dog Aly	8	12.2	17.4	0.1	15
Total		50.6	207.7	1.6	28

Arterial Level of Service: WB MD 328

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Black Dog Aly	8	9.4	25.0	0.2	32
Swann Haven Rd	7	2.7	7.8	0.1	33
McCall St	6	1.0	32.6	0.4	40
Mile Post Dr	5	1.1	13.0	0.1	38
Dyott Ct	4	7.8	51.0	0.4	26
Gannon Cir	3	2.5	28.0	0.2	27
Elliott Rd	2	8.9	45.0	0.3	25
US 50	1	82.2	101.8	0.2	6
Total		115.6	304.3	1.9	22

Arterial Level of Service: EB MD 328

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Elliott Rd	2	12.2	33.0	0.2	20
Gannon Cir	3	3.4	38.5	0.3	29
Fisher Range Rd	4	6.1	30.3	0.2	25
Mile Post Dr	5	3.5	36.6	0.4	37
McCall St	6	0.9	13.0	0.1	38
Swann Haven Rd	7	1.9	25.7	0.4	50
Black Dog Aly	8	7.7	12.8	0.1	20
Total		35.6	189.9	1.6	31

Arterial Level of Service: WB MD 328

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Black Dog Aly	8	7.2	22.8	0.2	35
Swann Haven Rd	7	2.4	7.6	0.1	34
McCall St	6	0.8	31.2	0.4	41
Mile Post Dr	5	0.9	13.1	0.1	37
Dyott Ct	4	6.2	49.4	0.4	27
Gannon Cir	3	2.4	26.9	0.2	28
Elliott Rd	2	8.8	45.0	0.3	25
US 50	1	87.0	106.6	0.2	6
Total		115.7	302.5	1.9	22

Arterial Level of Service: EB MD 328

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Elliott Rd	2	11.0	32.1	0.2	21
Gannon Cir	3	2.9	38.8	0.3	28
Fisher Range Rd	4	8.9	34.2	0.2	22
Mile Post Dr	5	3.5	36.6	0.4	37
McCall St	6	0.8	12.9	0.1	38
Swann Haven Rd	7	2.2	28.3	0.4	46
Black Dog Aly	8	9.1	14.3	0.1	18
Total		38.4	197.2	1.6	30

Arterial Level of Service: WB MD 328

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Black Dog Aly	8	10.1	25.8	0.2	31
Swann Haven Rd	7	3.2	8.3	0.1	31
McCall St	6	2.0	32.6	0.4	40
Mile Post Dr	5	1.7	13.5	0.1	36
Dyott Ct	4	12.2	53.4	0.4	25
Gannon Cir	3	3.9	29.2	0.2	26
Elliott Rd	2	11.2	47.2	0.3	23
US 50	1	44.6	63.4	0.2	10
Total		88.8	273.6	1.9	24

Arterial Level of Service: EB MD 328

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Elliott Rd	2	19.5	41.1	0.2	16
Gannon Cir	3	5.1	41.2	0.3	27
Fisher Range Rd	4	10.6	35.4	0.2	21
Mile Post Dr	5	5.7	39.1	0.4	34
McCall St	6	1.5	13.5	0.1	37
Swann Haven Rd	7	14.0	35.8	0.4	37
Black Dog Aly	8	14.9	20.0	0.1	13
Total		71.3	226.0	1.6	26

Arterial Level of Service: WB MD 328

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Black Dog Aly	8	8.9	24.5	0.2	32
Swann Haven Rd	7	3.7	8.8	0.1	29
McCall St	6	1.2	32.7	0.4	40
Mile Post Dr	5	1.1	13.1	0.1	37
Dyott Ct	4	9.5	52.6	0.4	25
Gannon Cir	3	2.6	27.9	0.2	27
Elliott Rd	2	9.9	45.8	0.3	24
US 50	1	89.6	109.4	0.2	6
Total		126.5	314.8	1.9	21

Arterial Level of Service: EB MD 328

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Elliott Rd	2	14.0	35.3	0.2	19
Gannon Cir	3	3.7	38.9	0.3	28
Fisher Range Rd	4	7.5	32.0	0.2	23
Mile Post Dr	5	3.9	37.0	0.4	36
McCall St	6	1.0	13.2	0.1	37
Swann Haven Rd	7	2.0	25.8	0.4	50
Black Dog Aly	8	8.0	13.1	0.1	20
Total		40.0	195.4	1.6	30

Arterial Level of Service: WB MD 328

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Black Dog Aly	8	7.2	22.8	0.2	35
Swann Haven Rd	7	2.4	7.5	0.1	34
McCall St	6	0.9	31.6	0.4	41
Mile Post Dr	5	0.9	13.1	0.1	37
Dyott Ct	4	7.5	50.8	0.4	26
Gannon Cir	3	2.5	27.1	0.2	28
Elliott Rd	2	9.3	45.6	0.3	24
US 50	1	98.3	117.9	0.2	6
Total		129.0	316.3	1.9	21

APPENDIX C

Signal Timing

Maryland State Highway Administration

ECONOLITE

MOVING TRAFFIC FORWARD

(d) US 50 @ MD 328 / Goldsborough - modem - Econolite Type - ASC/3

Configuration Controller Sequence

Phase Ring Sequence and Assignment (MM) 1-1-1

Hardware Alternate Sequence Enable: No

Phase Ring Sequence.....(Note: Sequences identical to the prior one are not printed)

		01		02		03		04		05		06		07		08		09		10		11		12		13		14		15		16
	B			B				B				B																				
Sequence 1																																
Ring 1	|	1		2	|	3		4	|	9		10	|	.		.		.		.		.		.		.		.		.		.
Ring 2	|	5		6	|	7		8	|	11		12	|	.		.		.		.		.		.		.		.		.		.

Phases In Use/Exclusive Ped (MM) 1-2

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Phases In Use	X	X	X	X	X	X										
Exclusive Ped																

Phase Compatibility (MM) 1-1-2

Phase	
n/a	Barrier Mode

Phase and Overlap Descriptions

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	EBLT	WB	NB	SB	WBLT	EB										
Overlap	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**
Description																

Administration (MM) 1-7-1

Enable Controller/Cabinet Interlock CRC	No
CRC (16 bit)	4A29
Enable Automatic Backup to Datakey	No

Backup Prevent (MM) 1-1-3

	Phases	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Timing	1		.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Phases	2	X		.	.	.	.	.	.	.	.	.	.	.	.	.	.
	3	.	.		.	.	.	.	.	.	.	.	.	.	.	.	.
	4	.	.	.		.	.	.	.	.	.	.	.	.	.	.	.
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	6	.	.	.	.	X		.	.	.	.	.	.	.	.	.	.
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	13	.	.	.	.	.	.	.	.	.	.	.	.		.	.	.
	14	.	.	.	.	.	.	.	.	.	.	.	.	.		.	.
	15	.	.	.	.	.	.	.	.	.	.	.	.	.	.		.
	16	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	

Simultaneous Gap (MM) 1-1-4

	Phases	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	1		.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	2	.		.	.	.	X	.	.	.	.	.	.	.	.	.	.
	3	.	.		.	.	.	.	.	.	.	.	.	.	.	.	.
	4	.	.	.		.	.	.	.	.	.	.	.	.	.	.	.
	5	.	.	.	.		.	.	.	.	.	.	.	.	.	.	.
Phase	6	.	X	.	.	.		.	.	.	.	.	.	.	.	.	.
Must	7	.	.	.	.	.	.		.	.	.	.	.	.	.	.	.
Gap	8	.	.	.	.	.	.	.		.	.	.	.	.	.	.	.
With	9	.	.	.	.	.	.	.	.		.	.	.	.	.	.	.
Phase	10	.	.	.	.	.	.	.	.	.		.	.	.	.	.	.
	11	.	.	.	.	.	.	.	.	.	.		.	.	.	.	.
	12	.	.	.	.	.	.	.	.	.	.	.		.	.	.	.
	13	.	.	.	.	.	.	.	.	.	.	.	.		.	.	.
	14	.	.	.	.	.	.	.	.	.	.	.	.	.		.	.
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	16	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
	Disable	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Load Switch Assignments (MM) 1-3

	Phase / Overlap	Type	Dimming				Power Up	Auto		Flash Together
			Red	Yellow	Green	Dark		Red	Yellow	
1	1	O				-	Auto	X		
2	2	O				-	Auto	X		X
3	3	O				-	Auto	X		
4	4	O				-	Auto	X		
5	5	O				-	Auto	X		
6	6	O				-	Auto	X		X
7	7	O				-	Auto	X		
8	8	O				-	Auto	X		
9	9	O				-	Auto	X		
10	10	O				-	Auto	X		
11	2	P				-	Auto			
12	6	P				-	Auto			
13	13	O				-	Auto	X		X

14	14	O				-	Auto	X		X
15	15	O				-	Auto	X		
16	16	O				-	Auto	X		

Maryland State Highway Administration

ECONOLITE

MOVING TRAFFIC FORWARD

(d) US 50 @ MD 328 / Goldsborough - modem - Econolite Type - ASC/3

Controller Timing Plan (MM) 2-1

Plan 1

Phase	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Direction	**EBLT**	**WB**	**NB**	**SB**	**WBLT**	**EB**										
Min Green	5	20	7	7	5	20	0	0	0	0	0	0	5	5	5	5
Bk Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk	0	1	0	0	0	1	0	0	0	0	0	0	0	10	0	10
Walk2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear	0	7	0	7	0	7	7	7	0	16	0	16	0	16	0	16
Ped Clear 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Ext	2.5	5.0	3.5	3.0	2.5	5.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	5.0	5.0	5.0
Vehicle Ext 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max1	30	25	35	35	30	25	0	0	0	0	0	0	35	35	35	35
Max2	40	25	50	45	40	25	0	0	0	0	0	0	40	40	40	40
Max3	35	25	45	45	35	25	0	0	0	0	0	0	0	0	0	0
DYM Max	20	25	45	45	20	25	0	0	0	0	0	0	0	0	0	0
Dym Step	0.0	0.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	3.5	5.0	4.0	4.0	3.5	5.0	3.5	3.5	0.0	0.0	3.0	3.0	3.0	3.0	3.0	3.0
Red Clear	2.0	1.5	2.0	2.0	2.0	1.5	1.0	1.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0
Red Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Act B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sec/Act	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Int	30	30	30	30	30	30	30	30	30	30	30	30	0	0	0	0
Time B4	0	0	0	30	0	0	0	0	0	0	0	0	0	0	0	0
Cars Wt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPTDuc	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TTReduc	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Maryland State Highway Administration

ECONOLITE

MOVING TRAFFIC FORWARD

(d) US 50 @ MD 328 / Goldsborough - modem - Econolite Type - ASC/3

Controller Overlaps

Vehicle Overlaps (MM) 2-2

Overlap	Type	Lag Green	Yellow	Red	Adv. Green

Phases

Overlap	Phase	Included	Protect	Ped Protect	Not Overlap	Modifier	Lag X Phases	Lag 2 Phases	Flash Green
A	1	Yes	No	No	No		No	No	.
B	2	Yes	No	No	No		No	No	.
C	3	Yes	No	No	No		No	No	.
D	4	Yes	No	No	No		No	No	.
E	5	Yes	No	No	No		No	No	.
F	6	Yes	No	No	No		No	No	.
G	7	Yes	No	No	No		No	No	.
H	8	Yes	No	No	No		No	No	.
I	9	Yes	No	No	No		No	No	.
J	10	Yes	No	No	No		No	No	.
K	11	Yes	No	No	No		No	No	.
L	12	Yes	No	No	No		No	No	.

PPLT FYA

Overlap	Protected Phase (Left Turn)	Permissive Phase (Opposing Thru)	Flashing Arrow Output	Flashing Arrow Output CH	Delay Start of FYA	Delay Start of Clearance	Action Plan SF Bit Disable	Ped Protected Enable

Guaranteed Minimum Time Data (MM) 2-4

Phase	Min Green	Walk	Ped Clear	Yellow	Red Clear	Overlap Green
A01	5	0	7	3.0	0.0	5
B02	5	0	7	3.0	0.0	5
C03	5	0	7	3.0	0.0	5
D04	5	0	7	3.0	0.0	5
E05	5	0	7	3.0	0.0	5
F06	5	0	7	3.0	0.0	5
G07	5	0	7	3.0	0.0	5
H08	5	0	7	3.0	0.0	5
I09	5	0	7	3.0	0.0	5
J10	5	0	7	3.0	0.0	5
K11	5	0	7	3.0	0.0	5
L12	5	0	7	3.0	0.0	5
M13	5	0	7	3.0	0.0	5
N14	5	0	7	3.0	0.0	5
O15	5	0	7	3.0	0.0	5
P16	5	0	7	3.0	0.0	5

Maryland State Highway Administration

ECONOLITE

MOVING TRAFFIC FORWARD

(d) US 50 @ MD 328 / Goldsborough - modem - Econolite Type - ASC/3

Controller Options

Controller Options (MM) 2-6-1

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Flashing Grn Ph	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Guar Passage																
Non-Act I		X				X										
Non-Act II																
Dual Entry																
Cond Service																
Cond Reservice																
Ped Re-Service																
Rest In Walk																
Flashing Walk																
Ped Clr-Yel																
Ped Clr-Red																
IGRN + Veh Ext																

Ped Clear Protect: Off Unit Red Revert: 2.0 MUTCD 3 Seconds Don't Walk: No

Pre-Timed Mode (MM) 2-7

Enable Pre-Timed Mode: No Free Input Disables Pre-Timed: No

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Pre-Timed																

Phase Recall Options (MM) 2-8

Plan # 1

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Lock Detector			X	X												
Vehicle Recall		X				X										
Ped Recall																
Max Recall																
Soft Recall																
No Rest																
AI Calc																

Maryland State Highway Administration

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MOVING TRAFFIC FORWARD

(d) US 50 @ MD 328 / Goldsborough - modem - Econolite Type - ASC/3

Coordination Pattern Data
Coordinator Pattern Data (MM) 3-2

Coordinator Pattern # 1

Split Pattern	1	TS2 (Pat-Off)	0-1	Splits In	Percent
Cycle	135	Std (COS)	81	Offsets In	Percent
Offset Value	90%	Dwell/Add Time	0		
Actuated Coord	No	Timing Plan	0		
Actuated Walk Rest	No	Sequence	0		
Phase Reservice	No	Action Plan	0		
Max Select	None	Force Off	None		

Split Preference Phases

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	EBLT	WB	NB	SB	WBLT	EB										
Splits (Split Pat 1)	18	36	18	28	18	36	0	0	0	0	0	0	0	0	0	0
Pref 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pref 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ring	1	2	3	4
Ring Split Ext	0	0	0	0
Ring Displacement	-	0	0	0
Split Sum	100%	54%	0%	0%

Misc. Data

Veh Perm 1	0	Veh Perm 2	0	Veh Perm 2 Disp	0
Split Demand Pat 1	0	Split Demand Pat 2	0	Crossing Arterial Pat	0

Split Pattern

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase													X	X	X	X
Special Funciton Outputs																

Coordinator Pattern # 2

Split Pattern	2	TS2 (Pat-Off)	0-2	Splits In	Percent
Cycle	150	Std (COS)	154	Offsets In	Percent
Offset Value	6%	Dwell/Add Time	0		
Actuated Coord	No	Timing Plan	0		
Actuated Walk Rest	No	Sequence	0		
Phase Reservice	No	Action Plan	0		
Max Select	None	Force Off	None		

Split Preference Phases

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	EBLT	WB	NB	SB	WBLT	EB										
Splits (Split Pat 2)	18	35	27	20	18	35	0	0	0	0	0	0	0	0	0	0
Pref 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pref 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ring	1	2	3	4
Ring Split Ext	0	0	0	0
Ring Displacement	-	0	0	0
Split Sum	100%	53%	0%	0%

Misc. Data

Veh Perm 1	0	Veh Perm 2	0	Veh Perm 2 Disp	0
Split Demand Pat 1	0	Split Demand Pat 2	0	Crossing Arterial Pat	0

Split Pattern

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase													X	X	X	X
Special Funciton Outputs																

Coordinator Pattern # 3

Split Pattern	3	TS2 (Pat-Off)	0-3	Splits In	Percent
Cycle	135	Std (COS)	9	Offsets In	Percent
Offset Value	0%	Dwell/Add Time	0		
Actuated Coord	No	Timing Plan	0		
Actuated Walk Rest	No	Sequence	0		
Phase Reservice	No	Action Plan	0		
Max Select	None	Force Off	None		

Split Preference Phases

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	EBLT	WB	NB	SB	WBLT	EB										
Splits (Split Pat 3)	18	32	25	25	18	32	0	0	0	0	0	0	0	0	0	0
Pref 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pref 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ring	1	2	3	4
Ring Split Ext	0	0	0	0
Ring Displacement	-	0	0	0
Split Sum	100%	50%	0%	0%

Misc. Data

Veh Perm 1	0	Veh Perm 2	0	Veh Perm 2 Disp	0
Split Demand Pat 1	0	Split Demand Pat 2	0	Crossing Arterial Pat	0

Split Pattern

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase													X	X	X	X
Special Funciton Outputs																

Coordinator Pattern # 4

Split Pattern	4	TS2 (Pat-Off)	1-1	Splits In	Percent
Cycle	180	Std (COS)	155	Offsets In	Percent
Offset Value	80%	Dwell/Add Time	0		
Actuated Coord	No	Timing Plan	0		
Actuated Walk Rest	No	Sequence	0		
Phase Reservice	No	Action Plan	0		
Max Select	None	Force Off	None		

Split Preference Phases

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	EBLT	WB	NB	SB	WBLT	EB										
Splits (Split Pat 4)	21	35	26	18	21	35	0	0	0	0	0	0	0	0	0	0
Pref 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pref 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ring	1	2	3	4
Ring Split Ext	0	0	0	0
Ring Displacement	-	0	0	0
Split Sum	100%	56%	0%	0%

Misc. Data

Veh Perm 1	0	Veh Perm 2	0	Veh Perm 2 Disp	0
Split Demand Pat 1	0	Split Demand Pat 2	0	Crossing Arterial Pat	0

Split Pattern

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase													X	X	X	X
Special Funciton Outputs																

Maryland State Highway Administration

ECONOLITE

MOVING TRAFFIC FORWARD

(d) US 50 @ MD 328 / Goldsborough - modem - Econolite Type - ASC/3

Time Base Action Plan
Action Plan (MM) 5-2

Action Plan - 1

Pattern	1	Override Sys	No
Timing Plan	0	Sequence	0
Veh Detector Plan	0	Det Log	None
Flash	No	Red Rest	No
Veh Det Diag Plan	0	Ped Det Diag Plan	0
Dimming Enable	No	Pmt Veh Priority Ret	No
Pmt Ped Priority Ret	No	Pmt Queue Delay	No
Pmt Cond Delay	No		

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)																

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

Action Plan - 2

Pattern	2	Override Sys	No
Timing Plan	0	Sequence	0
Veh Detector Plan	0	Det Log	None
Flash	No	Red Rest	No
Veh Det Diag Plan	0	Ped Det Diag Plan	0
Dimming Enable	No	Pmt Veh Priority Ret	No
Pmt Ped Priority Ret	No	Pmt Queue Delay	No
Pmt Cond Delay	No		

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)																

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

Action Plan - 3

Pattern	3	Override Sys	No
Timing Plan	0	Sequence	0
Veh Detector Plan	0	Det Log	None
Flash	No	Red Rest	No
Veh Det Diag Plan	0	Ped Det Diag Plan	0
Dimming Enable	No	Pmt Veh Priority Ret	No
Pmt Ped Priority Ret	No	Pmt Queue Delay	No
Pmt Cond Delay	No		

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)																

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

Action Plan - 4

Pattern	4	Override Sys	No
Timing Plan	0	Sequence	0
Veh Detector Plan	0	Det Log	None
Flash	No	Red Rest	No
Veh Det Diag Plan	0	Ped Det Diag Plan	0
Dimming Enable	No	Pmt Veh Priority Ret	No
Pmt Ped Priority Ret	No	Pmt Queue Delay	No
Pmt Cond Delay	No		

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)																

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

Action Plan - 97

Pattern	Free	Override Sys	No
Timing Plan	0	Sequence	0
Veh Detector Plan	0	Det Log	None
Flash	No	Red Rest	No
Veh Det Diag Plan	0	Ped Det Diag Plan	0
Dimming Enable	No	Pmt Veh Priority Ret	No
Pmt Ped Priority Ret	No	Pmt Queue Delay	No
Pmt Cond Delay	No		

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3			X													
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)																

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

Action Plan - 98

Pattern	Free	Override Sys	Yes
Timing Plan	0	Sequence	0
Veh Detector Plan	0	Det Log	None
Flash	No	Red Rest	No
Veh Det Diag Plan	0	Ped Det Diag Plan	0
Dimming Enable	No	Pmt Veh Priority Ret	No
Pmt Ped Priority Ret	No	Pmt Queue Delay	No
Pmt Cond Delay	No		

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Spec Func (1-8)	X															
Aux Func (1-3)																

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

Action Plan - 99

Pattern	Free	Override Sys	Yes
Timing Plan	0	Sequence	0
Veh Detector Plan	0	Det Log	None
Flash	No	Red Rest	No
Veh Det Diag Plan	0	Ped Det Diag Plan	0
Dimming Enable	No	Pmt Veh Priority Ret	No
Pmt Ped Priority Ret	No	Pmt Queue Delay	No
Pmt Cond Delay	No		

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Spec Func (1-8)	X															
Aux Func (1-3)																

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

Action Plan - 100

Pattern	Flash	Override Sys	No
Timing Plan	0	Sequence	0
Veh Detector Plan	0	Det Log	None
Flash	No	Red Rest	No
Veh Det Diag Plan	0	Ped Det Diag Plan	0
Dimming Enable	No	Pmt Veh Priority Ret	No
Pmt Ped Priority Ret	No	Pmt Queue Delay	No
Pmt Cond Delay	No		

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)																

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

Maryland State Highway Administration

ECONOLITE

MOVING TRAFFIC FORWARD

(d) US 50 @ MD 328 / Goldsborough - modem - Econolite Type - ASC/3

Time Base Day Plan/Schedule
Day Plan (MM) 5-3

Day Plan #1

Event	Action Plan	Start Time
1	98	00:00
2	1	06:30
3	3	08:30
4	4	15:30
5	98	18:30

Day Plan #2

Event	Action Plan	Start Time
1	99	00:00

Schedule (MM) 5-4

Schedule Number - 1

Day Plan No.: 1

Month	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
	X	X	X	X							X	X

Day (DOW)	SUN	MON	TUE	WED	THU	FRI	SAT
		X	X	X	X	X	

Day (DOM)	1	2	3	4	5	6	7	8	9	10	11
	X	X	X	X	X	X	X	X	X	X	X
	12	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**
	X	X	X	X	X	X	X	X	X	X	X
	23	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**		
	X	X	X	X	X	X	X	X	X		

Schedule Number - 2

Day Plan No.: 2

Month	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
	X	X	X	X							X	X

Day (DOW)	SUN	MON	TUE	WED	THU	FRI	SAT
	X						X

Day (DOM)	1	2	3	4	5	6	7	8	9	10	11
	X	X	X	X	X	X	X	X	X	X	X
	12	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**
	X	X	X	X	X	X	X	X	X	X	X
	23	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**		
	X	X	X	X	X	X	X	X	X		

Schedule Number - 3

Day Plan No.: 2

Month	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
					X	X	X	X	X	X		

Day (DOW)	SUN	MON	TUE	WED	THU	FRI	SAT
						X	

Day (DOM)	1	2	3	4	5	6	7	8	9	10	11
	X	X	X	X	X	X	X	X	X	X	X
	12	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**

	X	X	X	X	X	X	X	X	X	X	X
	23	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**		
	X	X	X	X	X	X	X	X	X		

Schedule Number - 4

Day Plan No.: 2

Month	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
					X	X	X	X	X	X		

Day (DOW)	SUN	MON	TUE	WED	THU	FRI	SAT
							X

Day (DOM)	1	2	3	4	5	6	7	8	9	10	11
	X	X	X	X	X	X	X	X	X	X	X
	12	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**
	X	X	X	X	X	X	X	X	X	X	X
	23	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**		
	X	X	X	X	X	X	X	X	X		

Schedule Number - 5

Day Plan No.: 2

Month	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
					X	X	X	X	X	X		

Day (DOW)	SUN	MON	TUE	WED	THU	FRI	SAT
	X						

Day (DOM)	1	2	3	4	5	6	7	8	9	10	11
	X	X	X	X	X	X	X	X	X	X	X
	12	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**
	X	X	X	X	X	X	X	X	X	X	X
	23	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**		
	X	X	X	X	X	X	X	X	X		

Schedule Number - 6

Day Plan No.: 1

Month	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
					X	X	X	X	X	X		

Day (DOW)	SUN	MON	TUE	WED	THU	FRI	SAT
		X	X	X	X		

Day (DOM)	1	2	3	4	5	6	7	8	9	10	11
	X	X	X	X	X	X	X	X	X	X	X
	12	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**
	X	X	X	X	X	X	X	X	X	X	X
	23	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**		

	X	X	X	X	X	X	X	X	X		

Maryland State Highway Administration

ECONOLITE

MOVING TRAFFIC FORWARD

(e) US 50 @ MD 331 / Dover - US 50 @ MD 331 / Dover - Econolite Type - ASC/3

Configuration Controller Sequence

Phase Ring Sequence and Assignment (MM) 1-1-1

Hardware Alternate Sequence Enable: No

Phase Ring Sequence.....(Note: Sequences identical to the prior one are not printed)

		01		02		03		04		05		06		07		08		09		10		11		12		13		14		15		16
	B						B				B																					
Sequence 1																																
Ring 1	|	1		11		2	|	3		4	|	.		.		.		.		.		.		.		.		.		.		.
Ring 2	|	5		12		6	|	8		10	|	.		.		.		.		.		.		.		.		.		.		.

Phases In Use/Exclusive Ped (MM) 1-2

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Phases In Use	X	X	X	X	X	X										
Exclusive Ped																

Phase Compatibility (MM) 1-1-2

Phase	
n/a	Barrier Mode

Phase and Overlap Descriptions

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	EBLT	WB	NB	SB	WBLT	EB										
Overlap	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**
Description																

Administration (MM) 1-7-1

Enable Controller/Cabinet Interlock CRC	No
CRC (16 bit)	C0A3
Enable Automatic Backup to Datakey	No

Backup Prevent (MM) 1-1-3

	Phases	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Timing	1		.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Phases	2	X		.	.	.	.	.	.	.	.	.	.	.	.	.	.
	3	.	.		.	.	.	.	.	.	.	.	.	.	.	.	.
	4	.	.	.		.	.	.	.	.	.	.	.	.	.	.	.
	5	.	.	.	.		.	.	.	.	.	.	.	.	.	.	.
	6	.	.	.	.	X		.	.	.	.	.	.	.	.	.	.
	7	.	.	.	.	.	.		.	.	.	.	.	.	.	.	.
	8	.	.	.	.	.	.	.		.	.	.	.	.	.	.	.
	9	.	.	.	.	.	.	.	.		.	.	.	.	.	.	.
	10	.	.	.	.	.	.	.	.	.		.	.	.	.	.	.
	11	.	.	.	.	.	.	.	.	.	.		.	.	.	.	.
	12	.	.	.	.	.	.	.	.	.	.	.		.	.	.	.
	13	.	.	.	.	.	.	.	.	.	.	.	.		.	.	.
	14	.	.	.	.	.	.	.	.	.	.	.	.	.		.	.
	15	.	.	.	.	.	.	.	.	.	.	.	.	.	.		.
	16	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	

Simultaneous Gap (MM) 1-1-4

	Phases	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	1		.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	2	.		.	.	.	X	.	.	.	.	.	.	.	.	.	.
	3	.	.		.	.	.	.	.	.	.	.	.	.	.	.	.
	4	.	.	.		.	.	.	.	.	.	.	.	.	.	.	.
	5	.	.	.	.		.	.	.	.	.	.	.	.	.	.	.
Phase	6	.	X	.	.	.		.	.	.	.	.	.	.	.	.	.
Must	7	.	.	.	.	.	.		.	.	.	.	.	.	.	.	.
Gap	8	.	.	.	.	.	.	.		.	.	.	.	.	.	.	.
With	9	.	.	.	.	.	.	.	.		.	.	.	.	.	.	.
Phase	10	.	.	.	.	.	.	.	.	.		.	.	.	.	.	.
	11	.	.	.	.	.	.	.	.	.	.		.	.	.	.	.
	12	.	.	.	.	.	.	.	.	.	.	.		.	.	.	.
	13	.	.	.	.	.	.	.	.	.	.	.	.		.	.	.
	14	.	.	.	.	.	.	.	.	.	.	.	.	.		.	.
	15	.	.	.	.	.	.	.	.	.	.	.	.	.	.		.
	16	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
	Disable	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Load Switch Assignments (MM) 1-3

	Phase / Overlap	Type	Dimming				Power Up	Auto		Flash Together
			Red	Yellow	Green	Dark		Red	Yellow	
1	1	O				-	Auto	X		
2	2	O				-	Auto	X		X
3	3	O				-	Auto	X		
4	4	O				-	Auto	X		
5	5	O				-	Auto	X		
6	6	O				-	Auto	X		X
7	7	O				-	Auto	X		
8	8	O				-	Auto	X		
9	2	O				-	Auto	X		X
10	4	O				-	Auto	X		
11	6	O				-	Auto	X		X
12	8	O				-	Auto	X		
13	13	O				-	Auto	X		X

14	14	O				-	Auto	X		X
15	15	O				-	Auto	X		
16	16	O				-	Auto	X		

Maryland State Highway Administration

ECONOLITE

MOVING TRAFFIC FORWARD

(e) US 50 @ MD 331 / Dover - US 50 @ MD 331 / Dover - Econolite Type - ASC/3

Controller Timing Plan (MM) 2-1

Plan 1

Phase	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Direction	**EBLT**	**WB**	**NB**	**SB**	**WBLT**	**EB**										
Min Green	5	25	5	5	5	25	0	0	0	0	0	0	0	0	0	0
Bk Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	10
Walk2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear	0	7	0	7	0	7	0	7	0	7	0	7	0	16	0	16
Ped Clear 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Ext	3.0	5.0	3.0	3.0	3.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vehicle Ext 2	2.5	6.5	2.5	2.5	2.5	6.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max1	35	75	35	35	35	75	0	0	0	0	0	0	0	0	0	0
Max2	45	120	50	55	35	120	0	0	0	0	0	0	0	0	0	0
Max3	20	135	45	45	20	135	0	0	0	0	0	0	0	0	0	0
DYM Max	0	0	45	45	0	0	0	0	0	0	0	0	0	0	0	0
Dym Step	0.0	0.0	10.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	3.5	5.0	4.0	4.0	3.5	5.0	3.5	3.5	0.0	0.0	4.5	4.5	3.0	3.0	3.0	3.0
Red Clear	2.0	1.5	2.0	2.0	2.0	1.5	1.0	1.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0
Red Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Act B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sec/Act	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Int	30	30	30	30	30	30	30	30	30	30	30	30	0	0	0	0
Time B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Wt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPTDuc	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TTReduc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Maryland State Highway Administration

ECONOLITE

MOVING TRAFFIC FORWARD

(e) US 50 @ MD 331 / Dover - US 50 @ MD 331 / Dover - Econolite Type - ASC/3

Controller Overlaps

Vehicle Overlaps (MM) 2-2

Overlap	Type	Lag Green	Yellow	Red	Adv. Green

Phases

Overlap	Phase	Included	Protect	Ped Protect	Not Overlap	Modifier	Lag X Phases	Lag 2 Phases	Flash Green
A	1	Yes	No	No	No		No	No	.
B	2	Yes	No	No	No		No	No	.
C	3	Yes	No	No	No		No	No	.
D	4	Yes	No	No	No		No	No	.
E	5	Yes	No	No	No		No	No	.
F	6	Yes	No	No	No		No	No	.
G	7	Yes	No	No	No		No	No	.
H	8	Yes	No	No	No		No	No	.
I	9	Yes	No	No	No		No	No	.
J	10	Yes	No	No	No		No	No	.
K	11	Yes	No	No	No		No	No	.
L	12	Yes	No	No	No		No	No	.

PPLT FYA

Overlap	Protected Phase (Left Turn)	Permissive Phase (Opposing Thru)	Flashing Arrow Output	Flashing Arrow Output CH	Delay Start of FYA	Delay Start of Clearance	Action Plan SF Bit Disable	Ped Protected Enable

Guaranteed Minimum Time Data (MM) 2-4

Phase	Min Green	Walk	Ped Clear	Yellow	Red Clear	Overlap Green
A01	5	0	7	3.0	0.0	5
B02	5	0	7	3.0	0.0	5
C03	5	0	7	3.0	0.0	5
D04	5	0	7	3.0	0.0	5
E05	5	0	7	3.0	0.0	5
F06	5	0	7	3.0	0.0	5
G07	5	0	7	3.0	0.0	5
H08	5	0	7	3.0	0.0	5
I09	5	0	7	3.0	0.0	5
J10	5	0	7	3.0	0.0	5
K11	5	0	7	3.0	0.0	5
L12	5	0	7	3.0	0.0	5
M13	5	0	7	3.0	0.0	5
N14	5	0	7	3.0	0.0	5
O15	5	0	7	3.0	0.0	5
P16	5	0	7	3.0	0.0	5

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ECONOLITE

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(e) US 50 @ MD 331 / Dover - US 50 @ MD 331 / Dover - Econolite Type - ASC/3

Controller Options

Controller Options (MM) 2-6-1

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Flashing Grn Ph	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Guar Passage																
Non-Act I		X				X										
Non-Act II																
Dual Entry																
Cond Service																
Cond Reservice																
Ped Re-Service																
Rest In Walk																
Flashing Walk																
Ped Clr-Yel																
Ped Clr-Red																
IGRN + Veh Ext																

Ped Clear Protect: Off Unit Red Revert: 2.0 MUTCD 3 Seconds Don't Walk: No

Pre-Timed Mode (MM) 2-7

Enable Pre-Timed Mode: No Free Input Disables Pre-Timed: No

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Pre-Timed																

Phase Recall Options (MM) 2-8

Plan # 1

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Lock Detector			X	X												
Vehicle Recall		X				X					X	X				
Ped Recall																
Max Recall																
Soft Recall																
No Rest																
AI Calc																

Maryland State Highway Administration

ECONOLITE

MOVING TRAFFIC FORWARD

(e) US 50 @ MD 331 / Dover - US 50 @ MD 331 / Dover - Econolite Type - ASC/3

Coordination Pattern Data
Coordinator Pattern Data (MM) 3-2

Coordinator Pattern # 1

Split Pattern	1	TS2 (Pat-Off)	0-1	Splits In	Percent
Cycle	135	Std (COS)	81	Offsets In	Percent
Offset Value	67%	Dwell/Add Time	0		
Actuated Coord	No	Timing Plan	0		
Actuated Walk Rest	No	Sequence	0		
Phase Reservice	No	Action Plan	0		
Max Select	None	Force Off	None		

Split Preference Phases

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	EBLT	WB	NB	SB	WBLT	EB										
Splits (Split Pat 1)	16	32	24	28	16	32	0	0	0	0	0	0	0	0	0	0
Pref 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pref 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ring	1	2	3	4
Ring Split Ext	0	0	0	0
Ring Displacement	-	0	0	0
Split Sum	100%	48%	0%	0%

Misc. Data

Veh Perm 1	0	Veh Perm 2	0	Veh Perm 2 Disp	0
Split Demand Pat 1	0	Split Demand Pat 2	0	Crossing Arterial Pat	0

Split Pattern

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase													X	X	X	X
Special Funciton Outputs																

Coordinator Pattern # 2

Split Pattern	2	TS2 (Pat-Off)	0-2	Splits In	Percent
Cycle	150	Std (COS)	154	Offsets In	Percent
Offset Value	9%	Dwell/Add Time	0		
Actuated Coord	No	Timing Plan	0		
Actuated Walk Rest	No	Sequence	0		
Phase Reservice	No	Action Plan	0		
Max Select	None	Force Off	None		

Split Preference Phases

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	EBLT	WB	NB	SB	WBLT	EB										
Splits (Split Pat 2)	20	32	24	24	20	32	0	0	0	0	0	0	0	0	0	0
Pref 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pref 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ring	1	2	3	4
Ring Split Ext	0	0	0	0
Ring Displacement	-	0	0	0
Split Sum	100%	52%	0%	0%

Misc. Data

Veh Perm 1	0	Veh Perm 2	0	Veh Perm 2 Disp	0
Split Demand Pat 1	0	Split Demand Pat 2	0	Crossing Arterial Pat	0

Split Pattern

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase													X	X	X	X
Special Funciton Outputs																

Coordinator Pattern # 3

Split Pattern	3	TS2 (Pat-Off)	0-3	Splits In	Percent
Cycle	135	Std (COS)	9	Offsets In	Percent
Offset Value	25%	Dwell/Add Time	0		
Actuated Coord	No	Timing Plan	0		
Actuated Walk Rest	No	Sequence	0		
Phase Reservice	No	Action Plan	0		
Max Select	None	Force Off	None		

Split Preference Phases

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	EBLT	WB	NB	SB	WBLT	EB										
Splits (Split Pat 3)	21	30	25	24	21	30	0	0	0	0	0	0	0	0	0	0
Pref 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pref 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ring	1	2	3	4
Ring Split Ext	0	0	0	0
Ring Displacement	-	0	0	0
Split Sum	100%	51%	0%	0%

Misc. Data

Veh Perm 1	0	Veh Perm 2	0	Veh Perm 2 Disp	0
Split Demand Pat 1	0	Split Demand Pat 2	0	Crossing Arterial Pat	0

Split Pattern

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase													X	X	X	X
Special Funciton Outputs																

Coordinator Pattern # 4

Split Pattern	4	TS2 (Pat-Off)	1-1	Splits In	Percent
Cycle	180	Std (COS)	155	Offsets In	Percent
Offset Value	82%	Dwell/Add Time	0		
Actuated Coord	No	Timing Plan	0		
Actuated Walk Rest	No	Sequence	0		
Phase Reservice	No	Action Plan	0		
Max Select	None	Force Off	None		

Split Preference Phases

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	EBLT	WB	NB	SB	WBLT	EB										
Splits (Split Pat 4)	22	30	25	23	22	30	0	0	0	0	0	0	0	0	0	0
Pref 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pref 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ring	1	2	3	4
Ring Split Ext	0	0	0	0
Ring Displacement	-	0	0	0
Split Sum	100%	52%	0%	0%

Misc. Data

Veh Perm 1	0	Veh Perm 2	0	Veh Perm 2 Disp	0
Split Demand Pat 1	0	Split Demand Pat 2	0	Crossing Arterial Pat	0

Split Pattern

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase													X	X	X	X
Special Funciton Outputs																

Maryland State Highway Administration

ECONOLITE

MOVING TRAFFIC FORWARD

(e) US 50 @ MD 331 / Dover - US 50 @ MD 331 / Dover - Econolite Type - ASC/3

Time Base Action Plan
Action Plan (MM) 5-2

Action Plan - 1

Pattern	1	Override Sys	No
Timing Plan	1	Sequence	0
Veh Detector Plan	0	Det Log	None
Flash	No	Red Rest	No
Veh Det Diag Plan	0	Ped Det Diag Plan	0
Dimming Enable	No	Pmt Veh Priority Ret	No
Pmt Ped Priority Ret	No	Pmt Queue Delay	No
Pmt Cond Delay	No		

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)																

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

Action Plan - 2

Pattern	2	Override Sys	No
Timing Plan	1	Sequence	0
Veh Detector Plan	0	Det Log	None
Flash	No	Red Rest	No
Veh Det Diag Plan	0	Ped Det Diag Plan	0
Dimming Enable	No	Pmt Veh Priority Ret	No
Pmt Ped Priority Ret	No	Pmt Queue Delay	No
Pmt Cond Delay	No		

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)																

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

Action Plan - 3

Pattern	3	Override Sys	No
Timing Plan	1	Sequence	0
Veh Detector Plan	0	Det Log	None
Flash	No	Red Rest	No
Veh Det Diag Plan	0	Ped Det Diag Plan	0
Dimming Enable	No	Pmt Veh Priority Ret	No
Pmt Ped Priority Ret	No	Pmt Queue Delay	No
Pmt Cond Delay	No		

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)																

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

Action Plan - 4

Pattern	4	Override Sys	No
Timing Plan	0	Sequence	0
Veh Detector Plan	0	Det Log	None
Flash	No	Red Rest	No
Veh Det Diag Plan	0	Ped Det Diag Plan	0
Dimming Enable	No	Pmt Veh Priority Ret	No
Pmt Ped Priority Ret	No	Pmt Queue Delay	No
Pmt Cond Delay	No		

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)																

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

Action Plan - 92

Pattern	Free	Override Sys	Yes
Timing Plan	2	Sequence	0
Veh Detector Plan	0	Det Log	None
Flash	No	Red Rest	No
Veh Det Diag Plan	0	Ped Det Diag Plan	0
Dimming Enable	No	Pmt Veh Priority Ret	No
Pmt Ped Priority Ret	No	Pmt Queue Delay	No
Pmt Cond Delay	No		

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2	X	X	X	X	X	X										
Veh Recall																
Max Recall																
Max 2																
Max 3	X	X			X	X										
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)	X															

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

Action Plan - 93

Pattern	Free	Override Sys	Yes
Timing Plan	1	Sequence	0
Veh Detector Plan	0	Det Log	None
Flash	No	Red Rest	No
Veh Det Diag Plan	0	Ped Det Diag Plan	0
Dimming Enable	No	Pmt Veh Priority Ret	No
Pmt Ped Priority Ret	No	Pmt Queue Delay	No
Pmt Cond Delay	No		

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3		X				X										
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)	X															

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

Action Plan - 94

Pattern	Free	Override Sys	Yes
Timing Plan	1	Sequence	0
Veh Detector Plan	0	Det Log	None
Flash	No	Red Rest	No
Veh Det Diag Plan	0	Ped Det Diag Plan	0
Dimming Enable	No	Pmt Veh Priority Ret	No
Pmt Ped Priority Ret	No	Pmt Queue Delay	No
Pmt Cond Delay	No		

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2	X	X	X	X	X	X										
Veh Recall																
Max Recall																
Max 2																
Max 3	X	X	X	X	X	X										
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)	X															

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

Action Plan - 95

Pattern	Free	Override Sys	Yes
Timing Plan	1	Sequence	0
Veh Detector Plan	0	Det Log	None
Flash	No	Red Rest	No
Veh Det Diag Plan	0	Ped Det Diag Plan	0
Dimming Enable	No	Pmt Veh Priority Ret	No
Pmt Ped Priority Ret	No	Pmt Queue Delay	No
Pmt Cond Delay	No		

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2	X	X	X	X	X	X										
Veh Recall																
Max Recall																
Max 2																
Max 3	X	X			X	X										
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)	X															

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

Action Plan - 96

Pattern	Free	Override Sys	Yes
Timing Plan	1	Sequence	0
Veh Detector Plan	0	Det Log	None
Flash	No	Red Rest	No
Veh Det Diag Plan	0	Ped Det Diag Plan	0
Dimming Enable	No	Pmt Veh Priority Ret	No
Pmt Ped Priority Ret	No	Pmt Queue Delay	No
Pmt Cond Delay	No		

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2	X	X	X	X	X	X										
Veh Recall																
Max Recall																
Max 2																
Max 3		X				X										
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)	X															

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

Action Plan - 97

Pattern	Free	Override Sys	Yes
Timing Plan	1	Sequence	0
Veh Detector Plan	0	Det Log	None
Flash	No	Red Rest	No
Veh Det Diag Plan	0	Ped Det Diag Plan	0
Dimming Enable	No	Pmt Veh Priority Ret	No
Pmt Ped Priority Ret	No	Pmt Queue Delay	No
Pmt Cond Delay	No		

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2	X	X	X	X	X	X										
Max 3																
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)	X															

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

Action Plan - 98

Pattern	Free	Override Sys	No
Timing Plan	1	Sequence	0
Veh Detector Plan	0	Det Log	None
Flash	No	Red Rest	No
Veh Det Diag Plan	0	Ped Det Diag Plan	0
Dimming Enable	No	Pmt Veh Priority Ret	No
Pmt Ped Priority Ret	No	Pmt Queue Delay	No
Pmt Cond Delay	No		

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)	X															

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

Action Plan - 99

Pattern	Free	Override Sys	No
Timing Plan	0	Sequence	0
Veh Detector Plan	0	Det Log	None
Flash	No	Red Rest	No
Veh Det Diag Plan	0	Ped Det Diag Plan	0
Dimming Enable	No	Pmt Veh Priority Ret	No
Pmt Ped Priority Ret	No	Pmt Queue Delay	No
Pmt Cond Delay	No		

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)																

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

Action Plan - 100

Pattern	Flash	Override Sys	No
Timing Plan	0	Sequence	0
Veh Detector Plan	0	Det Log	None
Flash	No	Red Rest	No
Veh Det Diag Plan	0	Ped Det Diag Plan	0
Dimming Enable	No	Pmt Veh Priority Ret	No
Pmt Ped Priority Ret	No	Pmt Queue Delay	No
Pmt Cond Delay	No		

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)																

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

Maryland State Highway Administration

ECONOLITE

MOVING TRAFFIC FORWARD

(e) US 50 @ MD 331 / Dover - US 50 @ MD 331 / Dover - Econolite Type - ASC/3

Time Base Day Plan/Schedule
Day Plan (MM) 5-3

Day Plan #1

Event	Action Plan	Start Time
1	98	00:00
2	1	06:30
3	3	08:30
4	4	15:30
5	98	18:30

Day Plan #2

Event	Action Plan	Start Time
1	98	00:00
2	97	11:45

Day Plan #3

Event	Action Plan	Start Time
1	96	00:00
2	95	08:00
3	94	12:00

Day Plan #4

Event	Action Plan	Start Time
1	93	00:00
2	92	09:00
3	96	22:00

Schedule (MM) 5-4

Schedule Number - 1

Day Plan No.: 1

Month	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
	X	X	X	X							X	X

Day (DOW)	SUN	MON	TUE	WED	THU	FRI	SAT
		X	X	X	X	X	

Day (DOM)	1	2	3	4	5	6	7	8	9	10	11
	X	X	X	X	X	X	X	X	X	X	X
	12	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**
	X	X	X	X	X	X	X	X	X	X	X
	23	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**		
	X	X	X	X	X	X	X	X	X		

Schedule Number - 2

Day Plan No.: 2

Month	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
	X	X	X	X							X	X

Day (DOW)	SUN	MON	TUE	WED	THU	FRI	SAT
	X						X

Day (DOM)	1	2	3	4	5	6	7	8	9	10	11
	X	X	X	X	X	X	X	X	X	X	X
	12	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**
	X	X	X	X	X	X	X	X	X	X	X
	23	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**		
	X	X	X	X	X	X	X	X	X		

Schedule Number - 3

Day Plan No.: 2

Month	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
					X	X	X	X	X	X		

Day (DOW)	SUN	MON	TUE	WED	THU	FRI	SAT
						X	

Day (DOM)	1	2	3	4	5	6	7	8	9	10	11
	X	X	X	X	X	X	X	X	X	X	X
	12	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**

	X	X	X	X	X	X	X	X	X	X	X
	23	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**		
	X	X	X	X	X	X	X	X	X		

Schedule Number - 4

Day Plan No.: 3

Month	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
					X	X	X	X	X	X		

Day (DOW)	SUN	MON	TUE	WED	THU	FRI	SAT
							X

Day (DOM)	1	2	3	4	5	6	7	8	9	10	11
	X	X	X	X	X	X	X	X	X	X	X
	12	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**
	X	X	X	X	X	X	X	X	X	X	X
	23	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**		
	X	X	X	X	X	X	X	X	X		

Schedule Number - 5

Day Plan No.: 4

Month	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
					X	X	X	X	X	X		

Day (DOW)	SUN	MON	TUE	WED	THU	FRI	SAT
	X						

Day (DOM)	1	2	3	4	5	6	7	8	9	10	11
	X	X	X	X	X	X	X	X	X	X	X
	12	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**
	X	X	X	X	X	X	X	X	X	X	X
	23	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**		
	X	X	X	X	X	X	X	X	X		

Schedule Number - 6

Day Plan No.: 1

Month	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
					X	X	X	X	X	X		

Day (DOW)	SUN	MON	TUE	WED	THU	FRI	SAT
		X	X	X	X		

Day (DOM)	1	2	3	4	5	6	7	8	9	10	11
	X	X	X	X	X	X	X	X	X	X	X
	12	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**
	X	X	X	X	X	X	X	X	X	X	X
	23	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**		

	X	X	X	X	X	X	X	X	X	

Maryland State Highway Administration

ECONOLITE

MOVING TRAFFIC FORWARD

(h) MD 328 @ Elliott - MD 328 @ Elliott - Econolite Type - ASC/3

Configuration Controller Sequence

Phase Ring Sequence and Assignment (MM) 1-1-1

Hardware Alternate Sequence Enable: No

Phase Ring Sequence.....(Note: Sequences identical to the prior one are not printed)

		01		02		03		04		05		06		07		08		09		10		11		12		13		14		15		16
	B			B				B				B																				
Sequence 1																																
Ring 1	|	1		2	|	3		4	|	9		10	|	.		.		.		.		.		.		.		.		.		.
Ring 2	|	5		6	|	7		8	|	11		12	|	.		.		.		.		.		.		.		.		.		.

Phases In Use/Exclusive Ped (MM) 1-2

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Phases In Use		X		X	X	X										
Exclusive Ped																

Phase Compatibility (MM) 1-1-2

Phase	
n/a	Barrier Mode

Phase and Overlap Descriptions

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description		SB		WB	SBLT	NB										
Overlap	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**
Description																

Administration (MM) 1-7-1

Enable Controller/Cabinet Interlock CRC	No
CRC (16 bit)	D6ED
Enable Automatic Backup to Datakey	No

Backup Prevent (MM) 1-1-3

	Phases	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Timing	1		.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Phases	2	.		.	.	.	.	.	.	.	.	.	.	.	.	.	.
	3	.	.		.	.	.	.	.	.	.	.	.	.	.	.	.
	4	.	.	.		.	.	.	.	.	.	.	.	.	.	.	.
	5	.	.	.	.		.	.	.	.	.	.	.	.	.	.	.
	6	.	.	.	.	.		.	.	.	.	.	.	.	.	.	.
	7	.	.	.	.	.	.		.	.	.	.	.	.	.	.	.
	8	.	.	.	.	.	.	.		.	.	.	.	.	.	.	.
	9	.	.	.	.	.	.	.	.		.	.	.	.	.	.	.
	10	.	.	.	.	.	.	.	.	.		.	.	.	.	.	.
	11	.	.	.	.	.	.	.	.	.	.		.	.	.	.	.
	12	.	.	.	.	.	.	.	.	.	.	.		.	.	.	.
	13	.	.	.	.	.	.	.	.	.	.	.	.		.	.	.
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	15	.	.	.	.	.	.	.	.	.	.	.	.	.	.		.
	16	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	

Simultaneous Gap (MM) 1-1-4

	Phases	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	1		.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	2	.		.	.	.	X	.	.	.	.	.	.	.	.	.	.
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	5	.	.	.	.		.	.	.	.	.	.	.	.	.	.	.
Phase	6	.	X	.	.	.		.	.	.	.	.	.	.	.	.	.
Must	7	.	.	.	.	.	.		.	.	.	.	.	.	.	.	.
Gap	8	.	.	.	.	.	.	.		.	.	.	.	.	.	.	.
With	9	.	.	.	.	.	.	.	.		.	.	.	.	.	.	.
Phase	10	.	.	.	.	.	.	.	.	.		.	.	.	.	.	.
	11	.	.	.	.	.	.	.	.	.	.		.	.	.	.	.
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	16	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
	Disable	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Load Switch Assignments (MM) 1-3

	Phase / Overlap	Type	Dimming				Power Up	Auto		Flash Together
			Red	Yellow	Green	Dark		Red	Yellow	
1	1	O				-	Auto	X		
2	2	O				-	Auto	X		X
3	3	O				-	Auto	X		
4	4	O				-	Auto	X		
5	5	O				-	Auto	X		
6	6	O				-	Auto	X		X
7	7	O				-	Auto	X		
8	8	O				-	Auto	X		
9	2	P				-	Auto			

10	4	P				-	Auto			
11	6	P				-	Auto			
12	8	P				-	Auto			
13	13	O				-	Auto	X		
14	14	O				-	Auto	X		
15	15	O				-	Auto	X		
16	16	O				-	Auto	X		

Maryland State Highway Administration

ECONOLITE

MOVING TRAFFIC FORWARD

(h) MD 328 @ Elliott - MD 328 @ Elliott - Econolite Type - ASC/3

Controller Timing Plan (MM) 2-1

Plan 1

Phase	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Direction		**SB**		**WB**	**SBLT**	**NB**										
Min Green	20	20	0	8	5	20	0	0	5	5	5	5	5	5	5	5
Bk Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk	0	0	0	0	0	0	0	0	0	10	0	10	0	10	0	10
Walk2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear	0	16	0	16	0	16	0	0	0	16	0	16	0	16	0	16
Ped Clear 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Ext	5.0	5.0	0.0	3.0	4.0	5.0	0.0	0.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Ext 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max1	45	45	0	30	35	45	0	0	35	35	35	35	35	35	35	35
Max2	60	60	0	40	35	60	0	0	40	40	40	40	40	40	40	40
Max3	0	0	0	0	35	0	0	0	0	0	0	0	0	0	0	0
DYM Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dym Step	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	3.0	4.0	3.0	4.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Red Clear	1.0	2.0	1.0	2.0	1.0	2.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Red Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Act B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sec/Act	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Int	30	30	30	30	30	30	30	30	30	30	30	30	0	0	0	0
Time B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Wt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPTDuc	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TTReduc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Maryland State Highway Administration

ECONOLITE

MOVING TRAFFIC FORWARD

(h) MD 328 @ Elliott - MD 328 @ Elliott - Econolite Type - ASC/3

Controller Overlaps

Vehicle Overlaps (MM) 2-2

Overlap	Type	Lag Green	Yellow	Red	Adv. Green

Phases

Overlap	Phase	Included	Protect	Ped Protect	Not Overlap	Modifier	Lag X Phases	Lag 2 Phases	Flash Green
A	1	Yes	No	No	No		No	No	.
B	2	Yes	No	No	No		No	No	.
C	3	Yes	No	No	No		No	No	.
D	4	Yes	No	No	No		No	No	.
E	5	Yes	No	No	No		No	No	.
F	6	Yes	No	No	No		No	No	.
G	7	Yes	No	No	No		No	No	.
H	8	Yes	No	No	No		No	No	.
I	9	Yes	No	No	No		No	No	.
J	10	Yes	No	No	No		No	No	.
K	11	Yes	No	No	No		No	No	.
L	12	Yes	No	No	No		No	No	.

PPLT FYA

Overlap	Protected Phase (Left Turn)	Permissive Phase (Opposing Thru)	Flashing Arrow Output	Flashing Arrow Output CH	Delay Start of FYA	Delay Start of Clearance	Action Plan SF Bit Disable	Ped Protected Enable

Guaranteed Minimum Time Data (MM) 2-4

Phase	Min Green	Walk	Ped Clear	Yellow	Red Clear	Overlap Green
A01	5	0	7	3.0	0.0	5
B02	5	0	7	3.0	0.0	5
C03	5	0	7	3.0	0.0	5
D04	5	0	7	3.0	0.0	5
E05	5	0	7	3.0	0.0	5
F06	5	0	7	3.0	0.0	5
G07	5	0	7	3.0	0.0	5
H08	5	0	7	3.0	0.0	5
I09	5	0	7	3.0	0.0	5
J10	5	0	7	3.0	0.0	5
K11	5	0	7	3.0	0.0	5
L12	5	0	7	3.0	0.0	5
M13	5	0	7	3.0	0.0	5
N14	5	0	7	3.0	0.0	5

O15	5	0	7	3.0	0.0	5
P16	5	0	7	3.0	0.0	5

Maryland State Highway Administration

ECONOLITE

MOVING TRAFFIC FORWARD

(h) MD 328 @ Elliott - MD 328 @ Elliott - Econolite Type - ASC/3

Controller Options

Controller Options (MM) 2-6-1

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Flashing Grn Ph	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Guar Passage																
Non-Act I		X				X										
Non-Act II																
Dual Entry																
Cond Service																
Cond Reservice																
Ped Re-Service																
Rest In Walk																
Flashing Walk																
Ped Clr-Yel																
Ped Clr-Red																
IGRN + Veh Ext																

Ped Clear Protect: Off Unit Red Revert: 2.0 MUTCD 3 Seconds Don't Walk: No

Pre-Timed Mode (MM) 2-7

Enable Pre-Timed Mode: No Free Input Disables Pre-Timed: No

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Pre-Timed																

Phase Recall Options (MM) 2-8

Plan # 1

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Lock Detector																
Vehicle Recall		X				X										
Ped Recall																
Max Recall		X														
Soft Recall																
No Rest																
AI Calc																

Maryland State Highway Administration

ECONOLITE

MOVING TRAFFIC FORWARD

(h) MD 328 @ Elliott - MD 328 @ Elliott - Econolite Type - ASC/3

Coordination Pattern Data
Coordinator Pattern Data (MM) 3-2

Maryland State Highway Administration

ECONOLITE

MOVING TRAFFIC FORWARD

(h) MD 328 @ Elliott - MD 328 @ Elliott - Econolite Type - ASC/3

Time Base Action Plan
Action Plan (MM) 5-2

Action Plan - 99

Pattern	Free	Override Sys	No
Timing Plan	0	Sequence	0
Veh Detector Plan	0	Det Log	None
Flash	No	Red Rest	No
Veh Det Diag Plan	0	Ped Det Diag Plan	0
Dimming Enable	No	Pmt Veh Priority Ret	No
Pmt Ped Priority Ret	No	Pmt Queue Delay	No
Pmt Cond Delay	No		

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)																

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

Action Plan - 100

Pattern	Flash	Override Sys	No
Timing Plan	0	Sequence	0
Veh Detector Plan	0	Det Log	None
Flash	No	Red Rest	No
Veh Det Diag Plan	0	Ped Det Diag Plan	0
Dimming Enable	No	Pmt Veh Priority Ret	No
Pmt Ped Priority Ret	No	Pmt Queue Delay	No
Pmt Cond Delay	No		

Phase	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																

Spec Func (1-8)								

Aux Func (1-3)		

	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

Maryland State Highway Administration

ECONOLITE

MOVING TRAFFIC FORWARD

(h) MD 328 @ Elliott - MD 328 @ Elliott - Econolite Type - ASC/3

Time Base Day Plan/Schedule
Day Plan (MM) 5-3

Day Plan #1

Event	Action Plan	Start Time
1	99	00:00

Schedule (MM) 5-4

Schedule Number - 1

Day Plan No.: 1

Month	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
	X	X	X	X	X	X	X	X	X	X	X	X

Day (DOW)	SUN	MON	TUE	WED	THU	FRI	SAT
	X	X	X	X	X	X	X

Day (DOM)	1	2	3	4	5	6	7	8	9	10	11
	X	X	X	X	X	X	X	X	X	X	X
	12	13	14	15	16	17	18	19	20	21	22
	X	X	X	X	X	X	X	X	X	X	X
	23	24	25	26	27	28	29	30	31		
	X	X	X	X	X	X	X	X	X		

Maryland State Highway Administration

ECONOLITE

MOVING TRAFFIC FORWARD

MD.328 & Dyott - Modem - Econolite Type - ASC/3

Configuration Controller Sequence

Phase Ring Sequence and Assignment (MM) 1-1-1

Hardware Alternate Sequence Enable: No

Phase Ring Sequence.....(Note: Sequences identical to the prior one are not printed)

	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16
	B	B	B	B	B											
Sequence 1																
Ring 1	1	2	3	4	9	10	13	14	.	.	.	.	.	.	.	.
Ring 2	5	6	7	8	11	12	15	16	.	.	.	.	.	.	.	.
Sequence 2																
Ring 1	2	1	3	4	9	10	13	14	.	.	.	.	.	.	.	.
Ring 2	5	6	7	8	11	12	15	16	.	.	.	.	.	.	.	.
Sequence 3																
Ring 1	1	2	4	3	9	10	13	14	.	.	.	.	.	.	.	.
Ring 2	5	6	7	8	11	12	15	16	.	.	.	.	.	.	.	.
Sequence 4																
Ring 1	1	2	3	4	9	10	13	14	.	.	.	.	.	.	.	.
Ring 2	6	5	7	8	11	12	15	16	.	.	.	.	.	.	.	.
Sequence 5																
Ring 1	1	2	3	4	9	10	13	14	.	.	.	.	.	.	.	.
Ring 2	5	6	8	7	11	12	15	16	.	.	.	.	.	.	.	.
Sequence 6																
Ring 1	1	2	3	4	10	9	13	14	.	.	.	.	.	.	.	.
Ring 2	5	6	7	8	11	12	15	16	.	.	.	.	.	.	.	.
Sequence 7																
Ring 1	1	2	3	4	9	10	13	14	.	.	.	.	.	.	.	.
Ring 2	5	6	7	8	12	11	15	16	.	.	.	.	.	.	.	.
Sequence 8																
Ring 1	2	1	4	3	9	10	13	14	.	.	.	.	.	.	.	.
Ring 2	5	6	7	8	11	12	15	16	.	.	.	.	.	.	.	.
Sequence 9																
Ring 1	1	2	3	4	9	10	13	14	.	.	.	.	.	.	.	.
Ring 2	6	5	8	7	11	12	15	16	.	.	.	.	.	.	.	.
Sequence 10																
Ring 1	2	1	3	4	9	10	13	14	.	.	.	.	.	.	.	.
Ring 2	5	6	8	7	11	12	15	16	.	.	.	.	.	.	.	.
Sequence 11																
Ring 1	1	2	4	3	9	10	13	14	.	.	.	.	.	.	.	.
Ring 2	6	5	7	8	11	12	15	16	.	.	.	.	.	.	.	.
Sequence 12																
Ring 1	2	1	3	4	9	10	13	14	.	.	.	.	.	.	.	.
Ring 2	6	5	7	8	11	12	15	16	.	.	.	.	.	.	.	.
Sequence 13																

Ring 1	**1**	**2**	**4**	**3**	**9**	**10**	**13**	**14**	.	.	.	.	.	.	.	.
Ring 2	**5**	**6**	**8**	**7**	**11**	**12**	**15**	**16**	.	.	.	.	.	.	.	.
Sequence 14																
Ring 1	**2**	**1**	**4**	**3**	**9**	**10**	**13**	**14**	.	.	.	.	.	.	.	.
Ring 2	**6**	**5**	**7**	**8**	**11**	**12**	**15**	**16**	.	.	.	.	.	.	.	.
Sequence 15																
Ring 1	**1**	**2**	**4**	**3**	**9**	**10**	**14**	**13**	.	.	.	.	.	.	.	.
Ring 2	**6**	**5**	**8**	**7**	**12**	**11**	**16**	**15**	.	.	.	.	.	.	.	.
Sequence 16																
Ring 1	**2**	**1**	**3**	**4**	**9**	**10**	**13**	**14**	.	.	.	.	.	.	.	.
Ring 2	**6**	**5**	**8**	**7**	**11**	**12**	**15**	**16**	.	.	.	.	.	.	.	.

Phases In Use/Exclusive Ped (MM) 1-2

Phase	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Phases In Use		X		X		X		X								
Exclusive Ped																

Phase Compatibility (MM) 1-1-2

Phase	
n/a	Barrier Mode

Phase and Overlap Descriptions

Phase	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Description																
Overlap	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**
Description																

Administration (MM) 1-7-1

Enable Controller/Cabinet Interlock CRC	No
CRC (16 bit)	F779
Enable Automatic Backup to Datakey	No

Backup Prevent (MM) 1-1-3

	Phases	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Timing	1		.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Phases	2	.		.	.	.	.	.	.	.	.	.	.	.	.	.	.
	3	.	.		.	.	.	.	.	.	.	.	.	.	.	.	.
	4	.	.	.		.	.	.	.	.	.	.	.	.	.	.	.
	5	.	.	.	.		.	.	.	.	.	.	.	.	.	.	.
	6	.	.	.	.	.		.	.	.	.	.	.	.	.	.	.
	7	.	.	.	.	.	.		.	.	.	.	.	.	.	.	.
	8	.	.	.	.	.	.	.		.	.	.	.	.	.	.	.
	9	.	.	.	.	.	.	.	.		.	.	.	.	.	.	.
	10	.	.	.	.	.	.	.	.	.		.	.	.	.	.	.
	11	.	.	.	.	.	.	.	.	.	.		.	.	.	.	.
	12	.	.	.	.	.	.	.	.	.	.	.		.	.	.	.
	13	.	.	.	.	.	.	.	.	.	.	.	.		.	.	.
	14	.	.	.	.	.	.	.	.	.	.	.	.	.		.	.
	15	.	.	.	.	.	.	.	.	.	.	.	.	.	.		.
	16	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	

Simultaneous Gap (MM) 1-1-4

	Phases	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	1		.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	2	.		.	.	.	X	.	.	.	.	.	.	.	.	.	.
	3	.	.		.	.	.	.	.	.	.	.	.	.	.	.	.
	4	.	.	.		.	.	.	X	.	.	.	.	.	.	.	.
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Phase	6	.	X	.	.	.		.	.	.	.	.	.	.	.	.	.
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Gap	8	.	.	.	X	.	.	.		.	.	.	.	.	.	.	.
With	9	.	.	.	.	.	.	.	.		.	.	.	.	.	.	.
Phase	10	.	.	.	.	.	.	.	.	.		.	.	.	.	.	.
	11	.	.	.	.	.	.	.	.	.	.		.	.	.	.	.
	12	.	.	.	.	.	.	.	.	.	.	.		.	.	.	.
	13	.	.	.	.	.	.	.	.	.	.	.	.		.	.	.
	14	.	.	.	.	.	.	.	.	.	.	.	.	.		.	.
	15	.	.	.	.	.	.	.	.	.	.	.	.	.	.		.
	16	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
	Disable	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Load Switch Assignments (MM) 1-3

	Phase / Overlap	Type	Dimming				Power Up	Auto		Flash Together
			Red	Yellow	Green	Dark		Red	Yellow	
1	0	O				-	Auto	X		
2	2	O				-	Auto		X	X
3	0	O				-	Auto	X		
4	4	O				-	Auto	X		X
5	0	O				-	Auto	X		
6	6	O				-	Auto		X	X
7	0	O				-	Auto	X		
8	8	O				-	Auto	X		X
9	0	P				-	Auto			

10	0	P				-	Auto			
11	0	P				-	Auto			
12	0	P				-	Auto			
13	0	O				-	Auto	X		
14	0	O				+	Auto	X		X
15	0	O				-	Auto	X		
16	0	O				+	Auto	X		X

Maryland State Highway Administration

ECONOLITE

MOVING TRAFFIC FORWARD

MD.328 & Dyott - Modem - Econolite Type - ASC/3

Controller Timing Plan (MM) 2-1

Plan 1

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Direction																
Min Green	0	20	0	8	0	20	0	8	5	5	5	5	5	5	5	5
Bk Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk	0	0	0	0	0	0	0	0	0	10	0	10	0	10	0	10
Walk2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear	0	7	0	7	0	7	0	7	0	16	0	16	0	16	0	16
Ped Clear 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Ext	0.0	5.0	0.0	3.0	0.0	5.0	0.0	3.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Ext 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max1	0	60	0	30	0	60	0	30	35	35	35	35	35	35	35	35
Max2	0	60	0	35	0	60	0	35	40	40	40	40	40	40	40	40
Max3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dym Step	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	3.0	5.0	3.0	4.0	3.0	5.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Red Clear	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Red Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Act B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sec/Act	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Int	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Wt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPTDuc	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TTReduc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Maryland State Highway Administration

ECONOLITE

MOVING TRAFFIC FORWARD

MD.328 & Dyott - Modem - Econolite Type - ASC/3

Controller Overlaps

Vehicle Overlaps (MM) 2-2

Overlap	Type	Lag Green	Yellow	Red	Adv. Green

Phases

Overlap	Phase	Included	Protect	Ped Protect	Not Overlap	Modifier	Lag X Phases	Lag 2 Phases	Flash Green
A	1	Yes	No	No	No		No	No	.
B	2	Yes	No	No	No		No	No	.
C	3	Yes	No	No	No		No	No	.
D	4	Yes	No	No	No		No	No	.
E	5	Yes	No	No	No		No	No	.
F	6	Yes	No	No	No		No	No	.
G	7	Yes	No	No	No		No	No	.
H	8	Yes	No	No	No		No	No	.
I	9	Yes	No	No	No		No	No	.
J	10	Yes	No	No	No		No	No	.
K	11	Yes	No	No	No		No	No	.
L	12	Yes	No	No	No		No	No	.

PPLT FYA

Overlap	Protected Phase (Left Turn)	Permissive Phase (Opposing Thru)	Flashing Arrow Output	Flashing Arrow Output CH	Delay Start of FYA	Delay Start of Clearance	Action Plan SF Bit Disable	Ped Protected Enable

Guaranteed Minimum Time Data (MM) 2-4

Phase	Min Green	Walk	Ped Clear	Yellow	Red Clear	Overlap Green
A01	5	0	7	3.0	0.0	5
B02	5	0	7	3.0	0.0	5
C03	5	0	7	3.0	0.0	5
D04	5	0	7	3.0	0.0	5
E05	5	0	7	3.0	0.0	5
F06	5	0	7	3.0	0.0	5
G07	5	0	7	3.0	0.0	5
H08	5	0	7	3.0	0.0	5
I09	5	0	7	3.0	0.0	5
J10	5	0	7	3.0	0.0	5
K11	5	0	7	3.0	0.0	5
L12	5	0	7	3.0	0.0	5
M13	5	0	7	3.0	0.0	5
N14	5	0	7	3.0	0.0	5

O15	5	0	7	3.0	0.0	5
P16	5	0	7	3.0	0.0	5

Maryland State Highway Administration

ECONOLITE

MOVING TRAFFIC FORWARD

MD.328 & Dyott - Modem - Econolite Type - ASC/3

Controller Options

Controller Options (MM) 2-6-1

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Flashing Grn Ph	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Guar Passage																
Non-Act I		X				X										
Non-Act II																
Dual Entry		X		X		X		X								
Cond Service																
Cond Reservice																
Ped Re-Service																
Rest In Walk																
Flashing Walk																
Ped Clr-Yel																
Ped Clr-Red																
IGRN + Veh Ext																

Ped Clear Protect: Off Unit Red Revert: 2.0 MUTCD 3 Seconds Don't Walk: No

Pre-Timed Mode (MM) 2-7

Enable Pre-Timed Mode: No Free Input Disables Pre-Timed: No

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Pre-Timed																

Phase Recall Options (MM) 2-8

Plan # 1

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Lock Detector																
Vehicle Recall		X				X										
Ped Recall																
Max Recall																
Soft Recall																
No Rest																
AI Calc																

Maryland State Highway Administration

ECONOLITE

MOVING TRAFFIC FORWARD

MD.328 & Dyott - Modem - Econolite Type - ASC/3

Coordination Pattern Data
Coordinator Pattern Data (MM) 3-2

Maryland State Highway Administration

ECONOLITE

MOVING TRAFFIC FORWARD

MD.328 & Dyott - Modem - Econolite Type - ASC/3

Time Base Action Plan
Action Plan (MM) 5-2

Action Plan - 99

Pattern	Free	Override Sys	No
Timing Plan	0	Sequence	0
Veh Detector Plan	0	Det Log	None
Flash	No	Red Rest	No
Veh Det Diag Plan	0	Ped Det Diag Plan	0
Dimming Enable	No	Pmt Veh Priority Ret	No
Pmt Ped Priority Ret	No	Pmt Queue Delay	No
Pmt Cond Delay	No		

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)																

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

Maryland State Highway Administration

ECONOLITE

MOVING TRAFFIC FORWARD

MD.328 & Dyott - Modem - Econolite Type - ASC/3

Time Base Day Plan/Schedule
Day Plan (MM) 5-3

Schedule (MM) 5-4

RAUCH inc.
Engineering | Survey | Architecture | Environmental

July 24, 2023

RE: Aspire Outdoors, LLC Tax Map 26, Parcel 186 and Tax Map 35, Parcel 112

To whom it may concern,

We have done extensive land record research for the above-mentioned properties and have concluded that two separate tax parcels appear to exist.

Lands formerly of Swann Limited Partnership were conveyed to Theodore Passyn (the Passyn family) for the purpose of developing Matthewstown Run & Hunters Mill (under different ownership).

During the course of developing these communities several surveyors were involved. The early surveys and plat demonstrated parcel boundaries and abandoned them if necessary for the creation of roads and lots. These plats went through the Town of Easton's approval process and deeds were filed in the land records the reflect changes to parcel boundaries. Sometime around August of 2000 another surveyor became involved with the project. Plats were prepared and approved that didn't show all the existing parcel lines, thereby creating the appearance that existing parcel boundaries were abandoned and parcels combined. No deeds were recorded that abandoned parcel lines or combined these parcels.

Please find the attached history and timeline of the above-mention parcel as well as a copy of all documents referred to therein.

Sincerely,

William M. Ewald, Sr.
Professional Land Surveyor

Main Office: 106 N Harrison St – Easton, MD 21601
Web: www.rauch-inc.com | Email: design@raucheng.com
Phone: 410.770.9081

RAUCH inc.
Engineering | Survey | Architecture | Environmental

July 24, 2023

HISTORY AND TIMELINE OF ASPIRE PROPERTIES AND SURROUNDING DEVELOPMENTS ON THE SOUTHEAST SIDE OF MATTHEWSTOWN ROAD AND NOW IN THE TOWN LIMITS OF EASTON, MARYLAND.

DEC. 12, 1994 - First Matthewstown Run parcel created per plat 3 / 26 EE (26.606 Acres)
Swann Limited Partnership – Owners; - Deeded to Passyn – Dec 12, 1994 per deed 792 / 846.

July 28, 1995 – Matthewstown Run subdivision recorded in 3 / 51 EE

Aug 16, 1995 – Next Parcel of Swann lands platted and divided as Lot 1 (77.51 Acres) – See Plat 3 / 87 F

Feb 12, 1996 – Lot 1 (77.51 Acres) – along with 1.86 acre road strip and 1.17 acre Swann parcel annexed into the Town of Easton – see plat 3 / 72 E.

Aug 28, 1996 – Lot 1 / 77.51 acre parcel divided into Parcels "A", "B", & "C" (and adding some other Passyn lands to "C") - See Plat 3 / 88 E Owner : Swann Haven

Sept 24, 1996 – Parcels B & C of 3 / 88 E deeded from Swann to Passyn – See Deed 839 / 210

Apr 15, 1997 – Matthewstown Run – Section Two Approved and Recorded – see Plat 4 / 9 G
Owner: Passyn

Oct. 26, 1998 – Matthewstown Run – Section Three approved and recorded – see Plat 4 / 66 GG
Also creates Parcel B1 and B2 from original Parcel B - Owner: Passyn

May 27, 1999 – Additional lands of Swann Haven Ltd Partnership conveyed to Passyn – see deed 931 / 470 – P. 106 (1.184 Ac.)- lines abandoned per plat 5 / 16 II, P. 112 (Parcel A on Plat), 73.674 Acres of Parcel 45 (Now tax parcel 186) – See Plats 4 / 66 G & 4 / 97 G.

Feb 18, 2000 – Matthewstown Run – Section Five approved and recorded – see plat 5 / 16 II
Also still shows original parcel lines of A & B. Owner: Passyn

Dec 29, 2000 – Matthewstown Run – Section Four approved and recorded – see Plat 5 /49 I, (this plat and all other plats by S. Jupitz do not show original parcel lines created per plat 3 / 88 E and it does not appear that these lines were ever formerly abandoned or reconfigured.
Owner: Passyn

Main Office: 106 N Harrison St – Easton, MD 21601
Web: www.rauch-inc.com | Email: design@raucheng.com
Phone: 410.770.9081

Aspire

Talbot County, Maryland
July 19, 2023

ADT Evaluation

Prepared for:

Rauch, Inc.

Virginia Richardson, AIA
106 N. Harrison Street
Easton, MD 21601
(410) 770-9081
virginia@raucheng.com

Study Purpose

The Traffic Group, Inc. prepared a Traffic impact Study for the proposed Aspire residential development to be located on Matthewstown Road (MD328) in the Town of Easton, Talbot County, MD. The initial report was submitted on August 30, 2022, and was revised on January 6, 2023, to address comments received by the Maryland Department of Transportation State Highway Administration.

The development will consist of two parcels:

- Northern parcel with access through Hunters Mill via Camac Street and McCall Street and through the Gannon development via Charlotte Lane and Eleanor Way and Rhyan Drive.

- Southern parcel with access via Fishers Range Road.

The purpose of this ADT Evaluation is to determine if the Aspire northern parcel will be in compliance with the ADT restrictions presented in the Town of Easton's Subdivision Regulations, Section 702 "Street Hierarchy."

Street Hierarchy and existing ADT volumes

The apartment complex proposed for the northern parcel will have access to Matthewston Road (MD 328) via Camac Street and McCall Street in the Hunters Mill subdivision and via Charlotte Lane, Elenaor Way, and Rhyan Drive in the Gannon subdivision.

Camac Street (with residential homes) is classified as a Residential Sub-collector and is permitted a maximum of 500 ADT. McCall Street is classified as a Residential Collector and is permitted a maximum of 3,000 ADT.

Charlotte Lane and Eleanor Way are classified as Residential Sub-collector and are permitted a maximum of 500 ADT for a total of 1,000 ADT. Rhyan Drive is classified as a Residential Collector and is permitted a maximum of 3,000 ADT.

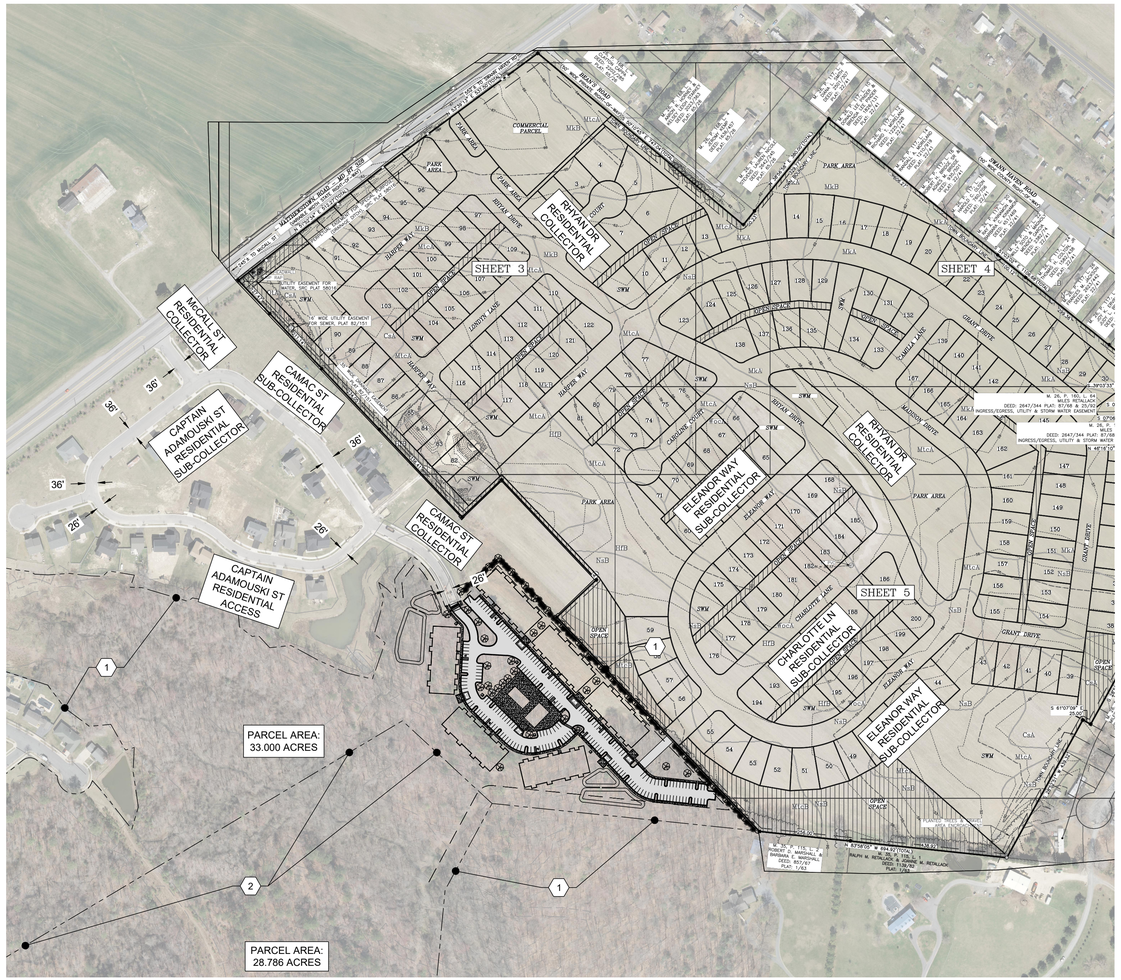
The existing homes along Camac Street and part of Captain Adamouski account for 200 of the permitted 500 ADT. The proposed homes along Charlotte Drive and Eleanor Way account for 380 of the permitted 1,000 ADT. Thus, 920 ADT in total are available on Camac Street, Charlotte Drive, and Eleanor Way.

Proposed ADT Volumes

The Aspire apartment complex is proposed to consist of a total of six buildings with 27 apartments in each building for a total of 162 apartments. According to the Town of Easton's Subdivision Regulations, each apartment will generate 5.4 daily trips per dwelling unit for a total of 875 ADT.

Summary

The proposed Aspire apartment complex to be located on Matthewstown Road (MD 328) in Easton, MD will have access through the Hunters Mill Subdivision and the Gannon Subdivision. The daily traffic volumes generated by the Aspire apartment complex will not exceed the maximum volumes permitted on these roadways according to the Town of Easton's Subdivision Regulations.



NOTES:

1. EXISTING PROPERTY LINE
2. PROPOSED PROPERTY LINE

DENSITY CALCULATIONS:

6 BUILDINGS W/ 27 UNITS EACH = 162 TOTAL DWELLING UNITS

ZONE R10A MAXIMUM DENSITY = 5 DWELLING UNITS PER ACRE

162 UNITS / 5 UNITS PER ACRE = ***32.4 ACRES***

N

200' 400'

LEGEND

- EXISTING PROPERTY LINE
- PROPOSED PROPERTY LINE
- WETLAND BOUNDARY
- 25' WETLAND BUFFER
- PERENNIAL STREAM
- 100' PERENNIAL STREAM BUFFER
- SETBACK (SEE NOTES)

LOCAL ROAD EXHIBIT

OF THE LANDS OF

ASPIRE APARTMENTS

TAX MAP: 0026, GRID: 0020, PARCEL: 0186

ELECTION DISTRICT 01, TALBOT COUNTY, MARYLAND

ASPIRE OUTDOORS, LLC

RAUCH inc.
Engineering | Survey | Architecture | Environmental
Main Office: 106 N Harrison St - Easton, MD 21601
Web: www.rauch-inc.com | Email: design@rauchengr.com
Phone: 410 770 8081 | Fax: 410 770 3867

REVISIONS

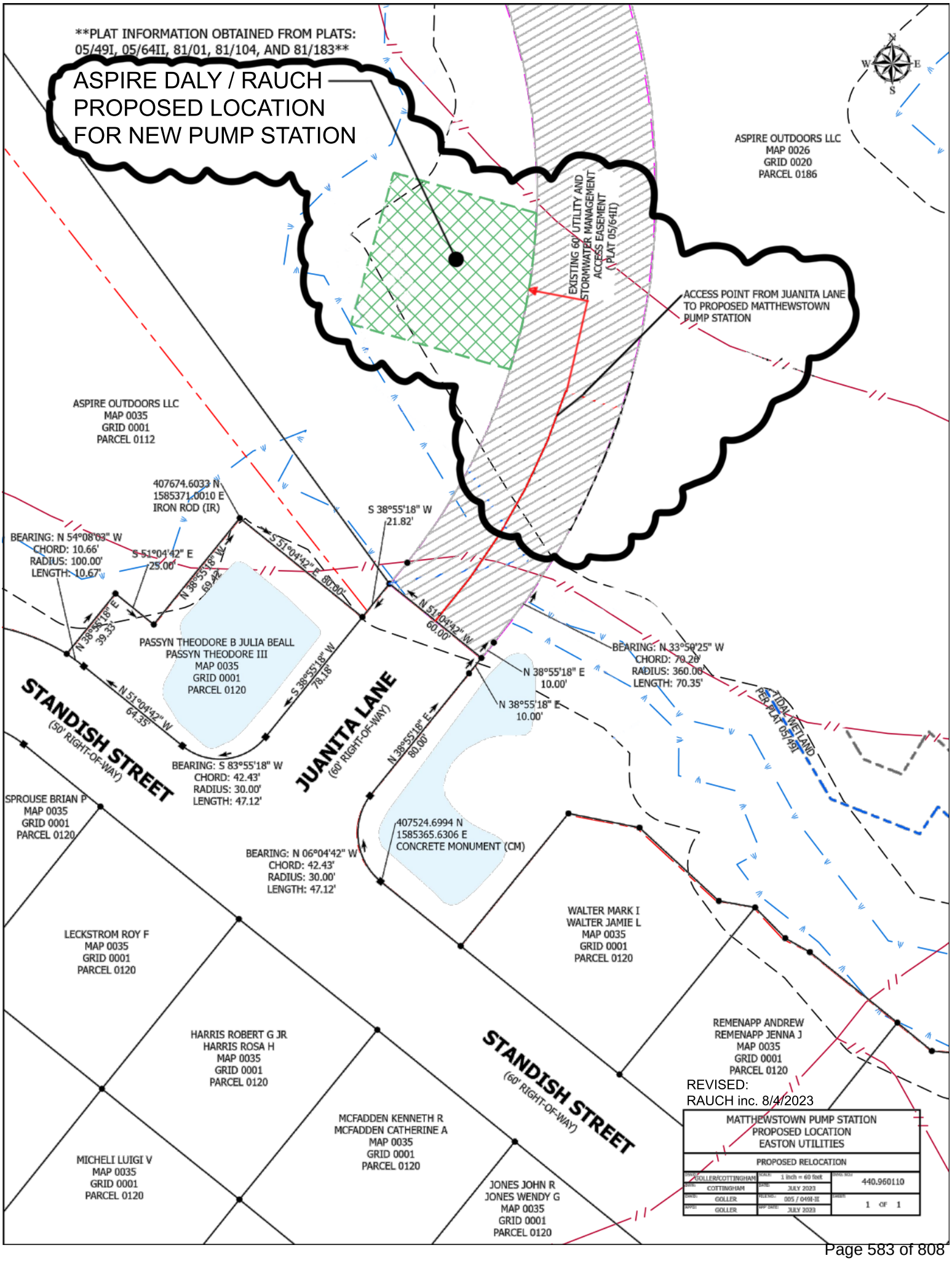
REV. #	DATE	DESCRIPTION

MISS UTILITY OF DELMARVA — CALL BEFORE YOU DIG — 811

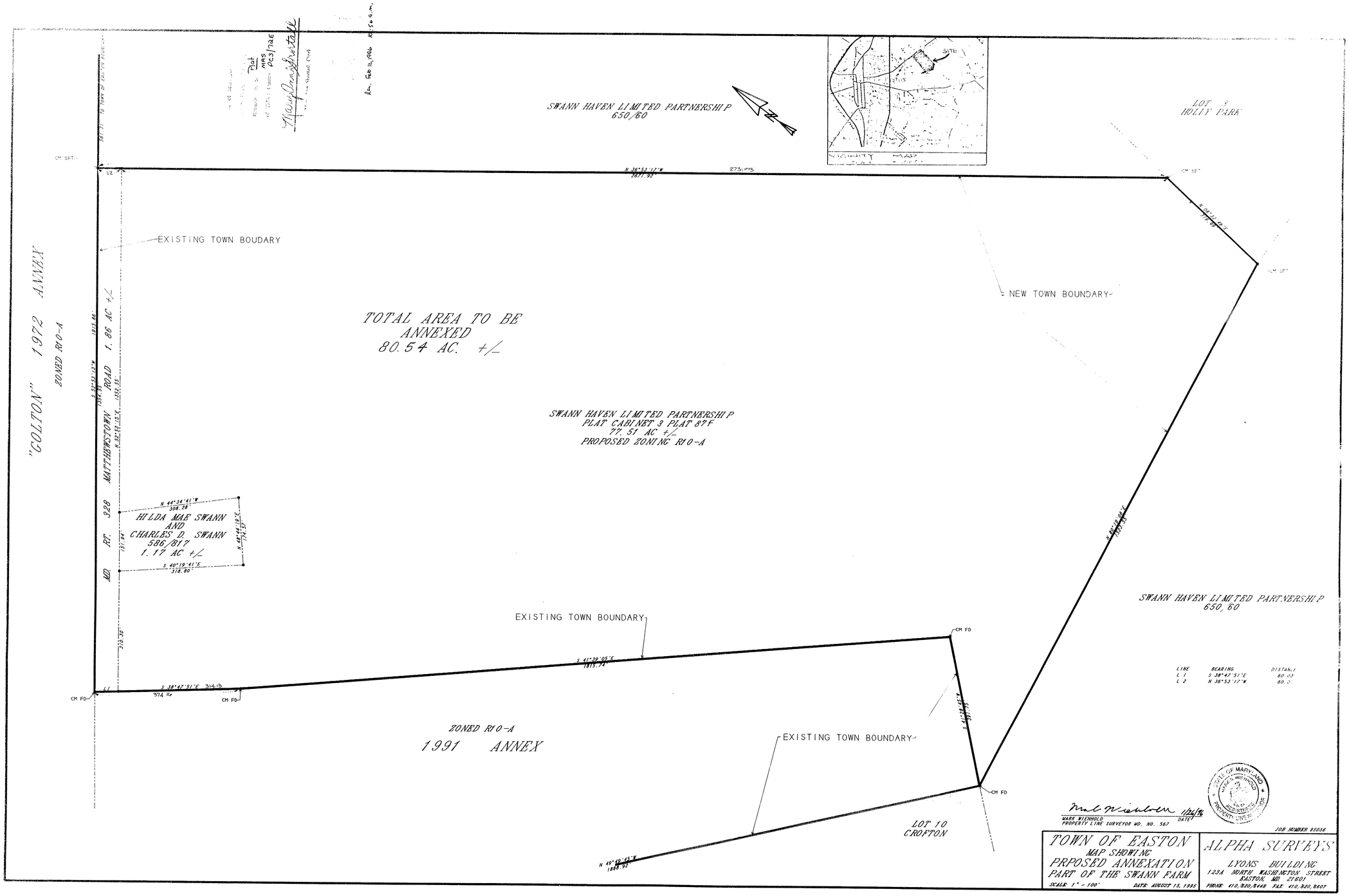
DATE:	7/12/2023
SCALE:	1" = 200'
DRAWN BY:	BBF
DESIGNED BY:	BBF
APPROVED BY:	BBF

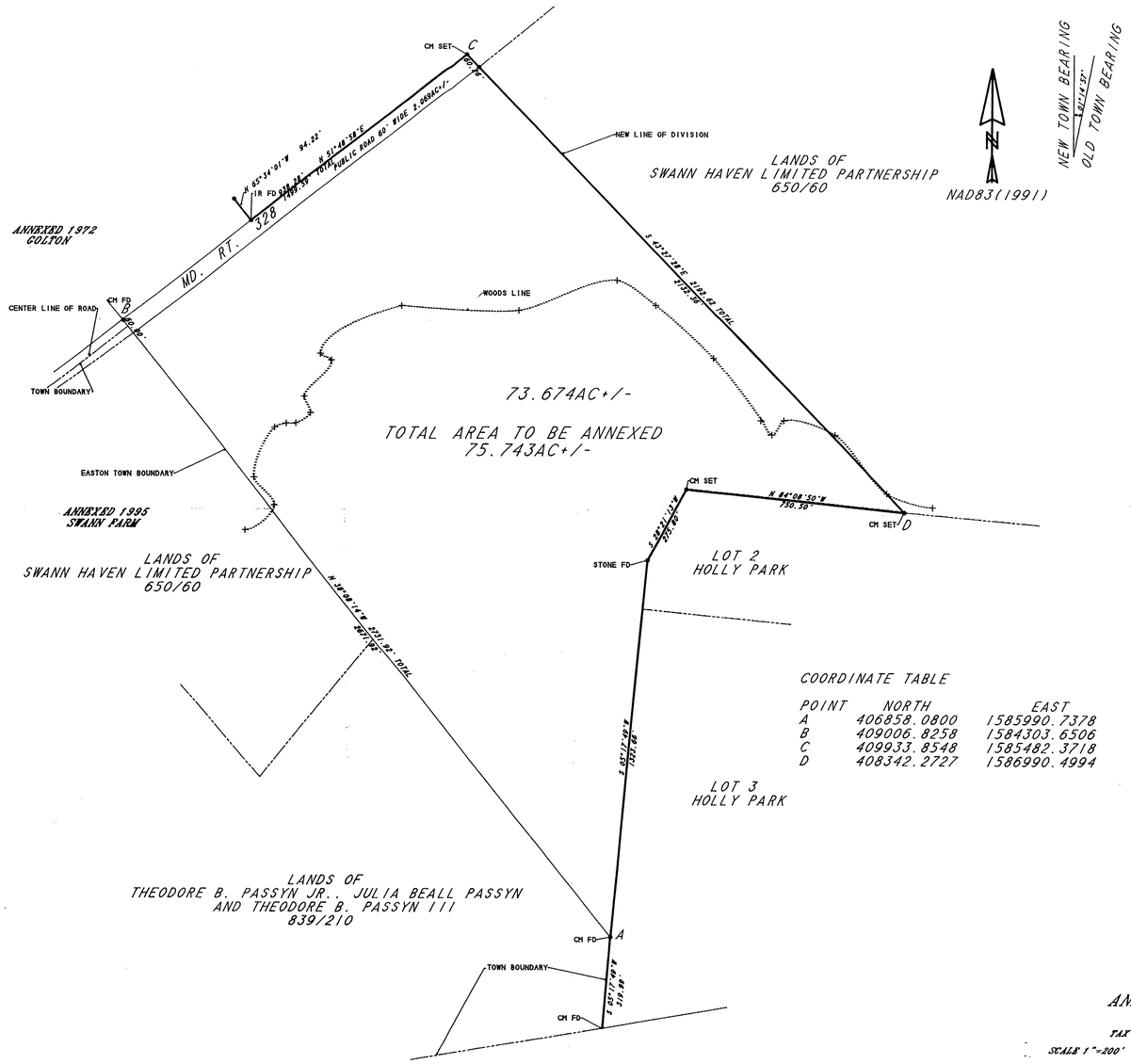
SHEET NO.: 1 OF 1

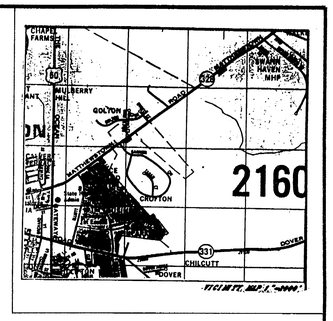
FOR REVIEW


**PLAT INFORMATION OBTAINED FROM PLATS:
05/49I, 05/64II, 81/01, 81/104, AND 81/183**
ASPIRE DALY / RAUCH
PROPOSED LOCATION
FOR NEW PUMP STATION
ASPIRE OUTDOORS LLC
MAP 0026
GRID 0020
PARCEL 0186
EXISTING 60' UTILITY AND
STORMWATER MANAGEMENT
ACCESS EASEMENT
(PLAT 05/64II)
ACCESS POINT FROM JUANITA LANE
TO PROPOSED MATTHEWSTOWN
PUMP STATION
ASPIRE OUTDOORS LLC
MAP 0035
GRID 0001
PARCEL 0112
407674.6033 N
1585371.0010 E
IRON ROD (IR)
S 38°55'18" W
21.82'
BEARING: N 54°08'03" W
CHORD: 10.66'
RADIUS: 100.00'
LENGTH: 10.67'
S 51°04'42" E
25.00'
N 38°55'18" W
69.42'
S 51°04'42" E
80.00'
N 38°55'18" E
39.33'
N 51°04'42" W
60.00'
PASSYN THEODORE B JULIA BEALL
PASSYN THEODORE III
MAP 0035
GRID 0001
PARCEL 0120
S 38°55'18" W
78.18'
N 38°55'18" E
10.00'
N 38°55'18" E
10.00'
BEARING: N 33°59'25" W
CHORD: 70.28'
RADIUS: 360.00'
LENGTH: 70.35'
TIDAL WETLAND
PER PLAT 05/49I
STANDISH STREET
(50' RIGHT-OF-WAY)
N 51°04'42" W
64.35'
JUANITA LANE
(60' RIGHT-OF-WAY)
N 38°55'18" E
80.00'
BEARING: S 83°55'18" W
CHORD: 42.43'
RADIUS: 30.00'
LENGTH: 47.12'
SPROUSE BRIAN P
MAP 0035
GRID 0001
PARCEL 0120
407524.6994 N
1585365.6306 E
CONCRETE MONUMENT (CM)
BEARING: N 06°04'42" W
CHORD: 42.43'
RADIUS: 30.00'
LENGTH: 47.12'
WALTER MARK I
WALTER JAMIE L
MAP 0035
GRID 0001
PARCEL 0120
LECKSTROM ROY F
MAP 0035
GRID 0001
PARCEL 0120
HARRIS ROBERT G JR
HARRIS ROSA H
MAP 0035
GRID 0001
PARCEL 0120
STANDISH STREET
(60' RIGHT-OF-WAY)
REMENAPP ANDREW
REMENAPP JENNA J
MAP 0035
GRID 0001
PARCEL 0120
REVISED:
RAUCH inc. 8/4/2023
MCFADDEN KENNETH R
MCFADDEN CATHERINE A
MAP 0035
GRID 0001
PARCEL 0120
MICHELI LUIGI V
MAP 0035
GRID 0001
PARCEL 0120
JONES JOHN R
JONES WENDY G
MAP 0035
GRID 0001
PARCEL 0120
MATTHEWSTOWN PUMP STATION
PROPOSED LOCATION
EASTON UTILITIES
PROPOSED RELOCATION
GOLLER/COTTINGHAM
COTTINGHAM
GOLLER
GOLLER
1 inch = 60 feet
JULY 2023
005 / 049I-II
JULY 2023
440.960110
1 OF 1

TALBOT COUNTY CIRCUIT COURT (Plat Book) Plat Cabinet MAS 3, p. 72E, MSA_C2399_5696. Date available 1996/02/16. Printed 07/26/2023.







PLAT FEE-A 2.50
TOTAL 2.50
Rec# 1682 Rcpt # 36388
MAS 8423 Blk # 163
Jun 02, 1999 01:03 PM
6/2/99 1:03 pm

COORDINATE TABLE

POINT	NORTH	EAST
A	406858.0800	1585990.7378
B	409006.8258	1584303.6506
C	409933.8548	1585482.3718
D	408342.2727	1586990.4994

State of Maryland
Talbot County, To Wit
Recorded in the ~~Land~~ PLAT Records
of Talbot County PC4 - 97G
Mary Ann Shortall
Mary Ann Shortall, Clerk

PROPOSED
ANNEXATION PLAT
OCTOBER 1998
TAX MAP 26 BLOCK 20 PARCEL 45
SCALE 1"=200' DATED 10/29/98 JOB NUMBER 98571ANNEX

STATE OF MARYLAND
MICHAEL W. WIERICH
PROPERTY LINE SURVEYOR

ALPHA SURVEYS
LYONS BUILDING
1894 NORTH WASHINGTON STREET
EASTON, MD. 21601
PHONE: 410.820.8410 FAX: 410.820.8409

TALBOT COUNTY CIRCUIT COURT (Plat Book) Plat Cabinet MAS 4, p. 97G, MSA_C2399_10016. Date available 1999/06/02. Printed 07/27/2023.

94US255

DEED — FEE SIMPLE — INDIVIDUAL GRANTOR — LONG FORM

IMP FD SURE $ 5.00
RECORD FEE - 20.00
RECORDATION T 2,500.00
TR TAX COUNTY 5,700.00
TR TAX STATE 1,900.00
TOTAL 10,133.00
Rec#16481 Rcpt#6484
MAS 7416 Blk#587
Dec 13, 1994 03:59 PM

This Deed, MADE THIS 12th day of December

in the year one thousand nine hundred and ninety-four

THE SWANN HAVEN LIMITED PARTNERSHIP, a Maryland Limited Partnership,

of Talbot County, State of Maryland, Grantor, party of the first part, and

THEODORE B. PASSYN, JULIA BEALL PASSYN and THEODORE B. PASSYN, III, of Talbot County,

State of Maryland, Grantees, parties

of the second part.

WITNESSETH, That in consideration of the sum of THREE HUNDRED EIGHTY THOUSAND AND NO/100 ($380,000.00) DOLLARS, the receipt of which by the Grantor is hereby acknowledged, which is the actual consideration paid or to be paid,

the said Grantor

does grant and convey to the said THEODORE B. PASSYN, JULIA BEALL PASSYN and THEODORE B. PASSYN, III, as Joint Tenants and not as Tenants in Common, the survivor of them, the survivor's

personal representatives/~~successors~~ and assigns forever, in fee simple, all

that lot of ground situate in TALBOT COUNTY, STATE OF MARYLAND

and described as follows, that is to say:

SEE ATTACHED SCHEDULE "A" LEGAL DESCRIPTION

BEING PART OF the property that was conveyed unto The Swann Haven Limited Partnership from Hilda Mae Swann by Deed dated April 20, 1988 and recorded among the Land Records of Talbot County in Liber 650, folio 60.

SUBJECT, HOWEVER, to all easements, rights-of-way and covenants and restrictions of record.

Return To: Upper Shore Title, Inc., 19 Federal Street, Suite 2C, Easton, Maryland 21601

THIS IS TO CERTIFY THAT THE PROPERTY DESCRIBED HEREIN HAS BEEN TRANSFERRED ON THE ASSESSMENT RECORDS OF TALBOT COUNTY

DAVID H. EWING
SUPERVISOR OF ASSESSMENTS

PER BLENDA W. ARMISTEAD, FIN. OFFICER (D)
12/13/94 (D)

CERTIFICATION IS MADE THAT ALL TAXES DUE ON THE PROPERTY INDICATED IN THIS DEED HAVE BEEN PAID.
FINANCE OFFICER OF TALBOT COUNTY
BLENDA W. ARMISTEAD, FIN. OFFICER (D)

DATE 12/13/94 (D)

LIBER 0792 FOLIO 846

MARYLAND CIRCUIT COURTS (Land Records) MAS 792, p. 0846, MSA_CE91_729. Date available 01/02/2004. Printed 07/27/2023.

ALL THAT PARCEL of ground situate, lying and being in the Town of Easton, State of Maryland, designated as a 26.606 acre parcel on a Plat entitled "MINOR SUBDIVISION PLAN, LAND TO BE RETAINED BY SWANN LIMITED PARNERSHIP LOCATED ON MD. RTE. 328, TOWN OF EASTON, TALBOT CONTY, STATE OF MARYLAND - PART OF TAX MAP 35, P. 11", dated November 1, 1994, prepared by Adams-Kemp Associates, Inc., Professional Land Surveyors and Planners, and described as follows:

BEGINNING FOR THE same at an iron pipe now set at the northwesterly corner of the herein described property. The point of beginning is located by the following 2 courses and distances from an iron pipe in concrete found at the southwesterly corner of the original 26.895 acre tract as surveyed by Rauch, Walls and Lane for annexation purposes dated 4-11-1990, (1) N 52 27' 35" E, 275.78' to a point, thence (2) N 52 53' 13" E, 341.48' to the point of beginning. Point of beginning is also located in the southerly right of way line of Maryland Highway 328. Thence leaving said point of beginning and running and binding with land of Swann and the south side of a farm road there situate,
(A) S 38 47' 51' E, 314.13' to an iron pipe in concrete found, thence continuing with said Swann and Farm Road,
(B) S 41 39' 05" E, 1815.74' to an iron pipe in concrete found, thence turning and binding with Swann Land,
(C) S 41 28' 45" W, 391.75' to an iron pipe and to the subdivision known as Crofton, PB 72: 21.
Thence running and binding with said Crofton Subdivision,
(D) N 49 49' 45" W, 1888.92' to an iron pipe in concrete found and to land now or formerly of D. Mullikin, DB 756/139. Thence running and binding with said Mullikin for the two following courses and distances,
(E) N 44 32' 31" E, 52.00' to an iron pipe in concrete found, thence
(F) N 40 41' 01" W, 210.00' to an iron pipe and to Outlot A. Thence running and binding with Outlot A for the two following courses and distances,
(G) N 52 27' 35" E, 90.00' to an iron pipe, thence
(H) N 40 41' 01" W, 140.00' to an iron pipe and to the southerly right of way line of Maryland Highway 328. Thence running and binding with said southerly right of way line of Maryland Highway 328 for the following two courses and distances,
(I) N 52 27' 35" E, 185,78' to an iron pipe, thence
(J) N 52 53' 13" E, 341.48' to the point of beginning.

Said Plat has been recorded among the Plat Records of Talbot County in Plat Cabinet 3, Plat 26EE.

TOGETHER with an Easement, for purposes of drainage, stormwater management and the construction and maintenance of utilities, including but not necessarily limited to gas, electric, telephone, water, sewer and sewer pumping station, to be located on the adjoining lands of The Swann Haven Limited Partnership (Parcel 13, Liber 650, folio 60) and described as follows:

BEGINNING for the same at an iron pipe in concrete found at the northeasterly corner of the 26.606 acre parcel which this easement shall service. Thence
(See Attached for Legal Continuation)

TALBOT COUNTY CIRCUIT COURT (Land Records) MAS 792, p. 0847, MSA_CE91_729. Date available 01/02/2004. Printed 07/27/2023.

leaving said point of beginning and running and binding with the southerly side of a farm road there situate,
(1) S 41 39' 05" E, 209.04' to a point and to a ditch, thence with said ditch for the two following courses and distances,
(2) S 70 03' 35" W, 283.52' to a point, thence
(3) S 59 55' 45" W, 103.64' to a point which is 40 feet distant from the rear line of Crofton Subdivision. Thence running 40 feet from and parallel to said line of Crofton,
(4) S 41 28' 45" W, 1515.95' to a point 40 feet distant from land known as Shoppes of Easton.
Thence running 40 feet from and parallel to land known as Shoppes of Easton for the following courses and distances,
(5) S 43 49' 28" E, 202.31' to a point, thence
(6) S 33 52' 32" E, 594.17' to a point, thence turning
(7) S 46 22' 19" 40.59' to a point and to said lands known as Shoppes of Easton. Thence running and binding with said Shoppes of Easton, for the following courses and distances,
(8) N 33 52' 32" W, 597.56' to a point, thence
(9) N 43 49' 28" W, 235.67' to a point and to Crofton Subdivision.
Thence running and binding with said Crofton Subdivision and said 26.606 acre parcel,
(10) N 41 28' 45" E, 1925.19' to the point of beginning.

This is to certify that the within instrument has been prepared (i) by or under the supervision of the undersigned Maryland attorney, or (ii) by a party to this instrument.

JOSEPH F. MCBRIDE, Attorney-at-Law

LIBER 0792 FOLIO 848

TALBOT COUNTY CIRCUIT COURT (Land Records) MAS 792, p. 0848, MSA_CE91_729. Date available 01/02/2004. Printed 07/27/2023.

TALBOT COUNTY CIRCUIT COURT (Land Records) MAS 792, p. 0849, MSA_CE91_729. Date available 01/02/2004. Printed 07/27/2023.

TOGETHER with the buildings thereupon, and the rights, alleys, ways, waters, privileges, appurtenances and advantages thereto belonging, or in anywise appertaining.

TO HAVE AND TO HOLD the said described lot of ground and premises to the said THEODORE B. PASSYN, JULIA BEALL PASSYN and THEODORE B. PASSYN, III, as Joint Tenants and not as Tenants in Common, the survivor of them, the survivor's

personal representatives ~~successors~~

and assigns forever, in fee simple.

AND the said party of the first part hereby covenants that it has not done or suffered to be done any act, matter or thing whatsoever, to encumber the property hereby conveyed; that it will warrant specially the property hereby granted; and that it will execute such further assurances of the same as may be requisite.

WITNESS the hand and seal of said grantor

THE SWANN HAVEN LIMITED PARTNERSHIP

Test:

Mary A. Bracton

BY: Paul Elmer Swann (SEAL)
PAUL ELMER SWANN, General Partner

(SEAL)

STATE OF MARYLAND, TALBOT COUNTY, to wit:

I HEREBY CERTIFY, That on this 12th day of December, in the year one thousand nine hundred and ninety-four, before me, the subscriber, a Notary Public of the State aforesaid, personally appeared Paul Elmer Swann, General Partner of The Swann Haven Limited Partnership,

known to me (or satisfactorily proven) to be the person whose name is ~~are~~ subscribed to the within instrument, and acknowledged the foregoing Deed to be his act, and in my presence signed and sealed the same.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

Paige E. Culhane
Notary Public

PAIGE E. CULHANE NOTARY PUBLIC TALBOT CO., MD.

My Commission expires:

October 24, 1998

This is to certify that the within instrument has been prepared (i) by or under the supervision of the undersigned Maryland attorney, or (ii) by a party to this instrument.

(Signature of attorney admitted to practice in Maryland if the instrument has been prepared by or under the supervision of such attorney, or signature of a party to the instrument if such party has prepared the instrument)

96US324

DEED — FEE SIMPLE — INDIVIDUAL GRANTOR — LONG FORM

TRP FD SURE $	5.00
RECORD FEE -	20.00
RECORDATION T	4,253.70
TR TAX STATE	3,220.63
TOTAL	7,499.33
Reg# TA02	Rcpt # 15131
MAS 6183	Blk # 1135
Sep 26, 1996	03:47 PM

This Deed, MADE THIS 24th day of September

in the year one thousand nine hundred and ninety-six by and between

THE SWANN HAVEN LIMITED PARTNERSHIP, a Maryland Limited Partnership,

of Talbot County, State of Maryland, Grantor, party of the first part, and

THEODORE B. PASSYN, JULIA BEALL PASSYN and THEODORE B. PASSYN, III, of Talbot County, State of Maryland, Grantees, parties

of the second part.

WITNESSETH, That in consideration of the sum of SIX HUNDRED FORTY-FOUR THOUSAND ONE HUNDRED TWENTY-FIVE AND NO/100 ($644,125.00) DOLLARS, the receipt of which by the Grantor is hereby acknowledged, which is the actual consideration paid or to be paid,

the said Grantor

do es grant and convey to the said THEODORE B. PASSYN, JULIA BEALL PASSYN and THEODORE B. PASSYN, III, as Joint Tenants and not as Tenants in Common, the survivor of them, the survivor's

personal representatives/~~successors~~ and assigns forever, in fee simple, all

that lot of ground situate in Talbot County, State of Maryland

and described as follows, that is to say:

ALL THOSE PARCELS of ground situate, lying and being in the First Election District of Talbot County, State of Maryland, and designated as Parcel "B" and Parcel "C" on a plat entitled: "SUBDIVISION OF THE LANDS OF SWANN HAVEN LIMITED PARTNERSHIP, TOWN OF EASTON, 1ST ELECTION DISTRICT, TALBOT COUNTY, MARYLAND", prepared by Alpha Surveys, dated August 12, 1996 and recorded among the Plat Records of Talbot County in Plat Cabinet 3, plat 88E.

BEING A PART OF the same property that was conveyed unto The Swann Haven Limited Partnership from Hilda Mae Swann by Deed dated April 20, 1988 and recorded among the Land Records of Talbot County in Liber 650, folio 60.

SUBJECT, HOWEVER, to all easements, rights-of-way, utility rights-of-way of record; and FURTHER, SUBJECT, to two Easements to the Town of Easton recorded among the aforesaid Land Records in Liber 806, folio 550 and Liber 817, folio 587. ALSO, SUBJECT, to Resolution Number 5509 adopted by the Town of Easton annexing 80.548 acres of land, more or less.

Return To: Upper Shore Title, Inc., 19 Federal Street, Suite 2C, Easton, Maryland 21601

THIS IS TO CERTIFY THAT THE PROPERTY DESCRIBED HEREIN HAS BEEN TRANSFERRED ON THE ASSESSMENT RECORDS OF TALBOT COUNTY

DAVID H. EWING
SUPERVISOR OF ASSESSMENTS

BLENDA W. ARMISTEAD, FIN. OFFICER
9/26/96

CERTIFICATION IS MADE THAT ALL TAXES DUE ON THE PROPERTY INDICATED IN THIS DEED HAVE BEEN PAID
FINANCE OFFICER OF TALBOT COUNTY
BLENDA W. ARMISTEAD, FIN. OFFICER

DATE 9/26/96

Agricultural Transfer Tax

in the Amount of $ 24,154.68

BLENDA W. ARMISTEAD, FIN. OFFICER

NC. 644,125.00 9/26/96

LIBER 0839 FOLIO 210

TALBOT COUNTY CIRCUIT COURT (Land Records) MAS 839, p. 0210, MSA_CE91_776. Date available 01/02/2004. Printed 07/27/2023.

TOGETHER with the buildings thereupon, and the rights, alleys, ways, waters, privileges, appurtenances and advantages thereto belonging, or in anywise appertaining.

TO HAVE AND TO HOLD the said described lot of ground and premises to the said THEODORE B. PASSYN, JULIA BEALL PASSYN and THEODORE B. PASSYN, III, as Joint Tenants and not as Tenants in Common, the survivor of them, the survivor's personal representatives and assigns forever, in fee simple.

AND the said party of the first part hereby covenant s that it has not done or suffered to be done any act, matter or thing whatsoever, to encumber the property hereby conveyed; that it will warrant specially the property hereby granted; and that it will execute such further assurances of the same as may be requisite.

WITNESS the hand and seal of said grantor

Test:

Mary H Barnhart

THE SWANN HAVEN LIMITED PARTNERSHIP

BY: Paul Elmer Swann (SEAL)
PAUL ELMER SWANN, General Partner

(SEAL)

STATE OF MARYLAND, TALBOT COUNTY, to wit:

I HEREBY CERTIFY, That on this 24th day of September, in the year one thousand nine hundred and ninety-six, before me, the subscriber, a Notary Public of the State aforesaid, personally appeared Paul Elmer Swann, General Partner, The Swann Haven Limited Partnership, known to me (or satisfactorily proven) to be the person whose name is subscribed to the within instrument, and acknowledged the foregoing Deed to be his act, and in my presence signed and sealed the same.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

Patricia McGlannan
Notary Public

PATRICIA McGLANNAN
NOTARY PUBLIC STATE OF MARYLAND
My Commission Expires October 19, 1998

My Commission expires:

October 19, 1998

This is to certify that the within instrument has been prepared (i) by or under the supervision of the undersigned Maryland attorney, or (ii) by a party to this instrument.

(Signature of attorney admitted to practice in Maryland if the instrument has been prepared by or under the supervision of such attorney, or signature of a party to the instrument if such party has prepared the instrument)

LIBER 0839 FOLIO 211

TALBOT COUNTY CIRCUIT COURT (Land Records) MAS 839, p. 0211, MSA_CE91_776. Date available 01/02/2004. Printed 07/27/2023.

98US719

THIS DEED, made this 27th day of May, 1999, by and between THE SWANN HAVEN LIMITED PARTNERSHIP, a Maryland Limited Partnership, and PAUL ELMER SWANN, NORMAN F. SWANN & CHARLES D. SWANN, Personal Representatives of the Estate Hilda Mae Swann, and CHARLES D. SWANN, Individually, Grantors, parties of the first part, and THEODORE B. PASSYN, JULIA BEALL PASSYN and THEODORE B. PASSYN, III, Grantees, parties of the second part.

WITNESSETH, that in consideration of the sum of FIVE HUNDRED EIGHTY THOUSAND AND NO/100 **($580,000.00) DOLLARS, the receipt of which by the Grantors is hereby acknowledged, which is the actual consideration paid or to be paid, the said Grantors to hereby grant and convey to the said THEODORE B. PASSYN, JULIA BEALL PASSYN and THEODORE B. PASSYN, III, as Joint Tenants, the survivor of them, the survivor's personal representatives and assigns forever, in fee simple, all those lots of ground situate in Talbot County, State of Maryland, that is to say:

IMP FD SURE $	5.00
RECORD FEE -	20.00
TOTAL	25.00
Rec# TA82	Rcpt # 36584
MAS 8423	Blk # 1985
May 27, 1999	01:43 PM

SEE ATTACHED SCHEDULE 'A' FOR LEGAL DESCRIPTION

FOR BEING SEE TWO DEEDS;

1) BEING A PART of the same property that was conveyed unto The Swann Haven Limited Partnership, a Maryland Limited Partnership, from Hilda Mae Swann by Deed dated April 20, 1988 and recorded among the Land Records of Talbot County in Liber 650, folio 60.

2) BEING THE SAME property that was conveyed unto Hilda Mae Swann and Charles D. Swann by Deed dated May 15, 1984 and recorded among the Land Records of Talbot County, in Liber 586, folio 817. The said Hilda Mae Swann having departed from this life on or about March 28, 1995.

SUBJECT, HOWEVER, to all easements, rights-of-way, utility rights-of-way of record and a Resolution to Annex Certain Lands Owned by The Swann Haven Limited Partnership, et al, recorded among the Land Records of Talbot County in Liber 821, folio 491.

TOGETHER WITH the buildings thereupon, and the rights, alleys, ways, waters, privileges, appurtenances and advantages thereto belonging, or in anywise appertaining.

TO HAVE AND TO HOLD the said described parcels of ground and premises to the said THEODORE B. PASSYN, JULIA BEALL PASSYN and THEODORE B. PASSYN, III, as Joint Tenants, the survivor of them, the survivor's personal representatives and assigns forever, in fee simple.

AND THE SAID parties of the first part hereby covenant that they have not done or suffered to be done any act, matter or thing whatsoever, to encumber the property hereby conveyed; that they will warrant specially the property hereby granted; and that they will execute such further assurances of the same as may be requisite.

**The Real Estate Sale and Purchase Contract was recorded on December 31, 1998 at Liber 914, folio 846. All taxes imposed were paid at that time.

98-719 RETURN TO: UPPER SHORE TITLE, INC., 19 FEDERAL STREET, SUITE 2C, EASTON, MD 21601

TALBOT COUNTY CIRCUIT COURT (Land Records) MAS 931, p. 0470, MSA_CE91_868. Date available 01/02/2004. Printed 07/27/2023.

SCHEDULE "A" - LEGAL DESCRIPTION

ALL THOSE LOTS or parcels of ground situate, lying and being in Talbot County, State of Maryland, First Election District, and described as follows:

1.) Parcel 45, Tax Map 26, Grid 20 - Tax ID# 01043838:

ALL THAT LOT or parcel of ground situate, lying and being in the First Election District, Talbot County, consisting of 73.674 acres +/- as shown on a Plat entitled "SUBDIVISION OF THE LANDS OF SWANN HAVEN LIMITED PARTNERSHIP TAX MAP 26 BLOCK 20 PARCEL 45 1ST ELECTION DISTRICT TALBOT COUNTY, MARYLAND SCALE 1" = 200' JOB NUMBER 98571 DATED 9/24/98", prepared by Alpha surveys and recorded among the Plat Records of Talbot County in Plat Cabinet 4, plat 66G.

2.) Parcel 112, Tax Map 35, Grid 1 = Tax ID# 01084062:

ALL THAT LOT or parcel of ground situate, lying and being in the First Election District, Talbot County, and designated as Parcel "A", consisting of 28.694 acres +/-, on a Plat entitled "SUBDIVISION OF THE LANDS OF SWANN HAVEN LIMITED PARTNERSHIP TOWN OF EASTON 1ST ELECTION DISTRICT TALBOT COUNTY, MARYLAND SCALE: 1" = 100', DATE 7/30/96", prepared by Alpha Surveys, and recorded among the Plat Records of Talbot County in Plat Cabinet 3, plat 88E.

3.) Parcel 106, Tax Map 34, Grid 1 - Tax ID# 01062220:

ALL THAT PIECE or parcel of land situate, lying and being in the First Election District of Talbot County, Maryland and more particularly described as follows:

BEGINNING for the same at a Concrete Monument, approximately one half mile from the Town of Easton, on the southeasterly side of the public road leading from Easton to Denton, known as Maryland Highway No. 328, said Monument being at the most northerly corner of the land known as Fishers Range described in a deed from J. Elmer Swann and Minnie A. Swann to I. Reuben Swann and Hilda May Swann, dated June 18, 1957, and recorded in the Land Record Books of Talbot County, Maryland under Liber 340, folio 35, and from said Place of Beginning running by and with a new division line between the herein described land and the reserved land of I. Reuben Swann and Hilda May Swann and Hilda May Swann the following three courses and distances: (1) South 45 degrees 14 minutes East 312.00 feet to a Concrete Monument; thence (2) South 48 degrees 05 minutes 18 seconds West 174.56 feet to a Concrete Monument; thence (3) North 40 degrees 59 minutes West 322.30 feet to a Concrete Monument on the southeasterly side of the aforementioned Maryland Highway No. 328, said Monument bears South 57 degrees 35 minutes West 15.88 feet from the center of a Brick Gate Post on the southerly side of the driveway leading into the herein described land; thence (4) by and with the said Maryland Highway No. 328, North 52 degrees 10 minutes East 151.65 feet to the Place of Beginning, containing 1.184 acres of land, more or less.

TALBOT COUNTY CIRCUIT COURT (Land Records) MAS 931, p. 0471, MSA_CE91_868. Date available 01/02/2004. Printed 07/27/2023.

WITNESS the hands and seals of said Grantors.

TEST:

Mary H Bourbon

Mary H Bourbon

Mary H Bourbon

THE SWANN HAVEN LIMITED PARTNERSHIP,
a Maryland limited partnership

BY: Paul Elmer Swann
PAUL ELMER SWANN, General Partner

BY: Norman F Swann
NORMAN F. SWANN, General Partner

BY: Charles D Swann
CHARLES D. SWANN, General Partner

Mary H Bourbon

Mary H Bourbon

Mary H Bourbon

Mary H Bourbon

ESTATE OF HILDA MAE SWANN

BY: Paul Elmer Swann
PAUL ELMER SWANN, Per. Representative

BY: Norman F Swann
NORMAN F. SWANN, Per. Representative

BY: Charles D Swann
CHARLES D. SWANN, Per. Representative

BY: Charles D Swann
CHARLES D. SWANN, Individually

STATE OF MARYLAND, COUNTY OF TALBOT, to wit:

I HEREBY CERTIFY, that on this 27th day of May 1999, before me, the subscriber, a Notary Public of the State aforesaid, personally appeared PAUL ELMER SWANN, in his capacity of General Partner of The Swann Haven Limited Partnership and as Personal Representative of the Estate of Hilda Mae Swann, known to me (or satisfactorily proven) to be the person whose name is subscribed to the within instrument, and acknowledged the foregoing Deed to be his act, and in my presence signed and sealed the same.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

Paige E. Chance
Notary Public

My Commission Expires: 10/01/02

PAIGE E. CHANCE
NOTARY PUBLIC STATE OF MARYLAND
County of Talbot
My Commission Expires October 1, 2002

2

LIBER0931 FOLIO472

TALBOT COUNTY CIRCUIT COURT (Land Records) MAS 931, p. 0472, MSA_CE91_868. Date available 01/02/2004. Printed 07/27/2023.

STATE OF MARYLAND, COUNTY OF TALBOT, to wit:

I HEREBY CERTIFY, that on this 27th day of May, 1999, before me, the subscriber, a Notary Public of the State aforesaid, personally appeared NORMAN F. SWANN, in his capacity of General Partner of The Swann Haven Limited Partnership and as Personal Representative of the Estate of Hilda Mae Swann, known to me (or satisfactorily proven) to be the person whose name is subscribed to the within instrument, and acknowledged the foregoing Deed to be his act, and in my presence signed and sealed the same.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

Paige E. Chance
Notary Public

My Commission Expires: 10/01/02

PAIGE E. CHANCE
NOTARY PUBLIC STATE OF MARYLAND
County of Talbot
My Commission Expires October 1, 2002

STATE OF MARYLAND, COUNTY OF TALBOT, to wit:

I HEREBY CERTIFY, that on this 27th day of May, 1999, before me, the subscriber, a Notary Public of the State aforesaid, personally appeared CHARLES D. SWANN, in his capacity of General Partner of The Swann Haven Limited Partnership, and Individually, known to me (or satisfactorily proven) to be the person whose name is subscribed to the within instrument, and acknowledged the foregoing Deed to be his act, and in my presence signed and sealed the same.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

Paige E. Chance
Notary Public

My Commission Expires: 10/01/02

PAIGE E. CHANCE
NOTARY PUBLIC STATE OF MARYLAND
County of Talbot
My Commission Expires October 1, 2002

This is to certify that the within instrument has been prepared (I) by or under the supervision of the undersigned Maryland attorney, or (ii) by a party to this instrument.

JOSEPH F. MCBRIDE, Attorney-at-Law

CERTIFICATION IS MADE THAT ALL TAXES DUE ON THE PROPERTY INDICATED IN THIS DEED HAVE BEEN PAID.
FINANCE OFFICER OF TALBOT COUNTY
R. ANDREW HOLLIS, FIN. OFFICER

DATE 5/27/99

I HEREBY CERTIFY THAT THE PROPERTY DESCRIBED HEREIN HAS BEEN TRANSFERRED ON THE ASSESSMENT RECORDS OF TALBOT COUNTY

DAVID H. EWING
SUPERVISOR OF ASSESSMENTS
R. ANDREW HOLLIS, FIN. OFFICER

5/27/99

TALBOT COUNTY CIRCUIT COURT (Land Records) MAS 931, p. 0473, MSA_CE91_868. Date available 01/02/2004. Printed 07/27/2023.

EASTERN SHORE TITLE COMPANY
114 N. West Street
Easton, Maryland 21601
410-820-4426 Fax: 410-820-4429
Website: www.easternshoretitle.com
Email: info@easternshoretitle.com

This Deed, made this 17th day of **September, 2019**, by and between **SHORE UNITED BANK, a Maryland banking corporation**, Grantor; and **ASPIRE OUTDOORS, LLC, a Maryland limited liability company**, Grantee.

- Witnesseth -

THAT FOR AND IN CONSIDERATION of the sum of **Three Hundred Thousand And 00/100 Dollars ($300,000.00)** and other good, valuable and sufficient consideration, in hand paid, the receipt of which is hereby acknowledged, the said **SHORE UNITED BANK, a Maryland banking corporation** does hereby grant and convey unto the said **ASPIRE OUTDOORS, LLC, a Maryland limited liability company, its successors and assigns**, forever, in fee simple, all the hereinafter described property:

ALL those lots, pieces or parcels of ground situate, lying and being in the First Election District of Talbot County, State of Maryland and more particularly described as follows, that is to say:

BEGINNING for the same at the intersection of the division line between lots 227 and 228 of section six of Matthewstown Run with the southern right-of-way line of Matthewstown Road, a 60 foot wide right-of-way. Thence leaving said point of beginning so fixed and running with said Matthewstown Road, North 51 degrees. 48 minutes 58 seconds East, 1462.80 feet to a point. Thence leaving said Matthewstown Road and binding on the land of Theodore B. Passyn and Julia B. Passyn, 948/830, South 43 degrees 27 minutes 28 seconds East, 2132.37 feet to a point and the Holly Park Subdivision, PC1-40A. Thence with said Holly Park Subdivision the following three (3) courses and distances; North 84 degrees 08 minutes 50 seconds West, 750.50 feet to a point. South 28 degrees 21 minutes 13 seconds West, 275.80 feet to a point. South 05 degrees 17 minutes 49 seconds West, 1643.65 feet to a point and the land now or formerly of Swan Haven Limited Partnership, 650/60. Thence with said Swan Haven Limited Partnership, 650/60. Thence with said Swan Haven Limited Partnership, North 79 degrees 04 minutes 09 seconds West, 135.17 feet to a point. Thence leaving said Swan Haven Limited Partnership and running with various lots in sections three, four and five of Matthewstown Run the following North 32 degrees 00 minutes 17 seconds West, 205.61 feet to a point, North 63 degrees 36 minutes 20 seconds West, 26.41 feet to a point. North 74 degrees 02 minutes 28 seconds East, 112.34 feet to a point. North 54 degrees 14 minutes 14 seconds West, 90.39 to a point, North 35 degrees 55 minutes 18 seconds East, 247.79 feet to a point. North 04 degrees 47 minutes 08 seconds West, 101.63 feet to point. North 17 degrees 20 minutes 13 seconds East, 28.07 feet to a point. North 08 degrees 22 minutes 16 seconds East, 18.71 feet to a point. North 05 degrees 15 minutes 35 seconds West, 96.57 feet to a point. North 12 degrees 10 minutes 27 seconds East, 38.78 feet to a point. North 51 degrees 04 minutes 42 seconds West, 180.84 feet to a point. North 63 degrees 40 minutes 19 seconds West, 54.93 feet to a point. North 13 degrees 48 minutes 27 seconds West, 24.93 feet to a point. North 31 degrees 36 minutes 57 seconds West, 18.76 feet to a point. North 85 degrees 26 minutes 14 seconds West, 36.61 feet to a point. North 51 degrees 04 minutes 42 seconds West, 79.79 feet to a point. North 63 degrees 42 minutes 04 seconds West, 14.21 feet to a point. North 43 degrees 08 minutes 41 seconds West, 22.10 feet point. North 80 degrees 24

EASTERN SHORE TITLE COMPANY
P.O. BOX 357
EASTON, MD 21601

TALBOT COUNTY FINANCE OFFICE
RECORDATION TAX
AMT: $3,600.00
DATE: 9/25/2019
INITIALS: SSA
Prop ID: 01-083793, 01-084062

TALBOT COUNTY CIRCUIT COURT (Land Records) KMD 2644, p. 0114, MSA_CE91_2583. Date available 09/30/2019. Printed 09/21/2022.

minutes 26 seconds West, 18.83 feet to a point. North 47 degrees 33 minutes 08 seconds West 54.99 feet to a point. North 79 degrees 16 minutes 10 seconds West, 35.85 feet to a point. South 38 degrees 55 minutes 18 seconds West, 85.88 feet to a point. North 51 degrees 04 minutes 42 seconds West, 53.81 feet to a point. With the arc of a curve to the right a distance of 47.12 feet to a point. Said curve having a radius of 30.00 feet and being scribed by a North 06 degrees 04 minutes, 42 seconds West, 42.43 feet. North 38 degrees 55 minutes 18 seconds East, 90.00 feet to a point. North 51 degrees 04 minutes 42 seconds West, 60.00 feet to a point South 38 degrees 55 minutes 18 seconds West, 21.82 feet to a point. North 51 degrees 04 minutes 42 seconds West; 80.00 feet to a point. South 38 degrees 55 minutes 18 seconds West, 69.42 feet to a point. North 51 degrees 04 minutes 42 seconds West, 25.00 feet to a point. South 38 degrees 55 minutes 18 seconds West, 39.33 feet to a point. With the arc of a curve to the left a distance of 146.41 feet to a point. Said curve having a radius of 100.00 feet and being scribed by a chord of South 80 degrees 51 minutes 47seconds West 133.68 feet. South 38 degrees 55 minutes 18 seconds West, 14.00 feet to a point. North 51 degrees 04 minutes 42 seconds West, 93.13 feet to a point. North 79 degrees 45 minutes 03 seconds West, 27.21 feet to a point. South 38 degrees 55 minutes 18 seconds West, 37.99 feet to a point. North 51 degrees 04 minutes 42 Seconds West, 40.47 feet to a point, North 05 degrees 50 minutes 22 seconds West, 41.30 feet to a point. North 68 degrees 35 minutes 41 seconds West, 103.45 feet to a point. South 38 degrees 55 minutes 18 seconds West, 47.83 feet to a point. South 04 degrees 17 minutes 36 seconds East, 82.33 feet to a point. South 65 degrees 18 minutes 00 seconds East, 132.49 feet to a point. South 38 degrees 55 minutes 18 seconds West, 22.98 feet to a point. South 34 degrees 40 minutes 37 seconds East, 21.00 feet to a point. South 74 degrees 40 minutes 14 seconds West, 39.61 feet to a point. South 38 degrees 55 minutes 18 seconds West, 41.94 feet to a point. North 51 degrees 04 minutes 42 seconds West, 20.00 feet to a point. South 38 degrees 55 minutes 18 seconds West, 90.00 feet; North 51 degrees 04 minutes 42 seconds West, 818.24 feet to a point. North 51 degrees 38 minutes 16 second East, 397.96 feet to a point. South 38 degrees 21 minutes 44 seconds East, 73.20 feet to a point. North 81 degrees 52 minutes 40 seconds East, 148.49 feet to a point. With the arc of a curve to the 1eft a distance of 87.33 feet to a point. Said curve having a radius of 50.00 feet and being scribed by a chord of South 83 degrees 24 minutes 45 seconds East, 76.65 feet. South 46 degrees 26 minutes 58 seconds East, 13.31 feet to a point. North 58 degrees 33 minutes 43 seconds East, 151.43 feet to a point. North 45 degrees 04 minutes 24 seconds East, 53.18 feet to a point North 47 degrees 47 minutes 21 seconds East, 78.58 feet to a point. North 05 degrees 07 minutes 00 seconds East, 38.74 feet to a point. North 09 degrees 35 minutes 49 seconds West, 39.04 feet to a point. North 5l degrees 38 minutes 16 seconds East, 110.52 feet to a point, With the arc of a curve to the right a distance of 38.42 feet to a point. Said curve having a radius of 30.00 feet and being scribed by a chord of North 88 degrees 19 minutes 38 seconds East, 35.85 feet. With the arc of a curve to the right a distance of 75.23 feet to a point. Said curve having a radius of 700.00 feet and being scribed by a chord of South 51 degrees 54 minutes 18 seconds East, 75.19 feet. With the arc of a curve to the left a distance of 143.78 feet to a point. Said curve having a radius of 50.00 feet and being scribed by a chord of South 82 degrees 54 minutes 57 seconds East, 99.12 feet. With the arc of a curve to the right a distance of 63.49 feet. Said curve having a radius of 760.00 feet and being scribed by a chord of South 40 degrees 13 minutes 57 seconds East, 63.47 feet. South 37 degrees 50 minutes 22 seconds East, 111.83 feet to a point. North 16 degrees 22 minutes 32 seconds East, 64.98 feet to a point. North 08 degrees 11 minutes 01 seconds West, 100.21 feet to a point. North 02 degrees 46 minutes 32 seconds East. 67.42 feet to a point. South 73 degrees 44 minutes 44 seconds West, 25.69 feet to a point. North 29 degrees 32 minutes 27seconds West, 82.88 feet to a point. South 84 degrees 34 minutes 29 seconds West, 59.86 feet to a point. North 53 degrees 18 minutes 14 seconds West, 86.12 feet to a point, North 36 degrees 26 minutes 06 seconds West, 79.48 feet to a point. North 72 degrees 16 minutes 24 seconds West, 126.16 feet to a point. North 76 degrees 03 minutes 42 seconds West, 76.61 feet to a point. South 23 degrees 59 minutes 07 seconds West, 21.01 feet to a point. North 66 degrees 00 minutes 53 seconds West, 35.32 feet to a point. North 41 degrees 09 minutes 13 seconds West, 51.13 feet to a point. North 61 degrees 09 minutes 40 seconds West, 149.24 feet to a point, North 59 degrees 21 minutes 46 seconds West, 112.65 feet to a point. North

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82 degrees 18 minutes 17 seconds West, 131.81 feet to the place of beginning, Containing in all 81.97 acres of land more or less.

SAVE AND EXCEPT THEREFROM, all those Lots 1 through 50, rights-of-ways and easements, shown on a Plat entitled "SUBDIVISION PLAT HUNTERS MILL – PHASE 1", dated August 22, 2007, prepared by Professional Land Surveyor, John E. Harris, Jr. & Associates, Inc., and recorded among the Plat Records of Talbot County, Maryland, in Plat Book MAS Liber 82, folio 151-53 (said Phase 1 more specifically shown on folio 152) and as modified by plats recorded in the said Plat Records at Liber 83, folio 164-65 and Liber 83, folio 176.

BUT INCLUDING from the above mentioned Plat recorded at Liber 82, folio 153 all of "Parcel E SWM Pond", "Parcel H" and "Parcel C Park Area."

BEING the same property conveyed unto SHORE UNITED BANK, a Maryland banking corporation from ALEXIS E. KRAMER and GARRETT M. FITZGERALD, SUBSTITUTE TRUSTEES, by Deed dated December 15, 2016 and recorded among the Land Records of Talbot County, Maryland in Liber No. 2410, folio 094.

Together with the buildings and improvements thereon erected, made or being; and all and every, the rights, alleys, ways, waters, privileges, appurtenances and advantages to the same belonging, or in anywise appertaining.

To Have and To Hold the said tract of ground and premises above described and mentioned, and hereby intended to be conveyed, together with the rights, privileges, appurtenances and advantages thereto belonging or appertaining unto and to the proper use and benefit of the said **ASPIRE OUTDOORS, LLC, a Maryland limited liability company, its successors and assigns**, forever, in fee simple.

And the said Grantor does hereby covenant that it has not done or suffered to be done any act, matter or thing whatsoever, to encumber the property hereby conveyed; that it will warrant specially the property hereby conveyed; and that it will execute such other and further assurances of the same, as may be requisite.

As Witness the hand and seal of said Grantor, the day and year first above written.

WITNESS:

SHORE UNITED BANK, A MARYLAND BANKING CORPORATION

Tina Connolly

_____{Seal}
BY: W. DAVID MORSE, EXECUTIVE VICE PRESIDENT

STATE OF MARYLAND, COUNTY OF TALBOT, to wit:

I hereby certify that on this 17th day of **September, 2019** before me, the subscriber, a Notary Public of the State and County aforesaid, personally appeared **W. DAVID MORSE**, who acknowledged himself to be the **EXECUTIVE VICE PRESIDENT** of **SHORE UNITED BANK, a Maryland banking corporation** (the Corporation), and that as such officer, being authorized to do so, executed the aforegoing instrument for the purposes therein contained, by signing the name of the Corporation, by himself as such officer and further made oath that this conveyance is not part of a transaction in which there is a sale, lease, exchange or other transfer

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or all, or substantially all, of the property and assets of the Corporation, giving oath under penalties of perjury that the consideration recited herein is correct.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

Rhonda Gray
Notary Public

My commission expires: _____

RHONDA J. GRAY
NOTARY PUBLIC-MARYLAND
DORCHESTER COUNTY
MY COMMISSION EXPIRES
JULY 18, 2022

This document was prepared under the supervision of an attorney admitted to practice before the Court of Appeals of Maryland, or by one of the parties named in the within instrument.

WILLARD C. PARKER, II, ESQUIRE

AFTER RECORDING, PLEASE RETURN TO:
EASTERN SHORE TITLE COMPANY
114 N. West Street
410-820-4426 fax 410-820-4429
Easton, Maryland 21601
File No. EST-2019-22640CLH

CERTIFICATION IS MADE THAT ALL TAXES DUE ON THE PROPERTY INDICATED IN THIS DEED HAVE BEEN PAID.
FINANCE OFFICER OF TALBOT COUNTY
R ANDREW HOLLIS, FIN. OFFICER
DATE 9/25/2019

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MARYLAND FORM
WH-AR

Certification of Exemption from Withholding Upon Disposition of Maryland Real Estate Affidavit of Residence or Principal Residence

2019

Based on the certification below, Transferor claims exemption from the tax withholding requirements of §10-912 of the Tax-General Article, Annotated Code of Maryland. Section 10-912 provides that certain tax payments must be withheld and paid when a deed or other instrument that effects a change in ownership of real property is presented for recordation. The requirements of §10-912 do not apply when a transferor provides a certification of Maryland residence or certification that the transferred property is the transferor's principal residence.

1. Transferor Information

Name of Transferor SHORE UNITED BANK, a Maryland banking corporation

2. Description of Property (Street address. If no address is available, include county, district, subdistrict and lot numbers).

50.225 AC-CAMAC ST. TM26 P186, 15.47 AC-STANDISH ST.TM35 P112, EASTON, MD 21601

3. Reasons for Exemption

Resident Status

☐ As of the date this form is signed, I, Transferor, am a resident of the State of Maryland.

☒ Transferor is a resident entity as defined in Code of Maryland Regulations (COMAR)03.04.12.02B(11), I am an agent of Transferor, and I have authority to sign this document on Transferor's behalf.

Principal Residence

☐ Although I am no longer a resident of the State of Maryland, the Property is my principal residence as defined in IRC 121 (principal residence for 2 (two) of the last 5 (five) years) and is currently recorded as such with the State Department of Assessments and Taxation.

Under penalty of perjury, I certify that I have examined this declaration and that, to the best of my knowledge, it is true, correct, and complete.

3a. Individual Transferors

Witness

Name **Date

Signature

3b. Entity Transferors

Tina Connolly
Witness/Attest

SHORE UNITED BANK, A MARYLAND BANKING CORPORATION
Name of Entity

By

W. DAVID MORSE 9/17/19
Name **Date

EXECUTIVE VICE PRESIDENT
Title

** Form must be dated to be valid.

Note: Form is only valid if it was executed on the date the Property was transferred and is properly recorded with the Clerk of the Court.

To the Clerk of the Court: Only an un-altered Form WH-AR should be considered a valid certification for purposes of Section 10-912.

19-49

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```
LR - Deed (w Taxes)
Recording Fee no RT
                  20.00
Name: Aspire Outdoors
Ref:
LR - Deed (with Taxes)
Surcharge         40.00
LR - Deed State
Transfer Tax  1,500.00
LR - County Transfer
Tax - linked  3,000.00
LR - NR Tax - lkd 0.00
======================
SubTotal:     4,560.00
======================
Total:        4,560.00
09/25/2019  03:47
               CC20-NT
#12763550 CC0205 -
Talbot
County/CC02.05.01 -
Register 01
```

Kathleen M. Duvall, Clerk

Circuit Court for Talbot County

11 N. Washington St., Suite 16

Easton, Maryland 21601

License and Recording

410-822-2611 Ext. 4

DOCUMENT VALIDATION
(excluded from page count)

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State of Maryland Land Instrument Intake Sheet

☐ Baltimore City ☒ County: Talbot

Information provided is for the use of the Clerk's Office, State Department of Assessments and Taxation, and County Finance Office Only.

(Type or Print in Black Ink Only—All Copies Must Be Legible)

Space Reserved for Circuit Court Clerk Recording Validation

1 Type(s) of Instruments (☐ Check Box if addendum Intake Form is Attached.)

X Deed / Deed of Trust	☐ Mortgage / Lease	☐ Other _____	☐ Other _____

2 Conveyance Type Check Box

X Improved Sale Arms-Length *[1]*	☐ Unimproved Sale Arms-Length *[2]*	☐ Multiple Accounts Arms-Length *[3]*	☐ Not an Arms-Length Sale *[9]*

3 Tax Exemptions (if applicable) Cite or Explain Authority

Recordation	
State Transfer	
County Transfer	

4 Consideration and Tax Calculations

Consideration Amount	
Purchase Price/Consideration	$ 300,000.00
Any New Mortgage	$
Balance of Existing Mortgage	$
Other:	$
Other:	$
Full Cash Value:	$

Finance Office Use Only Transfer and Recordation Tax Consideration	
Transfer Tax Consideration	$
X ( ) % =	$
Less Exemption Amount −	$
Total Transfer Tax =	$
Recordation Tax Consideration	$
X ( ) per $500 =	$
TOTAL DUE	$

5 Fees

Amount of Fees	Doc. 1	Doc. 2
Recording Charge	$ 20.00	$
Surcharge	$ 40.00	$
State Recordation Tax	$ 3,600.00	$
State Transfer Tax	$ 1,500.00	$
County Transfer Tax	$ 3,000.00	$
Other	$	$
Other	$	$

Agent:

Tax Bill:

C.B. Credit:

Ag. Tax/Other:

6 Description of Property SDAT requires submission of all applicable information. A maximum of 40 characters will be indexed in accordance with the priority cited in Real Property Article Section 3-104(g)(3)(i).

District	Property Tax ID No. (1)	Grantor Liber/Folio	Map	Parcel No.	Var. LOG
01	01-088793 &01-084062	2410/094	26/35	186/112	☐ (5)

Subdivision Name	Lot (3a)	Block (3b)	Sect/AR (3c)	Plat Ref.	SqFt/Acreage (4)

Location/Address of Property Being Conveyed (2)

50.225 AC-CAMAC ST. TM26 P186 & 15.47 AC-STANDISH ST.TM35 P112,EASTON, MD 21601

Other Property Identifiers (if applicable) | Water Meter Account No.

Residential ☒ or Non-Residential ☐ | Fee Simple ☒ or Ground Rent ☐ | Amount: N/A

Partial Conveyance? ☐ Yes ☒ No | Description/Amt. of SqFt/Acreage Transferred: N/A

If Partial Conveyance, List Improvements Conveyed: N/A

7 Transferred From

Doc. 1 – Grantor(s) Name(s)	Doc. 2 – Grantor(s) Name(s)
SHORE UNITED BANK, a Maryland banking corporation	
Doc. 1 – Owner(s) of Record, if Different from Grantor(s)	**Doc. 2 – Owner(s) of Record, if Different from Grantor(s)**

8 Transferred To

Doc. 1 – Grantee(s) Name(s)	Doc. 2 – Grantee(s) Name(s)
ASPIRE OUTDOORS, LLC, a Maryland limited liability company	N/A

New Owner's (Grantee) Mailing Address

29760 STANDISH STREET, EASTON, MD 21601

9 Other Names to Be Indexed

Doc. 1 – Additional Names to be Indexed (Optional)	Doc. 2 – Additional Names to be Indexed (Optional)

10 Contact/Mail Information

Instrument Submitted By or Contact Person

Name: Candace L. Harrison, Head Settlement Coordinator

Firm EASTERN SHORE TITLE COMPANY

Address: 114 N. West Street

Easton, Maryland 21601 Phone: (410) 820-4426

☒ Return to Contact Person

☐ Hold for Pickup

☐ Return Address Provided

11 IMPORTANT: *BOTH* THE ORIGINAL DEED *AND* A PHOTCOPY MUST ACCOMPANY EACH TRANSFER

Assessment Information

☐ Yes ☒ No Will the property being conveyed be the grantee's principal residence?

☐ Yes ☒ No Does transfer include personal property? If yes, identify: _____

☐ Yes ☒ No Was property surveyed? If yes, attach copy of survey (if recorded, no copy required).

Space Reserved for County Validation

Assessment Use Only – Do Not Write Below This Line

Terminal Verification . Agricultural Verification . Whole . Part . Tran. Process Verification

Transfer Number Date Received: Deed Reference: Assigned Property No.:

Year	20	20	Geo.	Map	Sub	Block
Land			Zoning	Grid	Plat	Lot
Buildings			Use	Parcel	Section	Occ. Cd.
Total			Town Cd.	Ex. St.	Ex. Cd.	

REMARKS:

Distribution: ☐ Clerk's Office ☐ Office of Finance ☐ SDAT ☐ Preparer

AOC-CC-300 (5/2007)

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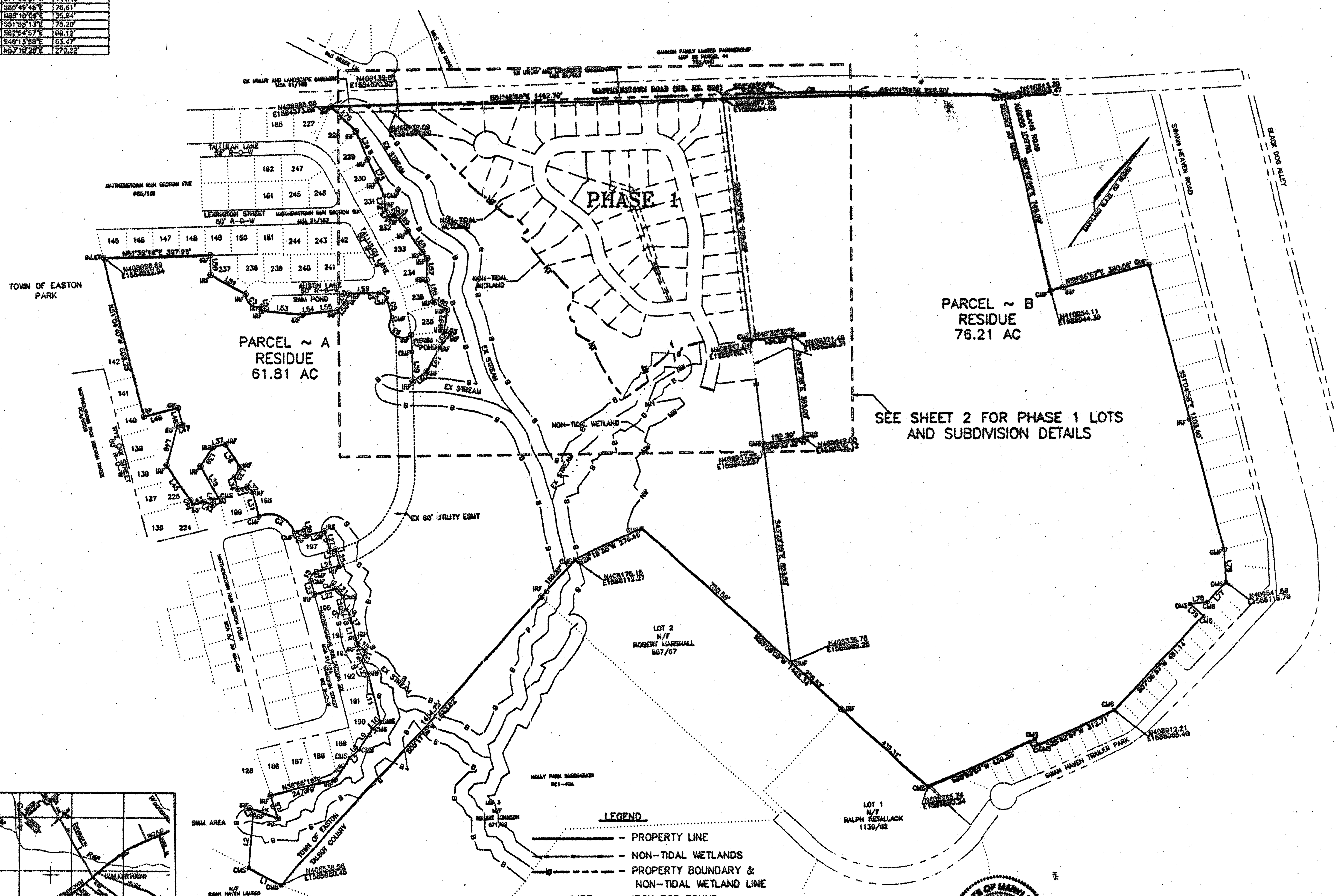
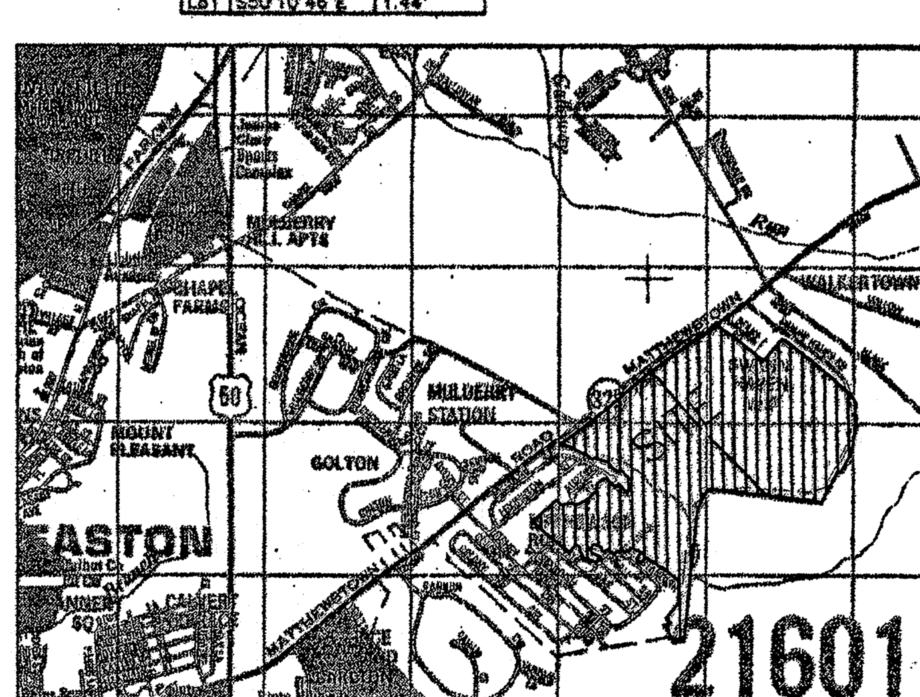
TALBOT COUNTY CIRCUIT COURT Subdivision Plats, TA) Plat Book MAS 82, pp. 151-153, MSA_S1254_4231. Date available 2008/02/29. Printed 08/26/2019.

CURVE TABLE FOR HUNTERS MILL BOUNDARY					
NO.	DELTA	RAD.	LEN.	TAN.	CHORD	CHORD LENGTH
C1	90°00'00"	30.00'	47.12'	30.00'	N06°04'42"W	42.43'
C2	92°26'18"	100.00'	161.33'	104.35'	S77°08'57"W	144.40'
C3	100°00'57"	50.00'	87.28'	59.60'	S86°49'45"E	76.61'
C4	73°21'47"	30.00'	38.41'	22.35'	N88°19'09"E	35.84'
C5	06°09'28"	700.00'	75.23'	37.65'	S51°55'13"E	75.20'
C6	164°45'52"	50.00'	143.78'	373.85'	S82°54'57"E	99.12'
C7	04°47'11"	760.00'	63.49'	31.76'	S40°13'58"E	63.47'
C8	02°43'00"	5699.58'	270.24'	135.15'	N53°10'28"E	270.22'

LINE TABLE FOR HUNTERS MILL BOUNDARY		
NO.	DIRECTION	DISTANCE
L1	S79°04'09"W	134.58'
L2	N32°00'17"W	205.61'
L3	N63°38'20"W	26.61'
L4	N74°02'28"E	112.34'
L5	N54°14'14"W	90.39'
L6	N04°47'08"W	101.63'
L7	N17°20'13"E	28.07'
L8	N08°22'16"E	18.71'
L9	N06°15'35"W	66.57'
L10	N12°10'27"E	38.78'
L11	N51°04'42"W	180.84'
L12	N63°40'19"W	54.93'
L13	N13°48'27"W	24.93'
L14	N31°36'57"W	18.76'
L15	N86°26'14"W	36.61'
L16	N51°04'42"W	79.79'
L17	N63°42'04"W	14.21'
L18	N43°08'41"W	22.10'
L19	N80°24'26"W	18.83'
L20	N47°33'08"W	54.99'
L21	N79°18'10"W	35.85'
L22	S38°55'38"W	85.90'
L23	N51°03'22"W	53.80'
L24	N38°55'18"E	90.00'
L25	N51°04'42"W	60.00'
L26	S38°55'18"W	21.82'
L27	N51°04'42"W	80.00'
L28	S38°56'18"W	69.42'
L29	N51°04'42"W	25.00'
L30	S38°58'18"W	39.33'
L31	N51°04'42"W	93.13'
L32	N79°45'03"W	27.21'
L33	S38°55'18"W	37.99'
L34	N51°04'42"W	44.42'
L35	N05°50'22"W	40.04'
L36	N88°35'41"W	103.38'
L37	S38°55'18"W	47.83'
L38	S04°17'36"E	85.67'
L39	S66°36'21"E	134.42'
L40	S38°55'18"W	23.98'
L41	S34°40'37"E	21.00'
L42	S74°40'14"W	34.48'
L43	S38°55'18"W	46.11'
L44	N51°04'42"W	20.00'
L45	N71°42'21"W	153.00'
L46	N21°27'50"W	150.40'
L47	N38°55'18"E	20.00'
L48	N51°04'42"W	66.03'
L49	S38°55'18"W	130.42'
L50	S38°21'44"E	72.03'
L51	N82°29'41"E	148.93'
L52	S46°50'13"E	13.31'
L53	N58°33'43"E	151.43'
L54	N46°04'24"E	53.18'
L55	N47°47'20"E	78.58'
L56	N05°07'00"E	38.74'
L57	N09°36'49"W	39.04'
L58	N51°38'16"E	110.52'
L59	S37°49'42"E	111.85'
L60	N16°22'35"E	64.98'
L61	N08°10'58"W	100.21'
L62	N02°46'35"E	67.42'
L63	S73°44'47"W	25.69'
L64	N29°32'24"W	82.88'
L65	S84°34'32"W	59.86'
L66	N53°18'10"W	88.12'
L67	N36°26'03"W	79.48'
L68	N72°16'21"W	126.16'
L69	N76°03'39"W	76.61'
L70	S23°59'10"W	21.01'
L71	N65°59'17"W	35.32'
L72	N41°09'58"W	51.12'
L73	N61°09'37"W	149.25'
L74	N59°21'43"W	112.65'
L75	N82°18'14"W	131.81'
L76	S39°03'03"E	122.29'
L77	S07°06'57"W	100.00'
L78	S46°16'16"W	64.48'
L79	S82°53'03"E	65.71'
L80	N61°07'03"W	25.00'
L81	S50°10'46"E	1.44'





VICINITY MAP

SCALE 1" = 2000'

HARMS
ENGINEERS • PLANNERS • SURVEYORS
8626 BROOKS DRIVE, SUITE 206, EASTON, MD 21601
Office: 410-770-4566 FAX: 410-763-6557
randerson@jharms.com

Date: 09/28/2007 User: rporuchuri
Drawing Path: HuntersMill15-07-006 ... HuntersMillFP-1.dwg XREF File(s): HuntersMillExBase.dwg HunterMillCLTBASE.dwg 0018-0501 VICINITY MAP.dwg

STATE OF MARYLAND
STATE OF MARYLAND:
Talbot County, TO WIT: Records of Talbot County
Recorded in the Land Records of Talbot County
Mary Ann Shortall
Mary Ann Shortall, Clerk, County
Circuit Court for Talbot County
MAS 82/151

COUNTY CLERK RECORDATION BLOCK

PLAT-SUBDIVIS 2.50
TOTAL 2.50
Rest TA02 Rcpt # 349
MAS 9493 Blk # 1
Feb 29, 2008 04:12 pm

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.

PLANS FOR COMMUNITY WATER SUPPLY AND COMMUNITY SEWERAGE SYSTEMS OF THIS SUBDIVISION HAVE BEEN APPROVED BY EASTON UTILITIES AND WILL BE AVAILABLE TO ALL LOTS OFFERED FOR SALE.

WE, THE OWNERS OF THE PROPERTY SHOWN AND DESCRIBED HEREON, HEREBY ADOPT THIS PLAN OF SUBDIVISION.

Signature [signature] Date 10/24/07 2/27/08

Shore Lands, LLC
127 Washington Street
Easton, MD 21601

BUILDING PERMITS SHALL BE ISSUED ONLY IF SUFFICIENT CAPACITY IS AVAILABLE IN THE COMMUNITY WATER SUPPLY SYSTEM, SEWERAGE SYSTEM, AND SOLID WASTE ACCEPTANCE FACILITY SERVING THE SUBDIVISION.

LAND SHOWN UPON THIS PLAT MAY CONTAIN NON-TIDAL WETLANDS REGULATED UNDER COMAR 08.0504; 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.

APPROVED:
John A. Atwood 2/15/08
CHAIRMAN, TOWN OF EASTON PLANNING COMMISSION — DATE
[signature] PROJECT NO. 1/31/08
TOWN OF EASTON ENGINEER — DATE

LOTS 1 THRU 50, AS SHOWN HEREON ARE APPROVED FOR COMMUNITY WATER SUPPLY AND COMMUNITY SEWERAGE AND THEIR USE IS IN ACCORDANCE WITH TALBOT COUNTY COMPREHENSIVE WATER AND SEWER PLAN AND MDE REGULATION 26.04.03.
Kathleen Foster/ASM — Signature; Kathleen Foster — Printed Name
Health Officer — Title; 1/18/08 — Date

OWNER'S CERTIFICATE: PARCEL A

I HEREBY CERTIFY THAT I AM THE OWNER OF THE PROPERTY DESCRIBED AND SHOWN ON THIS PLAN, THAT THE PLAN WAS MADE AT MY DIRECTION, THAT I ACKNOWLEDGE THE SAME TO BE MY ACT, AND DESIRE THE PLAN TO BE DEVELOPED AS SHOWN IN ACCORDANCE WITH ALL APPLICABLE LAWS AND REGULATIONS.

[signature] SIGNATURE: — 10/24/07 2/27/08 DATE

SHORE LANDS, LLC.
127 N. WASHINGTON STREET
EASTON MD 21601

THE OWNER HAS SWORN TO AND SUBSCRIBED BEFORE ME THIS ~~24th~~ 27th DAY OF ~~Oct 2007~~ Feb 2008

Sharon K. Lewis
My Commission Expires 01/03/10
Sharon K. Lewis

OWNER'S CERTIFICATE: PARCEL B

I HEREBY CERTIFY THAT I AM THE OWNER OF THE PROPERTY DESCRIBED AND SHOWN ON THIS PLAN, THAT THE PLAN WAS MADE AT MY DIRECTION, THAT I ACKNOWLEDGE THE SAME TO BE MY ACT, AND DESIRE THE PLAN TO BE DEVELOPED AS SHOWN IN ACCORDANCE WITH ALL APPLICABLE LAWS AND REGULATIONS.

[signature] SIGNATURE: — 10/24/07 2/27/08 DATE

SHORE LANDS, LLC.
SUCCESSOR TO PASSYN & PASSYN LLC. BY NAME CHANGE
127 N. WASHINGTON STREET
EASTON MD 21601

THE OWNER HAS SWORN TO AND SUBSCRIBED BEFORE ME THIS ~~24th~~ 27th DAY OF ~~Oct 2007~~ Feb 2008

Sharon K. Lewis
My Commission Expires 01/03/10
Sharon K. Lewis

OWNER'S CERTIFICATE

I HEREBY CERTIFY THAT I AM THE OWNER OF THE PROPERTY DESCRIBED AND SHOWN ON THIS PLAN, THAT THE PLAN WAS MADE AT MY DIRECTION, THAT I ACKNOWLEDGE THE SAME TO BE MY ACT, AND DESIRE THE PLAN TO BE DEVELOPED AS SHOWN IN ACCORDANCE WITH ALL APPLICABLE LAWS AND REGULATIONS.

[signature] 2-27-08
[signature] SIGNATURE: — 10-24-07 DATE

GANNON FAMILY LIMITED PARTNERSHIP
29118 AIRPORT ROAD
EASTON MD 21601

THE OWNER HAS SWORN TO AND SUBSCRIBED BEFORE ME THIS ~~24th~~ 27th DAY OF ~~Oct 2007~~ Feb 2008

Sharon K. Lewis
My Commission Expires 01/03/10
Sharon K. Lewis

STATE OF MARYLAND — WILLIAM RONALD ANDERSON — No. 21101 — PROFESSIONAL LAND SURVEYOR

SURVEY NOTES:

1. THE STREAM CHANNEL LOCATIONS AND DELINEATED NON-TIDAL WETLANDS AREAS SHOWN ON THIS PLAT WERE TAKEN FROM A SURVEY PREPARED BY STEVEN H. JUPITZ AND ARE NOT THE RESULT OF A FIELD SURVEY BY JOHN E. HARMS & ASSOCIATES INC..

SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT THE PLAT SHOWN HEREON IS CORRECT, THAT IT REPRESENTS SURVEY OF THE PROPERTY BY THE SURVEYOR OR UNDER THE SURVEYOR DIRECT SUPERVISION, AND THAT IT IS A RESUBDIVISION OF THE FOLLOWING PARCELS OF LAND 1) TAX MAP 26 PARCEL 45 CONVEYED BY THEODORE B. AND JULIA BEALL PASSYN TO PASSYN & PASSYN, LLC BY DEED DATED 5/13/2003 AND RECORDED AMONG THE LAND RECORDS OF TALBOT COUNTY, MARYLAND IN LIBER 1149 AT FOLIO 468 AND 2) TAX MAP 26 PARCEL 186 CONVEYED BY THEODORE B. AND JULIA BEALL PASSYN TO SHORE LANDS, LLC BY DEED DATED 2/9/2006 AND RECORDED AMONG THE LAND RECORDS OF TALBOT COUNTY, MARYLAND IN LIBER 1418 AT FOLIO 668.

William Anderson 2.27.08
William Anderson 9.28.07
PROFESSIONAL LAND SURVEYOR
JOHN E. HARMS, JR. & ASSOCIATES, INC.
8626 BROOKS DRIVE, SUITE 206
EASTON, MD 21601

STATE OF MARYLAND
Talbot County, TO WIT:
Recorded in the Land Records of Talbot County
Mary Ann Shortall
Mary Ann Shortall, Clerk
Circuit Court for Talbot County

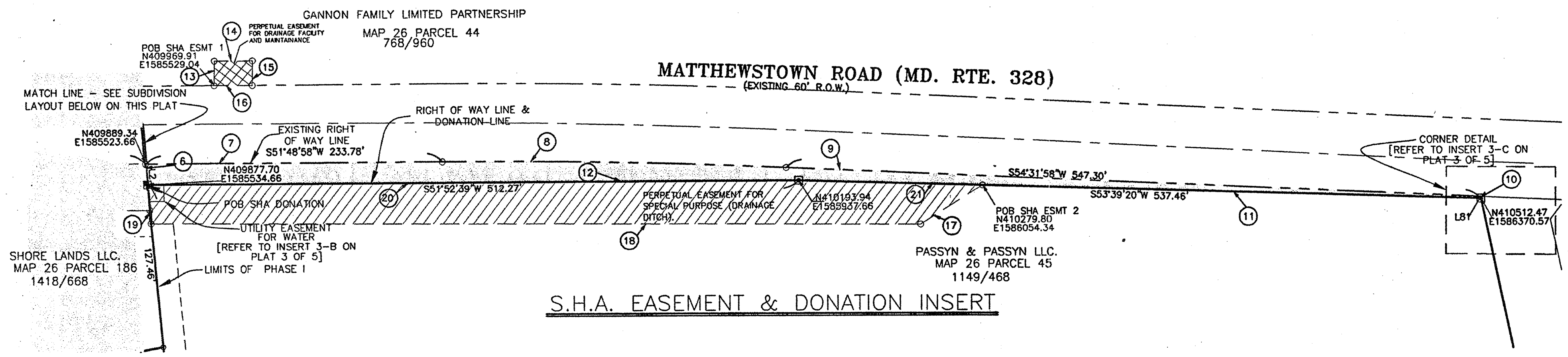
Sheet 3 ~~PLAT 1 OF 3~~

SUBDIVISION PLAT

HUNTERS MILL - PHASE 1

TAX MAP 26 GRID 20 PARCEL 45 & 186
TAX ID NO. 01-043838, 01-088793
SCALE: 1" = 200' DATE: AUGUST 22, 2007
MARYLAND N.A.D. 83
TOWN OF EASTON, TALBOT COUNTY, MARYLAND
ZIP CODE: 21601

MSA SSU 1254 4231-1
P149208



S.H.A. EASEMENT & DONATION INSERT

GANNON FAMILY LIMITED PARTNERSHIP
MAP 26 PARCEL 44
768/960

AREA TO BE CONVEYED TO THE MARYLAND S.H.A. EASEMENT 3		
LINE	BEARING	LENGTH
22	N52°42'53"E	879.45'
23	R= 30.00 CHD. N87°58'45"E	L= 36.93' 34.64'
24	S52°42'53"W	907.42'
25	N38°11'02"W	20.00'

PERPETUAL EASEMENT AREA 17,998 SQ.FT. OR 0.41 ACRES ±
SHOWN THUS:

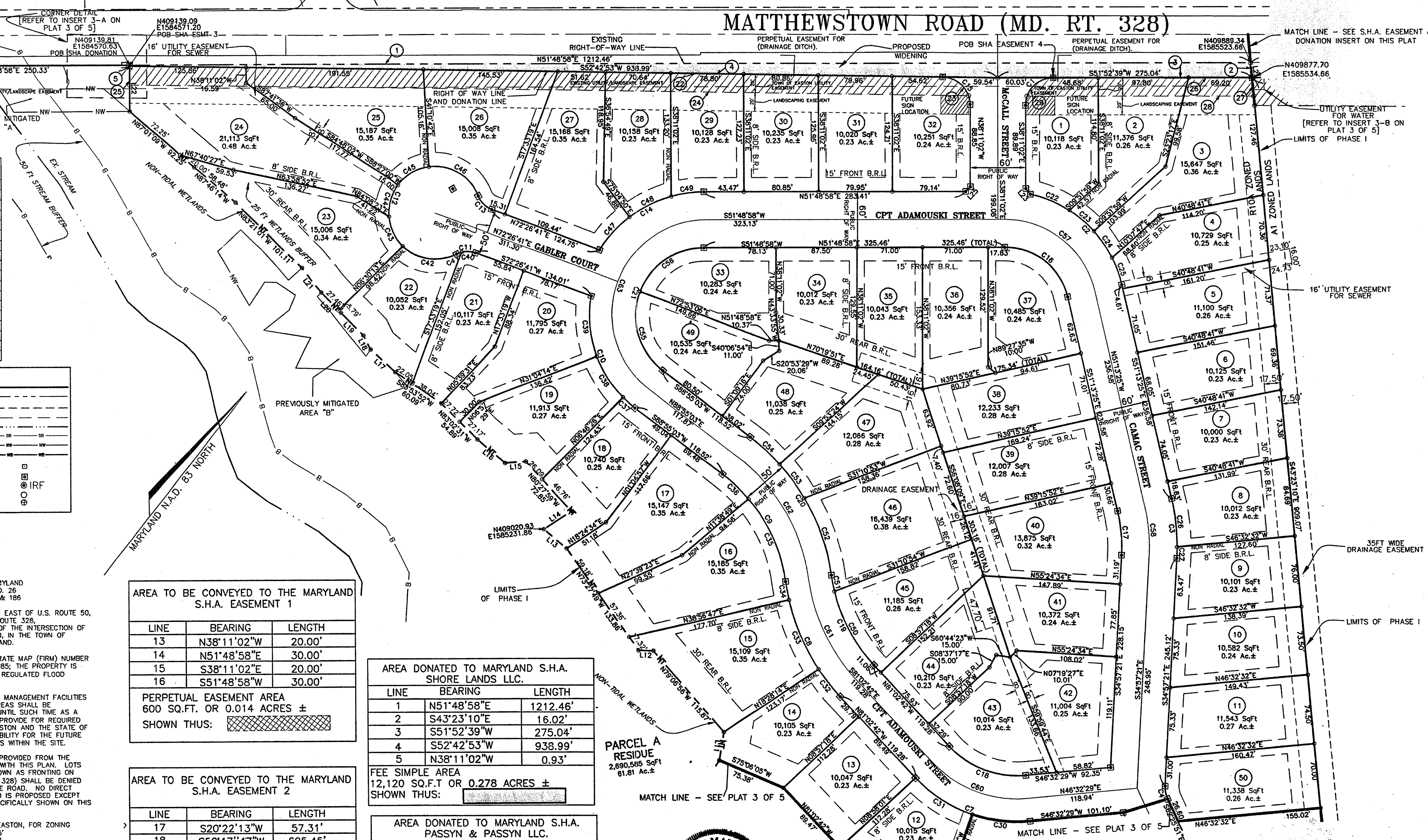
AREA TO BE CONVEYED TO THE MARYLAND S.H.A. EASEMENT 4		
LINE	BEARING	LENGTH
26	N51°52'39"E	215.00'
27	S43°23'10"E	20.08'
28	S51°52'39"W	245.13'
29	R = 30.00 CHD. N16°37'22"E	L= 36.93' 34.64'

PERPETUAL EASEMENT AREA 4,731 SQ.FT. OR 0.11 ACRES ±
SHOWN THUS:

STATE OF MARYLAND
Talbot County, TO WIT:
Recorded in the Land Records of Talbot County
Mary Ann Shortall
Mary Ann Shortall, Clerk
Circuit Court for Talbot County
MAS 82/152

COUNTY CLERK RECORDATION BLOCK

PLAT-SUBDIVIS 2.50
TOTAL 2.50
Res# YA02 Rcpt # 349
MAS 9493 Blk # 3
Feb 29, 2008 04:13 Pm



LINE TABLE FOR HUNTERS-MILL PHASE 1 SUBDIVISION		
NO.	DIRECTION	DISTANCE
L1	S38°11'02"E	0.93'
L2	S43°23'10"E	16.02'
L11	N28°34'35"W	30.78'
L12	S54°10'50"W	16.10'
L13	N88°07'53"W	32.42'
L14	N19°02'52"E	35.73'
L15	S48°00'20"W	22.64'
L16	N87°59'06"W	39.11'
L17	N86°20'59"W	35.81'
L18	N64°29'59"W	17.49'
L19	N83°05'22"W	34.32'
L20	N81°08'31"W	31.25'
L21	N76°30'53"W	33.53'
L22	N38°04'54"W	48.76'
L23	S77°32'52"E	7.73'
L25	N06°48'58"E	7.07'
L81	S50°10'46"E	1.44'

LEGEND

- PROPERTY LINE
- ADJACENT PROPERTY LINES
- BUILDING RESTRICTION LINES
- UTILITY EASEMENT
- EX. STREAM
- STREAM BUFFER
- NON-TIDAL WETLANDS
- NON-TIDAL WETLANDS BUFFER
- CONCRETE MONUMENT FOUND
- CONCRETE MONUMENT SET
- IRON ROD FOUND (IRF)
- IRON ROD SET
- IRON ROD SET & BREAK IN LINE

NOTES:

1. ZONING: R-10A and A1
2. OWNER: Shore Lands, LLC 127 Washington Street Easton, MD 21601
3. PROJECT LOCATION: EASTON MARYLAND TAX MAP NO. 26 PARCEL 45 & 186
4. THE PROJECT IS LOCATED TO THE EAST OF U.S. ROUTE 50, ALONG THE SOUTH SIDE OF MD ROUTE 328, APPROXIMATELY 700 FEET WEST OF THE INTERSECTION OF ROUTE 328 AND MILE-POST ROAD, IN THE TOWN OF EASTON, TALBOT COUNTY, MARYLAND.
5. BASED UPON FLOOD INSURANCE RATE MAP (FIRM) NUMBER 2400660025A, DATED MAY 15, 1985; THE PROPERTY IS LOCATED ZONES C (OUTSIDE THE REGULATED FLOOD BOUNDARY)
6. FORESTED BUFFERS, STORMWATER MANAGEMENT FACILITIES AND OTHER RELATED COMMON AREAS SHALL BE MAINTAINED BY THE DEVELOPER UNTIL SUCH TIME AS A HOMEOWNER'S ASSOCIATION CAN PROVIDE FOR REQUIRED MAINTENANCE. THE TOWN OF EASTON AND THE STATE OF MARYLAND ASSUME NO RESPONSIBILITY FOR THE FUTURE MAINTENANCE OF THESE FACILITIES WITHIN THE SITE.
7. ACCESS TO ALL LOTS SHALL BE PROVIDED FROM THE SUBDIVISION STREETS PROPOSED WITH THIS PLAN. LOTS 1-3, AND 24-32 WHICH ARE SHOWN AS FRONTING ON MATHEWSTOWN ROAD (MD ROUTE 328) SHALL BE DENIED VEHICULAR ACCESS TO THE STATE ROAD. NO DIRECT ACCESS TO MATTHEWSTOWN ROAD IS PROPOSED EXCEPT THE SUBDIVISION ENTRANCES SPECIFICALLY SHOWN ON THIS PLAN.
8. 8.SETBACKS FOR THE TOWN OF EASTON, FOR ZONING R-10A. FRONT – 15' SIDES – 8' REAR – 30'
9. LOTS ALONG MATTHEWSTOWN ROAD ARE SUBJECT TO A 20' WIDE UTILITY EASEMENT AND AN ADDITIONAL 20' WIDE LANDSCAPE BUFFER.

AREA TO BE CONVEYED TO THE MARYLAND S.H.A. EASEMENT 1		
LINE	BEARING	LENGTH
13	N38°11'02"W	20.00'
14	N51°48'58"E	30.00'
15	S38°11'02"E	20.00'
16	S51°48'58"W	30.00'

PERPETUAL EASEMENT AREA 600 SQ.FT. OR 0.014 ACRES ±
SHOWN THUS:

AREA TO BE CONVEYED TO THE MARYLAND S.H.A. EASEMENT 2		
LINE	BEARING	LENGTH
17	S20°22'13"W	57.31'
18	S52°17''47"W	605.45'
19	N43°23'10"W	30.15'
20	N51°52'39"E	512.27'
21	N53°39'20"E	144.86'

PERPETUAL EASEMENT AREA 20,183 SQ.F.T. OR 0.463 ACRES ±
SHOWN THUS:

AREA DONATED TO MARYLAND S.H.A. SHORE LANDS LLC.		
LINE	BEARING	LENGTH
1	N51°48'58"E	1212.46'
2	S43°23'10"E	16.02'
3	S51°52'39"W	275.04'
4	S52°42'53"W	938.99'
5	N38°11'02"W	0.93'

FEE SIMPLE AREA 12,120 SQ.F.T OR 0.278 ACRES ±
SHOWN THUS:

AREA DONATED TO MARYLAND S.H.A. PASSYN & PASSYN LLC.		
LINE	BEARING	LENGTH
6	N43°23'10"W	16.02'
7	N51°48'58"E	233.78'
8	R= 5699.58' CHD. N53°10'28"E	L = 270.24' 270.22'
9	N54°31'58"E	547.30'
10	S50°10'46"E	1.44'
11	S53°39'20"W	537.46'
12	S51°52'39"W	512.27'

FEE SIMPLE AREA 10,640 SQ.F.T OR 0.244 ACRES ±
SHOWN THUS:

HARMS
ENGINEERS • PLANNERS • SURVEYORS
8626 BROOKS DRIVE, SUITE 206, EASTON, MD 21601
Office: 410-770-4566 FAX: 410-763-6557
randerson@jharms.com

STATE OF MARYLAND · M.R. ANDERSON · No. 21101 · PROFESSIONAL LAND SURVEYOR
10.25.07

SCALE 1" = 60'

STATE OF MARYLAND · M.R. ANDERSON · No. 21101 · PROFESSIONAL LAND SURVEYOR
2.27.08

SITE DATA:

		PARCEL A	PARCEL B
ZONING	=	A10	A1
TOTAL TRACT AREA	=	81.62 ACRES	77.64 ACRES
AREA OF PHASE 1	=	19.81 ACRES	1.434 ACRES
TOTAL NO. OF LOTS	=	50 LOTS	NO LOTS
TOTAL AREA OF THE LOTS	=	13.53 ACRES	-
TOTAL AREA IN THE COMMUNITY COMMON AREA	=	2.57 ACRES	1.344 ACRES
TOTAL AREA IN THE RIGHT OF WAY	=	3.43 ACRES	-
TOTAL AREA DEDICATED FOR MATTHEWSTOWN ROAD WIDENING	=	0.28 ACRES	0.09 ACRES

CURVE TABLE FOR HUNTERS MILL PHASE 1 SUBDIVISION					
NO.	DELTA	RAD.	LEN.	TAN.	CHORD
C1	90°03'41"	30.00'	47.16'	30.03'	S06°50'48"W 42.45'
C2	64°35'10"	130.00'	146.54'	82.16'	S83°31'01"E 138.91'
C3	16°16'05"	230.00'	65.30'	32.87'	S43°05'23"E 65.08'
C4	27°28'41"	30.00'	14.39'	7.33'	S48°41'32"E 14.25'
C7	52°24'49"	150.00'	137.22'	73.83'	S72°44'53"W 132.48'
C8	35°04'32"	227.00'	138.97'	71.74'	N63°30'26"W 136.81'
C9	45°06'47"	175.00'	137.79'	72.69'	N68°31'34"W 134.26'
C10	63°00'50"	124.00'	136.38'	76.01'	N59°34'33"W 129.61'
C11	48°11'21"	25.00'	21.03'	11.18'	S48°21'00"W 20.41'
C12	276°22'44"	50.00'	241.19'	-44.72'	N17°33'18"W 66.67'
C13	48°11'23"	25.00'	21.03'	11.18'	S83°27'37"E 20.41'
C14	57°35'02"	134.00'	134.67'	73.64'	N23°01'27"E 129.08'
C15	89°06'05"	30.00'	46.65'	29.53'	N82°44'04"W 42.09'
C16	76°57'37"	70.00'	94.02'	55.64'	S89°42'14"E 87.11'
C17	16°16'05"	170.00'	48.27'	24.30'	S43°05'23"E 48.11'
C18	52°24'49"	100.00'	91.48'	49.22'	S72°44'53"W 88.32'
C19	35°04'32"	177.00'	108.36'	55.94'	N63°30'26"W 106.67'
C20	45°06'47"	225.00'	177.16'	93.46'	N68°31'34"W 172.62'
C21	142°53'55"	74.00'	184.56'	220.51'	N19°38'00"W 140.31'
C22	20°12'26"	130.00'	45.85'	23.16'	N74°18'02"E 45.61'
C23	15°28'14"	130.00'	35.10'	17.66'	S87°52'18"E 34.99'
C24	15°19'26"	130.00'	34.77'	17.49'	S72°28'29"E 34.67'
C25	13°35'03"	130.00'	30.82'	15.48'	S58°00'57"E 30.75'
C26	13°11'59"	230.00'	52.99'	26.61'	S44°37'26"E 52.87'
C27	03°04'06"	230.00'	12.32'	6.16'	S36°29'24"E 12.32'
C31	28°11'25"	150.00'	73.80'	37.67'	S84°52'00"W 73.06'
C32	09°31'14"	227.00'	37.72'	18.90'	N76°17'05"W 37.68'
C33	20°28'28"	227.00'	81.12'	41.00'	N61°17'14"W 80.69'
C34	05°04'50"	227.00'	20.13'	10.07'	N48°30'35"W 20.12'
C35	32°23'20"	175.00'	98.93'	50.82'	N62°09'50"W 97.61'
C36	12°43'27"	175.00'	38.86'	19.51'	N84°43'14"W 38.78'
C37	07°54'53"	124.00'	17.13'	8.58'	N87°07'31"W 17.12'
C38	24°14'24"	124.00'	52.46'	26.63'	N71°02'53"W 52.07'
C39	30°51'33"	124.00'	66.79'	34.22'	N43°29'54"W 65.98'
C40	34°30'16"	25.00'	15.06'	7.76'	S55°11'34"W 14.83'
C41	13°41'05"	25.00'	5.97'	3.00'	S31°05'51"W 5.96'
C42	72°14'37"	50.00'	63.04'	36.49'	S60°22'39"W 58.95'
C43	40°58'53"	50.00'	35.76'	18.69'	N63°00'36"W 35.01'
C44	40°58'09"	50.00'	35.75'	18.68'	N22°02'05"W 35.00'
C45	45°47'14"	50.00'	39.96'	21.11'	N21°20'37"E 38.90'
C46	76°23'51"	50.00'	66.67'	39.34'	N82°26'09"E 61.84'
C47	20°41'17"	134.00'	48.38'	24.46'	N04°34'35"E 48.12'
C48	21°36'44"	134.00'	50.55'	25.58'	N25°43'35"E 50.25'
C49	15°17'01"	134.00'	35.74'	17.98'	N44°10'28"E 35.64'
C50	29°17'03"	177.00'	90.46'	46.24'	N66°23'50"W 89.48'
C51	05°47'30"	177.00'	17.89'	8.95'	N48°51'55"W 17.88'
C52	22°39'47"	225.00'	89.00'	45.09'	N57°18'04"W 88.42'
C53	11°28'36"	225.00'	45.07'	22.61'	N74°22'18"W 44.99'
C54	10°58'24"	225.00'	43.09'	21.61'	N85°35'43"W 43.03'
C55	73°58'03"	74.00'	95.53'	55.73'	N54°05'57"W 89.04'
C56	68°55'52"	74.00'	89.03'	50.79'	N17°21'03"E 83.76'
C57	76°57'37"	100.00'	134.32'	79.49'	S89°42'14"E 124.45'
C58	16°16'05"	200.00'	56.79'	28.59'	S43°05'23"E 56.60'
C60	52°24'49"	125.00'	114.35'	61.53'	S72°44'53"W 110.40'
C61	35°04'32"	202.00'	123.66'	63.84'	N63°30'26"W 121.74'
C62	45°06'47"	200.00'	157.47'	83.07'	N68°31'34"W 153.44'
C63	142°53'55"	102.00'	254.39'	303.95'	N19°38'00"W 193.40'

Maryland State Archives

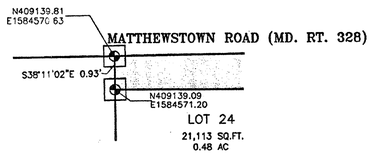
sheet 3
~~PLAT 2 OF 5~~

SUBDIVISION PLAT

HUNTERS MILL - PHASE 1

PROJECT NO.
TAX MAP 26 GRID 20 PARCEL 45 & 186
TAX ID NO. 01-043838, 01-088793
SCALE: 1" = 60' DATE: AUGUST 22, 2007
MARYLAND N.A.D. 83
TOWN OF EASTON, TALBOT COUNTY, MARYLAND
ZIP CODE: 21601

P,149509 MSA SIU 1254 4231-2



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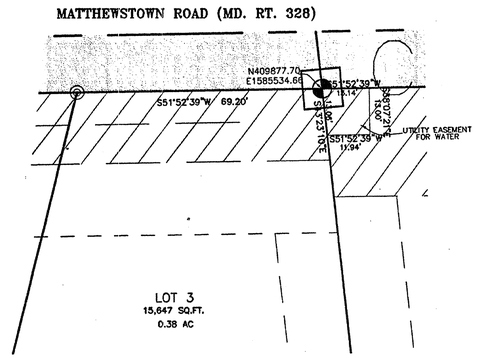

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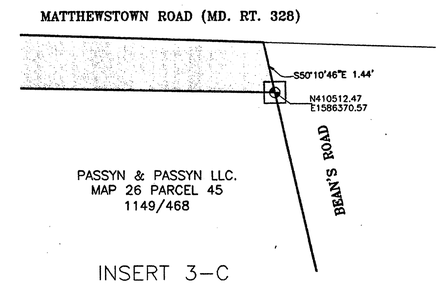


INSERT 3–C

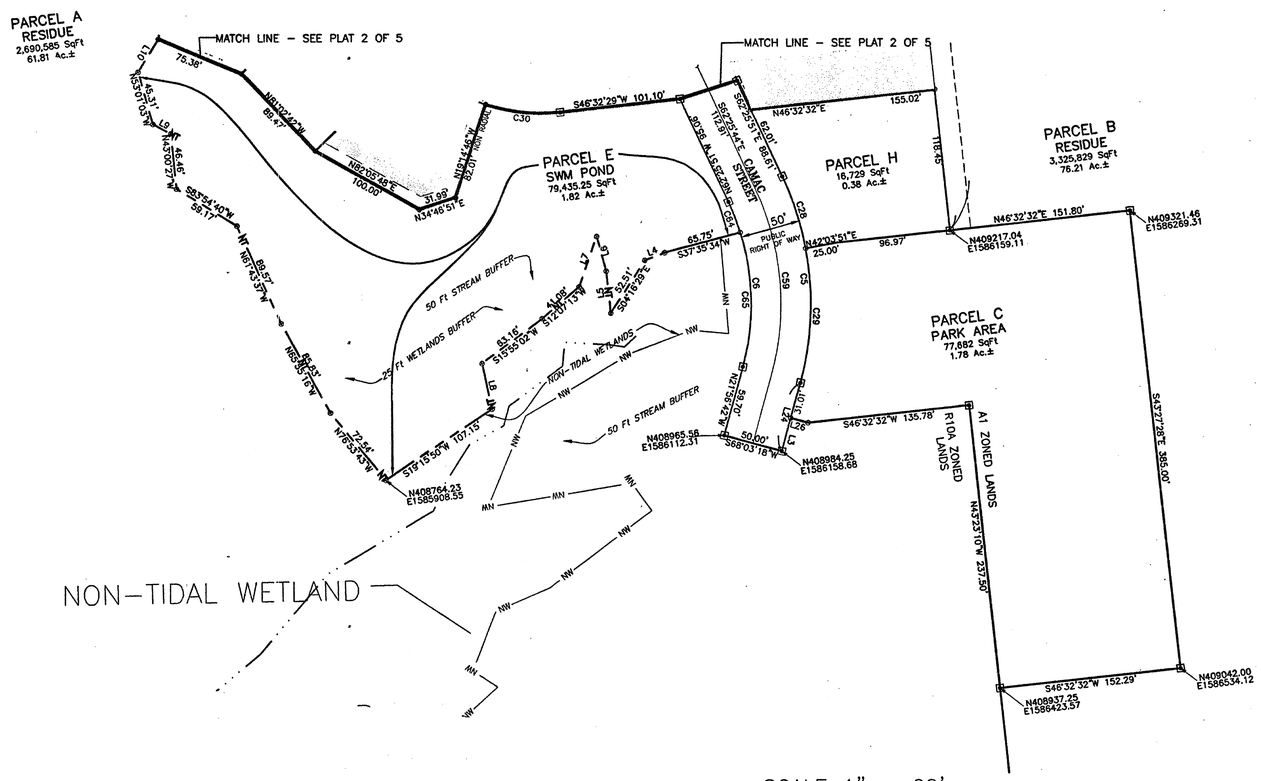
SCALE 1" = 2'

STATE OF MARYLAND
Talbot County, TO WIT:
Recorded in the Land Records of Talbot County
Mary Ann Shortall
Mary Ann Shortall, Clerk
Circuit Court for Talbot County
MAS 82/153

COUNTY CLERK RECORDATION BLOCK

PLAT-SUBDIVIS 2.50
TOTAL 2.50
Rec# TAB2 Rcpt # 3439
MAS 3439 Blk # 2
Feb 29, 2008 04:15 PM

LEGEND	
PROPERTY LINE	
ADJACENT PROPERTY LINES	
BUILDING RESTRICTION LINES	
UTILITY EASEMENT	
EX. STREAM	
STREAM BUFFER	SB
NON-TIDAL WETLANDS	NW
NON-TIDAL WETLANDS BUFFER	WB
CONCRETE MONUMENT FOUND	
CONCRETE MONUMENT SET	
IRON ROD FOUND	IRF
IRON ROD SET	
IRON ROD SET & BREAK IN LINE	



SCALE 1" = 60'

LINE TABLE FOR HUNTERS-MILL PHASE 1 SUBDIVISION		
NO.	DIRECTION	DISTANCE
L3	N21°56'42"W	28.69'
L4	S32°10'10"W	17.67'
L5	N43°20'21"W	35.47'
L6	N52°53'18"W	29.88'
L7	S17°54'18"E	44.29'
L8	S49°41'34"E	39.19'
L9	S81°07'47"W	17.11'
L10	N05°09'15"W	31.98'
L24	S21°56'42"E	59.70'
L25	N06°48'58"E	7.07'
L26	S68°03'18"W	15.00'

CURVE TABLE FOR HUNTERS MILL PHASE 1 SUBDIVISION						
NO.	DELTA	RAD.	LEN.	TAN.	CHORD	
C5	40°29'09"	250.00'	176.65'	92.19'	S42°11'16"E	173.00'
C6	40°29'09"	200.00'	141.32'	73.76'	N42°11'17"W	138.40'
C28	14°29'42"	250.00'	63.25'	31.79'	S55°11'00"E	63.08'
C29	25°59'27"	250.00'	113.41'	57.70'	S34°56'26"E	112.44'
C30	24°13'24"	150.00'	63.42'	32.19'	S58°38'41"W	62.95'
C59	40°29'02"	225.00'	158.98'	82.97'	S42°11'13"E	155.69'
C64	07°45'09"	200.00'	27.06'	13.55'	S58°33'17"E	27.04'
C65	32°44'01"	200.00'	114.26'	58.74'	S38°18'42"E	112.71'

STATE OF MARYLAND
WILLIAM R. ANDERSON
No. 21101
PROFESSIONAL LAND SURVEYOR
10-25-07

STATE OF MARYLAND
WILLIAM R. ANDERSON
No. 21101
PROFESSIONAL LAND SURVEYOR
2-27-08

HARMS
ENGINEERS • PLANNERS • SURVEYORS
8626 BROOKS DRIVE, SUITE 206, EASTON, MD 21601
Office: 410-770-4566 FAX: 410-763-6557
randerson@jharms.com

sheet 3 ~~PLAT 3 OF 3~~

SUBDIVISION PLAT

HUNTERS MILL - PHASE 1

PROJECT NO.
TAX MAP 26 GRID 20 PARCEL 45 & 186
TAX ID NO. 01-043838, 01-088793
SCALE: 1" = 60' DATE: AUGUST 22, 2007
MARYLAND N.A.D. 83
TOWN OF EASTON, TALBOT COUNTY, MARYLAND
ZIP CODE: 21601

P149210
MSA S54 1254 4231-3

Date: 01/22/2008 User: rparuchuri
Drawing Path: C:\Data\2600\projects\Hunters Mill\15-07-006a\Survey\Plats\Hunters Mill FP-3.dwg XREF Files(s): \ HuntersMillCLTBASE.dwg\ HuntersMillEsBase.dwg\ HuntersMillFRBASE.dwg\ Marked State Archives

TALBOT COUNTY CIRCUIT COURT Subdivision Plats, TA) Plat Book MAS 82, pp. 151-153, MSA_S1254_4231. Date available 2008/02/29. Printed 08/26/2019.

TALBOT COUNTY CIRCUIT COURT (Subdivision Plats, TA) Plat Cabinet MAS 3, pp. 51EE-52E, MSA_S1254_1510. Date available 1995/07/28. Printed 09/21/2022.

Marvland State Archives

CURVE DATA

	DELTA	RADIUS	ARC	CHORD BEARING	CHORD	TANGENT
1.	Δ=90°00'00"	R=40.00'	A=62.83'	CB=S 82°06'47" E	C=56.57'	40.00'
2.	Δ=25°00'41"	R=150.00'	A=65.48'	CB=S 49°37'08" E	C=64.96'	33.27'
3.	Δ=12°57'18"	R=600.00'	A=135.66'	CB=S 55°38'50" E	C=135.37'	68.12
4.	Δ=07°31'05"	R=600.00'	A=78.73'	CB=S 45°24'38" E	C=78.67'	39.42
5.	Δ=87°44'46"	R=30.00'	A=45.94'	CB=S 02°13'18" W	C=41.58'	28.84
6.	= 20°28'23"	R= 600.00	A= 214.39'	CB= S 51° 53' 17" E	C=213.25'	108.35'
7.	Δ=86°31'04"	R=30.00'	A=45.30'	CB=S 89°21'13" W	C=41.12'	28.26
8.	Δ=35°58'06"	R=80.00'	A=50.22'	CB=N 61°53'22" W	C=49.40'	29.90
9.	Δ=42°30'27"	R=80.00'	A=59.35'	CB=S 78°52'22" W	C=58.00'	31.11
10.	Δ=11°31'27"	R=80.00'	A=16.09'	CB=S 51°51'25" W	C=16.06'	8.07
11.	Δ=45°00'02"	R=80.00'	A=62.83'	CB=S 23°35'40" W	C=61.23'	33.14
12.	Δ=44°59'58"	R=80.00'	A=62.83'	CB=S 21°24'20" E	C=61.23'	33.14
13.	Δ=05°55'25"	R=871.00'	A=90.05'	CB=S 46°52'02" E	C=90.01'	45.06
14.	Δ=93°28'56"	R=30.00'	A=48.95'	CB=S 00°38'47" E	C=43.70'	31.88'
15.	Δ=84°04'34"	R=30.00'	A=44.02'	CB=S 88°07'58" W	C=40.18'	27.05'
16.	Δ=05°55'25"	R=821.00'	A=84.88'	CB=N 46°52'02" W	C=84.84'	42.48
17.	Δ=90°00'00"	R=30.00'	A=47.12'	CB=N 01°05'41" E	C=42.43'	30.00
18.	Δ=90°00'00"	R=30.00'	A=47.12'	CB=S 88°54'19" E	C=42.43'	30.00
19.	Δ=92°15'14"	R=30.00'	A=48.30'	CB=N 87°46'42" W	C=43.25'	31.20
20.	Δ=95°55'26"	R=30.00'	A=50.23'	CB=S 01°52'02" E	C=44.56'	33.27
21.	Δ=90°00'00"	R=80.00'	A=125.66'	CB=N 01°05'41" E	C=113.14'	80.00
22.	Δ=90°00'00"	R=80.00'	A=125.66'	CB=S 88°54'19" E	C=113.14'	80.00

7/28/95 3:10pm

State of Maryland
Talbot County, To Wit:
Recorded in the ~~Land~~ Plat Records
of Talbot County MAS PC3/51 EE

Mary Ann Shortall
Mary Ann Shortall, Clerk

Matthewstown Run
PHASE ONE

Unless otherwise noted, all streets, easements, park, and rights-of-way shown hereon are hereby dedicated to the Town of Easton.

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 wave or terminate a utility easement upon the resubdivision of a property.

Plans for community water supply and community sewerage systems of this subdivision have been approved by the State Department of Health and Mental Hygiene and will be available to all lots offered for sale.

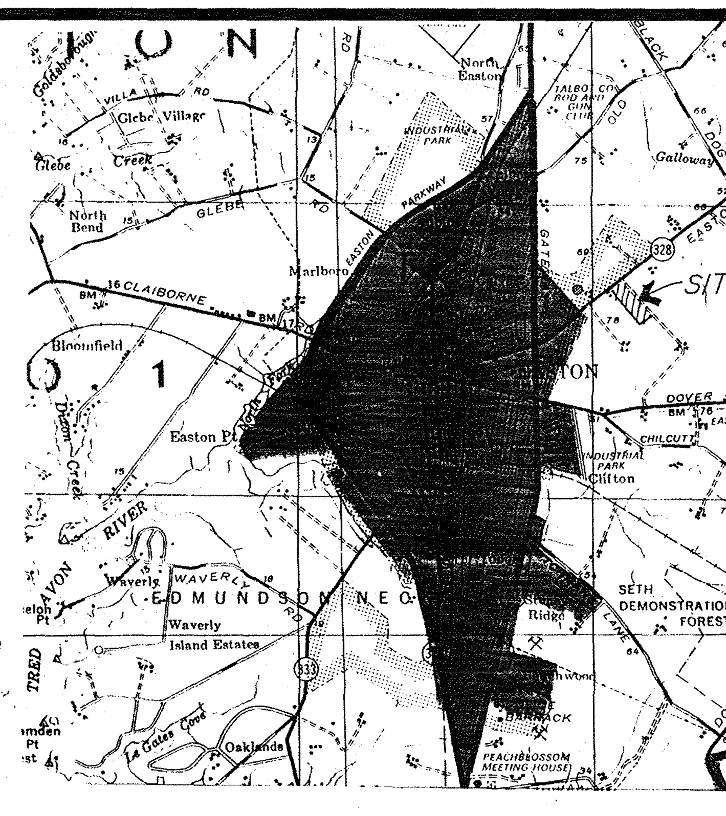
We, the owners of the property shown and described hereon, hereby adopt this plan of subdivision.

This subdivision is approved for community water supply and community sewage and their use is in accordance with Talbot County Comprehensive Water and Sewerage Plan and MDE Regulation 26.04.03.

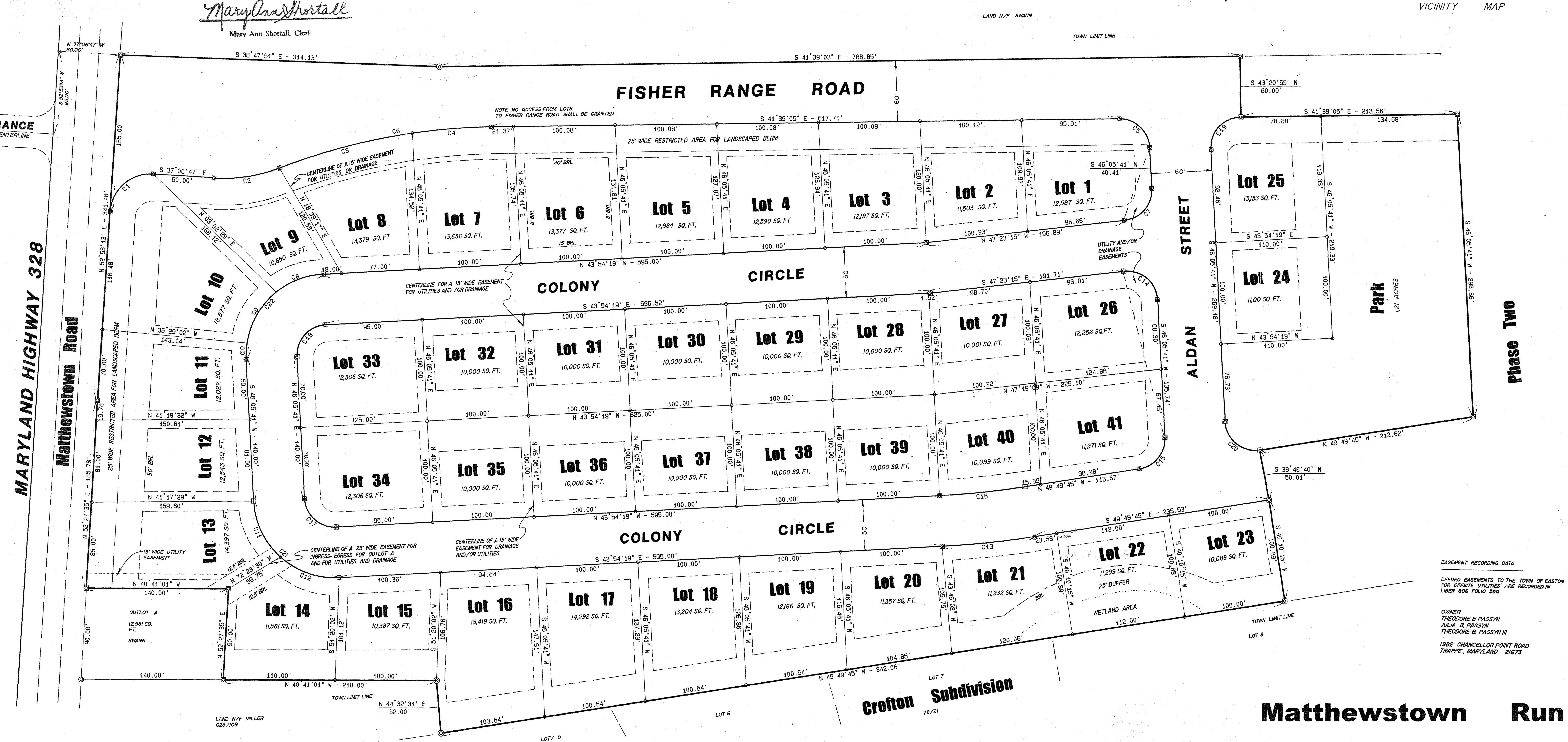
OWNER'S CERTIFICATION

Certification is hereby made that to the best of my knowledge, information and belief, the Town of Easton subdivision regulations regarding the preparation of this plat and the setting of markers have been complied with , and this plat is made with our consent to record same.

Theodore B. Passyn
Julia B. Passyn
Theodore B. Passyn III
The owner's have sworn to and subscribed before me this 21st day of July 1995
My Commission expires 9/1/96
Notary



VICINITY MAP



BUILDING SETBACKS

FRONT 15'
SIDE 8'
REAR 30'

OR AS NOTED

LEGEND

- CONCRETE MONUMENT
- IRON PIPE IN CONCRETE
- IRON PIPE

EASEMENT RECORDING DATA

DEEDED EASEMENTS TO THE TOWN OF EASTON FOR OFFSITE UTILITIES ARE RECORDED IN LIBER 806 FOLIO 550

OWNER
THEODORE B PASSYN
JULIA B. PASSYN
THEODORE B. PASSYN III

1982 CHANCELLOR POINT ROAD
TRAPPE, MARYLAND 21673

John M. Ryan, MD 24 July 95
Health Officer - Talbot County Date

John Ford 7/27/95
Chairman- Planning and Zoning Commission Date

7/28/95
Town of Easton Engineer Date

Building permits shall be issued only if sufficient capacity is available in the community water supply system, sewerage system, and solid waste acceptance facility serving the subdivision.

Land shown upon this plat may contain non-tidal wetlands regulated under Comar 08.0504; 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.

Prepared By
ADAMS - KEMP Associates, Inc.
Professional Land Surveyors and Planners
#4 West Market Street
Georgetown, Delaware 19947
Phone ; 302-856-6699
1-800-892-4337

Surveyor' Certification

I hereby certify that the plat shown hereon is correct and that it is a subdivision of the land conveyed to Theodore B, Passyn, Julia B. Passyn, Theodore B, Passyn,III by deed recorded in the land records of Talbot County in Deed LIBER 792, page 846-849

Charles E. Adams, Jr. 7.11.95
Professional Land Surveyor Date
Maryland Registration # 10962

BOARD FOR PROFESSIONAL LAND SURVEYORS No. 10962 CHARLES EDWARD ADAMS, JR. STATE OF MARYLAND

Matthewstown Run

Subdivision Plan **Phase One**

Town of Easton
Talbot County
State of Maryland

Date May 26,1995
Scale 1" = 50'

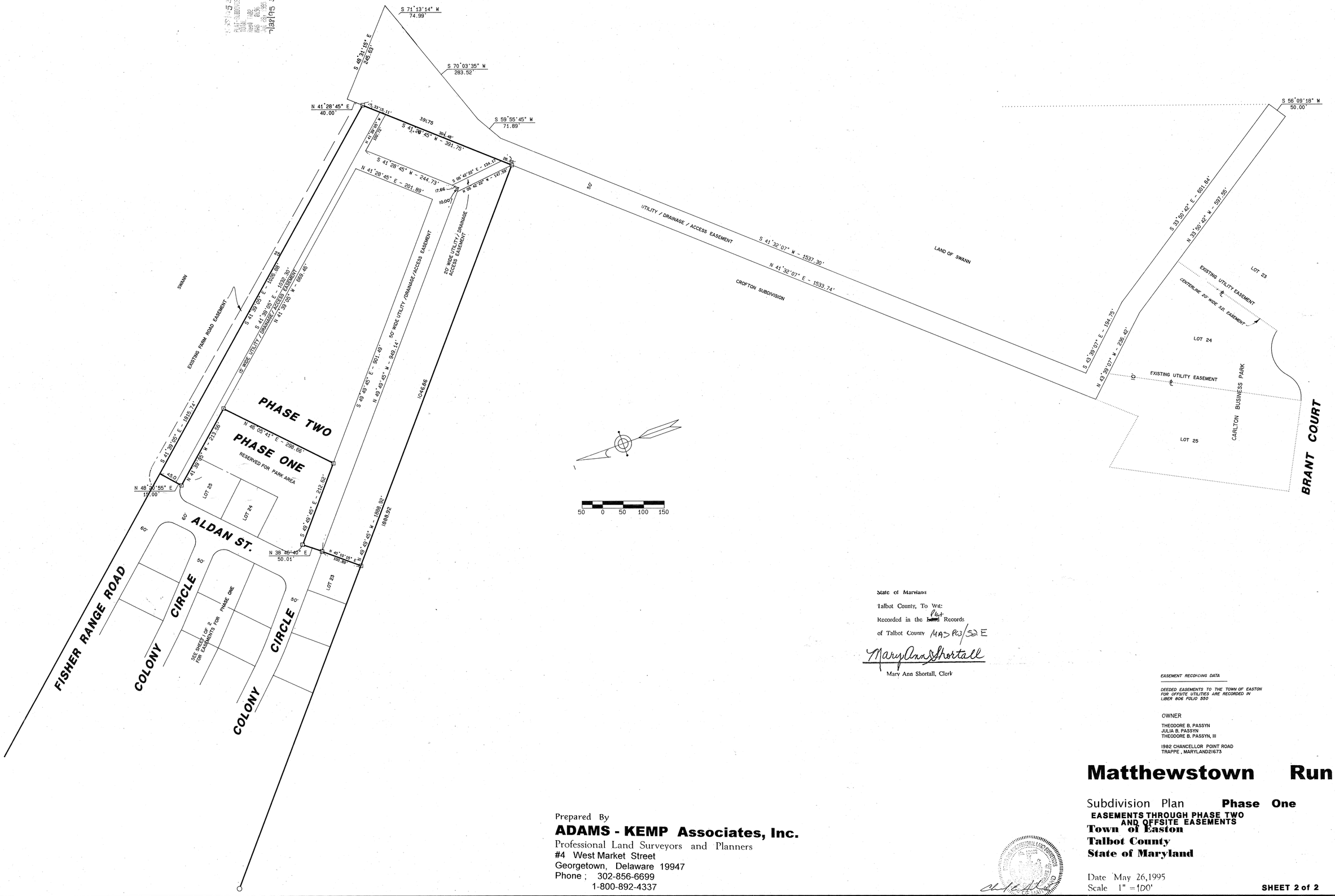
SHEET 1 of 2

P94571 MSA SSU 1254-1510-1
940904 D

R2/1/13

TALBOT COUNTY CIRCUIT COURT (Subdivision Plats, TA) Plat Cabinet MAS 3, pp. 51EE-52E, MSA_S1254_1510. Date available 1995/07/28. Printed 09/21/2022.

Maryland State Archives



State of Maryland
Talbot County, To Wit:
Recorded in the ~~Land~~ Plat Records
of Talbot County MAS 3 PG 51 E

Mary Ann Shortall
Mary Ann Shortall, Clerk

EASEMENT RECORDING DATA

DEEDED EASEMENTS TO THE TOWN OF EASTON FOR OFFSITE UTILITIES ARE RECORDED IN LIBER 806 FOLIO 550

OWNER

THEODORE B. PASSYN
JULIA B. PASSYN
THEODORE B. PASSYN, III

1982 CHANCELLOR POINT ROAD
TRAPPE, MARYLAND21673

Matthewstown Run

Subdivision Plan **Phase One**

EASEMENTS THROUGH PHASE TWO AND OFFSITE EASEMENTS

Town of Easton
Talbot County
State of Maryland

Date May 26,1995
Scale 1" = 100'

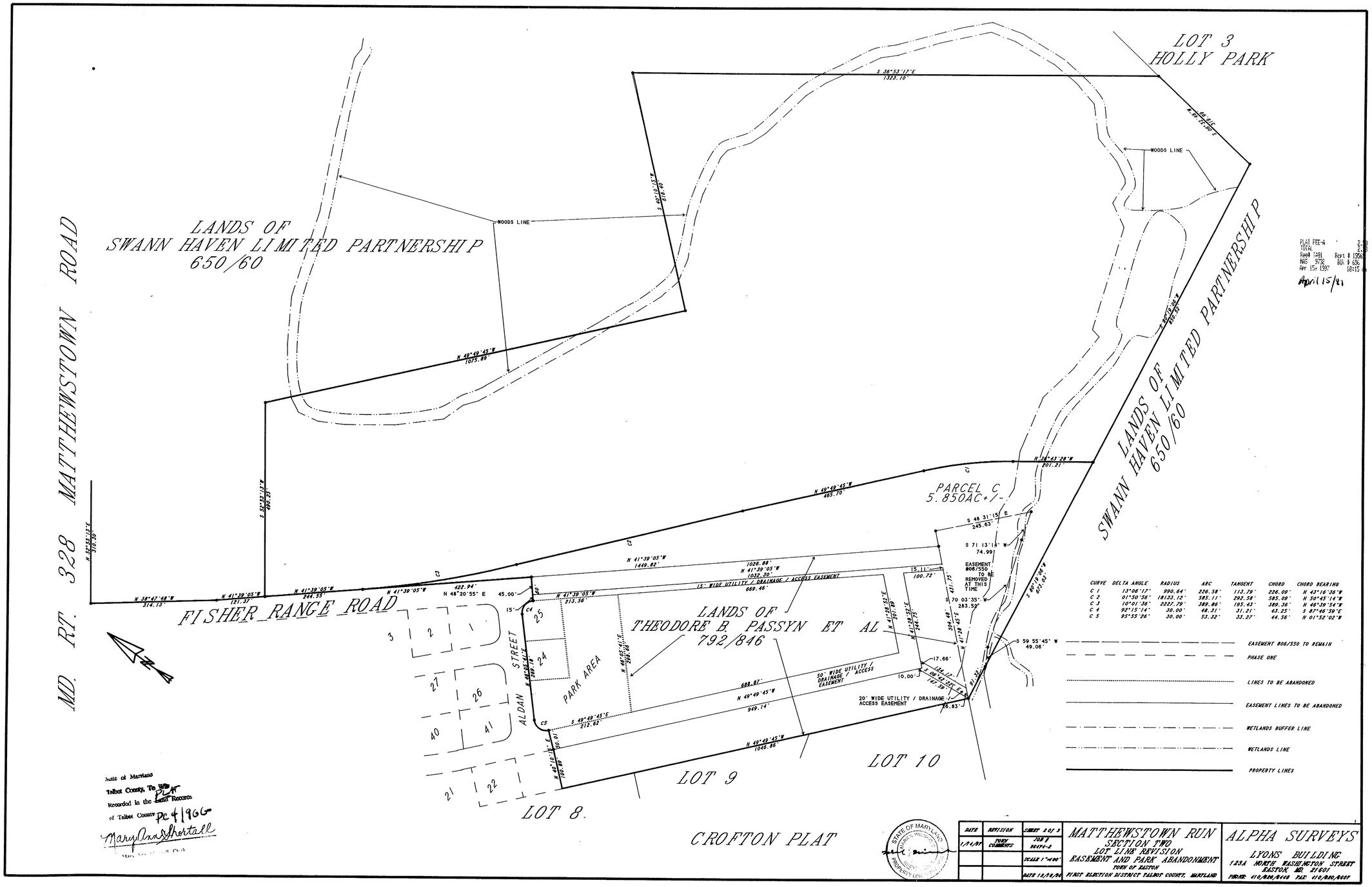
SHEET 2 of 2

Prepared By
ADAMS - KEMP Associates, Inc.
Professional Land Surveyors and Planners
#4 West Market Street
Georgetown, Delaware 19947
Phone ; 302-856-6699
1-800-892-4337

P9452 MSA SSU 1254-1510-2
940904 D

8/14/28

TALBOT COUNTY CIRCUIT COURT (Plat Book) Plat Cabinet MAS 4, pp. 9G-10G, MSA_C2399_9852. Date available 1997/04/15. Printed 09/21/2022.



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 RIVER AND 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.

TOWN ENGINEER 4/10/97 DATE

THIS SUBDIVISION IS APPROVED FOR COMMUNITY WATER SUPPLY AND COMMUNITY SEWAGE AND THE IR USE IS IN ACCORDANCE WITH TALBOT COUNTY COMPREHENSIVE WATER AND SEWERAGE PLAN AND MDE REGULATION 26.04.03.

HEALTH OFFICER TALBOT COUNTY 19 March 97 DATE

PLANNING AND ZONING CHAIRMAN 3/20/97 DATE

BUILDING PERMITS SHALL BE ISSUED ONLY IF SUFFICIENT CAPACITTY IS AVAILABLE IN THE COMMUNITY WATER SUPPLY SYSTEM, SEWERAGE SYSTEM, AND SOLID WASTE ACCEPTANCE FACILITY SERVING THE SUBDIVISION.

UNLESS OTHERWISE NOTED, ALL STREETS, EASEMENTS AND RIGHT-OF-WAY SHOWN HEREON ARE HEREBY DEDICATED TO THE TOWN EASTON.

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 A UTILITY EASEMENT UPON THE RESUBDIVISION OF A PROPERTY.

PLANS FOR COMMUNITY WATER SUPPLY AND COMMUNITY SEWERAGE SYSTEMS OF THIS SUBDIVISION HAVE BEEN APPROVED BY THE STATE DEPARTMENT OF HEALTH AND MENTAL HYGIENE AND WILL BE AVAILABLE TO ALL LOTS OFFERED FOR SALE.

WE THE OWNERS OF THE PROPERTY SHOWN AND DESCRIBED HEREON, HEREBY ADOPT THIS PLAN OF SUBDIVISION.

THEODORE B. PASSYK 18 March 1997 DATE

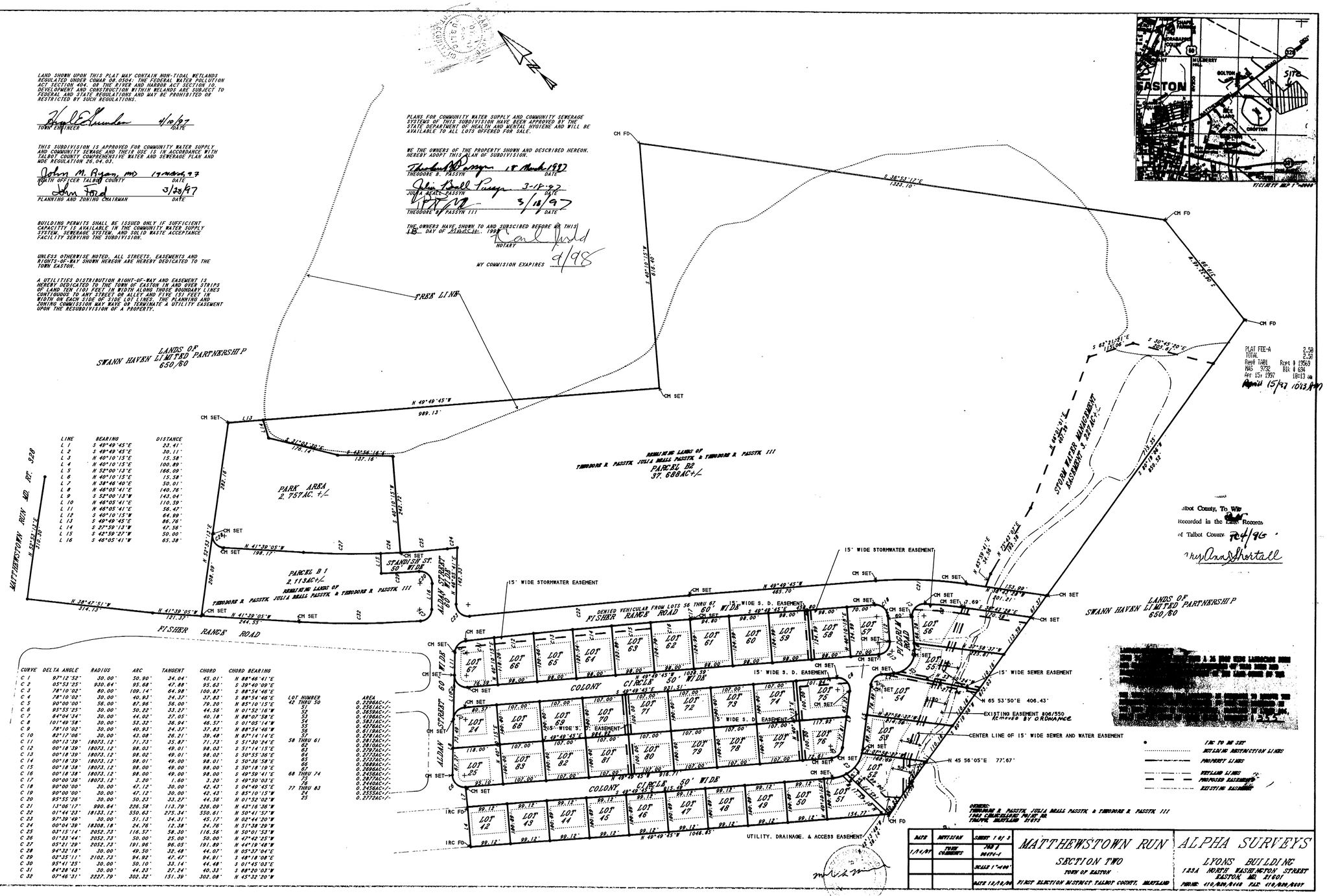
JULIA BEALE PASSYK 3-18-97 DATE

THEODORE B. PASSYK III 3/18/97 DATE

THE OWNERS HAVE SHOWN TO AND SUBSCIBED BEFORE ME THIS 18 DAY OF March 1997

NOTARY

MY COMMISION EXAPIRES 4/98



LINE	BEARING	DISTANCE
L 1	S 49°49'45"E	23.41'
L 2	S 49°49'45"E	30.11'
L 3	N 40°10'15"E	15.58'
L 4	N 40°10'15"E	100.89'
L 5	N 52°00'13"E	166.09'
L 6	N 40°10'15"E	15.58'
L 7	N 38°46'40"E	30.01'
L 8	N 46°05'41"E	140.76'
L 9	S 52°00'13"W	143.04'
L 10	N 46°05'41"E	110.59'
L 11	N 46°05'41"E	36.47'
L 12	S 40°10'15"W	64.99'
L 13	S 49°49'45"E	86.76'
L 14	S 27°39'13"W	47.56'
L 15	S 42°59'27"W	50.00'
L 16	S 46°05'41"W	65.38'

CURVE	DELTA ANGLE	RADIUS	ARC	TANGENT	CHORD	CHORD BEARING
C 1	97°12'52"	30.00'	50.90'	34.04'	45.01'	N 88°46'41"E
C 2	05°53'25"	930.64'	95.68'	47.88'	95.63'	S 39°40'09"E
C 3	78°10'02"	80.00'	109.14'	64.98'	100.87'	S 88°54'46"E
C 4	78°10'02"	30.00'	40.93'	24.37'	37.83'	S 88°54'46"E
C 5	90°00'00"	56.00'	87.96'	56.00'	79.20'	N 85°10'15"E
C 6	85°55'25"	30.00'	50.22'	31.27'	44.56'	N 01°52'16"W
C 7	84°04'34"	30.00'	44.02'	27.05'	40.18'	N 88°07'58"E
C 8	101°49'58"	30.00'	53.32'	36.94'	46.57'	S 01°05'14"W
C 9	78°10'02"	30.00'	40.93'	24.37'	37.83'	N 88°54'46"W
C 10	82°17'06"	30.00'	43.08'	26.21'	39.48'	N 82°14'14"E
C 11	00°13'39"	18073.12'	71.73'	35.87'	71.73'	S 51°30'24"E
C 12	00°18'39"	18073.12'	98.03'	49.01'	98.03'	S 51°14'15"E
C 13	00°18'39"	18073.12'	98.02'	49.01'	98.02'	S 50°55'36"E
C 14	00°18'39"	18073.12'	98.01'	49.00'	98.01'	S 50°36'58"E
C 15	00°18'38"	18073.12'	98.00'	49.00'	98.00'	S 50°18'19"E
C 16	00°18'38"	18073.12'	98.00'	49.00'	98.00'	S 49°59'41"E
C 17	00°00'36"	18073.12'	3.20'	1.60'	3.20'	S 49°50'03"E
C 18	90°00'00"	30.00'	47.12'	30.00'	42.43'	S 04°49'45"E
C 19	90°00'00"	30.00'	47.12'	30.00'	42.43'	S 85°10'15"W
C 20	85°55'26"	30.00'	50.23'	31.27'	44.58'	N 01°52'02"W
C 21	13°06'17"	990.64'	226.58'	113.79'	226.09'	N 43°16'36"W
C 22	01°44'23"	18133.12'	550.63'	275.34'	550.61'	N 50°41'57"W
C 23	97°39'49"	30.00'	51.13'	34.31'	45.17'	N 02°44'30"W
C 24	00°04'39"	18308.18'	24.76'	12.38'	24.76'	N 51°38'29"W
C 25	03°15'14"	2052.73'	116.57'	58.30'	116.56'	N 50°01'53"W
C 26	01°53'44"	2052.73'	50.00'	25.00'	50.00'	N 47°42'25"W
C 27	05°21'39"	2052.73'	191.96'	96.05'	191.89'	N 44°18'48"W
C 28	94°32'18"	30.00'	49.50'	32.48'	44.07'	N 05°37'04"E
C 29	02°35'11"	2102.73'	94.92'	47.47'	94.91'	S 48°18'08"E
C 30	95°41'25"	30.00'	50.10'	33.14'	44.48'	S 01°45'03"E
C 31	84°28'43"	30.00'	44.23'	27.24'	40.33'	S 88°20'03"W
C 32	07°46'31"	2227.79'	302.32'	151.39'	302.08'	N 45°32'20"W

LOT NUMBER	AREA
42 THRU 50	0.2396AC+/-
51	0.2561AC+/-
52	0.3693AC+/-
53	0.4106AC+/-
54	0.3833AC+/-
55	0.4276AC+/-
56	0.6118AC+/-
57	0.5741AC+/-
58 THRU 61	0.2812AC+/-
62	0.2810AC+/-
63	0.2797AC+/-
64	0.2773AC+/-
65	0.2737AC+/-
66	0.2688AC+/-
67	0.2609AC+/-
68 THRU 74	0.2458AC+/-
75	0.2827AC+/-
76	0.2460AC+/-
77 THRU 83	0.2458AC+/-
84	0.2533AC+/-
85	0.2773AC+/-

TALBOT COUNTY CIRCUIT COURT (Plat Book) Plat Cabinet MAS 4, pp. 9G-10G, MSA_C2399_9852. Date available 1997/04/15. Printed 09/21/2022.

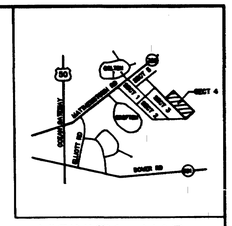
TALBOT COUNTY CIRCUIT COURT Subdivision Plats, TA) Plat Cabinet MAS S, pp. 491-491L, MSA S1254, 3386. Date available 2000/12/29. Printed 09/21/2022.

LEGEND

CONCRETE MONUMENT FOUND	■ CMF
IRON PIN FOUND	● IRF
CONCRETE MONUMENT SET	⊠ CMS
IRON PIN SET	○ IRS
EASEMENT OR BUFFER	— — — —

CURVE TABLE

CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C1	30.00'	47.12'	30.00'	42.43'	S 83°55'18" W	90°00'00"
C2	30.00'	47.12'	30.00'	42.43'	S 06°04'42" E	90°00'00"
C3	100.00'	157.08'	100.00'	141.42'	S 83°55'18" W	90°00'00"
C4	100.00'	61.87'	31.99'	60.89'	S 56°36'49" W	35°27'32"
C5	100.00'	79.59'	41.86'	77.42'	N 52°51'11" W	45°35'31"
C6	50.00'	78.54'	50.00'	70.71'	S 83°55'18" W	90°00'00"
C7	30.00'	47.12'	30.00'	42.43'	N 83°55'18" E	90°00'00"
C8	30.00'	47.12'	30.00'	42.43'	S 06°04'42" E	90°00'00"
C9	50.00'	78.54'	50.00'	70.71'	N 06°04'42" W	90°00'00"
C10	30.00'	47.12'	30.00'	42.43'	N 83°55'18" E	90°00'00"
C11	30.00'	47.12'	30.00'	42.43'	N 06°04'42" W	90°00'00"
C12	380.47'	37.31'	18.67'	37.29'	N 41°33'16" E	05°37'45"
C13	420.47'	53.98'	26.99'	53.95'	N 42°25'45" E	07°20'34"
C14	100.00'	15.71'	7.87'	15.70'	N 55°34'45" W	08°00'07"

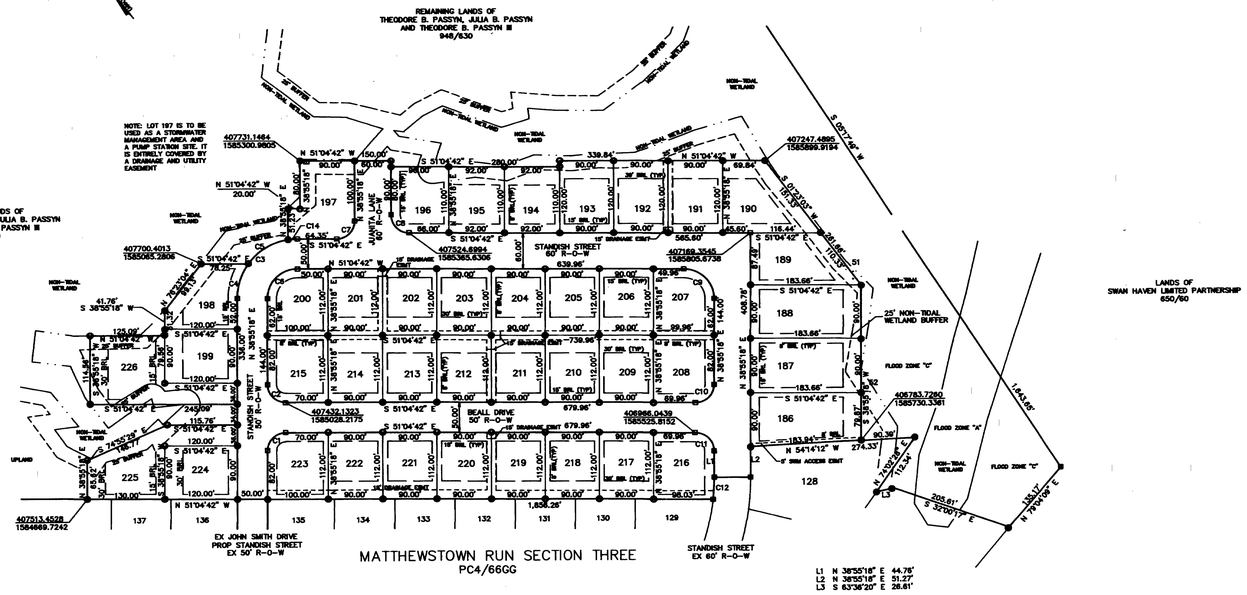


VICINITY MAP
SCALE: 1" = 2,000'

LOT TABLE

LOT NO.	LOT AREA
186	15,598 SQFT
187	16,529 SQFT
188	16,529 SQFT
189	13,127 SQFT
190	13,912 SQFT
191	10,800 SQFT
192	10,800 SQFT
193	10,800 SQFT
194	10,120 SQFT
195	10,120 SQFT
196	10,366 SQFT
197	12,513 SQFT
198	11,171 SQFT
199	10,800 SQFT
200	10,663 SQFT
201	10,080 SQFT
202	10,080 SQFT
203	10,080 SQFT
204	10,080 SQFT
205	10,080 SQFT
206	10,080 SQFT
207	10,658 SQFT
208	11,002 SQFT
209	10,080 SQFT
210	10,080 SQFT
211	10,080 SQFT
212	10,080 SQFT
213	10,080 SQFT
214	10,080 SQFT
215	11,006 SQFT
216	10,978 SQFT
217	10,080 SQFT
218	10,080 SQFT
219	10,080 SQFT
220	10,080 SQFT
221	10,080 SQFT
222	10,080 SQFT
223	11,006 SQFT
224	10,800 SQFT
225	16,461 SQFT
226	18,530 SQFT

NOTE:
FOR LOT 225 AND LOT 226 THE OWNER WETLAND BUFFER DISTURBANCE PERMITS MUST BE OBTAINED FROM MARYLAND DEPT OF THE ENVIRONMENT BEFORE BUILDING PERMIT APPLICATION.



LAND SHOWN UPON THIS PLAT MAY CONTAIN NON-TIDAL WETLANDS REGULATED UNDER COMAR 08.0504; THE FEDERAL WATER POLLUTION ACT SECTION 404, OR THE RIVER AND HARBOR ACT SECTION 10. DEVELOPMENT AND CONSTRUCTION WITHIN THE WETLANDS ARE SUBJECT TO FEDERAL AND STATE REGULATIONS AND MAY BE PROHIBITED OR RESTRICTED BY SUCH REGULATIONS.

LOTS 186-226 ARE APPROVED FOR COMMUNITY WATER SUPPLY AND COMMUNITY SEWERAGE AND THEIR USE IS IN ACCORDANCE WITH THE TALBOT COUNTY COMPREHENSIVE WATER AND SEWERAGE PLAN AND MDE REGULATION 26.04.03.

TOWN ENGINEER — DATE 12/29/2000

HEALTH OFFICER TALBOT COUNTY — DATE 12/7/00

PLANNING AND ZONING CHAIRMAN — DATE 12/28/2000

PLANS FOR COMMUNITY WATER SUPPLY AND COMMUNITY SEWERAGE SYSTEMS OF THIS SUBDIVISION HAVE BEEN APPROVED BY THE TOWN OF EASTON AND WILL BE AVAILABLE TO ALL LOTS OFFERED FOR SALE.

WE THE OWNERS OF THE PROPERTY SHOWN AND DESCRIBED HEREON, HEREBY ADOPT THIS PLAN OF SUBDIVISION.

THEODORE B. PASSYN — DATE 20 OCT 2000

JULIA BEALL PASSYN — DATE 10-22-00

THEODORE B. PASSYN III — DATE 10/22/00

THE OWNERS HAVE SHOWN TO AND SUBSCRIBED BEFORE ME THIS 22nd DAY OF October, 2000.

NOTARY — George W. Stevenson Jr.

MY COMMISSION EXPIRES 4-13-03

BUILDING PERMITS SHALL BE ISSUED ONLY IF SUFFICIENT CAPACITY IS AVAILABLE IN THE COMMUNITY WATER SUPPLY SYSTEM, SEWERAGE SYSTEM AND SOLID WASTE ACCEPTANCE FACILITY SERVING THE SUBDIVISION.

UNLESS OTHERWISE NOTED, ALL STREETS, EASEMENTS AND RIGHTS-OF-WAY SHOWN HEREON ARE HEREBY DEDICATED TO THE TOWN OF EASTON.

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 A UTILITY EASEMENT UPON THE RESUBDIVISION OF A PROPERTY.

FLOOD ZONE TAKEN FROM F.E.M.A. MAP 240066 0025 A.
ZONING R-10A SETBACKS: FRONT 15', SIDE 8' AND REAR 30'
ALL CM SET WILL BE SET UPON APPROVAL OR WITHIN 30 DAYS OF APPROVAL.
NON-TIDAL WETLANDS DELINATED BY RON DATTON ENVIRONMENTAL CONSULTANTS

GRAPHIC SCALE
(IN FEET)
1 inch = 100 ft.

DESIGNED BY: PAO
DRAWN BY: PAO
CHECKED BY: MW
DRAWING: SECT4

STEVEN H. JUPITZ
PROPERTY LINE SURVEYOR NO. 499
5008 MAIN STREET, GRASONVILLE MD, 21638
PHONE (410) 827-9309 FAX (410) 819-8953

OWNER/DEVELOPER
TED AND JULIA PASSYN
1982 CHANCELLOR POINT ROAD
TRAPPE, MARYLAND 21673

FINAL PLAT
MATTHEWSTOWN RUN
SECTION FOUR
TOWN OF EASTON
DISTRICT ONE TALBOT COUNTY MARYLAND

REVISIONS

NO.	DATE	DESCRIPTION	BY

SCALE: 1" = 100'
DATE: AUGUST 2000
JOB NO: PAS01-04
SHEET 1 OF 2

MSA SSU 1254-3386-1

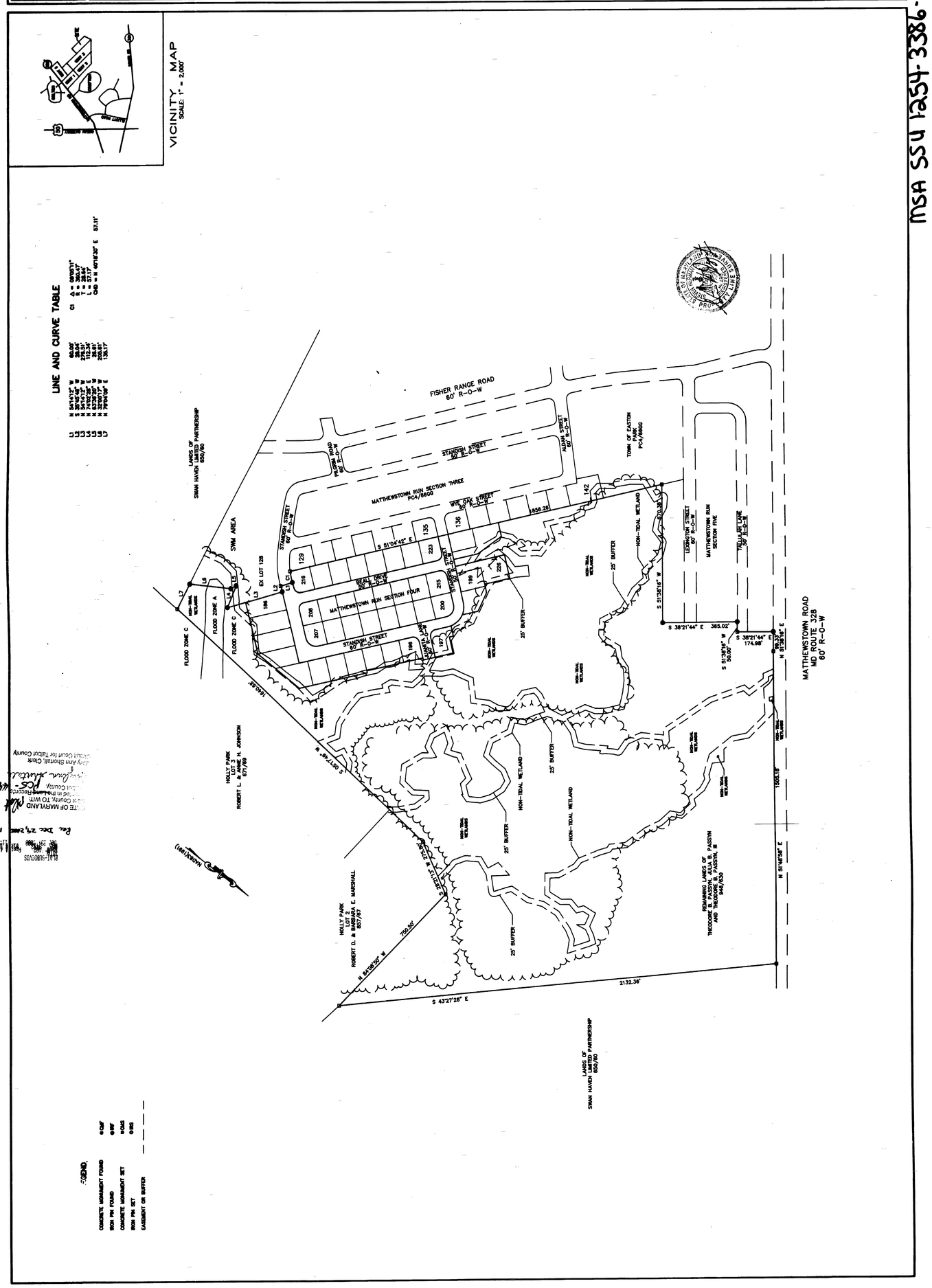
[redacted]

MSA SS4 12254-3386-2

SCALE: 1" = 200'	REVISIONS	FINAL PLAT MATTHEWSTOWN RUN SECTION FOUR TOWN OF EASTON DISTRICT ONE TALBOT COUNTY MARYLAND	OWNER/DEVELOPER TED AND JULIA PASSYN 1982 CHANCELLOR POINT ROAD TRAPPE, MARYLAND 21673
DATE: AUGUST 2000			
JOB NO: PAS01-04			
SHEET 2 OF 2	NO. DATE DESCRIPTION BY		

STEVEN H. JUPITZ
PROPERTY LINE SURVEYOR NO. 499
5006 MAIN STREET, GRASONVILLE MD, 21638
PHONE (410) 827-8309 FAX (410) 819-6663

DESIGNED BY: PAO
DRAWN BY: PAO
CHECKED BY: MW
DRAWING: SECT4



STATE OF MARYLAND
Talbot County, TO WIT:
I hereby certify that this instrument of writing was filed in this office on the day and time written hereon.
Clerk of the Circuit Court for Talbot County
Mary Ann Shortell, Clerk
Dec 29, 2000 11:51AM
BK 01-9800VIS

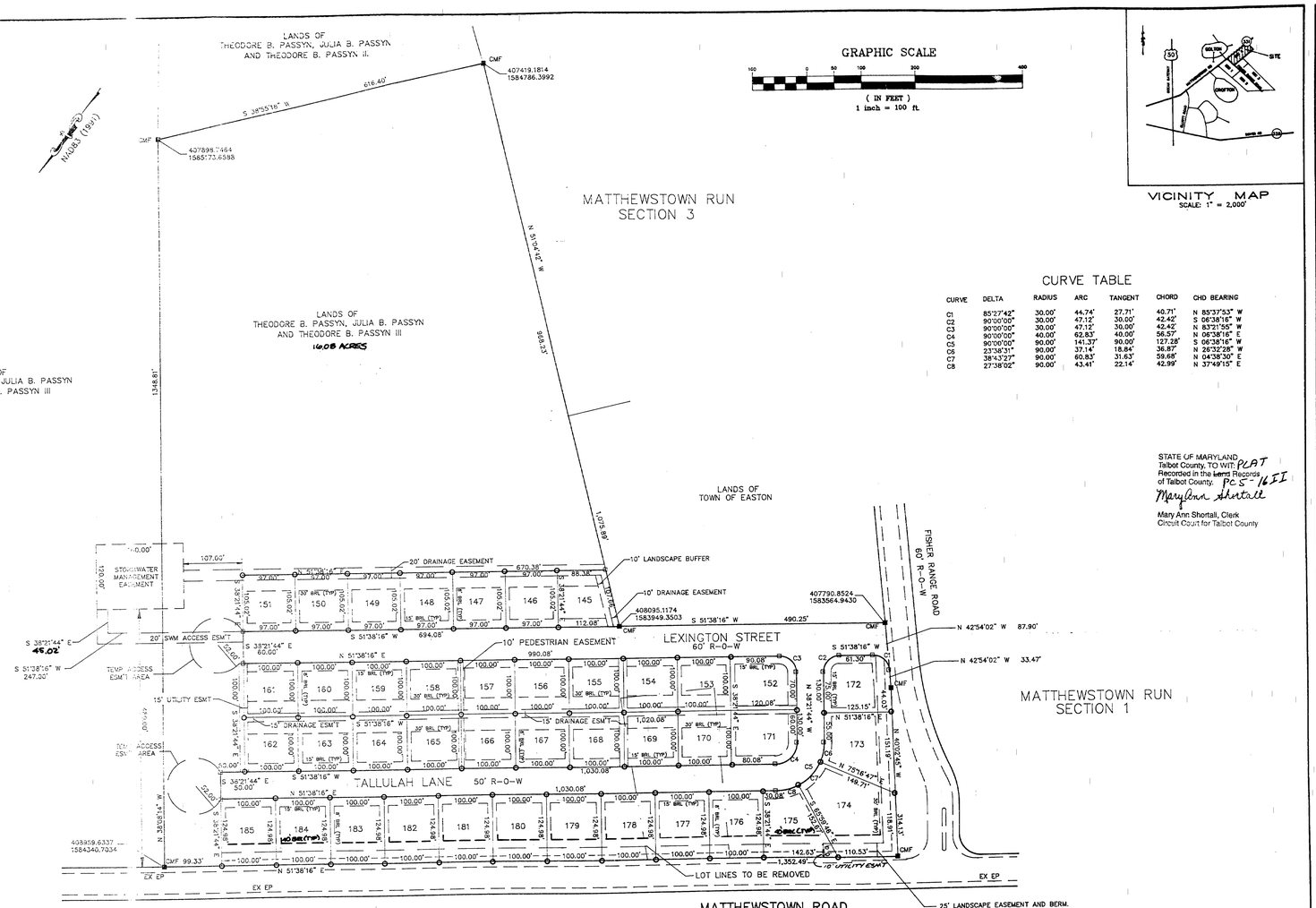
TALBOT COUNTY CIRCUIT COURT Subdivision Plats, Tal Plat Cabinet MAS 5, pp. 491-491I, MSA_S1254_3386. Date available 2000/12/29. Printed 09/21/2022.

LEGEND

CONCRETE MONUMENT FOUND	CMF
IRON PIN FOUND	IPF
CONCRETE MONUMENT SET	CMS
IRON PIN SET	IPS
EXISTING CONTOUR	50
EASEMENT OR BUFFER	— — — —

LOT AREA TABLE

LOT 145	10526.19 SQFT
LOT 146	10186.88 SQFT
LOT 147	10186.88 SQFT
LOT 148	10186.88 SQFT
LOT 149	10186.88 SQFT
LOT 150	10186.88 SQFT
LOT 151	10186.88 SQFT
LOT 152	11814.80 SQFT
LOT 153	10000.00 SQFT
LOT 154	10000.00 SQFT
LOT 155	10000.00 SQFT
LOT 156	10000.00 SQFT
LOT 157	10000.00 SQFT
LOT 158	10000.00 SQFT
LOT 159	10000.00 SQFT
LOT 160	10000.00 SQFT
LOT 161	10000.00 SQFT
LOT 162	10000.00 SQFT
LOT 163	10000.00 SQFT
LOT 164	10000.00 SQFT
LOT 165	10000.00 SQFT
LOT 166	10000.00 SQFT
LOT 167	10000.00 SQFT
LOT 168	10000.00 SQFT
LOT 169	10000.00 SQFT
LOT 170	10000.00 SQFT
LOT 171	11664.52 SQFT
LOT 172	12532.34 SQFT
LOT 173	15675.14 SQFT
LOT 174	22026.23 SQFT
LOT 175	13904.93 SQFT
LOT 176	12498.38 SQFT
LOT 177	12498.38 SQFT
LOT 178	12498.38 SQFT
LOT 179	12498.38 SQFT
LOT 180	12498.38 SQFT
LOT 181	12498.38 SQFT
LOT 182	12498.38 SQFT
LOT 183	12498.38 SQFT
LOT 184	12498.38 SQFT
LOT 185	12498.38 SQFT



GRAPHIC SCALE

(IN FEET)
1 inch = 100 ft.

VICINITY MAP
SCALE: 1" = 2,000'

CURVE TABLE

CURVE	DELTA	RADIUS	ARC	TANGENT	CHORD	CHD BEARING
C1	85°27'42"	30.00'	44.74'	27.71'	40.71'	N 85°37'53" W
C2	90°00'00"	30.00'	47.12'	30.00'	42.42'	S 06°38'16" W
C3	90°00'00"	30.00'	47.12'	30.00'	42.42'	N 83°21'55" W
C4	90°00'00"	40.00'	62.83'	40.00'	56.57'	N 06°38'16" E
C5	90°00'00"	90.00'	141.37'	90.00'	127.28'	S 06°38'16" W
C6	23°36'31"	90.00'	37.14'	18.84'	36.87'	N 26°32'28" W
C7	38°43'27"	90.00'	60.83'	31.63'	59.68'	N 04°38'30" E
C8	27°38'02"	90.00'	43.41'	22.14'	42.99'	N 37°49'15" E

STATE OF MARYLAND
Talbot County, TO WIT: PLAT
Recorded in the Land Records
of Talbot County. PCS-16II
Maryann Shortall
Mary Ann Shortall, Clerk
Circuit Court for Talbot County

LAND SHOWN UPON THIS PLAT MAY CONTAIN NON-TIDAL WETLANDS REGULATED UNDER COMAR 08.0504; THE FEDERAL WATER POLLUTION ACT SECTION 404, OR THE RIVER AND HARBOR ACT SECTION 10. DEVELOPMENT AND CONSTRUCTION WITHIN THE WETLANDS ARE SUBJECT TO FEDERAL AND STATE REGULATIONS AND MAY BE PROHIBITED OR RESTRICTED BY SUCH REGULATIONS.

THIS SUBDIVISION IS APPROVED FOR COMMUNITY WATER SUPPLY AND COMMUNITY SEWERAGE AND THEIR USE IS IN ACCORDANCE WITH THE TALBOT COUNTY COMPREHENSIVE WATER AND SEWERAGE PLAN AND MDE REGULATION 26.04.03.

TOWN ENGINEER	17FEB2000 DATE
TALBOT COUNTY HEALTH DEPARTMENT APPROVING AUTHORITY	2/9/00 DATE
PLANNING AND ZONING CHAIRMAN	2/17/00 DATE

PLANS FOR COMMUNITY WATER SUPPLY AND COMMUNITY SEWERAGE SYSTEMS OF THIS SUBDIVISION HAVE BEEN APPROVED BY THE TOWN OF EASTON AND WILL BE AVAILABLE TO ALL LOTS OFFERED FOR SALE.

WE THE OWNERS OF THE PROPERTY SHOWN AND DESCRIBED HEREON, HEREBY ADOPT THIS PLAN OF SUBDIVISION.

THEODORE B. PASSYN	2/11/00 DATE
JULIA B. PASSYN	2/11/00 DATE
THEODORE B. PASSYN III	2/11/00 DATE

THE OWNERS HAVE SHOWN TO AND SUBSCRIBED BEFORE ME THIS 11TH DAY OF FEBRUARY 2000.

George W. Simmons Jr.
NOTARY

MY COMMISSION EXPIRES 4-13-03

BUILDING PERMITS SHALL BE ISSUED ONLY IF SUFFICIENT CAPACITY IS AVAILABLE IN THE COMMUNITY WATER SUPPLY SYSTEM, SEWERAGE SYSTEM AND SOLID WASTE ACCEPTANCE FACILITY SERVING THE SUBDIVISION.

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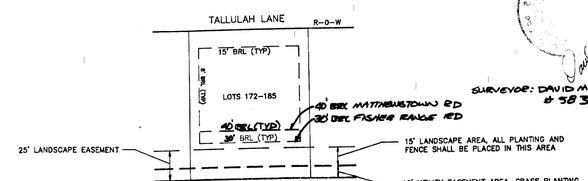
FLOOD ZONE TAKEN FROM F.E.M.A. MAP 240066 0025 A.
ZONING R-10A SETBACKS: FRONT 15', SIDE 8' AND REAR 30'
ALL CM SET WILL BE SET UPON APPROVAL OR WITHIN 30 DAYS OF APPROVAL.

LOTS 172-174 ARE DENIED ACCESS TO FISHER RANGE ROAD
LOT 174-185 ARE DENIED ACCESS TO MATTHEWSTOWN ROAD (MD RTE 328)



LANDSCAPE EASEMENT DETAIL
SCALE: 1" = 50'

SURVEYOR: DAVID MIDDLETON #583

DESIGNED BY: PAO
DRAWN BY: PAO
CHECKED BY: DM
DRAWING: SPLAT1

ALPHA SURVEYS
123A NORTH WASHINGTON STREET
EASTON, MARYLAND 21601
PHONE (410) 820-6448 FAX (410) 820-6607

OWNER/DEVELOPER
TED AND JULIA PASSYN
1982 CHANCELLOR POINT ROAD
TRAPPE, MARYLAND 21673

FINAL SUBDIVISION PLAT
MATTHEWSTOWN RUN
SECTION FIVE
TOWN OF EASTON
DISTRICT ONE TALBOT COUNTY MARYLAND

REVISIONS

NO.	DATE	DESCRIPTION	BY
1	2-9-00	ADD 10' UTILITY ESMT & CHANGE AREA	DJM
2	2-11-00	ADD SURVEYOR NOTE, CORRECT DATE, CHANGE FISHER RTE 328 REF.	

SCALE: 1" = 100'
DATE: DEC. 1999
JOB NO: PAS01-05
SHEET 1 OF 1

MSA SSU 1254-3214

TALBOT COUNTY CIRCUIT COURT Subdivision Plats, TA) Plat Cabinet MAS 5, p. 161, MSA_S1254_3214. Date available 2000/02/18. Printed 09/21/2022.

OWNERS

SWANN HAVEN LIMITED PARTNERSHIP
MATTHEWSTOWN ROAD
EASTON, MARYLAND 21601

Paul Elmer Swann 12-8-94
GENERAL PARTNER

Certificate of Ownership and Intentions

On this, the 8th day of DECEMBER (month), in the year 1994, before me, the undersigned officer, personally appeared PAUL ELMER SWANN, GEN'L PARTNER OF SWANN HAVEN LTD. PART. (owner's name), who being duly sworn according to law, deposes and says HE [they/ he/ she] IS [are/ is] the owners' AUTHORIZED SIGNER and/or equitable owners of the property shown on the plan, and that HE [they/ he/ she] acknowledge(s) the same to be HIS [their/ his/ her] act and plan and desire the same to be recorded as such according to law.

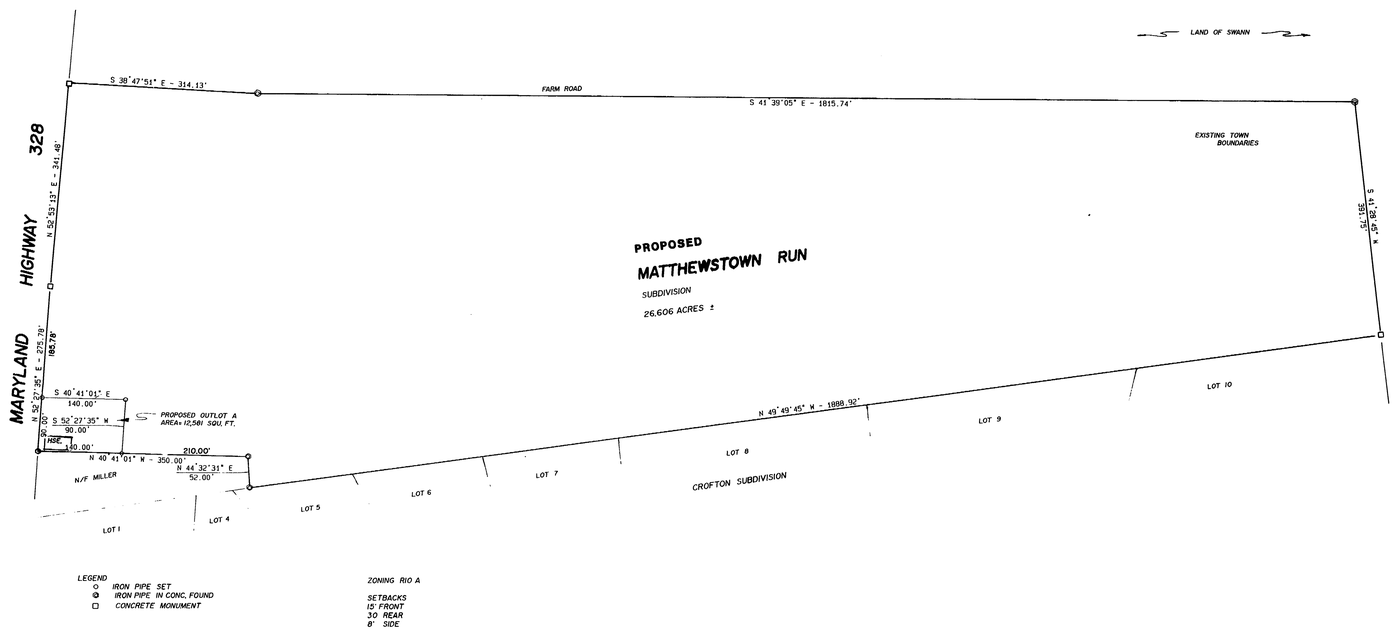
SWANN HAVEN LTD. PART. by:
[owner's name]
Paul Elmer Swann
[owner's name] GEN'L PART.

Witness my hand and seal the day and date written above.
[notary signature]

My commission expires 9/1/98 [date]

Rec 12/12/94 9:17 am
PLAT FEE 4.00
TOTAL 4.00
CHARGE TO: Recording
PAID BY: SWANN
REC ID: 1394 0217

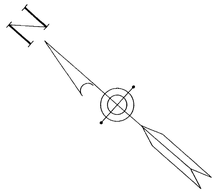
Plat
MAS PC3/26 EE
Mary Ann Marshall, Clerk



LEGEND
- IRON PIPE SET
- IRON PIPE IN CONC. FOUND
- CONCRETE MONUMENT

ZONING RIO A

SETBACKS
15' FRONT
30 REAR
8' SIDE



50 0 50 100 150

UNLESS OTHERWISE NOTED, ALL STREETS, EASEMENTS AND RIGHTS-OF-WAY SHOWN HEREON ARE HEREBY DEDICATED TO THE TOWN OF EASTON.

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 WAVE OR TERMINATE A UTILITY EASEMENT UPON THE RESUBDIVISION OF A PROPERTY.

PLANS FOR COMMUNITY WATER SUPPLY AND COMMUNITY SEWERAGE SYSTEMS OF THIS SUBDIVISION HAVE BEEN APPROVED BY THE STATE DEPARTMENT OF HEALTH AND MENTAL HYGIENE AND WILL BE AVAILABLE TO ALL LOTS OFFERED FOR SALE.

WE, THE OWNERS OF THE PROPERTY SHOWN AND DESCRIBED HEREON, HEREBY ADOPT THIS PLAN OF SUBDIVISION.
SWANN HAVEN LTD. PART. by
Paul Elmer Swann 12-8-94
GENERAL PARTNER

THIS SUBDIVISION IS APPROVED FOR COMMUNITY WATER SUPPLY AND COMMUNITY SEWAGE AND THEIR USE IS IN ACCORDANCE WITH TALBOT COUNTY COMPREHENSIVE WATER AND SEWERAGE PLAN AND MDE REGULATION 26.04.03.

John M. Ryan, MD 8 DEC 94
TALBOT CO. HEALTH OFFICER

BUILDING PERMITS SHALL BE ISSUED ONLY IF SUFFICIENT CAPACITY IS AVAILABLE IN THE COMMUNITY WATER SUPPLY SYSTEM, SEWERAGE SYSTEM, AND SOLID WASTE ACCEPTANCE FACILITY SERVING THE SUBDIVISION.

LAND SHOWN UPON THIS PLAT MAY CONTAIN NON-TIDAL WETLANDS REGULATED UNDER COMAR 08.0504; 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.

John Ford 12/9/94
CHAIRMAN PLANNING AND ZONING COMMISSION

12/9/94
TOWN ENGINEER OR AGENT

STATE OF MARYLAND — PROFESSIONAL LAND SURVEYOR No. 10962 — CHARLES EDWARD ADAMS, JR.

CHARLES E. ADAMS, JR
PROFESSIONAL LAND SURVEYOR 10962

Prepared By
Adams-Kemp Associates, Inc.
Professional Land Surveyors
and Planners
4 West Market Street
Georgetown, Delaware 19947-1437
Ph. (302) 856-6699

MINOR SUBDIVISION PLAN

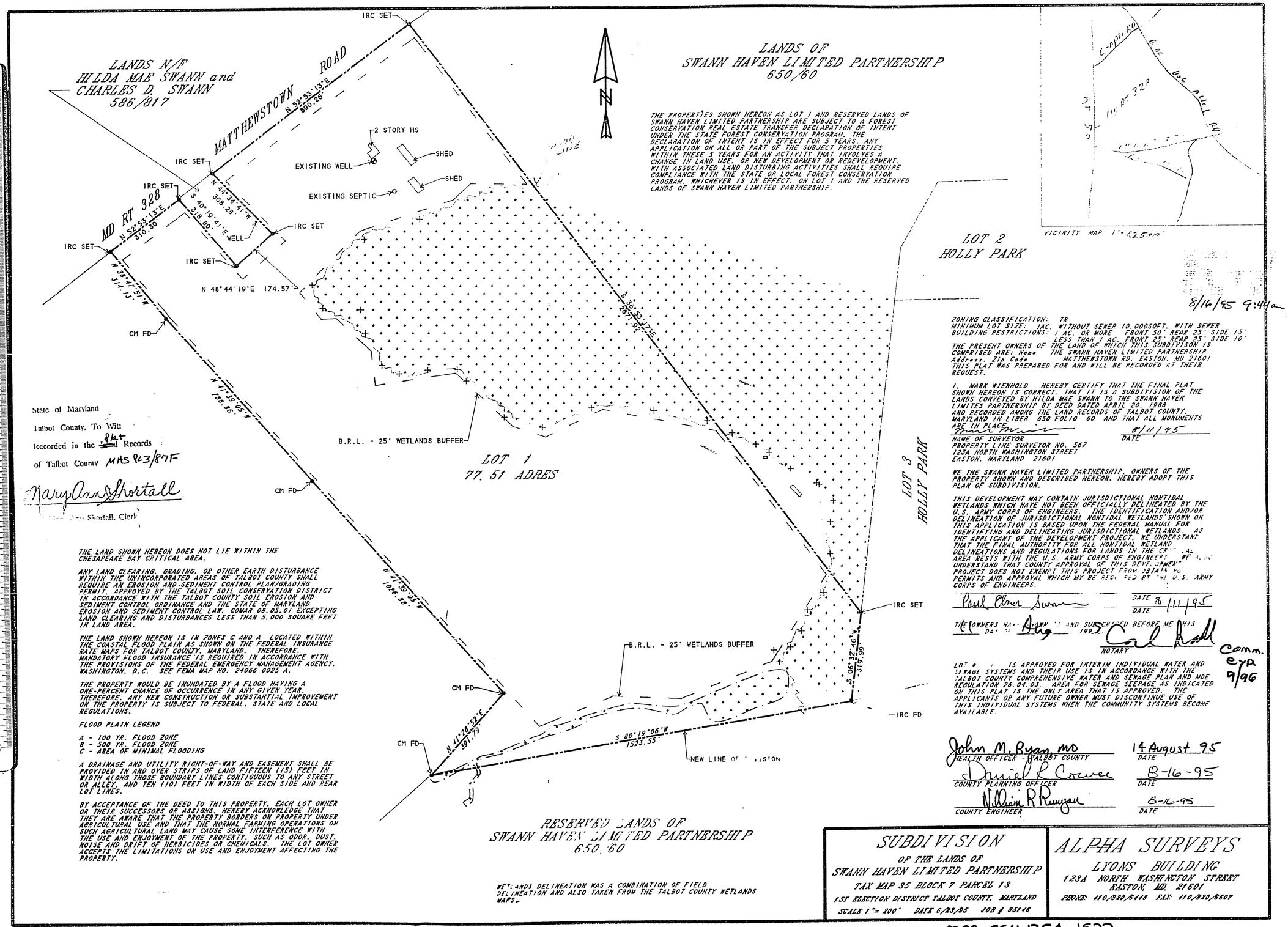
LAND TO BE RETAINED BY SWANN LIMITED PARTNERSHIP
LOCATED ON MD. RTE 328 PART OF TAX MAP 35 P.11

TOWN OF EASTON

DRAWN CEA	DATE 11-1-94	TALBOT COUNTY STATE OF MARYLAND AREA 12581 SQ. FT.
APPROVED BY CEA	DATE 11-1-94	
SCALE 1"=100'	SHEET 1 OF SHEET 1	PROJECT NO. 940904

TALBOT COUNTY CIRCUIT COURT (Plat Book) Plat Cabinet MAS 3, p. 26EE, MSA_C2399_9555. Date available 1994/12/12. Printed 07/27/2023.

TALBOST COUNTY CIRCUIT COURT (Subdivision Plats, TA) Plat Cabinet-MAS 3, p. 87F, MSA_S1254_1522. Date available 1/29/08/16. Printed 07/26/2023.



8/16/95 9:44am

State of Maryland

Talbot County, To Wit:

Recorded in the ~~Land~~ Plat Records

of Talbot County MAS 863/87F

Mary Ann Shortall

Mary Ann Shortall, Clerk

THE PROPERTIES SHOWN HEREON AS LOT 1 AND RESERVED LANDS OF SWANN HAVEN LIMITED PARTNERSHIP ARE SUBJECT TO A FOREST CONSERVATION REAL ESTATE TRANSFER DECLARATION OF INTENT UNDER THE STATE FOREST CONSERVATION PROGRAM. THE DECLARATION OF INTENT IS IN EFFECT FOR 5 YEARS. ANY APPLICATION ON ALL OR PART OF THE SUBJECT PROPERTIES WITHIN THESE 5 YEARS FOR AN ACTIVITY THAT INVOLVES A CHANGE IN LAND USE, OR NEW DEVELOPMENT OR REDEVELOPMENT, WITH ASSOCIATED LAND DISTURBING ACTIVITIES SHALL REQUIRE COMPLIANCE WITH THE STATE OR LOCAL FOREST CONSERVATION PROGRAM, WHICHEVER IS IN EFFECT, ON LOT 1 AND THE RESERVED LANDS OF SWANN HAVEN LIMITED PARTNERSHIP.

ZONING CLASSIFICATION: TR
MINIMUM LOT SIZE: 1AC. WITHOUT SEWER 10,000SQFT. WITH SEWER
BUILDING RESTRICTIONS: 1 AC. OR MORE FRONT 50' REAR 25' SIDE 15'
LESS THAN 1 AC. FRONT 25' REAR 25' SIDE 10'

THE PRESENT OWNERS OF THE LAND OF WHICH THIS SUBDIVISION IS COMPRISED ARE: Name THE SWANN HAVEN LIMITED PARTNERSHIP
Address, Zip Code MATTHEWSTOWN RD. EASTON, MD 21601
THIS PLAT WAS PREPARED FOR AND WILL BE RECORDED AT THEIR REQUEST.

I, MARK WIENHOLD HEREBY CERTIFY THAT THE FINAL PLAT SHOWN HEREON IS CORRECT, THAT IT IS A SUBDIVISION OF THE LANDS CONVEYED BY HILDA MAE SWANN TO THE SWANN HAVEN LIMITED PARTNERSHIP BY DEED DATED APRIL 20, 1988 AND RECORDED AMONG THE LAND RECORDS OF TALBOT COUNTY, MARYLAND IN LIBER 650 FOLIO 60 AND THAT ALL MONUMENTS ARE IN PLACE.

NAME OF SURVEYOR — DATE 8/11/95
PROPERTY LINE SURVEYOR NO. 567
123A NORTH WASHINGTON STREET
EASTON, MARYLAND 21601

WE THE SWANN HAVEN LIMITED PARTNERSHIP, OWNERS OF THE PROPERTY SHOWN AND DESCRIBED HEREON, HEREBY ADOPT THIS PLAN OF SUBDIVISION.

THIS DEVELOPMENT MAY CONTAIN JURISDICTIONAL NONTIDAL WETLANDS WHICH HAVE NOT BEEN OFFICIALLY DELINEATED BY THE U.S. ARMY CORPS OF ENGINEERS. THE IDENTIFICATION AND/OR DELINEATION OF JURISDICTIONAL NONTIDAL WETLANDS SHOWN ON THIS APPLICATION IS BASED UPON THE FEDERAL MANUAL FOR IDENTIFYING AND DELINEATING JURISDICTIONAL WETLANDS. AS THE APPLICANT OF THE DEVELOPMENT PROJECT, WE UNDERSTAND THAT THE FINAL AUTHORITY FOR ALL NONTIDAL WETLAND DELINEATIONS AND REGULATIONS FOR LANDS IN THE CRITICAL AREA RESTS WITH THE U.S. ARMY CORPS OF ENGINEERS. WE ALSO UNDERSTAND THAT COUNTY APPROVAL OF THIS DEVELOPMENT PROJECT DOES NOT EXEMPT THIS PROJECT FROM OBTAINING PERMITS AND APPROVAL WHICH MY BE REQUIRED BY THE U.S. ARMY CORPS OF ENGINEERS.

DATE 8/11/95

THE OWNERS HAVE SIGNED AND SUBSCRIBED BEFORE ME THIS DAY OF Aug 1995.

NOTARY — Comm. exp 9/96

LOT # IS APPROVED FOR INTERIM INDIVIDUAL WATER AND SEWAGE SYSTEMS AND THEIR USE IS IN ACCORDANCE WITH THE TALBOT COUNTY COMPREHENSIVE WATER AND SEWAGE PLAN AND MDE REGULATION 26.04.03. AREA FOR SEWAGE SEEPAGE AS INDICATED ON THIS PLAT IS THE ONLY AREA THAT IS APPROVED. THE APPLICANTS OR ANY FUTURE OWNER MUST DISCONTINUE USE OF THIS INDIVIDUAL SYSTEMS WHEN THE COMMUNITY SYSTEMS BECOME AVAILABLE.

John M. Ryan MD — HEALTH OFFICER - TALBOT COUNTY — DATE 14 August 95
Daniel R Cowee — COUNTY PLANNING OFFICER — DATE 8-16-95
William R Rumpf — COUNTY ENGINEER — DATE 8-16-95

THE LAND SHOWN HEREON DOES NOT LIE WITHIN THE CHESAPEAKE BAY CRITICAL AREA.

ANY LAND CLEARING, GRADING, OR OTHER EARTH DISTURBANCE WITHIN THE UNINCORPORATED AREAS OF TALBOT COUNTY SHALL REQUIRE AN EROSION AND SEDIMENT CONTROL PLAN/GRADING PERMIT, APPROVED BY THE TALBOT SOIL CONSERVATION DISTRICT IN ACCORDANCE WITH THE TALBOT COUNTY SOIL EROSION AND SEDIMENT CONTROL ORDINANCE AND THE STATE OF MARYLAND EROSION AND SEDIMENT CONTROL LAW. COMAR 08.05.01 EXCEPTING LAND CLEARING AND DISTURBANCES LESS THAN 5,000 SQUARE FEET IN LAND AREA.

THE LAND SHOWN HEREON IS IN ZONES C AND A LOCATED WITHIN THE COASTAL FLOOD PLAIN AS SHOWN ON THE FEDERAL INSURANCE RATE MAPS FOR TALBOT COUNTY, MARYLAND. THEREFORE, MANDATORY FLOOD INSURANCE IS REQUIRED IN ACCORDANCE WITH THE PROVISIONS OF THE FEDERAL EMERGENCY MANAGEMENT AGENCY, WASHINGTON, D.C. SEE FEMA MAP NO. 24066 0025 A.

THE PROPERTY WOULD BE INUNDATED BY A FLOOD HAVING A ONE-PERCENT CHANCE OF OCCURRENCE IN ANY GIVEN YEAR. THEREFORE, ANY NEW CONSTRUCTION OR SUBSTANTIAL IMPROVEMENT ON THE PROPERTY IS SUBJECT TO FEDERAL, STATE AND LOCAL REGULATIONS.

FLOOD PLAIN LEGEND

A - 100 YR. FLOOD ZONE
B - 500 YR. FLOOD ZONE
C - AREA OF MINIMAL FLOODING

A DRAINAGE AND UTILITY RIGHT-OF-WAY AND EASEMENT SHALL BE PROVIDED IN AND OVER STRIPS OF LAND FIFTEEN (15) FEET IN WIDTH ALONG THOSE BOUNDARY LINES CONTIGUOUS TO ANY STREET OR ALLEY, AND TEN (10) FEET IN WIDTH OF EACH SIDE AND REAR LOT LINES.

BY ACCEPTANCE OF THE DEED TO THIS PROPERTY, EACH LOT OWNER OR THEIR SUCCESSORS OR ASSIGNS, HEREBY ACKNOWLEDGE THAT THEY ARE AWARE THAT THE PROPERTY BORDERS ON PROPERTY UNDER AGRICULTURAL USE AND THAT THE NORMAL FARMING OPERATIONS ON SUCH AGRICULTURAL LAND MAY CAUSE SOME INTERFERENCE WITH THE USE AND ENJOYMENT OF THE PROPERTY, SUCH AS ODOR, DUST, NOISE AND DRIFT OF HERBICIDES OR CHEMICALS. THE LOT OWNER ACCEPTS THE LIMITATIONS ON USE AND ENJOYMENT AFFECTING THE PROPERTY.

WETLANDS DELINEATION WAS A COMBINATION OF FIELD DELINEATION AND ALSO TAKEN FROM THE TALBOT COUNTY WETLANDS MAPS.

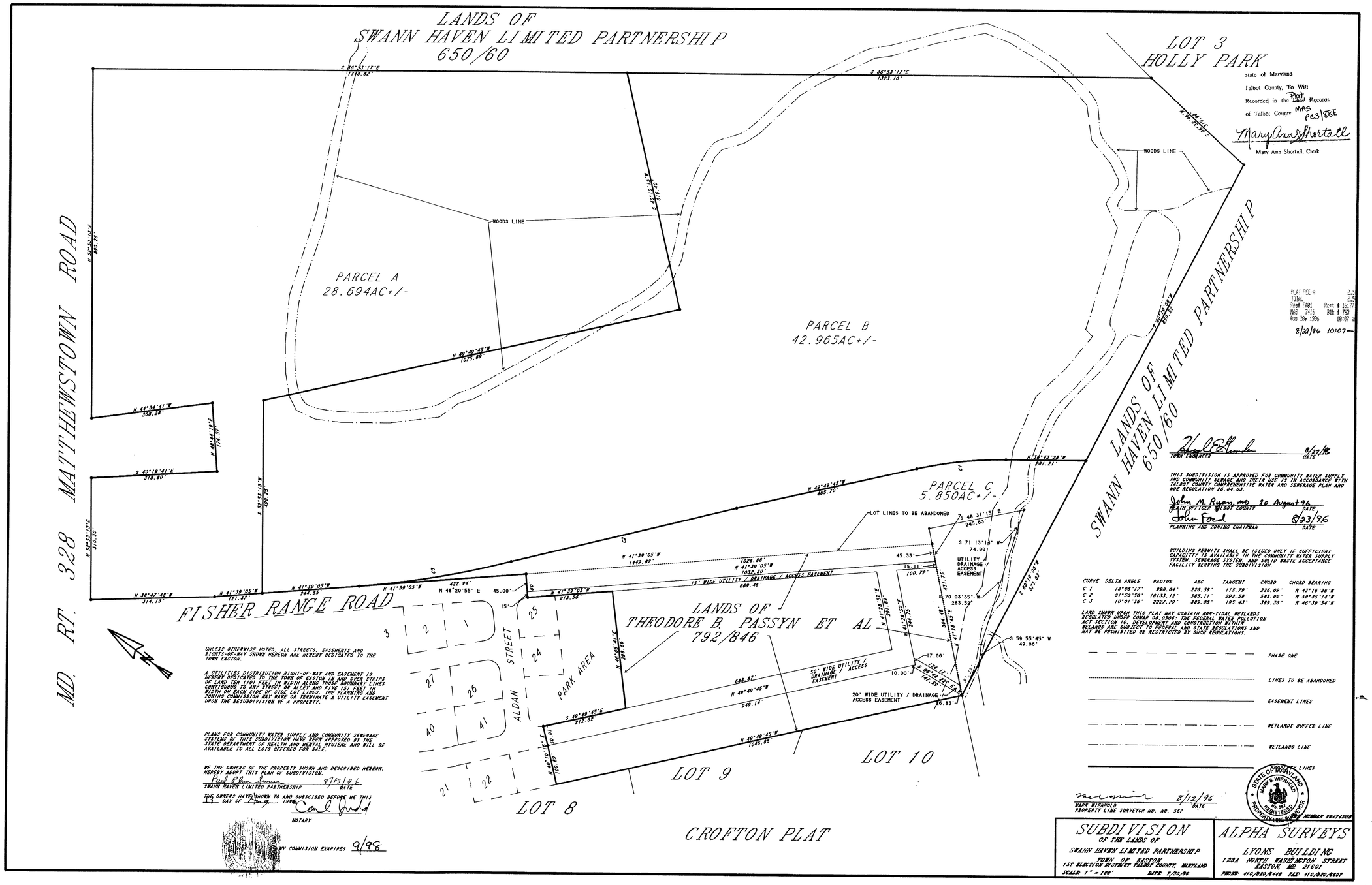
SUBDIVISION

OF THE LANDS OF
SWANN HAVEN LIMITED PARTNERSHIP
TAX MAP 35 BLOCK 7 PARCEL 13
1ST ELECTION DISTRICT TALBOT COUNTY, MARYLAND
SCALE 1"= 200' DATE 6/23/95 JOB # 95146

ALPHA SURVEYS
LYONS BUILDING
123A NORTH WASHINGTON STREET
EASTON, MD. 21601
PHONE: 410/820/6448 FAX: 410/820/6607

MSA SSU 1254-1522

TALBOT COUNTY CIRCUIT COURT (Plat Book) Plat Cabinet MAS 3, p. 88E, MSA_C2399_9766. Date available 1996/08/28. Printed 07/26/2023.



UNLESS OTHERWISE NOTED, ALL STREETS, EASEMENTS AND RIGHTS-OF-WAY SHOWN HEREON ARE HEREBY DEDICATED TO THE TOWN EASTON.

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 WAVE OR TERMINATE A UTILITY EASEMENT UPON THE RESUBDIVISION OF A PROPERTY.

PLANS FOR COMMUNITY WATER SUPPLY AND COMMUNITY SEWERAGE SYSTEMS OF THIS SUBDIVISION HAVE BEEN APPROVED BY THE STATE DEPARTMENT OF HEALTH AND MENTAL HYGIENE AND WILL BE AVAILABLE TO ALL LOTS OFFERED FOR SALE.

WE THE OWNERS OF THE PROPERTY SHOWN AND DESCRIBED HEREON, HEREBY ADOPT THIS PLAN OF SUBDIVISION.

SWANN HAVEN LIMITED PARTNERSHIP 8/13/96 DATE

THIS OWNERS HAVE SHOWN TO AND SUBSCIBED BEFORE ME THIS 13 DAY OF August 1996

NOTARY

MY COMMISION EXAPIRES 9/98

TALBOT COUNTY CIRCUIT COURT (Subdivision Plats, TA) Plat Cabinet MAS 4, p. 66G, MSA_S1254_2510. Date available 1998/10/23. Printed 07/27/2023.

THE LOT SHOWN HEREON IS ATTACHED FOR AGRICULTURAL PURPOSES ONLY AND IS NOT TO BE CONSIDERED AS A BUILDING LOT. ANY FUTURE FUTURE BUILDING DEVELOPMENT SHALL BE SUBMITTED FOR APPROVAL IN ACCORDANCE WITH THE HEALTH DEPARTMENT REGULATIONS IN EFFECT AT THAT TIME.

DECLARATION OF INTENT TO COMPLY WITH THE STATE FOREST CONSERVATION PROGRAM:

THIS DECLARATION OF INTENT TO COMPLY WITH THE STATE FOREST CONSERVATION PROGRAM SHALL BE BINDING UPON THE PARTIES, HEIRS, SUCCESSORS IN INTEREST, AND PERSONAL REPRESENTATIVES.

WITHIN THREE MONTHS OF THE OFFICIAL ANNEXATION OF THE 73.674 ACRES INTO THE TOWN OF EASTON THE OWNERS SHALL SUBMIT TO THE TOWN OF EASTON FOR THEIR APPROVAL, A FOREST CONSERVATION PLAN THAT ENCOMPASSES ALL OF THE 73.674 ACRES. APPROVAL OF THE FOREST CONSERVATION PLAN SHALL BE RECEIVED PRIOR TO APPROVAL OF ANY FURTHER SUBDIVISION, GRADING OR DEVELOPMENT ACTIVITIES ON THE 73.674 ACRE L.O.T. IF ANNEXATION DOES NOT OCCUR BY SEPTEMBER 1, 1999, THE OWNER SHALL SUBMIT TO THIS OFFICE, OR TO THE TALBOT COUNTY OFFICE OF PLANNING AND ZONING IF A LOCAL FOREST CONSERVATION PROGRAM IS IN EFFECT, THE REQUIRED FOREST CONSERVATION PLAN BY DECEMBER 1, 1999.

THE LAND SHOWN HEREON DOES NOT LIE WITHIN THE CHESAPEAKE BAY CRITICAL AREA.

ANY LAND CLEARING, GRADING, OR OTHER EARTH DISTURBANCE WITHIN THE UNINCORPORATED AREAS OF TALBOT COUNTY SHALL REQUIRE AN EROSION AND SEDIMENT CONTROL PLAN/GRADING PERMIT, APPROVED BY THE TALBOT SOIL CONSERVATION DISTRICT IN ACCORDANCE WITH THE TALBOT COUNTY SOIL EROSION AND SEDIMENT CONTROL ORDINANCE AND THE STATE OF MARYLAND EROSION AND SEDIMENT CONTROL LAW. COMAR 08.05.01 EXCEPTING LAND CLEARING AND DISTURBANCES LESS THAN 5,000 SQUARE FEET IN LAND AREA.

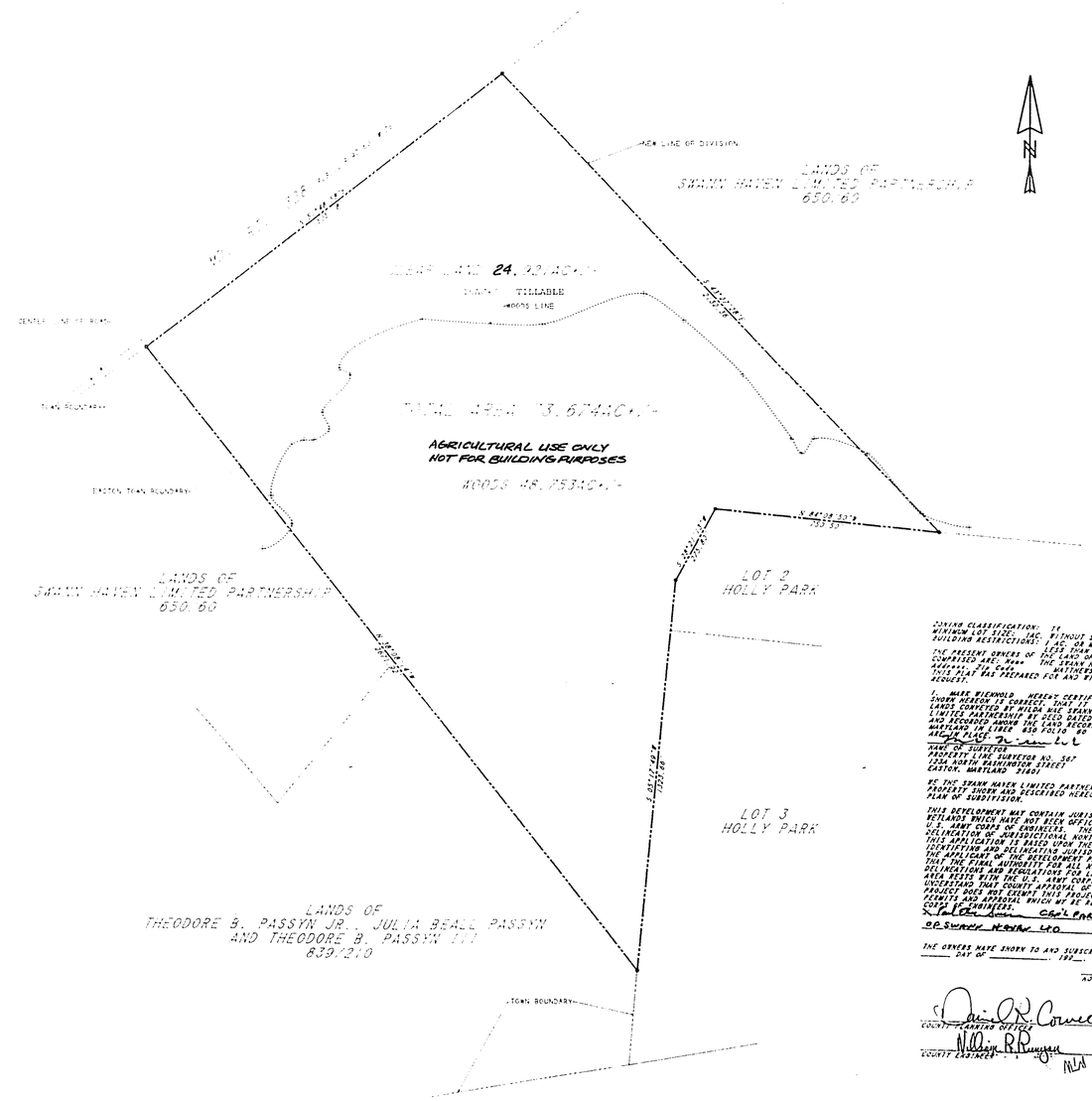
THE LAND SHOWN HEREON IS IN ZONES C LOCATED WITHIN THE COASTAL FLOOD PLAIN AS SHOWN ON THE FEDERAL INSURANCE RATE MAPS FOR TALBOT COUNTY, MARYLAND, INCORPORATED MANDATORY FLOOD INSURANCE [illegible] IN ACCORDANCE WITH THE PROVISIONS OF THE FEDERAL EMERGENCY MANAGEMENT AGENCY, WASHINGTON, D.C. SEE FIRM MAP NO. 240053 0025 A.

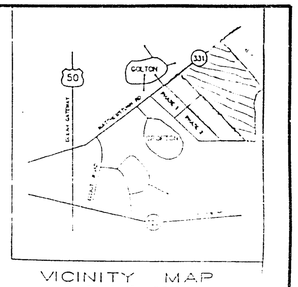
FLOOD PLAIN LEGEND

A - 100 YR. FLOOD ZONE
B - 500 YR. FLOOD ZONE
C - AREA OF MINIMAL FLOODING

A DRAINAGE AND UTILITY RIGHT-OF-WAY AND EASEMENT SHALL BE PROVIDED AND OTHER STRIPS OF LAND FIFTEEN (15) FEET IN WIDTH ALONG THE BOUNDARY LINE CONTIGUOUS TO ANY STREET OR ALLEY, AND TEN (10) FEET IN WIDTH OF EACH SIDE AND REAR LOT LINES.

BY ACCEPTANCE OF THE DEED TO THIS PROPERTY, EACH LOT OWNER OR THEIR SUCCESSORS OR ASSIGNS, HEREBY ACKNOWLEDGE THAT THEY ARE AWARE THAT THE PROPERTY ADJACENT OR PROPERTIES NEARBY AGRICULTURAL USE AND THAT THE NORMAL FARMING OPERATIONS ON SUCH AGRICULTURAL LAND MAY CAUSE SOME INTERFERENCE WITH THE USE AND ENJOYMENT OF THE PROPERTY, SUCH AS NOISE, DUST, ODOR AND MAY INVOLVE RESTRICTED USE OF CHEMICALS. THE LOT OWNER ACCEPTS THE LIMITATIONS ON USE AND ENJOYMENT AFFECTING THE PROPERTY.





Note of Merger
Talbot County, To Wit
Recorded in the Plat Records
of Talbot County PC4-66G

PLAT-SUBDIVIS 2.00
TOTAL 2.00
Rec# 1482 Port # 3056
REG 8123 Blk # 1450
Oct 23, 1998 03:20 PM
OCT-23,1998 3:20 PM

ZONING CLASSIFICATION: TA
MINIMUM LOT SIZE: AC. WITHOUT SEWER 10,000SQFT. WITH SEWER
BUILDING RESTRICTIONS: 1.45 AC MORE. FRONT 35' REAR 35' SIDE 15'

THE PRESENT OWNERS OF THE LAND SHOWN HEREON ARE: 73.674 AC. MORE OR LESS
CONVEYED ARE: None THE SWANN HAVEN LIMITED PARTNERSHIP
ADDRESS: P.O. Box 1 BETHESDA RD. EASTON, MD 21601
THIS PLAT WAS PREPARED FOR AND WILL BE RECORDED AT THEIR REQUEST.

I, MARK WIEHNOLD HEREBY CERTIFY THAT THE FINAL PLAT SHOWN HEREON IS CORRECT. THAT IT IS A SUBDIVISION OF THE LANDS CONVEYED BY WILDA MAE SWANN TO THE SWANN HAVEN LIMITED PARTNERSHIP BY DEED DATED APRIL 28, 1988 AND RECORDED AMONG THE LAND RECORDS OF TALBOT COUNTY, MARYLAND IN LIBER MSB FOLIO 98 AND THAT ALL MONUMENTS ARE IN PLACE.

MARK WIEHNOLD 10/14/98
NAME OF SURVEYOR DATE
PROPERTY LINE SURVEYOR NO. 567
1234 NORTH WASHINGTON STREET
EASTON, MARYLAND 21601

WE THE SWANN HAVEN LIMITED PARTNERSHIP, OWNERS OF THE PROPERTY SHOWN AND DESCRIBED HEREON, HEREBY ADOPT THIS PLAN OF SUBDIVISION.

THIS DEVELOPMENT MAY CONTAIN JURISDICTIONAL NONTIDAL WETLANDS WHICH HAVE NOT BEEN OFFICIALLY DELINEATED BY THE U.S. ARMY CORPS OF ENGINEERS. THE IDENTIFICATION AND/OR DELINEATION OF JURISDICTIONAL NONTIDAL WETLANDS SHOWN ON THIS APPLICATION IS BASED UPON THE FEDERAL MANUAL FOR IDENTIFYING AND DELINEATING JURISDICTIONAL WETLANDS. AS THE APPLICANT OF THE DEVELOPMENT PROJECT, WE UNDERSTAND THAT THE FINAL AUTHORITY FOR ALL NONTIDAL WETLAND DELINEATIONS AND DELINEATIONS FOR LANDS IN THE CRITICAL AREA RESTS WITH THE U.S. ARMY CORPS OF ENGINEERS. WE ALSO UNDERSTAND THAT COUNTY APPROVAL OF THIS DEVELOPMENT PROJECT DOES NOT ASSURE THIS PROJECT FROM OBTAINING PERMITS AND APPROVAL WHICH MAY BE REQUIRED BY THE U.S. ARMY CORPS OF ENGINEERS.

Carl Park 10-13-98
OWNER SWANN HAVEN LTD DATE
10-13-98
DATE

THE OWNERS HAVE SHOWN TO AND SUBSCRIBED BEFORE ME THIS
____ DAY OF _____, 199__.

NOTARY

COUNTY PLANNING OFFICE 10/23/98
DATE
COUNTY ENGINEER 10/23/98
DATE

STATE OF MARYLAND
MARK WIEHNOLD
No. 567
PROPERTY LINE SURVEYOR

NOTE:
BUILDING RESTRICTION LINES SHOWN HEREON ARE FOR AGRICULTURAL ACCESSORY BUILDINGS ONLY.

SUBDIVISION
OF THE LANDS OF
SWANN HAVEN LIMITED PARTNERSHIP
TAX MAP 26 BLOCK 20 PARCEL 45
1ST ELECTION DISTRICT TALBOT COUNTY, MARYLAND
SCALE 1"=200' JOB NUMBER 98571 DATED 9-24-98

ALPHA SURVEYS
L. YOUNG HILL, JR.
1234 NORTH WASHINGTON STREET
EASTON, MD. 21601
PROFESSIONAL LAND SURVEYORS

MSA SSU 1254-2510

MAS 83/164

PLAT FEE-A

STATE OF MARYLAND
Talbot County, TO WIT:
Recorded in the Land Records of Talbot County
Mary Ann Shortell
Mary Ann Shortell, Clerk
Circuit Court for Talbot County

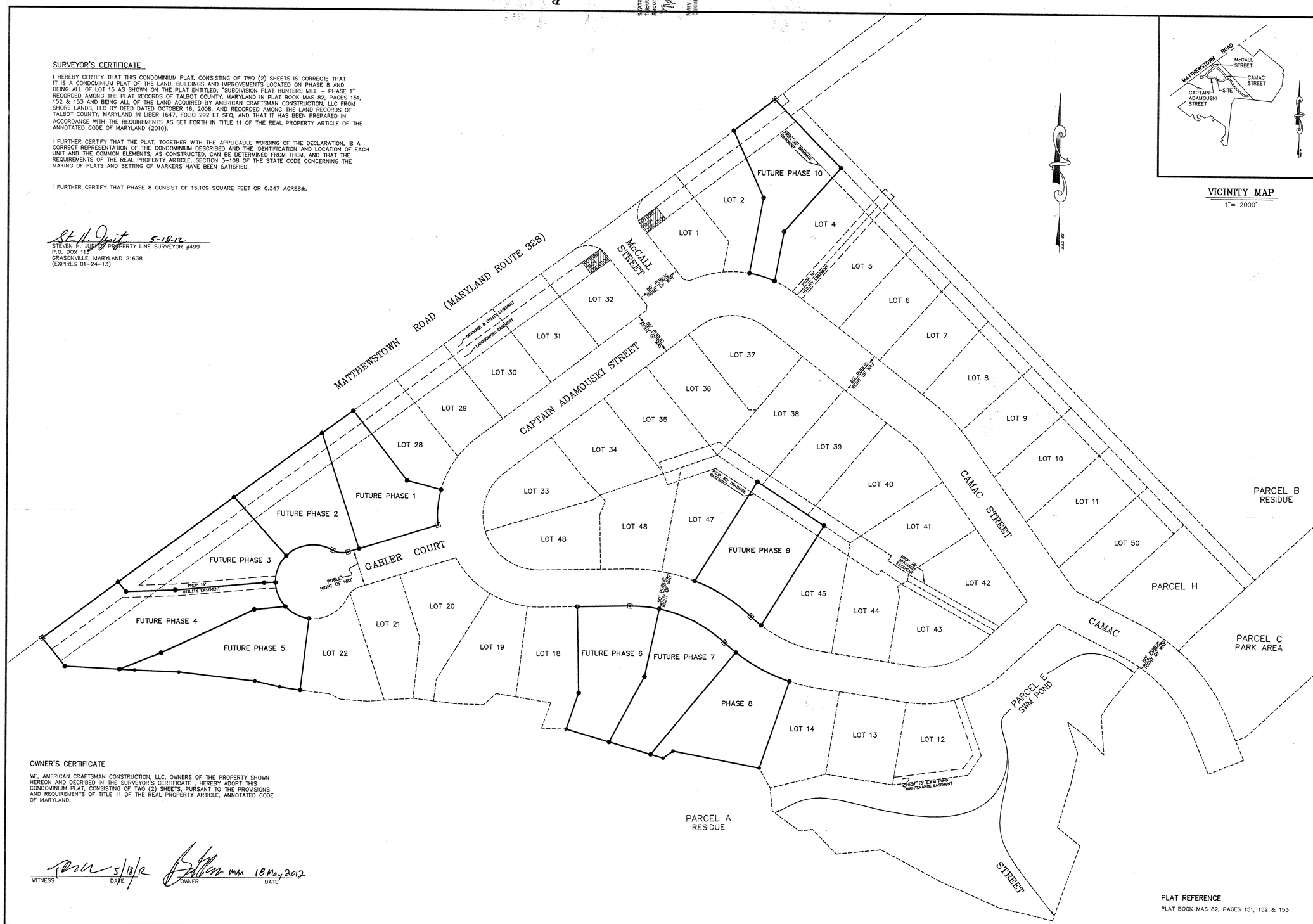
SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT THIS CONDOMINIUM PLAT, CONSISTING OF TWO (2) SHEETS IS CORRECT; THAT IT IS A CONDOMINIUM PLAT OF THE LAND, BUILDINGS AND IMPROVEMENTS LOCATED ON PHASE 8 AND BEING ALL OF LOT 15 AS SHOWN ON THE PLAT ENTITLED, "SUBDIVISION PLAT HUNTERS MILL – PHASE 1" RECORDED AMONG THE PLAT RECORDS OF TALBOT COUNTY, MARYLAND IN PLAT BOOK MAS 82, PAGES 151, 152 & 153 AND BEING ALL OF THE LAND ACQUIRED BY AMERICAN CRAFTSMAN CONSTRUCTION, LLC FROM SHORE LANDS, LLC BY DEED DATED OCTOBER 16, 2008, AND RECORDED AMONG THE LAND RECORDS OF TALBOT COUNTY, MARYLAND IN LIBER 1647, FOLIO 292 ET SEQ, AND THAT IT HAS BEEN PREPARED IN ACCORDANCE WITH THE REQUIREMENTS AS SET FORTH IN TITLE 11 OF THE REAL PROPERTY ARTICLE OF THE ANNOTATED CODE OF MARYLAND (2010).

I FURTHER CERTIFY THAT THE PLAT, TOGETHER WITH THE APPLICABLE WORDING OF THE DECLARATION, IS A CORRECT REPRESENTATION OF THE CONDOMINIUM DESCRIBED AND THE IDENTIFICATION AND LOCATION OF EACH UNIT AND THE COMMON ELEMENTS, AS CONSTRUCTED, CAN BE DETERMINED FROM THEM, AND THAT THE REQUIREMENTS OF THE REAL PROPERTY ARTICLE, SECTION 3–108 OF THE STATE CODE CONCERNING THE MAKING OF PLATS AND SETTING OF MARKERS HAVE BEEN SATISFIED.

I FURTHER CERTIFY THAT PHASE 8 CONSIST OF 15,109 SQUARE FEET OR 0.347 ACRES±.

5-18-12
STEVEN H. JUPITZ PROPERTY LINE SURVEYOR #499
P.O. BOX 113
GRASONVILLE, MARYLAND 21638
(EXPIRES 01–24–13)



VICINITY MAP
1"= 2000'

OWNER'S CERTIFICATE

WE, AMERICAN CRAFTSMAN CONSTRUCTION, LLC, OWNERS OF THE PROPERTY SHOWN HEREON AND DECRIBED IN THE SURVEYOR'S CERTIFICATE , HEREBY ADOPT THIS CONDOMINIUM PLAT, CONSISTING OF TWO (2) SHEETS, PURSANT TO THE PROVISIONS AND REQUIREMENTS OF TITLE 11 OF THE REAL PROPERTY ARTICLE, ANNOTATED CODE OF MARYLAND.

5/18/12 — WITNESS — DATE
MAN 18 May 2012 — OWNER — DATE

PLAT REFERENCE
PLAT BOOK MAS 82, PAGES 151, 152 & 153

DATE
DATE
DATE
DATE
STATE OF MARYLAND — STEVEN HERMAN JUPITZ — No. 499 — PROPERTY LINE SURVEYOR
5-18-12
DATE

STEVEN H. JUPITZ, INC.
P.O.BOX 113
GRASONVILLE, MARYLAND
(410) 490–0210

SCALE	1"= 60'
DRAWN BY	S.H.J.
APPROVED	
DATE	MAR. 2012
JOB No.	09–017
FOLDER REF.	09–017
REVISION	
DATE	
REVISED	3/27/12
REVISE COMMENTS	

CONDOMINIUM PHASING PLAT

HUNTERS MILL CONDOMINIUM

TOWN OF EASTON
TALBOT COUNTY, MARYLAND

TAX MAP #26 GRID #20 P/O PARCEL 45 & 186

SHEET No. 1of 2

FILE No. 09–017

MSA CM 2399/4281-1
P193632

TALBOT COUNTY CIRCUIT COURT (Plat Book) Plat Book MAS 83, pp. 164-165, MSA_C2399_14281. Date available 2012/05/22. Printed 08/26/2019.
Maryland State Archives

MAS 83 8/112

STATE OF MARYLAND
Talbot County, TO WIT:
Recorded in the Land Records of Talbot County
Mary Ann Shortall, Clerk
Circuit Court for Talbot County

PLAT - SUBDIVISION
TOTAL
RECORDING FEE
SURCHARGE
TOTAL
Rec # 5704
Rec # 1772
Nov 20, 2012 03:41 PM

DENOTES THE LIMITED COMMON ELEMENTS FOR SHARED USE BY THE OWNERS OF UNIT 15A & UNIT 15B.
546 SQ.FT. (0.012 AC±)

DENOTES UNIT 15A
7,301 SQ.FT. (0.168 AC±)

DENOTES UNIT 15B
7,262 SQ.FT. (0.167 AC±)

GENERAL COMMON ELEMENTS:

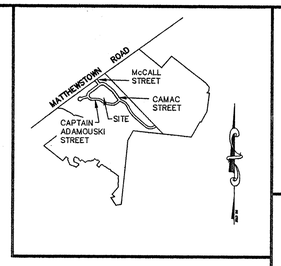
THE "GENERAL COMMON ELEMENTS" MEANS EVERYTHING BUT THE UNITS AND LIMITED COMMON ELEMENTS AS SHOWN ON THE CONDOMINIUM PLAT AND DESCRIBED IN THE DECLARATION FOR HUNTERS MILL CONDOMINIUM.

LIMITED COMMON ELEMENTS:

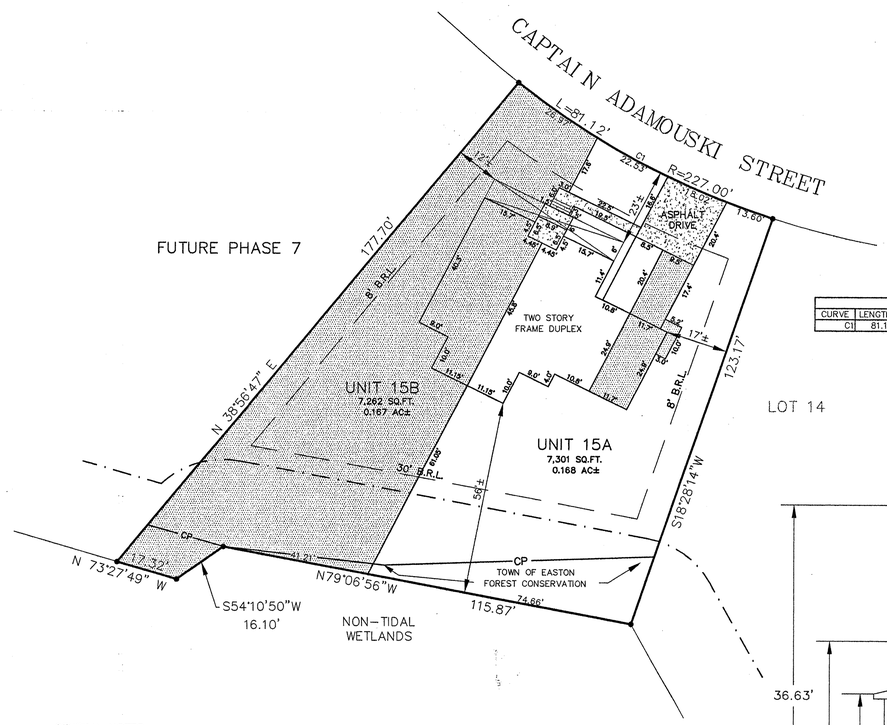
THE "LIMITED COMMON ELEMENTS" MEANS THOSE COMMON ELEMENTS WHICH ARE IDENTIFIED IN ARTICLE V OF THE HUNTERS MILL CONDOMIUM DECLARATION OR THE CONDOMIUM PLAT, AS RESERVED FOR THE EXCLUSIVE USE OF ONE OR MORE, BUT LESS THAN ALL, OF THE UNIT OWNERS. THE LIMITED COMMON ELEMENTS INCLUDE THE SHARED PORTION OF THE DRIVEWAY AS DESIGNATED ON THIS CONDOMINIUM PLAT, LEAD WALK, SHARED FOUNDATION WALLS AND SHARED PORCHES AS DESIGNATED ON THIS CONDOMINIUM PLAT.

ADDRESS NUMBERS, PHASE 8, UNIT 15A & UNIT 15B

UNIT 15A – 29809 CAPTAIN ADAMOUSKI STREET, EASTON, MARYLAND
UNIT 15B – 29807 CAPTAIN ADAMOUSKI STREET, EASTON, MARYLAND



VICINITY MAP
1"= 2000'



CURVE TABLE				
CURVE	LENGTH	RADIUS	CHORD	CHORD LENGTH
C1	81.12	227.00	S61°16'45"E	80.69

SITE TABULATION

1. EXISTING ZONING – R-10
2. TOTAL NUMBER OF UNITS – 2 IN 1 BUILDING
3. TOTAL NUMBER OF PHASES – 10
4. PARKING REQUIRED PER UNIT – 2 UNITSx2=4 SPACES
   PARKING PROVIDED – 4 SPACES.

ZONING REQUIREMENTS AND SETBACKS

CURRENT ZONING – R-10

SETBACKS FRONT – 15'
REAR – 30'
SIDE – 8'

CONSENT, SUBORDINATION AND JOINDER OF TRUSTEES AND BENEFICIARY

KEVIN W. MORAN AND PATRICK M. BILBROUGH AND THE TALBOT BANK OF EASTON, MARYLAND, WHO ARE, RESPECTIVELY, THE TRUSTEES AND BENEFICIARY UNDER THE CERTAIN INDEMNITY DEED OF TRUST DATED SEPTEMBER 22, 2008, AND RECORDED AMONG THE LAND RECORDS OF TALBOT COUNTY, MARYLAND IN LIBER 1644, FOLIO 025 ET SEQ., AS AMENDED AND MODIFIED BY AN INDEMNITY OF TRUST MODIFICATION AGREEMENT DATED OCTOBER 10, 2008, AND RECORDED AMONG THE AFORESAID LAND RECORDS IN LIBER 1647, FOLIO 124 ET SEQ., AS MODIFIED BY AN INDEMNITY OF TRUST MODIFICATION AGREEMENT DATED JANUARY 14, 2009, AND RECORDED AMONG THE AFORESAID LAND RECORDS IN LIBER 1660, FOLIO 437 ET SEQ., AS MODIFIED BY AN INDEMNITY DEED OF TRUST MODIFICATION AGREEMENT DATED JULY 21, 2009, AND RECORDED AMONG THE AFORESAID LAND RECORDS IN LIBER 1719, FOLIO 367 ET SEQ., AND AS FURTHER MODIFIED BY AN INDEMNITY DEED OF TRUST MODIFICATION AGREEMENT DATED SEPTEMBER 15, 2010, AND RECORDED AMONG THE AFORESAID LAND RECORDS IN LIBER 1828, FOLIO 201 ET SEQ., AND DEED OF APPOINTMENT OF TRUSTEES DATED DECEMBER 15, 2011, AND RECORDED AMONG THE AFORESAID LAND RECORDS IN LIBER 1943, FOLIO 328 ET SEQ., AS AMENDED AND MODIFIED FROM TIME TO TIME (COLLECTIVELY THE "DEED OF TRUST") HEREBY JOIN IN THE RECORDATION OF THE CONDOMINIUM PLATS ENTITLED, "HUNTERS MILL CONDOMINIUM" DATED MARCH, 2012, AND PREPARED BY STEVEN H. JUPITZ, INC., AND TO BE RECORDED IN THE AFORESAID LAND RECORDS, FOR THE EXPRESS PURPOSE OF CONSENTING TO THE PLAT AND SUBORDINATING ALL OF THEIR RESPECTIVE RIGHT, TITLE AND INTEREST UNDER SUCH DEED OF TRUST IN AND TO THE REAL PROPERTY DESCRIBED THEREIN TO THE PLAT TO THE OPERATION AND EFFECT THEREOF.

IN WITNESS THEREOF, THE TRUSTEES AND BENEFICIARY HAVE EXECUTED AND SEALED THIS CONSENT, SUBORDINATION AND JOINDER OF TRUSTEES AND BENEFICIARY OR CAUSED IT TO BE EXECUTED AND SEALED ON THEIR BEHALF BY THEIR DULY AUTHORIZED REPRESENTATIVES THIS 21st DAY OF May 2012.

TRUSTEES: _____(SEAL)
KEVIN W. MORAN

_____(SEAL)
PATRICK M. BILBROUGH

WITNESS:

BENEFICIARY:
THE TALBOT BANK OF EASTON, MARYLAND

By _____(SEAL)
Name: W. David Moran
Title: VP

WITNESS:

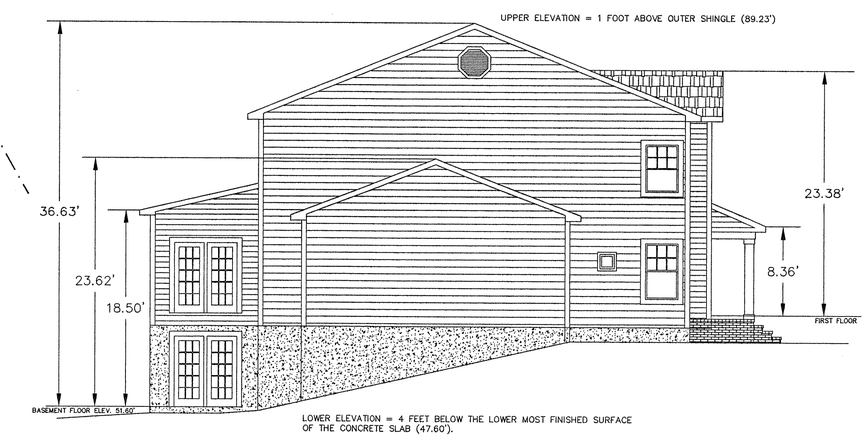
GENERAL NOTES:

1. THIS IS AN EXPANDABLE CONDOMINIUM. PHASE 8, WHICH CONSISTS OF ALL OF THE PROPERTY AND IMPROVEMENTS SHOWN HEREON, REPRESENTS THAT PORTION OF THE PROPERTY CURRENTLY BEING SUBJECTED TO THE HUNTERS MILL CONDOMINIUM REGIME IN ACCORDANCE WITH TITLE 11 OF THEREAL PROPERTY ARTICLE ANNOTATED CODE OF MARYLAND (2010). AREAS SHOWN HEREON AS "FUTURE PHASE" MAY BE, BUT ARE NOT REQUIRED TO BE SUBJECTED TO AND INCLUDED WITHIN THE CONDOMINIUM, AND THE CONDOMINIUM DEVELOPER RESERVES THE RIGHT TO ANNEX ANY "FUTURE PHASES" OR ADDITIONAL PROPERTY IN A MANNER OTHER THAN AS SHOWN HEREON, INCLUDING, BUT NOT LIMITED TO, ALTERING THE NUMBER, BOUNDARIES, DESIGNATIONS AND SEQUENCE OF ADDITIONAL PHASES, AND THE CONDOMINIUM DEVELOPER RESERVES THE RIGHT NOT TO ANNEX ANY ADDITIONAL PROPERTY WITHIN THE CONDOMINIUM REGIME.

2. PHASE 8 IS SUBJECT TO THAT CERTAIN HUNTERS MILL AMENDED AND RESTATED DECLARATION OF COVENANTS, CONDITIONS AND RESTRICTIONS DATED MARCH 25, 2008, AND RECORDED AMONG THE LAND RECORDS OF TALBOT COUNTY, MARYLAND IN LIBER 1611, FOLIO 223 ET SEQ. AS AMENDED FROM TIME TO TIME, AND THAT CERTAIN HUNTERS MILL CONDOMINIUM DECLARATION INTENDED TO BE RECORDED AMONG THE LAND RECORDS OF TALBOT COUNTY, MARYLAND CONTEMPORANEOUSLY WITH THE RECORDATION OF THIS CONDOMINIUM PLAT.

3. EACH UNIT SHALL INCLUDE EACH DWELLING, GARAGE, YARD, THE PORTION OF THE DRIVEWAY SERVING AN INDIVIDUAL UNIT, THE PORTION OF THE PORCH SERVING AN INDIVIDUAL UNIT AND LEADWALKS SERVING AN INDIVIDUAL UNIT. A MORE DETAILED DEFINITION OF THE UNIT IS CONTAINED IN ARTICLE I OF THE CONDOMINIUM DECLARATION.

4. THIS CONDOMINIUM PLAT IS SUBJECT TO ANY AND ALL EASEMENTS, RIGHTS-OF-WAY AND COVENANTS OF RECORD.



SIDE ELEVATION – 1"= 10'

DATE
DATE
DATE
DATE

STEVEN H. JUPITZ, INC.
P.O.BOX 113
GRASONVILLE, MARYLAND
(410) 490-0210

SCALE	1"= 20'
DRAWN BY	B.K.
APPROVED	
DATE	MAR. 2012
JOB No.	09-017
PROJECT REF.	09-017
DATE	REVISION
3/14/12	PER CLIENT
5/17/12	REVIEW COMMENTS

CONDOMINIUM PHASE 8, UNIT 15A & UNIT 15B

HUNTERS MILL CONDOMINIUM

TOWN OF EASTON
TALBOT COUNTY, MARYLAND

TAX MAP #26 GRID #20 P/O PARCEL 45 & 186

SHEET No. 2 of 2

FILE No. 09-017

MSA CSU 2399 14281-2

P193633

Maryland State Archives
TALBOT COUNTY CIRCUIT COURT (Plat Book) Plat Book MAS 83, pp. 164-165, MSA_C2399_14281. Date available 2012/05/22. Printed 08/26/2019.

STATE OF MARYLAND,
Talbot County, TO WIT:
Recorded in the Land Records of Talbot County
Mary Ann Shortall, Clerk
Circuit Court for Talbot County

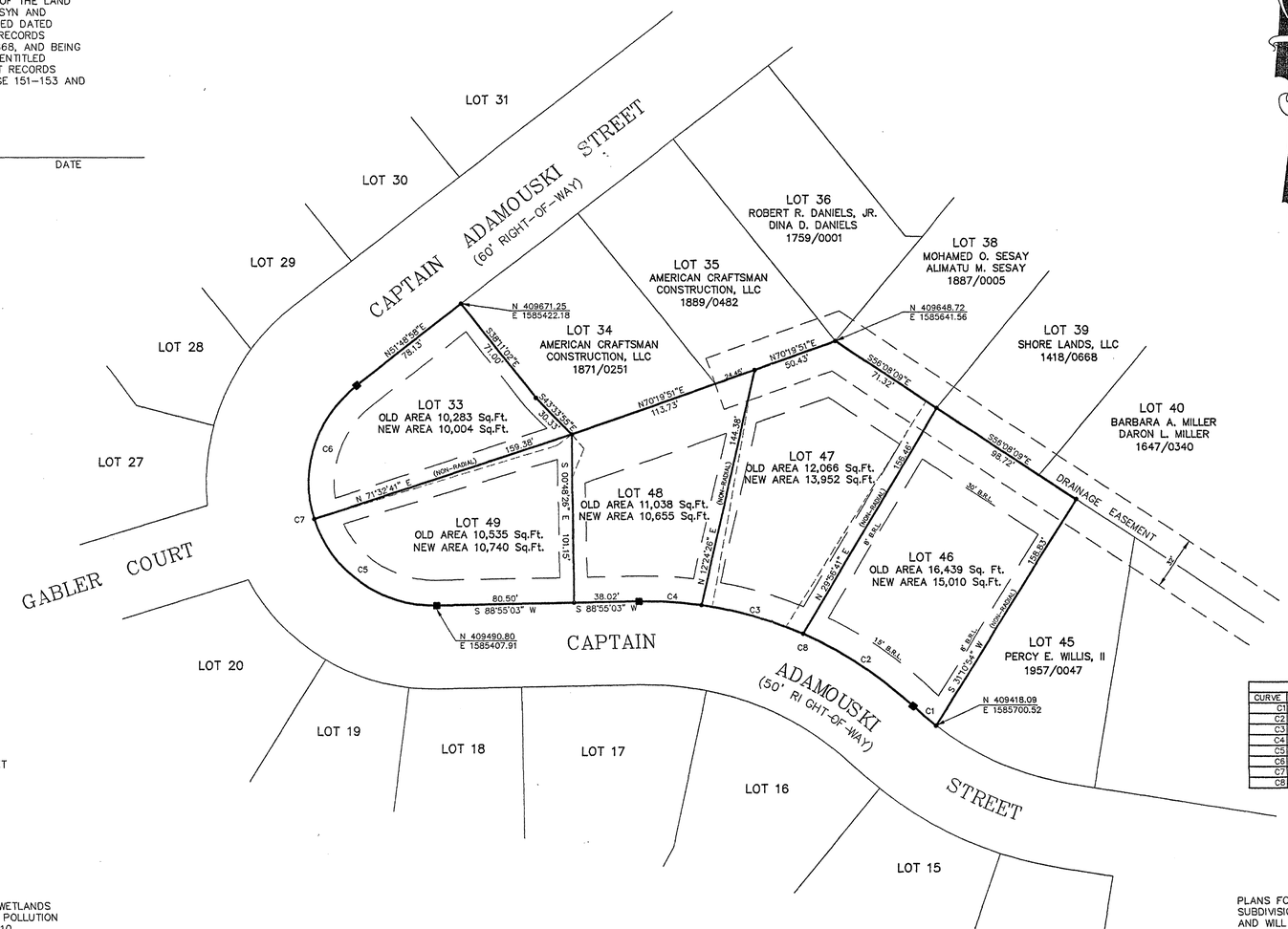
MAS 83/176

SURVEYORS CERTIFICATE

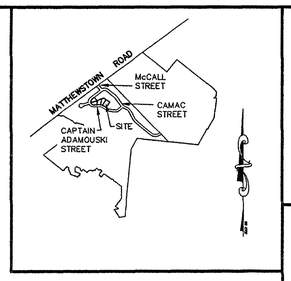
I, STEVEN H. JUPITZ HEREBY CERTIFY THAT THE FINAL PLAT SHOWN HEREON IS CORRECT, THAT IT IS A REVISION OF PART OF THE LAND CONVEYED BY THEODORE B. PASSYN, JULIA BEALL PASSYN AND THEODORE B. PASSYN, III TO SHORE LANDS, LLC BY DEED DATED FEBRUARY 8, 2006 AND RECORDED AMONG THE LAND RECORDS OF TALBOT COUNTY, MARYLAND IN LIBER 1418, FOLIO 668, AND BEING ALSO LOTS 33, 46, 47, 48 & 49 OF THE SUBDIVISION ENTITLED "HUNTERS MILL–PHASE 1", RECORDED AMONG THE PLAT RECORDS OF TALBOT COUNTY, MARYLAND IN PLAT BOOK 82, PAGE 151–153 AND THAT ALL MARKERS AND MONUMENTS HAVE BEEN SET.

5-21-12

STEVEN H. JUPITZ — DATE
PROPERTY LINE SURVEYOR #499
(EXPIRES 1–24–13)



CURVE TABLE						
CURVE	LENGTH	RADIUS	CHORD	CHORD LENGTH	TAN	DELTA
C1	17.89	177.00	N48°51'55"W	17.88	8.95	05°47'30"
C2	78.11	225.00	N52°54'53"W	77.72	39.45	19°53'26"
C3	62.30	225.00	N73°47'32"W	62.10	31.35	15°51'51"
C4	36.75	225.00	N86°24'12"W	36.71	18.42	09°21'30"
C5	95.53	74.00	N54°05'56"W	89.04	55.73	73°58'03"
C6	89.03	74.00	N17°21'02"E	83.75	50.79	68°55'52"
C7	184.56	74.00	N19°38'00"W	140.31	220.52	142°53'56"
C8	177.16	225.00	N68°31'34"W	172.62	93.46	45°06'48"



VICINITY MAP
1"= 2000'

NOTES:

OWNER:
SHORELANDS, LLC
127 N. WASHINGTON STREET
EASTON, MARYLAND 21601

PLAT REFERENCE: MAS 82/151

ZONING: R–10A

SETBACKS:
FRONT – 15'
SIDES – 8'
REAR – 30'

LEGEND

- - - - - - - DENOTES LINES TO BE ABANDONED
——•—— DENOTES IRON ROD & CAP TO BE SET
——■—— DENOTED CONCRETE MONUMENT TO BE SET

LAND SHOWN UPON THIS PLAT MAY CONTAIN NON–TIDAL WETLANDS REGULATED UNDER COMAR 08.0504: 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.

REVISED LOTS 33, 46, 47, 48 & 49 AS SHOWN, 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 THE ENVIRONMENT REGULATION 26.04.03.

Kathleen Foster / GBM — 7/17/12
TALBOT COUNTY HEALTH DEPARTMENT APPROVING AUTHORITY — DATE

Lynn B. Thomas Jr. — 7/25/12
TOWN ~~ENGINEER~~ Planner — DATE

John A. Atwood — 7/19/12
PLANNING AND ZONING CHAIRMAN — DATE

BUILDING PERMITS SHALL BE ISSUED ONLY IF SUFFICIENT CAPACITY IS AVAILABLE IN THE COMMUNITY WATER SUPPLY SYSTEM, SEWERAGE SYSTEM AND SOLID WASTE ACCEPTANCE FACILITY SERVING THE SUBDIVISION.

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.

PLANS FOR COMMUNITY WATER AND COMMUNITY SEWERAGE SYSTEMS OF THIS SUBDIVISION HAVE BEEN REVIEWED AND APPROVED BY THE TOWN OF EASTON AND WILL BE AVAILABLE TO ALL LOTS OFFERED FOR SALE.

WE, SHORELANDS, LLC, THE OWNERS OF THE PROPERTY SHOWN AND DESCRIBED HEREON, HEREBY ADOPT THIS PLAN OF SUBDIVISION.

5/22/12
THEODORE B. PASSYN, III — DATE

THE OWNER HAS SHOWN TO AND SUBSCRIBED BEFORE ME THIS 22 DAY OF May 2012.

Sharon K. Lewis
NOTARY

SHARON K. LEWIS
NOTARY PUBLIC
STATE OF MARYLAND
MY COMMISSION EXPIRES 01/03/2014

MY COMMISSION EXPIRES 01/03/14

DATE — DATE — DATE — DATE

STEVEN H. JUPITZ, INC.
P.O.BOX 113
GRASONVILLE, MARYLAND
(410) 490–0210

SCALE 1"= 40'	DATE FEB. 2012
DRAWN BY S.H.J.	JOB No. 09–017
APPROVED	FOLDER REF. 09–017
REVISION	DATE
PER REVIEW COMMENTS	3–29–12
PER REVIEW COMMENTS	5–21–12

PLAT SHOWING A REVISION OF LOT LINES
LOTS 33, 46, 47, 48 & 49
PHASE I
HUNTERS MILL
FIRST ELECTION DISTRICT
TALBOT COUNTY, MARYLAND
TAX MAP #26 GRID #20 PARCEL 45 & 186

SHEET No. 1 of 1

FILE No. 12–017

MSA SSU 1254 4601
P194513

Maryland State Archives
TALBOT COUNTY CIRCUIT COURT Subdivision Plats, TA| Plat Book MAS 83, p. 176, MSA_S1254_4601. Date available 2012/07/27. Printed 08/26/2019.

Real Property Data Search ( )

Search Result for TALBOT COUNTY

View Map **View GroundRent Redemption** **View GroundRent Registration**

Special Tax Recapture: None

Account Identifier: **District -** 01 **Account Number -** 084062

Owner Information

Owner Name:	ASPIRE OUTDOORS LLC	**Use:**	RESIDENTIAL
		Principal Residence:	NO
Mailing Address:	29760 STANDISH ST EASTON MD 21601-0000	**Deed Reference:**	/02644/ 00114

Location & Structure Information

Premises Address:	STANDISH ST EASTON 21601-0000	**Legal Description:**	15.47 AC MATTHEWSTOWN ROAD EASTON, PC 3/87F

Map:	Grid:	Parcel:	Neighborhood:	Subdivision:	Section:	Block:	Lot:	Assessment Year:	Plat No:
0035	0001	0112	1230008.21	0000				2022	Plat Ref:

Town: EASTON

Primary Structure Built	Above Grade Living Area	Finished Basement Area	Property Land Area	County Use
			15.4700 AC	000000

Stories	Basement	Type	Exterior	Quality	Full/Half Bath	Garage	Last Notice of Major Improvements
			/				

Value Information

	Base Value	Value	Phase-in Assessments	
		As of 01/01/2022	As of 07/01/2022	As of 07/01/2023
Land:	309,400	309,400		
Improvements	0	0		
Total:	309,400	309,400	309,400	309,400
Preferential Land:	0	0		

Transfer Information

Seller: SHORE UNITED BANK	**Date:** 09/25/2019	**Price:** $300,000
Type: NON-ARMS LENGTH OTHER	**Deed1:** /02644/ 00114	**Deed2:**
Seller: SHORE LANDS LLC	**Date:** 12/15/2016	**Price:** $599,000
Type: NON-ARMS LENGTH OTHER	**Deed1:** /02410/ 00094	**Deed2:**
Seller: PASSYN, THEODORE B, JULIA BEALL	**Date:** 02/09/2006	**Price:** $0
Type: NON-ARMS LENGTH OTHER	**Deed1:** /01418/ 00668	**Deed2:**

Exemption Information

Partial Exempt Assessments:	**Class**	07/01/2022	07/01/2023
County:	000	0.00	
State:	000	0.00	
Municipal:	000	0.00|0.00	0.00|0.00

Special Tax Recapture: None

Homestead Application Information

Homestead Application Status: No Application

Homeowners' Tax Credit Application Information

Homeowners' Tax Credit Application Status: No Application**Date:**

Real Property Data Search ( )

Search Result for TALBOT COUNTY

View Map **View GroundRent Redemption** **View GroundRent Registration**

Special Tax Recapture: None

Account Identifier: **District -** 01 **Account Number -** 088793

Owner Information

Owner Name:	ASPIRE OUTDOORS LLC	**Use:**	RESIDENTIAL
		Principal Residence:	NO
Mailing Address:	29760 STANDISH ST EASTON MD 21601-	**Deed Reference:**	/02644/ 00114

Location & Structure Information

Premises Address:	CAMAC ST EASTON 21601-0000	**Legal Description:**	50.225 AC S/S MATTHEWSTOWN ROAD E/EASTON

Map:	Grid:	Parcel:	Neighborhood:	Subdivision:	Section:	Block:	Lot:	Assessment Year:	Plat No:
0026	0020	0186	1030001.21	0000				2022	**Plat Ref:** 82/ 151

Town: EASTON

Primary Structure Built	Above Grade Living Area	Finished Basement Area	Property Land Area	County Use
			50.2250 AC	000000

Stories	Basement	Type	Exterior	Quality	Full/Half Bath	Garage	Last Notice of Major Improvements
			/				

Value Information

	Base Value	Value	Phase-in Assessments	
		As of 01/01/2022	As of 07/01/2022	As of 07/01/2023
Land:	703,100	703,100		
Improvements	0	0		
Total:	703,100	703,100	703,100	703,100
Preferential Land:	0	0		

Transfer Information

Seller: SHORE UNITED BANK	**Date:** 09/25/2019	**Price:** $300,000
Type: NON-ARMS LENGTH OTHER	**Deed1:** /02644/ 00114	**Deed2:**
Seller: SHORE LANDS LLC	**Date:** 12/15/2016	**Price:** $599,000
Type: NON-ARMS LENGTH OTHER	**Deed1:** /02410/ 00094	**Deed2:**
Seller: PASSYN, THEODORE B, JULIA BEALL	**Date:** 02/09/2006	**Price:** $0
Type: NON-ARMS LENGTH OTHER	**Deed1:** /01418/ 00668	**Deed2:**

Exemption Information

Partial Exempt Assessments:	**Class**	07/01/2022	07/01/2023
County:	000	0.00	
State:	000	0.00	
Municipal:	000	0.00|0.00	0.00|0.00

Special Tax Recapture: None

Homestead Application Information

Homestead Application Status: No Application

Homeowners' Tax Credit Application Information

Homeowners' Tax Credit Application Status: No Application**Date:**

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

RECEIVED
JUL 03 2023
TOWN OF EASTON

Easton Staff Development Review

Property Information

Address	Camac St, Easton, MD 21601						
Tax Map	0026	Grid	0020	Parcel	0186	Lot	
Deed Refernce:	Liber	02644	Folio	00114			
Plat Reference:	Liber		Folio				
Base Zoning District		R10A	Historic District	Y ☐ N ☒	Planning Redevelopment	Y ☒ N ☐	

Purpose of Application / Description of Work:

Aspire Outdoors, LLC is looking to develop the property at the South end of Camac Street into 6 apartment buildings with a community pool and pool house. Water and sewer will be extended from the existing mains on Camac St. Stormwater management will be handled via submerged gravel wetlands to the NE and S of the site.

Owner

Name	Aspire Outdoors, LLC		
Mailing Address	29760 Standish St, Easton, MD 21601		
Telephone No.	410-310-6241	Email	ddaly@baamboys.com

Applicant / Agent

Name	Same as above		
Mailing Address			
Telephone No.		Email	

Surveyor / Engineer

Name	Robert Rauch	License No.	11024	Expiration Date	7/24/2024
Mailing Address	106 N. Harrison St, Easton, MD, 21601				
Telephone No.	410-770-9081	Email	robert@raucheng.com; 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 12/07/2022

Printed Name of Applicant or Agent Robert Rauch

For Office Use Only

Easton Staff Development Review Meeting Required Y ☒ N ☐

Easton Staff Development Review Meeting Date 07/26/2023

ESDR: 2022-20

Completeness Check Date

Revisions/Resubmissions Required Y ☐ N ☐

Resubmission Date

Documents Received Y ☐ N ☐

Staff Determination

Planning Commission Requir Y ☐ N ☐

BOZA Required Y ☐ N ☐

Historic District Commission Required Y ☐ N ☐

Resubmission for ESDR Required Y ☐ N ☐

Staff Signature

Date

Revised 02-2019

APPENDIX B-1

SKETCH PLAN
SUBMITTAL CHECKLIST

NOTE: **THIS CHECKLIST REPRESENTS THE MINIMUM INFORMATION TO BE SUBMITTED ON A SITE PLAN. ADDITIONAL INFORMATION MAY BE REQUIRED FOR UNIQUE SITUATIONS.**

COMPLETE THE CHECKLIST AND SUBMIT IT WITH THE PLAN. IF AN ITEM IS NOT APPLICABLE, ENTER "N/A".

1. Location map,	X
2. Boundary,	X
3. Topography,	X
4. General proposed land uses drawn to scale, and	X
5. The Forest Stand Delineation as detailed in the Town of Easton's Forest Conservation Ordinance.	X
6. The location of any easements, rights-of-way or any other encumbrances which pertain to the property subject to the site plan review.	X
7. Conditions of concern, for example, water courses, wetlands, floodplains, or other environmentally sensitive features.	X
8. Location of refuse collection, exterior lighting, fencing, and all pedestrian walkways and sidewalks.	X
9. General location and description (r.e. intended function, proposed species, etc.) of proposed landscaping.	X
10. Location of parking including layout and landscaping.	X
11. Conceptual building elevations or renderings illustrating the character, scale, and materials of all proposed structures. Such elevations or renderings shall be sealed by a licensed professional as described above.	X
12. A statement describing the extent to which the application complies with the Recommended Design Principles for Easton set forth on pages 29-31 of the Comprehensive Plan	X

This checklist completed by Brian Fitzgerald Date 12/07/2022

APPENDIX B-2

SKETCH STORMWATER MANAGEMENT PLAN
SUBMITTAL CHECKLIST

EFFECTIVE MAY 4, 2010

NOTE: THE FOLLOWING CHECKLIST REPRESENTS THE MINIMUM INFORMATION TO BE SUBMITTED FOR SUPPORT OF A STORMWATER MANAGEMENT CONCEPT PLAN, SITE DEVELOPMENT PLAN, AND/OR FINAL DESIGN PLAN. THE TOWN MAY REQUEST ADDITIONAL INFORMATION AS DEEMED NECESSARY.

COMPLETE THE APPROPRIATE CHECKLIST AND SUBMIT IT WITH THE PLANS, APPLICATION FORM, NARRATIVE OR REPORT, AND FEE. ITEMS IN BOLD ARE REQUIRED FOR CONCEPT AND/OR SITE DEVELOPMENT PHASE REVIEW.

I. Sketch Plan Submittal

A. Site and Resource Map

Natural Resources Identified on Plan, including, but not limited to:
Please use these responses for the following:
(Provided = P; Not Provided = NP; Not Applicable = N/A)

Tidal and Non-Tidal Wetland Boundaries	P
Wetland Buffers	P
Floodplain Boundaries and Elevations	N/A
Streams and other Waterways	P
Stream Buffers	P
Forest Boundaries	P
Forest Buffers	N/A
Critical Areas	N/A
Steep Slopes (>25%)	N/A
Erodible Soils	N/A
Areas of High Recharge	N/A
Springs	N/A
Soil Types and Hydrologic Soil Groups	P
Bedrock and/or other Geologic Features	N/A
Vegetative Cover	P
Existing Drainage Areas and Flow Patterns	P
Existing Stormwater Outfalls	P
Site and Resource Map field verified by a properly licensed design professional.	P

Existing contours (1' max intervals) and utilities shown. P

Large tracts of contiguous open spaces, forested areas and other important resources protected by conservation easements. N/A

Opportunities for afforestation identified. P

Wetland, stream and forest buffers enhanced and/or

expanded. N/A

B. Site Fingerprinting and Development Layout

Locations of proposed impervious areas provided. P

Proposed contours (1' max intervals) and utilities shown. P

Preliminary locations of proposed Environmental Site Design (ESD) practices provided. P

Locations of stormwater outfalls and conveyance provided with offsite storm drains, culverts and grass channels with size and slope. P

Limit of disturbance and extent of clearing & grading. P

Site natural resources protected during construction. If site natural resources must be disturbed during construction, please include an explanation in the stormwater narrative. P

Better Site Design Techniques incorporated, including:

Sheetflow and overland flow provided wherever possible P
Building footprint and site layout designed to protect conservation areas P
Proposed streets, rights of way, and/or sidewalks with modifications to reduce impervious area P
Landscaped medians and/or cul-de-sacs P
Stormwater management features in medians or cul-de-sacs N/A
Private open road section with grass channels and/or biofilters N/A

Minimize numbers of parking spaces and sizes N/A
Narrow frontages to reduce road length N/A
Site graded to encourage runoff from impervious areas to pervious areas or other natural conveyance systems P

C. Stormwater Narrative

Title Page includes:

Job Name P
Owner/Developer P
Design Professional P
Date Prepared P
Seal and Signature (properly licensed Design Professional) P

Project is identified as new development or redevelopment. (Redevelopment projects have ≥40% total site imperviousness) P

Project and streets designed for 2-year and 10-year quantitative management.	P
Project is identified as being within the Tanyard Branch Watershed. (Projects within this watershed must manage proposed 10-year storm flows to the existing 2-year storm discharge rate.)	N/A
A narrative that supports the concept and describes how the design will achieve:	
Natural resource protection and enhancement	P
Maintenance of natural flow patterns	P
Reduction of impervious areas through better site design, alternative surfaces, and non-structural practices	P
Implementation of ESD planning techniques and practices to the Maximum Extent Practicable (MEP)	P
Preliminary ESD sizing calculations provided	P
Integration of erosion and sediment controls (ESC) into the stormwater strategy	P

D. Sketch Plan Meeting

Following the Sketch Plan submittal, a meeting will be scheduled between the Town of Easton Planning & Zoning, Town Engineer, the Talbot County Soil Conservation District (SCD) ESC reviewer, the owner/developer, the SWM and ESC designer(s), and any other reviewers deemed necessary by the Town of Easton and/or the Talbot County SCD. Official Minutes from the Sketch Plan Meeting must be submitted for review and acceptance by all parties. These minutes must accompany all future submittals.	OK

This checklist completed by Brian Fitzgerald Date 12/07/2022

TOWN OF EASTON

14 South Harrison Street
Easton, Maryland 21601

August 2, 2023

Dear Resident,

The Easton Planning Commission will hold a public meeting on **Thursday, August 17, 2023 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 Site Plan Application 2023-004 has been filed on behalf of Aspire Outdoors LLC to request Sketch Site Plan approval for a proposed six-building apartment complex with a total of 162 units to be developed on the property located on Camac Street, also known as Tax Map 0026, Grid 0020, Parcel 0186. The proposed project also requires Special Exception and Variance approvals from the Board of Zoning Appeals and the applicant is seeking a formal recommendation from the Planning Commission to the Board.

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 are also available for review 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 e-mail at ssmith@eastonMD.gov.

Samantha N. Smith

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

APG Media of Chesapeake, LLC **07/31/23**
29088 Airpark Drive
Easton, MD 21601

Phone: Fax:
http://www.chespub.com

Cust. AcctID:	Creation Date: **07/31/23**
	Ad Date: **08/02/23**
	Class: **10**
Name: **Joanne Drummer**	Ad ID:
Company: **TOWN OF EASTON (L)**	Ad Taker: **AHALL**
Address: **PO Box 520**	Sales Person: **503**
EASTON, MD 21601	Words: **435**
	Lines: **75**
	Agate Lines: **342**
Telephone: **(410) 822-2525**	Depth: **9.5**
Email:	Inserts: **2**
Description: **Planning Comm Meeting**	Blind Box:

Other Charges:	Total:
Discount:	
Surcharge:	Paid Amount:
Credits:	
Bill Depth:	Amount Due:

CREDIT CARD DETAILS

PT	CT	CN	Number	Exp.	Amnt.

Publication	Start	Stop	Inserts	Cost
The Star Democrat	08/02/23	08/02/23	1	

Ad Note:

Sign posted on August 2, 2023

Customer Note:

We Appreciate Your Business!
Thank You Joanne Drummer!

Planning Commission
MEETING AGENDA
Thursday, August 17, 2023 - 1:00 PM Council
Council Chambers, Easton Town Office
14 S Harrison Street

Please continue to check our website at:
https://eastonmd.gov/128/Agendas-Minutes
for agenda updates.

1. Call to Order

2. Approval of Minutes.

a. Approval of the Decision Summary from the July 20, 2023 meeting.

b. Approval of the Draft Decision Summary from the April 4, 2023 Poplar Hill Supplemental Growth Allocation joint public hearing.

3. Old Business

a. **Applicant:** Rise Up Dover Road LLC
File No.: 2023-870
Location: 625 Dover Road
Tax Map 103, Grid 0EA, Parcel 0990
Zoning District: R-7A
Nature of Request: Amendment to a previously approved Planned Unit Development (PUD) that would allow a shade structure to remain standing at 625 Dover Road on a seasonal basis without having to apply each year for a temporary use permit approval. The applicant is also requesting approval for the addition of a kitchen facility and walk-up cafe to the existing property at 625 Dover Road, also known as Tax Map 103, Parcel 0990.

b. **Applicant:** Aspire Outdoors, LLC
File No.: 2023-004
Location: Camac Street
Tax Map 026, Grid 020, Parcel 0186
Zoning District: R-10A
Nature of Request: Sketch Site Plan approval for a proposed six-building apartment complex with a total of 162 units to be developed on the property located on Camac Street, also known as Tax Map 0026, Grid 0020, Parcel 0186. The proposed project also requires Special Exception and Variance approvals from the Board of Zoning Appeals and the applicant is seeking a formal recommendation from the Planning Commission to the Board.

4. New Business

a. **Applicant:** Easton Utilities Commission
File No.: 2023-882
Location: 8670 Commerce Drive
Tax Map 101, Grid 002, Parcel 004, Lot 3
Zoning District: BC
Nature of Request: Sketch Site Plan approval for a new water treatment plant processing building.

b. **Applicant:** Lane Engineering
File No.: 2023-976
Location: 29311 Cecil Drive - Austin Medical Supplies
Tax Map 025, Grid 024, Parcel 0089, Lot 4
Zoning District: CL
Nature of Request: Sketch Site Plan approval for a proposed 2,334 sq ft. building addition for storage space with the interior fit-out for the sale and storage of medical supplies.

c. **Applicant:** Robert S. Collison, P.A.
File No.: 2023-963
Location: 9719 Ocean Gateway
Tax Map 0025, Grid 0006, Parcel 0113,
Current County Zoning District: GC
Requested Town Zoning District: CG
Nature of Request: Petition for the Annexation of 3.25 acres of property located at 9719 Ocean Gateway, Easton, Maryland with a formal recommendation to the Town Council on the Annexation and the appropriate zoning classification.

5. Discussion Item

6. Adjournment.

3030137 SD 8/2/2023

STATEMENT REGARDING SPECIAL EXCEPTION REQUEST (Aspire Outdoors, LLC)
Tuesday, April 18, 2023

In January we purchased our residence on Captain Adamouski St. Our home is located at the corner of McCall and Captain Adamouski and one side of our house faces the community's only entry/exit roadway.

We moved here from Florida in part because so much of the green space in our city was being replaced with new housing which contributed to an ever-swelling population, and in turn was a major reason for significant increases in clogged roads. We believed that our move here would allow us to live our retirement years in a smaller community that didn't have such sustained levels of traffic invasiveness and noise. And the benefits of being able to travel easily in and around Easton were attractive draws to living here.

Matthewstown Rd., which runs along the back of our home, is admittedly more of a conduit for vehicle noise and pollution than we anticipated. But to allow a Special Exception to build a 162-unit apartment complex whose residents use the street adjacent to our home as the entry/exit would only add to those issues. In addition, it would deny our neighborhood its current quality of existence. The inevitable road jams would be detrimental to the safety of pedestrians, bikers and skate boarders and most certainly decrease property values.

At the very least, if an apartment complex is to be built near our community it should have its own egress/ingress. Our small neighborhood should not suffer the consequences of Mr. Daly's unwillingness to provide a basic, separate roadway for the complex he intends to build.

Cassandra and Elmer Johnson
29757 Captain Adamouski St.

RECEIVED
APR 13 2023
TOWN OF EASTON

Samantha Smith <ssmith@eastonmd.gov>

Proposed apartment complex - Parcel 186, Camac Street

1 message

Lilli Tibbitt Thu, Aug 3, 2023 at 10:01 AM
To: ssmith@eastonmd.gov

To Whom It May Concern:

I am Lilli Tibbitt, an Easton resident living at Matthewstown Road. As a part of HUNTERS MILL, I am writing to express my opposition to the proposed rezoning and development of property at the end of Camac Street (Parcel 186). While the local community may be unable to prevent development, that in itself will be detrimental to the area, nearly all residents in the Hunters Mill neighborhood are completely opposed to the addition of multi-family housing that will cause traffic and safety problems, create even more problems with schools that are already over-capacity, destroy local wildlife habitat, and potentially lower the property values of the existing community.

Traffic and safety of pedestrians are major areas of concern. Traffic congestion between the intersection of Matthewstown Road (Rt. 328)/Rt. 50 and Mile Post Drive already makes driving this stretch of road hazardous. The addition of approximately 200 homes in the approved Gannon Estates and 120 apartments at the corner of Rt. 328 and Elliott Rd will already increase the congestion and danger of the traffic patterns. Local neighborhood traffic will disproportionately surge during morning and evening rush hours, causing traffic issues during critical times for the existing area neighborhoods and commuters (including Hunters Mill, Matthewstown Run, Brentridge, Mulberry Station, Swann Haven and Caroline County commuters). The traffic surge during morning rush hours will also negatively impact safety for children, since students walk to the bus stop at the entrance of Hunters Mill. In general, the area traffic is continuing to increase, and heavy traffic is already common on Matthewstown Road.
Schools in the area are already reported at over capacity, and the council should not approve multi-family dwellings that creates or exacerbates this situation. Already approved housing developments in Talbot County will already stretch public, private and parochial school admissions beyond capacity.
Wildlife has been observed in the area and any development will destroy their habitat. Any planned development of the property should consider the continuing impact to local wildlife habitat. Within the project application, there are indications that the proposed planning area has several endangered species, which should be investigated by the appropriate agency prior to the approval of the project.

Property values are likely to decrease in the area where multi-family apartments are built. Multi-family dwellings are inconsistent with the neighborhoods developed in this area.
I urge you to disapprove of this apartment complex project and from recent meetings and discussions with neighbors in Hunters Mill and surrounding neighborhoods, I know my opinions are shared by many who have not managed to attend meetings or write letters/emails.

Our opposition is based on these potential/probable negative effects:

- The drastic loss of neighborhood and community character.
- A decrease in the market value of surrounding homes.
- Increased traffic congestion adding to an already dangerous situation on Matthewstown Rd.
- The destruction of green space and mature trees as well as driving animals out of the area.

- This type of apartment complex does not fit into the single family home neighborhood.

Please do not approve the construction of this property. Keep the eastern shore green and preserve its natural beauty.

Respectfully,

Lilli J. Tibbitt.

Samantha Smith <ssmith@eastonmd.gov>

Proposed apartment complex - Parcel 186, Camac Street

Lilli Tibbitt Tue, Aug 15, 2023 at 9:55 AM
To: Samantha Smith <ssmith@eastonmd.gov>

Good afternoon, Ms. Smith.

I am writing to voice my and the other citizens of Easton's concerns over the proposed apartment complex. And I ask you to share my words with your colleagues in planning and zoning. I have already informed Mayor Cook about these concerns, and now you. My message is that the apartment complex would cause damage to local wildlife and rural areas that members of our community depend on for their lively hood. Several species of wildlife lives on the site where the apartment is said to be built, and it is wrong to displace them from their natural habitat. The complex would increase traffic issues and accidents to the ones already occurring on Mathewstown Road before and after installing the traffic lights. Not to mention the traffic issues the complex would cause on Black Dog Alley. The safety of many citizens, young and old, would be at risk. It would destroy the small-town characteristics and sense of community formed not just by Easton but all of Talbot County. Another issue created by the complex would be schooling, meaning it would cause crowded rooms and outnumbered teachers. School resources would be stretched thin and able to accommodate every student. Overall, the apartment complex does not fit into our community. We are a small town, not a big city. Please tell my concerns to your colleagues and urge them to vote against the complex if they truly care about the community they serve. Ask them to listen to the voices of those who care and have lived in this community their entire lives.

Respectfully,

Lilli Tibbitt.
[Quoted text hidden]

Samantha Smith <ssmith@eastonmd.gov>

Fwd: video from Hunter's Mill Residebts

1 message

Don Abbatiello <dabbatiello@eastonmd.gov> Mon, Aug 14, 2023 at 2:57 PM
To: Samantha Smith <ssmith@eastonmd.gov>, Miguel Salinas <msalinas@eastonmd.gov>, Lynn Thomas <lthomas@eastonmd.gov>

---------- Forwarded message ---------
From: **John Franczak**
Date: Mon, Aug 14, 2023 at 11:52 AM
Subject: video from Hunter's Mill Residebts
To: <lmiller@wboc.com>

Ms Miller,

Attached please find our updated video regarding our opposition to any apartments being built behind our housing development. We never had a chance to respond to the original planning commission meeting yet you met and did a story with the Aspire owner, Derek Daly regarding his plans.

We would like to have equal time as this owner is not respecting the town of Easton's current comprehensive plan, and not respecting the current zoning laws that are on the books. The owner has already tried to get the town of Easton and Easton Utilities to pay for his " Impact Fees" which is the responsibility of any developer. Not only that, he is trying to get a "special Exemption" to change the current zoning which is single family for all the developments around us.

This is a very dangerous precedent for not only Hunter's Mill but also for any single family housing developments throughout the town as it would destroy the reason we all saved up and bought single family house away from the danger of big cities.

Please feel free to reach out to me by cell phone at the number attached. I am currently the VP of the Hunters Mill HOA. This is a very dangerous development as it would increase safety with over 1500 car trips a day down our"only" entrance road to Hunter's Mill.

We are in extreme opposition to this project for the safety of our residents especially our young children and our elderly. All we are asking the Planning Commission and the Board of Special Exemptions is to respect and follow the current zoning laws that are on the books.
Thank you.

John Franczak, VP and all HOA board members

https://youtu.be/MLFYhS-Tgzw

John Franczak

Independent Insurance Agent

Asset Preservation

Phone: 775-770-0747

Email: zakzaktahoe@gmail.com

MD License # 2102588

Planning and Zoning Department Meeting – August 17, 2023 (Hunters Mill)

The request from Mr. Derick Daly to receive an exemption to build a multi-family complex next to the Hunters Mill community should not be granted. Hunters Mill homeowners purchased properties in our small community secure in the knowledge that the area is zoned as a single family neighborhood, and with every intention of enjoying its loveliness and peaceful surroundings.

However, Mr. Daly has other plans for us. Not only does he want our area re-zoned to accommodate 6 apartment buildings with 162 units, he further offends us with his design to use our one entry/exit road for the apartment dwellers rather than build a separate egress/ingress for them. No matter that swelling traffic would decrease residential safety, quietude, environmental welfare and, of course, property values.

My husband and I hope that the promise of this neighborhood, zoned as a single family residential area, would be honored and not set aside to appease a developer whose plans would change the entire tenor of this community. Our home in Hunters Mill was chosen for its suitability in meeting our retirement needs and requirements, but we would be particularly vulnerable to increased traffic if Mr. Daly's plan were to take effect. Our property sits at the entry/exit way of the community, on the corner of McCall and Captain Adamouski. There would be nothing to cushion us from the impact of a much greater volume of vehicles constantly traveling through the community. We would see it, hear it and be negatively affected by it.

We want those in authority in the Planning and Zoning Department to ask themselves: If someone wanted to re-zone my neighborhood, and in so doing, add more traffic, lessen safety and security and decrease my property's value, would I feel that the government is operating in my best interest if it gives that person permission to proceed? Please ensure the quality, vitality and livability of our community by denying Mr. Daly's request.

We plan to attend the August 17th meeting, but we wanted to be sure that your department is informed in writing about our opposition to Mr. Daly's plan.

Cassandra and Elmer Johnson
29757 Captain Adamouski Street

RECEIVED
AUG 15 2023
TOWN OF EASTON

Samantha Smith <ssmith@eastonmd.gov>

Aspire Outdoors LCC development

1 message

Allison Yates Thu, Aug 17, 2023 at 6:14 AM
To: ssmith@eastonmd.gov

Good morning. I am writing you today to voice my opposition of the 162 unit apartment complex Derek Daley is proposing in the wooded lot between the Hunters Mill & the Matthewstown Run subdivisions. I am unable to attend todays meeting due to these meetings during work hours and was unable to get today off. This apartment complex is NOT the right fit for this area proposed. Neither myself nor our neighbors mind if he were to wish to build 15-20 single family homes that fit the bordering neighborhoods but an apartment complex would negatively impact both our communities immensely. This whole project needs to be stopped immediately. The roads cant sustain anymore traffic than already is happening. Buses struggle now. Imagine firetrucks & ambulances then add hundreds upon hundreds more vehicles traveling thru our neighborhoods daily. Our once peaceful family neighborhoods ravaged & peaceful no more. Single family homes yes….apartment complex NO. It should be struck down today. Please let my concerns be known & thank you for your time. I so wish i could attend today.
My best,
Allison Yates
410-739-0052
29812 Beall Dr
Easton, MD
Ps. I live on the corner of Standish within view of these hideous apartments he is proposing.

Samantha Smith <ssmith@eastonmd.gov>

Proposed apartment complex in Hunter's Mill neighborhood.

1 message

Lewis Plumer Thu, Aug 17, 2023 at 11:26 AM
To: ssmith@eastonmd.gov

Good afternoon, my name is Lewis Plumer. I live in Matthewstown Run neighborhood at 29812 Beall Dr, Easton, MD 21601. I am writing this email to voice my opposition to this project. I have attended the last 2 Town Council meetings about this proposed project, but am unable to attend the meeting today due to work.

TOWN OF EASTON
PLANNING COMMISION MEETING

PUBLIC COMMENT SIGN UP SHEET

DATE & TIME: Thursday, August 17, 2023 1:00 PM

WELCOME to the Planning Commission meeting! Public Comments provide an opportunity for the public to address the Planning Commission on any public hearing application. Please sign in if you wish to speak during today's hearing.

When you are recognized by the Planning Commission Chair:

1. Please stand before the podium and give your name and address for the record.
2. Please limit your comments to the time limit as specified by the Chair.
3. If previous speakers have made the same point, you may simply indicate your support or disagreement, unless you have new information.

Thank you for your participation.

Print Name (Please Print Legibly)	Address	Email/Phone (Optional)	Agenda Item
Keasha Haythe	8671 Camac St. Easton, MD 21601	haythes@gmail.com	Aspire, LLC
Brandon Silverstein	8665 Camac – Easton	410 725 0770	Aspire, LLC
Bob Freitag	29761 Capt. Aldamousk	240-863 4769	Aspire LLC.
Bob Mueller	29839 Standish St.	410-820-7484	Aspire

Sign In continued on reverse side

Print Name (Please Print Legibly)	Address	Email/Phone (Optional)	Agenda Item
JOHN FRANCZAK	29756 CAPTAIN ADAMOUSKI ST	7757700747	Aspire
Jamie Walter	29849 Standish St	4107142647	Aspire
Mark Walter	29849 Standish St.	410 725 6217	Aspire
George Durhan	29833 Cpt Adamouski St	914 629 9505	Aspire

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

Date of Hearing: August 17, 2023

4a

PLANNING COMMISSION
PUBLIC HEARING
STAFF REPORT

SUBJECT: **8670 Commerce Drive - Easton Utilities**

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: GHD, Inc.c/o Madeline Selick Barbalace

DOCUMENT CREATED ON: August 8, 2023

PURPOSE: The applicant is seeking site plan approval to construct a 6,103 square foot new water treatment plant from the Planning Commission.

RECOMMENDATION: Staff supports Planning Commission approval of the proposed site plan subject to staff's recommended condition (see below).

APPLICATION INFORMATION:	
APPLICANT: GHD, Inc. 16701 Melford Boulevard Suite 330 Bowie, MD 2017	**REPRESENTATIVE:** GHD, Inc.: Madeline Selick Barbalace Easton Utilities Commission

PARCELS/ACREAGE:

Parcel Information	Acreage
Map 101, Grid 0002, Parcel 0004, Lot 3 thru 7	5.09

ACCEPTANCE DATE: July 31, 2023	**LOCATION:** 8670 Commerce Drive
EXISTING ZONING BC	**EXISTING LAND USE:** Easton Utilities warehouse
HISTORIC DISTRICT: Not Applicable	**FUTURE LAND USE MAP:** Business Commercial

CONTEXT:

Location/Site Access – The subject property is located along Commerce Drive, fronting on the West side of the road.

Existing Conditions – The subject property is currently a 24,000 square foot warehouse for Easton Utilities.

Surrounding Properties

- 8694 Commerce Drive - BC
- 8648 Commerce Drive - BC
- 8649 Commerce Drive - BC
- 8659 Commerce Drive - BC
- 8673 Commerce Drive - BC
- 8685 Commerce Drive - BC
- 8737 Brooks Drive - BC
- 8727 Brooks Drive - BC
- 8719 Brooks Drive - BC
- 8709 Brooks Drive - BC
- 8701 Brooks Drive - BC

***Figure 1**: Vicinity Map*

PROPOSAL: The applicant is proposing to construct a 6,103 square foot new water treatment plant processing building with new underground utility work, associated new asphalt parking, stormwater management facilities and landscaping.

BACKGROUND: The applicant submitted an application to the Easton Staff Development Review Committee on March 29, 2023.

ZONING ANALYSIS:

A. Permissible Land Uses

28-201 table 2.1 (1) 610 **BC**

610	Public Utilities	P	P	P	P	P	P	P	P	P		

28-201 table 2.1 (1) 520 **BC**

520	Warehousing, Wholesale,	–	–	–	–	–	P	SE	P	P		

	storage & distribution											

Analysis –The proposed project is presented and described by the Applicant as three one-story climate -controlled storage buildings. The project is categorized as a *"Public Utilities" and "Warehousing, Wholesale, storage & distribution"*. The proposed use is permitted by-right within Table 2.1 Table of Permissible Uses.

B. Off-Street Parking

For the purposes of off-street parking calculations, the use is considered "*Light Industrial Structures and facilities (not enumerated below)"* and *"Warehouse"* has the following requirements:

28-1001.3 Parking Requirements

	Use/Activity	Minimum Vehicle Spaces	Maximum Vehicle Spaces	Minimum Bicycle Spaces	Notes
	Industrial Buildings				
31	Light Industrial Structures and facilities (not enumerated below)	1 per 2,000 sf GFA	1 per 300 sf GFA	--	

	Industrial Buildings				
40	Warehouse	1 per 2,000 sf GFA	1 per 350 sf GFA	--	

Total Site Parking Required:

Industrial Light Structures: 1 Space /300 SF GFA; 3 Spaces Required- Minimum
1 Space /200 SF GFA; 20 Spaces Required- Maximum
Warehouse: 1 Space /2,0000 SF GFA; 12 Spaces Required- Minimum
1 Space /350 SF GFA; 69 Spaces Required- Maximum
Total Minimum spaces required: 15 spaces
Total Maximum spaces required: 89 spaces
Total existing spaces provided: 24 existing spaces

Analysis- The total minimum spaces required is 15 spaces. The applicant has twenty-four (24) existing 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. Business Commercial District Development Standards

Table 1. Development Standards		
BC Zoning District	**Standard**	**Proposed**
Setbacks	Front = 40 feet Side = 10 feet Rear = 30 feet	Front = 40 feet Side = 10 feet Side – 30 feet
Lot Size (min.)	40,000 square feet	221,720 square feet
Lot Frontage (min.)	100 feet	489 feet
Building Envelope (min.)	30 feet x 80 feet	469 feet X 355 feet
Lot Coverage (max.)	50% (Lot Area)	45.24% (Lot Area)
Height (max.)	35 feet	25 feet +/-

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

- ***Off-Street Parking shall be provided in accordance with the provisions of Section 28 – 1001.***
- ***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 28-306 Development Standards. Any comments or concerns from the ESDR review letters will be addressed during the Development Site Plan review.

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 site is within the priority funding area and is an existing warehouse for Easton Utilities. The overall site area is 5.09 acres with an existing warehouse building, proposed water treatment plant processing building and associated parking, stormwater management and landscaping existing on site. Per Article III, § 31-3.2.O of the Forest Conservation Ordinance , an activity on a previously developed area covered by impervious surface and located in the priority funding area, the site is exempt from forest conservation. Based on the existing conditions and within the priority funding area, the project is exempt.

POLICY ANALYSIS:

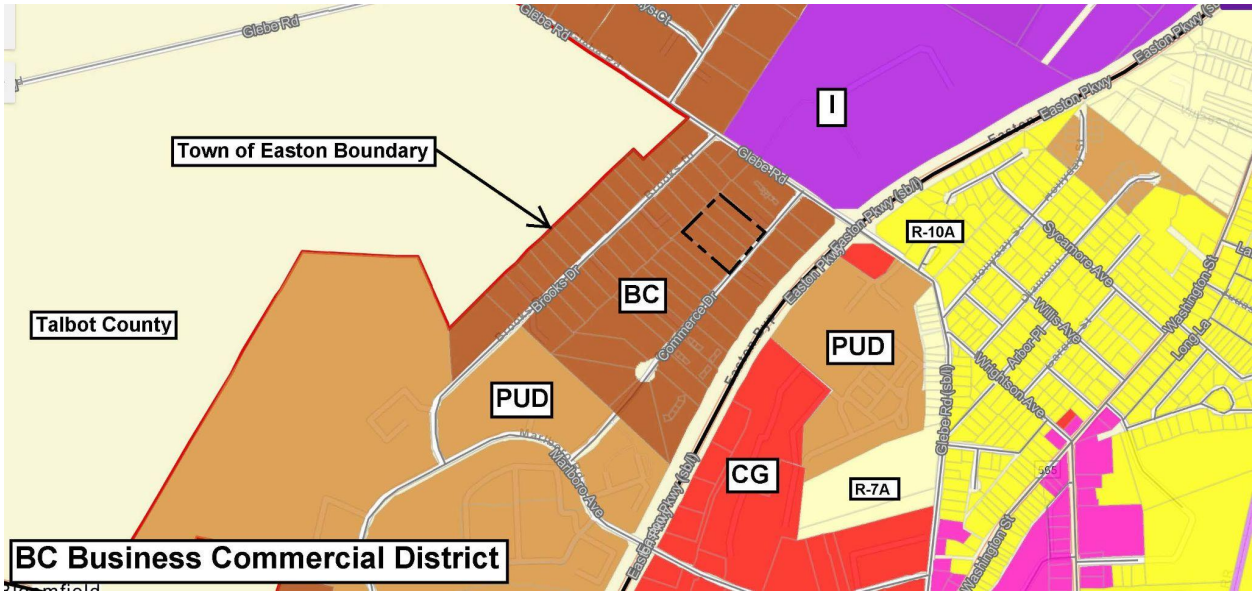


Figure 2: Zoning Map

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: *The Easton Commerce Water Treatment Plant is not commercial or residential development and integrated uses are not applicable to this project.*

(Principle #2) Natural features should determine design – *Applicant's response: The new Easton Commerce Water Treatment Plant was designed such that the surrounding environmental features will not be impacted. There are no environmentally sensitive areas within the site's limits or immediately surrounding the site. The site will include a submerged gravel wetland with required landscaping and a fence around the property to provide a screen for surrounding properties. The existing site is already mostly cleared and includes concrete parking and storage and a warehouse, the proposed site design will include additional plantings and will not impact the existing drainage patterns.*

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

(Principle #3) Automobiles should not determine design – *Applicant's response: The treatment plant will be in the back of an existing warehouse and includes new tree plantings along Commerce Drive to screen from the public street. The new pavement uses only the land necessary to park utility vehicles and allow for future storage needs in the fenced in facility*

Staff notes that the applicant has provided adequate off-street parking that is towards the lower end of the window of the requirement.

(Principle #4) Ample Open Space should be provided within & around neighborhoods – *Applicant's response: The project strives to achieve maximum functionality while still providing open green space at the front and rear of the building for what is proposed on the existing site.*

Staff notes that open space is not applicable.

(Principle #5) Architecture should respect Easton's Historical Development – *Applicant's response: The water treatment plant control building to be constructed will emulate Easton's Architectural Design Standards. The provided building elevations show the design intent and proposed features.*

(Principle #6) Signs should inform but not dominate – *Applicant's response: Signs will be compatible with neighboring buildings and follow the trend of the development.*

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: The water treatment plant differs from the existing warehouse on the facility to break up any noticeable redundancy.*

Staff notes that this is not a residential development so this Principle is not applicable.

(Principle #8) Residential neighborhoods should be interesting places – *Applicant's response: Not applicable to this commercial project which is in Business Commercial Zoning.*

(Principle #9) Neighborhoods should connect – *Applicant's response: This design principle is not applicable to this water treatment plant project and does not connect to neighborhoods.*

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 an upgrade to the water treatment process for Easton Utilities.

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 a business commercial zoned business park. Proposed use would provide a water treatment processing building with new underground utility work, associated new asphalt 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 condition:

- The Applicant is required to add the minimum/maximum parking spaces and provided parking spaces onto the cover sheet.

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 September 21st Commission meeting for further discussion.

OR

3. I move an alternate motion.

ATTACHMENTS:
1. 2023.03.29 ESDR Application, paper copy & PDF
2. 2023.03.29 ESDR Determination Letter, paper copy & PDF
3. 2023.07.28 Easton Site Plan Application, paper copy & PDF
4. 2023.07.31 Easton Commerce WTP - ESDR Review Set, paper copy & PDF
5. 2023.07.31 Easton Commerce_SWM Report, PDF
6. 2023.07.31 Easton Site Plan Application, paper copy & PDF
7. 2023.07.31 ESDR_GHD Comment Response Letter, paper copy & PDF
8. 2023-08-10 SketchSitePlanReviewPC(CommerceWTP), paper copy & PDF

TOWN OF
EASTON
ENGINEERING DEPARTMENT

DATE:	**August 10th, 2023**
TO:	**Madeline Barbalace - GHD**
	Paul Moffet - EUC
	Brett Ewing - Lane Engineering, LLC
Cc:	**Rick Van Emburgh – Town Engineer**
	Miguel Salinas – Planning and Zoning Department
	Aaron Goller - EUC
FROM:	**Sierra Clem – Engineering Department**
SUBJECT:	**8670 Commerce Drive - Sketch Site Plan Review Comments**

I have reviewed the application for the subject project received on 7/31/2023. I have the following comments.

Sketch Site Plan/Plat:

The **Sketch Site Plan** is **acceptable to the Engineering Department.**

Please submit a Preliminary Site Plan.

Stormwater Management:

The **Sketch Stormwater Management Plan** is **approved.** Please submit a Preliminary Stormwater Management Plan.

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

TOWN OF EASTON
Planning & Zoning Department
14 South Harrison Street
P.O. Box 520
Easton, Maryland 21601

Easton Staff Development Review Worksheet

Date: March 29, 2023
Project: 8670 Commerce Drive – Water Treatment Plant
To: Madeline Selick – GHD
CC: Easton Utilities Commission

The Easton Staff Development Review meeting was held on March 29th, at 11:00 am. Staff reviewed the Site Sketch Plan for the proposed Water Treatment Plant and provided comments for the proposed project.

It was determined that the project is approved to submit application to the Planning Commission for the April 20, 2023 meeting. All comments will need to be addressed as designated within the review letters. Specific areas of Staff concern discussed in the meeting and Comments (attached) are as follows:

- Add note to Site Plan requesting exemption from forest conservation.
- Show specific zoning requirements per Planning & Zoning's review comment #5.

Files for presentation at the Planning Commission need to be provided on a flash drive. In addition, provide a digital submittal (via email) of the Planning Commission Application and its supporting documents, including **six paper copies**. Submit all documentation by **Monday, April 3, 2023**. (All digital copies of Site Plan, ESDR, BoZA, HDC Submissions, etc. are to be sent to jmayer@eastonmd.gov and ssmith@eastonmd.gov .)

At this time, based on the ESDR sketch plan submission Staff did not identify any constraints which require action by the Board of Zoning Appeals.

Upon completion of requested items, please submit all documentation to the Planning & Zoning Department. The next available Planning Commission meeting is scheduled for **Thursday, April 20, 2023 at 1:00 pm. Meeting location is at the Council Chambers, Easton Town Office.** 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
410-820-8822
www.EastonMD.gov

DATE: **March 20, 2023**
TO: **Madeline Selick -** GHD/Easton Utilities Commission - owner
cc: **Miguel Salinas –** Director of Planning & Zoning Department
Rick Van Emburgh – Town Engineer, Department of Engineering
FROM: **Joseph A. Mayer** - Plan Reviewer, Planning & Zoning Department

SUBJECT: **8670 Commerce Drive – Water Treatment Plant**

We reviewed the **March 1, 2023** Sketch Site Plan Submittal for the Subject Project and have the following comments:

PLANNING & ZONING COMMENTS

Sketch Site Plan

1. Revise all title blocks to read; "Ward District 1, Easton, Maryland".
2. Show the zoning district boundaries on the Location Map.
3. Revise zoning in General Notes on sheet G001 to BC, Business Commercial.
4. Add building use and total square footage to General Notes on sheet G001.
5. In tabular form show the specific zoning requirements, in accordance with the Zoning Ordinance, including any approved conditions or variances, for the subject property and the existing zoning districts to include but not limited to: maximum lot coverage; minimum lot size; minimum lot frontage; building envelope; minimum front, side and rear setbacks; maximum building heights; parking spaces required and provided (including standard and handicap accessible).
6. For adjoining property information, show: zoning district. Please add to all plan views.
7. Revise General Notes on sheet G001 to include the applicant obtaining a Demolition Permit prior to removing existing structures.
8. Show building restriction lines on sheet C-002.
9. Will there be any exterior lighting?
10. Provide typical dimensions between building and property line.
11. Per Chapter 28-308.2 K of the Zoning Code, 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. Provide applicable bufferyard standards to the site.

12. Revise General Notes shown on sheet G001 to include the applicant obtaining an *Application for Fence* from the Town's Building Inspection Division prior to installation.
13. Determine if the option of requesting an exemption from forest conservation is applicable to the site. See Article III, § 31-3.2 O, an activity on a previously developed area covered by impervious surface and located in the priority funding area.
14. Address all Comprehensive Plan Design Principles and add response narrative to sheet G001.

Plan Review Status

IMPROVEMENT PLAN REVIEW			Comments
Plans Approved	☐ Y	☒ N	Please review any outstanding comments from the Engineering Department and Easton Utilities.

GRADING PERMIT STATUS			
Application and Final Approved Site Plan Submitted to Town Engineer	☐ Y	☒ N	To be processed by the Engineering Department.
LEGAL DOCUMENTS			
Storm Water Easement			
☐ Required ☐ Submitted ☐ Approved			**Not required**
Utility Easement			
☐Required ☐ Submitted ☐ Approved			**Not required**
Shared Access/Use Easement			
☐ Required ☐ Submitted ☐ Approved			**Not required**
Sidewalk Easement			
☐ Required ☐ Submitted ☐ Approved			**Not required**
Declaration of Covenants			
☐ Required ☐ Submitted ☐ Approved			**Not required**
Public Works Agreement			
☐ Required ☐ Submitted ☐ Approved			**Not required**
Bond/Letter of Credit/ Cash Agreement			
☐ Required ☐ Submitted ☐ Approved			**Not required**
Talbot Soil Conservation District Approval			
☒ Approval Required			**Required.**
Forest Stand Delineation & Forest Conservation Plan			
☐ Required ☐ Submitted ☐Approved			**To be determined.**
Other			
☐Required ☐ Submitted ☐ Approved			

Please contact me if you have any questions. Thank you.

TOWN OF
EASTON
ENGINEERING DEPARTMENT

DATE:	**March 23rd, 2023**
TO:	**Madeline Barbalace - GHD**
	Paul Moffet - EUC
	Brett Ewing - Lane Engineering, LLC
Cc:	**Rick Van Emburgh – Town Engineer**
	Miguel Salinas – Planning and Zoning Department
	Aaron Goller - EUC
FROM:	**Sierra Clem – Engineering Department**
SUBJECT:	**8670 Commerce Drive - ESDR Sketch Site Plan Review Comments**

I have reviewed the application for the subject project received on 2/28/2023. I have the following comments.

Sketch Site Plan/Plat:

The **Sketch Site Plan** is **acceptable to the Engineering Department.**

Please submit a Preliminary Site Plan.

Stormwater Management:

The **Sketch Stormwater Management Plan** is **approved with the following conditions:**

1. Please complete the ESD Summary Chart with the Target ESDv and include this on the site plan.
2. Sheet C-902 - TOE SWM-5.01-1 detail for a planter box is used, please clarify where this is to be located.

Please address the comments above and submit a Preliminary Stormwater Management Plan.

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

Life. Made better.™

Easton Utilities Commission

Plan Review Comments

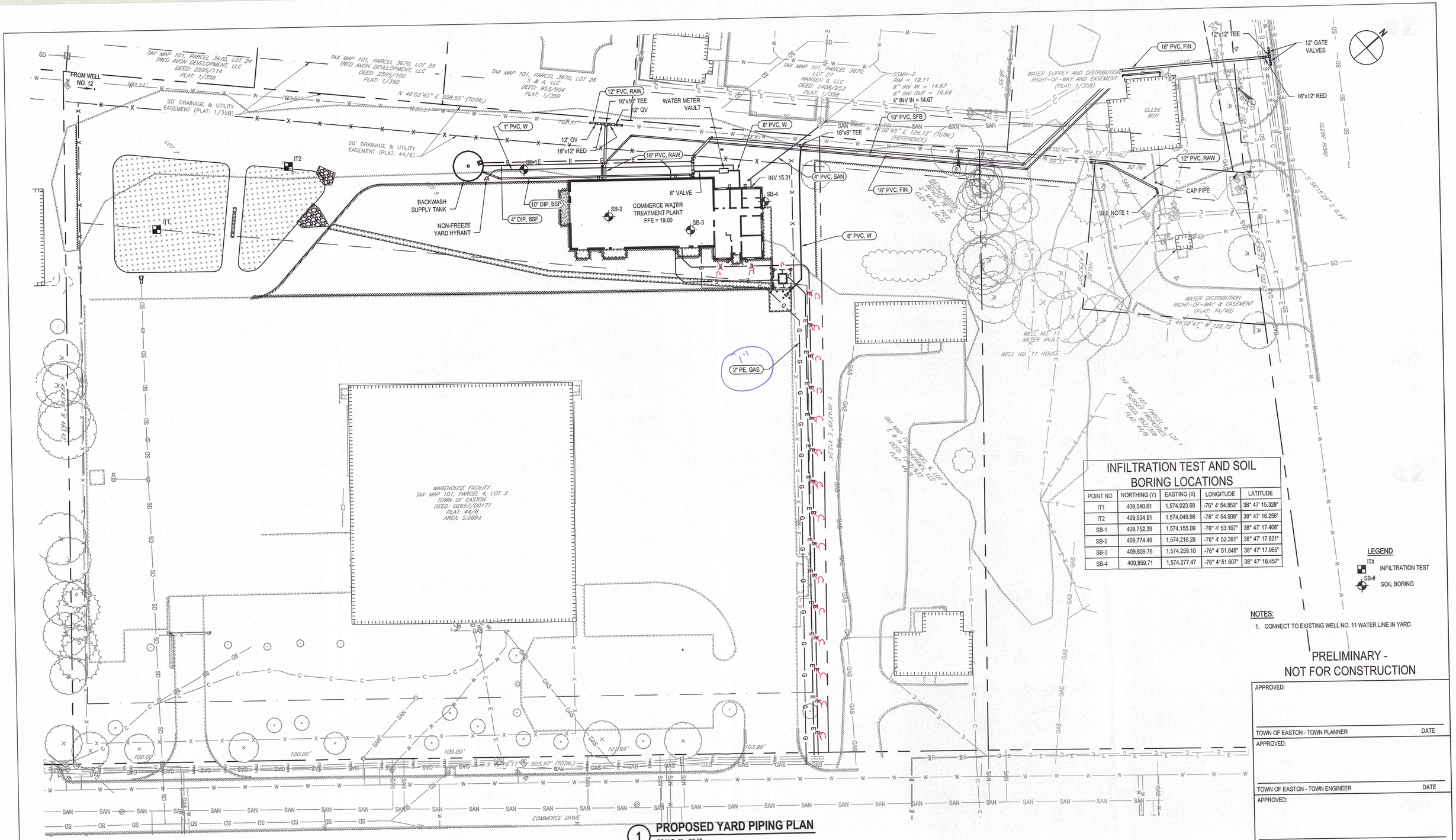
Date:	Monday, March 20, 2023		
To:	Joe Mayer; Nicholas Johnson; Sierra Clem		
From:	Kia Gibbs on behalf of Aaron Goller, PE	No. of Pages:	1
Re:	Commerce Water Treatment Plant	Phase:	Sketch Site Plan
Review Type:	SUBM: 1	Status:	Approved as Noted

Easton Utilities Commission has reviewed the above referenced plans and have provided the following comments. Please provide your corrections as listed below. Additional reviews will be required to ensure comments have been addressed. Items or documents not provided on initial submission will be subject to further review. Please contact Kia Gibbs, Admin Support at kgibbs@eucmail.com should you have any questions.

ITEM:	DRAWING / PAGE	COMMENTS:
1	General	Please note communications conduit
2	C-301	See electric comments on drawing
3	C-003	Down size 2" poly to 1" poly

201 N. Washington Street | Easton, Maryland 21601
Telephone: 410-822-6110 | Fax: 410-822-0743 | eastonutilities.com

ITEM:	DRAWING / PAGE	COMMENTS:



INFILTRATION TEST AND SOIL BORING LOCATIONS

POINT NO.	NORTHING (Y)	EASTING (X)	LONGITUDE	LATITUDE
IT1	409,540.61	1,574,023.68	-76° 4' 54.853"	38° 47' 15.328"
IT2	409,634.81	1,574,049.96	-76° 4' 54.509"	38° 47' 16.256"
SB-1	409,752.39	1,574,155.09	-76° 4' 53.167"	38° 47' 17.408"
SB-2	409,774.49	1,574,216.28	-76° 4' 52.391"	38° 47' 17.621"
SB-3	409,809.76	1,574,259.10	-76° 4' 51.846"	38° 47' 17.965"
SB-4	409,859.71	1,574,277.47	-76° 4' 51.607"	38° 47' 18.457"

LEGEND

IT# INFILTRATION TEST

SB-# SOIL BORING

NOTES:

1. CONNECT TO EXISTING WELL NO. 11 WATER LINE IN YARD.

PRELIMINARY - NOT FOR CONSTRUCTION

APPROVED:

TOWN OF EASTON - TOWN PLANNER DATE

APPROVED:

TOWN OF EASTON - TOWN ENGINEER DATE

APPROVED:

EASTON UTILITIES - MANAGER OF ENGINEERING DATE

1 PROPOSED YARD PIPING PLAN

SCALE: 1" = 30'-0"

No.	Issue	Checked	Approved	Date
B	60% SUBMITTAL	ALT	JHC	2023 01 19
A	30% SUBMITTAL	ALT	JHC	2022 08 19

Author	K. LARSON	Drafting Check	K. LARSON	Project Manager	J. CANNON
Designer	A. THRON	Design Check	A. THRON	Project Director	K. GEORGE

Bar is one inch on original size sheet

0 1"

0 15' 30' 45'

SCALE 1"=30' AT ORIGINAL SIZE

GHD Inc.
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Bowie MD 20715 USA
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Client **EASTON UTILITIES**

Project **COMMERCE WATER TREATMENT PLANT**

Title **OVERALL YARD PIPING PLAN**

Size ANSI D

Status Code

Project No. 12578222

Date 01/2023

Scale 1" = 30'-0"

Sheet No. C-003

Sheet of

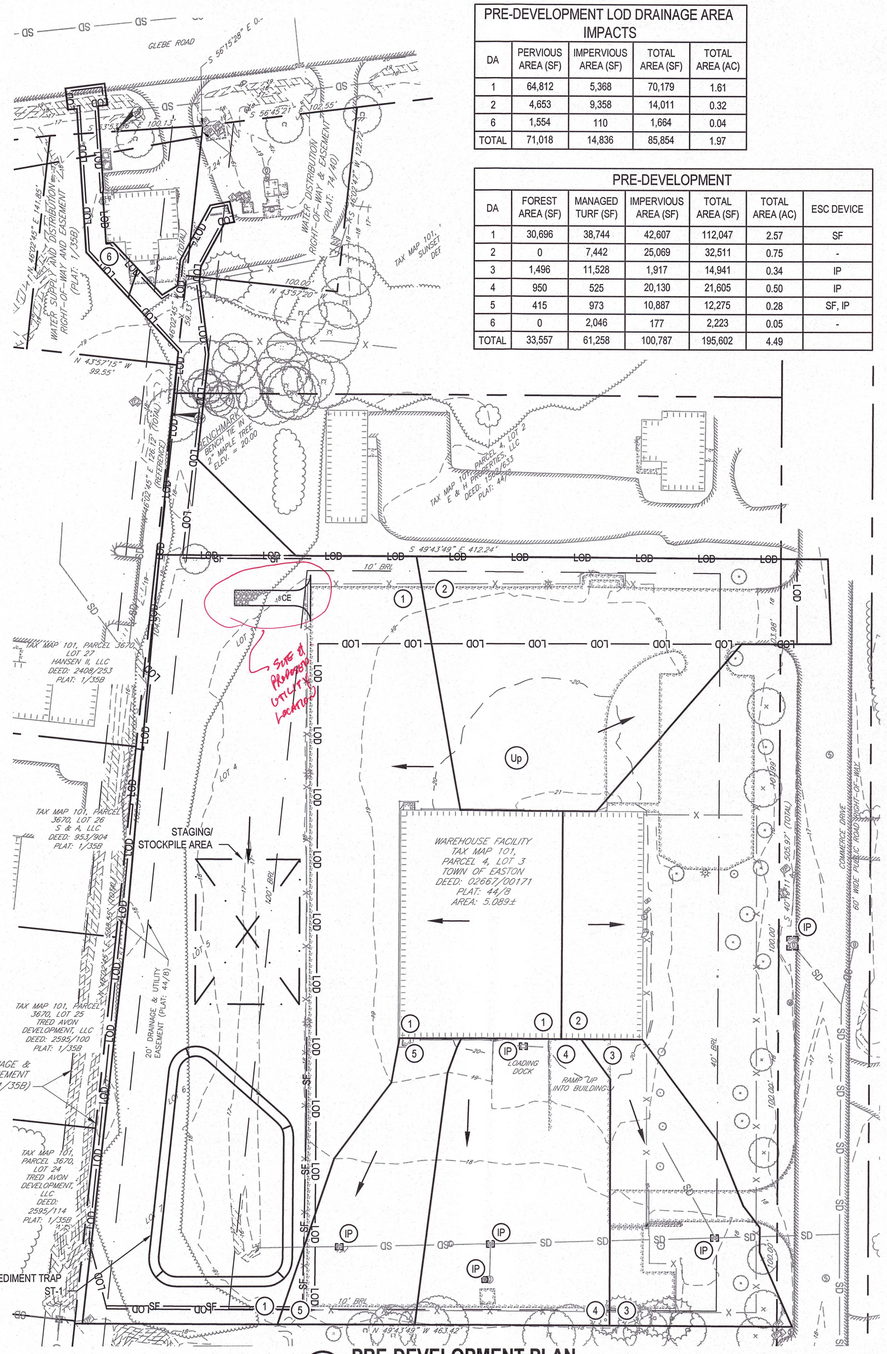
Plot Date: 28 February 2023 - 2:40 PM

Plotted By: Kristopher Larson

Path and Filename: G:\565\12578222\Digital_Design\ACAD\Sheets\Civil\12578222-GHD-DWG-C-003.dwg

PRE-DEVELOPMENT LOD DRAINAGE AREA IMPACTS				
DA	PERVIOUS AREA (SF)	IMPERVIOUS AREA (SF)	TOTAL AREA (SF)	TOTAL AREA (AC)
1	64,812	5,368	70,179	1.61
2	4,653	9,358	14,011	0.32
6	1,554	110	1,664	0.04
TOTAL	71,018	14,836	85,854	1.97

PRE-DEVELOPMENT						
DA	FOREST AREA (SF)	MANAGED TURF (SF)	IMPERVIOUS AREA (SF)	TOTAL AREA (SF)	TOTAL AREA (AC)	ESC DEVICE
1	30,696	38,744	42,607	112,047	2.57	SF
2	0	7,442	25,069	32,511	0.75	-
3	1,496	11,528	1,917	14,941	0.34	IP
4	950	525	20,130	21,605	0.50	IP
5	415	973	10,887	12,275	0.28	SF, IP
6	0	2,046	177	2,223	0.05	-
TOTAL	33,557	61,258	100,787	195,602	4.49	

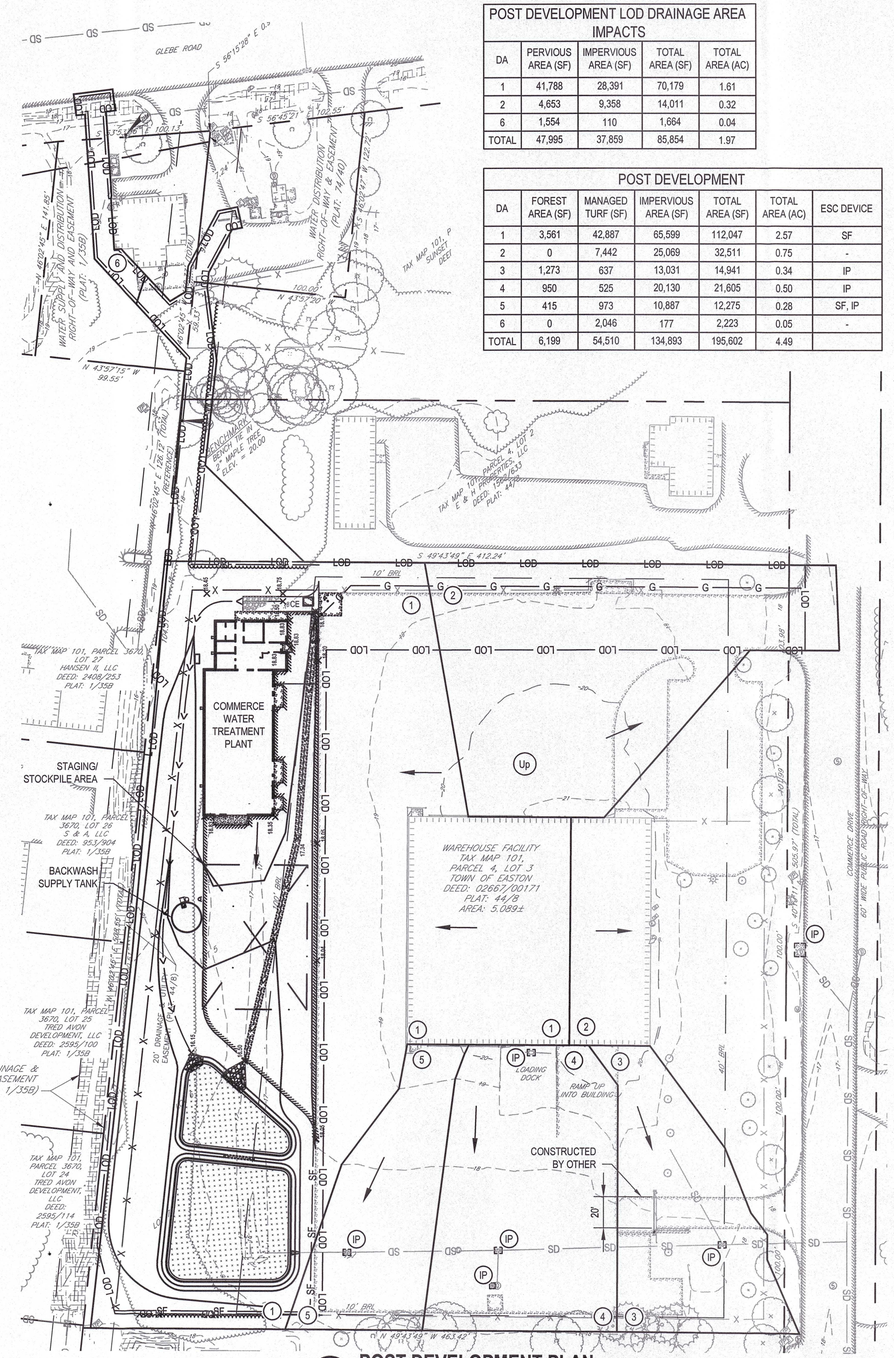


1 PRE-DEVELOPMENT PLAN

SCALE: 1" = 50'-0"

POST DEVELOPMENT LOD DRAINAGE AREA IMPACTS				
DA	PERVIOUS AREA (SF)	IMPERVIOUS AREA (SF)	TOTAL AREA (SF)	TOTAL AREA (AC)
1	41,788	28,391	70,179	1.61
2	4,653	9,358	14,011	0.32
6	1,554	110	1,664	0.04
TOTAL	47,995	37,859	85,854	1.97

POST DEVELOPMENT						
DA	FOREST AREA (SF)	MANAGED TURF (SF)	IMPERVIOUS AREA (SF)	TOTAL AREA (SF)	TOTAL AREA (AC)	ESC DEVICE
1	3,561	42,887	65,599	112,047	2.57	SF
2	0	7,442	25,069	32,511	0.75	-
3	1,273	637	13,031	14,941	0.34	IP
4	950	525	20,130	21,605	0.50	IP
5	415	973	10,887	12,275	0.28	SF, IP
6	0	2,046	177	2,223	0.05	-
TOTAL	6,199	54,510	134,893	195,602	4.49	



2 POST DEVELOPMENT PLAN

SCALE: 1" = 50'-0"

SITE/LOD ANALYSIS:	
TOTAL SITE AREA	5.63 ±AC.
DISTURBED AREA	2.01 ±AC.
EXISTING IMPERVIOUS AREA	2.87 ±AC.
PROPOSED IMPERVIOUS AREA	3.91 ±AC.
NET INCREASE IN IMPERVIOUS AREA	1.04 ±AC.
TOTAL CUT	xx ±CY.
TOTAL FILL	xx ±CY.

NOTES:

1. SOIL IS PREDOMINATELY Up - URBAN LAND WHICH IS CLASSIFIED AS CLASS C SOIL TYPE.

EROSION AND SEDIMENT CONTROL LEGEND

- RWD — TEMPORARY RIGHT-OF-WAY DIVERSION
- IP — STORM DRAIN INLET PROTECTION
- TS — TEMPORARY SEEDING
- DC — DUST CONTROL
- DD — DIVERSION DIKE
- LOD — LIMIT OF DISTURBANCE
- SF — SILT FENCE
- LOD-SSF — SILT FENCE (WITH WIRE BACKING - LIMIT OF DISTURBANCE)
- SAF — TEMPORARY CHAIN-LINK CONST. SAFETY FENCE
- LOD-TP — TREE PROTECTION (LIMIT OF DISTURBANCE)
- TEMPORARY DIVERSION DIKE
- 100-YR FLOOD PLAIN
- RPA BUFFER
- DRAINAGE AREA BOUNDARY
- SOIL DIVIDE
- # — DRAINAGE AREA LABEL
- ##@ — SOIL LABEL
- CE — CONSTRUCTION ENTRANCE
- SANITARY MANHOLE IDENTIFIER
- STORM DRAIN STRUCTURE IDENTIFIER
- STOCKPILE AREA
- TREE REMOVAL AND GRUBBING
- 15% - 25% SLOPES
- >25% SLOPES

PRELIMINARY - NOT FOR CONSTRUCTION

APPROVED:

TOWN OF EASTON - TOWN PLANNER DATE

APPROVED:

TOWN OF EASTON - TOWN ENGINEER DATE

APPROVED:

EASTON UTILITIES - MANAGER OF ENGINEERING DATE

No.	Issue	Checked	Approved	Date
B	60% SUBMITTAL	ALT	JHC	2023 01 19
A	30% SUBMITTAL	ALT	JHC	2022 08 19

Author	K. LARSON	Drafting Check	K. LARSON	Project Manager	J. CANNON
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Client **EASTON UTILITIES**

Project **COMMERCE WATER TREATMENT PLANT**

Title **EROSION AND SEDIMENT CONTROL PRE AND POST DEVELOPMENT PLANS**

Size ANSI D

Status Code

Project No.	Date	Scale	Sheet No.	Sheet of
12578222	01/2023	1" = 50'-0"	C-301	

Plot Date: 28 February 2023 - 2:41 PM Plotted By: Kristopher Larson Path and Filename: G:\565\12578222\Digital_Design\ACAD\Sheets\Civil\12578222-GHD-DWG-C-301.dwg

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

Easton Staff Development Review

Property Information

Address	8670 Commerce Drive, Easton, MD 21601						
Tax Map	0101	Grid	0002	Parcel	4	Lot	3
Deed Refernce:	Liber	02667	Folio	00171			
Plat Reference:	Liber	44	Folio	8			
Base Zoning District			Historic District Y ☐ N ☑		Planning Redevelopment Y ☐ N ☑		

Purpose of Application / Description of Work:

A new water treatment plant processing building is proposed on the existing previously developed Easton Utilities "Commerce Drive Property" across the street from the existing Glebe Water Treatment Plant. The new WTP will utilize new pressure filters and new chemical dosing systems within the new building, the existing Glebe WTP Process tankage will be utilized for storage of filter backwash. Along with the proposed building, new underground utility work will take place as well as new asphalt parking and access area are proposed and a stormwater management facility

Owner

Name	Easton Utilities Commission		
Mailing Address	201 N. Washington Street, Easton, MD 21601		
Telephone No.	410.822.6110	Email	

Applicant / Agent

Name	Madeline Selick Barbalace		
Mailing Address	16701 Melford Blvd. Suite 330, Bowie, MD 2071		
Telephone No.	240-206-0492	Email	Madeline.selick@ghd.com

Surveyor / Engineer

Name	GHD Inc.	License No.	552263	Expiration Date	2024-02-06
Mailing Address	16701 Melford Blvd, Suite 330, Bowie, MD 20715				
Telephone No.	240-206-0464	Email	Ashton.Rogers@ghd.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: Madeline Selick Barbalace

Date: 02-28-2023

Printed Name of Applicant or Agent: Madeline Selick Barbalace

For Office Use Only

Easton Staff Development Review Meeting Required Y ☒ N ☐

2023-882 / ESDR 23-06

Easton Staff Development Review Meeting Date 03/22/2023

Completeness Check Date

Revisions/Resubmissions Required Y ☐ N ☐

Resubmission Date

Documents Received Y ☐ N ☐

Staff Determination

Planning Commission Requir Y ☒ N ☐

BOZA Required Y ☐ N ☐

Historic District Commission Required Y ☐ N ☐

Resubmission for ESDR Required Y ☐ N ☐

Staff Signature

Date

RECEIVED
MAR 0 1 2023
TOWN OF EASTON

Revised 02-2019

July 24, 2023

Town Of Easton
Planning & Zoning Department
P.O. Box 520
Easton, MD 21601

RE: Water Plant Treatment
Town of Easton SCD

To whom it may concern,

Below please find GHD's responses to your City Plan review comments received March 20, 2023. The plans should be reviewed under Town of Easton standards as the project is located within Easton yet owned by the Town of Easton.

A. Previous submissions: Initial 03/1/23.

The following must be adequately addressed prior to final approval. We offer the following comments:

CITY PLAN PREPARATION (PPP) REVIEW COMMENTS: Joseph A. Mayer – Plan Reviewer, Planning & Zoning Department

The following Town of Easton items must be addressed:

1. Revise all title blocks to read; "Ward District 1, Easton, Maryland".
   GHD Response: Title Block has been revised.
2. Show the zoning district boundaries on the Location Map.
   GHD Response: zoning district boundaries added to the Location Map on sheet G001.
3. Revise zoning in General Notes on sheet G001 to BC, Business Commercial
   GHD Response: Zoning updated on sheet G001.
4. Add building use and total square footage to General Notes on sheet G001.

   GHD Response: Building use and square footage of proposed building has been added to General Notes on Sheet G001.
5. In tabular form show the specific zoning requirements, in accordance with the Zoning Ordinance, including any approved conditions or variances, for the subject property and the existing zoning districts to include but not limited to: maximum lot coverage; minimum lot size; minimum lot frontage; building envelope; minimum front, side and rear setbacks; maximum building heights; parking spaces required and provided (including standard and handicap accessible).
   GHD Response: Zoning requirements have been added to sheet G001 in the Zoning Restrictions table.

6. For adjoining property information, show: zoning district. Please add to all plan views.
   GHD Response: Zoning district have been added to all adjoining Properties for all plan views.
7. Revise General Notes on sheet G001 to include the applicant obtaining a Demolition Permit prior to removing existing structures.
   GHD Response: Note has been added as #11 on Sheet G001.
8. Show building restriction lines on sheet C-002.
   GHD Response: Building restriction lines have been updated and shown on Sheet C002 for the BC zoning setbacks.
9. Will there be any exterior lighting.
   GHD Response: Exterior lighting is provided on the proposed building. Specification 16500 section 3.04 notes "Aim and adjust exterior pile and building mounted light fixtures to limit light pollution to neighboring properties".
10. Provide typical dimensions between building and property line.
    GHD Response: Dimensions have been added to proposed building and the property lines.
11. Per Chapter 28-308.2 K of the Zoning Code, 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. Provide applicable bufferyard standards to the site.
    GHD Response: A landscaping plan is shown on sheet C501 for the stormwater management area.
12. Revise General Notes shown on sheet G001 to include the applicant obtaining an *Application for Fence* from the Town's Building Inspection Division prior to installation.
    GHD Response: Note for fence application added as Note #12 on Sheet G001.
13. Determine if the option of requesting an exemption from forest conservation is applicable to the site. See Article III, § 31-3.2 O, an activity on a previously developed area covered by impervious surface and located in the priority funding area.
    GHD Response: The project site is on a developed lot with an existing storage building and concrete access and parking/storage lot. The lot is also considered a priority funding area as shown on the Maryland priority funding areas GIS site map:
    http://mdpgis.mdp.state.md.us/PFA/publicinfotemplate/index.html?address=8670%20COMMERCE%20DR,%20EASTON,%20MD,%2021601
    - ***According to the above mentioned article III, § 31-3.2 O, the Easton Utilities Commerce Drive site is exempt from forest conservation.***
14. Address all Comprehensive Plan Design Principles and add response narrative to sheet G001.
    GHD Response: Comprehensive Plan Design Principles response narrative has been added to sheet G001.

<u>SITE PLAN STORMWATER MANAGEMENT REIVEW COMMENTS:</u> Rick Van Emburgh – Town Engineer

Sketch Site Plan/Plat: **The Sketch Site Plan is acceptable to the Engineering Department**.

1. Please submit a Preliminary Site Plan

GHD Response: Acknowledged a full site plan is included in the 8 drawing copies submitted to Planning and Zoning.

Stormwater Management:
The Sketch Stormwater Management Plan is approved with the following conditions:

1. Please complete the ESD Summary Chart with Target ESDv and include this on the site plan.

GHD Response: ESD Summary Chat and Target ESDv has been included on the site plan

2. Sheet C-902 -TOE SWM-5.01-1 detail for planter box is used, please clarify where this is to be located.

GHD Response: The planter box detail has been removed and is not used on the project.

Within this submission are the following documents for review, including the above GHD response letter:

- Drawing Set
- Development Review Engineering Application

If you have any questions, please feel free to contact me at (240) 206-0492 or Madeline.Selick@ghd.com

Sincerely,

Madeline Selick

Madeline Selick
GHD Inc.
Civil Engineer
16701 Melford Blvd, Suite 330 Bowie, MD 20715

Plan Review Status

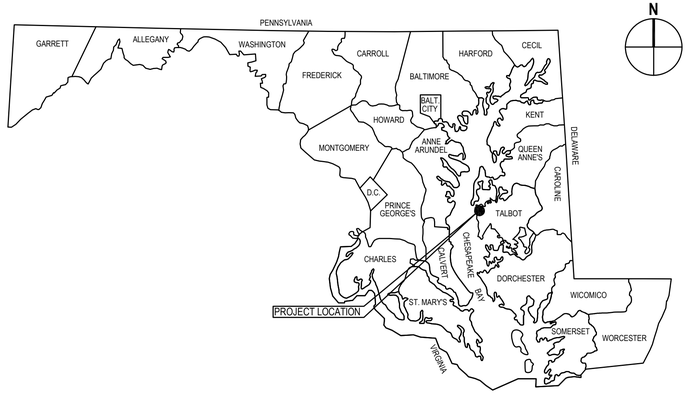
IMPROVEMENT PLAN REVIEW			Comments
Plans Approved	☐ Y	☒ N	Please review any outstanding comments from the Engineering Department and Easton Utilities.

GRADING PERMIT STATUS			
Application and Final Approved Site Plan Submitted to Town Engineer	☐ Y	☒ N	To be processed by the Engineering Department.
LEGAL DOCUMENTS			
Storm Water Easement			
☒ Required ☐ Submitted ☐ Approved			**Not required**
Utility Easement			
☒Required ☐ Submitted ☐ Approved			**Not required**
Shared Access/Use Easement			
☐ Required ☐ Submitted ☐ Approved			**Not required**
Sidewalk Easement			
☐ Required ☐ Submitted ☐ Approved			**Not required**
Declaration of Covenants			
☒ Required ☐ Submitted ☐ Approved			**Not required**
Public Works Agreement			
☒ Required ☐ Submitted ☐ Approved			**Not required**
Bond/Letter of Credit/ Cash Agreement			
☒ Required ☐ Submitted ☐ Approved			**Not required**
Talbot Soil Conservation District Approval			
☒ Approval Required			**Required.**
Forest Stand Delineation & Forest Conservation Plan			
☐ Required ☐ Submitted ☐Approved			**To be determined.**
Other			
☐ Required ☐ Submitted ☐ Approved			

Please contact me if you have any questions. Thank you.

EASTON UTILITIES, MARYLAND
COMMERCE WATER TREATMENT PLANT
90% DESIGN REVIEW

JUNE 2023



VICINTY MAP

NOT TO SCALE

LOCATION MAP

1" = 2000'

COMPREHENSIVE PLAN DESIGN PRINCIPLES RESPONSE NARRATIVE

PRINCIPLE #1 - INTEGRATED USES ARE DESIRABLE: THE EASTON COMMERCE WTP IS NOT A COMMERCIAL OR RESIDENTIAL DEVELOPMENT AND INTEGRATED USE ARE NOT APPLICABLE TO THIS PROJECT.

PRINCIPLE #2 - NATURAL FEATURES SHOULD DETERMINE DESIGN - THE NEW EASTON COMMERCE WATER TREATMENT PLANT WAS DESIGNED SUCH THAT THE SURROUNDING ENVIRONMENTAL FEATURES WILL NOT BE IMPACTED. THERE ARE NO ENVIRONMENTALLY SENSITIVE AREAS WITHIN THE SITE LIMITS OR IMMEDIATELY SURROUNDING THE SITE. THE SITE WILL INCLUDE A SUBMERGED GRAVEL WETLAND WITH REQUIRED LANDSCAPING AND A FENCE AROUND THE PROPERTY TO PROVIDE A SCREEN FOR SURROUNDING PROPERTIES. THE EXISTING SITE IS ALREADY MOSTLY CLEARED AND INCLUDES CONCRETE PARKING AND STORAGE AND A WAREHOUSE, THE PROPOSED SITE DESIGN WILL INCLUDE ADDITIONAL PLANTINGS AND WILL NOT IMPACT THE EXISTING DRAINAGE PATTERNS.

PRINCIPLE #3 - AUTOMOBILES SHOULD NOT DETERMINE DESIGN - THE TREATMENT PLANT WILL BE IN THE BACK OF AN EXISTING WAREHOUSE AND INCLUDES NEW TREE PLANTINGS ALONG COMMERCE DRIVE TO SCREEN FROM THE PUBLIC STREETS. THE NEW PAVEMENT USES ONLY THE LAND NECESSARY TO PARK UTILITY VEHICLES AND ALLOW FOR FUTURE STORAGE NEEDS IN THE FENCED IN FACILITY.

PRINCIPLE #4 - AMPLE COMMUNITY OPEN SPACE - THE PROJECT STRIVES TO ARCHIVE MAXIMUM FUNCTIONALITY WHILE STILL PROVIDING OPEN GREEN SPACE AT THE FRONT AND REAR OF THE BUILDING FOR WHAT IS PROPOSED ON THE EXISTING SITE.

PRINCIPLE #5 - ARCHITECTURE SHOULD RESPECT EASTON'S HISTORICAL DEVELOPMENT - THE WATER TREATMENT PLANT CONTROL BUILDING TO BE CONSTRUCTED WILL EMULATE EASTON'S ARCHITECTURAL DESIGN STANDARDS. THE PROVIDED BUILDING ELEVATIONS SHOW THE DESIGN INTENT AND PROPOSED FEATURES.

PRINCIPLE #6 - SIGNS SHOULD INFORM BUT NOT DOMINATE - SIGNS WILL BE COMPATIBLE WITH NEIGHBORING BUILDINGS AND FOLLOW THE TRED OF THE DEVELOPMENT.

PRINCIPLE #7 - NEIGHBORHOODS SHOULD CONTAIN A DIVERSITY OF HOUSING TYPES - THE WATER TREATMENT PLANT DIFFERS FROM THE EXISTING WAREHOUSE ON THE FACILITY TOBREKA UP ANY NOTICEABLE REDUNDANCY.

PRINCIPLE #8 - RESIDENTIAL NEIGHBORHOODS SHOULD BE INTERESTING PLACES - NOT APPLICABLE TO THIS COMMERCIAL PROJECT WHICH IS IN BUSINESS COMMERCIAL ZONING.

PRINCIPLE #9 - NEIGHBORHOODS SHOULD CONNECT - THIS DESIGN PRINCIPLE IS NOT APPLICABLE TO THIS WATER TREATMENT PLANT PROJECT AND DOES NOT CONNECT TO NEIGHBORHOODS.

GENERAL NOTES:

1. LOT ADDRESSES: WARD DISTRICT 1, 8670 COMMERCE DRIVE, EASTON, MD 21601
2. OWNER: EASTON UTILITIES
3. TAX MAP/ GRID/ PARCEL/ BLOCK: PARCEL 4, LOT 3
4. ZONING: BC (BUSINESS COMMERCIAL)
5. BUILDING USE:
6. SQ FT:
7. LOT SIZE: 5.089 ACRES
   IMPERVIOUS: 2.73 AC
   PERVIOUS: 2.35 AC
8. DEED REFERENCES: 2667/171
9. TAX ACCOUNT ID: 054244
10. VERTICAL DATUM: NAVD 88
11. HORIZONTAL DATUM: NAD 83
12. APPLICANT SHALL OBTAIN A DEMOLITION PERMIT PRIOR TO REMOVING EXISTING STRUCTURES.
13. THE APPLICANT SHALL OBTAIN AN APPLICATION FOR FENCE FROM THE TOWN'S BUILDING INSPECTION DIVISION PRIOR TO INSTALLATION.

ZONING RESTRICTIONS

ZONING:	BUSINESS COMMERCIAL (BC)
MAXIMUM LOT COVERAGE:	50% OF LOT AREA
MINIMUM LOT SIZE:	40,000 SQ FT
MINIMUM LOT FRONTAGE:	100 FT
MINIMUM BUILDING ENVELOPE:	30 FT DEEP BY 80 FT WIDE
MINIMUM FRONT SETBACK:	40 FT FROM PROPERTY LINE
MINIMUM SIDE SETBACK:	10 FT ON EACH SIDE OF PROPERTY LINE (EXCEPT FOR FENCES)
MINIMUM REAR SETBACK:	30 FT FROM PROPERTY LINE (EXCEPT FOR FENCES)
MAXIMUM BUILDING HEIGHTS:	35 FT
PARKING SPACES REQUIRED AND PROVIDED (INCLUDING STANDARD AND HANDICAP ACCESSIBLE) - ONE SPACE PER 2,000 SQ FT OF GFA	

PRELIMINARY -
NOT FOR CONSTRUCTION

APPROVED:

TOWN OF EASTON - TOWN PLANNER DATE

APPROVED:

TOWN OF EASTON - TOWN ENGINEER DATE

APPROVED:

EASTON UTILITIES - MANAGER OF ENGINEERING DATE

No.	Issue	Checked	Approved	Date
D	100% SUBMITTAL	ALT	JHC	2023 06 29
C	90% SUBMITTAL	ALT	JHC	2023 04 20
B	60% SUBMITTAL	ALT	JHC	2023 01 19
A	30% SUBMITTAL	ALT	JHC	2022 08 19

Author **K. LARSON** Drafting Check K. LARSON Project Manager J. CANNON
Designer **A. THRON** Design Check **J. CANNON** Project Director K. GEORGE

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0 1"

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Client **WARD DISTRICT 1, EASTON MARYLAND**
EASTON UTILITIES
Project **COMMERCE WATER TREATMENT PLANT**

Title **COVER SHEET**

Size **ANSI D**

Project No. **12578222** Date **04/2023** Scale **NOT TO SCALE**

Sheet No. **G001** Status Code Sheet of 84

Plot Date: 27 July 2023 - 3:24 PM Plotted By: Kristopher Larson Path and Filename: G:\565\12578222\Digital_Design\ACAD\Sheets\Gen\12578222-GHD-DWG-G-001.dwg

LIST OF DRAWINGS

GENERAL		
1	G001	COVER SHEET
2	G002	LIST OF DRAWINGS, ABBREVIATIONS, LEGENDS, SYMBOLS AND GENERAL NOTES
CIVIL		
3	C001	EXISTING SITE AND DEMOLITION PLAN
4	C002	PROPOSED SITE AND GRADING PLAN
5	C003	OVERALL YARD PIPING PLAN
6	C101	YARD PIPING PROFILES
7	C301	EROSION AND SEDIMENT CONTROL PRE AND POST DEVELOPMENT PLANS
8	C302	EROSION AND SEDIMENT CONTROL NOTES
9	C303	EROSION AND SEDIMENT CONTROL DETAILS
10	C401	STORMWATER MANAGEMENT PLAN
11	C402	STORMWATER MANAGEMENT PLANS & DETAILS
12	C501	LANDSCAPING PLAN AND DETAILS
13	C901	MISCELLANEOUS CIVIL DETAILS 1
14	C902	MISCELLANEOUS CIVIL DETAILS 2
15	C903	MISCELLANEOUS CIVIL DETAILS 3
ARCHITECTURAL		
16	A001	GENERAL ARCHITECTURAL INFORMATION AND STANDARD DETAILS
17	A201	WTP BUILDING LIFE SAFETY PLAN AND CODE ANALYSIS
18	A202	WTP BUILDING ISOMETRIC VIEWS
19	A203	WTP BUILDING - GROUND FLOOR OVERALL PLAN AND ROOF PLAN
20	A204	WTP BUILDING EXTERIOR ELEVATIONS
21	A205	WTP BUILDING SECTIONS
22	A206	WTP BUILDING - ENLARGED FLOOR PLAN AND INTERIOR ELEVATIONS
23	A207	WTP BUILDING - REFLECTED CEILING PLAN
24	A208	WTP BUILDING - WALL SECTIONS
25	A209	DOOR AND WINDOW TYPES AND SCHEDULES
26	A901	ARCHITECTURAL OPENING DETAILS
27	A902	ARCHITECTURAL DETAILS
28	A903	ARCHITECTURAL DETAILS
STRUCTURAL		
29	S001	STRUCTURAL DESIGN CRITERIA
30	S002	STANDARD CONCRETE DETAILS
31	S003	STANDARD MASONRY DETAILS
32	S004	STANDARD MISCELLANEOUS FABRICATION DETAILS
33	S201	WATER TREATMENT PLANT - FOUNDATION PLAN
34	S202	WATER TREATMENT PLANT - FLOOR FRAMING PLAN
35	S203	WATER TREATMENT PLANT - ROOF FRAMING PLAN
36	S204	WATER TREATMENT PLANT - BUILDING SECTIONS
37	S205	WATER TREATMENT PLANT - WALL SECTIONS
MECHANICAL		
38	M001	PROCESS FLOW DIAGRAM AND DESIGN CRITERIA
39	M002	CHEMICAL FEED SCHEMATICS
40	M101	GLEBE WTP CLEARWELL DEMOLITION PLAN
41	M102	GLEBE WTP CLEARWELL MODIFICATION/RESIDUALS EQUALIZATION TANK PLAN & SECTION
42	M201	WATER TREATMENT PLANT PLAN
43	M202	WATER TREATMENT PLANT SECTIONS 1
44	M203	WATER TREATMENT PLANT SECTIONS 2
45	M301	BACKWASH STORAGE TANK PLAN
46	M901	MISCELLANEOUS MECHANICAL DETAILS 1
47	M902	MISCELLANEOUS MECHANICAL DETAILS 2
48	M903	MISCELLANEOUS MECHANICAL DETAILS 3
HVAC		
49	H001	HVAC SYMBOLS, ABBREVIATIONS, AND NOTES
50	H002	HVAC SCHEDULES
51	H003	HVAC SCHEDULES
52	H201	WATER TREATMENT PLANT BUILDING PLAN
53	H901	HVAC DETAILS
54	H902	HVAC DETAILS
55	H903	HVAC DETAILS
PLUMBING		
56	P001	PLUMBING SYMBOLS, ABBREVIATIONS, AND NOTES
57	P201	WATER TREATMENT PLANT BUILDING UNDERSLAB PLUMBING PLAN
58	P202	WATER TREATMENT PLANT BUILDING FLOOR PLAN
59	P901	PLUMBING DETAILS
60	P902	PLUMBING SCHEDULES

LIST OF DRAWINGS (CONTINUED)

FIRE PROTECTION		
61	F001	FIRE PROTECTION SYMBOLS, NOTES AND ABBREVIATIONS
62	F201	WATER TREATMENT PLANT FIRE PROTECTION PLAN
63	F900	DETAILS - SPRINKLER
64	F901	DETAILS - FIRE ALARM
ELECTRICAL		
65	E001	ELECTRICAL LEGEND, ABBREVIATIONS, SYMBOLS AND GENERAL NOTES
66	E002	OVERALL ELECTRICAL SITE PLAN
67	E003	DUCTBANK SECTIONS AND SCHEDULES
68	E004	POWER DISTRIBUTION ONE-LINE DIAGRAMS
69	E101	GLEBE WTP RESIDUALS PS POWER AND CONTROL PLAN AND CONDUIT RISER DIAGRAM
70	E201	WATER TREATMENT PLANT POWER AND CONTROL PLAN
71	E202	WATER TREATMENT PLANT LIGHTING PLAN
72	E203	WATER TREATMENT PLANT SECURITY PLAN
73	E204	WATER TREATMENT CONDUIT RISER DIAGRAM
74	E301	BACKWASH SUPPLY TANK POWER AND CONTROL PLAN AND CONDUIT RISER DIAGRAM
75	E701	LIGHTING AND PANELBOARD SCHEDULES
76	E702	LIGHTING AND PANELBOARD SCHEDULES
77	E801	PROCESS CONTROL SYSTEM ELEMENTRY AND ELEVATIONS
78	E802	PROCESS CONTROL SYSTEM NETWORK DIAGRAM AND DETAILS
79	E803	PROCESS CONTROL ELEMENTARIES
80	E804	PROCESS CONTROL ELEMENTARIES
81	E805	HVAC ELEMENTARIES
82	E901	ELECTRICAL DETAILS
83	E902	ELECTRICAL DETAILS
84	E903	ELECTRICAL DETAILS

GENERAL NOTES

1. CONTRACTOR IS RESPONSIBLE FOR CONTACTING "MISS UTILITY" AT 1-800-257-7777, 48 HOURS PRIOR TO ANY EXCAVATION WORK.
2. CONTRACTOR SHALL ATTEND A PRE-CONSTRUCTION MEETING TO INCLUDE THE CONTRACTOR, TOWN OF EASTON, MDE, EASTON UTILITIES, AND ANY LOCAL, STATE OR FEDERAL AGENCIES AS REQUIRED PRIOR TO THE START OF CONSTRUCTION.
3. EXISTING CONDITIONS SHOWN ON THESE DRAWINGS ARE BASED ON A TOPOGRAPHIC SURVEY PROVIDED BY LANE ENGINEERING LLC. THE MERIDIAN SOURCE OF THIS TOPOGRAPHIC SURVEY IS BASED ON MARYLAND STATE PLANE COORDINATE SYSTEM (HORIZONTAL DATUM NAD 83 AND VERTICAL DATUM NAVD 88).
4. CONTRACTOR IS TO FIELD VERIFY AND COORDINATE ALL EXISTING PIPING ELEVATIONS, LOCATIONS, SIZE, AND TYPE OF MATERIAL WITH NEW PIPING PRIOR TO CONSTRUCTION. CONTRACTOR SHALL FIELD VERIFY AND COORDINATE ALL EXISTING DIMENSIONS AND ELEVATIONS PRIOR TO ORDERING NEW EQUIPMENT.
5. CONTRACTOR SHALL PERFORM EXPLORATORY EXCAVATIONS AS NECESSARY TO VERIFY LOCATIONS OF EXISTING UNDERGROUND PIPING AND UTILITIES PRIOR TO CONSTRUCTING NEW FACILITIES.
6. THE CONTRACTORS WORK AREA SHALL BE CONFINED TO THE LIMITS OF THE RIGHT-OF-WAYS AND EASEMENTS. THE CONTRACTOR SHALL OBTAIN ANY ADDITIONAL EASEMENTS OR WORK RELEASES SHOULD THE CONTRACTOR REQUIRES ADDITIONAL AREA TO ACCOMMODATE HIS OPERATIONS. A COPY OF WRITTEN AGREEMENTS SHALL BE FURNISHED TO THE OWNER.
7. THE CONTRACTOR SHALL PROVIDE MAINTENANCE AND PROTECTION OF TRAFFIC IN ACCORDANCE WITH MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND MDOT STANDARDS AND DRAWINGS FOR WORK ZONE TRAFFIC CONTROL.
8. ALL SEWER PIPING SHALL BE INSTALLED WITH MINIMUM COVER OF 3'-0". IF MINIMUM COVER CANNOT BE OBTAINED, THE SEWER MAIN LOCATION SHALL BE REVIEWED AND APPROVED BY THE ENGINEER AND OWNER AND SHALL BE ENCASED IN CONCRETE.
9. MINIMUM PIPE SEPARATION: 10' HORIZONTAL SEPARATION OR 18" VERTICAL SEPARATION SHALL BE MAINTAINED BETWEEN WATER MAINS OVER SEWER MAINS. WHEN WATER MAINS ARE BELOW SEWER MAINS OR THE ABOVE MINIMUM SEPARATION CANNOT BE MAINTAINED, DUCTILE IRON PIPE SHALL BE USED FOR BOTH MAINS TO 10' EITHER SIDE OF CROSSING, AND ALL ALONG THE LENGTH OF MAINS WHERE MINIMUM SEPARATION CANNOT BE MAINTAINED.
10. IF A PROPOSED SEWER CONFLICTS WITH A SUBSURFACE OBSTRUCTION AND WHEN THE MINIMUM COVER CANNOT BE MAINTAINED BY GOING ABOVE THE OBSTRUCTION, THE CONTRACTOR SHALL INSTALL THE SANITARY SEWER BELOW THE OBSTRUCTION MAINTAINING THE APPROPRIATE SEPARATION AND GRADE.
11. ALL OPEN EXCAVATED AREAS SHALL BE ADEQUATELY MARKED, SECURED WITH TEMPORARY FENCING WITH A MINIMUM HEIGHT OF 6 FEET, AND/OR COVERED WITH STEEL PLATE AT THE END OF EACH WORK DAY.
12. CONTRACTOR SHALL REMOVE AND REPLACE CURBS, SIDEWALKS, DRIVEWAYS, MAILBOXES, ETC. TO LIKE KIND CONDITION OR BETTER AS NECESSARY TO ACCOMMODATE CONSTRUCTION OF THE PROPOSED UTILITIES HERE IN.
13. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PERTINENT TO THE WORK OF THE CONTRACT. NO ALLOWANCE SHALL BE MADE ON BEHALF OF THE CONTRACTOR FOR ANY ERROR OR NEGLECT ON HIS PART.
14. UNDER THIS PROJECT, THE CONTRACTOR SHALL BE RESPONSIBLE TO RESTORE, ACCORDING TO THE PLANS AND SPECIFICATIONS, ALL AREAS DISTURBED AS A RESULT OF THIS WORK.
15. ALL SURFACES DISTURBED BY THE CONTRACTOR WHICH ARE OUTSIDE THE WORK LIMITS OR WORK SCOPE, OR ARE SURFACES DISTURBED WITHOUT PRIOR AUTHORIZATION BY THE ENGINEER, SHALL BE RESTORED TO ORIGINAL CONDITIONS OR BETTER. THE CONTRACTOR SHALL BE RESPONSIBLE TO REPAIR, TO THE EXTENT SPECIFIED BY THE ENGINEER, ALL DAMAGED PAVEMENT AREAS, (OUTSIDE THE LIMITS OF EXCAVATION) DAMAGED AS A RESULT OF HIS (OR ANY OF HIS REPRESENTATIVES) OPERATIONS. NO ADDITIONAL COMPENSATION WILL BE PROVIDED FOR ALL SUCH WORK.
16. CONTRACTOR SHALL FIELD LOCATE ALL SEWER LATERALS, WATER SERVICES, GAS, AND OTHER SERVICES PRIOR TO CONSTRUCTION. CONTRACTOR SHALL REPAIR ANY DAMAGED SEWER LATERALS, WATER SERVICES, GAS, AND OTHER SERVICES AS A RESULT OF CONSTRUCTION AT HIS OWN EXPENSE.
17. WHEN WORK INCLUDED UNDER THIS PROJECT, AS INDICATED BY THE PROJECT CONTRACT DOCUMENTS, REQUIRES THE REMOVAL OF EXISTING PAVED SURFACES, TO INCLUDE BUT NOT BE LIMITED TO, ROADWAYS, DRIVEWAYS, SIDEWALKS, AND PARKING LOTS, THE CONTRACTOR SHALL BE REQUIRED TO SAW-CUT THE LIMITS OF THE PROPOSED EXCAVATION PRIOR TO EXCAVATION OF SAID AREA. THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE AND MAINTAIN TEMPORARY RESTORATION OF ALL SUCH AREAS, UNTIL PERMANENT RESTORATION IS PROVIDED. NO ADDITIONAL COMPENSATION SHALL BE PROVIDED FOR ALL SUCH SAW CUTTING AND TEMPORARY RESTORATION.
18. CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE RULES AND REGULATIONS FOR STATE, COUNTY AND CITY.
19. PRIOR TO THE START OF ANY CONSTRUCTION PHASE, ALL PROPOSED MAINTENANCE AND PROTECTION OF TRAFFIC RELATED WORK SHALL BE COMPLETE. THIS INCLUDES, WHERE APPLICABLE, ALL SIGNS, PAVEMENT MARKINGS, BARRIERS, DELINEATION (CONES, DRUMS, ETC.), PAVEMENT MODIFICATION AND OTHER RELATED WORK.
20. CONTRACTOR SHALL RESTORE EXISTING FENCES, UNLESS SHOWN OTHERWISE, WITH EQUAL OR BETTER MATERIALS WHEN TEMPORARY FENCING IS REMOVED.

GENERAL LEGEND

NEW GRAPHICS; EQUIPMENT, STRUCTURES, ETC., ARE SHOWN AS BOLD LINEWORK AND IN THIS TEXT FORMAT.

EXISTING GRAPHICS; EQUIPMENT, CONDITIONS STRUCTURES, ETC. ARE SHOWN AS LIGHT LINEWORK AND IN THIS TEXT FORMAT.

EXISTING PIPE CALLOUT (FOR PLANS)

12", SD

PIPE SIZE AND PIPING DESIGNATION (VARIES, SEE 'LIST OF PIPING DESIGNATIONS')

NEW PIPE CALLOUT (FOR PLANS)

PIPE SIZE AND MATERIAL

12" DIP, PEF

PIPING DESIGNATION (VARIES, SEE 'LIST OF PIPING DESIGNATIONS')

NEW/EXIST PIPE CALLOUT (FOR SECTIONS)

PIPE SIZE AND MATERIAL

12" DIP, PEF
INV EL XX.XX

12" DIP, PEF
℄ EL XX.XX

PIPING DESIGNATION (VARIES, SEE 'LIST OF PIPING DESIGNATIONS')

INVERT or CENTER LINE ELEVATION (IF REQD)

PIPE SIZE AND PIPING DESIGNATION (VARIES, SEE 'LIST OF PIPING DESIGNATIONS')

12", SD

INVERT or CENTER LINE NOT REQUIRED

TYPICAL SECTION MARKS (FOR PLANS)

SECTION LETTER

DRAWING NUMBER (REPRESENTS DRAWING WHERE SECTION IS DRAWN)

A
X301

A
X301

TYPICAL SECTION SUB-TITLE (FOR SECTIONS)

SECTION LETTER

DRAWING NUMBER (REPRESENTS DRAWING WHERE SECTION MARKS ARE SHOWN)

A
G00X

SECTION
SCALE:

TYPICAL DETAIL MARKS

DETAIL NUMBER

DRAWING NUMBER (REPRESENTS DRAWING WHERE DETAIL IS DRAWN)

1
G00X

DETAIL
SCALE:

TYPICAL DETAILING

DETAIL NUMBER

1
X501

DETAIL NAME

DRAWING NUMBER (REPRESENTS DRAWING WHERE DETAIL IS DRAWN)

NORTH ARROW

N

CIVIL LEGEND

X	FENCE
21	*EXISTING MINOR CONTOUR*
20	*EXISTING MAJOR CONTOUR*
21	NEW MINOR CONTOUR
20	NEW MAJOR CONTOUR
E E	ELECTRICAL UTILITY
FO FO	FIBER OPTIC
L L	LIGHT CONDUIT
G G	GAS LINE
	BRUSH LINE
	PROPERTY LINE
	500 YEAR BASE FLOOD ELEVATION
	UTILITY EASEMENT
LOD LOD	LIMIT OF DISTURBANCE
SF SF	SILT FENCE
	LIMIT OF SURVEY
	SOIL DIVIDE
	100-FT STREAM SETBACK
	WETLAND
	25' WETLAND BUFFER
SCE	STABILIZED CONSTRUCTION ENTRANCE
IP	INLET PROTECTION
	STOCKPILE/STAGING AREA
	EXISTING STRUCTURE
	NEW STRUCTURE
	EXISTING PAVEMENT
	MILL AND OVERLAY PAVEMENT
	NEW PAVEMENT
	EXISTING CONC SIDEWALK
	NEW CONC SIDEWALK
	RIPRAP
	EXISTING GRAVEL PAVEMENT
	>25% SLOPES
	15%-25% SLOPES
UP	UTILITY POLE
	LIGHTING POLE
01	CONSTRUCTION STAKEOUT POINT
	SURVEY CONTROL POINT/ MONUMENT (BENCHMARK)
CO	CLEANOUT
	TREE
	EXISTING PIPE
	PROPOSED PIPE
	FUTURE PIPE
POS#	POINT OF STUDY
PED	PEDESTAL
HYD	HYDRANT
S	SANITARY MANHOLE
D	STORM DRAIN MANHOLE
E	ELECTRICAL MANHOLE/ HANDHOLE
U	UTILITY MANHOLE/ HANDHOLE
CB	STORMWATER CATCH BASIN
WV	WATER VALVE
CO	CLEANOUT
XxX	SOIL LABEL

PIPE FITTINGS AND VALVE SYMBOLS

	FLANGED JOINT
	WELDED JOINT
	MECHANICAL JOINT
	RESTRAINED JOINT/ PUSH ON JOINT
	MECHANICAL COUPLING
	RESTRAINED DISMANTLING JOINT/ RESTRAINED FLANGE COUPLING ADAPTER
	DISMANTLING JOINT/ FLANGED COUPLING ADAPTER
	EXPANSION JOINT
	EXPANSION COUPLING
FM	FLOWMETER
	WALL SLEEVE W/ MECHANICAL SEAL
	HEAT TRACED AND INSULATED PIPING (FOR INSULATION LIMITS AND REQUIREMENTS REFER TO SPECIFICATIONS 15260 AND 16862, AND INDIVIDUAL DRAWINGS)
	INSULATED PIPING
	ELBOW UP
	ELBOW DOWN
	90° ELBOW
	45° ELBOW
	TEE UP
	TEE DOWN
	TEE IN PLANE
	LATERAL WYE
	CONCENTRIC REDUCER
	ECCENTRIC REDUCER
	BLIND FLANGE
	PLUG VALVE
	GATE VALVE
	CHECK VALVE
	BALL VALVE
	BUTTERFLY VALVE
	FLUSHING CONNECTION W/ CAP OR PLUG
	AIR RELEASE VALVE
	PRESSURE RELIEF VALVE
	PRESSURE GAUGE
FM	ULTRASONIC FLOW METER

PIPE SUPPORT SYMBOLS

PLAN	SECTION	
		DUAL BRACKET VERTICAL PIPE SUPPORT
		ANGLE BRACKET PIPE SUPPORT
		TYPE 1 PIPE SUPPORT
		TYPE 38 PIPE SUPPORT
F		FIXED PIPE SUPPORT
S		SLIDING PIPE SUPPORT

LIST OF PIPING DESIGNATIONS

BSF	BACKWASH SUPPLY TANK FILL
BSP	BACKWASH SUPPLY PIPE
BWW	BACKWASH WASTE
FBY	FILTER BYPASS
FIL	FILTRATE
FIN	FINISHED WATER
SAN	SANITARY SEWER
SFB	SPENT FILTER BACKWASH
SHP	SODIUM HYPOCHLORITE
SHX	SODIUM HYDROXIDE
RAW	RAW WATER
W	WATER

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APPROVED:
TOWN OF EASTON - TOWN PLANNER DATE

APPROVED:
TOWN OF EASTON - TOWN ENGINEER DATE

APPROVED:
EASTON UTILITIES - MANAGER OF ENGINEERING DATE

No.	Issue	Checked	Approved	Date
D	100% SUBMITTAL	ALT	JHC	2023 06 29
C	90% SUBMITTAL	ALT	JHC	2023 04 20
B	60% SUBMITTAL	ALT	JHC	2023 01 19
A	30% SUBMITTAL	ALT	JHC	2022 08 19

Author **K. LARSON** Drafting Check K. LARSON Project Manager J. CANNON
Designer **A. THRON** Design Check **J. CANNON** Project Director K. GEORGE

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Client **WARD DISTRICT 1, EASTON MARYLAND EASTON UTILITIES**
Project **COMMERCE WATER TREATMENT PLANT**

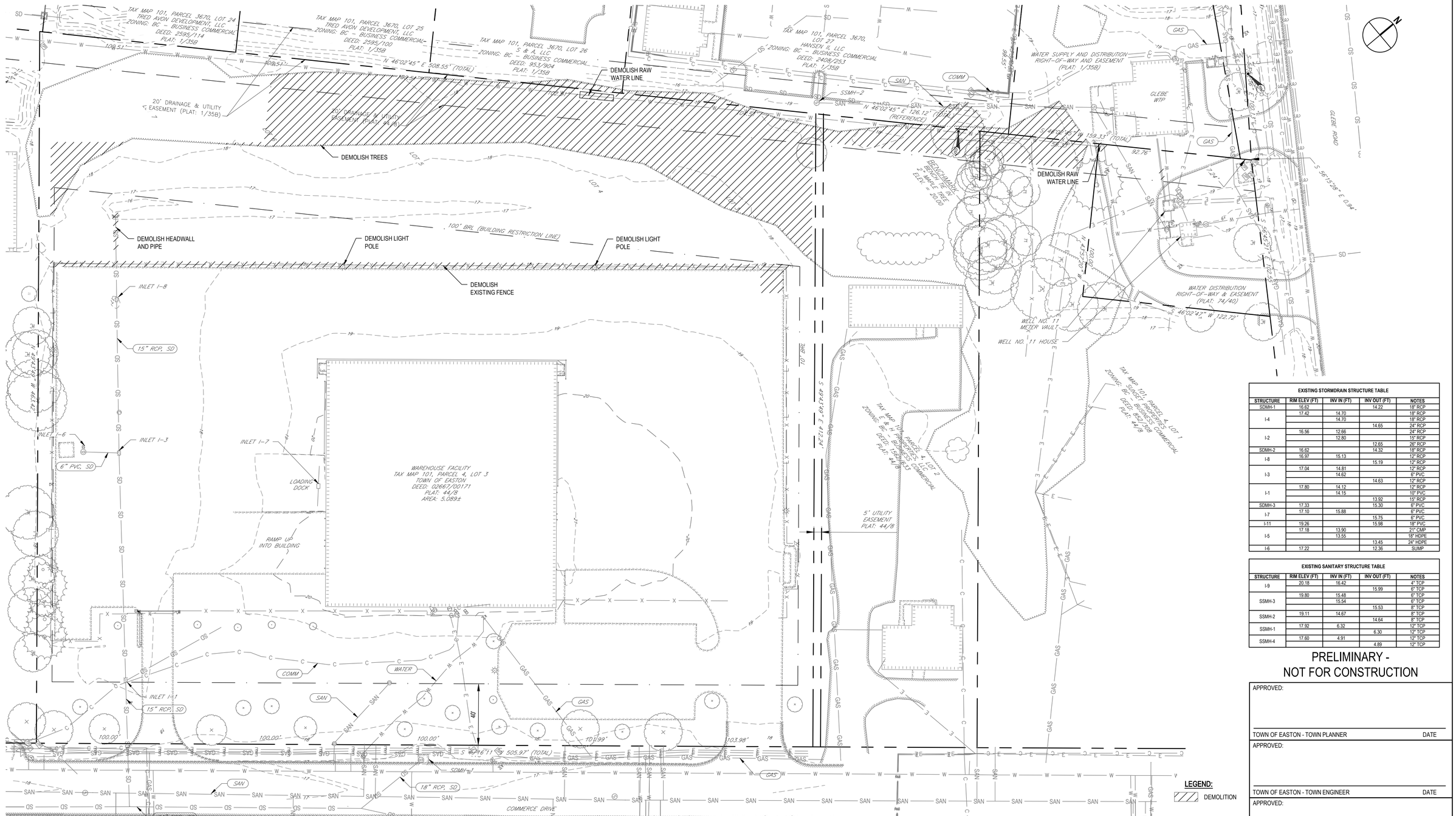
Title **LIST OF DRAWINGS, ABBREVIATIONS, LEGENDS, SYMBOLS AND GENERAL NOTES**

Size **ANSI D**

Project No. **12578222** Date **04/2023** Scale **NOT TO SCALE**

Sheet No. **G002** Status Code Sheet of 84

Plot Date: 27 July 2023 - 3:24 PM Plotted By: Kristopher Larson Path and Filename: G:\565\12578222\Digital_Design\ACAD\Sheets\Gen\12578222-GHD-DWG-G-002.dwg



1 EXISTING SITE AND DEMOLITION PLAN

SCALE: 1" = 30'-0"

EXISTING STORMDRAIN STRUCTURE TABLE

STRUCTURE	RIM ELEV (FT)	INV IN (FT)	INV OUT (FT)	NOTES
SDMH-1	16.62		14.22	18" RCP
I-4	17.42	14.70		18" RCP
		14.70		18" RCP
			14.65	24" RCP
I-2	16.56	12.66		24" RCP
		12.80		15" RCP
			12.65	28" RCP
SDMH-2	16.62		14.32	18" RCP
I-8	16.97	15.13		12" RCP
			15.19	12" RCP
I-3	17.04	14.81		12" RCP
		14.62		6" PVC
			14.63	12" RCP
I-1	17.80	14.12		12" RCP
		14.15		10" PVC
			13.92	15" RCP
SDMH-3	17.33		15.30	6" PVC
I-7	17.10	15.88		6" PVC
			15.75	6" PVC
I-11	19.26		15.98	18" PVC
I-5	17.18	13.90		21" CMP
		13.55		18" HDPE
			13.45	24" HDPE
I-6	17.22		12.36	SUMP

EXISTING SANITARY STRUCTURE TABLE

STRUCTURE	RIM ELEV (FT)	INV IN (FT)	INV OUT (FT)	NOTES
I-9	20.18	16.42		4" TCP
			15.99	6" TCP
SSMH-3	19.80	15.48		6" TCP
		15.54		6" TCP
			15.53	8" TCP
SSMH-2	19.11	14.67		8" TCP
			14.64	8" TCP
SSMH-1	17.92	6.32		12" TCP
			6.30	12" TCP
SSMH-4	17.60	4.91		12" TCP
			4.89	12" TCP

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APPROVED:

TOWN OF EASTON - TOWN ENGINEER DATE

APPROVED:

EASTON UTILITIES - MANAGER OF ENGINEERING DATE

LEGEND:

DEMOLITION

No.	Issue	Checked	Approved	Date
D	100% SUBMITTAL	ALT	JHC	2023 06 29
C	90% SUBMITTAL	ALT	JHC	2023 04 20
B	60% SUBMITTAL	ALT	JHC	2023 01 19
A	30% SUBMITTAL	ALT	JHC	2022 08 19

Author	K. LARSON	Drafting Check	K. LARSON	Project Manager	J. CANNON
Designer	A. THRON	Design Check	A. THRON	Project Director	K. GEORGE

Bar is one inch on original size sheet
0 1"

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SCALE 1"=30' AT ORIGINAL SIZE

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Client **WARD DISTRICT 1, EASTON MARYLAND**
EASTON UTILITIES
Project **COMMERCE WATER TREATMENT PLANT**

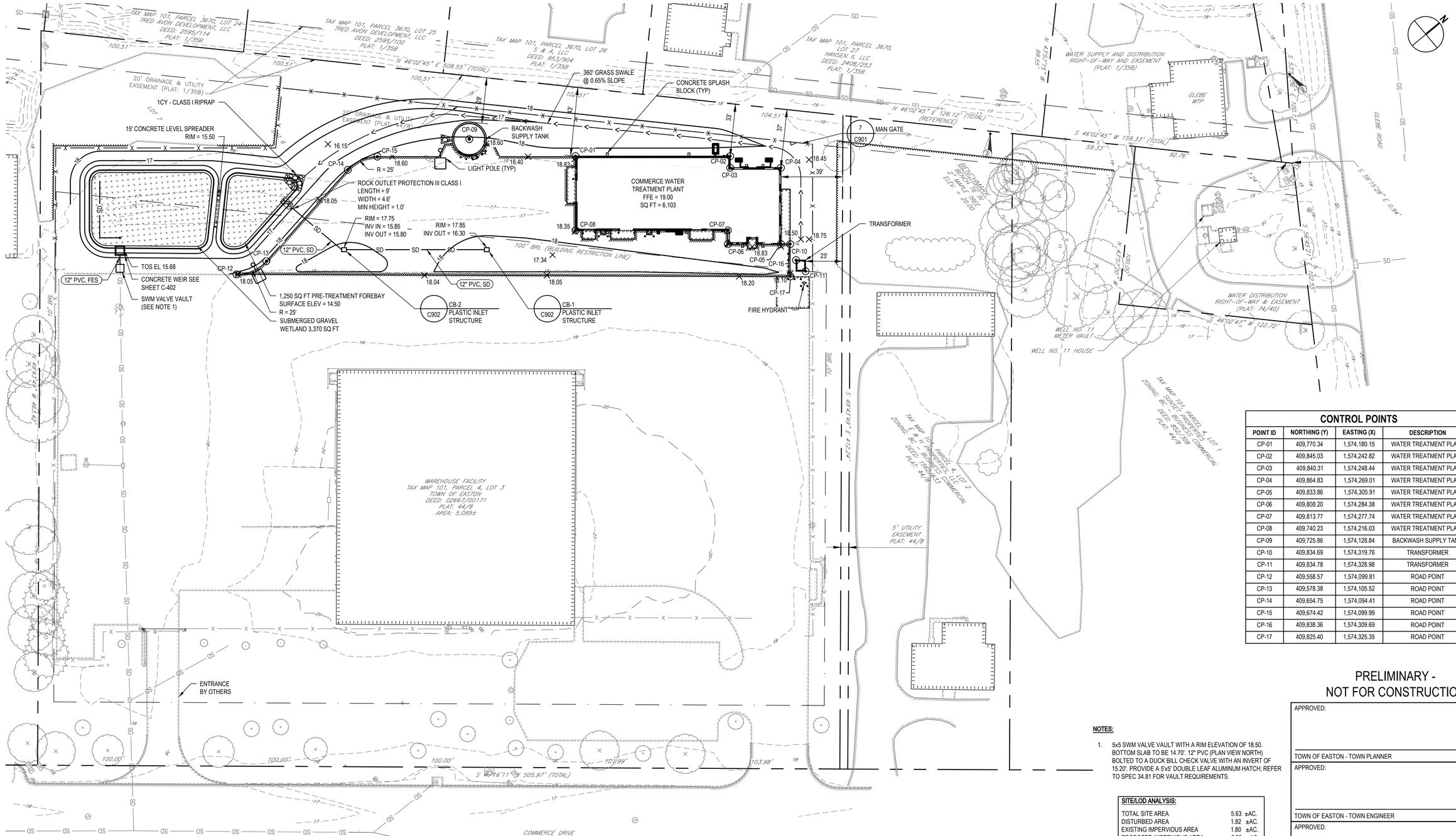
Title **EXISTING SITE AND DEMOLITION PLAN**

Size **ANSI D**

Status Code

Project No.	Date	Scale	Sheet No.	Sheet
12578222	04/2023	1" = 30'-0"	C001	of 84

Plot Date: 27 July 2023 - 3:25 PM Plotted By: Kristopher Larson Path and Filename: G:\565\12578222\Digital_Design\ACAD\Sheets\Civil\12578222-GHD-DWG-C-001.dwg



1 PROPOSED SITE AND GRADING PLAN

SCALE: 1" = 30'-0"

CONTROL POINTS

POINT ID	NORTHING (Y)	EASTING (X)	DESCRIPTION
CP-01	409,770.34	1,574,180.15	WATER TREATMENT PLANT
CP-02	409,845.03	1,574,242.82	WATER TREATMENT PLANT
CP-03	409,840.31	1,574,248.44	WATER TREATMENT PLANT
CP-04	409,864.83	1,574,269.01	WATER TREATMENT PLANT
CP-05	409,833.86	1,574,305.91	WATER TREATMENT PLANT
CP-06	409,808.20	1,574,284.38	WATER TREATMENT PLANT
CP-07	409,813.77	1,574,277.74	WATER TREATMENT PLANT
CP-08	409,740.23	1,574,216.03	WATER TREATMENT PLANT
CP-09	409,725.86	1,574,128.84	BACKWASH SUPPLY TANK
CP-10	409,834.69	1,574,319.76	TRANSFORMER
CP-11	409,834.78	1,574,328.98	TRANSFORMER
CP-12	409,558.57	1,574,099.81	ROAD POINT
CP-13	409,578.38	1,574,105.52	ROAD POINT
CP-14	409,654.75	1,574,094.41	ROAD POINT
CP-15	409,674.42	1,574,099.99	ROAD POINT
CP-16	409,838.36	1,574,309.69	ROAD POINT
CP-17	409,825.40	1,574,325.35	ROAD POINT

PRELIMINARY - NOT FOR CONSTRUCTION

NOTES:

1. 5x5 SWM VALVE VAULT WITH A RIM ELEVATION OF 18.50. BOTTOM SLAB TO BE 14.70'. 12" PVC (PLAN VIEW NORTH) BOLTED TO A DUCK BILL CHECK VALVE WITH AN INVERT OF 15.20'. PROVIDE A 5'x5' DOUBLE LEAF ALUMINUM HATCH; REFER TO SPEC 34.81 FOR VAULT REQUIREMENTS.

SITE/LOD ANALYSIS:

TOTAL SITE AREA	5.63 ±AC.
DISTURBED AREA	1.82 ±AC.
EXISTING IMPERVIOUS AREA	1.80 ±AC.
PROPOSED IMPERVIOUS AREA	2.33 ±AC.
NET INCREASE IN IMPERVIOUS AREA	0.53 ±AC.
TOTAL CUT	xx ±CY.
TOTAL FILL	xx ±CY.

APPROVED:

TOWN OF EASTON - TOWN PLANNER DATE

APPROVED:

TOWN OF EASTON - TOWN ENGINEER DATE

APPROVED:

EASTON UTILITIES - MANAGER OF ENGINEERING DATE

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Client **WARD DISTRICT 1, EASTON MARYLAND**
EASTON UTILITIES
Project **COMMERCE WATER TREATMENT PLANT**

Title **PROPOSED SITE AND GRADING PLAN**

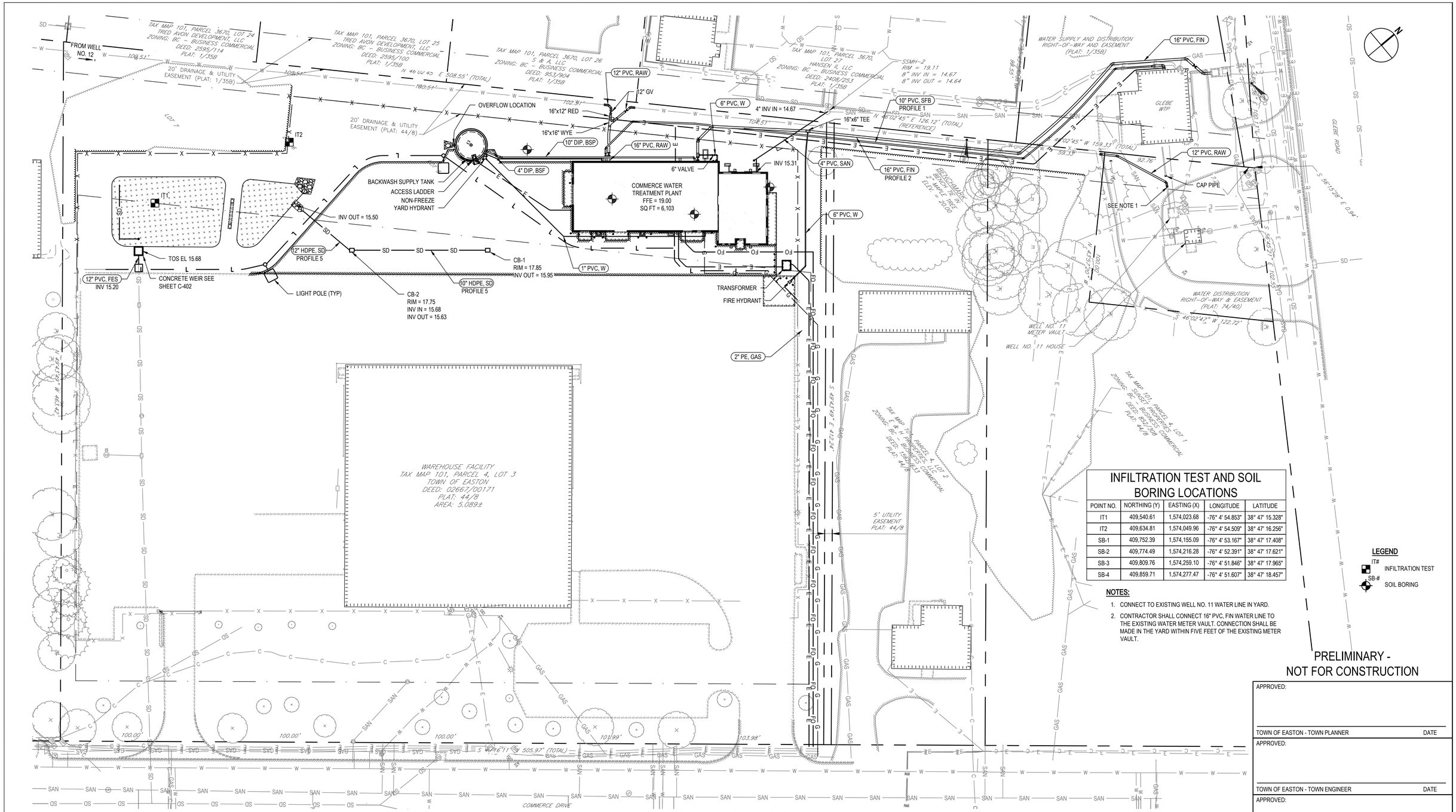
Size **ANSI D**

Status Code

Project No. **12578222** Date **04/2023** Scale **1" = 30'-0"**

Sheet No. **C002** Sheet of 84

Plot Date: 27 July 2023 - 3:25 PM Plotted By: Kristopher Larson Path and Filename: G:\565\12578222\Digital_Design\ACAD\Sheets\Civil\12578222-GHD-DWG-C-002.dwg



INFILTRATION TEST AND SOIL BORING LOCATIONS

POINT NO.	NORTHING (Y)	EASTING (X)	LONGITUDE	LATITUDE
IT1	409,540.61	1,574,023.68	-76° 4' 54.853"	38° 47' 15.328"
IT2	409,634.81	1,574,049.96	-76° 4' 54.509"	38° 47' 16.256"
SB-1	409,752.39	1,574,155.09	-76° 4' 53.167"	38° 47' 17.408"
SB-2	409,774.49	1,574,216.28	-76° 4' 52.391"	38° 47' 17.621"
SB-3	409,809.76	1,574,259.10	-76° 4' 51.846"	38° 47' 17.965"
SB-4	409,859.71	1,574,277.47	-76° 4' 51.607"	38° 47' 18.457"

NOTES:

1. CONNECT TO EXISTING WELL NO. 11 WATER LINE IN YARD.
2. CONTRACTOR SHALL CONNECT 16" PVC, FIN WATER LINE TO THE EXISTING WATER METER VAULT. CONNECTION SHALL BE MADE IN THE YARD WITHIN FIVE FEET OF THE EXISTING METER VAULT.

LEGEND

IT# INFILTRATION TEST

SB-# SOIL BORING

PRELIMINARY - NOT FOR CONSTRUCTION

APPROVED:

TOWN OF EASTON - TOWN PLANNER DATE

APPROVED:

TOWN OF EASTON - TOWN ENGINEER DATE

APPROVED:

EASTON UTILITIES - MANAGER OF ENGINEERING DATE

1 PROPOSED YARD PIPING PLAN

SCALE: 1" = 30'-0"

No.	Issue	Checked	Approved	Date
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Bar is one inch on original size sheet

0 1"

0 15' 30' 45'

SCALE 1"=30' AT ORIGINAL SIZE

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Client **WARD DISTRICT 1, EASTON MARYLAND**
EASTON UTILITIES

Project **COMMERCE WATER TREATMENT PLANT**

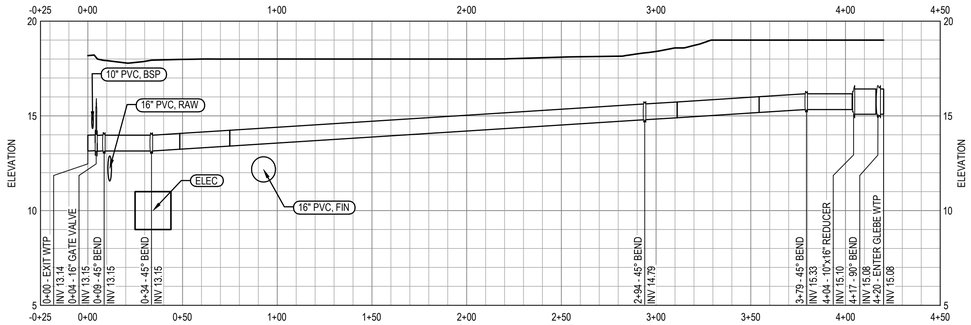
Title **OVERALL YARD PIPING PLAN**

Size **ANSI D**

Status Code

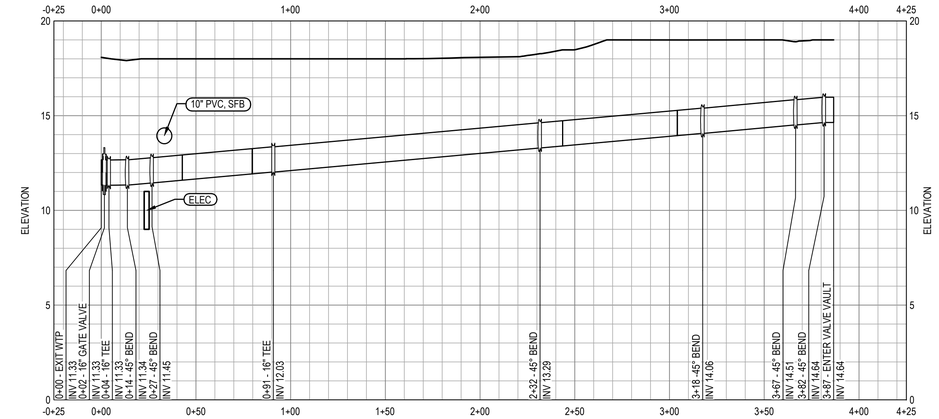
Project No.	Date	Scale	Sheet No.	Sheet
12578222	04/2023	1" = 30'-0"	C003	of 84

Plot Date: 27 July 2023 - 3:25 PM Plotted By: Kristopher Larson Path and Filename: G:\565\12578222\Digital_Design\ACAD\Sheets\Civil\12578222-GHD-DWG-C-003.dwg



1 PROFILE - 10" PVC SFB

SCALE: 1" = 40' H
SCALE: 1" = 4' V



2 PROFILE - 16" PVC FIN

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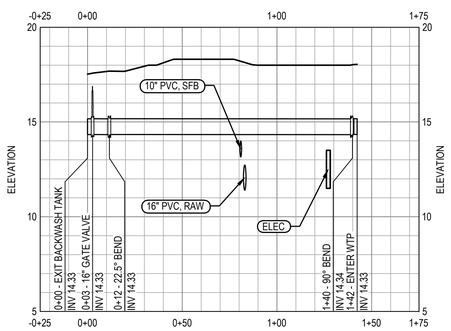

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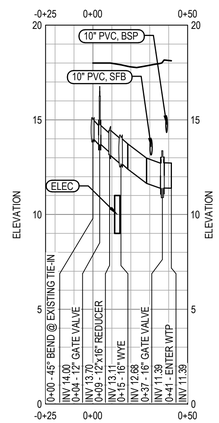

4 PROFILE - 16" PVC RAW

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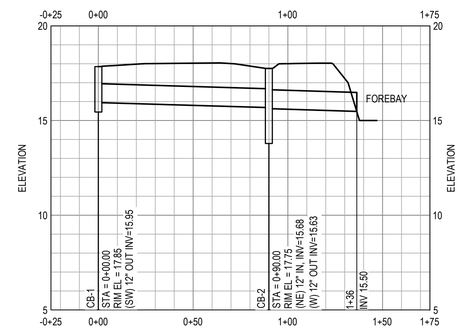

5 PROFILE - 12" HDPE, SD

SCALE: 1" = 40' H
SCALE: 1" = 4' V

PRELIMINARY -
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APPROVED:

TOWN OF EASTON - TOWN PLANNER DATE

APPROVED:

TOWN OF EASTON - TOWN ENGINEER DATE

APPROVED:

EASTON UTILITIES - MANAGER OF ENGINEERING DATE

No.	Issue	Checked	Approved	Date
D	100% SUBMITTAL	ALT	JHC	2023 06 29
C	90% SUBMITTAL	ALT	JHC	2023 04 20
B	60% SUBMITTAL	ALT	JHC	2023 01 19
A	30% SUBMITTAL	ALT	JHC	2022 08 19

Author	K. LARSON	Drafting Check	K. LARSON	Project Manager	J. CANNON
Designer	A. THRON	Design Check	A. THRON	Project Director	K. GEORGE

HORIZONTAL 1"=40'
AT ORIGINAL SIZE
0 20' 40' 60' 80'
0 2' 4' 6' 8'
VERTICAL 1"=4'
AT ORIGINAL SIZE

Bar is one inch on original size sheet
0 1"

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Client **WARD DISTRICT 1, EASTON MARYLAND**
EASTON UTILITIES
Project **COMMERCE WATER TREATMENT PLANT**

Title **YARD PIPING PROFILES**

Size **ANSI D**

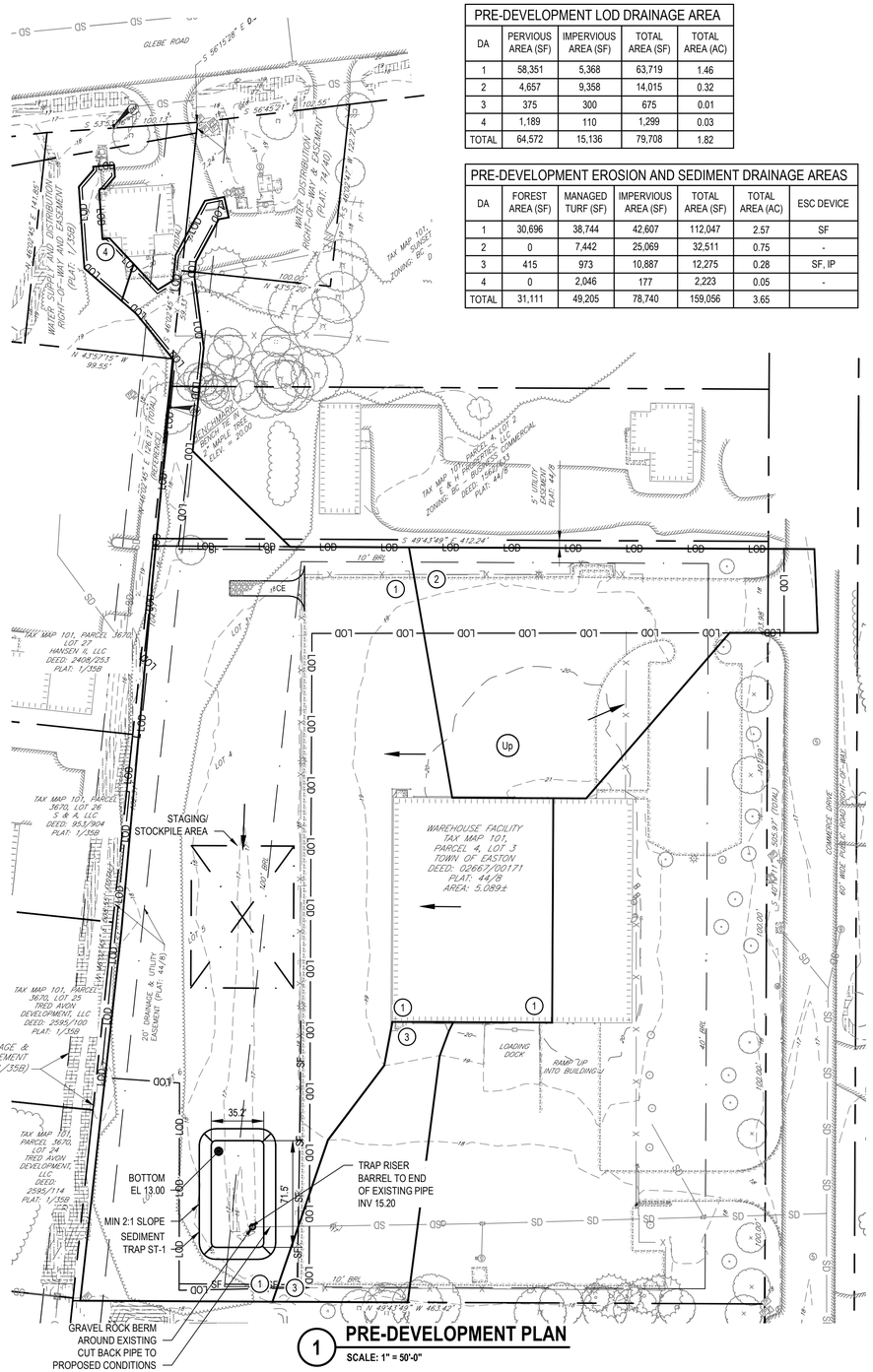
Status Code

Project No.	Date	Scale	Sheet No.	Sheet
12578222	04/2023	AS NOTED	C101	of 84

Plot Date: 27 July 2023 - 3:25 PM Plotted By: Kristopher Larson Path and Filename: G:\565\12578222\Digital_Design\ACAD\Sheets\Civil\12578222-GHD-DWG-C-101.dwg

PRE-DEVELOPMENT LOD DRAINAGE AREA				
DA	PERVIOUS AREA (SF)	IMPERVIOUS AREA (SF)	TOTAL AREA (SF)	TOTAL AREA (AC)
1	58,351	5,368	63,719	1.46
2	4,657	9,358	14,015	0.32
3	375	300	675	0.01
4	1,189	110	1,299	0.03
TOTAL	64,572	15,136	79,708	1.82

PRE-DEVELOPMENT EROSION AND SEDIMENT DRAINAGE AREAS						
DA	FOREST AREA (SF)	MANAGED TURF (SF)	IMPERVIOUS AREA (SF)	TOTAL AREA (SF)	TOTAL AREA (AC)	ESC DEVICE
1	30,696	38,744	42,607	112,047	2.57	SF
2	0	7,442	25,069	32,511	0.75	-
3	415	973	10,887	12,275	0.28	SF, IP
4	0	2,046	177	2,223	0.05	-
TOTAL	31,111	49,205	78,740	159,056	3.65	



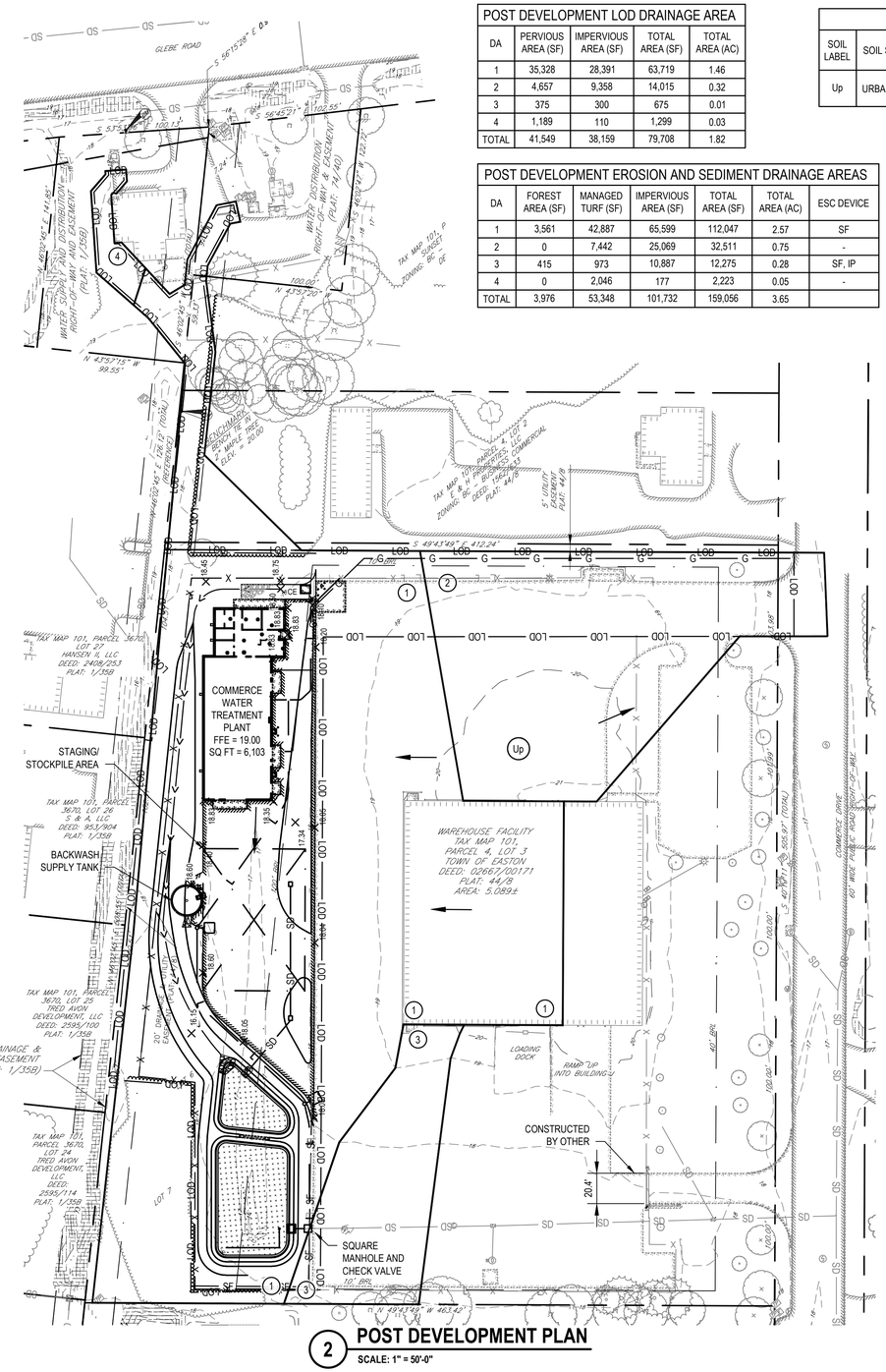
1 **PRE-DEVELOPMENT PLAN**

SCALE: 1" = 50'-0"

POST DEVELOPMENT LOD DRAINAGE AREA				
DA	PERVIOUS AREA (SF)	IMPERVIOUS AREA (SF)	TOTAL AREA (SF)	TOTAL AREA (AC)
1	35,328	28,391	63,719	1.46
2	4,657	9,358	14,015	0.32
3	375	300	675	0.01
4	1,189	110	1,299	0.03
TOTAL	41,549	38,159	79,708	1.82

SOIL TABLE								
SOIL LABEL	SOIL SERIES	HSG	SLOPES	SOIL ERODIBILITY	HYDRIC	PRIME AG SOILS	DRAINAGE	K FACTORS
Up	URBAN LAND	C	-	-	NON HYDRIC	NOT PRIME FARMLAND	-	-

POST DEVELOPMENT EROSION AND SEDIMENT DRAINAGE AREAS						
DA	FOREST AREA (SF)	MANAGED TURF (SF)	IMPERVIOUS AREA (SF)	TOTAL AREA (SF)	TOTAL AREA (AC)	ESC DEVICE
1	3,561	42,887	65,599	112,047	2.57	SF
2	0	7,442	25,069	32,511	0.75	-
3	415	973	10,887	12,275	0.28	SF, IP
4	0	2,046	177	2,223	0.05	-
TOTAL	3,976	53,348	101,732	159,056	3.65	



2 **POST DEVELOPMENT PLAN**

SCALE: 1" = 50'-0"

SITE/LOD ANALYSIS:

TOTAL SITE AREA	5.63 ±AC.
DISTURBED AREA	1.82 ±AC.
EXISTING IMPERVIOUS AREA	1.80 ±AC.
PROPOSED IMPERVIOUS AREA	2.33 ±AC.
NET INCREASE IN IMPERVIOUS AREA	0.53 ±AC.
TOTAL CUT	xx ±CY.
TOTAL FILL	xx ±CY.

NOTES:

1. SOIL IS PREDOMINATELY Up - URBAN LAND WHICH IS CLASSIFIED AS CLASS C SOIL TYPE.

EROSION AND SEDIMENT CONTROL LEGEND

- IP — STORM DRAIN INLET PROTECTION
- LOD — LIMIT OF DISTURBANCE
- SF — SILT FENCE
- LOD-SSF — SILT FENCE (WITH WIRE BACKING - LIMIT OF DISTURBANCE)
- 100-YR FLOOD PLAIN
- RPA BUFFER
- DRAINAGE AREA BOUNDARY
- SOIL DIVIDE
- # — DRAINAGE AREA LABEL
- ##@ — SOIL LABEL
- CE — CONSTRUCTION ENTRANCE
- SANITARY MANHOLE IDENTIFIER
- STORM DRAIN STRUCTURE IDENTIFIER
- STOCKPILE AREA
- TREE REMOVAL AND GRUBBING
- 15% - 25% SLOPES
- >25% SLOPES

PRELIMINARY -
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Client **WARD DISTRICT 1, EASTON MARYLAND**
EASTON UTILITIES
Project **COMMERCE WATER TREATMENT PLANT**

Title **EROSION AND SEDIMENT CONTROL PRE AND POST DEVELOPMENT PLANS**

Project No.	Date	Scale	Size	Sheet No.	Status Code
12578222	04/2023	1" = 50'-0"	ANSI D	C301	Sheet of 84

Plot Date: 27 July 2023 - 3:26 PM Plotted By: Kristopher Larson Path and Filename: G:\565\12578222\Digital_Design\ACAD\Sheets\Civil\12578222-GHD-DWG-C-301.dwg

GENERAL NOTES:

1. ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM TO THE DRAWINGS, SPECIFICATIONS, LOCAL BUILDING CODES, AND THE STANDARD SPECIFICATION AND DETAILS OF EASTON UTILITIES.
2. ALL EROSION/SEDIMENT CONTROL MEASURES SHALL COMPLY WITH THE 2011 "MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT, WATER MANAGEMENT ADMINISTRATION IN ASSOCIATION WITH THE NATURAL RESOURCES CONSERVATION SERVICE AND THE STATE SOIL CONSERVATION COMMITTEE (REFERENCED AS THE 2011 STANDARDS AND SPEC'S).
3. AREAS THAT HAVE BEEN CLEARED AND/OR GRADED, BUT WILL BE CONSTRUCTED ON OR NOT PERMANENTLY VEGETATED FOR MORE THAN 7 DAYS (3 DAYS FOR STEEP SLOPES) MUST BE STABILIZED WITH MULCH OR TEMPORARY STABILIZATION.
4. MULCHING CAN ONLY BE USED ON DISTURBED AREAS AS A TEMPORARY COVER WHERE VEGETATION IS NOT FEASIBLE OR WHERE SEEDING GERMINATION CANNOT BE COMPLETED BECAUSE OF WEATHER CONDITIONS.
5. ALL SEDIMENT CONTROL STRUCTURES WILL BE INSPECTED ONCE A WEEK AND AFTER EACH RAINFALL AND WILL BE REPAIRED, AS NEEDED, SO THAT THE STRUCTURE MEETS THE MINIMUM SPECIFICATIONS AS SHOWN IN THE 2011 STANDARDS AND SPEC'S.
6. THE MEASURES REQUIRED IN THE APPROVED SEDIMENT CONTROL PLAN SHALL APPLY AS IF SHOWN ON THIS PLAN, AND SHALL BE COMPLETE AND IN SERVICE PRIOR TO CONSTRUCTION OF ANY WORK SHOWN ON THIS PLAN.
7. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL SEDIMENT AND EROSION CONTROL MEASURES UNTIL THE DISTURBED AREAS ARE PERMANENTLY STABILIZED.
8. THE CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR ANY DEVIATION FROM THESE PLANS.
9. ALL DISTURBED AREAS SHALL BE SMOOTHLY GRADED TO PROMOTE POSITIVE DRAINAGE AND ALSO STABILIZED WITH TOPSOIL, SEED AND MULCH. IF SETTLEMENT OCCURS, TOPSOIL, SEEDING AND MULCH SHALL BE REPEATED UNTIL SETTLEMENT SUBSIDES. (SEE SOIL EROSION AND SEDIMENT CONTROL NOTES AND SPECIFICATIONS).
10. IF SEEDING OUTSIDE OF THE SPECIFIED SEEDING SEASON, WHICH IN EASTERN SHORE MARYLAND ARE MARCH 1 TO MAY 15 AND AUGUST 15 TO OCTOBER 15, THEN MULCH WILL BE APPLIED AT THE RATE OF 2 TONS AN ACRE AT 1" TO 2" DEPTH WITH UNIFORM PLACEMENT SO THAT THE SOIL SURFACE IS NOT EXPOSED.

SEQUENCE OF CONSTRUCTION:

STANDARD STABILIZATION NOTE: FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, 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, AND ALL SLOPES GREATER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1), AND SEVEN (7) DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.

EACH EROSION AND SEDIMENT CONTROL PLAN SHOULD BE INDEPENDENT OF ANY OTHER APPROVED PLAN AND SHOULD "STAND ON ITS OWN" FROM BEGINNING TO END OF CONSTRUCTION.

EROSION AND SEDIMENT PRACTICES, AND SITE IN GENERAL, MUST BE INSPECTED WEEKLY AND AFTER EACH RAIN EVENT, BY THE CONTRACTOR OR OTHER RESPONSIBLE PERSON, AND ANY NEEDED MAINTENANCE PERFORMED IMMEDIATELY.

SAME DAY STABILIZATION IS REQUIRED FOR AREAS WHERE SEDIMENT AND EROSION CONTROLS HAVE BEEN REMOVED

1. NOTIFY MDE AT 410-901-4020 TWO WEEKS PRIOR TO START OF CONSTRUCTION TO REQUEST A PRECONSTRUCTION MEETING.
2. CONTRACTOR/ DEVELOPER SHALL NOTIFY THE EASTON UTILITES SEDIMENT & CONTROL INSPECTOR AT 410-822-6110 5 DAYS PRIOR TO COMMENCING WORK. SCHEDULE PRE-CONSTRUCTION MEETING. REVIEW AND BECOME FAMILIAR WITH ALL PERMITS.
3. THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR IS REQUIRED UPON INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING.
4. INSTALL SEDIMENT AND EROSION CONTROL MEASURES AS OUTLINED ON THE CONTRACT DRAWINGS. (SILT FENCE, STABILIZED CONSTRUCTION ENTRANCE AND OTHER EROSION CONTROL MEASURES NECESSARY).
5. CLEAR AND GRUB VEGETATION FROM THE AREA TO BE DISTURBED, AT STOCKPILE AREAS AND WHERE NECESSARY FOR PLACEMENT OF ADDITIONAL SEDIMENT AND EROSION CONTROL MEASURES AS NECESSARY WITHIN CONSTRUCTION LIMITS. (1 DAY)
6. CLEAR ALL EXCESS DEBRIS FROM SITE. SPOIL MATERIAL SHALL BE DISPOSED OF AT AN APPROVED LOCATION IN ACCORDANCE WITH ALL STATE AND LOCAL REGULATIONS (1 DAY). ALL DEMOLISHED MATERIALS SHALL BE COMPLETELY REMOVED FROM THE SITE AND PROPERLY DISPOSED OF. MATERIAL TAKEN OFF-SITE SHALL GO TO A LANDFILL OR TO A SITE WITH AN APPROVED AND ACTIVE EROSION AND SEDIMENT CONTROL PLAN. THIS SITE AND SCO # SHALL BE GIVEN TO THE INSPECTOR AT THE PRE-CONSTRUCTION MEETING. MEETING TO BE COORDINATED BY THE CONTRACTOR. (5 DAYS).
7. PERFORM REQUIRED GRADING ACTIVITIES, STOCKPILE EXISTING TOPSOIL AND PLACE IN STOCKPILE PER STANDARD. (1 DAY) PER STOCKPILE DETAIL, STOCKPILE SHALL BE STABILIZED WITHIN 3 DAYS.
8. CONSTRUCT DEMOLITION, NEW PIPING, UTILITY STRUCTURES, AND BUILDINGS (NO MORE THAN TWO MONTH).
9. REPAIR AND REPLACE DAMAGED PAVEMENT SURFACES. ROUGH GRADE SITE TO FINAL GRADES MINUS TOPSOIL LAYER (5 DAYS).
10. PLACE AND GRADE TOPSOIL, AS NEEDED. PERMANENTLY STABILIZE ALL AREAS WITH SEED. VEGETATIVE ESTABLISHMENT SHALL BE PERFORMED IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. ALL SLOPES 3:1 AND GREATER SHALL BE STABILIZED WITH TOPSOIL, SEED, AND EROSION CONTROL MATTING PER STANDARD ESC DETAIL B-4-6-D (DAILY).
11. SEDIMENT AND EROSION CONTROLS CANNOT BE REMOVED UNTIL THE SITE HAS ADEQUATE STABILIZATION. ONCE VEGETATION IS ESTABLISHED, THE SITE SHALL HAVE 95% GROUNDCOVER TO BE CONSIDERED ADEQUATELY STABILIZED AND THE SEDIMENT CONTROL INSPECTOR HAS APPROVED SUCH REMOVAL (3 DAYS).
12. ONCE SITE IS ADEQUATELY STABILIZED, AND WITH THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, REMOVE TEMPORARY SEDIMENT CONTROL DEVICES (1 DAY). SAME DAY STABILIZATION SOD REQUIRED FOR AREAS WHERE SEDIMENT AND EROSION CONTROLS HAVE BEEN REMOVED.
13. CONTRACTOR SHALL PROVIDE PROTECTIVE CONTROL DEVICES AROUND ALL SWM INFILTRATION AREAS. DEVICES SHALL REMAIN UNTIL SITE IS ADEQUATELY STABILIZED. REFER TO SWM SEQUENCE OF CONSTRUCTION.

NOTE: THE SEQUENCE OF CONSTRUCTION AS LISTED ABOVE IS FOR THE USE BY THE CONTRACTOR AS A GENERAL GUIDELINE FOR SEQUENCING THE CONSTRUCTION. DURATIONS SHOWN ARE ESTIMATES (TBD BY CONTRACTOR IN CPM SCHEDULE).

TALBOT COUNTY SOIL CONSERVATION DISTRICT
EROSION AND SEDIMENT CONTROL STANDARDS & SPECIFICATIONS FOR VEGETATIVE STABLIZATION

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 (LB/AC)	SEEDING DATES	SEEDING DEPTHS		
	ANNUAL RYEGRASS	50	2/15 - 4/30	1/2"	436 LB/AC 10 LB/1000 SF	2 TONS/AC 90 LB/1000 SF
	BARLEY	96	2/15 - 4/30 OR 8/15 - 11/30	1"		
	OATS	72	2/15 - 4/30 OR 8/15 - 11/30	1"		
	WHEAT	120	2/15 - 4/30 OR 8/15 - 11/30	1"		
	CEREAL RYE	112	2/15 - 4/30 OR 8/15 - 12/15	1"		
	FOXTAIL MILLET	30	5/1 - 8/14	1/2"		
	PEARL MILLET	20	5/1 - 8/14	1/2"		

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
SPECIES	APPL. RATE (LB/AC)	SEEDING DATES	SEEDING DEPTHS	N	P2O5	K2O	
CREEPING RED FESCUE	60	3/1 - 5/15	1/4" - 1/2"	436 LB/AC 10 LB/1000 SF	90 LB/AC 2 LB/1000 SQ	90 LB/AC 2 LB/1000 SQ	2 TONS/AC 90 LB/1000 SQ
KENTUCKY BLUEGRASS	15	8/15 - 10/15					
TALL FESCUE	100	3/1 - 5/15 OR 8/15 - 10/15	1/4" - 1/2"				
TALL FESCUE	60						
KENTUCKY BLUEGRASS	40	3/1 - 5/15 OR 8/15 - 10/15	1/4" - 1/2"				
PERENNIAL RYEGRASS	20						

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.
11. IRRIGATION: IN THE ABSENCE OF ADEQUATE RAINFALL, IRRIGATION SHOULD BE PERFORMED TO ENSURE ADEQUATE VEGETATIVE ESTABLISHMENT.
12. NO FILLS MAY BE PLACED ON FROZEN GROUND. ALL FILL TO BE PLACED IN APPROXIMATELY HORIZONTAL LAYERS, EACH LAYER HAVING A LOOSE THICKNESS OF NOT MORE THAN 8 INCHES. ALL FILL IN ROADWAYS AND PARKING AREAS ARE TO BE CLASSIFIED AS PER CHARLES COUNTY REQUIREMENTS. ANY FILL WITHIN THE BUILDING AREA IS TO BE COMPACTED TO A MINIMUM OF 95% DENSITY. FILLS FOR POND EMBANKMENTS SHALL BE COMPACTED AS PER MD-378 CONSTRUCTION SPECIFICATIONS. ALL OTHER FILLS SHALL BE COMPACTED SUFFICIENTLY SO AS TO BE STABLE AND PREVENT EROSION AND SLIPPAGE.
13. TOPSOIL SHALL BE APPLIED AS PER THE STANDARD AND SPECIFICATIONS FOR TOPSOIL FROM THE CURRENT 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL.

NOTE: USE OF THIS INFORMATION DOES NOT PRECLUDE MEETING ALL OF THE REQUIREMENTS OF THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.

TOPSOIL SPECIFICATIONS - SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING CRITERIA:

1. 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.
2. 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.
3. 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.

TOPSOIL APPLICATION:

1. EROSION AND SEDIMENT CONTROL PRACTICES MUST BE MAINTAINED WHEN APPLYING TOPSOIL.
2. 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.
3. 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.

PRELIMINARY -
NOT FOR CONSTRUCTION

APPROVED:

TOWN OF EASTON - TOWN PLANNER DATE

APPROVED:

TOWN OF EASTON - TOWN ENGINEER DATE

APPROVED:

EASTON UTILITIES - MANAGER OF ENGINEERING DATE

No.	Issue	Checked	Approved	Date
D	100% SUBMITTAL	ALT	JHC	2023 06 29
C	90% SUBMITTAL	ALT	JHC	2023 04 20
B	60% SUBMITTAL	ALT	JHC	2023 01 19
A	30% SUBMITTAL	ALT	JHC	2022 08 19

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Bar is one inch on original size sheet
0 1"

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Client **WARD DISTRICT 1, EASTON MARYLAND EASTON UTILITIES**
Project **COMMERCE WATER TREATMENT PLANT**

Title **EROSION AND SEDIMENT CONTROL NOTES**

Size **ANSI D**

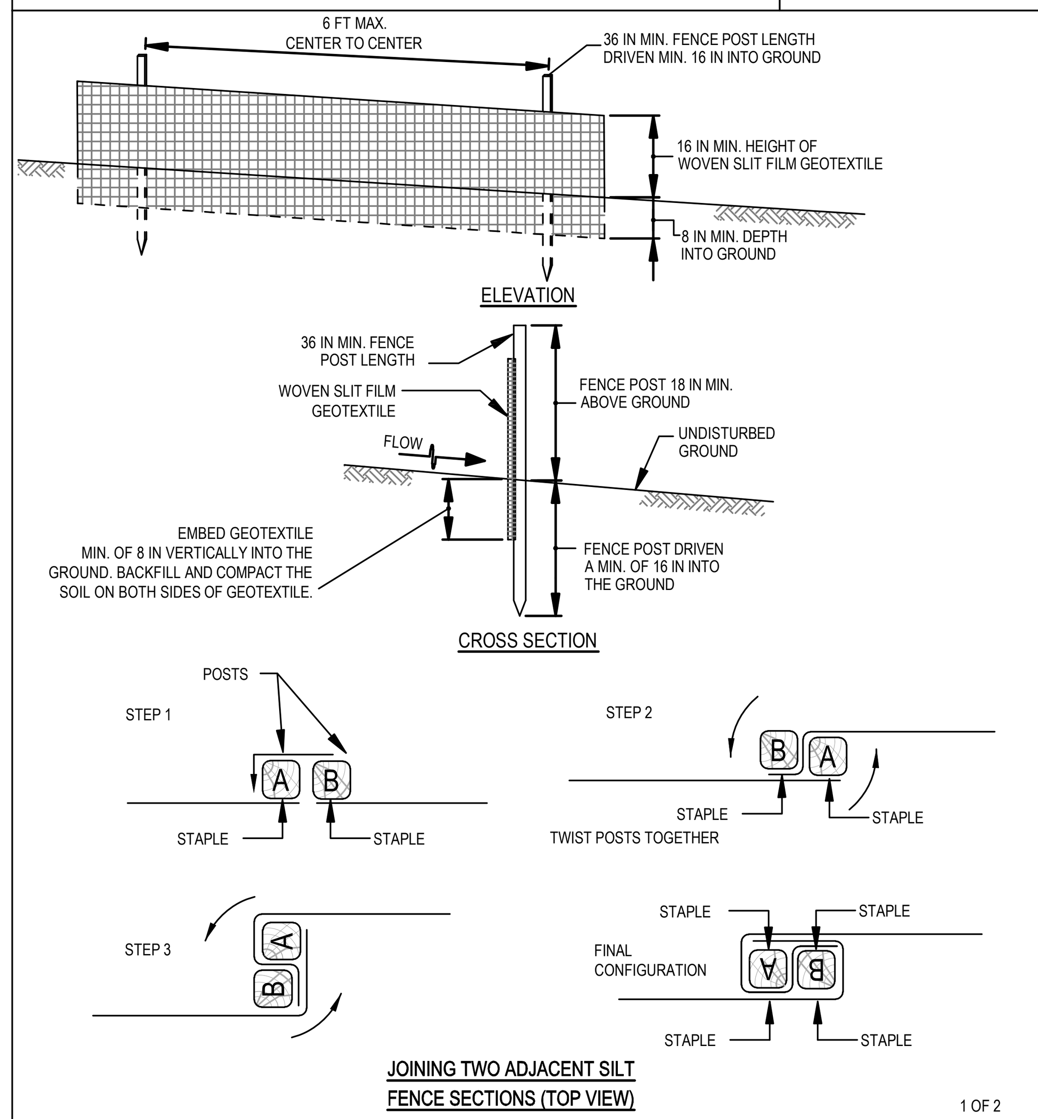
Project No. **12578222** Date **04/2023** Scale **NOT TO SCALE**

Sheet No. **C302** Status Code **Sheet of 84**

Plot Date: 27 July 2023 - 3:26 PM Plotted By: Kristopher Larson Path and Filename: G:\565\12578222\Digital_Design\ACAD\Sheets\Civil\12578222-GHD-DWG-C-302.dwg

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

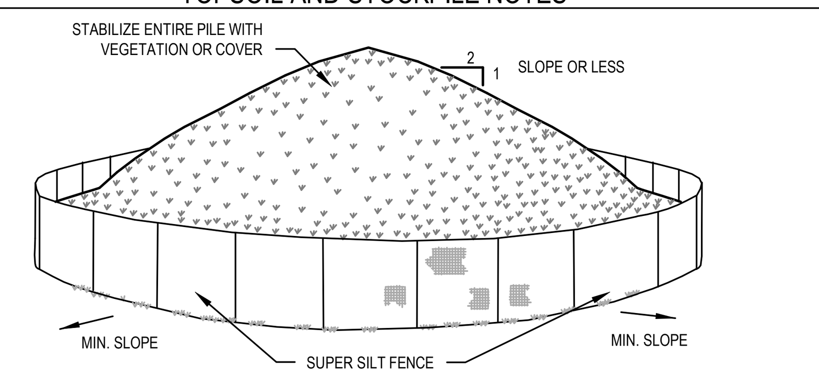
1. USE WOOD POSTS 1¾ X 1¾ ± 1⁄16 INCH (MINIMUM) SQUARE CUT OF SOUND QUALITY HARDWOOD. AS AN ALTERNATIVE TO WOODEN POST USE STANDARD "T" OR "U" SECTION STEEL POSTS WEIGHING NOT LESS THAN 1 POUND PER LINEAR FOOT.
2. USE 36 INCH MINIMUM POSTS DRIVEN 16 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET APART.
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

TOPSOIL AND STOCKPILE NOTES



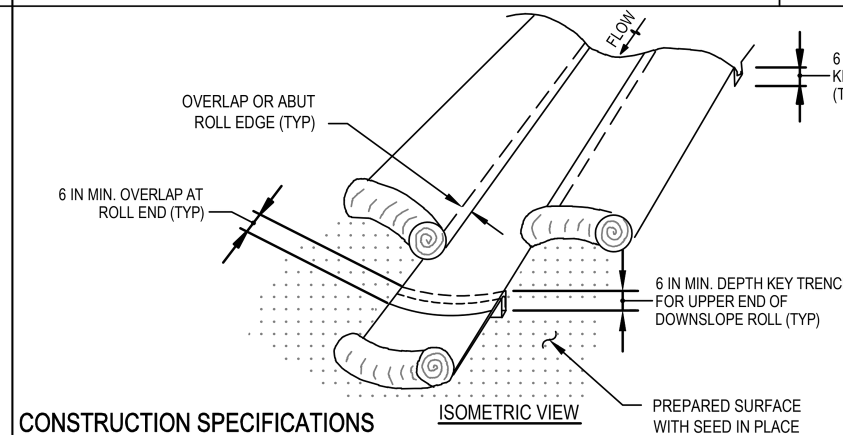
FINISH GRADE

1. AREA CHOSEN FOR STOCKPILING OPERATIONS SHALL BE DRY AND STABLE.
2. MAXIMUM SLOPE OF STOCKPILE SHALL BE 1:2 AND MAXIMUM HEIGHT SHALL BE 15'.
3. UPON COMPLETION OF SOIL STOCKPILING, EACH PILE SHALL BE SURROUNDED WITH SUPER SILT FENCING, THEN STABILIZED WITH VEGETATION OR COVERED.
4. NO STOCKPILING ALLOWED ON ASPHALT.
5. ALL STOCKPILES LEFT AT THE END OF THE DAY NEED TO BE STABILIZED UNTIL NEXT REDISTURBANCE.

SPECIAL EROSION CONTROLS DETAILS INCLUDED AS PART OF THIS PROJECT

DETAIL B-4-6-A TEMPORARY SOIL STABILIZATION MATTING CHANNEL APPLICATION

STANDARD SYMBOL
TSSMC - * lb/ft²
(* INCLUDE SHEAR STRESS)



CONSTRUCTION SPECIFICATIONS

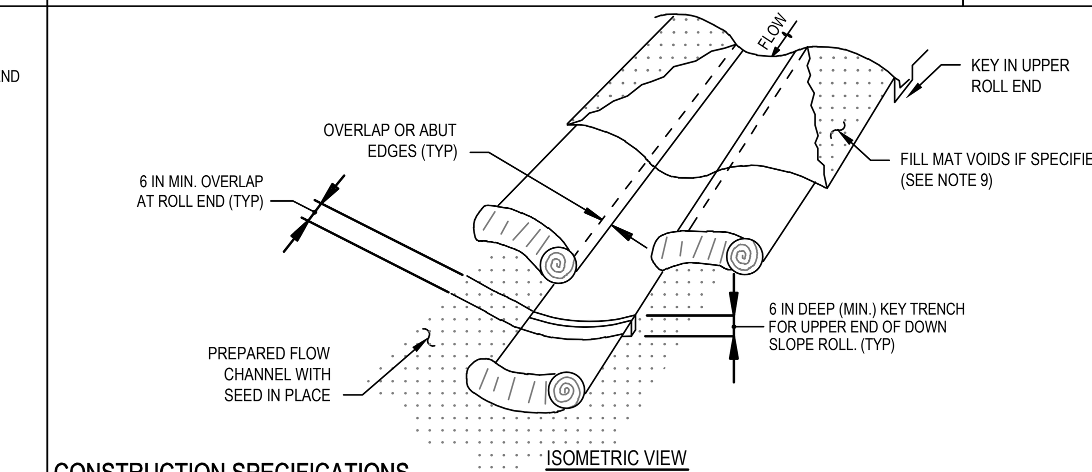
1. USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.
2. USE TEMPORARY SOIL STABILIZATION MATTING MADE OF DEGRADABLE (LASTS 6 MONTHS MINIMUM) NATURAL OR MAN-MADE FIBERS (MOSTLY ORGANIC). MAT MUST HAVE UNIFORM THICKNESS AND DISTRIBUTION OF FIBERS THROUGHOUT AND BE SMOLDER RESISTANT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SEED GERMINATION AND NON-INJURIOUS TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 2x2 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL.
3. SECURE MATTING USING STEEL STAPLES, WOOD STAKES, OR BIODEGRADABLE EQUIVALENT. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 1 TO 1 ½ INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND A MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH-SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPED AT THE BOTTOM.
4. PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDBED PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.
5. UNROLL MATTING IN DIRECTION OF WATER FLOW, CENTERING THE FIRST ROLL ON THE CHANNEL CENTERLINE. WORK FROM CENTER OF CHANNEL OUTWARD WHEN PLACING ROLLS. LAY MAT SMOOTHLY AND FIRMLY ON THE SEEDED SURFACE. AVOID STRETCHING THE MATTING.
6. KEY-IN UPSTREAM END OF EACH MAT ROLL BY DIGGING A 6 INCH (MINIMUM) TRENCH AT THE UPSTREAM END OF THE MATTING, PLACING THE ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END.
7. OVERLAP OR ABUT THE ROLL EDGES PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSTREAM MAT OVERLAPPING ON TOP OF THE NEXT DOWNSTREAM MAT.
8. STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.
9. ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

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-4-6-C PERMANENT SOIL STABILIZATION MATTING CHANNEL APPLICATION

STANDARD SYMBOL
PSSMC - * lb/ft²
(* INCLUDE SHEAR STRESS)



CONSTRUCTION SPECIFICATIONS

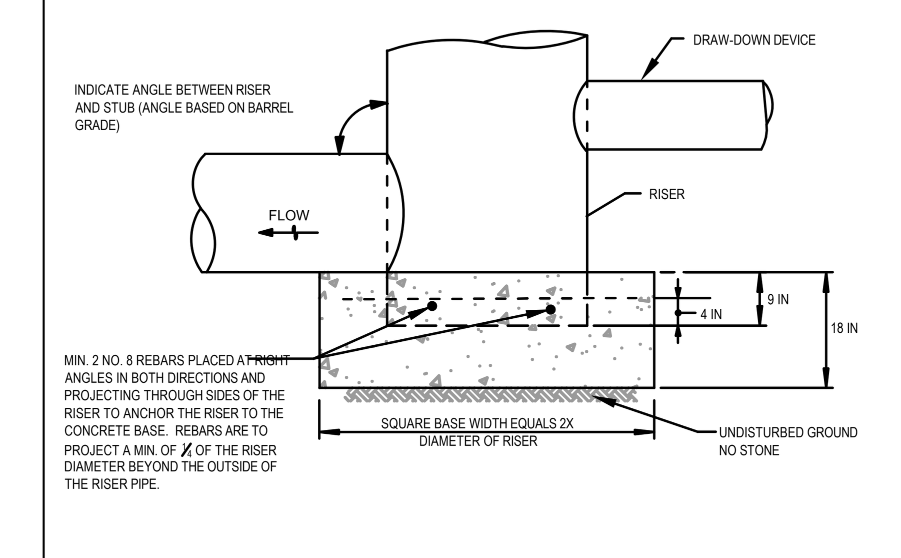
1. USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.
2. USE PERMANENT SOIL STABILIZATION MATTING MADE OF OPEN WEAVE SYNTHETIC, NON-DEGRADABLE FIBERS OR ELEMENTS OF UNIFORM THICKNESS AND DISTRIBUTION THROUGHOUT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SEED GERMINATION AND NON-INJURIOUS TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 2x2 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL.
3. SECURE MATTING USING STEEL STAPLES OR WOOD STAKES. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 1 TO 1 ½ INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH-SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPE AT THE BOTTOM.
4. PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDBED PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS, UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.
5. UNROLL MATTING IN DIRECTION OF WATER FLOW, CENTERING THE FIRST ROLL ON THE CHANNEL CENTER LINE. WORK FROM CENTER OF CHANNEL OUTWARD WHEN PLACING ROLLS. LAY MATTING SMOOTHLY AND FIRMLY UPON THE SEEDED SURFACE. AVOID STRETCHING THE MATTING.
6. OVERLAP OR ABUT EDGES OF MATTING ROLLS PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSTREAM MAT OVERLAPPING ON TOP OF THE NEXT DOWNSTREAM MAT.
7. KEY IN THE TOP OF SLOPE END OF MAT 6 INCHES (MINIMUM) BY DIGGING A TRENCH, PLACING THE MATTING ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END IN THE KEY.
8. STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.
9. IF SPECIFIED BY THE DESIGNER OR MANUFACTURER AND DEPENDING ON THE TYPE OF MAT BEING INSTALLED, ONCE THE MATTING IS KEYED AND STAPLED IN PLACE, FILL THE MAT VOIDS WITH TOP SOIL OR GRANULAR MATERIAL AND LIGHTLY COMPACT OR ROLL TO MAXIMIZE SOIL/MAT CONTACT WITHOUT CRUSHING MAT.
10. ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

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 G-2-2 CORRUGATED RISER BASE

STANDARD SYMBOL



CONSTRUCTION SPECIFICATIONS

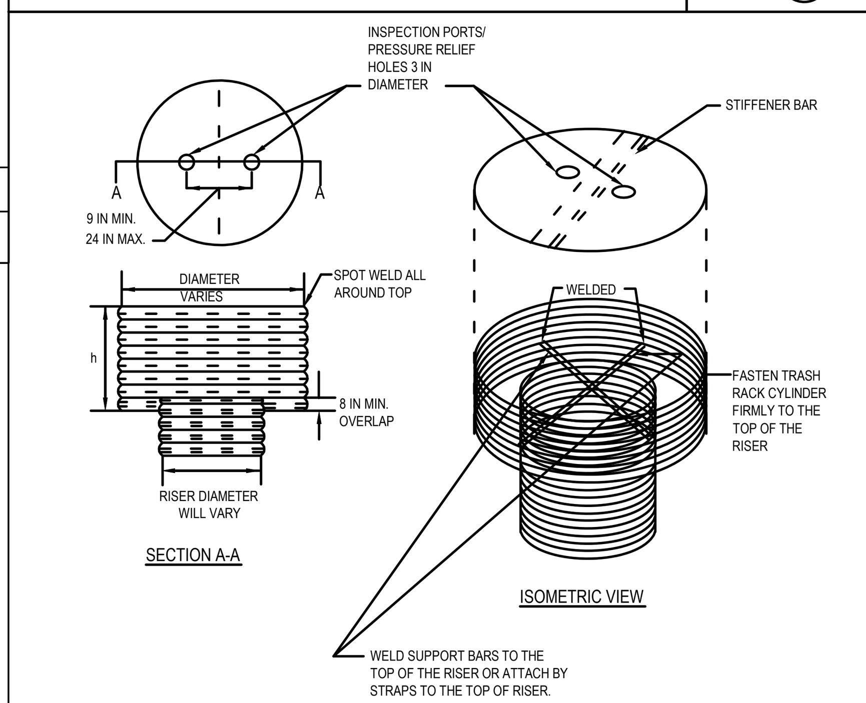
1. BOTTOM OF CONCRETE BASE TO BE PLACED ON UNDISTURBED, NATURAL GROUND.
2. NO STONE IS ALLOWED UNDER BASE. IF NECESSARY, TO ACHIEVE STABILITY INCREASE DEPTH OF CONCRETE BASE.

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 G-2-3 CONCENTRIC TRASH RACK AND ANTI-VORTEX DEVICE

STANDARD SYMBOL
TR



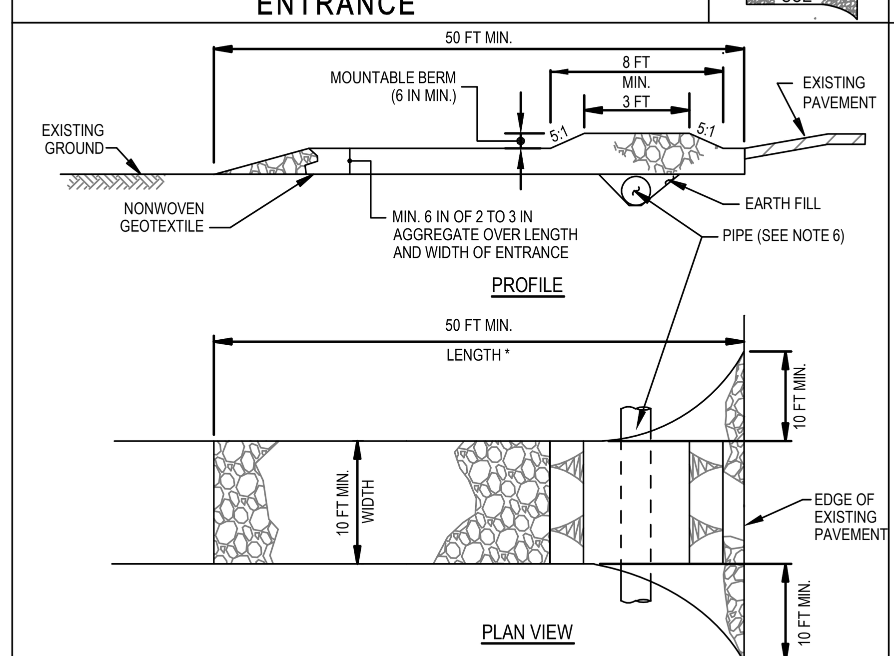
TRASH RACK CYLINDER					MINIMUM TOP	
RISER DIAM. (IN)	DIAM. (IN)	THICKNESS (GAUGE)	h (IN)	MINIMUM SIZE SUPPORT BAR	THICKNESS (GAUGE)	STIFFENER
27	42	16	21	#6 REBAR	14	N/A

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

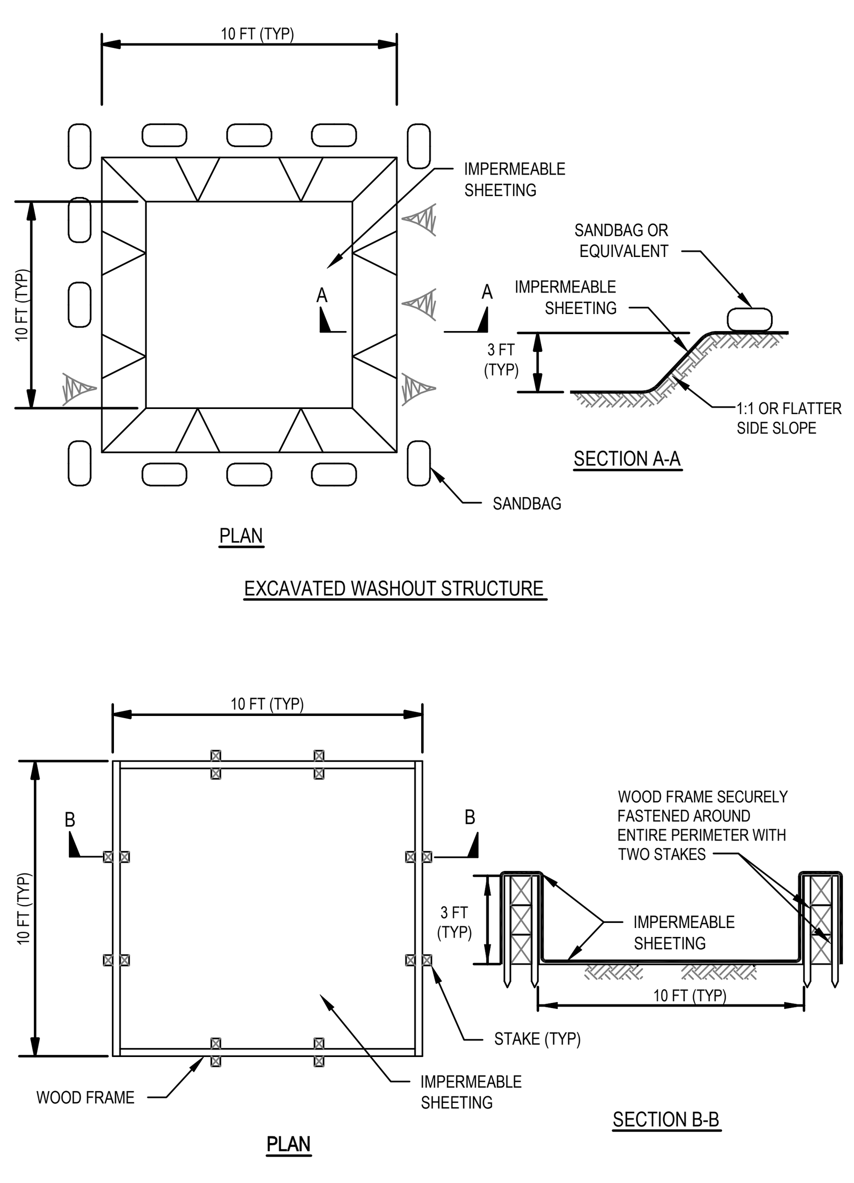
1. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (*30 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SCE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING 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 H-6 ONSITE CONCRETE WASHOUT STRUCTURE

STANDARD SYMBOL
CWS



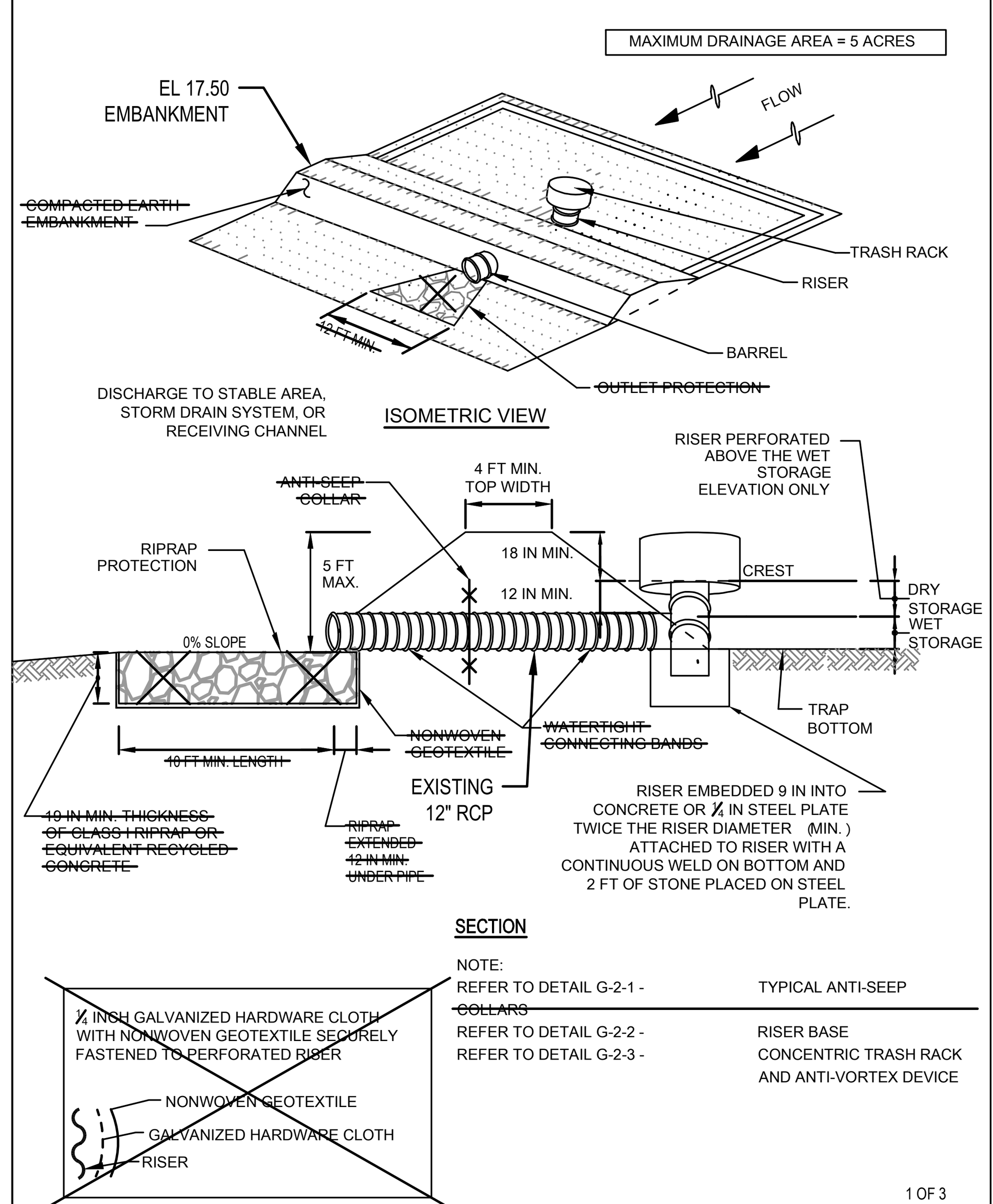
1 OF 2

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 G-1-1 PIPE OUTLET SEDIMENT TRAP ST-I

STANDARD SYMBOL
ST-I



NOTE:

REFER TO DETAIL G-2-1 -	TYPICAL ANTI-SEEP COLLARS
REFER TO DETAIL G-2-2 -	RISER BASE
REFER TO DETAIL G-2-3 -	CONCENTRIC TRASH RACK AND ANTI-VORTEX DEVICE

1 OF 3

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 G-1-1 PIPE OUTLET SEDIMENT TRAP ST-I

STANDARD SYMBOL
ST-I

CONSTRUCTION SPECIFICATIONS

1. CONSTRUCT TRAP IN SUCH A MANNER THAT EROSION AND WATER POLLUTION ARE AVOIDED.
2. CLEAR, GRUB, AND STRIP ANY VEGETATION AND ROOT MAT FROM THE AREA UNDER THE EMBANKMENT AND TRAP BOTTOM.
3. PERFORATE THE RISER WITH 1 INCH DIAMETER HOLES SPACED 6 INCHES ON CENTER WITH THE LOWEST PERFORATIONS AT THE WET STORAGE ELEVATION OR PROVIDE A HORIZONTAL OR VERTICAL DRAW-DOWN DEVICE PERFORATED ACCORDING TO APPROVED PLAN. DO NOT PERFORATE THE RISER WITHIN 6 INCHES OF THE TOP OF THE HORIZONTAL BARREL.
4. SET RISER/BARREL ASSEMBLY PRIOR TO EMBANKMENT CONSTRUCTION. MAKE ALL PIPE CONNECTIONS WATERTIGHT. OFFSET RISER FROM EMBANKEMENT TO ACCOMODATE PLACEMENT OF THE TRASH RACK. ANCHOR THE RISER WITH EITHER A REINFORCED CONCRETE BASE OR STEEL PLATE BASE TO PREVENT FLOTATION. MAKE CONCRETE BASES AT LEAST TWICE THE RISER DIAMETER AND 18 INCHES THICK WITH THE RISER EMBEDDED 9 INCHES.
5. USE FILL MATERIAL FREE OF ROOTS, WOODY VEGETATION, OVERSIZED STONES, ROCKS, ORGANIC MATERIAL, OR OTHER OBJECTIONABLE MATERIAL FOR THE EMBANKMENT.
6. HAND COMPACT IN 4 INCH LAYERS FILL MATERIAL AROUND THE PIPE SPILLWAY. PLACE A MINIMUM OF 2 FEET OF HAND COMPACTED BACKFILL OVER THE PIPE SPILLWAY BEFORE CROSSING IT WITH CONSTRUCTION EQUIPMENT.
7. CONSTRUCT TOP OF EMBANKMENT 1 FOOT MINIMUM ABOVE RISER CREST. COMPACT THE EMBANKMENT BY TRAVERSING WITH EQUIPMENT WHILE IT IS BEING CONSTRUCTED.
8. MAKE ALL CUT AND FILL SLOPES 2:1 OR FLATTER.
9. WRAP THE RISER WITH ¼ INCH GALVANIZED HARDWARE CLOTH THEN WRAP WITH NONWOVEN GEOTEXTILE. DO NOT WRAP WITH MORE THAN ONE LAYER OF GEOTEXTILE. EXTEND HARDWARE CLOTH AND GEOTEXTILE AT LEAST 6 INCHES ABOVE THE HIGHEST PERFORATIONS AND AT LEAST 6 INCHES BELOW THE LOWEST PERFORATIONS. OVERLAP, FOLD AND FASTEN WHERE ENDS OF GEOTEXTILE COME TOGETHER TO PREVENT BYPASS. REPLACE GEOTEXTILE AS NECESSARY TO PREVENT CLOGGING.
10. USE STRAPS OR CONNECTING BANDS AT THE TOP AND BOTTOM OF THE GEOTEXTILE TO HOLD THE GEOTEXTILE AND HARDWARE CLOTH IN PLACE.
11. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
12. STABILIZE THE EMBANKMENT AND INTERIOR SLOPES WITH SEED AND MULCH. STABILIZE POINTS OF CONCENTRATED INFLOW AS SHOWN ON APPROVED PLAN.
13. CONSTRUCT AND MAINTAIN THE OUTLET ACCORDING TO THE APPROVED PLAN AND IN SUCH A MANNER THAT EROSION AT OR BELOW THE OUTLET DOES NOT OCCUR.
14. REMOVE SEDIMENT AND RESTORE TRAP TO ORIGINAL DIMENSIONS WHEN SEDIMENT HAS ACCUMULATED TO CLEANOUT ELEVATION (50% OF WET STORAGE DEPTH). DEPOSIT REMOVED SEDIMENT IN AN APPROVED AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE. KEEP POINTS OF INFLOW AND OUTFLOW AS WELL AS INTERIOR OF THE TRAP FREE FROM EROSION, AND REMOVE ACCUMULATED DEBRIS. MAINTAIN EMBANKMENTS TO CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION. REMOVE ANY TREES, BRUSH, OR OTHER WOODY VEGETATION GROWING ON EMBANKMENT OR NEAR PRINCIPAL SPILLWAY. MAINTAIN LINE, GRADE, AND CROSS SECTION. MAINTAIN WATER TIGHT CONNECTIONS. REPLACE GEOTEXTILE AROUND PERFORATED RISER IF DRY STORAGE VOLUME DOES NOT DRAW DOWN WITHIN 10 HOURS.
15. WHEN DEWATERING TRAP, PASS REMOVED WATER THROUGH AN APPROVED SEDIMENT CONTROL PRACTICE.
16. UPON REMOVAL, GRADE AND STABILIZE THE AREA OCCUPIED BY TRAP.

2 OF 3

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 G-1-1 PIPE OUTLET SEDIMENT TRAP ST-I

STANDARD SYMBOL
ST-I

PIPE OUTLET SEDIMENT TRAP ST-I, TRAP NO. ____		
DRAINAGE AREA - INTIAL	2.57	ACRES
DRAINAGE AREA - INTERIM		ACRES
DRAINAGE AREA - FINAL	2.57	ACRES
TOTAL STORAGE REQUIRED	9,252	CF
TOTAL STORAGE PROVIDED	14,780	CF
WET STORAGE REQUIRED	4,626	CF
WET STORAGE PROVIDED	6,140	CF
DRY STORAGE REQUIRED	4,626	CF
DRY STORAGE PROVIDED	8,420	CF
TRAP BOTTOM ELEVATION	13.00	FT
TRAP BOTTOM DIMENSIONS	71'x35'	FT x FT
RISER CREST (DRY STORAGE) ELEVATION	17.00	FT
OUTLET (WET STORAGE) ELEVATION	15.20	FT
CLEANOUT ELEVATION	N/A	FT
TOP OF EMBANKMENT ELEVATION	17.50	FT
SIDE SLOPE	2:1	H:V RATIO
EMBANKMENT TOP WIDTH	VARIES	FT
PRINCIPAL SPILLWAY MATERIAL (BARREL, RISER, ANTI-SEEP COLLAR)	DIP	
RISER DIAMETER	27	IN
BARREL DIAMETER	12	IN
TRASH RACK DIAMETER	42	IN
TRASH RACK HEIGHT	27	IN
ANTI-SEEP COLLAR DIMENSIONS	N/A	FT
OUTLET PROTECTION - LENGTH	N/A	FT
OUTLET PROTECTION - WIDTH	N/A	FT
OUTLET PROTECTION - DEPTH	N/A	IN

3 OF 3

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

PRELIMINARY -
NOT FOR CONSTRUCTION

APPROVED:

TOWN OF EASTON - TOWN PLANNER DATE

APPROVED:

TOWN OF EASTON - TOWN ENGINEER DATE

APPROVED:

EASTON UTILITIES - MANAGER OF ENGINEERING DATE

No.	Issue	Checked	Approved	Date
D	100% SUBMITTAL	ALT	JHC	2023 06 29
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A	30% SUBMITTAL	ALT	JHC	2022 08 19

Author	**K. LARSON**	Drafting Check	K. LARSON	Project Manager	J. CANNON
Designer	**M. SELICK**	Design Check	**A. ROGERS**	Project Director	K. GEORGE

Bar is one inch on original size sheet
0 1"

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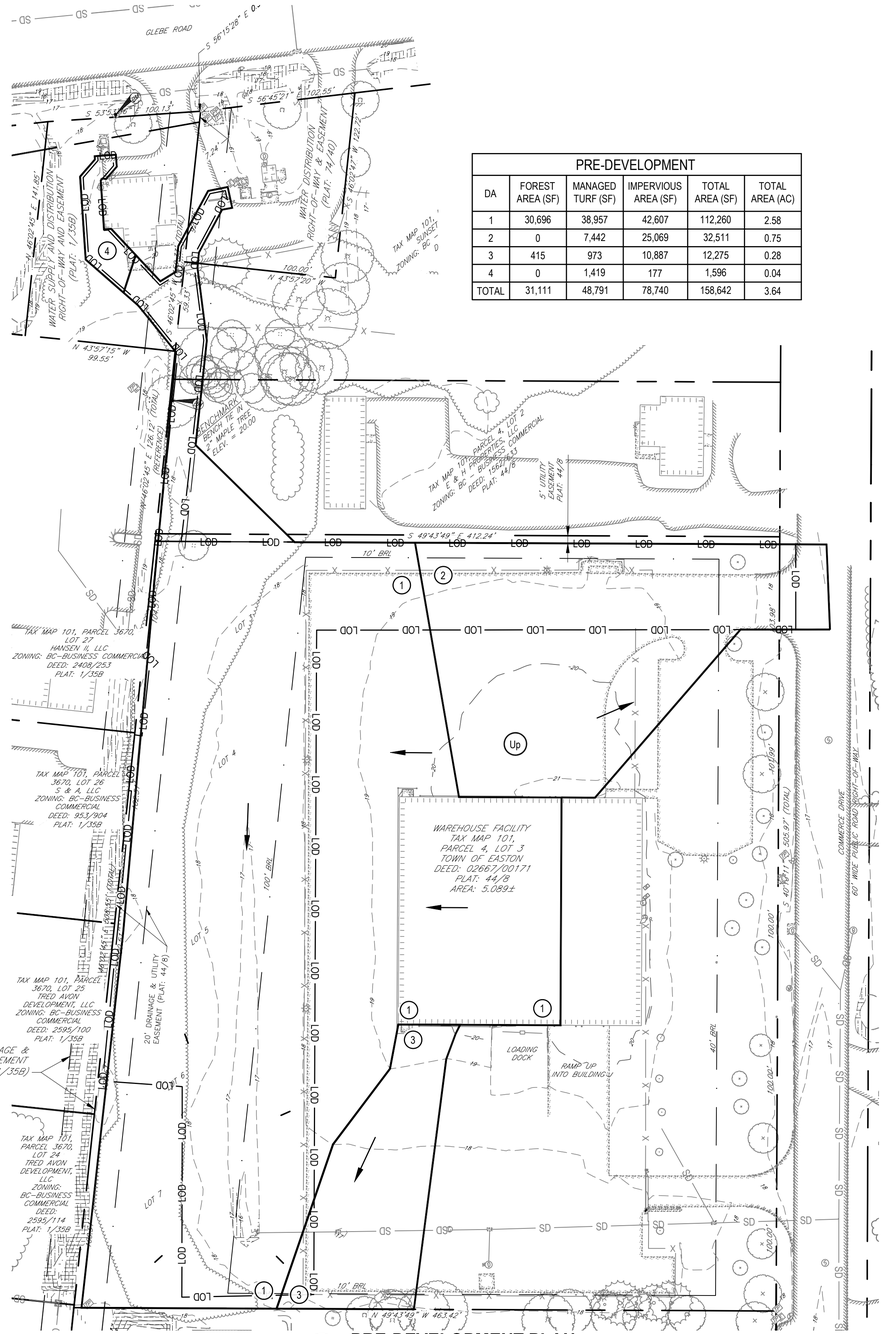
Client **WARD DISTRICT 1, EASTON MARYLAND EASTON UTILITIES**
Project **COMMERCE WATER TREATMENT PLANT**

Title **EROSION AND SEDIMENT CONTROL DETAILS**

Size **ANSI D**
Status Code

Project No.	Date	Scale	Sheet No.	Sheet
12578222	**04/2023**	**NOT TO SCALE**	**C303**	of 84

Plot Date: 27 July 2023 - 3:26 PM Plotted By: Kristopher Larson Path and Filename: G:\565\12578222\Digital_Design\ACAD\Sheets\Civil\12578222-GHD-DWG-C-303.dwg

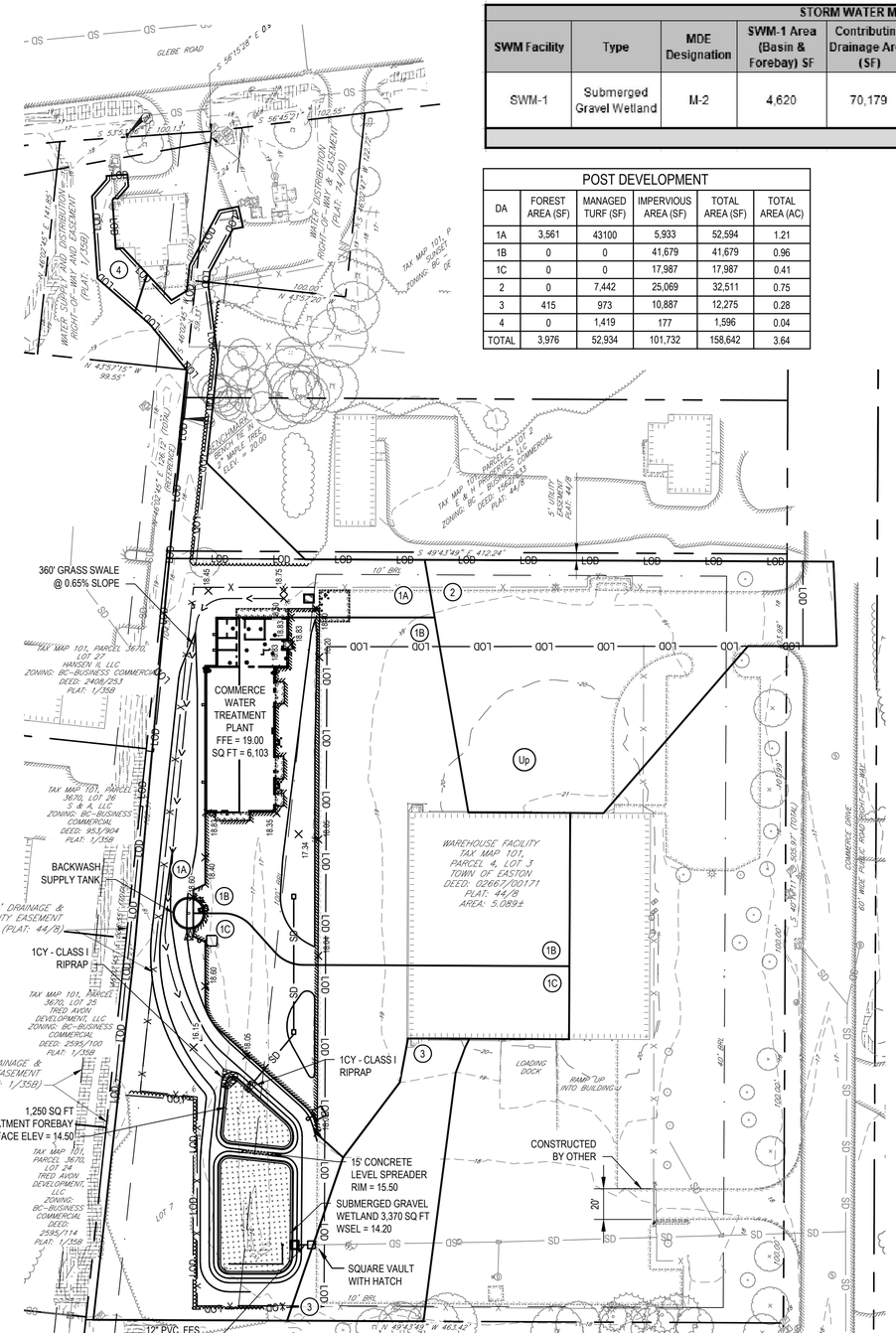


PRE-DEVELOPMENT

DA	FOREST AREA (SF)	MANAGED TURF (SF)	IMPERVIOUS AREA (SF)	TOTAL AREA (SF)	TOTAL AREA (AC)
1	30,696	38,957	42,607	112,260	2.58
2	0	7,442	25,069	32,511	0.75
3	415	973	10,887	12,275	0.28
4	0	1,419	177	1,596	0.04
TOTAL	31,111	48,791	78,740	158,642	3.64

1 PRE-DEVELOPMENT PLAN

SCALE: 1" = 50'-0"



2 POST DEVELOPMENT PLAN

SCALE: 1" = 50'-0"

STORM WATER MANAGEMENT TABLE

SWM Facility	Type	MDE Designation	SWM-1 Area (Basin & Forebay) SF	Contributing Drainage Area (SF)	Total Site Drainage Area (sf)	Total Impervious Area (sf)	Contributing Drainage Area (ACRES)	ESD_V Target Volume (CF)	ESD_V Treated (CF)
SWM-1	Submerged Gravel Wetland	M-2	4,620	70,179	79,279	31,284	1.61	4,818	4,908
Total ESDv Credit for Site LOD								90	

POST DEVELOPMENT

DA	FOREST AREA (SF)	MANAGED TURF (SF)	IMPERVIOUS AREA (SF)	TOTAL AREA (SF)	TOTAL AREA (AC)
1A	3,561	43100	5,933	52,594	1.21
1B	0	0	41,679	41,679	0.96
1C	0	0	17,987	17,987	0.41
2	0	7,442	25,069	32,511	0.75
3	415	973	10,887	12,275	0.28
4	0	1,419	177	1,596	0.04
TOTAL	3,976	52,934	101,732	158,642	3.64

SITE/LOD ANALYSIS:

TOTAL SITE AREA	5.63 ±AC.
DISTURBED AREA	1.82 ±AC.
EXISTING IMPERVIOUS AREA	1.80 ±AC.
PROPOSED IMPERVIOUS AREA	2.33 ±AC.
NET INCREASE IN IMPERVIOUS AREA	0.53 ±AC.
TOTAL CUT	xx ±CY.
TOTAL FILL	xx ±CY.

NOTES:

1. SOIL IS PREDOMINATELY Up - URBAN LAND WHICH IS CLASSIFIED AS CLASS C SOIL TYPE.

STORMWATER MANAGEMENT LEGEND

- LOD — LIMIT OF DISTURBANCE
- 100-YR FLOOD PLAIN
- RPA BUFFER
- DRAINAGE AREA BOUNDARY
- SOIL DIVIDE
- # — DRAINAGE AREA LABEL
- ##@ — SOIL LABEL
- SANITARY MANHOLE IDENTIFIER
- STORM DRAIN STRUCTURE IDENTIFIER
- 15% - 25% SLOPES
- >25% SLOPES

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Author **K. LARSON** Drafting Check K. LARSON Project Manager J. CANNON
Designer **A. THRON** Design Check **A. THRON** Project Director K. GEORGE

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0 25' 50' 75'
SCALE 1"=50' AT ORIGINAL SIZE

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Client **WARD DISTRICT 1, EASTON MARYLAND**
EASTON UTILITIES
Project **COMMERCE WATER TREATMENT PLANT**

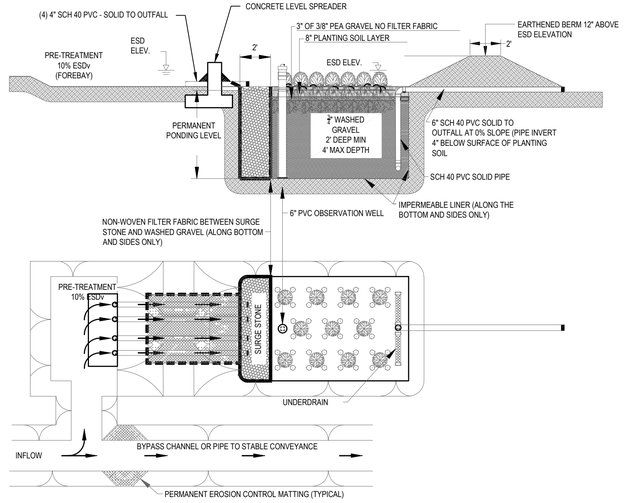
Title **STORMWATER MANAGEMENT PLAN**

Size **ANSI D**

Project No. **12578222** Date **04/2023** Scale **1" = 50'-0"**

Sheet No. **C401** Status Code Sheet of 84

Plot Date: 27 July 2023 - 3:26 PM Plotted By: Kristopher Larson Path and Filename: G:\565\12578222\Digital_Design\ACAD\Sheets\Civil\12578222-GHD-DWG-C-401.dwg

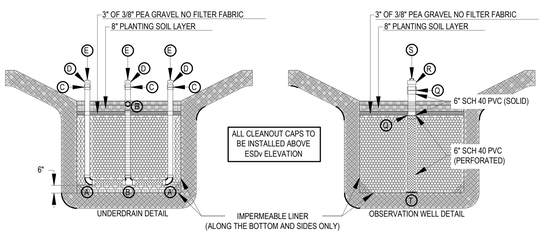


LEGEND

- EARTH
- PLANTING SOIL
- 3" OF ⅜" PEA GRAVEL NO FILTER FABRIC
- SURGE STONE
- ¾" WASHED GRAVEL
- PERMANENT EROSION CONTROL MATTING
- NON-WOVEN FILTER CLOTH
- A MINIMUM OF THREE DIFFERENT TYPES OF WETLAND SPECIES SHALL BE PROVIDED.
- GRASS PLUGS AT A RATION OF ONE PLUG PER FOUR (4) SQUARE FOOT.

NOTES:

1. MINIMUM DRAINAGE AREA 1 ACRE, ADDRESS GROUND WATER RECHARGE SEPARATELY.
2. TEMPORARY PONDING PROVIDED FOR 100% (INCLUDING PRE-TREATMENT)
3. OF THESE ESDv WITH ORIFICE SIZED TO DRAIN TO THE PERMANENT PONDING
4. LEVEL IN 24-48 HRS. WATER LEVEL NOT TO EXCEED PLANT TOLERANCE.
5. A DENSE STAND OF PLANTS SHALL BE CREATED BY PLANTING WETLAND SHRUBS AT A RATIO OF AT LEAST 400 SHRUBS PER ACRE OF SURFACE AREA, WITH WETLAND GRASS PLUGS AT A RATION OF ONE PLUG PER FOUR (4) SQUARE FOOT.



UNDERDRAIN DETAIL NOTES:

1. ALL PIPING/ COUPLINGS TO BE SCHEDULE 40 PVC., USE 6" (SIX) INCH PIPING.
2. CEMENT ALL FITTINGS TO CREATE WATER TIGHT CONNECTION.
3. WRAP PERFORATED PORTIONS WITH ¼" HARDWARE CLOTH. (NOT SHOWN)
4. MINIMUM CONNECTION MATERIALS NEEDED:
   - (A) 2 (TWO) 90° 6" PVC - ELBOWS
   - (B) 2 (TWO) 6" PVC - TEE
   - (C) 3 (THREE) 6" - COUPLINGS
   - (D) 3 (THREE) 6" PVC CLEANOUT ADAPTERS
   - (E) 3 (THREE) 6" PVC CLEANOUT PLUGS, WITH ¼" AIR HOLE

OBSERVATION WELL DETAIL NOTES:

1. ALL PIPING/ COUPLINGS TO BE SCHEDULE 40 PVC AND 6" (SIX) INCHES IN DIAMETER.
2. CEMENT ALL FITTINGS TO CREATE WATER TIGHT CONNECTION.
3. WRAP PERFORATED PORTIONS WITH ¼" HARDWARE CLOTH. (NOT SHOWN)
4. MINIMUM MATERIALS NEEDED:
   2 (TWO) 6" - COUPLINGS
   - (Q) 1 (ONE) 6" PVC CLEANOUT ADAPTERS
   - (R) 1 (ONE) 6" PVC CLEANOUT PLUGS, WITH ¼" AIR HOLE
   - (S) FOOT PLATE, 12" X 12" ALUMINUM, ¼" THICK OR OTHER SOLID, NON
   - (T) CORROSIVE MATERIAL

SUBMERGED GRAVEL WETLAND DETAL

(1) SCALE: NOT TO SCALE

STORMWATER MANAGEMENT TABLE

MDE DESIGNATION	SWM TOTAL AREA (BASIN & FOREBAY) (SF)	CONTRIBUTING DRAINAGE AREA (SF)	NEW IMPERVIOUS SURFACE IN LOD (SF)	TOP OF DEVICE	TOP OF WEIR	UNDERDRAIN OUTFALL INV	UNDERDRAIN INV	TOP OF GRAVEL	TOP OF LEVEL SPREADER	BOTTOM OF BASIN	10-YR MAX HGL WSE
M-2	4,620	70,179	23,023	17.00	15.86	15.20	12.25	15.00	15.50	12.00	16.73

ESD Stormwater Management Requirements for the Site as a Whole (LOD)					
Total Site Drainage Area (sf)	Total Impervious Area (sf)	MDE Designation	SWM Practice Proposed	ESD_v Target Volume (CF)	ESD_v Treated (CF)
79,279	31,284	M-2	Submerged Gravel Wetland (SWM-1)	4,818	4,908
Total ESD_v Credit for Site as a Whole				90	

ESD SUMMARY CHART

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 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 ESD_v (FT^3)	ACTUAL ESD_v (FT^3)
1	M-2	SUMBERGED GRAVEL WETLAND	ON-SITE	70	38.787578	-76.081944	1.61	0.65	0.106	1.80	1.80	4,818	4,908
2													
3													
4													
5													
6													
7													
8													
9													
10													
TOTAL/ AVERAGE													

TOWN OF EASTON MARYLAND FOUNDED 1710

APPROVAL

TOWN ENGINEER

1/2020

DATE

ISSUED: JANUARY 2020

TOWN OF EASTON STANDARD DETAILS

ESD SUMMARY CHART

STANDARD NO.: TOE-SWM-7.01

SWM QUANTITY SUMMARY CHART

PRACTICE	DA (ACRES)	IMPERVIOUS (ACRES)	RCN	Tc (MINUTES)	PRE 2 YEAR (cfs)	POST 2 YEAR (cfs)	W.S.E.	PRE 10 YEAR (cfs)	POST 10 YEAR (cfs)	W.S.E.	PRE 100 YEAR (cfs)	POST 100 YEAR (cfs)	W.S.E.
M-2	1.61	0.65	70	10	4.305	2.684	15.90	8.142	4.178	16.17	16.054	4.415	16.24

TOWN OF EASTON MARYLAND FOUNDED 1710

APPROVAL

TOWN ENGINEER

1/2020

DATE

ISSUED: JANUARY 2020

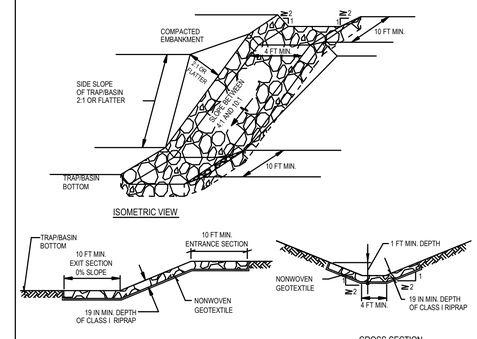
TOWN OF EASTON STANDARD DETAILS

SWM QUANTITY SUMMARY CHART

STANDARD NO.: TOE-SWM-7.02

DETAIL D-3-1 RIPRAP INFLOW PROTECTION

STANDARD SYMBOL: RRP



CONSTRUCTION SPECIFICATIONS

1. PROVIDE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS, UNDER THE BOTTOM AND ALONG SIDES OF ALL RIPRAP.
2. CONSTRUCT INFLOW CHANNEL WITH CLASS I RIPRAP OR EQUIVALENT RECYCLED CONCRETE LINING TO A MINIMUM DEPTH OF 19 INCHES (2 x D_{50}) AND A 1 FOOT DEEP FLOW CHANNEL. INFLOW RIPRAP PROTECTION CHANNEL MUST HAVE A TRAPEZODAL CROSS SECTION WITH 2:1 OR FLATTER SIDE SLOPES AND A 4 FOOT MINIMUM BOTTOM WIDTH.
3. INSTALL ENTRANCE AND EXIT SECTIONS AS SHOWN ON THE PROFILE.
4. BLEND RIPRAP INTO EXISTING GROUND.
5. MAINTAIN LINE, GRADE, AND CROSS SECTION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. KEEP POINTS OF INFLOW AND OUTFLOW FREE OF EROSION.

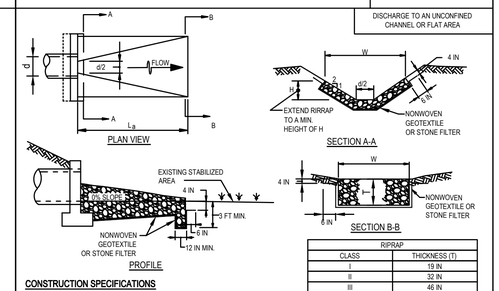
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL D-4-1-C ROCK OUTLET PROTECTION III

STANDARD SYMBOL: ROPIII

DISCHARGE TO AN UNCONFINED CHANNEL OR FLAT AREA



RIPRAP	
CLASS	THICKNESS (T)
I	19 IN
II	32 IN
III	46 IN

CONSTRUCTION SPECIFICATIONS

1. RIPRAP AND STONE MUST CONFORM TO THE SPECIFIED CLASS.
2. USE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS, AND PROTECT FROM PUNCTURING, CUTTING, OR TEARING. REPAIR ANY DAMAGE OTHER THAN AN OCCASIONAL SMALL HOLE BY PLACING ANOTHER PIECE OF GEOTEXTILE OVER THE DAMAGED PART OR BY COMPLETELY REPLACING THE GEOTEXTILE. PROVIDE A MINIMUM OF ONE FOOT OVERLAP FOR ALL REPAIRS AND FOR JOINING TWO PIECES OF GEOTEXTILE TOGETHER.
3. PREPARE THE SUBGRADE FOR GEOTEXTILE OR STONE FILTER (½" TO 1½" INCH MINIMUM STONE FOR 6 INCH MINIMUM DEPTH) AND RIPRAP TO THE REQUIRED LINES AND GRADES. COMPACT ANY FILL REQUIRED IN THE SUBGRADE TO A DENSITY OF APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED MATERIAL.
4. EXTEND GEOTEXTILE AT LEAST 6 INCHES BEYOND EDGES OF RIPRAP AND EMBED AT LEAST 4 INCHES AT SIDES OF RIPRAP.
5. CONSTRUCT RIPRAP OUTLET TO FULL COURSE THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO AVOID DISPLACEMENT OF UNDERLYING MATERIALS. PLACE STONE FOR RIPRAP OUTLET IN A MANNER THAT WILL ENSURE THAT IT IS REASONABLY HOMOGENEOUS WITH THE SMALLER STONES AND SPALLS FILLING THE VOIDS BETWEEN THE LARGER STONES. PLACE RIPRAP IN A MANNER TO PREVENT DAMAGE TO THE FILTER BLANKET OR GEOTEXTILE. HAND PLACE TO THE EXTENT NECESSARY.
6. WHERE NO ENDWALL IS USED, CONSTRUCT THE UPSTREAM END OF THE APRON SO THAT THE WIDTH IS TWO TIMES THE DIAMETER OF THE OUTLET PIPE, AND EXTEND THE STONE UNDER THE OUTLET BY A MINIMUM OF 18 INCHES.
7. CONSTRUCT APRON WITH 0% SLOPE ALONG ITS LENGTH AND WITHOUT OBSTRUCTIONS. PLACE STONE SO THAT IT BLENDS IN WITH EXISTING GROUND.
8. MAINTAIN LINE, GRADE, AND CROSS SECTION. KEEP OUTLET FREE OF EROSION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. AFTER HIGH FLOWS INSPECT FOR SCOUR AND RIPRAP DISLOGGED RIPRAP . MAKE NECESSARY REPAIRS IMMEDIATELY.

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

STORMWATER MAINTENANCE SCHEDULE

MONTHLY INSPECTION		
Inspection Item	**Inspection Requirements**	**Remedial Action**
Debris and Trash	Check for trash and debris in facility including inlets, outlets, conveyance systems, and area around facility	Remove all trash and debris and dispose in an acceptable manner. Unclog all openings.
Plant Composition and Health	Compare plant composition with approved plans. Check for invasive species or weeds. Check for dead or dying vegetation.	Remove invasive species and weeds. Replace dead plants in accordance with approved landscaping plan.
Vegetative Cover	Check for channelizing, erosion, and bare spots. Check for vegetation blocking overflow device.	Remove or cut back vegetation around inlet and outlet structures. Mow side slopes when grass exceeds 12 inches in height, but do not mow garden bed. Remove grass clippings. Re-seed or re-plant in accordance with approved landscaping plans.
Mulch Layer	Check mulch for adequate cover, sediment accumulation, or discoloration.	Replace and remove old mulch and excess sediment. Provide adequate mulch cover according to approved design.
SEASONAL INSPECTION AND AFTER A MAJOR STORM		
Inspection Item	**Inspection Requirements**	**Remedial Action**
Dewatering	Check ponding level. Surface storage must dewater within 48 hours of rainfall. Noticeable odors, stained water on the garden surface or at the outlet, or the presence of algae or aquatic vegetation are indicators of anaerobic conditions and inadequate dewatering of the facility.	Remove and replace top few inches of media. Confirm dewatering with follow up inspections. If the facility does not function as intended after the above action, the entire system may need refurbishing.
Erosion	Check inflow, garden bed, outflow, and side slopes for erosion, rills, gullies, and runoff channelization.	Re-grade if concentrated flow is causing rills or gullying through the facility. Grade, vegetate, and/or armor to provide stable conveyance in accordance with approved plans.
Sediment Accumulation	Check for accumulated sediment in conveyance systems and on garden bed. Check for clogged openings.	When sediment accumulates to 1 inch, remove sediment. Remove sediment from clogged openings. Dispose of all sediment in an acceptable location.
Blockages	Check overflow inlet (riser) and piping for blockages.	Clear out any blockages.
ANNUAL INSPECTION		
Inspection Item	**Inspection Requirements**	**Remedial Action**
Maintenance Access	Check for accessibility to facility.	Prevent excessive vegetative growth, erosion, and obstructions on access way.
Flow Conveyance System	Check overflow inlet, piping, and bypass for misalignments, breakage, and blockage.	Repair any broken or faulty piping. Clear out any blockages.
Structural Components	Check for evidence of structural deterioration, spalling, or cracking. Inlet and outlet structures as well as riprap outfalls must be in good condition.	Repair to good condition according to specifications on the approved plans.
Overall Function of Facility	Check that practice is functioning as designed.	Repair to good condition according to specifications on the approved plans.

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Author **K. LARSON** Drafting Check K. LARSON Project Manager J. CANNON

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Client **WARD DISTRICT 1, EASTON MARYLAND EASTON UTILITIES**

Project **COMMERCE WATER TREATMENT PLANT**

Title **STORMWATER MANAGEMENT PLANS AND DETAILS**

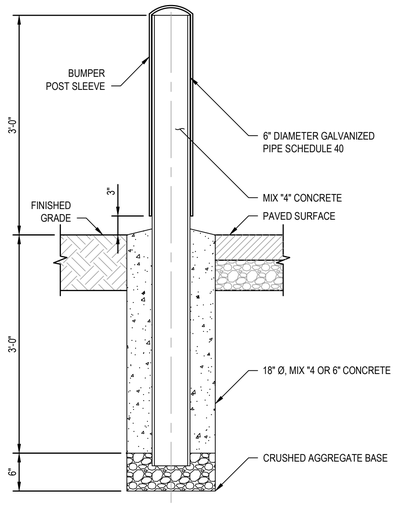
Size **ANSI D**

Status Code

Project No. **12578222** Date **04/2023** Scale **NOT TO SCALE**

Sheet No. **C402** Sheet of 84

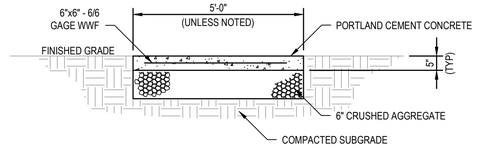
Plot Date: 27 July 2023 - 3:26 PM Plotted By: Kristopher Larson Path and Filename: G:\565\12578222\Digital_Design\ACAD\Sheets\Civil\12578222-GHD-DWG-C-402.dwg



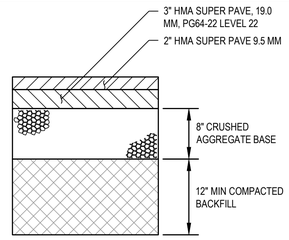
NOTE:

1. BOLLARD SHALL BE COVERED WITH "SAFETY YELLOW BUMPER POST SLEEVE" BY INTERSTATE PRODUCTS, INC OR EQUAL. SLEEVE SHALL BE SOLID HDPE CONSTRUCTION WITH UV INHIBITORS. REFER SPECIFICATION SECTION 05500.

1 BOLLARD
NOT TO SCALE



3 CONCRETE SIDEWALK
NOT TO SCALE



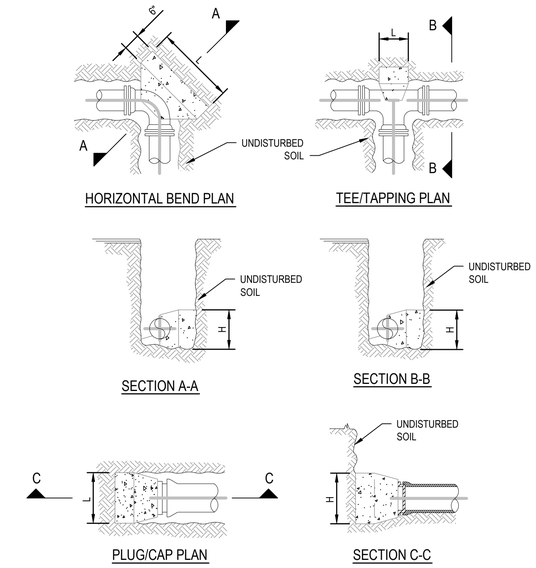
4 ASPHALT PAVEMENT
NOT TO SCALE

HORIZONTAL ANCHOR DIMENSIONS FOR AVERAGE SOIL CONDITIONS										
UP TO 150 P.S.I. WORKING PRESSURE										
PIPE SIZE	PLUG, CAP, TEE OR TAP SLEEVE		90° BEND		45° BEND		22 1/2° BEND		11 1/4° BEND	
	H	L	H	L	H	L	H	L	H	L
* 4"	1'-0"	2'-0"	1'-0"	2'-0"	1'-0"	1'-4"	0'-9"	1'-0"	0'-6"	1'-0"
6"	1'-0"	2'-0"	1'-0"	2'-0"	1'-0"	1'-4"	0'-9"	1'-0"	0'-6"	1'-0"
8"	1'-4"	2'-8"	1'-4"	2'-8"	1'-4"	1'-6"	1'-0"	1'-0"	0'-9"	1'-0"
10"	1'-8"	3'-4"	1'-8"	3'-4"	1'-8"	2'-0"	1'-3"	1'-3"	1'-0"	1'-0"
12"	2'-0"	4'-0"	2'-0"	4'-0"	2'-0"	2'-2"	1'-6"	1'-6"	1'-3"	1'-3"
14"	2'-4"	4'-8"	2'-4"	4'-8"	2'-4"	2'-6"	1'-9"	1'-9"	1'-4"	1'-4"
16"	2'-8"	5'-4"	2'-8"	5'-4"	2'-8"	3'-0"	2'-0"	2'-0"	1'-6"	1'-6"
18"	3'-0"	6'-0"	3'-0"	6'-0"	3'-0"	3'-4"	2'-3"	2'-3"	1'-8"	1'-8"
20"	3'-4"	6'-8"	3'-4"	6'-8"	3'-4"	3'-8"	2'-6"	2'-6"	2'-0"	2'-0"
24"	4'-0"	8'-0"	4'-0"	8'-0"	4'-0"	4'-4"	3'-0"	3'-0"	2'-3"	2'-3"
30"	5'-0"	10'-0"	5'-0"	10'-0"	5'-0"	5'-6"	3'-9"	3'-9"	2'-9"	2'-9"
36"	6'-0"	12'-0"	6'-0"	12'-0"	6'-0"	6'-6"	4'-6"	4'-6"	-	-
42"	7'-0"	14'-0"	7'-0"	14'-0"	7'-0"	7'-9"	5'-0"	5'-3"	-	-
48"	8'-0"	16'-0"	8'-0"	16'-0"	8'-0"	8'-9"	6'-0"	6'-0"	-	-

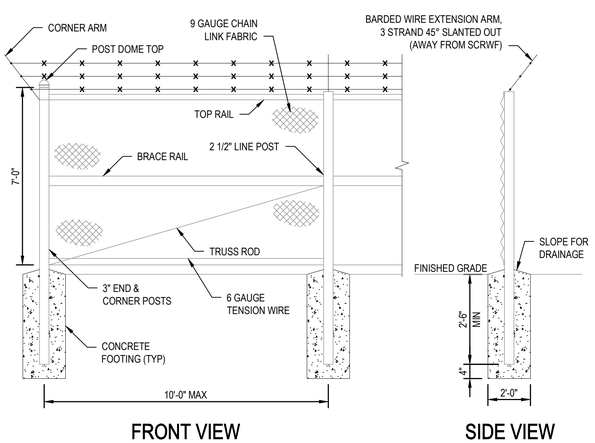
* - FOR 3" AND SMALLER PIPE

NOTE:

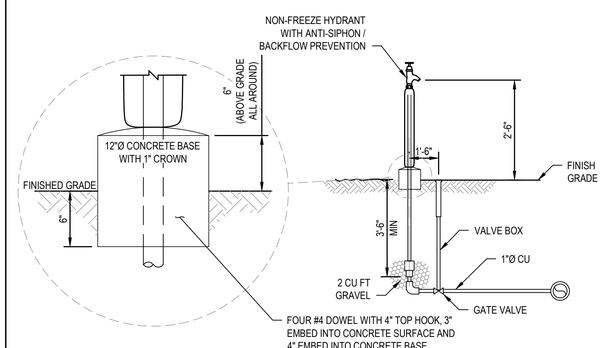
1. SEE CHART "HORIZONTAL ANCHOR DIMENSIONS". USE WITH CHART UP TO 150 PSI WORKING PRESSURE.



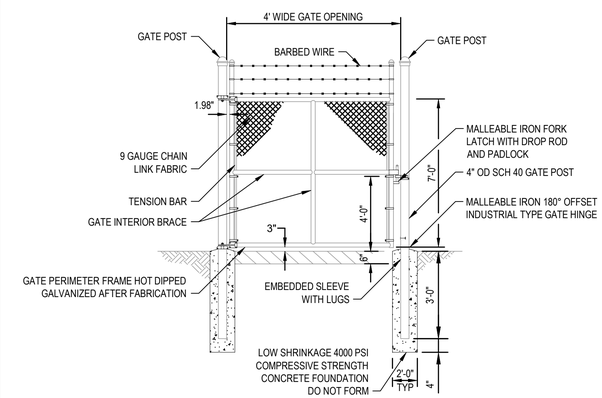
6 CONCRETE THRUST BLOCK
NOT TO SCALE



2 CHAIN LINK FENCE DETAIL
NOT TO SCALE



5 NON-FREEZE YARD HYDRANT
NOT TO SCALE



7 MAN GATE
NOT TO SCALE

PRELIMINARY -
NOT FOR CONSTRUCTION

APPROVED:

TOWN OF EASTON - TOWN PLANNER DATE

APPROVED:

TOWN OF EASTON - TOWN ENGINEER DATE

APPROVED:

EASTON UTILITIES - MANAGER OF ENGINEERING DATE

No.	Issue	Checked	Approved	Date
D	100% SUBMITTAL	ALT	JHC	2023 06 29
C	90% SUBMITTAL	ALT	JHC	2023 04 20
B	60% SUBMITTAL	ALT	JHC	2023 01 19
A	30% SUBMITTAL	ALT	JHC	2022 08 19

Author **K. LARSON** Drafting Check K. LARSON Project Manager J. CANNON
Designer **A. THRON** Design Check **A. THRON** Project Director K. GEORGE

Bar is one inch on original size sheet
0 1"

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Client **WARD DISTRICT 1, EASTON MARYLAND**
EASTON UTILITIES
Project **COMMERCE WATER TREATMENT PLANT**

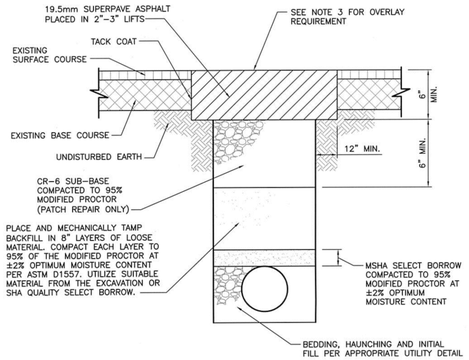
Title **MISCELLANEOUS CIVIL DETAILS 1**

Size **ANSI D**
Status Code

Project No. **12578222** Date **04/2023** Scale **NOT TO SCALE**

Sheet No. **C901** Sheet of 84

Plot Date: 27 July 2023 - 3:27 PM Plotted By: Kristopher Larson Path and Filename: G:\565\12578222\Digital_Design\ACAD\Sheets\Civil\12578222-GHD-DWG-C-901.dwg

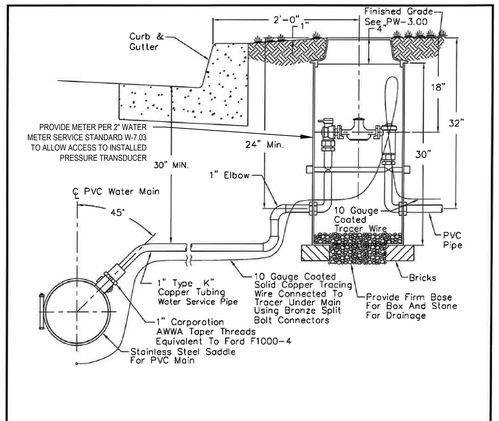


NOTES:

1. PAVEMENT SHALL BE SAW CUT FULL DEPTH OF THE EXISTING PAVEMENT SECTION. ALL CUTS SHALL BE MADE IN STRAIGHT LINES.
2. WHEN STREET OPENING IS WITHIN MD STATE HIGHWAY ADMINISTRATION OR TALBOT COUNTY RIGHT-OF-WAY, E.U.C. IS REQUIRED TO OBTAIN AN SHA OR TALBOT COUNTY PERMIT AND APPLICABLE STATE OR COUNTY STANDARDS SHALL APPLY.
3. SURFACE RESTORATION ON ROAD CROSSINGS SHALL INCLUDE MILL AND OVERLAY 15' ON EITHER SIDE OF TRENCH CENTERLINE. LONGITUDINAL TRENCHES SHALL INCLUDE MILL AND OVERLAY FOR 1 FULL LANE WIDTH FOR 15' BEYOND EITHER END OF THE EXCAVATION. SEE PW-1.07 AND PW-1.08 FOR DETAILS. SEE PW-1.09 FOR NOTES.
4. IF PATCH FALLS WITHIN 2' OF EXISTING CURB OR EDGE OF PAVING, CONTINUE RESTORATION TO EDGE OF PAVE.

APPROVAL	REVISED	TOWN OF EASTON AND EASTON UTILITIES STANDARD DETAILS
TOWN ENGINEER — DATE 9.13.12	JAN 1, 01	
	AUG 1, 01	
	SEP 1, 02	TEMPORARY TRENCH RESTORATION DETAIL
	OCT 8, 10	
	JAN 1, 11	
ISSUED: MAY 1, 1986	SEP 14, 12	STANDARD NO. PW-1.06

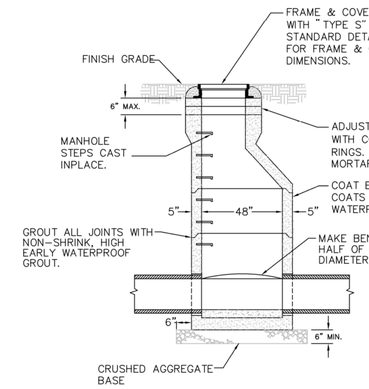
Y:\0000\CADD STANDARDS\DETAILS\City Details\Easton MD\DETAILS\PW-1.06.dwg Sep 13, 2012 - 12:29pm, (hubc)



Notes:

1. Stainless Steel Saddle Shall Be Equivalent To Ford FS303 Or PowerSeal 3412AST.
2. PVC Main Shall Be Tapped With A Shell Type Cutter (Hole Cutter) That Will Retain The Coupon In Accordance With UNI-BELL Plastic Pipe Association UNI-B-3.
3. ~~Meter Box (Ford No. PSBHC-488-20-36-18) Or An Approved Equal Furnished And Installed By Contractor. Cover Must Be Polymer Nicor 12.25PWATL Type A. (Read-Rite) Lid With Water Logo, Worm Gear And Bracket For Itron 100W ERT Under Lid Or Equivalent. No Electronic Meter Reading Lid Hole.~~
4. Backfill And Tamp With Select Material To Pad Pipe. See Detail W-1.00.
5. 10 Gauge Coated Solid Copper Tracer Wire (Blue Jacket).
6. Thoroughly Tape Mechanical Connections With Electrical Tape.

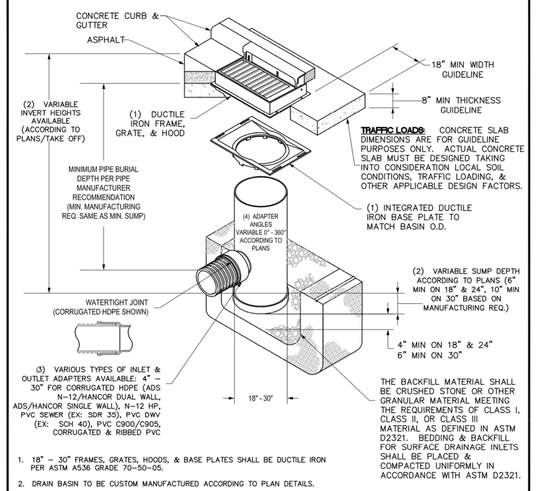
APPROVAL	REVISED	TOWN OF EASTON AND EASTON UTILITIES STANDARD DETAILS
EU MANAGER OF ENGINEERING — DATE 3/18/19	MAR 9, 95	
	MAR 1, 98	
	SEP 1, 09	1" WATER SERVICE INSTALLATION - PVC WATER MAIN
	NOV 1, 10	
	JUL 20, 11	
ISSUED: AUG 1, 1994	MAR 18, 19	STANDARD NO. W-7.02



NOTES:

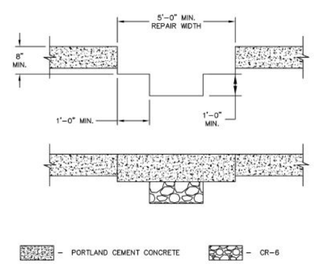
1. PRECAST MANHOLE SHALL CONFORM TO ASTM C-478-78A AS MANUFACTURED BY: YORK CONCRETE SEPTIC TANKS INC. YORK PA. OR AN APPROVED EQUAL.
2. BENCH AND CHANNEL SHALL BE BRICK OR HAND FORMED CONCRETE. MIN. THICKNESS OF 4", BENCH SHALL SLOPE TO TOP OF PIPE 1/2" FALL PER FOOT.
3. MORTAR SHALL BE "TYPE S".
4. MANHOLE STEPS REQUIRED OVER THE EFFLUENT SIDE AS SHOWN.

	APPROVAL	TOWN OF EASTON STANDARD DETAILS
TOWN OF EASTON MARYLAND FOUNDED 1710	TOWN ENGINEER — DATE 1/2020	PRECAST CONCRETE MANHOLE
	ISSUED: JANUARY 2020	STANDARD NO.: TOE-SD-2.01



1. 18" - 30" FRAMES, GRATES, HOODS, & BASE PLATES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
2. DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS.
3. DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL) N-12 HP, & PVC SEWER (4" -24").
4. ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE STANDARD DETAIL SD-3.04.
5. ALL CURB INLET GRATE OPTIONS (DIAGONAL & HIGH FLOW) SHALL MEET H-20 LOAD RATING

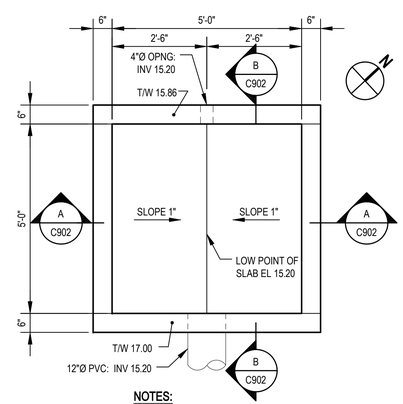
	APPROVAL	TOWN OF EASTON STANDARD DETAILS
TOWN OF EASTON MARYLAND FOUNDED 1710	TOWN ENGINEER — DATE 1/2020	PLASTIC INLET STRUCTURE WITH METAL GRATE CURB INLET
	ISSUED: JANUARY 2020	STANDARD NO.: TOE-SD-3.02



NOTES:

1. PAVEMENT SHALL BE SAW CUT 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 EDGE OF PAVE.
3. 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.
4. WHEN SURFACE ARES OF REPAIR EXCEEDS 100 SF, THE 2" SURFACE COURSE SHALL EXTEND ENTIRE WIDTH OF TRAVEL LANE(S) AND/OR SHOULDER. LIMITS OF MILL AND OVERLAY, WHEN REQUIRED, WILL BE DETERMINED BY THE TOWN ENGINEER.

	APPROVAL	TOWN OF EASTON STANDARD DETAILS
TOWN OF EASTON MARYLAND FOUNDED 1710	TOWN ENGINEER — DATE 1/2020	PERMANENT CONCRETE PAVEMENT REPAIR FOR UTILITY TRENCHES
	ISSUED: JANUARY 2020	STANDARD NO.: TOE-R-5.01-5

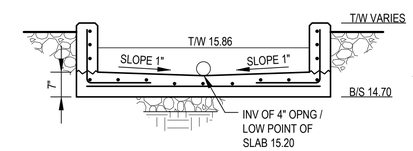


NOTES:

1. USE CONCRETE "MIX B".
2. AT CONTRACTOR'S OPTION, WEIR MAY BE PRECAST.

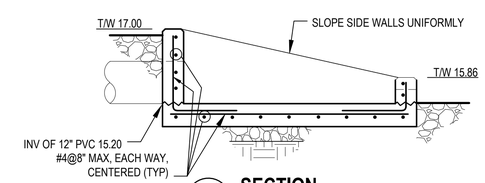
1 STORMWATER WEIR - PLAN

SCALE: 1/2"=1'-0"



A C902 SECTION

SCALE: 1/2"=1'-0"



B C902 SECTION

SCALE: 1/2"=1'-0"

PRELIMINARY - NOT FOR CONSTRUCTION

APPROVED:	
TOWN OF EASTON - TOWN PLANNER	DATE
APPROVED:	
TOWN OF EASTON - TOWN ENGINEER	DATE
APPROVED:	
EASTON UTILITIES - MANAGER OF ENGINEERING	DATE

No.	Issue	Checked	Approved	Date
D	100% SUBMITTAL	ALT	JHC	2023 06 29
C	90% SUBMITTAL	ALT	JHC	2023 04 20
B	60% SUBMITTAL	ALT	JHC	2023 01 19
A	30% SUBMITTAL	ALT	JHC	2022 08 19

Author	K. LARSON	Drafting Check	K. LARSON	Project Manager	J. CANNON
Designer	A. THRON	Design Check	A. THRON	Project Director	K. GEORGE

Bar is one inch on original size sheet
0 1"

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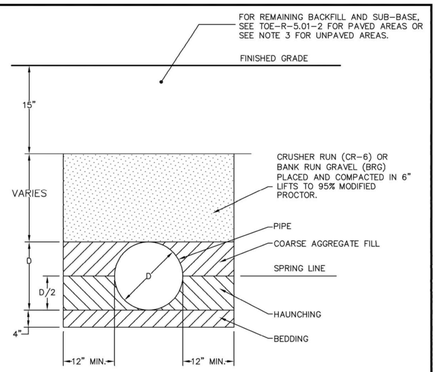
Client WARD DISTRICT 1, EASTON MARYLAND
Project EASTON UTILITIES COMMERCE WATER TREATMENT PLANT

Title MISCELLANEOUS CIVIL DETAILS 2

Project No.	Date	Scale	Sheet No.	Size
12578222	04/2023	NOT TO SCALE	C902	ANSI D

Status Code
Sheet of 84

Plot Date: 27 July 2023 - 3:27 PM Plotted By: Kristopher Larson Path and Filename: G:\565\12578222\Digital_Design\ACAD\Sheets\Civil\12578222-GHD-DWG-C-902.dwg



NOTES:

1. BEDDING, HAUNCHING AND FILL MATERIAL TO THE TOP OF THE PIPE SHALL BE COARSE AGGREGATE MEETING THE REQUIREMENTS OF ASHTO M43-SIZE NUMBER 57, UNLESS OTHERWISE SPECIFIED BY THE PIPE MANUFACTURER AND APPROVED BY THE TOWN ENGINEER.
2. DURING HAUNCHING, CONTRACTOR SHALL CAREFULLY WORK GRAVEL DOWN AROUND THE BOTTOM OF THE PIPE.
3. IN UNPAVED AREAS, FILL CR-6 OR BRG TO 6" BELOW FINISHED GRADE, PLACED AND COMPACTED IN 6" LIFTS TO 95% MODIFIED PROCTOR. TOP 6" SHALL BE TOPSOIL.

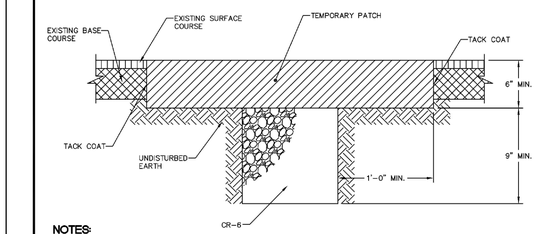
TOWN OF EASTON MARYLAND · FOUNDED 1710

APPROVAL
TOWN ENGINEER
DATE 1/2020

TOWN OF EASTON
STANDARD DETAILS

TRENCH DETAIL

ISSUED: JANUARY 2020 | STANDARD NO.: TOE-R-5.01-1



NOTES:

1. PAVEMENT SHALL BE SAW CUT 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 3" LIFTS (MAX).
   1. CR-6 (3" LIFTS MAX.)
   2. 9.5mm, (2" LIFTS MAX.)12.5mm, OR 19mm SUPPERPAVE. (3" LIFTS)
   3. COLD PATCH (3" LIFTS MAX.)
3. A TEMPORARY CR-6 PATCH MUST BE CONVERTED TO COLD PATCH OR SUPERPAVE WITHIN 1 WEEK OF COMPLETION OF TRENCH WORK, UNLESS APPROVED BY TOWN ENGINEER.
4. TEMPORARY TRENCH RESTORATION MUST BE CONVERTED TO A PERMANENT TRENCH RESTORATION WITHIN 30 CALENDAR DAYS OF COMPLETION OF TRENCH WORK, UNLESS APPROVED BY TOWN ENGINEER. TEMPORARY TRENCH RESTORATION DONE AFTER NOVEMBER 30TH MUST BE CONVERTED TO A PERMANENT TRENCH RESTORATION BEFORE MAY 30TH OF THE FOLLOWING YEAR.
5. TEMPORARY RESTORATION MUST BE INSPECTED AND MAINTAINED EVERY 30 DAYS UNTIL PERMANENT RESTORATION IS COMPLETED. AN INSPECTION AND MAINTENANCE LOG MUST BE KEPT.
6. CONTRACTOR MUST CONFIRM LIMITS OF PATCH REQUIRED WITH THEN TOWN ENGINEER PRIOR TO START OF PATCH WORK.

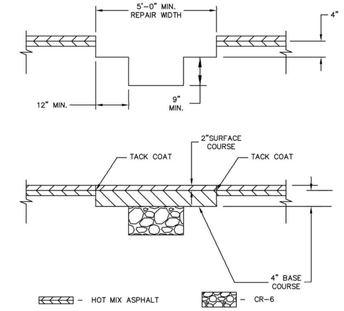
TOWN OF EASTON MARYLAND · FOUNDED 1710

APPROVAL
TOWN ENGINEER
DATE 1/2020

TOWN OF EASTON
STANDARD DETAILS

TEMPORARY PAVEMENT REPAIR
FOR UTILITY TRENCHES

ISSUED: JANUARY 2020 | STANDARD NO.: TOE-R-5.01-2



NOTES:

1. PAVEMENT SHALL BE SAW CUT 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 EDGE OF PAVE.
3. SURFACE COURSE: 2" OF 9.5mm SUPERPAVE.
   BASE COURSE: 4" OF 9.5mm, 12.5mm OR 19.0 mm SUPERPAVE IN 2-2" LIFTS./NOTE: IF SC & BC ARE BOTH 9.5mm, THEY MAY BE DONE IN 2-3" LIFTS.
4. 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.
5. WHEN SURFACE ARES OF REPAIR EXCEEDS 100 SF, THE 2" SURFACE COURSE SHALL EXTEND ENTIRE WIDTH OF TRAVEL LANE(S) AND/OR SHOULDER. LIMITS OF MILL AND OVERLAY, WHEN REQUIRED, WILL BE DETERMINED BY THE TOWN ENGINEER.
6. CONTRACTOR MUST CONFIRM LIMITS OF PAVEMENT REQUIRED WITH TOWN ENGINEER PRIOR TO START OF PAVEMENT WORK.

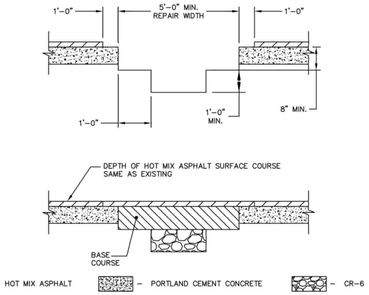
TOWN OF EASTON MARYLAND · FOUNDED 1710

APPROVAL
TOWN ENGINEER
DATE 1/2020

TOWN OF EASTON
STANDARD DETAILS

PERMANENT ASPHALT PAVEMENT
REPAIR FOR UTILITY TRENCHES

ISSUED: JANUARY 2020 | STANDARD NO.: TOE-R-5.01-3



NOTES:

1. PAVEMENT SHALL BE SAW CUT 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 EDGE OF PAVE.
3. SURFACE COURSE: 9.5mm SUPERPAVE.
4. 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.
5. WHEN SURFACE ARES OF REPAIR EXCEEDS 100 SF, THE 2" SURFACE COURSE SHALL EXTEND ENTIRE WIDTH OF TRAVEL LANE(S) AND/OR SHOULDER. LIMITS OF MILL AND OVERLAY, WHEN REQUIRED, WILL BE DETERMINED BY THE TOWN ENGINEER.
6. CONTRACTOR MUST CONFIRM LIMITS OF PAVEMENT REQUIRED WITH TOWN ENGINEER PRIOR TO START OF PAVEMENT WORK.

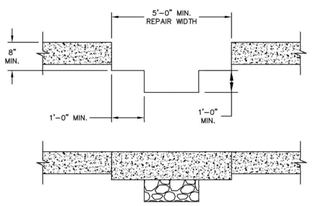
TOWN OF EASTON MARYLAND · FOUNDED 1710

APPROVAL
TOWN ENGINEER
DATE 1/2020

TOWN OF EASTON
STANDARD DETAILS

PERMANENT ASPHALT PAVEMENT
WITH CONCRETE BASE
REPAIR FOR UTILITY TRENCHES

ISSUED: JANUARY 2020 | STANDARD NO.: TOE-R-5.01-4



NOTES:

1. PAVEMENT SHALL BE SAW CUT 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 EDGE OF PAVE.
3. 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.
4. WHEN SURFACE ARES OF REPAIR EXCEEDS 100 SF, THE 2" SURFACE COURSE SHALL EXTEND ENTIRE WIDTH OF TRAVEL LANE(S) AND/OR SHOULDER. LIMITS OF MILL AND OVERLAY, WHEN REQUIRED, WILL BE DETERMINED BY THE TOWN ENGINEER.

TOWN OF EASTON MARYLAND · FOUNDED 1710

APPROVAL
TOWN ENGINEER
DATE 1/2020

TOWN OF EASTON
STANDARD DETAILS

PERMANENT CONCRETE PAVEMENT
REPAIR FOR UTILITY TRENCHES

ISSUED: JANUARY 2020 | STANDARD NO.: TOE-R-5.01-5

A. 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 WITHIN.
2. SURFACE RESTORATION IN TOWN STREETS AND ROADS SHALL BE IN ACCORDANCE WITH THE MARYLAND 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 PW-1.06 OR AS DIRECTED TO OBTAIN A CLEAN PAVEMENT EDGE. ALL TRENCHES SHALL BE CUT BACK BY ONE (1) FOOT ON EITHER SIDE OF THE TRENCH.
4. NO STAGGERED OR IRREGULAR LONGITUDINAL TRENCH REPAIR 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 THE 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 (30) FEET, CENTERED ON THE DISTURBANCE. SHOULD 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 WIDTH FOR FIFTEEN (15) FEET BEYOND EXCAVATION FOR EACH LANE DISTURBED.
7. UNDERMINED AREAS SHALL BE GROUTED FILLED OR CUT BACK.
8. A TEMPORARY TWO (2) INCH LAYER OF COLD PATCH SHALL BE PLACED ON ALL 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 MADE PRIOR TO PAVING OPERATIONS AND REPEATED IF THERE IS ANY DAMAGE DUE TO ROLLING AND COMPACTING OPERATIONS. MANHOLE OR CATCH BASIN ADJUSTMENTS SHALL BE DONE WITH ADJUSTMENT RINGS, BRICK COURSES, OR MORTAR LAYERS, SUBJECT TO EASTON UTILITIES APPROVAL.
11. PAVING OPERATIONS SHALL BE PERFORMED IF THE FOLLOWING MINIMUM TEMPERATURES ARE MET:

A) 32 DEGREES AND RISING FOR ANY HOT MIX BASE COURSE
B) 32 DEGREES AND RISING FOR ANY HOT MIX SURFACE COURSE

12. LIFT THICKNESS SHALL BE LIMITED TO:

A) 2" FOR 9.5mm SUPERPAVE
B) 3" FOR 12.5mm SUPERPAVE
C) 3" FOR 19mm SUPERPAVE
D) 4" FOR AGGREGATE
E) 8" FOR BACKFILL

12. CATCH BASINS, INLETS, CURBS AND ALL OTHER APPURTENANCES SHALL BE ADEQUATELY COVERED AND PROTECTED PRIOR TO APPLICATION OF BITUMINOUS MATERIALS. NO EARTH OF BITUMINOUS MATERIALS SHALL BE ALLOWED TO ENTER ANY STORM DRAINAGE SYSTEM. SUITABLE CONTAINMENT PROVISIONS SHALL BE EMPLOYED TO PREVENT SURFACE RUNOFF OF BITUMINOUS MATERIALS.
13. THE FINAL SURFACE SHALL PROVIDE A SMOOTH TRANSITION, FREE OR ABRUPT CHANGES IN GRADE, IS MADE WITH ADJACENT PAVEMENTS AND/OR SIDEWALK. NO DEPRESSIONS OR OTHER MISALIGNMENT SHALL OBSTRUCT, TRAP OR OTHERWISE MISDIRECT THE FLOW OF SURFACE WATER DRAINAGE.
14. ALL PAVEMENT SHALL BE CUT BACK ONE (1) FOOT ON EITHER SIDE OF THE TRENCH.

B. MAINTENANCE OF REFILLED EXCAVATIONS

1. ALL DEPRESSIONS APPEARING IN THE REFILLED EXCAVATION, STABILIZED BASE AND TEMPORARY PAVING SHALL BE PROPERLY REFILLED. IF THE CONTRACTOR FAILS TO MAKE REPAIRS WITHIN 48 HOURS AFTER RECEIPT OF WRITTEN NOTICE FROM THE TOWN ENGINEER, THE TOWN MAY REFILL SAID DEPRESSIONS AND THE COST THEREOF SHALL BE BILLED TO THE CONTRACTOR. IN CASE OF EMERGENCY, THE TOWN MAY REFILL ANY DEPRESSIONS OR PROTECT WITH BARRICADES WITHOUT GIVING PREVIOUS NOTICE TO THE CONTRACTOR, AND THE COST OF DOING SO SHALL BE BILLED TO THE CONTRACTOR.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY INJURY OR DAMAGE THAT MAY RESULT FROM LACK OF MAINTENANCE OF ANY REFILLED EXCAVATION AT ANY TIME.

TOWN OF EASTON MARYLAND · FOUNDED 1710

APPROVAL
TOWN ENGINEER
DATE 1/2020

TOWN OF EASTON
STANDARD DETAILS

SURFACE RESTORATION
AND
PAVING NOTES

ISSUED: JANUARY 2020 | STANDARD NO.: TOE-R-5.04

RESTORATION IN UNPAVED AREAS

A. TOPSOIL AND SEEDING

1. TOPSOIL SHALL BE PLACED IN AREAS WHERE GRASS HAS BEEN DISTURBED BY THE CONTRACTOR'S OPERATIONS. DEPTH OF TOPSOIL SHALL BE FOUR (4) INCHES MINIMUM. TOPSOIL SALVAGED AND STOCKPILED DURING TRENCH AND STRUCTURE EXCAVATION MAY BE USED FOR THIS PURPOSE. WHEN TOP SOILING, ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL MEET THE PROVISIONS OF MD SHA STANDARDS, SECTION 701, 702, 703, 704, 705, AND 920. IF DIRECTED, THE CONTRACTOR SHALL HAVE THE TOPSOIL TESTED BY A STATE CERTIFIED LABORATORY AND SHALL SUBMIT CERTIFICATION THAT TOPSOIL MEETS THE SPECIFIED STANDARD. TOPSOIL SHALL BE CLEAN, FREE OF ROOTS, STONES AND OTHER DEBRIS.
2. SEEDING SHALL CONSIST OF FURNISHING AND PLACING SEED AND SOIL SUPPLEMENTS ON TOP SOILED AREAS AND AT ANY OTHER LOCATION, AS DIRECTED BY THE ENGINEER. WHEN SEEDING, ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL MEET THE PROVISIONS OF MD SHA STANDARDS, SECTION 705 AND 920.
3. FERTILIZER SHALL BE A RECOGNIZED COMMERCIAL FERTILIZER CONFORMING TO MD SHA STANDARDS, SECTION 920.
4. MULCH SHALL BE APPLIED TO DISTURBED AREAS WITH SLOPES LESS THAN 3 TO 1. MULCH FOR THESE AREAS SHALL CONSIST OF STRAW MULCH AS SPECIFIED IN MD SHA STANDARDS, SECTION 705. MULCHING OF AREAS WHERE SLOPES EQUAL OR EXCEED 3 TO 1 SHALL UTILIZE CURLEX OR EQUAL.

TOWN OF EASTON MARYLAND · FOUNDED 1710

APPROVAL
TOWN ENGINEER
DATE 1/2020

TOWN OF EASTON
STANDARD DETAILS

RESTORATION NOTES

ISSUED: JANUARY 2020 | STANDARD NO.: TOE-R-5.05

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APPROVED:
TOWN OF EASTON - TOWN ENGINEER DATE

APPROVED:
EASTON UTILITIES - MANAGER OF ENGINEERING DATE

No.	Issue	Checked	Approved	Date
D	100% SUBMITTAL	ALT	JHC	2023 06 29
C	90% SUBMITTAL	ALT	JHC	2023 04 20
B	60% SUBMITTAL	ALT	JHC	2023 01 19
A	30% SUBMITTAL	ALT	JHC	2022 08 19

Author	K. LARSON	Drafting Check	K. LARSON	Project Manager	J. CANNON
Designer	A. THRON	Design Check	A. THRON	Project Director	K. GEORGE

Bar is one inch on original size sheet
0 1"

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Client: WARD DISTRICT 1, EASTON MARYLAND
Project: EASTON UTILITIES COMMERCE WATER TREATMENT PLANT

Title: MISCELLANEOUS CIVIL DETAILS 3

Size: ANSI D

Project No.	Date	Scale	Sheet No.	Status Code
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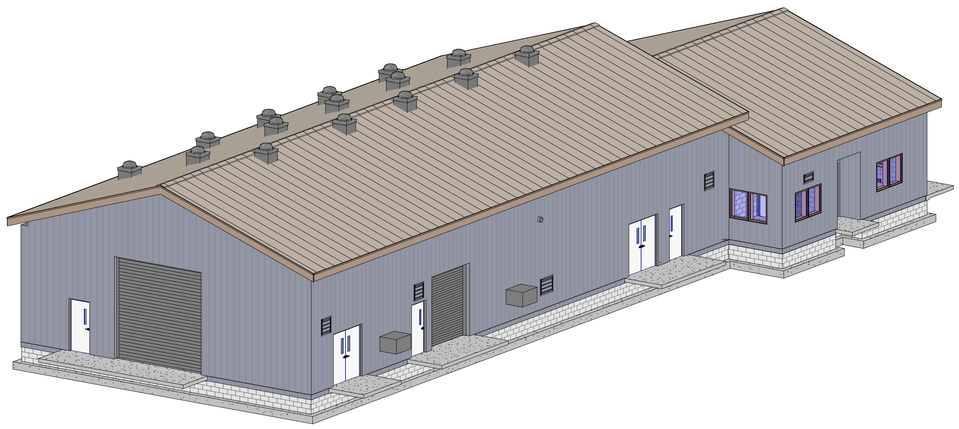
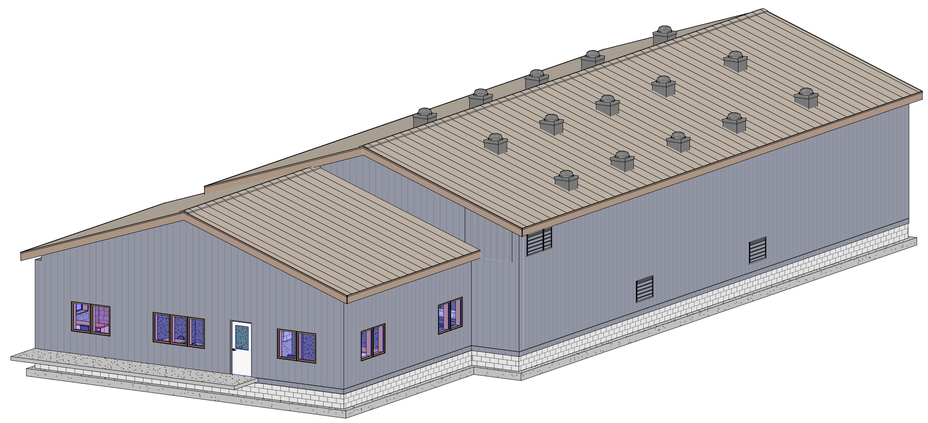
Plot Date: 27 July 2023 - 3:27 PM Plotted By: Kristopher Larson Path and Filename: G:\565\12578222\Digital_Design\ACAD\Sheets\Civil\12578222-GHD-DWG-C-903.dwg



2 VIEW FROM SOUTH-WEST



1 VIEW FROM NORTH-EAST

PRELIMINARY - NOT FOR CONSTRUCTION

APPROVED:

TOWN OF EASTON - TOWN PLANNER DATE

APPROVED:

TOWN OF EASTON - TOWN ENGINEER DATE

APPROVED:

EASTON UTILITIES - MANAGER OF ENGINEERING DATE

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C	90% SUBMITTAL	ALT	JHC	2023 04 20
B	60% SUBMTTAL	ALT	JHC	2023 01 19
A	30% SUBMTTAL	ALT	JHC	2022 08 19

Author	H. GOWDA	Drafting Check	K. LARSON	Project Manager	J. CANNON
Designer	H. GOWDA	Design Check	E. RUSTEN	Project Director	K. GEORGE

Bar is one inch on original size sheet
0 1"

STATE OF MARYLAND
KEVIN J. STUART URBAINE, JR.
No. 27080
PROFESSIONAL ENGINEER
6/29/23

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Client **EASTON UTILITIES**

Project **COMMERCE WATER TREATMENT PLANT**

Title **WTP BUILDING ISOMETRIC VIEWS**

Size **ANSI D**

Status Code

Project No. **12578222**

Date **Jan. 19, 2023**

Scale

Sheet No. **A202**

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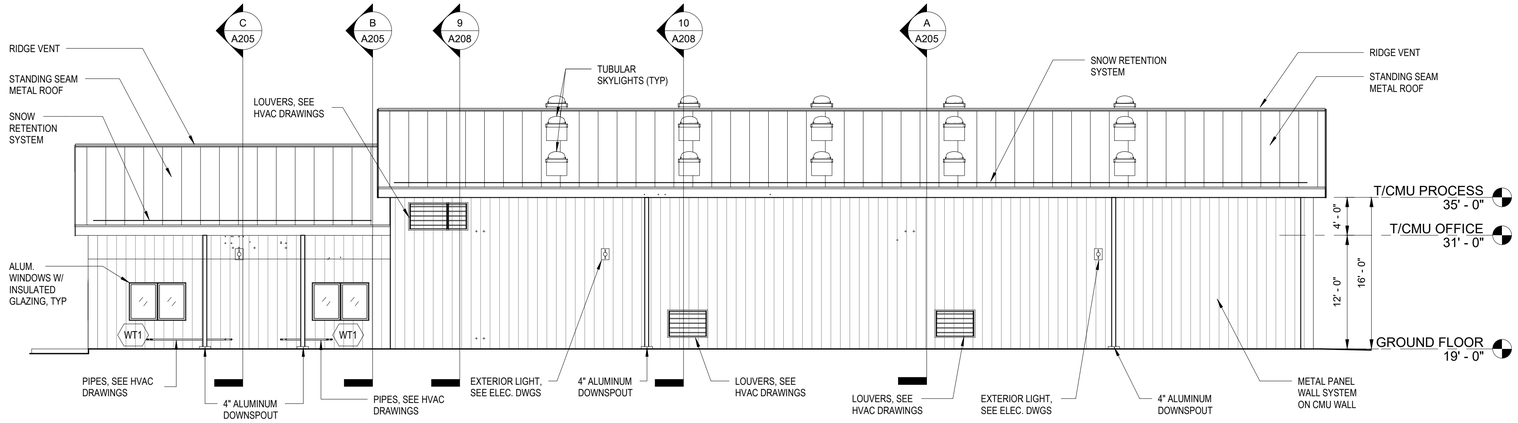
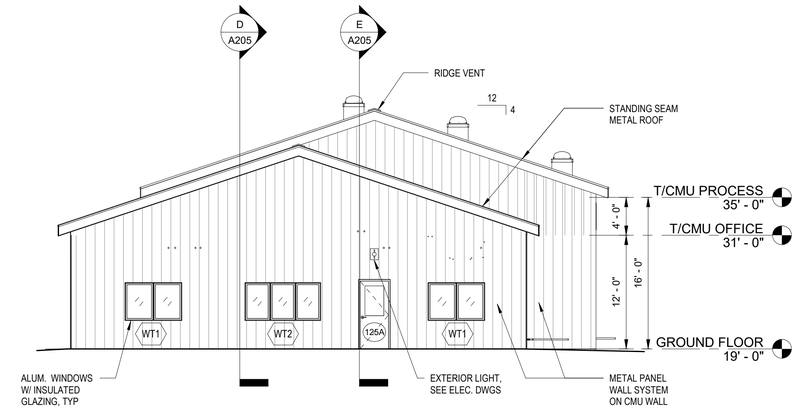


1 NORTH ELEVATION

SCALE: 1/8" = 1'-0"



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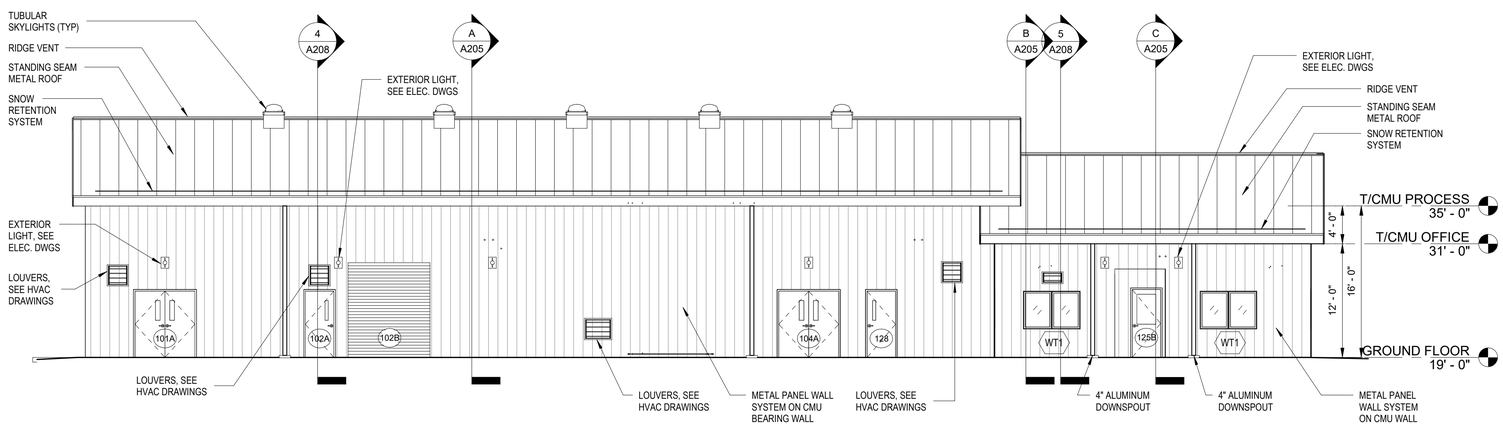

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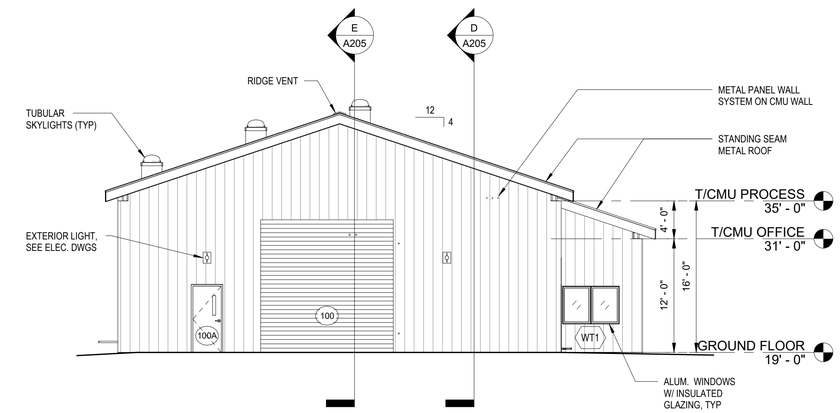

4 WEST ELEVATION

SCALE: 1/8" = 1'-0"

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B	60% SUBMTTAL	ALT	JHC	2023 01 19
A	30% SUBMTTAL	**ALT**	**JHC**	2022 08 19

Author	**H. GOWDA**	Drafting Check	**K. LARSON**	Project Manager	**J. CANNON**
Designer	**H. GOWDA**	Design Check	**E. RUSTEN**	Project Director	**K. GEORGE**

Bar is one inch on original size sheet

0 1"

0 4'-0" 8'-0" 12'-0"

SCALE 1/8" = 1'-0" AT ORIGINAL SIZE

STATE OF MARYLAND REGISTERED URBANA ENGINEER KARL GEORGE 27086 PROFESSIONAL ENGINEER

6/29/23

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Client **EASTON UTILITIES**

Project **COMMERCE WATER TREATMENT PLANT**

Title **WTP BUILDING EXTERIOR ELEVATIONS**

Size **ANSI D**

Status Code

Project No. **12578222** Date **Jan. 19, 2023** Scale **1/8" = 1'-0"**

Sheet No. **A204**

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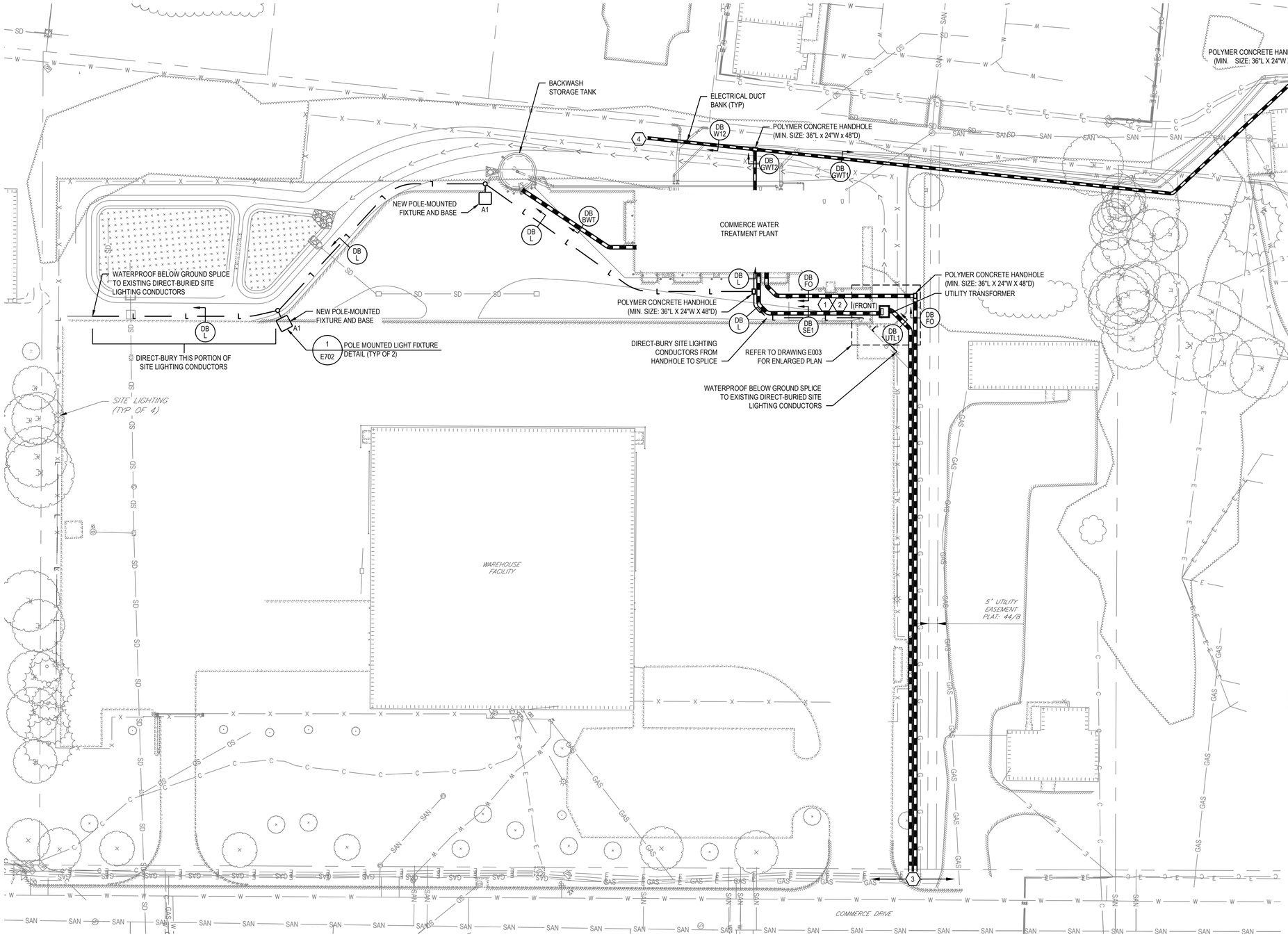

1 ELECTRICAL SITE PLAN

SCALE: 1" = 30'

DRAWING NOTES:

1. EXISTING SITE CONDITIONS: CONTRACTOR SHALL FIELD VERIFY AND COORDINATE ALL EXISTING PIPING ELEVATIONS, LOCATIONS, SIZES AND TYPE OF MATERIAL WITH NEW ELECTRICAL WORK PRIOR TO CONSTRUCTION. CONTRACTOR SHALL FIELD VERIFY AND COORDINATE ALL EXISTING EQUIPMENT DIMENSIONS AND ELEVATIONS PRIOR TO ORDERING NEW EQUIPMENT AND SUPPORTS. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
2. DUCT BANKS: COORDINATE DEPTH AND ROUTING OF DUCT BANKS WITH EXISTING SITE CONDITIONS AND BELOW GRADE UTILITIES. ADJUST DEPTH TO ACCOMMODATE GRADING AND SWALE/DITCH ELEVATIONS. COORDINATE FINAL DUCT BANK ROUTING AT BUILDING AND VAULT ENTRANCES TO AVOID INTERFERENCE WITH EXISTING UTILITIES. DUCT BANK SHALL BE ROUTED TO PULL BOXES OR EQUIPMENT AS SHOWN ON THE CONDUIT RISER DIAGRAMS. WHERE NO RISER DIAGRAMS ARE SHOWN, DUCTS SHALL BE EXTENDED TO THE FUNCTIONALLY ASSOCIATED EQUIPMENT.
3. UTILITY SERVICE ENTRANCE: COORDINATE EXACT LOCATION OF ELECTRICAL AND FIBER TIE-INS WITH EASTON UTILITIES. CONTRACTOR SHALL ASSUME LOCATION IS WITHIN 100FT IN EITHER DIRECTION ALONG COMMERCE DRIVE. CONTRACTOR SHALL PROVIDE POLYMER CONCRETE HANDHOLE (MIN. SIZE: 36"L x 24"W x 48"D) WHERE DIRECTED BY UTILITY.
4. CONTRACTOR SHALL STUB OUT DUCT BANK DB-W12 APPROX. 60FT FROM HANDHOLE AND CAP CONDUIT FOR CONTINUATION BY EASTON UTILITIES.
5. SITE LIGHTING: BELOW GRADE SITE LIGHTING CONDUCTOR ROUTING SHOWN IS APPROXIMATE. CONTRACTOR SHALL PROVIDE NEW POLE-MOUNTED SITE LIGHTS WHERE SHOWN. CONDUCTORS SHALL BE ROUTED IN 1" CONDUIT UNLESS OTHERWISE SHOWN OR NOTED. CONTRACTOR SHALL VERIFY LOCATION OF EXISTING CONDUCTORS AND REMOVE CONDUCTORS SHOWN ON CIVIL DRAWINGS.
6. LIGHTING CALCULATIONS HAVE BEEN PREFORMED TO CONFIRMED NO FLOODING OF ADJACENT PROPERTIES.

No.	Issue	Checked	Approved	Date
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B	60% SUBMITTAL	ALT	JHC	2023 01 19
A	30% SUBMITTAL	ALT	JHC	2022 08 19

Author	C. MANSFIELD	Drafting Check	K. LARSON	Project Manager	J. CANNON
Designer	C. MANSFIELD	Design Check	T. REARDON	Project Director	K. GEORGE

Bar is one inch on original size sheet
0 1"

0 15' 30' 45'
SCALE 1"=30' AT ORIGINAL SIZE

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Client: WARD DISTRICT 1, EASTON MARYLAND
EASTON UTILITIES
Project: COMMERCE WATER TREATMENT PLANT

Title: OVERALL ELECTRICAL SITE PLAN

Size: ANSI D

Status Code

Project No.	Date	Scale	Sheet No.	Sheet
12578222	04/2023	1" = 30'	E002	66 of 84

Plot Date: 27 July 2023 - 3:27 PM Plotted By: Kristopher Larson Path and Filename: G:\565\12578222\Digital_Design\ACAD\Sheets\Electrical\12578222-GHD-DWG-E002.dwg

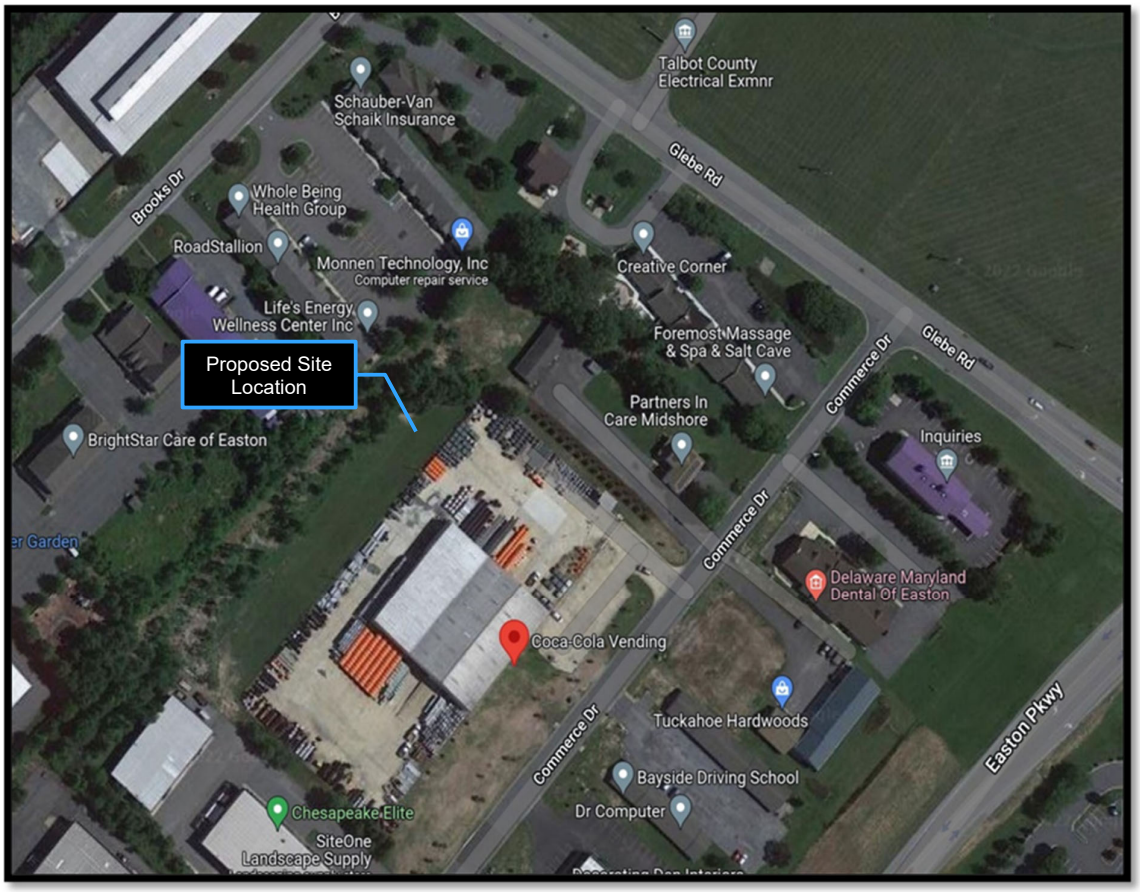
Easton Commerce Water Treatment Plant

Concept Stormwater Management Plan Report

Easton Utilities

28 July 2023

→ **The Power of Commitment**



Project name	Easton Commerce Water Treatment Plant						
Document title	Easton Commerce Water Treatment Plant | Concept Stormwater Management Plan Report						
Project number	12578222						
File name	Easton Concept SWM Report						
Status Code	Revision	Author	Reviewer		Approved for issue		
			Name	Signature	Name	Signature	Date
[Status code]	2	Madeline Selick					7/28/2023
[Status code]							
[Status code]							
[Status code]							
[Status code]							

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Executive Summary

The Town of Easton owns and operates its public water system through Easton Utilities (EU), and EU has been operating the Glebe Water Treatment Plant (WTP) since its construction in 1989. The main purpose of this plant was to reduce the concentration of iron contaminant in the groundwater; however, the continuously backwashing sand filtration method has been decreasing in effectiveness and is not removing iron to the degree desired by EU. GHD was contracted by EU to prepare a Preliminary Engineering Report (PER) to recommend solutions, and a new WTP located on Commerce Drive, the lot adjacent to the Glebe WTP, was proposed. This property would also allow for further expansion of the facility if necessary. The project site is located at 8670 Commerce Dr, Easton, MD 21601.

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Appendix A – Stormwater Management Quality Calculations

Appendix B – Stormwater Management Quantity Calculations (CivilStorm Reports)

Appendix C – Geotechnical Report

1. Site and Resource Mapping

1.1 Property Description and Project Background

The Easton Commerce site is located on a 5.089-acre site located at 8670 Commerce Dr, Easton, MD 21601. (Parcel 0004, Lot 0003) and is in Election Ward 1. The site is owned and operated by Easton Utilities and is used for EU's operation and storage. See Sheet G001 of the drawings for a vicinity map and the cover page of the report.

The Easton Commerce Water Treatment Plant project involves providing a new water treatment plant processing building on the existing previously developed Easton Utilities "Commerce Drive Property" across the street from the existing Glebe Water Treatment Plant. The new WTP will utilize new pressure filters and new chemical dosing systems within the new building, the existing Glebe WTP Process tankage will be utilized for storage of filter backwash. Along with the proposed building, new underground utility work will take place as well as new asphalt parking and access area are proposed and a stormwater management facility.

1.2 Existing Stormwater Management

The existing site does not have stormwater management devices, as the area is pervious green space and runoff sheet flows to an existing ditch at the rear of the property or flows overland to the existing storm drain inlets on the site.

1.3 Wetlands and Waterways

According to the US Environmental Protection Agency (EPA), wetlands are defined as "lands where saturation with water is the dominant factor determining the nature of soil development and the types of plant and animal communities living in the soil and on its surface." There are no wetlands present on the site.

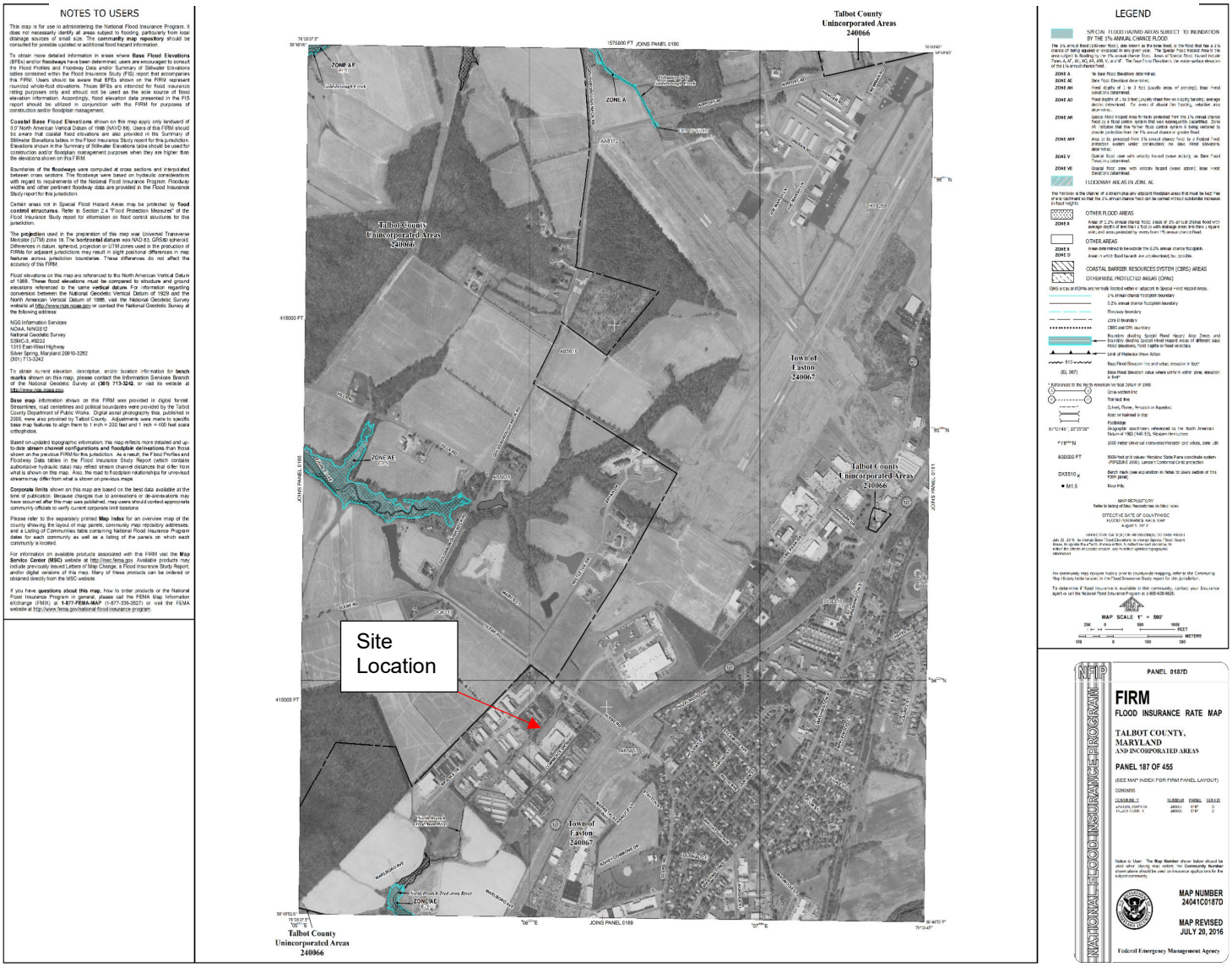
There are no major waterways within or adjacent to the Easton Commerce site. Runoff from the site currently infiltrates into the ground or flows overland towards the storm drain inlets and to the road.

1.4 Floodplains

The project site is in an area of minimal flood risk, according to FEMA flood maps. Much of the Town of Easton is also located in low-risk areas.

Per the FEMA FIRM Panel 24041C0187D effective 7/20/2016 for Town of Easton 240067, the area of interest is Zone X and is not in the floodplain (Figure 01). The 100-yr flood Base Flood Elevation (BFE) for the closest flood area to the site is at an elevation of 5.00. All grades within this project are more than 2 feet above the closest BFE.

Figure 1 FEMA Firmette



1.5 Critical Areas

The Chesapeake Bay Critical Area Boundary is defined as all land within 1,000 feet of the Mean High Water Line of tidal waters or the landward edge of tidal wetlands and all waters of and lands under the Chesapeake Bay and its tributaries. The Easton Commerce Water Treatment Plant site is not designated as part of the Critical Area. The project LOD is about 2,000ft away from the Critical Area as shown on the Town of Easton Mapper (Eye Over Easton).

1.6 Forest

According to the Town of Easton Mapper there are no protected forests within the LOD or property boundary for the Easton Commerce site.

1.7 Soils and Steep Slopes

Soil information was determined by a review of the “Web Soil Survey” operated by the USDA Natural Resources Conservation Service (http://websoilsurvey.nrcs.usda.gov/app/). All of the disturbed area is classified Urban Land (Up) which has no hydric soil rating.

Subsurface exploration was performed by John D. Hynes & Associates, Inc. in January 2023. As part of the subsurface exploration, six soil borings were drilled across the site in which two were done at the proposed stormwater management location. The subsurface soils for the proposed stormwater management area were visually classified in accordance with USCS as interbedded layers of Silty Sand (SM), Clay (CL,CH), and Clayey Elastic Silt (MH). The USDA classifications for these materials were Loamy sand, Sandy Loam, Silty clay loam, and Clay. These soil features can be representative of seasonal high groundwater or a restrictive soil layer which indicates slowly infiltrating groundwater. The soil boring logs along with a map of the boring locations are located in Appendix B.

The existing site area consists of a large concrete parking lot with a warehouse located within the lot. The northwest of the site is grass with no steep slopes within the property lines. There are no steep slopes within the project site LOD, the topography of the site generally slopes downhill from north east to north west. The existing grade in the disturbed area ranges in elevation from 21 feet to 16 feet. The majority of the existing site is at a 2-5% slope. According to the Maryland Erosion and Sediment Control Handbook steep slopes are considered those with gradients of 20% or more and highly erodible soils are those with a slope greater than 15% or a soil erodibility factor K great than 0.35

2. Development Layout

2.1 Proposed Development

The proposed WTP is to be located on the northwest portion of the Easton Utilities site. The area is to be paved around the proposed treatment plant for access and additional parking and storage. New underground utilities and a backwash supply tank are proposed as well as a concrete valley gutter to convey flow to the proposed submerged gravel wetland.

2.2 Stormwater Management Requirements

Section 5.5 of the MDE SWM Manual defines redevelopment as any construction, alteration, or improvement performed on sites where the existing land use is commercial, or multifamily residential and site impervious area exceeds 40%.

When redevelopment requirements apply, 50% of existing impervious surfaces located within the disturbed drainage areas must be removed, treated by ESD, or some combination thereof. If the existing impervious area is less than 40%, the project is not classified as redevelopment, and all existing impervious surfaces located within the disturbed drainage areas are required to be treated through ESD to the maximum extent practicable (MEP). In both cases, all proposed impervious surfaces are required to be treated through ESD to the MEP.

From the areas in Table 1, the existing imperviousness for this projects parcel drainage areas makes up 18.9% of the disturbed area. Therefore, the project is defined as new-development, and 100% of existing impervious surfaces located within the disturbed drainage areas must be treated through ESD to the MEP.

Table 1 - Site Impervious Surfaces

Surface Type	Pre-Development LOD		Post-Development LOD	
	Area (SF)	% of Total	Area (SF)	% of Total
Total Pervious Area	64,572	81.0%	41,549	52.1%
Total Impervious Area	15,136	18.9%	38,159	47.9%
Total Site Drainage Area	79,708		79,708	

2.3 Evaluating Environmental Site Design (ESD) Practices

The goal of ESD is to reduce total site imperviousness as much as possible and to treat runoff from remaining impervious surfaces using natural areas and landscape features. Structural BMPs are to be used only when ESD has been implemented to the maximum extent practicable (MEP).

Reducing impervious surfaces is the first step in implementing ESD. This is typically accomplished by removing unnecessary impervious surfaces by replacing proposed impervious areas with alternative surfaces. Examples of alternative surfaces include vegetated green roof systems (green roofs) and permeable pavement. Alternative surfaces were not proposed due to the nature and intended use of the site.

Disconnecting runoff from rooftop and non-rooftop sources is the second step in ESD planning. Rooftop disconnects were not applied on this project due to limited overland space for additional treatment and the drainage area is too large.

Using micro-scale and non-structural BMPs is the final step in implementing ESD. These practices are typically designed for small drainage areas and are not suitable to treat large flows. These practices also require a moderate footprint of their own. Examples of micro-scale practices include treatment swales, submerged gravel wetlands, rain gardens, and micro-bioretention basins. The only micro-scale practice proposed for this project is a submerged gravel wetland (M-2).

A submerged gravel wetland was chosen due to the high groundwater table and low infiltration rates (as a result of clayey soils) encountered during soil borings. There is adequate space for pre-treatment measures and relatively flat slopes. Based on the limits of disturbed area and viability of land and lack of environmentally protected areas such as floodplain, wetlands and the associated buffer areas, one submerged gravel wetland has been selected to provide stormwater management for this project.

The drainage area associated with the submerged gravel wetland treatment is DA-1 which includes the proposed WTP addition and expansion of the parking lot as shown on Drawing C-301.

The proposed ESD practices discussed above are shown on Drawing C-002.

3. Stormwater Management Plan

3.1 Drainage Area Analysis and ESDv

Majority of the stormwater runoff on the existing site is conveyed via overland flow to a storm drain inlet on the northwest side of the site and off-site. The proposed measures for the site will follow the existing drainage patterns and flow will be directed to the exiting storm drain inlet, yet the stormwater will be filtered by the proposed submerged gravel wetland. The proposed measures to meet stormwater management are described in the following sections. Refer to Drawing C002.

Drainage Area 1 (pre and post development): Impervious areas within the existing conditions DA-1 include the existing Warehouse Facility and concrete parking and storage pad which drain to the existing storm drain inlets on site. In the post development conditions DA-1 includes all of the impervious area that will drain to the proposed submerged gravel wetland. The drainage patterns are not altered as the proposed site directs storm water flow via a concrete valley gutter and small drainage swale to the proposed submerged gravel wetland to the existing storm

drain system. DA-1 proposed work includes the new Commerce Water Treatment Plant, underground utility installation, backwash supply tank, additional pavement for parking and storage and the proposed submerged gravel wetland.

Drainage Area 2 (pre and post development): DA-2 includes the existing impervious concrete pad and Commerce Drive. The LOD is only a small portion of the drainage area and only minimal proposed work will take place which includes the installation of a gas line and electrical duct banks. Drainage patterns will not be altered and will flow off site to the storm drain system on Commerce Drive.

Drainage Areas 3 and 4 (pre and post development): includes minimal impervious surface and the only work proposed includes underground utility installation and a small portion of the drainage area 3 is in the LOD. No drainage patterns will be altered.

Table 2 shows the target ESDv that is required to be treated for the drainage areas within the LOD for the site and the ESDv treated by the proposed submerged gravel wetland (M-2). Overall, the treated ESDv for the site LOD impacted drainage areas is **5,775** cubic feet which is 26 cf greater than the target ESDv; thus the stormwater management plan meets and exceeds stormwater management requirements for the site.

Table 2 - Stormwater Management ESDv Summary

Total Site LOD (SF)	Total LOD Impervious Area	ESDv Target Volume (CF)	ESDv Treated (CF)	Drainage Area Credit / Deficit (CF)
79,708	38,159	5,749	5,775	26

3.2 Peak Discharge Analysis

Stormwater runoff exits the site to the northeast low point and existing storm drain system leading out to the road. All site discharge is contained within the property boundaries and contributes to the larger site drainage area that ultimately flows into the storm drain system.

CivilStorm was used to model and calculate the Pre and Post Development discharge from the site. For the 10-year storm event the Pre-Development peak discharge for the site drainage areas is 7.952 cfs and the Post Development discharge after the SWM-1 is 3.654 cfs.

The pre-development and post-development 10-year peak stormwater discharge flow rates are presented in Appendix B. The 2-, 10- and 100-year peak discharges are shown in Appendix B. The peak discharges were determined using Bentley CivilStorm model which uses the 24-hr SCS Type II Unit Hydrograph method for calculating stormwater runoff and the NOAA Atlas 14 rainfall distributions for the 2-year, 10-year, and 100-year storms were included in the calculations. As shown, the total peak flow rate off-site has been reduced in post development conditions.

Appendix A

STORMWATER MANAGEMENT QUALITY CALCULATIONS

SWM Offset Summary

Easton Commerce Water Treatment Plant		7/28/2023	12578222
Project		Updated	Job No.
Stormwater Management Calculations		MJS	AGR
Subject		Comp. By	Checked By

Objective: To establish ESD to the MEP for the drainage area following the steps outlined in guidebooks developed by MDE.

Sources:
[1] "Environmental Site Design (ESD) Process & Computations," July, 2010.
[2] "2000 Maryland Stormwater Design Manual Volumes I & II," Including 2009 revisions to the 2007 Stormwater Management Act.
[3] "Maryland Stormwater Management Guidelines for State and Federal Projects" April 15, 2010.

Assumptions: These calculations are based off of the ESD Plan prepared July 2023.

SWM Summary

ESD Stormwater Management Requirements Per Site Drainage Areas

Drainage Areas	SWM Practice Proposed	ESD_V DA Target Volume (CF)	ESD_V Treated (CF)	Sub-Drainage Area Credit / Deficit (CF)
DA-1	Submerged Gravel Wetland	4311	5,775	1464
DA-2	None	N/A	N/A	0
DA-3	None	N/A	N/A	0
DA-4	None	N/A	N/A	0
Site Total		**4311**	**5775**	**1464**

ESD Stormwater Management Requirements for the Site as a Whole (LOD)

Total Site LOD Drainage Area (sf)	Total Impervious Area (sf)	MDE Designation	SWM Practice Propose	ESD_V Target Volume (CF)	ESD_V Treated (CF)
79,708	38,159	M-2	Submerged Gravel Wetland (SWM-1)	**5,749**	**5,775**
Total ESDv Credit for Site as a Whole				**26**	

STORM WATER MANAGEMENT TABLE

SWM Facility	Type	MDE Designation	Contributing Drainage Area (SF)	Contributing Drainage Area (ACRES)	Total Site LOD Drainage Area (SF)	ESD_V Target Volume (CF)	ESD_V Treated (CF)
SWM-1	Submerged Gravel Wetland	M-2	63,719	1.46	79,708	**5,749**	**5,775**
Total ESDv Credit for Site LOD						**26**	

Site LOD ESD Calculations

Easton Commerce Water Treatment Plant		7/28/2023	12578222
Project		Updated	Job No.
Stormwater Management Calculations for Site as a Whole		MJS	AGR
Subject		Comp. By	Checked By

Objective: To establish ESD to the MEP for the drainage area following the steps outlined in guidebooks developed by MDE.

Sources: [1] "Environmental Site Design (ESD) Process & Computations," July, 2010.
[2] "2000 Maryland Stormwater Design Manual Volumes I & II," Including 2009 revisions to the 2007 Stormwater Management Act.

Instructions: Complete all input boxes in green: Input
Key outputs are in bold text and bold border: **Output**

Assumptions: These calculations are based off of the ESD Plan prepared July 2023.

Calculations

General Site Information:

	Area (SF)	% of Total	
Total Area =	79,708		LOD = 1.82 AC
Hydrologic Soil Group Areas:			
Type A =	0	0%	
Type B =	0	0%	
Type C =	79,708	100%	
Type D =	0	0%	
Proposed Covers:			
Existing Impervious Area =	15,136	19%	
New Impervious Area =	23,023	29%	38,159
Reconstruction Area (Portion of New over Existing) =	0	0%	
Pervious Paving =	0	0%	
Grass =	41,549	52%	
Trees =		0%	

Stormwater Management Design and Computations

Step 1 Determine Stormwater Management Requirements

Step 1a Determine Runoff Curve Number (RCN) to mimic "woods in good condition"

HSG:	RCN[1]	Area (SF)	Percent
Type A	38	-	0%
Type B	55	-	0%
Type C	70	79,708	100%
Type D	77	-	0%
Total		79,708	100%

If there is more than one HSG in the Drainage Area, a composite RCN will be calculated:

---> **RCN = 70.00**

Step 1b Determine ESD Targets

Compute Imperviousness (%I)

All existing impervious areas are counted at 100%
All new impervious areas located over existing open space are counted at 100%
All new impervious areas located over existing impervious areas (Reconstruction Area) are counted at 100%
All proposed permeable pavers are counted at 50%
All open tanks are not included in runoff calculations since these structures collect and treat runoff

Existing Impervious Contribution =	15,136	sf
New Impervious Contribution =	23,023	sf
Reconstruction Impervious Contribution =	-	sf
Pervious Paving Contribution =	-	sf
Total Proposed Impervious for Runoff Calcs =	38,159	sf
%I =	47.9%	
---> Round to nearest increment of 5: **%I =**	**50.0%**	

Compute dimensionless volumetric runoff coefficient (R_v)

$R_v = 0.05 + 0.009(I)$ where I = %I x 100

---> **R_v = 0.48**

Determine target rainfall (P_E)

Find P_E for each soil type using %I and Table 5.3 in [2], then calculate an average P_E for the Drainage Area

HSG	% of DA	%I	PE
Type A	0%	50%	1.8
Type B	0%	50%	1.8
Type C	100%	50%	1.8
Type D	0%	50%	1.8

---> **P_E = 1.80 inches**

Estimate Target ESD Volume (ESD_V)

ESD_v = [P_E x R_V x A] / 12

---> **ESD_v = 5,749.3 cf**

Compute Runoff depth used to size ESD practices (Q_E)

$Q_{E=}$ [P_E x R_V]

---> **Q_E = 0.9 inches**

Step 4 **ESD Design Revisions per Review Comments**

List Revisions to Design Calculations from Concept Plan

Issue	Date	Title	Revisions

Footnotes:

[1][2] Table 5.3 p 5.21

[2][2] Fig 2.1 p 2.3

[3][2] p 2.5

[4][2] p 3.39-3.40

Easton Commerce Water Treatment Plant		7/28/2023	12578222
Project		Updated	Job No.
DA-1 LOD ESDv Calculations		MJS	AGR
Subject		Comp. By	Checked By

Objective: To establish ESD to the MEP for the drainage area following the steps outlined in guidebooks developed by MDE.

Sources: [1] "Environmental Site Design (ESD) Process & Computations," July, 2010.
[2] "2000 Maryland Stormwater Design Manual Volumes I & II," Including 2009 revisions to the 2007 Stormwater Management Act.

Instructions: Complete all input boxes in green: Input
Key outputs are in bold text and bold border: **Output**

Assumptions: These calculations are based off of the ESD Plan prepared July 2023.

Calculations

General Site Information:

	Area (SF)	% of Total		
Total Area =	63,719		LOD drainage Area	1.46

Hydrologic Soil Group Areas:

Type A =	0	0%
Type B =	0	0%
Type C =	63,719	100%
Type D =	0	0%

Proposed Covers:

Existing Impervious Area =	5,368	8%	
New Impervious Area =	23,023	36%	
Reconstruction Area (Portion of New over Existing) =	0	0%	
Pervious Paving =	0	0%	
Existing Grass =	35,328	55%	
Existing Trees =		0%	100%

Stormwater Management Design and Computations

Step 1 Determine Stormwater Management Requirements

Step 1a Determine Runoff Curve Number (RCN) to mimic "woods in good condition"

HSG:	RCN[1]	Area (SF)	Percent
Type A	38	-	0%
Type B	55	-	0%
Type C	70	63,719	100%
Type D	77	-	0%
Total		63,719	100%

If there is more than one HSG in the Drainage Area, a composite RCN will be calculated:

---> **RCN = 70.00**

Step 1b Determine ESD Targets

Compute Imperviousness (%I)
All existing impervious areas are counted at 100%
All new impervious areas located over existing open space are counted at 100%
All new impervious areas located over existing impervious areas (Reconstruction Area) are counted at 100%
All proposed permeable pavers are counted at 50%
All open tanks are not included in runoff calculations since these structures collect and treat runoff

Existing Impervious Contribution =	5,368	sf
New Impervious Contribution =	23,023	sf
Reconstruction Impervious Contribution =	-	sf
Pervious Paving Contribution =	-	sf
Total Proposed Impervious for Runoff Calcs =	28,391	sf
%I =	44.6%	
---> Round to nearest increment of 5: **%I =**	**45.0%**	

Compute dimensionless volumetric runoff coefficient (R_v)

$R_v = 0.05 + 0.009(I)$ where I = %I x 100

---> R_v = 0.45

Determine target rainfall (P_E)

Find P_E for each soil type using %I and Table 5.3 in [2], then calculate an average P_E for the Drainage Area

HSG	% of DA	%I	PE
Type A	0%	45%	1.8
Type B	0%	45%	1.8
Type C	100%	45%	1.8
Type D	0%	45%	1.8

---> P_E = 1.80 inches

Estimate Target ESD Volume (ESD_V)

ESD_v = [P_E x R_V x A] / 12

Cpv Storage Volume

Cpv = Q1 x A

---> ESD_v = 4310.7 cf

Compute Runoff depth used to size ESD practices (Q_E)

$Q_{E=}$ [P_E x $R_{V]}$

---> Q_E = 0.8 inches

Step 2 **ESD Options**

List ESD practices that were conceptually evaluated and why implementation could or could not be feasible

Non-Structural Runoff Disconnects

Adequate area to perform runoff disconnects is not available in this drainage area.

Alternative Surfaces for Pavement and Rooftops

Alternative surfaces were not investigated for this drainage area because most of the impervious surface in this drainage area is existing impervious and proposed and existing buildings

Micro-Scale Practices

A rain garden or micro-bioretention basin was considered, but the soil type of the site does not allow for infiltration so a Submerged Gravel Wetland is proposed.

Structural Practices

No structural practices are provided as micro-scale practices can be utilized for this site.

Step 3 **Complete Stormwater Management Design**

Step 3a **Compute Implementation of ESD to the MEP**

Submerged Gravel Wetland (SGW-1) M-2

SGW shall meet the following conditions (pg 5.77)

1. The soils shall be HSG C or D or a high groundwater table
2. Drainage Area should be large enough (e.g. one acre) to maintain submerged flow conditions
3. Pretreatment shall be provided for 10% of the total ESDv
4. Storage of 75% of ESDv for the entire DA contributing to the wetland shall be provided
5. The gravel substrate shall be no deeper than 4 feet
6. An observation well consisting of an anchored, 6-inch diamerter perforated pipe shall be required. The top of the OW shall be at leas
7. The aggregate shall be composed of an 18 to 48 inch layer of clean washed uniformly graded material with a porosity of 40%.

ESD Summary

Required ESDv =	4,311	cf
Total =	4,311	cf
Site ESDv Total =	5,749	
ESD_V met?	**YES**	

Submerged Gravel Wetland

Surface Area, A_f

Proposed Surface Area, A_f = 3,900 sf

Temporary ponding depth shall not be greater than the tolerance levels of the wetland vegetation. ([5] page 5.78)

Basin Dimensions

Ponding Depth =	1.00	ft	Assumed a max vegetation height of 2-feet
Gravel Depth =	3.00	ft	An increase of 1 ft of gravel allowed with increae of 1 ft of ponding.
Porosity of media, n =	0.00	ft	impermeable liner = no porosity, gravel porosity = 40%

Forebay Requirement

Impervious Area =	28,391	
Sizing:	0.00833	ft per impervious acres of contributing drainage
Storage Requirement=	237	cf
Size=	1,250	sf
Forebay Volume=	1,875	cf
10% Site ESD Total Volume =	431	cf
Requirement Met =	**YES**	

Treatment Capacity

Treatment Capacity, ESD_v = (A_f)*(Ponding Depth) + (A_f)*(Filter Media Depth)*(Porosity) + Forebay Volume

ESD_v =	5,775	cf
75% Storage Requirement =	3,233	cf
Ponding Storage =	11,700	cf
Requirement Met =	**YES**	

ESD Summary

Required ESD_v =	4,311
Maximum ESDv Treatment Volume =	6,705
Submerged Gravel Wetland ESDv=	5,775
Total =	-1,464

ESD_v Remaining =	**(1464.3)**	**CF**

ESD_v met?	**YES**

Environmental Site Design Practices are achieved via implementaiton of a submerged gravel wetland and existing flow patterns maintained in all drainage areas.

Step 4 **ESD Design Revisions per Review Comments**

Footnotes:

[1][2] Table 5.3 p 5.21

[2][2] Fig 2.1 p 2.3

[3][2] p 2.5

[4][2] p 3.39-3.40

List Revisions to Design Calculations from Concept Plan

Issue	Date	Title	Revisions

Appendix B

SWM Quantity Calculations CivilStorm

2-YR Pre Dev FlexTable: Outfall Table

Current Time: 0.00 hours

Label	Elevation (Ground) (ft)	Elevation (Invert) (ft)	Boundary Condition Type	Flow (Out to Links Maximum) (cfs)	Hydraulic Grade (Maximum) (ft)
POS-1 Pre	15.80	15.20	Normal	4.1320	17.23

2-YR Pre Dev FlexTable: Catchment Table

Current Time: 0.00 hours

Label	Outflow Element	Area (User Defined) (ft²)	Unit Hydrograph Method	Time of Concentration (Composite) (min)	SCS CN (Composite)	Time (Maximum Flow) (min)	Flow (Maximum) (cfs)	Volume (Total Runoff) (gal)
DA-1 Pre	CS-1 Pre	112,260.000	SCS Unit Hydrograph	7.000	82.960	726.000	4.2210	114,766.1

2-YR Post Dev FlexTable: Outfall Table

Current Time: 0.00 hours

Label	Elevation (Ground) (ft)	Elevation (Invert) (ft)	Boundary Condition Type	Flow (Out to Links Maximum) (cfs)	Hydraulic Grade (Maximum) (ft)
POS-2B Post	16.97	15.20	Free Outfall	2.6810	15.97
SWM Inlet Post	16.50	15.50	Boundary Element	(N/A)	(N/A)

2-YR Post Dev FlexTable: Catchment Table

Current Time: 0.00 hours

Label	Outflow Element	Area (User Defined) (ft²)	Unit Hydrograph Method	Time of Concentration (Composite) (min)	SCS CN (Composite)	Time (Maximum Flow) (min)	Flow (Maximum) (cfs)	Volume (Total Runoff) (gal)
DA-1A Post	CS-2A Post	52,077.000	SCS Unit Hydrograph	7.000	75.928	726.000	1.3689	38,247.9
DA-1B	CB-1	35,752.000	SCS Unit Hydrograph	5.000	98.000	726.000	2.2180	66,980.6
DA-1C	CB-2	24,218.000	SCS Unit Hydrograph	5.000	98.000	726.000	1.5024	45,376.8

10-YR Pre Dev FlexTable: Outfall Table

Current Time: 0.00 hours

Label	Elevation (Ground) (ft)	Elevation (Invert) (ft)	Boundary Condition Type	Flow (Out to Links Maximum) (cfs)	Hydraulic Grade (Maximum) (ft)
POS-1 Pre	15.80	15.20	Normal	7.9525	17.27

10-YR Pre Dev FlexTable: Catchment Table

Current Time: 0.00 hours

Label	Outflow Element	Area (User Defined) (ft²)	Unit Hydrograph Method	Time of Concentration (Composite) (min)	SCS CN (Composite)	Time (Maximum Flow) (min)	Flow (Maximum) (cfs)	Volume (Total Runoff) (gal)
DA-1 Pre	CS-1 Pre	112,260.000	SCS Unit Hydrograph	7.000	82.960	726.000	8.1883	224,408.1

10-YR Post Dev FlexTable: Outfall Table

Current Time: 0.00 hours

Label	Elevation (Ground) (ft)	Elevation (Invert) (ft)	Boundary Condition Type	Flow (Out to Links Maximum) (cfs)	Hydraulic Grade (Maximum) (ft)
POS-2B Post	16.97	15.20	Free Outfall	3.6547	16.13
SWM Inlet Post	16.50	15.50	Boundary Element	(N/A)	(N/A)

10-YR Post Dev FlexTable: Catchment Table

Current Time: 0.00 hours

Label	Outflow Element	Area (User Defined) (ft²)	Unit Hydrograph Method	Time of Concentration (Composite) (min)	SCS CN (Composite)	Time (Maximum Flow) (min)	Flow (Maximum) (cfs)	Volume (Total Runoff) (gal)
DA-1A Post	CS-2A Post	52,077.000	SCS Unit Hydrograph	7.000	75.928	726.000	3.0631	83,280.6
DA-1B	CB-1	35,752.000	SCS Unit Hydrograph	5.000	98.000	726.000	3.4735	106,978.9
DA-1C	CB-2	24,218.000	SCS Unit Hydrograph	5.000	98.000	726.000	2.3529	72,471.3

100-YR Pre Dev FlexTable: Outfall Table

Current Time: 0.00 hours

Label	Elevation (Ground) (ft)	Elevation (Invert) (ft)	Boundary Condition Type	Flow (Out to Links Maximum) (cfs)	Hydraulic Grade (Maximum) (ft)
POS-1 Pre	15.80	15.20	Normal	15.8630	17.34

100-YR Post Dev FlexTable: Outfall Table

Current Time: 0.00 hours

Label	Elevation (Ground) (ft)	Elevation (Invert) (ft)	Boundary Condition Type	Flow (Out to Links Maximum) (cfs)	Hydraulic Grade (Maximum) (ft)
POS-2B Post	16.97	15.20	Free Outfall	3.9070	16.17
SWM Inlet Post	16.50	15.50	Boundary Element	(N/A)	(N/A)

Appendix C

Geotechnical Report

JOHN D. HYNES & ASSOCIATES, INC.

Geotechnical and Environmental Consultants
Monitoring Well Installation
Construction Inspection and Materials Testing

January 26, 2023

Andrew Thron
GHD, Inc.
16701 Melford Boulevard, Suite 300
Bowie, Maryland 20715

Re: Report of Subsurface Exploration and Geotechnical Consulting Services
Easton Utilities-CDP WTP Project
Easton, Maryland
Project No.: JDH-10/22/261

Dear Mr. Thron:

John D. Hynes & Associates, Inc. has completed the authorized subsurface exploration and geotechnical consulting services for the Easton Utilities-CDP WTP project located in Easton, Maryland. Our services were performed, generally, in accordance with our proposal dated March 16, 2022.

This report describes the exploration methods employed, exhibits the data obtained, and presents our evaluations and recommendations for the proposed new building and aquastone tank. In summary, we recommend that the building's structural elements be supported by spread footing foundations bearing on firm, natural soils or compacted structural fill. We recommend that the tank be supported by a slab and ring foundation. Refer to the Building Foundation section of the report for our specific recommendations.

We appreciate the opportunity to be of service to you. If you have any questions regarding the contents of this report or if we may be of further assistance, please contact our office.

Respectfully,

JOHN D. HYNES & ASSOCIATES, INC.

Evan H. Cross
Geologist

John D. Hynes, P.E.
President

STATE OF MARYLAND
JOHN DAVID HYNES
No. 16233
REGISTERED
PROFESSIONAL ENGINEER

EHC: JDH/kc

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REPORT OF
SUBSURFACE EXPLORATION
AND
GEOTECHNICAL CONSULTING SERVICES

EASTON UTILITIES-CDP WTP PROJECT
EASTON, MARYLAND

PREPARED FOR
GHD, INC.

JANUARY 26, 2023
PROJECT NO.: JDH-10/22/261

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PURPOSE AND SCOPE

The subsurface exploration study was performed to evaluate the subsurface conditions with respect to the following:

1. General site and subgrade preparation;
2. Fill and backfill construction;
3. Foundation recommendations, including allowable bearing capacity, and estimated foundation settlement;
4. Frost depth;
5. Foundation construction and inspection procedures;
6. Seismic site classification;
7. Soil and groundwater conditions, and infiltration rates at stormwater structure locations;
8. Floor slab support;
9. Location of groundwater and applicable construction dewatering control procedures; and
10. Other aspects of the design and construction for the proposed structures indicated by the exploration.

An evaluation of the site, with respect to potential construction problems and recommendations dealing with earthwork and inspection during construction, is included. The inspection is considered necessary both to confirm the subsurface conditions and to verify that the soils related construction phases are performed properly.

EXISTING SITE CONDITIONS

As shown on the Project Location Map (Drawing JDH-10/22/261-A) in the Appendix, the project site is located at 8670 Commerce Drive in Easton, Maryland. At the time of our exploration, the project site consisted of the existing Easton Utilities equipment and supplies facility. The project site for the water treatment facility is located in the landscaped area on the west side of the existing Easton Utilities building. The building and storage yard have a perimeter fence. The project site is bounded by light residential to the northeast, by Commerce Drive to the east, by commercial properties to the southwest, and by a tree line and commercial properties to the west. Topographically, the site is relatively flat. A shallow swale currently exists along the fence line.

PROJECT CHARACTERISTICS

The Easton Utilities CDP WTP project includes the construction of a 5,550 sf building. The building will be constructed with CMU block walls, steel trusses, and will be finished with metal-faced exterior. Based on conversations with GHD, wall footings are assumed to be 3 feet wide resulting in a maximum bearing pressure of approximately 1,000 psf for the exterior bearing walls and no equipment areas should create a bearing pressure that exceeds 1,000 psf. The building will have a concrete slab on grade. The project, also, includes the construction of a backwash supply tank and stormwater management structures. The backwash supply tank will measure 19.6 feet in diameter, 19.26 feet in sidewall height, will have a liquid level height of 17.26 feet and a capacity of 38,885 gallons. We understand the tank manufacturer will provide their own foundation package for the tank that will consist of a 6 inch thick reinforced concrete floor that is designed to accommodate 0.16 inches of differential settlement.

FIELD EXPLORATION AND STUDY

In order to determine the nature of the subsurface conditions at the site, 6 test borings were drilled at the site on December 21, 2022 at the approximate locations shown on our Boring Location Plan (Drawing No. JDH-10/22/261-B) in the Appendix. One test boring, designated as SB-1, was drilled in the center of the proposed tank location to a

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depth of 25.5 feet below existing grade. Three test borings, designated as SB-2, SB-3, and SB-4, were drilled at the footprint of the proposed structure to depths of 25.5 feet below existing grade using a track mounted Geoprobe 3230 DT drill rig. The tank and building borings were drilled using Standard Penetration Testing (SPT) procedures. Two test borings, depicted as IT-1 and IT-2, were drilled at the approximate location of the proposed stormwater management structures to depths of 10 feet below existing grade using a hand auger.

Soil sampling and testing for the SPT borings were carried out in accordance with ASTM Specification D-1586 for the test borings. A brief description of our field procedures is included in the Appendix. The results of all boring and sampling operations are shown on the boring logs.

Samples of the subsurface soils were examined by our engineering staff and were visually classified in accordance with the Unified Soil Classification System (USCS) and ASTM Specification D-2488. The estimated USCS symbols and descriptions appear on the boring logs (where applicable) and keys to the systems' nomenclature are provided in the Appendix of this report. Also included are reference sheets which define the terms and symbols used on the boring logs and explain the Standard Penetration Test procedures.

We note that the test boring records represent our interpretation of the field data based on visual examination and selected soil classification tests. Indicated interfaces between materials may be gradual.

The field exploration data was supplemented with laboratory testing data. The laboratory at John D. Hynes & Associates, Inc. performed 3 Atterberg Limits (Liquid and Plastic) tests and 3 Natural Moisture Content tests. The test results are noted on the boring logs in the Appendix.

SUBSURFACE CONDITIONS

At the time of our field exploration, approximately 6 to 12 inches of organic bearing soil were encountered at Boring locations SB-1 through SB-4. Approximately 15 inches of organic bearing soil were encountered at Boring locations IT-1 and IT-2. Varying thicknesses of organic bearing soil or other surficial materials may be encountered at other locations on site.

The subsurface soils were visually classified in accordance with the USCS as interbedded layers of low-Silt SAND Silty SAND (SM), Clayey SILT (ML, MH), and Silty CLAY (CL, CH) to the boring termination depths. The granular soil layers were characterized by Standard Penetration Test (SPT) values (N-values) ranging from 8 to 12 blows per foot indicating in-place relative densities of loose to medium dense. Cohesive soils were characterized by N-values ranging from 4 to 28 blows per foot, indicating in-place consistencies of soft to very stiff.

In test borings SB-1, IT-1 and IT-2, we encountered a thin layer of SAND at varying depths between 2 and 5 feet below grade. This layer contains organic SILT. This material is likely buried "topsoil," which means the soil above it, is fill material. The layer with organic SILT may be fill.

Groundwater was encountered at depths of 5 to 8 feet below existing grade at the boring locations. Groundwater elevations may vary at other times during the year depending upon the amount of precipitation, seasonal variations, and the extent of local surface development.

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RECOMMENDATIONS

The following recommendations and considerations are based on our understanding of the proposed construction, the data obtained from the exploration, and our previous experience with similar subsurface conditions and projects. If there are any significant changes to the project characteristics, such as structural loadings differing significantly from those assumed above, structure geometry, structure location, elevations, etc., we request that this office be advised so the recommendations of this report can be re-evaluated.

A. Site Preparation

Prior to the installation of foundations, ground slabs, or the placement of fill in any structural areas, all existing organic materials, frozen or wet, excessively soft or loose soils, abandoned utility lines, and other deleterious materials should be removed and wasted. Any existing organic bearing soil in the building area should be stripped and can be stockpiled for reuse in landscape areas, or should be removed from the site. If perched water is encountered during any grading or excavation process, Hynes & Associates should be consulted for additional recommendations regarding the stabilization of the bases of the excavations and backfilling.

Hynes & Associates encountered a Silty SAND layer containing organic SILT in boring SB-1 at the tank location. This appears to be buried fill material. We recommend excavating 2 or 3 test pits at the tank foundation area to depths of 5 feet. If the soils are good, and are firm then no overexcavation will be required. If organic soils are encountered in the test excavations, then the organic soils and the materials above the organic bearing soils should be removed and replaced. The soils that are placed shall be installed in accordance with Section B below.

After the stripping operations have been completed, the exposed subgrade soils should be inspected. The inspector should verify that organic matter has been removed from structural subgrade areas. The inspector should require the exposed subgrade materials be proofrolled utilizing a heavily-loaded dump truck or other pneumatic-tired vehicle of similar size and weight. The purpose of the proofrolling would be to provide surficial densification and to locate any potential isolated areas of soft or loose soils requiring undercutting. Proofrolling is not advised in wet areas which may deteriorate under repeated vehicular loading. Wet areas should be drained and allowed to dry prior to proofrolling. Precipitation may result in standing water (perched water) at low areas. If the water is allowed to pond, the natural soils may deteriorate and overexcavation or subgrade improvements may be necessary at those areas. The Geotechnical Engineer should be consulted to evaluate poor subgrade conditions during construction.

Care should be exercised during the grading operations at the site. Shallow SM, CL, and ML materials were identified at the boring locations. These materials are moderately (SM) to highly (ML, CL) sensitive to changes in moisture conditions and should therefore be protected. If earthwork is performed in the presence of moisture, the traffic of heavy equipment, including heavy compaction equipment, may create pumping and a general deterioration of the subgrade soils. The contractor should be very careful to minimize construction traffic in the subgrade areas. Overexcavated areas resulting from the removal of organic matter, rubble, old foundations, or otherwise unacceptable materials should be backfilled with properly compacted materials in accordance with the procedures discussed in the following sections.

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B. Fill Selection, Placement and Compaction

It is recommended that all materials to be used as structural fill be inspected, tested and approved by the Geotechnical Engineer prior to use. The native SM soils that do not contain organics may be re-used for structural fill. Acceptable borrow material should include GW, SM, SW and SP classified in accordance with the USCS. Furthermore, the material to be utilized as structural fill should have a Plasticity Index (PI) less than 20. The native ML, CL, CH and MH soils should not be used for structural fill.

The importation of high quality, granular material should be allowed, and acceptable unit rates for importation and placement should be established. Sand, gravel or sand/gravel mixtures would be appropriate for wet weather placement. Otherwise, the materials noted above will be acceptable for use as structural fill. Native or imported SM soils will be sensitive to alteration in moisture content and will become unworkable during and following periods of precipitation. For this reason, if earthwork is attempted in late autumn, winter or early spring, the above mentioned high quality imported granular material should be limited to those soils better than SM. SM materials become unworkable at moisture contents greater than 3 percentage points above optimum. The contractor would have to dry these materials or set them aside for use in landscaping areas.

Structural fill should be placed in lifts which are 8 inches or less in loose thickness and should be compacted to at least 95 percent of the Modified Proctor maximum dry density (ASTM D-1557). Adjustments to the natural moisture content of the soils may be required in order to obtain specified compaction levels. Should utility construction be performed after earthwork, the Contractor should be responsible for achieving 95 percent compaction in all trench backfill. These guidelines should be set for all structural fill at the site including, but not limited to building, pavement, and ground slab fills.

For the fill compaction operations, fill limits should be extended at least 5 feet beyond the building exterior foundations, and ground slab boundaries. A sufficient number of in-place density tests should be performed by an engineering technician to verify that the proper degree of compaction is being obtained in all fill soils.

C. Building Foundation

Considering the subsurface conditions and the structural loading conditions, we recommend that the proposed building be supported on spread footing foundations bearing on firm natural soils, or controlled structural fill. Footings for the proposed building may be proportioned based upon a maximum allowable soil bearing pressure not in excess of 1,500 psf. Using this bearing pressure, we estimate total settlement of 1 inch or less, and differential settlement of ½ inch or less. Because the foundation subgrade soils are CLAYs, it is important to slope the site to direct stormwater away from the building.

Minimum dimensions of 30 inches for square footings and 24 inches for continuous or rectangular footings should be used in foundation design to minimize the possibility of a local shear failure. All foundation excavations should be inspected by the Geotechnical Engineer or his approved representative prior to the placement of concrete. The purpose of the inspection would be to verify that the exposed bearing materials are acceptable for the design soil bearing pressure and that loose, wet, frozen or compressible soils are not present. If soft or loose soils are encountered at footing subgrades, compaction in the foundation excavation may be necessary, or minor overexcavation may yield greater soil support.

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Continuous wall footings may need to be raised in elevation in a direction away from and perpendicular to other footings. Footings may be gradually raised or lowered to the desired elevation using step construction procedures with a 2H:1V, or more gentle, slope. In addition, discrete column or pier footings bearing at a higher elevation than lower footings should be located at a distance apart which is equal to or greater than the difference in the elevations of the footings. If the building is to be constructed during the winter months or if the building will be subjected to freezing temperatures after footing construction, then all footings should be adequately protected during freezing periods.

In Easton, exterior footings and footings in unheated areas should be located at a depth of at least 24 inches to bottom of footing below the outside final grade to provide adequate frost cover protection. If the building is to be constructed during the winter months or if the building will be subjected to freezing temperatures after footing construction, then all footings should be adequately protected during freezing periods.

Soils exposed at the bases of all satisfactory foundation excavations should be protected against any detrimental change in condition, such as disturbance from rain or frost. Surface runoff should be drained away from the excavations and not be allowed to pond.

D. Tank Foundation

Considering the subsurface conditions and loading conditions, we recommend that the proposed backwash supply tank be supported on a mat (slab) foundation with a perimeter ring foundation bearing on firm natural soils, or controlled structural fill. Considering the loads provided, and a 6 inch thick slab on 6 inches of gravel, we estimated the ring and mat foundation to bear less than 1200 psf. In consideration of the tank size and contents and using a 20 foot diameter foundation, we estimated the total tank foundation settlement to be 0.9 inch. We note that we drilled four structural borings at the site and the soils below 5 feet were very similar in type and consistency. If our recommendations regarding inspecting the foundation subgrades, and removing and replacing old, poor fill materials if present are followed, then we expect negligible differential settlement of the tank foundation.

As discussed in Section A, we recommend excavating test pits at the tank foundation area to explore for poor soils. If poor and/or organic bearing soils are encountered, they should be removed and be replaced with compacted structural fill material. All foundation excavations should be inspected by the Geotechnical Engineer or his approved representative prior to the placement of concrete.

E. Seismic Site Classification

Hynes & Associates is providing below, the seismic site classification in accordance with the International Building Code (IBC) 2018. The code stipulates that we evaluate the strength of soil to a depth of 100 feet below grade. We used the soil properties indicated in the test borings, which were drilled to depths of up to 30.5 feet and our experiences locally. In consideration of the test boring data and our experience locally, it is our opinion that the average properties of the soils in the upper 100 feet of the local subsurface stratigraphy meet Site Classification "D" criteria.

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We recommend using the following spectral design coefficients for seismic design for the Easton site:

Seismic Design Coefficients for Easton, Maryland	
F_a=	1.6
F_v=	2.4
S_S=	0.012
S_1=	0.041
S_{DS}=	0.013
S_{D1}=	0.066

These values were obtained and calculated in accordance with the IBC 2018 and ASCE 7. These are site specific design values and are based on a Site Classification of D.

F. Floor Slab Support

The ground supported slabs on grade may be supported on the approved subgrade constructed as described in Sections A and B above. It is, also, recommended that a 4 inch clean, granular, leveling and load-distributing material such as washed gravel, or screened crushed stone, be used beneath the slabs. This material will require acquisition from off-site sources. Prior to placing the leveling and load distributing material, the slab subgrade should be free of standing water or mud. An acceptable moisture barrier should, also, be provided for the slab. These procedures will help to prevent capillary rise and damp floor slab conditions. We recommend using a value of modulus of subgrade reaction of 150 pci.

G. Stormwater Management Areas

Test borings IT-1 and IT-2 were drilled at proposed stormwater management areas. The subsurface soils were visually classified as interbedded layers of Silty SAND (SM), CLAY (CL,CH), and Clayey Elastic SILT (MH) to the boring termination depths. The USDA classifications for these materials were Loamy sand, Sandy loam, Silty clay loam, and Clay. Redoximorphic features, which can be representative of seasonal high groundwater or a restrictive soil layer, were observed in some of the boring locations. These features are likely an indication of slowly infiltrating groundwater in the potentially restrictive layers encountered at these locations. It is our opinion that the redoximorphic features do not indicate seasonal high groundwater levels. In consideration of our site observations and regional groundwater conditions, it is our opinion that seasonal high water levels are similar to the levels observed in the stormwater and structural borings at the time of drilling.

The SM materials that are excavated from the stormwater management areas can be reused as structural fill at the site, as long as the soils are of the appropriate moisture content, and are free of organic materials and debris. The native MH, CH, and CL material should not be reused as structural fill.

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H. Infiltration Testing

After discussing the subsurface soil and groundwater conditions with the Civil Engineer, single ring, falling head infiltration tests were performed at depths of 6.35 to 6.55 feet below the ground surface at the boring locations. The testing was completed in general accordance with Maryland Department of the Environment (MDE) guidelines. Surface elevations were estimated based on contour maps provided by GHD. The test locations, depths to groundwater, infiltration test depths, and last hour infiltration rates are summarized in the table below:

Table 1: Summary of Infiltration Test Results

Test Boring Location	Surface Elevation (ft.)	Depth to Groundwater (ft.)	Potentially Restrictive Soil Layers (ft.)	Infiltration Test Depth (ft.)	Infiltration Test Elevation	Infiltration Rate (in./hr.)
IT-1	17.0	5.0	0 to 3, 5 to 10	6.35	10.65	0.0
IT-2	17.0	6.0	0 to 2, 3 to 10	6.55	10.85	0.6

Infiltration did not occur at the test depth of 6.55 feet below existing grade at infiltration testing location IT-1. Therefore, Hynes & Associates does not recommend infiltration practices at test location IT-1.

I. Groundwater and Drainage

Groundwater was encountered at depths of 5 to 8 feet at the boring locations. Considering the proposed construction, the contractor will not likely experience construction problems relating to the groundwater in foundation excavations. The Contractor should be prepared to dewater the lowest excavations in the event of the infiltration of precipitation. If required, acceptable measures for dewatering should be implemented. These methods may include sumping and pumping, etc. Efforts should be made to keep exposed subgrade areas dry during construction, primarily, because the soils will be susceptible to deterioration and loss of strength in the presence of moisture. Adequate drainage should be provided at the site to minimize any increase in moisture content of the foundation and pavement subgrade soils. All pavements and site grades should be sloped away from the building and the water storage tank to prevent ponding of water around them. The final site drainage should, also, be designed such that run-off onto adjacent properties is controlled properly.

ADDITIONAL SERVICES RECOMMENDED

Additional engineering, testing and consulting services recommended for this project are summarized below.

A. Site Preparation and Proofrolling Monitoring

The Geotechnical Engineer or experienced soils inspector should inspect the site after it has been stripped and excavated. The inspector should determine if any undercutting or in-place densification is necessary to prepare a subgrade for fill placement, or slab and pavement support. The inspector should verify that organic soils, organic matter, tree stumps, old foundations abandoned utilities, and demolition debris have been removed from all structural subgrade areas prior to filling operations.

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B. Fill Placement and Compaction Monitoring

The Geotechnical Engineer or experienced soils inspector should witness all fill operations and take sufficient in-place density tests to verify that the specified degree of fill compaction is achieved. The inspector should observe and approve borrow materials used and should determine if their existing moisture contents are acceptable.

C. Foundation Excavation Inspections

The Geotechnical Engineer should inspect all foundation excavations for the structure. He should verify that the design bearing pressures are available and that no loose or soft areas exist beneath the bearing surfaces of the foundation excavations.

REMARKS

This report has been prepared solely and exclusively for GHD, Inc. to provide guidance to design professionals in developing facilities plans for the Easton Utilities – CDP WTP project located in Easton, Maryland. It has not been developed to meet the needs of others, and application of this report for other than its intended purpose could result in substantial difficulties. The Consulting Engineer cannot be held accountable for any problems which occur due to the application of this report to other than its intended purpose. This report in its entirety should be attached to the project specifications.

These analyses and recommendations are, of necessity, based on the concepts made available to us at the time of the writing of this report, and on-site conditions, surface and subsurface that existed at the time the exploratory borings were drilled. Further assumption has been made that the limited exploratory borings, in relation both to the areal extent of the site and to depth, are representative of conditions across the site. It is, also, recommended that we be given the opportunity to review all plans for the project in order to comment on the interaction of soil conditions as described herein and the design requirements.

Our professional services have been performed, our findings obtained and our recommendations prepared in accordance with generally accepted engineering principles and practices.

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APPENDIX

1. Investigative Procedures
2. Project Location Map
3. Boring Location Plan
4. Boring Logs
5. Infiltration Test Results
6. Single Ring Falling Head Infiltration Test Procedures
7. Unified Soil Classification Sheet
8. USDA Soil Classification Sheet
9. Field Classification Sheet
10. Important Information Sheet

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INVESTIGATIVE PROCEDURES

SOIL TEST BORINGS

Soil drilling and sampling operations were performed in accordance with ASTM Specification D-1586. The borings were advanced by mechanically turning continuous hollow stem auger flights into the ground. At regular intervals, samples were obtained with a standard 1.4 inch I.D., 2.0 inch O.D. splitspoon sampler. The sampler was first seated 6 inches to penetrate any loose cuttings and then driven an additional foot with blows of a 140-pound hammer falling 30 inches. The number of hammer blows required to drive the sampler the final foot is the "Standard Penetration Resistance". The penetration resistance, when properly evaluated, is an index to the soil's strength, density and behavior under applied loads. The soil descriptions and penetration resistances for each boring are presented on the Test Boring Records in the Appendix.

HAND AUGER SOIL TEST BORINGS

Test borings were performed using a hand auger. The auger is manually advanced by rotating the shaft of the auger. The auger is withdrawn at short intervals for inspection of soils collected in the auger head. Soil samples are taken when soil conditions are noted to change. The soil descriptions for each boring are presented on the boring logs in the Appendix.

SOIL CLASSIFICATION

Soil classifications provide a general guide to the engineering properties of various soil types and enable the engineer to apply his past experience to current problems. In our investigation, jar samples obtained during drilling operations are examined in our laboratory and visually classified by the geotechnical engineer in accordance with ASTM Specification D-2488. The soils are classified according to the Unified Classification System (ASTM D-2487). Each of these classification systems and the in-place physical soil properties provides an index for estimating the soil's behavior.

ATTERBERG LIMITS TEST

Portions from representative soil samples obtained during drilling operations were selected for Atterberg Limits tests. The Atterberg Limits are indicative of the soil's plasticity characteristics. The liquid limit is the moisture content at which the soil will flow as a heavy viscous fluid and is determined in accordance with ASTM Specification D-4318. The plastic limit is the moisture content at which the soil begins to lose its plasticity and is determined in accordance with ASTM Specification D-4318.

NATURAL MOISTURE

Portions from representative soil samples obtained during drilling operations were selected for Natural Moisture Content tests. The Natural Moisture Content Test determines the water content of soils by drying into an oven with a standard drying temperature of 110 °C. The loss of mass drying the sample, determines the water content into the soil. The water content of the sample is calculated in percentage. The water content of soils (natural moisture) is determined in accordance with ASTM Specification D-2216.

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HYNES **JOHN D. HYNES & ASSOCIATES, INC.**
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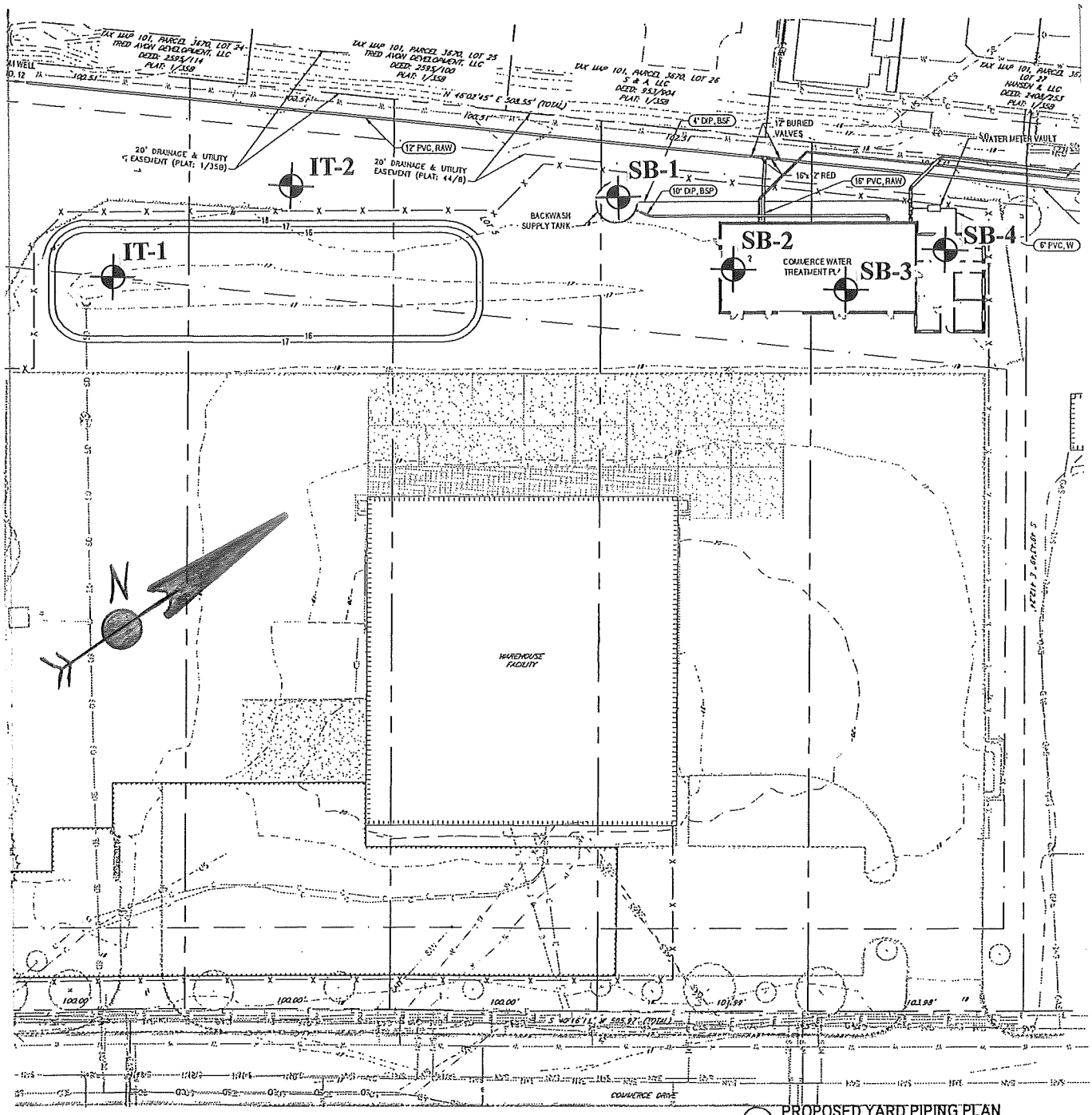
	Date: January 10, 2023
	Scale: 1" = 2,000 ft.
	Drawn: ADC Maps
Project Location Map Easton Utilities CDP WTP Project Easton, Maryland	**DWG. No.** **JDH-10/22/261-A**



1 PROPOSED YARD PIPING PLAN
SCALE: 1" = 30'-0"

JOHN D. HYNES & ASSOCIATES, INC.
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Date: January 10, 2023	
Scale: Not to Scale	
Drawn: GHD, Inc.	

Boring Location Plan
Easton Utilities CDP WTP Project
Easton, Maryland

DWG. No.
JDH-10/22/261-B

HYNES & ASSOCIATES

LOG OF BORING SB-1

(Page 1 of 1)

GHD, Inc.
16701 Melford Boulevard, Suite 300
Bowie, Maryland 20715

Easton Utilities - CDP WTP Project

Project No.: JDH-10/22/261

Date Completed: : December 21, 2022
Logged By: : R. Culbertson
Drilled By: : B. Hynes
Drilling Method: : HSA (Geoprobe 3230)
Total Depth: : 25.5 feet

Depth in Feet	Surf. Elev. 18.0	DESCRIPTION	GRAPHIC	USCS	Sample	Blow Count	REMARKS
0	18	Gray and brown, wet, medium stiff, silty CLAY, with trace sand (mottled, fill)		CL	1	2-3-4-5	Scale 1" ~ 4.5 feet Approximately 12 inches of organic bearing soil was encountered at the ground surface.
2	16						
4	14	Dark gray, wet, loose, fine to medium SAND, with little silt, little clay, little organic silt (fill)		SM	2	2-3-5	Groundwater was encountered at 8 feet during drilling operations.
6	12	Light gray and brown, clayey SILT, with trace sand (mottled)		MH	3	2-2-3	Boring caved in at 6 feet. Laboratory Test Results
8	10	Gray, wet to saturated, medium stiff, clayey elastic SILT, with trace sand (shell fossils)		MH			Sample No. 4 From 9 to 10.5 feet
10	8				4	2-3-7	Natural Moisture = 59.8%
12	6						
14	4				5	2-5-5	
16	2						
18	0	Gray, saturated, very stiff, clayey elastic SILT, with trace sand (shell fossils)		MH			
20	-2				6	5-7-9	
22	-4						
24	-6				7	7-10-11	
26	-8	Boring terminated at 25.5 feet.					
28	-10						
30							

HYNES & ASSOCIATES

LOG OF BORING SB-2

(Page 1 of 1)

GHD, Inc.
16701 Melford Boulevard, Suite 300
Bowie, Maryland 20715

Easton Utilities - CDP WTP Project

Project No.: JDH-10/22/261

Date Completed: : December 21, 2022
Logged By: : R. Culbertson
Drilled By: : B. Hynes
Drilling Method: : HSA (Geoprobe 3230)
Total Depth: : 25.5 feet

Depth in Feet	Surf. Elev. 18.0	DESCRIPTION	GRAPHIC	USCS	Sample	Blow Count	REMARKS
0	18	Light gray and brown, wet, soft to to medium stiff, silty CLAY, with trace fine sand (mottled)		CL	1	3-5-2-2	Scale 1" ~ 4.5 feet Approximately 6 inches of organic bearing soil was encountered at the ground surface.
2	16						
4	14				2	3-3-3	Groundwater was encountered at 8 feet during drilling operations.
6	12				3	2-2-3	Boring caved in at 7 feet. Laboratory Test Results
8	10	Gray, wet to saturated, soft, clayey elastic SILT (shell fragments and fossils)		MH			Sample No. 2 From 3 to 4.5 feet
10	8				4	2-2-3	Natural Moisture = 54.2% Sample No. 5 From 14 to 15.5 feet
12	6	Gray, saturated, very stiff, clayey elastic SILT, with trace sand (shell fossils)		MH			Natural Moisture = 56.6%
14	4				5	10-14-14	
16	2						
18	0						
20	-2				6	4-7-10	
22	-4						
24	-6				7	7-12-11	
26	-8	Boring terminated at 25.5 feet.					
28	-10						
30							

HYNES & ASSOCIATES

LOG OF BORING SB-3

(Page 1 of 1)

GHD, Inc.
16701 Melford Boulevard, Suite 300
Bowie, Maryland 20715

Easton Utilities - CDP WTP Project

Project No.: JDH-10/22/261

Date Completed: : December 21, 2022
Logged By: : R. Culbertson
Drilled By: : B. Hynes
Drilling Method: : HSA (Geoprobe 3230)
Total Depth: : 25.5 feet

Depth in Feet	Surf. Elev. 18.0	DESCRIPTION	GRAPHIC	USCS	Sample	Blow Count	REMARKS
0	18	Gray, wet, stiff, silty CLAY, with trace sand		CL	1	7-6-6-6	Scale 1" ~ 4.5 feet
		Gray, wet, medium dense, fine to medium SAND, with trace silt, trace clay		SM			Approximately 6 inches of organic bearing soil was encountered at the ground surface.
2	16	Gray to orange-brown, wet, medium stiff, silty CLAY, with trace sand (mottled)		CL	2	2-3-4	
4	14						Groundwater was encountered at 8 feet during drilling operations.
		Brown, wet, soft, clayey SILT, with some sand (abundant shell fragments)		ML	3	3-2-2	Boring caved in at 5 feet.
6	12						Laboratory Test Results
8	10	Gray, saturated, medium stiff, clayey elastic SILT (shell fossils)		MH	4	2-3-3	Sample No. 4 From 9 to 10.5 feet
10	8						Atterberg Limits
							Liquid Limit = 94 Plasticity Index = 39 Natural Moisture = 55.8%
12	6						
14	4				5	3-3-4	
16	2						
18	0						
20	-2				6	2-3-5	
22	-4	Gray, saturated, very stiff, clayey elastic SILT (shell fossils)		MH			
24	-6				7	4-7-12	
26	-8	Boring terminated at 25.5 feet.					
28	-10						
30							

HYNES & ASSOCIATES

LOG OF BORING SB-4

(Page 1 of 1)

GHD, Inc.
16701 Melford Boulevard, Suite 300
Bowie, Maryland 20715

Easton Utilities - CDP WTP Project

Project No.: JDH-10/22/261

Date Completed: : December 21, 2022
Logged By: : R. Culbertson
Drilled By: : B. Hynes
Drilling Method: : HSA (Geoprobe 3230)
Total Depth: : 25.5 feet

Depth in Feet	Surf. Elev. 18.0	DESCRIPTION	GRAPHIC	USCS	Sample	Blow Count	REMARKS
0	18	Gray, wet, very stiff, clayey SILT, with trace fine sand (mottled)		ML	1	9-11-12-12	Scale 1" ~ 4.5 feet Approximately 6 inches of organic bearing soil was encountered at the ground surface. Groundwater was encountered at 8 feet during drilling operations. Boring caved in at 7 feet. Laboratory Test Results Sample No. 6 From 19 to 20.5 feet Atterberg Limits Liquid Limit = 64 Plasticity Index = 21 Natural Moisture = 47.5%
2	16	Dark gray, wet, soft, silty CLAY, with little sand, trace organic silt		CL	2	3-3-2	
4	14						
6	12	Light gray and brown, wet, soft, silty CLAY, with trace fine sand (mottled)		CL	3	2-2-3	
8	10	Gray, wet, soft, clayey elastic SILT (shell fossils)		MH	4	1-2-2	
10	8						
12	6	Gray, saturated, medium stiff, clayey elastic SILT, with trace sand (shell fossils)		MH	5	3-4-4	
14	4						
16	2						
18	0	Gray, saturated, medium stiff, clayey elastic SILT, with trace sand (shell fossils)		MH	6	2-3-3	
20	-2						
22	-4	Gray, saturated, very stiff, clayey elastic SILT, with trace sand (shell fossils)		MH	7	4-6-12	
24	-6						
26	-8	Boring terminated at 25.5 feet.					
28	-10						
30							

HYNES & ASSOCIATES

LOG OF BORING IT-1

(Page 1 of 1)

GHD, Inc.
16701 Melford Boulevard, Suite 300
Bowie, Maryland 20715

Easton Utilities - CDP WTP Project

Project No.: JDH-10/22/261

Date Completed: : December 21, 2022
Logged By: : R. Culbertson
Drilled By: : B. Hynes
Drilling Method: : Hand Auger
Total Depth: : 10 feet

Depth in Feet	Surf. Elev. 17.0	DESCRIPTION	GRAPHIC	USCS	Sample	REMARKS
0	17	Light gray and brown, wet, silty CLAY, with trace sand (10 YR 8/1, Clay, mottled, fill)		CL	1, 2, 3	Scale 1" ~ 4.5 feet Approximately 15 inches of organic bearing soil was encountered at the ground surface.
2	15					
4	13	Dark gray, wet, fine to medium SAND, with little silt, trace clay, trace organic silt (10 YR 4/1, Sandy loam, fill)		SM	4	Groundwater was encountered at 5 feet during drilling operations.
		Light gray and brown, saturated, silty CLAY, with trace sand (10 YR 7/2, Clay, mottled)		CH	5, 6, 7	Laboratory Test Results Sample No. 7 From 6 to 7 feet
6	11					
8	9	Dark gray, saturated, clayey elastic SILT, with trace fine sand (10 YR 5/1, Silty clay loam, shell fossils)		MH	8, 9, 10	Atterberg Limits Liquid Limit = 54 Plasticity Index = 28 Natural Moisture = 32.5%
10	7	Boring terminated at 10 feet.				
12	5					
14	3					
16	1					
18	-1					
20	-3					
22	-5					
24	-7					
26	-9					
28	-11					
30						

HYNES & ASSOCIATES

LOG OF BORING IT-2

(Page 1 of 1)

GHD, Inc.
16701 Melford Boulevard, Suite 300
Bowie, Maryland 20715

Easton Utilities - CDP WTP Project

Project No.: JDH-10/22/261

Date Completed: : December 21, 2022
Logged By: : R. Culbertson
Drilled By: : B. Hynes
Drilling Method: : Hand Auger
Total Depth: : 10 feet

Depth in Feet	Surf. Elev. 17.0	DESCRIPTION	GRAPHIC	USCS	Sample	REMARKS
0	17	Gray, wet, silty CLAY, with trace sand (10 YR 8/1, Clay, mottled, fill)		CL	1, 2	Scale 1" ~ 4.5 feet Approximately 15 inches of organic bearing soil was encountered at the ground surface. Groundwater was encountered at a depth of 6 feet during augering operations.
2	15	Dark gray, wet, fine to medium SAND, with little silt, trace clay (10 YR 4/1, Loamy sand, fill)		SM	3	
		Brown, wet, silty CLAY, with some sand (10 YR 6/3, Clay)		CL	4	
4	13	Grayish brown, wet, silty CLAY, with trace sand (10 YR 6/1, Clay, mottled)		CL	5, 6	
6	11	Grayish brown, saturated, silty CLAY, with trace sand (10 YR 7/2, Clay, mottled)		CH	7, 8	
8	9	Dark gray, saturated, clayey elastic SILT, with trace sand (10 YR 5/1, Silty clay loam, mottled)		MH	9	
10	7	Dark gray, saturated, clayey elastic SILT, with trace sand (10 YR 5/1, Silty clay loam)		MH	10	
		Boring terminated at 10 feet.				
12	5					
14	3					
16	1					
18	-1					
20	-3					
22	-5					
24	-7					
26	-9					
28	-11					
30						

INFILTRATION TEST DATA SHEET

JOB NAME: Easton Utilities CDP SWP Project

PROJECT NUMBER: JDH-10/22/261 **TEST LOCATION:** IT-1

TEST DATE: December 22, 2023 **TEST DEPTH:** 6.35 ft

	TIME	DEPTH TO WATER BELOW TOP OF CASING	HYDRAULIC HEAD	Δ HYDRAULIC HEAD	PERMEABILITY (K_m)		COMMENTS
Presoak		5.85 ft	2.00 ft				
	Pre-soak	7.29 ft	0.56 ft	1.44 ft			24-hour presoak
Test Hour 1	0:00	5.85 ft	2.00 ft	0.00 ft			Start Test
	0:15	5.85 ft	2.00 ft	0.00 ft			
	0:30	5.85 ft	2.00 ft	0.00 ft			
	0:45	5.85 ft	2.00 ft	0.00 ft			
	1:00	5.85 ft	2.00 ft	0.00 ft	0.00 ft/hr	0.00 in/hr	
Test Hour 2	0:00	5.85 ft	2.00 ft	0.00 ft			Start Test
	0:15	5.85 ft	2.00 ft	0.00 ft			
	0:30	5.85 ft	2.00 ft	0.00 ft			
	0:45	5.85 ft	2.00 ft	0.00 ft			
	1:00	5.85 ft	2.00 ft	0.00 ft	0.00 ft/hr	0.00 in/hr	
Test Hour 3	0:00						Start Test
	0:15						
	0:30						
	0:45						
	1:00						
Test Hour 4	0:00						Start Test
	0:15						
	0:30						
	0:45						
	1:00						

There are generally two acceptable methods to calculate steady state infiltration rates:

1. Time Weighted Average: 0.00 in/hr
2. Final Test Hour Reading: 0.00 in/hr

INFILTRATION TEST DATA SHEET

JOB NAME: Easton Utilities CDP SWP Project

PROJECT NUMBER: JDH-10/22/261 **TEST LOCATION:** IT-2

TEST DATE: December 22, 2023 **TEST DEPTH:** 6.55 ft

	TIME	DEPTH TO WATER BELOW TOP OF CASING	HYDRAULIC HEAD	Δ HYDRAULIC HEAD	PERMEABILITY (K_m)		COMMENTS
Presoak		5.65 ft	2.00 ft				
	Pre-soak	6.57 ft	1.08 ft	0.92 ft			24-hour presoak
Test Hour 1	0:00	5.65 ft	2.00 ft	0.00 ft			Start Test
	0:15	5.70 ft	1.95 ft	0.05 ft			
	0:30	5.75 ft	1.90 ft	0.05 ft			
	0:45	5.80 ft	1.85 ft	0.05 ft			
	1:00	5.85 ft	1.80 ft	0.05 ft	0.20 ft/hr	2.40 in/hr	
Test Hour 2	0:00	5.65 ft	2.00 ft	0.00 ft			Start Test
	0:15	5.67 ft	1.98 ft	0.02 ft			
	0:30	5.69 ft	1.96 ft	0.02 ft			
	0:45	5.71 ft	1.94 ft	0.02 ft			
	1:00	5.73 ft	1.92 ft	0.02 ft	0.08 ft/hr	0.96 in/hr	
Test Hour 3	0:00	5.65 ft	2.00 ft	0.00 ft			Start Test
	0:15	5.66 ft	1.99 ft	0.01 ft			
	0:30	5.67 ft	1.98 ft	0.01 ft			
	0:45	5.69 ft	1.96 ft	0.02 ft			
	1:00	5.70 ft	1.95 ft	0.01 ft	0.05 ft/hr	0.60 in/hr	
Test Hour 4	0:00	5.65 ft	2.00 ft	0.00 ft			Start Test
	0:15	5.67 ft	1.98 ft	0.02 ft			
	0:30	5.69 ft	1.96 ft	0.02 ft			
	0:45	5.69 ft	1.96 ft	0.00 ft			
	1:00	5.70 ft	1.95 ft	0.01 ft	0.05 ft/hr	0.60 in/hr	

There are generally two acceptable methods to calculate steady state infiltration rates:

1. Time Weighted Average: 1.14 in/hr
2. Final Test Hour Reading: 0.60 in/hr

Falling Head
Single Ring Infiltration Test
(Maryland)

Tools and Supplies:

- ☐ 10 gallons of clean water per test
- ☐ 3 in. and 5 in. hand augers/extensions
- ☐ One 4 in. ring per test
- ☐ Well Sand
- ☐ Shovels Flat/Round
- ☐ Hand Rake
- ☐ Sledge Hammer
- ☐ Driving Block and Cap
- ☐ Purge Pump, tubing, and buckets
- ☐ Battery
- ☐ Drill, 5/8 in. bit and 12 to 18 in. length of 1/2in. rebar for extraction of PVC pipe
- ☐ Gator/ATV (as necessary
- ☐ Concrete cylinder for pouring water
- ☐ 4 inch thin wall PVC (at least one foot longer than test depth)

Note: 1 test period equals 1 hour maximum or until water empties out of ring. Contact Project Manager with pre-soak information. **Please read these procedures carefully and completely before starting the first test.**

Procedure:

A. (Only if soil borings and infiltration testing are to be completed on the same day) Advance one soil boring at each test location. The boring should extend to groundwater. Accurately measure depth to groundwater and depth of each soil change. Pay close attention to soils for mottling. Contact office for test depth if depth not provided. **Check boring log to ensure that soil at bottom of excavation is soil type to be tested.**

B. Set up ring (4 inch thin wall PVC permeameter)/Pre-soak

1. Advance a 5-inch diameter soil boring to the specified test depth. Check boring log to ensure that soil at bottom of excavation is soil type to be tested. **Jar/bag soil sample at the bottom of the boring to bring back to office to ensure desired material was tested in.**
2. Cut thin wall PVC to length (approximately 1 to 2' longer than desired test depth). Measure PVC length and record on test sheet. Drive Casing 3 inches into bottom of boring.
3. Collect initial test information using a tape measure. **Be very precise with measurements (within an ⅛ of an inch).**
4. Determine the total depth to the bottom of the hole from top of pipe and record.
5. Determine riser height above ground and record.
6. Subtract riser height (Step B.5.) from total depth (Step B.4.) to get the test depth, and ensure that this is the desired depth as listed on assignment sheet.
7. **If measured test depth varies from test depth listed on assignment sheet, contact Project Manager.**
8. Fill ring with approximately **24** inches of water (For reference, the Test depth (in feet – See Step B.6.) minus 2 will give you the required depth to water measured from top of casing to ensure that there is 24 inches of water in pipe). Be careful

not to erode soil at bottom. Use a concrete cylinder if necessary for a slower water flow.

9. Measure using tape measure distance from top of ring to water surface for shallow tests. You may also use water level indicator device for deeper tests.
10. Monitor water drop every 15 minutes for 1 hour or until ring runs dry.

11. Contact project manager after pre-soak with infiltration data.

C. Run Test (4 one hour test periods AFTER initial pre-soak)

1. Readings are to be collected no more than 15 minutes apart. **If running multiple tests at the same time, make sure that you can move between test locations in less than 15 minutes.**
2. For each test period, there must be 24 inches of water at the start of the test period (As described in Step B.8.).
3. Run 4 test periods. Each test period is one hour, or until test runs dry, whichever occurs first.
4. Run test for entire hour (double check your times) unless test runs dry.
5. If ring runs dry in less than 15 minutes, contact project manager.
6. **Check your data at the end of each test and before leaving the site.**

Falling Head
Single Ring Infiltration Test
(Maryland)

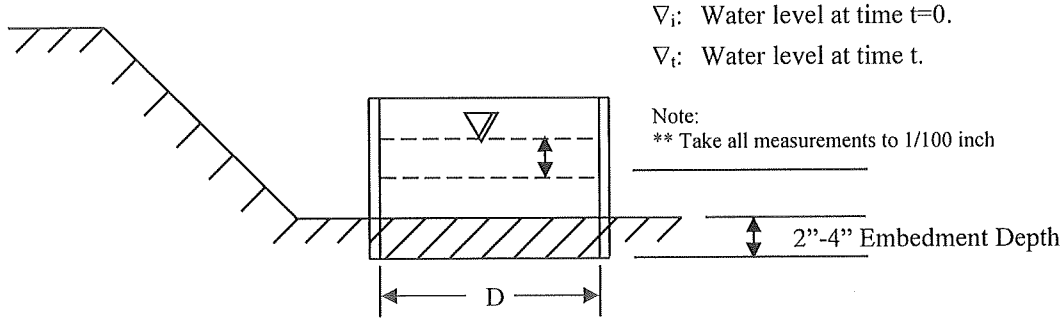
D: Diameter of Ring.

H_c: Distance from bottom of Drop Tube to Soil.

∇: Water level in infiltration Ring.

∇_i: Water level at time t=0.

∇_t: Water level at time t.



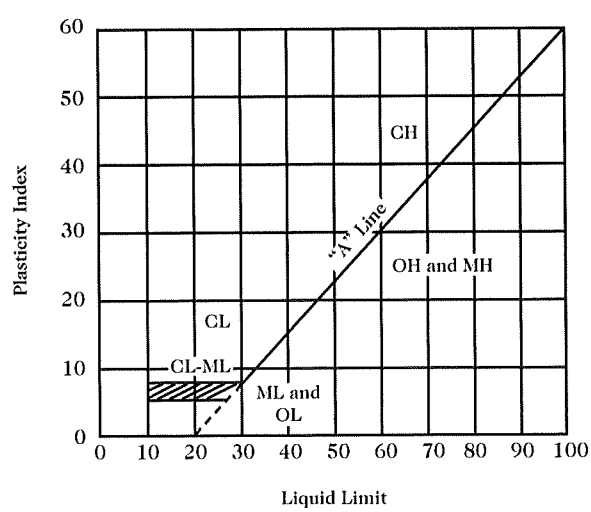
Note:
** Take all measurements to 1/100 inch

JOHN D. HYNES & ASSOCIATES, INC.

Geotechnical and Environmental Consultants
Monitoring Well Installation
Construction Inspection and Materials Testing

UNIFIED SOIL CLASSIFICATION SYSTEM

Major Divisions			*Group Symbols*	*Typical Names*	*Laboratory Classification Criteria*		
Coarse-grained soils (More than half of material is larger than No 200 sieve size)	Gravels (More than half of coarse fraction is larger than No 4 sieve size)	Clean gravels (Little or no fines)	GW	Well-graded gravels, gravel-sand mixtures, little or no fines	Determine percentages of sand and gravel from grain-size curve. Depending on percentage of fines (fraction smaller than No 200 sieve size), coarse grained soils are classified as follows: Less than 5 percent GW, GP, SW, SP; More than 12 percent GM, GC, SM, SC; 5 to 12 percent *Borderline cases requiring dual symbols*[b]	$C_u = \frac{D_{60}}{D_{10}}$ greater than 4; $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ between 1 and 3	
			GP	Poorly graded gravels, gravel sand mixtures, little or no fines		Not meeting all graduation requirements for GW	
		Gravels with fines (Appreciable amount of fines)	GM[a] d u	Silty gravels, gravel-sand-silt mixtures		Atterberg limits below "A" line or P.I. less than 4	Above "A" line with P.I. between 4 and 7 are *borderline* cases requiring use of dual symbols
			GC	Clayey gravels, gravel-sand-clay mixtures		Atterberg limits above "A" line with P.I. greater than 7	
	Sands (More than half of coarse fraction is smaller than No 4 sieve size)	Clean sands (Little or no fines)	SW	Well-graded sands, gravelly sands,		$C_u = \frac{D_{60}}{D_{10}}$ greater than 6; $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ between 1 and 3	
			SP	Poorly graded sands, gravelly sands, little or no fines		Not meeting all graduation requirements for SW	
		Sands with fines (Appreciable amount of fines)	SM[a] d u	Silty sands, sand-silt mixtures		Atterberg limits below "A" line or P.I. less than 4	Above "A" line with P.I. between 4 and 7 are *borderline* cases requiring use of dual symbols.
			SC	Clayey sands, sand-clay mixtures		Atterberg limits above "A" line with P.I. greater than 7	
Fine-grained soils (More than half material is smaller than No 200 sieve)	Silts and clays (Liquid limit less than 50)		ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands, or clayey silts with slight plasticity			
			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays			
			OL	Organic silts and organic silty clays of low plasticity			
	Silts and clays (Liquid limit greater than 50)		MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts			
			CH	Inorganic clays of high plasticity, fat clays			
			OH	Organic clays of medium to high plasticity, organic silts			
	Highly organic soils		Pt	Peat and other highly organic soils			



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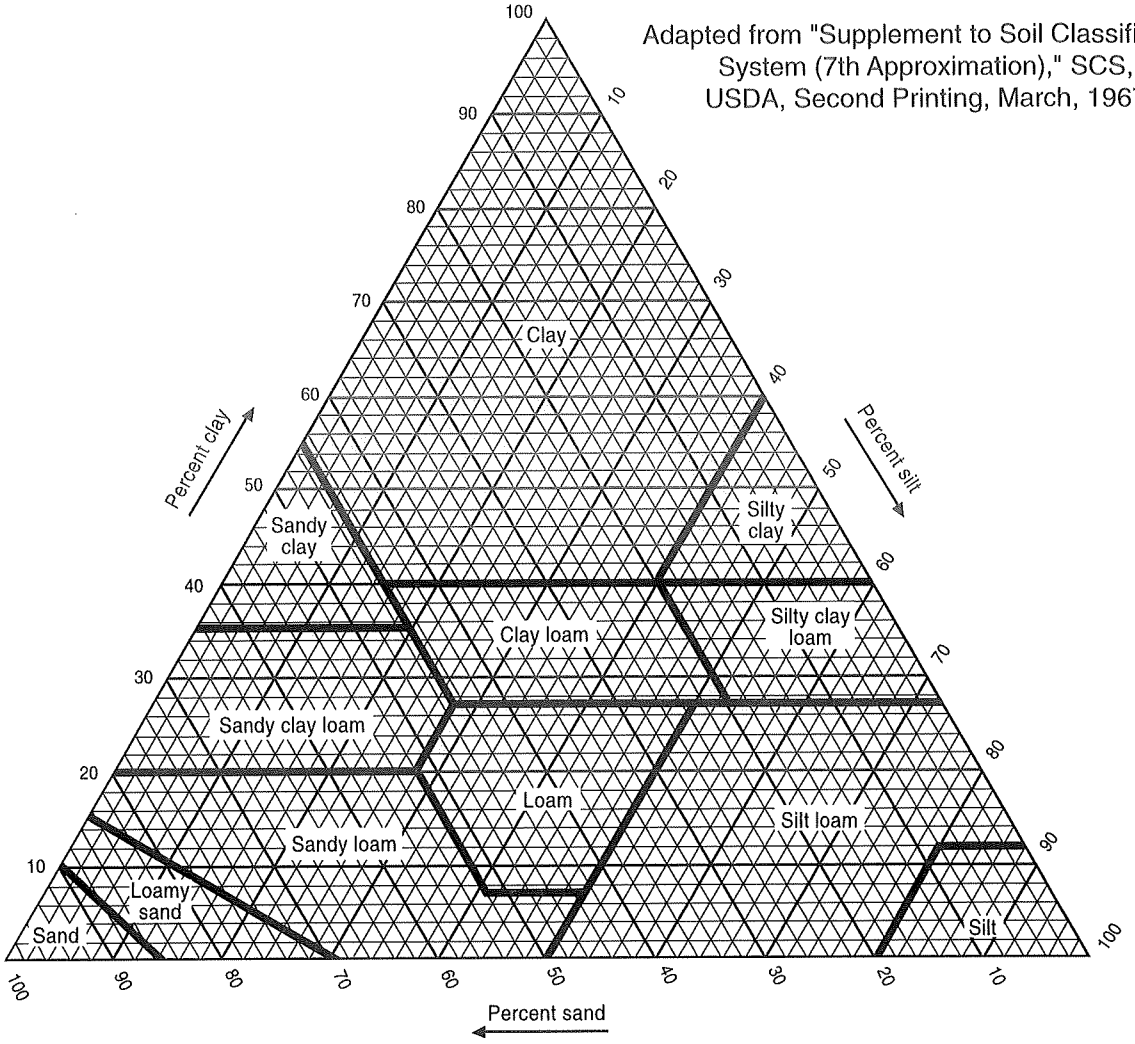
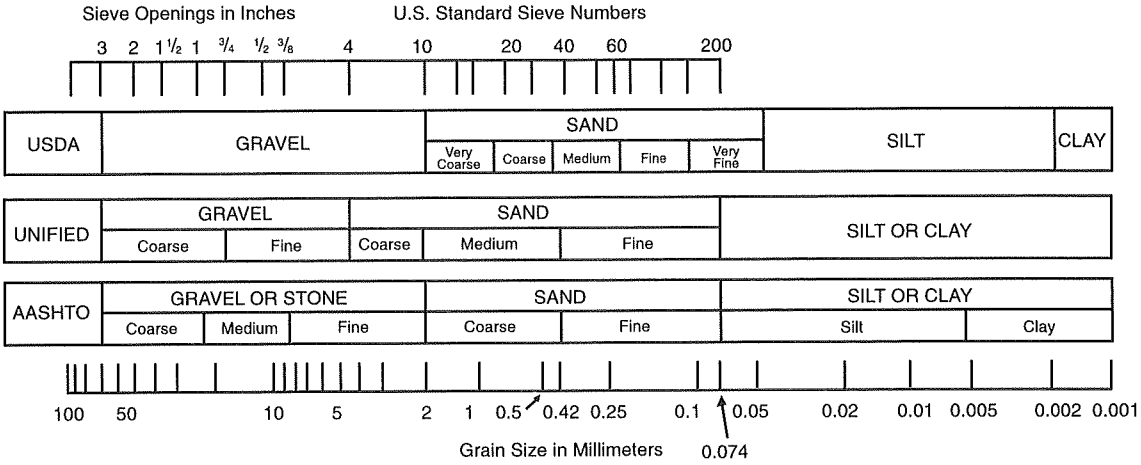
HYNES

USDA SOIL CLASSIFICATION SYSTEM

Adapted from "Supplement to Soil Classification System (7th Approximation)," SCS, USDA, Second Printing, March, 1967



COMPARISON OF PARTICLE - SIZE SCALES



Soil triangle of the basic soil textural classes. (U.S. Soil Conservation Service.) 288-D-2782.

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HYNES

FIELD CLASSIFICATION SYSTEM FOR SOIL EXPLORATION

NON-COHESIVE SOILS
(Silt, Sand, Gravel and Combinations)

DENSITY

Very Loose	- 5 blows/ft. or less
Loose	- 6 to 10 blows/ft.
Medium Dense	- 11 to 30 blows/ft.
Dense	- 31 to 50 blows/ft.
Very Dense	- 51 blows/ft. or more

RELATIVE PROPORTIONS

Descriptive Term	Percent
Trace	1 - 10
Little	11 - 20
Some	21 - 35
And	36 - 50

PARTICLE SIZE IDENTIFICATION

Boulders	- 8 inch diameter or more
Cobbles	- 3 to 8 inch diameter
Gravel	- Coarse - 1 to 3 inch
	- Medium - 1/2 to 1 inch
	- Fine - 4.75 mm to 1/2 inch
Sand	- Coarse - 2.0 mm to 4.75 mm
	- Medium - 0.425 mm to 2.0 mm
	- Fine - 0.075 mm to 0.425 mm
Silt	- 0.075 mm to 0.002 mm

COHESIVE SOILS
(Clay, Silt and Combinations)

CONSISTENCY

Very Soft	- 3 blows/ft. or less
Soft	- 4 to 5 blows/ft.
Medium Stiff	- 6 to 10 blows/ft.
Stiff	- 11 to 15 blows/ft.
Very Stiff	- 16 to 30 blows/ft.
Hard	- 31 blows/ft. or more

PLASTICITY

Degree of Plasticity	Plasticity Index
None to Slight	0 - 4
Slight	5 - 7
Medium	8 - 22
High to Very High	over 22

Classification on logs are made by visual inspection of samples unless a sample has been subjected to laboratory classification testing.

Standard Penetration Test - Driving a 2.0" O.D., 1-3/8" I.D., splitspoon sampler a distance of 1.0 foot into undisturbed soil with a 140 pound hammer free falling a distance of 30.0 inches. It is customary to drive the spoon 6 inches to seat into undisturbed soil, then perform the test. The number of hammer blows for seating the spoon and making the test are recorded for each 6 inches of penetration on the drill log (Example - 6/8/9). The standard penetration test value (N - value) can be obtained by adding the last two figures (i.e. 8 + 9 = 17 blows/ft.). (ASTM D-1586)

Strata Changes - In the column "Soil Descriptions," on the drill log, the horizontal lines represent strata changes. A solid line (—) represents an actually observed change, a dashed line (----) represents an estimated change.

Groundwater - Observations were made at the times indicated. Porosity of soil strata, weather conditions, site topography, etc. may cause changes in the water levels indicated on the logs.

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Important Information about This

Geotechnical-Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

Geotechnical Services Are Performed for Specific Purposes, Persons, and Projects

Geotechnical engineers structure their services to meet the specific needs of their clients. A geotechnical-engineering study conducted for a civil engineer may not fulfill the needs of a constructor — a construction contractor — or even another civil engineer. Because each geotechnical- engineering study is unique, each geotechnical-engineering report is unique, prepared *solely* for the client. No one except you should rely on this geotechnical-engineering report without first conferring with the geotechnical engineer who prepared it. *And no one — not even you* — should apply this report for any purpose or project except the one originally contemplated.

Read the Full Report

Serious problems have occurred because those relying on a geotechnical-engineering report did not read it all. Do not rely on an executive summary. Do not read selected elements only.

Geotechnical Engineers Base Each Report on a Unique Set of Project-Specific Factors

Geotechnical engineers consider many unique, project-specific factors when establishing the scope of a study. Typical factors include: the client's goals, objectives, and risk-management preferences; the general nature of the structure involved, its size, and configuration; the location of the structure on the site; and other planned or existing site improvements, such as access roads, parking lots, and underground utilities. Unless the geotechnical engineer who conducted the study specifically indicates otherwise, do not rely on a geotechnical-engineering report that was:

- not prepared for you;
- not prepared for your project;
- not prepared for the specific site explored; or
- completed before important project changes were made.

Typical changes that can erode the reliability of an existing geotechnical-engineering report include those that affect:

- the function of the proposed structure, as when it's changed from a parking garage to an office building, or from a light-industrial plant to a refrigerated warehouse;
- the elevation, configuration, location, orientation, or weight of the proposed structure;
- the composition of the design team; or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project changes—even minor ones—and request an assessment of their impact. *Geotechnical engineers cannot accept responsibility or liability for problems that occur because their reports do not consider developments of which they were not informed.*

Subsurface Conditions Can Change

A geotechnical-engineering report is based on conditions that existed at the time the geotechnical engineer performed the study. *Do not rely on a geotechnical-engineering report whose adequacy may have been affected by:* the passage of time; man-made events, such as construction on or adjacent to the site; or natural events, such as floods, droughts, earthquakes, or groundwater fluctuations. *Contact the geotechnical engineer before applying this report to determine if it is still reliable.* A minor amount of additional testing or analysis could prevent major problems.

Most Geotechnical Findings Are Professional Opinions

Site exploration identifies subsurface conditions only at those points where subsurface tests are conducted or samples are taken. Geotechnical engineers review field and laboratory data and then apply their professional judgment to render an opinion about subsurface conditions throughout the site. Actual subsurface conditions may differ — sometimes significantly — from those indicated in your report. Retaining the geotechnical engineer who developed your report to provide geotechnical-construction observation is the most effective method of managing the risks associated with unanticipated conditions.

A Report's Recommendations Are Not Final

Do not overrely on the confirmation-dependent recommendations included in your report. *Confirmation-dependent recommendations are not final,* because geotechnical engineers develop them principally from judgment and opinion. Geotechnical engineers can finalize their recommendations *only* by observing actual subsurface conditions revealed during construction. *The geotechnical engineer who developed your report cannot assume responsibility or liability for the report's confirmation-dependent recommendations if that engineer does not perform the geotechnical-construction observation required to confirm the recommendations' applicability.*

A Geotechnical-Engineering Report Is Subject to Misinterpretation

Other design-team members' misinterpretation of geotechnical-engineering reports has resulted in costly

problems. Confront that risk by having your geotechnical engineer confer with appropriate members of the design team after submitting the report. Also retain your geotechnical engineer to review pertinent elements of the design team's plans and specifications. Constructors can also misinterpret a geotechnical-engineering report. Confront that risk by having your geotechnical engineer participate in prebid and preconstruction conferences, and by providing geotechnical construction observation.

Do Not Redraw the Engineer's Logs

Geotechnical engineers prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. To prevent errors or omissions, the logs included in a geotechnical-engineering report should *never* be redrawn for inclusion in architectural or other design drawings. Only photographic or electronic reproduction is acceptable, *but recognize that separating logs from the report can elevate risk.*

Give Constructors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can make constructors liable for unanticipated subsurface conditions by limiting what they provide for bid preparation. To help prevent costly problems, give constructors the complete geotechnical-engineering report, *but* preface it with a clearly written letter of transmittal. In that letter, advise constructors that the report was not prepared for purposes of bid development and that the report's accuracy is limited; encourage them to confer with the geotechnical engineer who prepared the report (a modest fee may be required) and/or to conduct additional study to obtain the specific types of information they need or prefer. A prebid conference can also be valuable. *Be sure constructors have sufficient time* to perform additional study. Only then might you be in a position to give constructors the best information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions.

Read Responsibility Provisions Closely

Some clients, design professionals, and constructors fail to recognize that geotechnical engineering is far less exact than other engineering disciplines. This lack of understanding has created unrealistic expectations that have led to disappointments, claims, and disputes. To help reduce the risk of such outcomes, geotechnical engineers commonly include a variety of explanatory provisions in their reports. Sometimes labeled "limitations," many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

Environmental Concerns Are Not Covered

The equipment, techniques, and personnel used to perform an *environmental* study differ significantly from those used to perform a *geotechnical* study. For that reason, a geotechnical-engineering report does not usually relate any environmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated environmental problems have led to numerous project failures.* If you have not yet obtained your own environmental information, ask your geotechnical consultant for risk-management guidance. *Do not rely on an environmental report prepared for someone else.*

Obtain Professional Assistance To Deal with Mold

Diverse strategies can be applied during building design, construction, operation, and maintenance to prevent significant amounts of mold from growing on indoor surfaces. To be effective, all such strategies should be devised for the *express purpose* of mold prevention, integrated into a comprehensive plan, and executed with diligent oversight by a professional mold-prevention consultant. Because just a small amount of water or moisture can lead to the development of severe mold infestations, many mold- prevention strategies focus on keeping building surfaces dry. While groundwater, water infiltration, and similar issues may have been addressed as part of the geotechnical- engineering study whose findings are conveyed in this report, the geotechnical engineer in charge of this project is not a mold prevention consultant; *none of the services performed in connection with the geotechnical engineer's study were designed or conducted for the purpose of mold prevention. Proper implementation of the recommendations conveyed in this report will not of itself be sufficient to prevent mold from growing in or on the structure involved.*

Rely, on Your GBC-Member Geotechnical Engineer for Additional Assistance

Membership in the Geotechnical Business Council of the Geoprofessional Business Association exposes geotechnical engineers to a wide array of risk-confrontation techniques that can be of genuine benefit for everyone involved with a construction project. Confer with you GBC-Member geotechnical engineer for more information.

GEOTECHNICAL BUSINESS COUNCIL
of the Geoprofessional Business Association

8811 Colesville Road/Suite G106, Silver Spring, MD 20910
Telephone: 301/565-2733 Facsimile: 301/589-2017
e-mail: info@geoprofessional.org www.geoprofessional.org

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

RECEIVED
JUL 28 2023
TOWN OF EASTON

Site Plan, PUD, Planned Healthcare Application

Application Type

Planned Unit Development ☐ Amendment ☐ Health Care (HC) ☐ Site Plan ☒

Subdivision Information

Name	N/A Ward District 1				
Original Property Size	Acres	5.089	Square Feet	221,676	
Telephone No.	N/A	Email	N/A		

Site Plan Information

Property Size	Acres	5.089	Square Feet	221,676
Structure's Floor Area	6,103	Structure's Square Feet	6,103	
Area of Disturbance	1.82	Number of Dwelling Units	0	

Property Information

Address	8670 Commerce Drive, Easton, MD 21601						
Tax Map	0101	Grid	0002	Parcel	4	Lot	3
Deed Refernce:	Liber	02667	Folio	00171			
Plat Reference:	Liber	44	Folio	8			
Base Zoning District	BC	Historic Y ☐ N ☒	Planned Redevelopment Y ☐ N ☒				
Source of Electricity	Easton Utilities						

Owner

Name	Easton Utilities Cmmission		
Mailing Address	201 N. Washington Street, Easton, MD 21601		
Telephone No.	410.822.6110	Email	

Applicant or Agent

Name	Madeline Selick Barbalace		
Mailing Address	16701 Melford Blvd. Suite 330, Bowie, MD 2071		
Telephone No.	240-206-0492	Email	Madeline.selick@ghd.com

Surveyor / Engineer

Name	GHD, Inc.	License No.	552263	Expiration Date	2024-02-06
Mailing Address	16701 Melford Blvd, Suite 330, Bowie, MD 20715				
Telephone No.	240-206-0464	Email	Ashton.Rogers@ghd.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	MDB
Date	07-28-2023
Printed Name of Applicant or Agent	Madeline Selick Barbalace

For Office Use Only

Planning Commission Required	Y ☒ N ☐		
Planning Commission Meeting Date	08/17/2023		
Sketch Approval Date		Project No.	**ESDR 23-06**
Prelim/Dev. Approval Date		Application No.	**2023-882**
Final Approval Date		Sketch Fee Paid	**-**
Recordation Date		Develop. Fee Paid	

Revised 02-2019

TOWN OF EASTON

14 South Harrison Street
Easton, Maryland 21601

August 2, 2023

Dear Resident,

The Easton Planning Commission will hold a public meeting on **Thursday, August 17, 2023 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 Site Plan application 2023-882 has been filed on behalf of Easton Utilities Commission to request Sketch Site Plan approval for a new water treatment plant processing building at 8670 Commerce Drive, also known as Tax Map 101, Parcel 0004.

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 are also available for review 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 e-mail at ssmith@eastonMD.gov.

Samantha N. Smith

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

APG Media of Chesapeake, LLC **07/31/23**
29088 Airpark Drive
Easton, MD 21601

Phone: Fax:
http://www.chespub.com

Cust. AcctID:	Creation Date: **07/31/23**
	Ad Date: **08/02/23**
	Class: **10**
Name: **Joanne Drummer**	Ad ID:
Company: **TOWN OF EASTON (L)**	Ad Taker: **AHALL**
Address: **PO Box 520**	Sales Person: **503**
EASTON, MD 21601	Words: **435**
	Lines: **75**
	Agate Lines: **342**
Telephone: **(410) 822-2525**	Depth: **9.5**
Email:	Inserts: **2**
Description: **Planning Comm Meeting**	Blind Box:

Other Charges:	Total:
Discount:	
Surcharge:	Paid Amount:
Credits:	
Bill Depth:	Amount Due:

CREDIT CARD DETAILS

PT	CT	CN	Number	Exp.	Amnt.

Publication	Start	Stop	Inserts	Cost
The Star Democrat	08/02/23	08/02/23	1	

Planning Commission
MEETING AGENDA
Thursday, August 17, 2023 - 1:00 PM Council
Council Chambers, Easton Town Office
14 S Harrison Street

Please continue to check our website at:
https://eastonmd.gov/128/Agendas-Minutes
for agenda updates.

1. **Call to Order**
2. **Approval of Minutes.**
   a. Approval of the Decision Summary from the July 20, 2023 meeting.
   b. Approval of the Draft Decision Summary from the April 4, 2023 Poplar Hill Supplemental Growth Allocation joint public hearing.
3. **Old Business**
   a. **Applicant:** Rise Up Dover Road LLC
      File No.: 2023-870
      Location: 625 Dover Road
      Tax Map 103, Grid 0EA, Parcel 0990
      Zoning District: R-7A
      Nature of Request: Amendment to a previously approved Planned Unit Development (PUD) that would allow a shade structure to remain standing at 625 Dover Road on a seasonal basis without having to apply each year for a temporary use permit approval. The applicant is also requesting approval for the addition of a kitchen facility and walk-up cafe to the existing property at 625 Dover Road, also known as Tax Map 103, Parcel 0990.
   b. **Applicant:** Aspire Outdoors, LLC
      File No.: 2023-004
      Location: Camac Street
      Tax Map 026, Grid 020, Parcel 0186
      Zoning District: R-10A
      Nature of Request: Sketch Site Plan approval for a proposed six-building apartment complex with a total of 162 units to be developed on the property located on Camac Street, also known as Tax Map 0026, Grid 0020, Parcel 0186. The proposed project also requires Special Exception and Variance approvals from the Board of Zoning Appeals and the applicant is seeking a formal recommendation from the Planning Commission to the Board.
4. **New Business**
   a. **Applicant:** Easton Utilities Commission
      File No.: 2023-882
      Location: 8670 Commerce Drive
      Tax Map 101, Grid 002, Parcel 004, Lot 3
      Zoning District: BC
      Nature of Request: Sketch Site Plan approval for a new water treatment plant processing building.
   b. **Applicant:** Lane Engineering
      File No.: 2023-976
      Location: 29311 Cecil Drive - Austin Medical Supplies
      Tax Map 025, Grid 024, Parcel 0089, Lot 4
      Zoning District: CL
      Nature of Request: Sketch Site Plan approval for a proposed 2,334 sq ft. building addition for storage space with the interior fit-out for the sale and storage of medical supplies.
   c. **Applicant:** Robert S. Collison, P.A.
      File No.: 2023-963
      Location: 9719 Ocean Gateway
      Tax Map 0025, Grid 0006, Parcel 0113,
      Current County Zoning District: GC
      Requested Town Zoning District: CG
      Nature of Request: Petition for the Annexation of 3.25 acres of property located at 9719 Ocean Gateway, Easton, Maryland with a formal recommendation to the Town Council on the Annexation and the appropriate zoning classification.
5. **Discussion Item**
6. **Adjournment.**

3030137 SD 8/2/2023

Ad Note:

Sign posted on August 2, 2023

Customer Note:

We Appreciate Your Business!
Thank You Joanne Drummer!

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

Date of Hearing: August 17, 2023

4b

PLANNING COMMISSION
PUBLIC HEARING
STAFF REPORT

SUBJECT:	**29311 Cecil Drive - Austin Medical Supplies**
ELECTION WARD:	Ward 2
CRITICAL ACTION DATE:	At the pleasure of the Commission
STAFF CONTACTS:	Joseph Mayer, Plan Reviewer Miguel Salinas, Director of Planning and Zoning
APPLICANT:	Austin Medical Supplies: John Wolk

DOCUMENT CREATED ON: August 7, 2023

PURPOSE: The applicant is seeking site plan approval from the Planning Commission.

RECOMMENDATION: Staff supports Planning Commission approval of the proposed site plan subject to staff's recommended condition (see below).

APPLICATION INFORMATION:	
APPLICANT: Austin Medical Supplies	**REPRESENTATIVE:** Lane Engineering, LLC.: Timothy Glass Austin Medical Supplies.: John Wolk

PARCELS/ACREAGE:

Parcel Information	Acreage
Map 025, Grid 0024, Parcel 0089, Lot 4	3.438

ACCEPTANCE DATE: July 31, 2023	**LOCATION:** 29311 Cecil Drive
EXISTING ZONING CL	**EXISTING LAND USE:** Vacant; Former Golden Corral Restaurant.
HISTORIC DISTRICT: Not Applicable	**FUTURE LAND USE MAP:** Commercial

CONTEXT:

Location/Site Access – The subject property is located at the corner of Cecil Drive, Ocean Gateway and Alicia Drive, with site access from Cecil Drive and Alicia Drive.

Existing Conditions – The subject property is currently vacant. The previous use on the site was a Golden Corral Restaurant.

Surrounding Properties

- Parcel 0089, Ocean Gateway - CL
- 29321 Cecil Drive - CL
- 8744 Roundhouse Circle - R-10A
- 8738 Roundhouse Circle - R-10A
- 8730 Roundhouse Circle - R-10A
- 8722 Roundhouse Circle - R-10A
- 8714 Roundhouse Circle - R-10A
- 8708 Alicia Drive - CL
- Parcel 4724B, Ocean Gateway - R-10A

***Figure 1**: Vicinity Map*

PROPOSAL: The applicant is proposing to construct a 2,334 square foot building addition for storage space and an interior fit-out for medical supplies sales and storage within the existing portion of the building. Also, there's associated site improvements; additional ADA Parking spaces, bicycle rack and landscaping.

BACKGROUND: The applicant submitted an application to the Easton Staff Development Review Committee on June 28, 2023. Existing site plans for the vacant Golden Corral Restaurant with associated improvements was approved on July 27, 2011.

ZONING ANALYSIS:

A. Permissible Land Uses

28-201 table 2.1 (1) 263								**CL**				
263	Multiple Use*	--	--	--	--	P	P	P	P	P		

Analysis –The proposed project is presented and described by the Applicant as retail sales for medical supplies and storage space within the existing structure totalling 7,571 square feet per building permit #11-8735. A 2,334 square foot building addition would be used for storage space as well. The project is categorized as a *"Multiple Use"*. The proposed use is permitted by-right within Table 2.1 Table of Permissible Uses.

B. Off-Street Parking

For the purposes of off-street parking calculations, the use is considered "*Warehouse*" and *"Standalone Retail Store"* and has the following requirements:

28-1001.3 Parking Requirements

	Use/Activity	Minimum Vehicle Spaces	Maximum Vehicle Spaces	Minimum Bicycle Spaces	Notes
	Industrial Buildings				
40	Warehouse	1 per 2,000 sf GFA	1 per 350 sf GFA	--	
	Commercial Buildings				
15	Standalone Retail Store	1 per 300 sf GFA	1 per 200 sf GFA	1 per 10 vehicle spaces	

Total Site Parking Required:

Retail: 1 Space /300 SF GFA; 19 Spaces Required- Minimum
1 Space /200 SF GFA; 29 Spaces Required- Maximum
Warehouse: 1 Space /2,0000 SF GFA; 2 Spaces Required- Minimum
1 Space /350 SF GFA; 9 Spaces Required- Maximum
Total Minimum spaces required: 21 spaces
Total Maximum spaces required: 38 spaces
Total existing spaces provided: 144 spaces

Analysis- The total minimum spaces required is 21 spaces. The existing site currently has 144 parking spaces available due to the higher parking needs of the former restaurant land use.

C. Commercial Limited District Development Standards

Table 1. Development Standards		
CL Zoning District	**Standard**	**Proposed**
Setbacks	Front = 40 feet Side = 10 feet Rear = 15 feet There shall be maintained a landscaped buffer of seventy-five (75) feet on any lot line adjacent to residentially zoned property in accordance	Front = 40 feet Side = 10 feet Side – 15 feet Not applicable.

	with the provisions of Section 28 – 1014 of this Ordinance.	
Lot Size (min.)	60,000 square feet	149,759.28 square feet
Lot Frontage (min.)	200 feet	455 feet
Lot Coverage (max.)	35% (Lot Area)	6.6% (Lot Area)
Height (max.)	50 feet	33' +/-

§ 307.2 of the Zoning Ordinance states that development within the Commercial Limited District shall also meet these additional requirements:

- ***<u>Any</u> development within the CL District requires Site Plan review and Planning and Zoning Commission approval in accordance with Section 28 – 901 (size thresholds for Planning and Zoning Commission Review notwithstanding).***
- ***Off-street parking shall be provided in accordance with the provisions of Section 28 – 1001 and shall be located in the rear or side yard.***
- ***There shall be no outdoor storage of any goods or merchandise on any lot or open areas, nor shall any products be displayed in open areas.***
- ***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 accordance with Section 28 – 1014 of this Ordinance.***

Analysis - The site falls under the CL - Commercial Limited District Area and meets the 28-307.2 Development Standards. Any comments or concerns from the ESDR review letters will be addressed during the Development Site Plan review.

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 site is within the Mulberry Centre Subdivision, Mulberry Commercial North. Forest Conservation was approved at the amended Subdivision Plat (Plat MAS 83/039)

POLICY ANALYSIS:

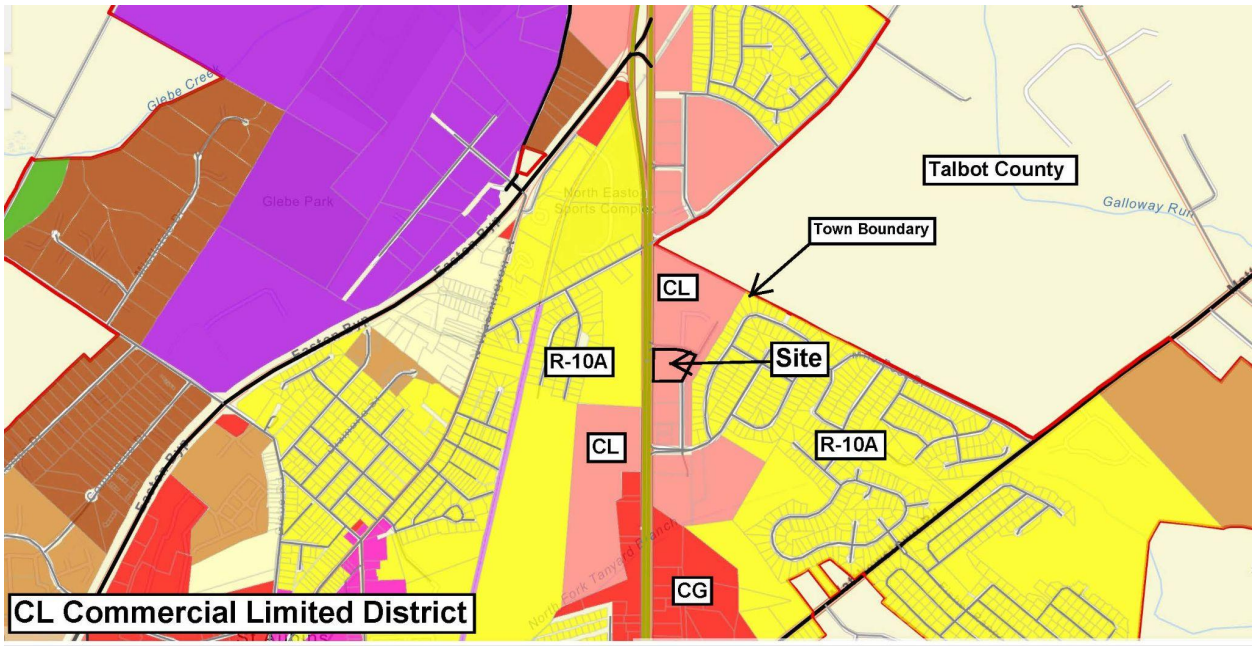


Figure 2: Zoning Map

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 is an adaptive re-use of an existing vacant building and site that was designed for a single use.*

Staff notes that the proposed development fits within the commercial limited nature of this business park.

(Principle #2) Natural features should determine design – *Applicant's response: This is an adaptive re-use of an existing vacant building and site with established landscaping and stormwater management facilities.*

Staff notes that there are no compelling natural features on site. Forest Conservation was approved at the amended Subdivision Plat (Plat MAS 83/039).

(Principle #3) Automobiles should not determine design – *Applicant's response: This is an adaptive re-use of an existing vacant building and site with established parking and circulation that will remain.*

Staff notes that the applicant has provided adequate off-street parking.

(Principle #4) Ample Open Space should be provided within & around neighborhoods – *Applicant's response: Not applicable to commercial site.*

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 Easton's commercial developments and utilizes materials and detailing commonly found through-out Easton. The existing building is to be upgraded and enhanced architecturally.*

(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. 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 project.*

(Principle #8) Residential neighborhoods should be interesting places – *Applicant's response: Not applicable to this project.*

(Principle #9) Neighborhoods should connect – *Applicant's response: Not applicable to this project.*

Staff notes that although this Principle is primarily directed towards residential subdivisions, Cecil Drive and Alicia Drive provides connectivity for the surrounding business park to access Ocean Gateway (Maryland Route 50). Also, Alicia Drive, in the long-term, is anticipated to connect to Chapel Road. This is depicted on the Comprehensive Plan Transportation Map.

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 an addition for storage space and an interior fit-out for medical supplies sales and storage within the existing portion of the building. Existing 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 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 a commercial limited zoned business park. The proposed use would provide an addition for storage space and an interior fit-out for medical supplies sales and storage within the existing portion of the building.

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 condition:

- In the event that the Limit of Disturbance exceeds 5,000 square feet during construction, the Applicant will need to address stormwater management practices.

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 September 21st Commission meeting for further discussion.

OR

3. I move an alternate motion.

ATTACHMENTS:

1. 2023.05.11 Austin Medical Supply Plans and Elevations, paper copy & PDF
2. 2023.07.26 ESDR Determination Letter- Austin Medical, paper copy & PDF
3. 2023.07.31 BPSP-Phase1-AustinMedical, paper copy & PDF
4. 2023.07.31 PC Application, paper copy & PDF

TOWN OF EASTON
Planning & Zoning Department
14 South Harrison Street
P.O. Box 520
Easton, Maryland 21601

Easton Staff Development Review Worksheet

Date: July 26, 2023
Project: Austin Medical Supplies
To: Mr. Timothy Glass - Lane Engineering, LLC.
Mr. John Wolk - Austin Medical Supplies

The Easton Staff Development Review (ESDR) Committee meeting was held on July 26th at 11:00 am. Staff reviewed the Site Sketch Plan for the proposed building addition on the property located at 29311 Cecil Drive, also known as Tax Map 025, Parcel 89.

The project will need to address all agency comments as specified in the attached review letters and at ESDR. Specific areas discussed at the meeting included having the Recommended Design Principles placed onto the Site Plan and providing the required bicycle spaces.

The Committee determined that the application may be scheduled for Planning Commission review pending the revised Site Plan. Please address all comments and submit documents.

The next Planning Commission meeting is scheduled for **Thursday, August 17, 2023 at 1:00 pm.** Submit all documentation to the Planning and Zoning Department no later than Monday, **July 31st**. Files for presentation at the Planning Commission need to be provided on a flash drive. In addition, provide a digital submittal (via email) of the Planning Commission Application and its supporting documents, including **ten paper copies**.

Based on the ESDR sketch plan submission, the Staff did not identify constraints which require action by the Board of Zoning Appeals.

Please contact the Planning & Zoning Department at 410 822-1943 with any questions.

Sincerely,

Joseph A. Mayer
Plan Reviewer - Planning and Zoning

TOWN OF EASTON
PLANNING & ZONING DEPARTMENT
P.O. Box 520
Easton, Maryland 21601
410-822-1943
www.EastonMD.gov

DATE: **July 12, 2023**
TO: **Timothy Glass** – Lane Engineering, LLC/**John Wolk** % Austin Medical Supplies
Cc: **Miguel Salinas** – Director, Planning & Zoning Department
Rick Van Emburgh – Town Engineer, Department of Engineering

FROM: **Joseph A. Mayer -** Plan Reviewer, Planning & Zoning Department
SUBJECT: 29311 Cecil Drive - Austin Medical Supplies

We reviewed the **July 5, 2023** Sketch Plan Submittal for the Subject Project and have the following comments:

PLANNING & ZONING COMMENTS

Sketch Site Plan

1. Please add the statement describing the extent to which the application complies with the nine Recommended Design Principles for Easton set forth on page 29-31 of the Comprehensive Plan.

2. Add statement to Project Notes on sheet 1 of 4; *"Per Chapter 28-307.2.H of the Zoning Ordinance, there shall be no outdoor storage of any goods or merchandise on any lot or open areas, nor shall any products be displayed in open areas".*

3. Revise Project Data on sheet 1 of 4 to include percentage of lot coverage by all buildings and structures and demonstrate that it complies with the 35% maximum.

4. Per Chapter 28-307.2 J of the Zoning Ordinance, 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. Provide additional screening at the loading area. See attached markup.

5. Provide general location and description of proposed landscaping.

6. The retail space use requires the minimum bicycle spaces, one per ten vehicle spaces. Please show on plan views and update the Project Data on sheet 1 of 4.

7. Provide a dimension of the main access aisle east of the building.

8. Revise parking calculations for minimum vehicle spaces for retail. The minimum is 1 per 300 sf GFA.

9. Dimension offset distances from proposed building to property lines.

10. The existing screening, located at the building addition, is proposed to be removed. Provide adequate screening along the proposed building addition.

11. Add Ward District in the Title Block to all sheets.

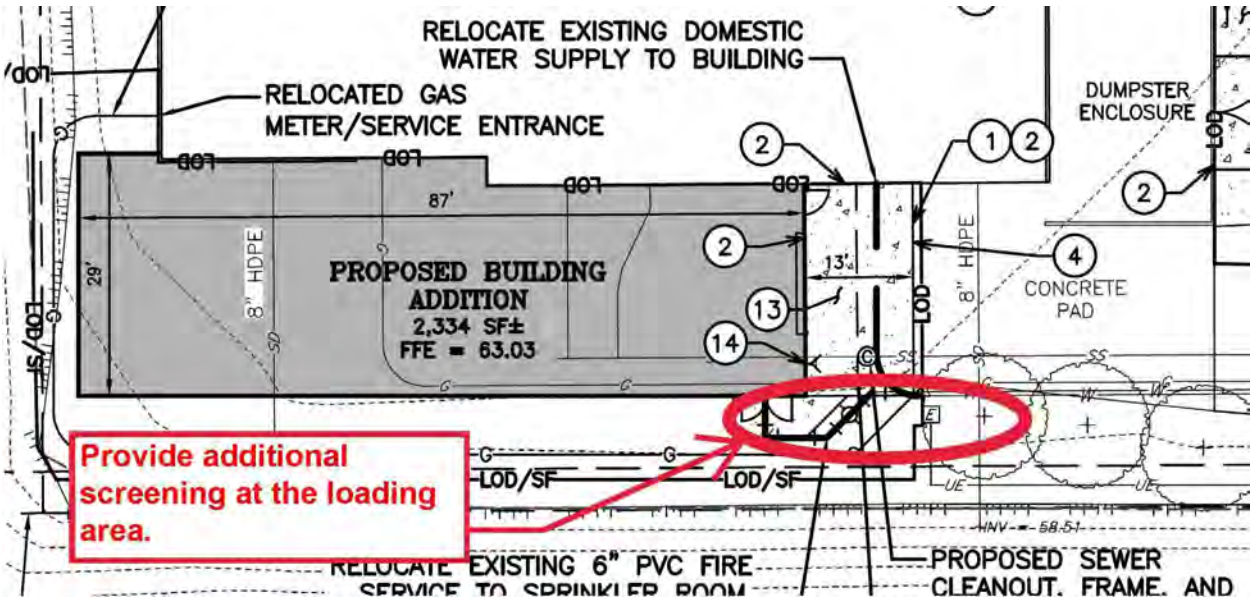
12. Show zoning district boundaries on the Vicinity Map.

13. Show and label jurisdictional boundaries for the property lines adjacent to Talbot County on the Vicinity Map.

14. Indicate that the existing lights shall not shine off-sight at levels greater than 1-foot candle unless approved otherwise by the Planning Commission.

15. Verify that the proposed ADA parking spaces will be within the required cross slopes for the landing area, ramp run and overall parking space. Please note that any modifications to provide a compliant ADA space, in regards to modifying the slope, would increase the limit of disturbance.

Review Comment #4



Plan Review Status

IMPROVEMENT PLAN REVIEW			Comments
Plans Approved	☐Y	☒ N	Please review comments above Revise and Resubmit.

Forest Stand Delineation & Forest Conservation Plan	
☐ Required ☐ Submitted ☒Approved	**The development of this site has already been mitigated for Forest Conservation under the July 9, 2009 Forest Conservation Plan, recorded on record plat MAS 83/39.**
Other	
☒Required ☐ Submitted ☐ Approved	**IMPACT FEES** **Please note, there will be a required Impact Fee for all proposed structures. 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.** **Talbot County Impact Fees are due prior to obtaining your Building Permit. Please provide receipt of payment to the Town's Building Inspection Division.**

Please contact me if you have any questions. Thank you.

TOWN OF
EASTON
ENGINEERING DEPARTMENT

DATE: **July 26th, 2023**

TO: **Tim Glass - Lane Engineering**
Austin Medical Supplies - Owner
Cc: **Rick Van Emburgh – Town Engineer**
Miguel Salinas – Planning and Zoning Department
Aaron Goller – EUC
FROM: **Sierra Clem – Engineering Department**
SUBJECT: **Austin Medical Supplies – ESDR Sketch Site Plan Review**

The Town Engineer's Office has reviewed the subject application received 7/10/2023 and has the following comment:

1. Please address whether the existing concrete pad to the east side of the building intended for proposed ADA parking has existing grades that are ADA compliant . If this concrete pad needs to be removed and replaced to meet ADA requirements, this will increase the LOD.

It is noted that the LOD listed on the plan is 4,464SF and is under the 5,000SF limit to be Exempt from Stormwater Management. The LOD during construction is required to be marked and will be monitored. In the event that the LOD exceeds 5,000SF, stormwater management will need to be addressed.

Please note existing stormwater management on site was approved in 2009. The Town routinely inspects all BMPs in Town in compliance with the Town's MS4 permit. The stormwater management features on site passed the 4/20/2023 inspection with standard maintenance requirements documented. Inspection reports are attached.

We recommend the Planning Commission **approve** the site plan as shown with the condition that any increase in LOD associated with this proposal or any future improvements to the site will be required to address Stormwater Management.

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

Life. Made better.™

Easton Utilities Commission

Plan Review Comments

Date:	Monday, July 17, 2023		
To:	Joe Mayer; Nicholas Johnson; Sierra Clem		
From:	Kia Gibbs on behalf of Aaron Goller, PE	**No. of Pages:**	1
Regarding:	29311 Cecil Road - Austin Medical Supplies	**Phase:**	Sketch Site Plan
Review Type:	**SUBM:** 1	**Status:**	Approved

Easton Utilities Commission has reviewed the above referenced plans and have provided the following comments. Please provide your corrections as listed below. Additional reviews will be required to ensure comments have been addressed. Items or documents not provided on initial submission will be subject to further review. Please contact Kia Gibbs, Admin Support at kgibbs@eucmail.com should you have any questions.

ITEM:	DRAWING / PAGE	COMMENTS:
1	General	Relocation of utilities will be at the expense of the developer.

201 N. Washington Street | Easton, Maryland 21601
Telephone: 410-822-6110 | Fax: 410-822-0743 | eastonutilities.com

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: July 25, 2023

Project; Austin Medical Supplies

Owner; Austin Medical Supplies. 10757 York Road, Cockeysville Maryland

A Town of Easton Building Permit is required for all new construction. The following lists items required on the construction drawings in order to apply for a Building Permit.

- Contact this Department to verify current Building Codes including the Town of Easton's modifications prior to preparation of Building plans.
- Construction Documents (3 sets) for new construction will be required. Documents must be prepared by a registered Maryland Registered Architect, with original plans signed and sealed. A code analysis completed by a Registered Maryland Architect including, classification (use group), construction type, and occupant loads 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.

- The Town of Easton, in accordance with the International Building Code Chapter 17, establishes a building inspections procedure that utilizes qualified, third-party professionals in addition to the Town's Building Inspectors. The purpose of this document is to establish the policy and guidelines for the construction process.
  A copy of this can be found on the Towns Web Site
- Pursuant to Town of Easton Ordinance 477, Chapter 9 Fire Protection, Article VII Security Key Lock Boxes, a lockbox shall be provided on the exterior of the building and shall be located as required by the chief of the Easton Volunteer Fire Department, Inc. (410-822-4848).
- **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.

RECEIVED
JUL 05 2023
TOWN OF EASTON

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

Easton Staff Development Review

Property Information

Address	29311 Cecil Drive, Easton						
Tax Map	35	Grid	24	Parcel	89	Lot	4
Deed Refernce:	Liber	2127	Folio	00253			
Plat Reference:	Liber	83	Folio	39			
Base Zoning District	CL	Historic District Y ☐ N ☒		Planning Redevelopment Y ☐ N ☒			

Purpose of Application / Description of Work:

Building Addition for Storage space, interior fit out for Medical Supply Sales

Owner

Name	Austin Medical Supplies		
Mailing Address	10757 York Rd. Cockeysville, MD 21030		
Telephone No.	410 241 6009	Email	austinrx82@aol.com

Applicant / Agent

Name	John Wolk / Tim Glass, Lane Engineering		
Mailing Address	Same	below	
Telephone No.	Same	Email	Same

Surveyor / Engineer

Name	Tim Glass	License No.	23152	Expiration Date	7.5.25
Mailing Address	117 Bay St. Easton				
Telephone No.	410-822-8003	Email	tglass@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 7.5.23

Printed Name of Applicant or Agent Tim Glass

For Office Use Only

Easton Staff Development Review Meeting Required Y ☒ N ☐

Easton Staff Development Review Meeting Date 07/26/2023

ESDR: 23-13 / 2023-976

Completeness Check Date

Revisions/Resubmissions Required Y ☐ N ☐

Resubmission Date

Documents Received Y ☐ N ☐

Staff Determination

Planning Commission Requir Y ☐ N ☐

BOZA Required Y ☐ N ☐

Historic District Commission Required Y ☐ N ☐

Resubmission for ESDR Required Y ☐ N ☐

Staff Signature

Date

Revised 02-2019

RECEIVED
JUL 05 2023
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	2334 SF	Structure's Square Feet	2334
Area of Disturbance	4300 SF	Number of Dwelling Units	—
Property Size	Acres 3.48	Square Feet	151588
Address	29311 Cecil Drive, Easton		
Tax Map	25	Grid 24	Parcel 89	Lot 4
Zoning District	GL	Historic District Y ☐ N ☒	PRD Y ☐ N ☒
Other Information			
Existing Use	Vacant. Former Golden Corral Restaurant		

Owner	
Name	Austin Medical Supplies
Mailing Address	10757 York Rd. Cockeysville MD 21030
Telephone No.	410 241 6009
Email	austinrx82@aol.com

Applicant / Agent	
Name	John Wolk / Tim Glass, Lane Engineering
Mailing Address	Same
Telephone No.	Same
Email	Same / tglass@leinc.com

General Information:

Bldg Addition for storage space, interior fit-out for Medical Supplies Sales + Storage.

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 6.13.23

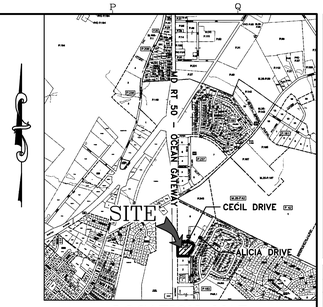
Printed Name of Applicant or Agent Timothy Glass P.E. Lane Engineering

For Office Use Only

Planned Commission Meeting Date	08/17/2023	**2023-976**
Review Fee Amount		
Review Fee Paid Date		
ESDR Y / N Date		

Revised 02-2019

BUILDING PERMIT SITE PLAN
FOR
AUSTIN MEDICAL SUPPLIES
IN THE TOWN OF EASTON
TALBOT COUNTY, MARYLAND



LOCATION MAP
SCALE: 1" = 2,000'

PROJECT DATA

PROPERTY: TAX MAP 25, PARCEL 89, LOT 4
29311 CECIL DRIVE
EASTON, MARYLAND 21601

OWNER/DEVELOPER: AUSTIN MEDICAL SUPPLIES
C/O JOHN WOLK
10757 YORK ROAD
COCKEYSVILLE, MARYLAND 21030
(410) 241-6009

DEED REFERENCE: 3034/473

PLAT REFERENCE: 83/39

PROJECT HISTORY: PREVIOUS GOLDEN CORRAL SITE

ZONING CLASSIFICATION: CL – COMMERCIAL LIMITED DISTRICT

SITE AREA: 3.478 ACRES±

BUILDING SETBACKS:
FRONT – 40'
REAR – 15'
SIDE – 10'
STATE HIGHWAY (MD RT 50) – 40'

BUILDING COVERAGE:
PERMITTED: 35%
EXISTING: 7,680 SF (5%)
PROPOSED: 10,014 SF (6.6%)

MAXIMUM BUILDING HEIGHT PERMITTED: 50'
BUILDING HEIGHT PROPOSED: LESS THAN 50'

EXISTING CONDITIONS: PREVIOUS GOLDEN CORRAL SITE WITH EXISTING PARKING AND ASSOCIATED SITE IMPROVEMENTS.

PROPOSED DEVELOPMENT: PROPOSED BUILDING ADDITION (2,334 SF) AND ASSOCIATED SITE IMPROVEMENTS.

STORMWATER MANAGEMENT: REQUIREMENTS MET FROM PREVIOUS DEVELOPMENT, PROPOSED IMPROVEMENTS LESS THAN 5,000 SF, THEREFORE PROPOSED IMPROVEMENTS EXEMPT FROM STORMWATER MANAGEMENT REQUIREMENTS.

FOREST CONSERVATION: PREVIOUSLY ADDRESSED WITH SUBDIVISION

SPECIAL EXCEPTIONS/VARIANCES: NONE.

REFUSE/TRASH: EXISTING ON-SITE DUMPSTER ENCLOSURE TO BE USED.

SITE LIGHTING: NO CHANGES TO EXISTING SITE LIGHTING.

PARKING CALCULATIONS

TOTAL SITE PARKING REQUIRED:	5,760 SF RETAIL;	MINIMUM – 1 SPACE/300 SF GFA	=	19 SPACES
		MAXIMUM – 1 SPACE/200 SF GFA	=	29 SPACES
	3,231 SF WAREHOUSE;	MINIMUM – 1 SPACE/2,000 SF GFA	=	2 SPACES
		MAXIMUM – 1 SPACE/350 SF GFA	=	9 SPACES
TOTAL:		MINIMUM – 21 SPACES		
		MAXIMUM – 38 SPACES		
TOTAL SITE PARKING PROVIDED:	TOTAL EXISTING SPACES ONSITE; 144 SPACES			

ADA ACCESSIBLE PARKING SPACES REQUIRED: 1 VAN
ADA ACCESSIBLE PARKING SPACES PROVIDED: 8 STANDARD & 2 VAN (10 TOTAL)

BIKE PARKING REQUIRED: 1 SPACE/10 VEHICLE SPACES
BIKE PARKING PROVIDED: 3 SPACES BASED ON 21 VEHICLE SPACES REQUIRED

PROJECT NOTES

1. PROPERTY BOUNDARY AND EXISTING CONDITIONS SURVEYED BY LANE ENGINEERING, LLC ON 01/11/2023.
2. SITE TOPOGRAPHY AS SHOWN HEREIN WAS DERIVED FROM A FIELD SURVEY BY LANE ENGINEERING, LLC DATED 01/11/2023.
3. ALL UNDERGROUND UTILITIES ARE SHOWN PER THE BEST AVAILABLE RECORDS AND ARE APPROXIMATE ONLY.
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. 24041C0191C FOR 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

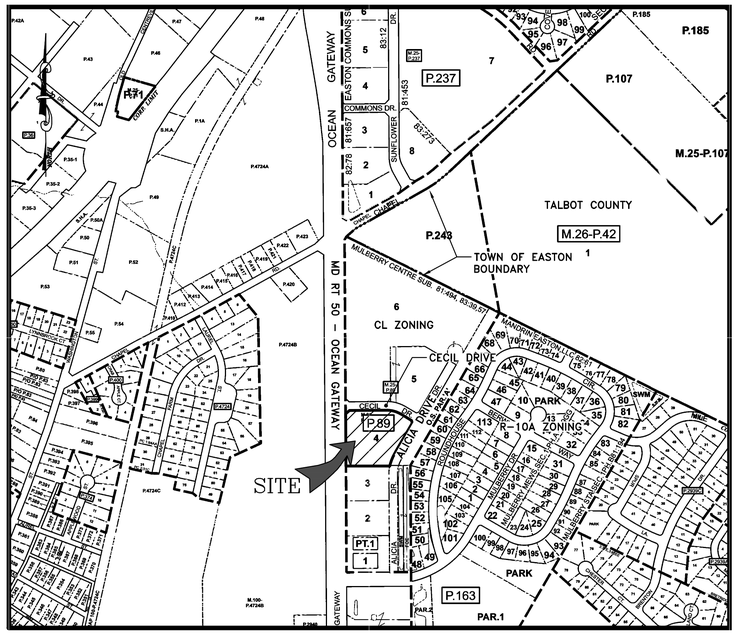
   THE FLOOD DATA SHOWN HEREON IS BASED ON AVAILABLE MAPPED AND/OR DIGITAL INFORMATION AND IS DEPICTED AS DIRECTED AND REQUIRED BY FEDERAL, STATE AND LOCAL REGULATIONS. IT IS SUBJECT TO DATA INACCURACIES AND REGULATORY CHANGE AND SHOULD BE VERIFIED PRIOR TO FINALIZING DEVELOPMENT OR IMPROVEMENT PLANS FOR THE SUBJECT LANDS.
8. PUBLIC WATER AND SEWER SERVICES ARE PROVIDED BY THE TOWN OF EASTON.
9. PER CHAPTER 28-307.2.H OF THE ZONING ORDINANCE, THERE SHALL BE NO OUTDOOR STORAGE OF ANY GOODS OR MERCHANDISE ON ANY LOTS OR OPEN AREAS, NOR SHALL ANY PRODUCTS BE DISPLAYED IN OPEN AREAS.

STORMWATER MANAGEMENT COMPLIANCE

THE PROPOSED CONSTRUCTION DISTURBANCE (4,464 SF), IS LESS THAN 5,000 SF.; THEREFORE, THE DEVELOPMENT ACTIVITY IS EXEMPT FROM STORMWATER MANAGEMENT COMPLIANCE.

SEDIMENT AND EROSION CONTROL COMPLIANCE

THE PROPOSED CONSTRUCTION DISTURBANCE (4,464 SF), IS LESS THAN 5,000 SF.; THEREFORE, THE DEVELOPMENT ACTIVITY IS EXEMPT FROM SEDIMENT AND EROSION CONTROL COMPLIANCE.



VICINITY MAP

500' 250' 0' 250' 500' 1,000'
SCALE IN FEET

INDEX OF SHEETS

PDF SHEET	SHEET No.	TITLE
1	1 OF 4	TITLE SHEET
2	2 OF 4	BUILDING PERMIT SITE PLAN
3	3 OF 4	WATER & SEWER DETAILS
4	4 OF 4	SITE DETAILS

COMPREHENSIVE PLAN DESIGN PRINCIPLES RESPONSE NARRATIVE

PRINCIPLE #1– INTEGRATED USES ARE DESIRABLE– THIS IS AN ADAPTIVE RE-USE OF AN EXISTING VACANT BUILDING AND SITE THAT WAS DESIGNED FOR A SINGLE USE.

PRINCIPLE #2– NATURAL FEATURES SHOULD DETERMINE DESIGN– THIS IS AN ADAPTIVE RE-USE OF AN EXISTING VACANT BUILDING AND SITE WITH ESTABLISHED LANDSCAPING AND STORMWATER MANAGEMENT FACILITIES.

PRINCIPLE #3– AUTOMOBILES SHOULD NOT DETERMINE DESIGN– THIS IS AN ADAPTIVE RE-USE OF AN EXISTING VACANT BUILDING AND SITE WITH ESTABLISHED PARKING AND CIRCULATION THAT WILL REMAIN.

PRINCIPLE #4– AMPLE OPEN SPACE SHOULD BE PROVIDED– NOT APPLICABLE TO A COMMERCIAL SITE.

PRINCIPLE #5– ARCHITECTURE SHOULD RESPECT EASTON'S HISTORICAL DEVELOPMENT– THIS APPLICATION PROPOSES ARCHITECTURE COMPATIBLE WITH EASTON'S COMMERCIAL DEVELOPMENTS AND UTILIZES MATERIALS AND DETAILING COMMONLY FOUND THROUGH-OUT EASTON. THE EXISTING BUILDING IS TO BE UPGRADED AND ENHANCED ARCHITECTURALLY.

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– NOT APPLICABLE TO THIS PROJECT.

PRINCIPLE #8 RESIDENTIAL NEIGHBORHOODS SHOULD BE INTERESTING PLACES– NOT APPLICABLE TO THIS PROJECT.

PRINCIPLE #9– NEIGHBORHOODS SHOULD CONNECT– NOT APPLICABLE TO THIS PROJECT.

STATEMENT OF PURPOSE & INTENT

THE PURPOSE OF THESE PLANS IS TO OBTAIN SITE PLAN APPROVAL AND PROVIDE NECESSARY CONSTRUCTION INFORMATION TO CONSTRUCT A 2,334 SF BUILDING ADDITION TO THE EXISTING BUILDING, MAINTAINING THE EXISTING UTILITIES AND SITE IMPROVEMENTS.

SITE ADDRESS

29311 CECIL DRIVE
EASTON, MARYLAND 21601

OWNER/DEVELOPER

AUSTIN MEDICAL SUPPLIES
C/O JOHN WOLK
10757 YORK ROAD
COCKEYSVILLE, MARYLAND 21030
(410) 241-6009

CIVIL ENGINEER

LANE ENGINEERING, LLC
C/O TIMOTHY W. GLASS, P.E.
117 BAY STREET
EASTON, MD 21601
(410) 822-8003

ARCHITECT

FISHER ARCHITECTURE
C/O LAUREN WHITE
542 RIVERSIDE DRIVE
SALISBURY, MARYLAND 21801
(410) 742-0238

MEP ENGINEER

ALLEN & SHARIFF
C/O TIM CHATTERTON, P.E.
205 EAST MARKET STREET
SALISBURY, MARYLAND 21801
(443) 545-1300

CONTRACTOR

TO BE DETERMINED

UTILITY CONTACTS

DRAINAGE/STORMWATER MANAGEMENT
TOWN OF EASTON
14 S. HARRISON STREET
EASTON, MD 21601
(410) 820-8822

ALL ELECTRIC, NATURAL GAS, WATER, CABLE, SANITARY SEWER
EASTON UTILITIES COMMISSION
201 N. WASHINGTON STREET
EASTON, MD 21601
(410) 822-6110

TELEPHONE
VERIZON
1401 MOUNT HERMAN ROAD
SALISBURY, MD 21804
(410) 860-8029

PERMITTING AGENCIES

TOWN OF EASTON
ENGINEERING DEPARTMENT
14 S. HARRISON STREET
EASTON, MD 21601
(410) 820-8822

APPROVED:
TOWN OF EASTON – TOWN PLANNER DATE
APPROVED:
TOWN OF EASTON – TOWN ENGINEER DATE
APPROVED:
EASTON UTILITIES – ENGINEER DATE

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.

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@lelinc.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

TOWN OF EASTON WARD 2

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. 23152 , Expiration Date: 7/5/2025.

SEAL
STATE OF MARYLAND
TIMOTHY W. GLASS
No. 23152
PROFESSIONAL ENGINEER
7.31.23
DATE

TITLE SHEET

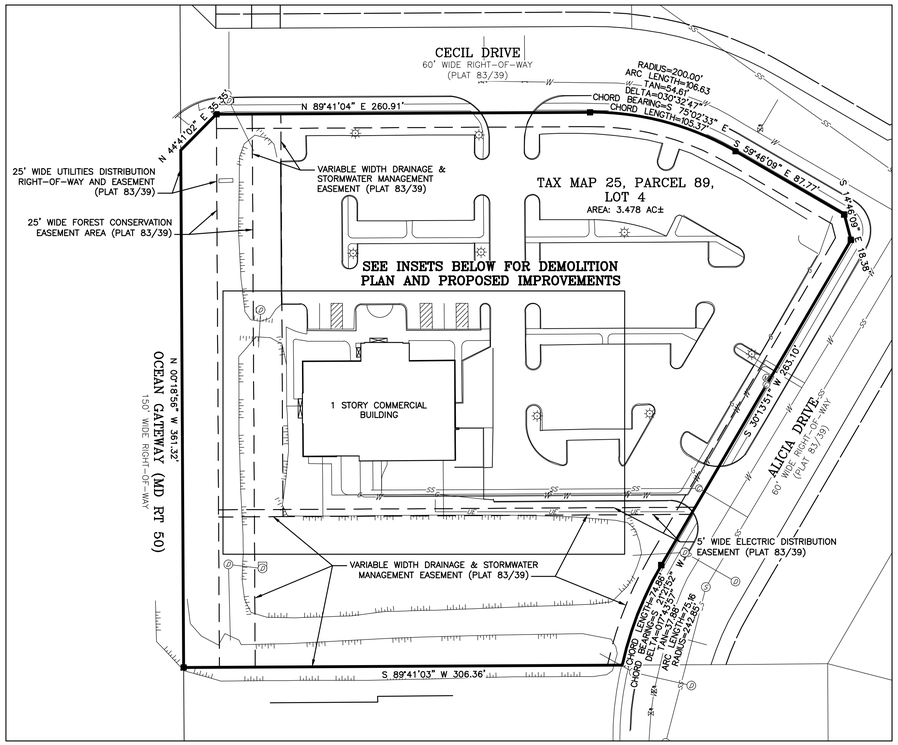
AUSTIN MEDICAL SUPPLIES

IN THE TOWN OF EASTON
TALBOT COUNTY, MARYLAND
TAX MAP 25 GRID 24 PARCEL 89 LOT 4

ISSUED/REVISED FOR:	DATE:	BY:
BUILDING PERMIT SUBMITTAL	05/09/23	TWG
PLANNING COMMISSION REVIEW	06/15/23	TWG
ESDR COMMENTS	07/31/23	TWG

SHEET No. 1 OF 4
JOB No. 220574
SCALE: AS NOTED
FILE No. 4412

Date: 07/31/2023 – 9:50am User: mphillips Project Manager: TWG
Drawing Path: J:\2022\0500\220574\Civil3D-220574\Dwg\Plots\CSP-PLTS-220574.dwg | 1
XREF File(s): CSP-BASE-220574/ALD-BASE-220574/VSP-BASE-220574/CBS-BASE-24436-220574/CEC-BASE-220574



OVERALL EXISTING CONDITIONS

SCALE: 1" = 50'

50' 25' 0' 25' 50' 100'

SCALE IN FEET

SITE NOTES

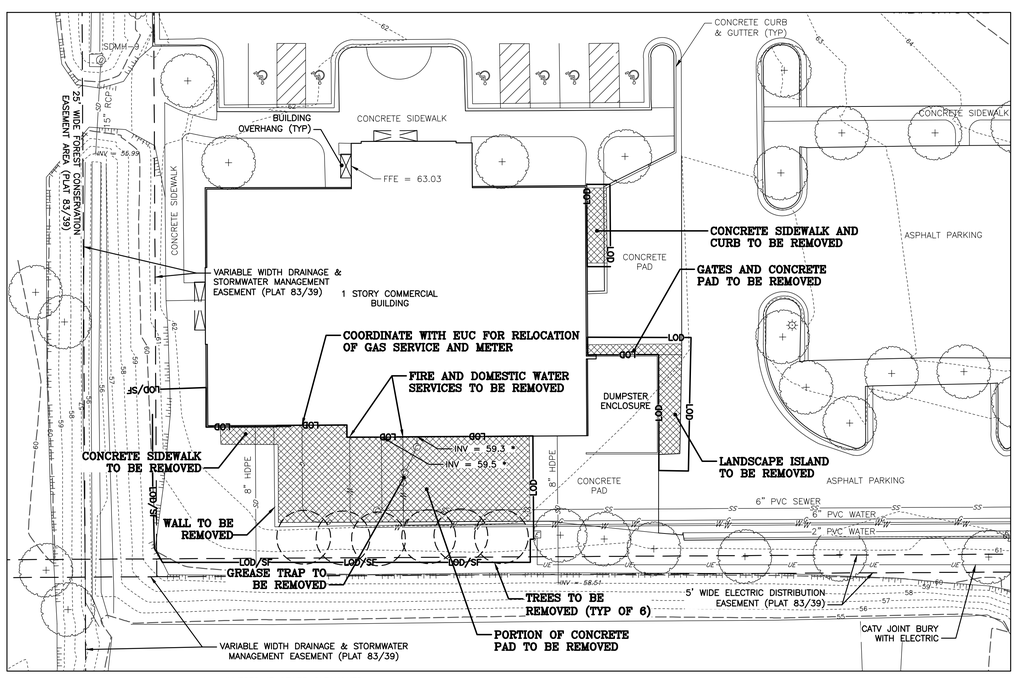
1. BUILDING OUTLINES SHOWN BASED ON ARCHITECTURAL FLOOR PLAN PROVIDED BY OWNER. CONTRACTOR SHALL VERIFY WITH OWNER/ARCHITECT/ENGINEER EXACT DIMENSIONS OF FOUNDATION. STAKE OUT SHALL BE PER FOUNDATION PLAN PROVIDED BY OWNER AND NOT BASED ON DIMENSIONS SHOWN OR SCALED HERE ON.
2. COORDINATE WITH ARCHITECTURAL PLANS FOR EXACT LOCATION OF WATER AND SEWER AND OTHER UTILITY CONNECTIONS.
3. ALL DIMENSIONS AND RADII REFER TO FLOWLINE OF CURB OR EDGE OF PAVEMENT.
4. COORDINATE WITH UTILITY SERVICE PROVIDERS FOR THE RELOCATION OF EXISTING UTILITIES, IF REQUIRED, AND FOR THE INSTALLATION OF PROPOSED UTILITIES.
5. ADJUST ALL EXISTING VALVE BOXES, CLEANOUTS, AND STRUCTURE RIMS TO PROPOSED GRADE AS REQUIRED.

GRADING NOTES

1. STOCKPILE STRIPPED TOPSOIL AT AN OFFSITE LOCATION WITH AN APPROVED SEDIMENT CONTROL PLAN AS REQUIRED.
2. SPOT ELEVATIONS REFER TO EDGE OF PAVEMENT, FLOWLINE OF CURB OR GROUND SURFACE.
3. CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE DURING CONSTRUCTION.
4. PROVIDE A SMOOTH GRADING TRANSITION BETWEEN ALL DISTURBED AND EXISTING AREAS.
5. SIDEWALKS SHALL HAVE MAX CROSS SLOPE OF 2.0% AND MAX LONGITUDINAL SLOPE OF 5.0%.
6. LANDING PAD AT DOOR ENTRANCES SHALL HAVE 2.0% MAX SLOPE. SIZE OF LANDING PAD PER PLAN AND CODE REQUIREMENTS.
7. CONTRACTOR SHALL CLEAN ACCUMULATED SEDIMENT FROM ALL DITCHES AND PIPING UPON COMPLETION OF PROJECT.
8. IMPORTED STRUCTURAL FILL SHALL BE TESTED PER ASTM D-1557 FOR MAXIMUM DRY DENSITY AND OPTIMUM MOISTURE CONTENT. ALL STRUCTURAL SOILS SHALL BE PLACED IN 8" LIFTS AND COMPACTED TO 95% MODIFIED PROCTOR DENSITY.

SITE & UTILITY KEY NOTES

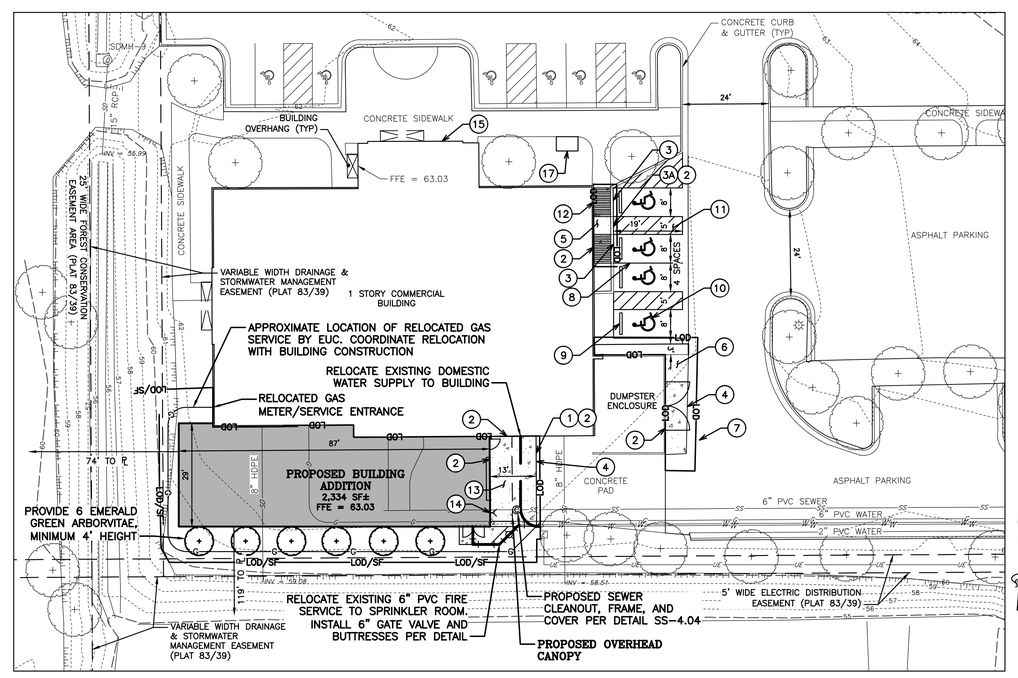
1. TIE TO EXISTING CONCRETE W/ SMOOTH TRANSITION
2. INSTALL FULL DEPTH EXPANSION MATERIAL WHERE CONCRETE ABUTS RIGID STRUCTURES AND/OR CURBING (TYP)
3. STANDARD CURB AND GUTTER, TRANSITION TO FLUSH, MATCH EXISTING CURB PROFILE
3A. DEPRESSED CURB AND GUTTER PER DETAIL
4. SAW CUT EXISTING PAVEMENT FOR CONCRETE PAD INSTALLATION
5. 5' CONCRETE SIDEWALK PER TOWN OF EASTON DETAIL TOE-R-7.01 FORMED AS ADA COMPLIANT CURB RAMP
6. 7' WIDE CONCRETE PAD PER RIGID PAVEMENT DETAIL
7. DUMPSTER GATES, REFER TO ARCHITECTURAL PLANS
8. 4" WIDE WHITE WATER BASED PAVEMENT MARKINGS (TYP)
9. CONCRETE WHEEL STOP PER DETAIL (TYP)
10. ADA PAVEMENT MARKING SYMBOL PER DETAIL (TYP)
11. ACCESS AISLE STRIPING PER DETAIL (TYP)
12. WALL MOUNTED ADA PARKING SIGN PER DETAIL
13. RIGID PAVEMENT PER DETAIL
14. FIRE DEPARTMENT CONNECTION (FDC), COORDINATE W/ ARCHITECTURAL PLANS
15. KNOX BOX LOCATION, COORDINATE W/ ARCHITECTURAL PLANS
16. BROOM FINISH
17. BICYCLE RACK TO ACCOMMODATE MINIMUM 3 BICYCLES. RACK STYLE PER OWNER



* INVERTS AT SEWER CLEANOUTS NOT FIELD VERIFIED

DEMOLITION PLAN

SCALE: 1" = 20'



PROPOSED IMPROVEMENTS

SCALE: 1" = 20'

20' 10' 0' 10' 20' 40'

SCALE IN FEET

MD COORDINATE SYSTEM NAD 83 (2011)

APPROVED:

TOWN OF EASTON – TOWN PLANNER DATE

APPROVED:

TOWN OF EASTON – TOWN ENGINEER DATE

APPROVED:

EASTON UTILITIES – ENGINEER DATE

REVISIONS TO APPROVED PLANS			
No.	DATE	DESCRIPTION	BY

WARNING!!

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354 Pennsylvania Ave. Centreville, MD 21617 (410) 758-2095

TOWN OF EASTON WARD 2

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. 23152 , Expiration Date: 7/5/2025.

SEAL

STATE OF MARYLAND
ROBERT A. PORTER
No. 23152
PROFESSIONAL ENGINEER

7.31.23

DATE

BUILDING PERMIT SITE PLAN

AUSTIN MEDICAL SUPPLIES

IN THE TOWN OF EASTON
TALBOT COUNTY, MARYLAND
TAX MAP 25 GRID 24 PARCEL 89 LOT 4

ISSUED/REVISED FOR:	DATE:	BY:
BUILDING PERMIT SUBMITTAL	05/09/23	TWG
PLANNING COMMISSION REVIEW	06/15/23	TWG
ESDR COMMENTS	07/31/23	TWG

SHEET No. 2 OF 4	
SCALE: AS NOTED	JOB No. 220574
	FILE No. 4412

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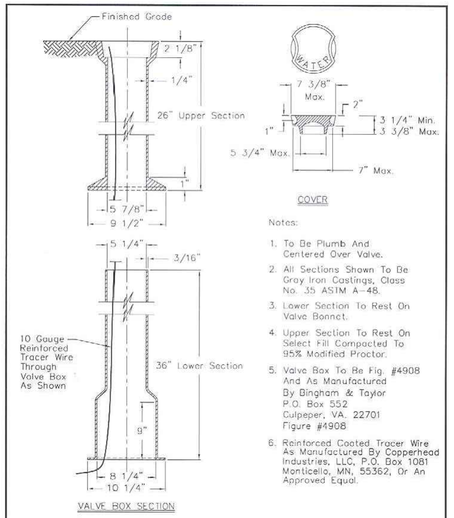
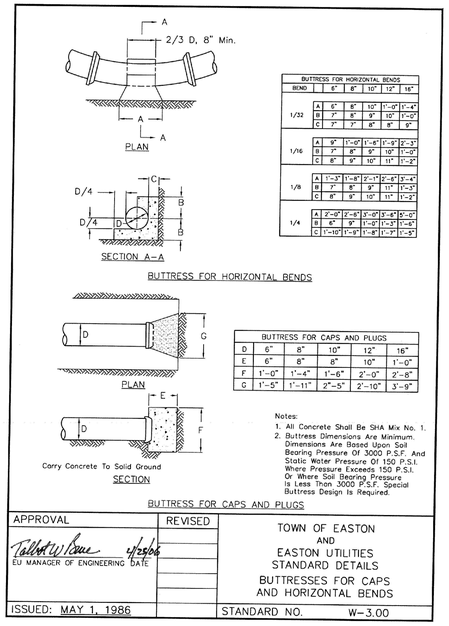
Date: 07/31/2023 - 9:50am User: mphillips Project Manager:TWG
Drawing Path: J:\2022\0500\220574\Civil3D-220574\Dwg\Plots\CSP-PLTS-220574.dwg | 2
XREF File(s): CSP-BASE-220574/VLD-BASE-220574/VSP-BASE-220574/CBS-BASE-24436-220574/CEC-BASE-220574



Notes:

1. To Be Plumb And Centered Over Valve.
2. All Sections Shown To Be Gray Iron Castings, Class No. 35 ASTM A-48.
3. Lower Section To Rest On Valve Bonnet.
4. Upper Section To Rest On Select Fill Compacted To 95% Modified Proctor.
5. Valve Box To Be Fig. #4908 And As Manufactured By Bingham & Taylor P.O. Box 552 Culpeper, VA. 22701 Figure #4908
6. Reinforced Coated Tracer Wire As Manufactured By Copperhead Industries, LLC, P.O. Box 1081 Monticello, MN. 55362, Or An Approved Equal.

APPROVAL	REVISED	
Talbott W Lane 9/1/09	AUG 1, 94	TOWN OF EASTON
EU MANAGER OF ENGINEERING DATE	MAR 1, 98	AND
	SEP 1, 09	EASTON UTILITIES STANDARD DETAILS
		ADJUSTABLE VALVE BOX
ISSUED: MAY 1, 1986		STANDARD NO. W-6.00



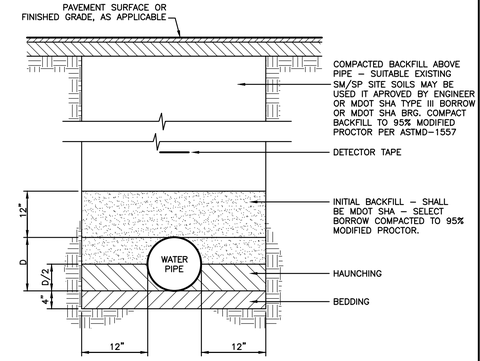
BUTTRESS FOR HORIZONTAL BENDS					
BEND		6"	8"	10"	12"	16"
1/32	A	6"	8"	10"	1'-0"	1'-4"
	B	7"	8"	9"	10"	1'-0"
	C	7"	7"	8"	8"	9"
1/16	A	9"	1'-0"	1'-4"	1'-9"	2'-3"
	B	7"	8"	9"	10"	1'-0"
	C	8"	9"	10"	11"	1'-2"
1/8	A	1'-3"	1'-8"	2'-1"	2'-6"	3'-4"
	B	7"	8"	9"	11"	1'-3"
	C	8"	9"	10"	11"	1'-2"
1/4	A	2'-0"	2'-6"	3'-0"	3'-4"	5'-0"
	B	8"	9"	1'-0"	1'-3"	1'-4"
	C	1'-10"	1'-9"	1'-8"	1'-7"	1'-5"

BUTTRESS FOR CAPS AND PLUGS					
D	6"	8"	10"	12"	16"
E	6"	8"	8"	10"	1'-0"
F	1'-0"	1'-4"	1'-6"	2'-0"	2'-8"
G	1'-5"	1'-11"	2'-5"	2'-10"	3'-9"

Notes:

1. All Concrete Shall Be SHA Mix No. 1.
2. Buttress Dimensions Are Minimum. Dimensions Are Based Upon Soil Bearing Pressure Of 3000 P.S.F. And Static Water Pressure Of 150 P.S.I. Where Pressure Exceeds 150 P.S.I. Or Where Soil Bearing Pressure Is Less Than 3000 P.S.F. Special Buttress Design Is Required.

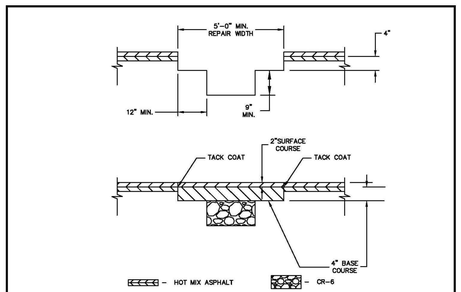
APPROVAL	REVISED	
Talbott W Lane 4/25/06		TOWN OF EASTON
EU MANAGER OF ENGINEERING DATE		AND
		EASTON UTILITIES STANDARD DETAILS
		BUTTRESSES FOR CAPS AND HORIZONTAL BENDS
ISSUED: MAY 1, 1986		STANDARD NO. W-3.00



NOTES:

1. BEDDING AND HAUNCHING TO THE TOP OF THE PIPE SHALL BE SELECT BORROW COMPACTED TO 95% MODIFIED PROCTOR.
2. DURING HAUNCHING, CONTRACTOR SHALL CAREFULLY WORK BACKFILL DOWN AROUND THE BOTTOM OF THE PIPE.
3. ADD DETECTOR TAPE 24" ABOVE ALL PIPE.
4. SEE PLANS FOR PIPE MATERIAL TO BE USED.

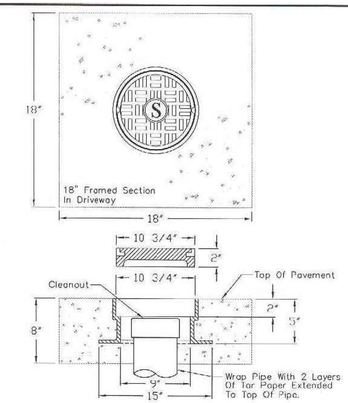
WATER SERVICE TRENCH
NOT TO SCALE



NOTES:

1. PAVEMENT SHALL BE SAW CUT 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 EDGE OF PAVE.
3. SURFACE COURSE; 2" OF 9.5mm SUPERPAVE.
   BASE COURSE: 4" OF 9.5mm, 12.5mm OR 19.0 mm SUPERPAVE IN 2-2" LIFTS./NOTE: IF SC & BC ARE BOTH 9.5mm, THEY MAY BE DONE IN 2-3" LIFTS.
4. 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.
5. WHEN SURFACE ARES OF REPAIR EXCEEDS 100 SF, THE 2" SURFACE COURSE SHALL EXTEND ENTIRE WIDTH OF TRAVEL LANE(S) AND/OR SHOULDER. LIMITS OF MILL AND OVERLAY, WHEN REQUIRED, WILL BE DETERMINED BY THE TOWN ENGINEER.
6. CONTRACTOR MUST CONFIRM LIMITS OF PAVEMENT REQUIRED WITH TOWN ENGINEER PRIOR TO START OF PAVEMENT WORK.

	APPROVAL	
TOWN OF EASTON MARYLAND FOUNDED 1710	Rich Van Emburgh	TOWN OF EASTON STANDARD DETAILS
	TOWN ENGINEER	PERMANENT ASPHALT PAVEMENT REPAIR FOR UTILITY TRENCHES
	1/2020 DATE	
	ISSUED: JANUARY 2020	STANDARD NO.: TOE-R-5.01-3



Notes:

1. All Castings Shall Conform To ASTM A48-76 Class 35B Iron Minimum.
2. Casting Shall Have Ground Or Machined Bearing Surfaces.
3. Casting Shall Be Of Uniform Quality, Free From Blow Holes, Porosity, Hard Spots, Shrinkage Defects, Or Other Injurious Defects.
4. Casting Shall Be Heavy Duty Roadway Type.
5. Casting Shall Be MBX-348 As Manufactured By Sigma Corporation, 700 Goldmon Drive, Cream Ridge, NJ 08514, Or An Approved Equal.
6. Assembly To Be Used In Roadways, Sidewalks, Driveways And All Other Paved Areas.

APPROVAL	REVISED	
Talbott W Lane 11/1/07		TOWN OF EASTON
EU MANAGER OF ENGINEERING DATE		AND
		EASTON UTILITIES COMMISSION STANDARD DETAILS
		DRIVEWAY CLEANOUT COVER
ISSUED: NOV 1, 2007		STANDARD NO. SS-4.04

APPROVED:

TOWN OF EASTON – TOWN PLANNER DATE

APPROVED:

TOWN OF EASTON – TOWN ENGINEER DATE

APPROVED:

EASTON UTILITIES – ENGINEER DATE

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

TOWN OF EASTON WARD 2

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. 23152 , Expiration Date: 7/5/2025.

SEAL

STATE OF MARYLAND
RICHARD A. PARKER
No. 23152
PROFESSIONAL ENGINEER
7.31.23

DATE

WATER & SEWER DETAILS

AUSTIN MEDICAL SUPPLIES

IN THE TOWN OF EASTON
TALBOT COUNTY, MARYLAND
TAX MAP 25 GRID 24 PARCEL 89 LOT 4

ISSUED/REVISED FOR:	DATE:	BY:
BUILDING PERMIT SUBMITTAL	05/09/23	TWG
PLANNING COMMISSION REVIEW	06/15/23	TWG
ESDR COMMENTS	07/31/23	TWG

SHEET No. 3 OF 4

SCALE: AS NOTED

JOB No. 220574

FILE No. 4412

Date: 07/31/2023 – 9:50am User: mphillips Project Manager:TWG
Drawing Path: J:\2022\0500\220574\Civil3D-220574\Dwg\Plots\CSP-PLTS-220574.dwg | 3
XREF File(s): CSP-BASE-220574/VLD-BASE-220574/VSP-BASE-220574/CBS-BASE-24X36-220574/CEC-BASE-220574

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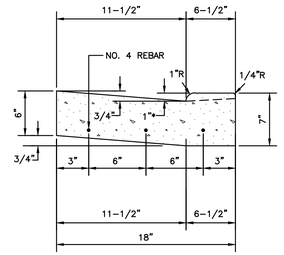
PAINT PAVEMENT MARKINGS NOTES:

1. IMMEDIATELY BEFORE APPLYING THE PAVEMENT MARKING PAINT TO THE PAVEMENT, THE CONTRACTOR SHALL INSURE THE SURFACE IS DRY AN ENTIRELY FREE FROM DIRT, SAND, GREASE, OIL, OR OTHER MATTER WHICH WOULD PREVENT EFFECTIVE ADHESION OF THE PAINT TO THE PAVEMENT.
2. THE SURFACE TEMPERATURE OF THE PAVEMENT SHALL BE A MINIMUM OF 5°C (40°F).
3. WHEN PAINT MUST BE APPLIED BETWEEN THE DATES OF OCTOBER 15 THROUGH APRIL 15 INCLUSIVE OR ON PAVEMENT WITH A SURFACE TEMPERATURE BELOW 5°C (40°F), COLD WEATHER PAINT CAN BE USED WHICH DOES NOT EXCEED EPA'S FEDERAL REGISTER/RULES AND REGULATIONS (40 CFR PART 59 [AD–FRL–6149–7] RIN 2060–AE55), AS AMENDED, FOR VOC CONTENT LIMIT AND SHALL MEET THE AASHTO M248 F AND REQUIREMENTS NOTED BELOW. THESE PRODUCTS SHALL BE APPLIED ACCORDING TO THE MANUFACTURER'S REQUIREMENTS.
4. THE COLD WEATHER PAINT SHALL MEET THE FOLLOWING MINIMUM REQUIREMENTS:
   a. PROPERTY TEST METHOD REQUIREMENT
   b. DRY OPACITY (CONTRAST RATIO) ASTM D2244 – WITH A WET FILM THICKNESS OF 18 ± 1 MILS
   c. VOC ASTM D3960 150 G/L (1.25 LB/GAL) MAX
   d. DRYING TIME ASTM D7111 WITH WET FILM THICKNESS OF 15 MILS 15 MINUTES MAX @ 25° C (77°F).
5. PAINTED LANE LINES, EDGE LINES, AND CENTERLINES SHALL HAVE A MINIMUM RETROREFLECTIVITY OF 250 MILLICANDELAS.
6. PAINT SHALL BE MARYLAND FAST DRY WATERBORNE TRAFFIC PAINT, LEAD FREE BY SHERMAN WILLIAMS OR APPROVED EQUAL. (FEDERAL STANDARD 595–38907 YELLOW OR 37925 WHITE).
7. PAVEMENT MARKINGS SHALL BE WARRANTED FOR A MINIMUM OF TWO YEARS.

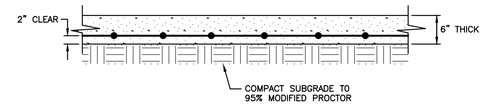


NOTES:

1. ALL DEPRESSED CURB & GUTTER CONCRETE SHALL BE MDOT SHA MIX NO. 7.
2. CURB & GUTTER SHALL HAVE CONTROL JOINTS EVERY 10'–0", AND CONTRACTION/EXPANSION JOINTS EVERY 40'–0". EXTRUDED CONCRETE CURB & GUTTER SHALL HAVE CONTRACTION JOINTS EVERY 10'–0", AND EXPANSION JOINTS EVERY 100'–0".
3. AT HANDICAP RAMPS, CURB PAN MAXIMUM SLOPE SHALL BE 20:1 (5%).
4. ALL DRIVEWAYS REQUIRE 3 PIECES OF NO. 6 REBAR, FULL LENGTH OF DEPRESSED CURB.

*RISE AT HANDICAP RAMPS SHALL BE 1/2".

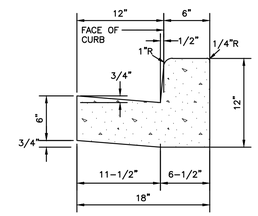
DEPRESSED CONCRETE CURB AND GUTTER DETAIL
NOT TO SCALE



NOTES:

1. CONCRETE SHALL BE SHA MIX NO. 3.
2. REINFORCING SHALL BE 6"x6" – W1.4 X W1.4 WWF.

RIGID PAVEMENT CROSS–SECTION DETAIL
NOT TO SCALE



NOTES:

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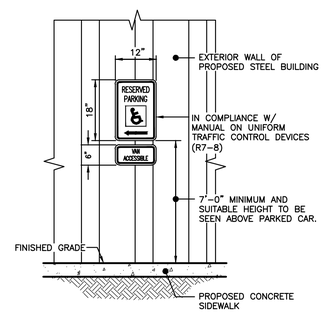
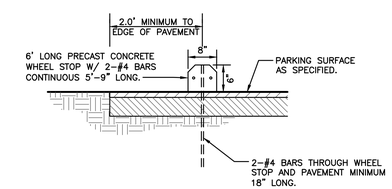
2. CURB & GUTTER SHALL HAVE CONTROL JOINTS EVERY 10'–0", AND CONTRACTION/EXPANSION JOINTS EVERY 40'–0". EXTRUDED CONCRETE CURB & GUTTER SHALL HAVE CONTRACTION JOINTS EVERY 10'–0", AND EXPANSION JOINTS EVERY 100'–0".
3. AT HANDICAP RAMPS, CURB PAN MAXIMUM SLOPE SHALL BE 20:1 (5%).

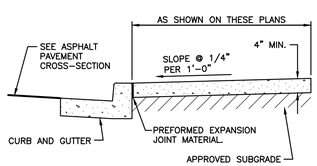
CONCRETE CURB AND GUTTER DETAIL
NOT TO SCALE



WALL MOUNTED VAN ACCESSIBLE ADA PARKING SIGN DETAIL
NOT TO SCALE

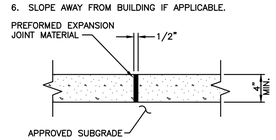


CONCRETE WHEEL STOP DETAIL
NOT TO SCALE

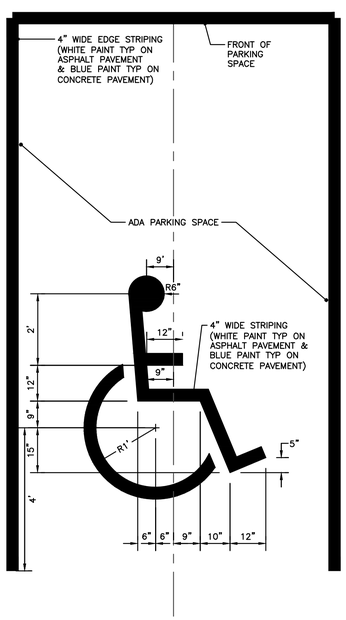


NOTES:

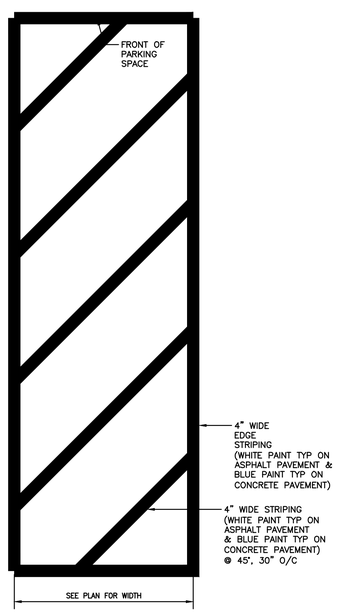
1. SUBGRADE AND BANK RUN GRAVEL TO BE COMPACTED TO 95% MODIFIED PROCTOR COMPACTION (ASTM D–1557).
2. CONCRETE SHALL BE MDOT SHA MIX NO. 3.
3. 1/8"x1" DEEP SAWCUT CONTROL JOINTS AT 5'–0" INTERVALS.
4. CONTRACTION/EXPANSION JOINTS AT INTERVALS NO GREATER THAN 20'–0".
5. 1/2" THICK PREFORMED EXPANSION JOINT MATERIAL AT CONTRACTION JOINTS.
6. SLOPE AWAY FROM BUILDING IF APPLICABLE.



CONCRETE SIDEWALK DETAIL
NOT TO SCALE



STANDARD ADA PAVEMENT MARKING SYMBOL DETAIL
NOT TO SCALE



STANDARD ACCESS AISLE STRIPING DETAIL
NOT TO SCALE

APPROVED:

TOWN OF EASTON – TOWN PLANNER DATE

APPROVED:

TOWN OF EASTON – TOWN ENGINEER DATE

APPROVED:

EASTON UTILITIES – ENGINEER DATE

REVISIONS TO APPROVED PLANS			
No.	DATE	DESCRIPTION	BY

WARNING!!

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15 Washington St. Cambridge, MD 21613 (410) 221–0818
354 Pennsylvania Ave. Centreville, MD 21617 (410) 758–2095

TOWN OF EASTON WARD 2

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. 23152, Expiration Date: 7/5/2025.

SEAL

STATE OF MARYLAND
ROBERT A. PATTON JR.
No. 23152
PROFESSIONAL ENGINEER

7/31/23

DATE

SITE DETAILS

AUSTIN MEDICAL SUPPLIES

IN THE TOWN OF EASTON
TALBOT COUNTY, MARYLAND
TAX MAP 25 GRID 24 PARCEL 89 LOT 4

ISSUED/REVISED FOR:	DATE:	BY:
BUILDING PERMIT SUBMITTAL	05/09/23	TWG
PLANNING COMMISSION REVIEW	06/15/23	TWG
ESDR COMMENTS	07/31/23	TWG

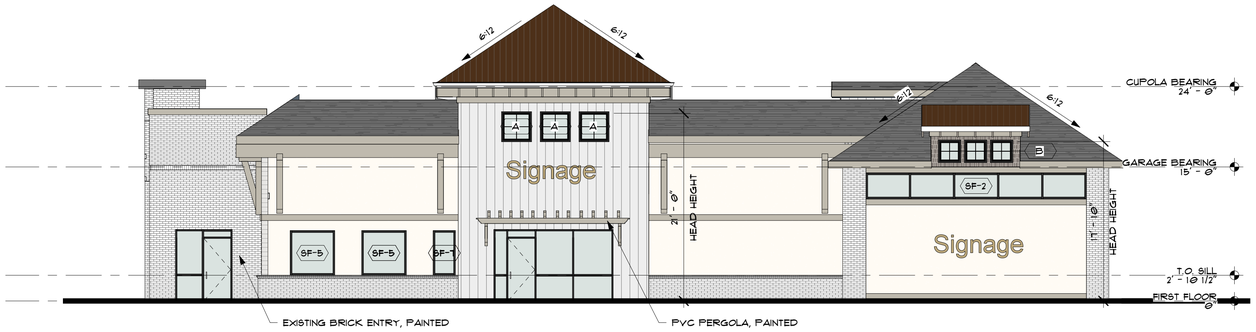
SHEET No. 4 OF 4

SCALE: AS NOTED

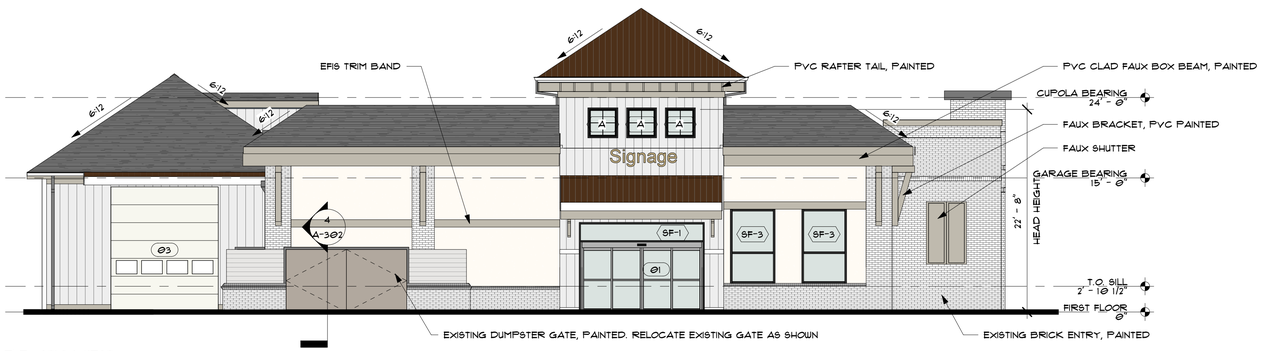
JOB No. 220574

FILE No. 4412

Date: 07/31/2023 – 9:50am User: mphillips Project Manager: TWG
Drawing Path: J:\2022\0500\220574\Civil3D–220574\Dwg\Plats\CSP–PLTS–220574.dwg | 4
XREF File(s): CSP–BASE–220574/VLD–BASE–220574/VSF–BASE–220574/CBS–BASE–24X36–220574/CEC–BASE–220574

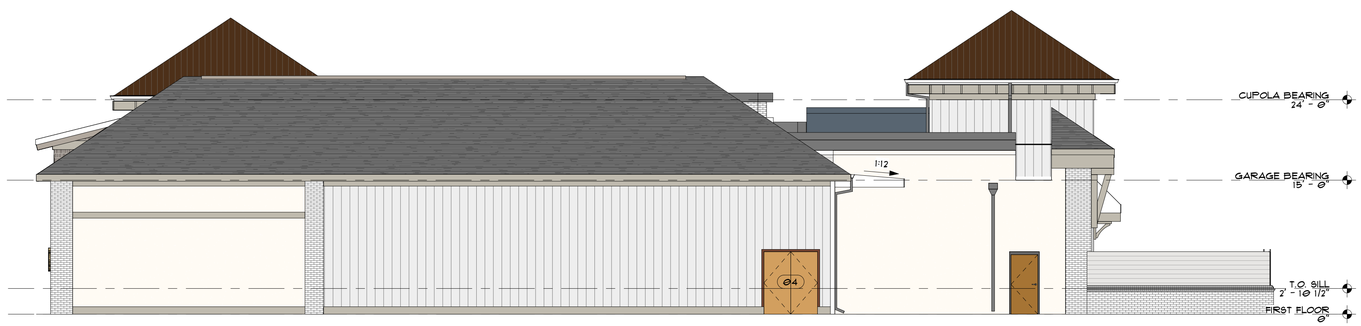


1 ELEVATION EAST
1/8" = 1'-0"



2 ELEVATION WEST
1/8" = 1'-0"

3 ELEVATION SOUTH
1/8" = 1'-0"



4 ELEVATION NORTH
1/8" = 1'-0"

ELEVATION NOTES

1. G.C. TO VERIFY ALL FINAL GRADE ELEVATIONS PRIOR TO EXTERIOR MATERIAL INSTALLATION
2. ALL MATERIALS USED ON THE BUILDING EXTERIOR TO BE SUBMITTED TO ARCHITECT/OWNER: VERIFY NECESSARY WATERPROOFING AND FLASHING FOR SYSTEMS
3. ALL PENETRATIONS IN THE BUILDINGS THERMAL BARRIER TO BE SEALED. ALL WIRES, PIPES, FIXTURES AND FASTENERS TO BE SEALED SO THAT NO GAPS EXIST
4. FILL AND PAINT ALL EXPOSED NAIL AND FASTENERS THAT EXIST IN EXTERIOR TRIM
5. VERIFY ALL FASTENERS IN BUILDING EXTERIOR ARE RATED FOR EXTERIOR EXPOSURE
6. VERIFY ALL METALS ARE COMPLIANT FOR THE USE AND ARE EXPOSED FOR USE WITH ADJACENT MATERIALS
7. CAULK AND SEAL AT INTERSECTION OF ALL DISSIMILAR MATERIALS
8. SEE GENERAL NOTES: THERMAL ENVELOPE ON A-301.
9. ROOF SHINGLES TO BE GAF TIMBERLINE HDZ OR SIMILAR.
10. METAL ROOF TO BE PAC-CLAD SNAPLOK 24 GAUGE ROOFING OR SIMILAR
11. FIBERCEMENT SIDING TO BE JAMES HARDIE OR SIMILAR. PROVIDE FACTORY FINISHED LAP, SHEET AND BATTENS. ALL FASTENER HOLES TO BE FILLED AND TOUCHED-UP WITH MANUFACTURER'S COLOR MATCHED KIT
12. FAUX SHAKE SIDING TO BE CERTAINTEED CEDAR IMPRESSIONS INDIVIDUAL 5" SAWMILL SHINGLES, CEDAR BLEND OR SIMILAR.
13. PVC TRIM AND SHEET TO BE AZEK OR SIMILAR. SMOOTH FINISH, CELLULAR PVC
14. COORDINATE DOWNSPOUT LOCATIONS & CONNECTIONS TO STORMWATER PIPING. REFER TO CIVIL DRAWINGS

ELEVATION MATERIAL SCHEDULE

FAUX SHAKE SIDING - NATURAL WOOD		RED BRICK TO MATCH EXISTING	
LAP FIBERCEMENT SIDING - CHARCOAL		WHITEWASHED BRICK	
LAP FIBERCEMENT SIDING - WHITE		EIFS FINISH - BEIGE	
BOARD & BATTEN FIBERCEMENT SIDING - WHITE		EIFS FINISH - TAUPE	
METAL ROOF - LIGHT GRAY		PVC TRIM - TAUPE	
ASPHALT SHINGLE - GRAY		PVC TRIM	

FISHER ARCHITECTURE
Fisher Architecture, LLC
542 Riverside Drive
Salisbury, MD 21801
(410) 742-0238

SEAL:

PROFESSIONAL CERTIFICATION:
I 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.: 0013955
EXPIRATION NO.: 09.23.2024

THE DOCUMENTS PREPARED BY FISHER ARCHITECTURE, LLC, ARE SOLELY FOR THE PURPOSES OF THE SPECIFIED PROJECT. THEY ARE NOT INTENDED OR AUTHORIZED FOR USE ON ANY OTHER PROJECT. FISHER ARCHITECTURE, LLC MAKES NO REPRESENTATION AS TO THEIR SUITABILITY FOR ANY OTHER USE. ALL PROJECT DOCUMENTS PREPARED BY FISHER ARCHITECTURE, LLC ARE INSTRUMENTS OF PROFESSIONAL SERVICE IN RESPECT OF THE PROJECT. THESE DOCUMENTS ARE, AND SHALL REMAIN, THE PROPERTY OF FISHER ARCHITECTURE, LLC.

CONSULTANTS:

AUSTIN MEDICAL SUPPLY

29311 CECIL RD
EASTON, MD 21601

SHEET INFO:

ELEVATIONS

REV	REV DATE	DESCRIPTION
3	2023.05.02	Issued For Permit
2	2023.05.01	CD Set to Ownership
1	2023.03.13	DD Set to Ownership

DATE:	2023.02.03
PROJECT NO.	2022166
SCALE:	As indicated
PROJ MGR:	L. White
DRAWN BY:	Author

SHEET NUMBER:

A-201

TOWN OF EASTON

14 South Harrison Street
Easton, Maryland 21601

August 2, 2023

Dear Resident,

The Easton Planning Commission will hold a public meeting on **Thursday, August 17, 2023 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 2023-976 has been filed on behalf of Austin Medical Supplies at 29311 Cecil Drive to request Sketch Site Plan approval for a proposed 2,334 sq ft. building addition for storage space with the interior fit-out for the sale and storage of medical supplies.

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 are also available for review 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 e-mail at ssmith@eastonMD.gov.

Samantha N. Smith

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

APG Media of Chesapeake, LLC **07/31/23**
29088 Airpark Drive
Easton, MD 21601

Phone: Fax:
http://www.chespub.com

Cust. AcctID:	Creation Date: **07/31/23**
	Ad Date: **08/02/23**
	Class: **10**
Name: **Joanne Drummer**	Ad ID:
Company: **TOWN OF EASTON (L)**	Ad Taker: **AHALL**
Address: **PO Box 520**	Sales Person: **503**
EASTON, MD 21601	Words: **435**
	Lines: **75**
	Agate Lines: **342**
Telephone: **(410) 822-2525**	Depth: **9.5**
Email:	Inserts: **2**
Description: **Planning Comm Meeting**	Blind Box:

Other Charges:	Total:
Discount:	
Surcharge:	Paid Amount:
Credits:	
Bill Depth:	Amount Due:

CREDIT CARD DETAILS

PT	CT	CN	Number	Exp.	Amnt.

Publication	Start	Stop	Inserts	Cost
The Star Democrat	08/02/23	08/02/23	1	

Planning Commission
MEETING AGENDA
Thursday, August 17, 2023 - 1:00 PM Council
Council Chambers, Easton Town Office
14 S Harrison Street

Please continue to check our website at:
https://eastonmd.gov/128/Agendas-Minutes
for agenda updates.

1. Call to Order

2. Approval of Minutes.

a. Approval of the Decision Summary from the July 20, 2023 meeting.

b. Approval of the Draft Decision Summary from the April 4, 2023 Poplar Hill Supplemental Growth Allocation joint public hearing.

3. Old Business

a. **Applicant:** Rise Up Dover Road LLC
File No.: 2023-870
Location: 625 Dover Road
Tax Map 103, Grid 0EA, Parcel 0990
Zoning District: R-7A
Nature of Request: Amendment to a previously approved Planned Unit Development (PUD) that would allow a shade structure to remain standing at 625 Dover Road on a seasonal basis without having to apply each year for a temporary use permit approval. The applicant is also requesting approval for the addition of a kitchen facility and walk-up cafe to the existing property at 625 Dover Road, also known as Tax Map 103, Parcel 0990.

b. **Applicant:** Aspire Outdoors, LLC
File No.: 2023-004
Location: Camac Street
Tax Map 026, Grid 020, Parcel 0186
Zoning District: R-10A
Nature of Request: Sketch Site Plan approval for a proposed six-building apartment complex with a total of 162 units to be developed on the property located on Camac Street, also known as Tax Map 0026, Grid 0020, Parcel 0186. The proposed project also requires Special Exception and Variance approvals from the Board of Zoning Appeals and the applicant is seeking a formal recommendation from the Planning Commission to the Board.

4. New Business

a. **Applicant:** Easton Utilities Commission
File No.: 2023-882
Location: 8670 Commerce Drive
Tax Map 101, Grid 002, Parcel 004, Lot 3
Zoning District: BC
Nature of Request: Sketch Site Plan approval for a new water treatment plant processing building.

b. **Applicant:** Lane Engineering
File No.: 2023-976
Location: 29311 Cecil Drive - Austin Medical Supplies
Tax Map 025, Grid 024, Parcel 0089, Lot 4
Zoning District: CL
Nature of Request: Sketch Site Plan approval for a proposed 2,334 sq ft. building addition for storage space with the interior fit-out for the sale and storage of medical supplies.

c. **Applicant:** Robert S. Collison, P.A.
File No.: 2023-963
Location: 9719 Ocean Gateway
Tax Map 0025, Grid 0006, Parcel 0113,
Current County Zoning District: GC
Requested Town Zoning District: CG
Nature of Request: Petition for the Annexation of 3.25 acres of property located at 9719 Ocean Gateway, Easton, Maryland with a formal recommendation to the Town Council on the Annexation and the appropriate zoning classification.

5. Discussion Item

6. Adjournment.

3030137 SD 8/2/2023

Ad Note:

Sign posted on August 2, 2023

Customer Note:

We Appreciate Your Business!
Thank You Joanne Drummer!

ROBERT S. COLLISON, P.A.
Attorney at Law
311 High Street
Post Office Box 1176
Cambridge, Maryland 21613

Robert S. Collison, Esquire
rob@cambridgetitle.net

Phone 410-228-1911
Fax 410-228-0010

August 1 2023

Lynn B. Thomas, Jr., AICP
Town Planner
14 South Harrison Street
Easton, MD 21601

RE: Petition for Annexation; Tax Map 25; Parcel 113; 9719 Ocean Gateway

Dear Lynn:

I had previously received notice that the above-referenced annexation was being placed on the agenda for the Planning Commission of Easton at its meeting scheduled for August 17, 2023. Unfortunately, both myself and Mr. Singh, the owner/applicant will be traveling and unavailable on that date.

Please accept this letter as our formal request to have the matter rescheduled for the September meeting of the Planning Commission if the agenda will permit it.

Please do not hesitate to contact me should you have any questions.

Sincerely,

/s/ Robert S. Collison

Robert S. Collison, Esq.

TOWN OF EASTON

14 South Harrison Street
Easton, Maryland 21601

August 2, 2023

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The Easton Planning Commission will hold a public meeting on **Thursday, August 17, 2023 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 the Easton Planning Commission will meet to discuss a Petition for Annexation application filed on behalf of Basi Brothers, LLC for the annexation of the property located at 9719 Ocean Gateway, Easton, Maryland; Tax Map 0025, Parcel No. 0113.

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 are also available for review 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 e-mail at ssmith@eastonMD.gov.

Samantha N. Smith

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

APG Media of Chesapeake, LLC **07/31/23**
29088 Airpark Drive
Easton, MD 21601

Phone: Fax:
http://www.chespub.com

Cust. AcctID:	Creation Date: **07/31/23**
	Ad Date: **08/02/23**
	Class: **10**
Name: **Joanne Drummer**	Ad ID:
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EASTON, MD 21601	Words: **435**
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	Agate Lines: **342**
Telephone: **(410) 822-2525**	Depth: **9.5**
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Description: **Planning Comm Meeting**	Blind Box:

Other Charges:	Total:
Discount:	
Surcharge:	Paid Amount:
Credits:	
Bill Depth:	Amount Due:

CREDIT CARD DETAILS

PT	CT	CN	Number	Exp.	Amnt.

Publication	Start	Stop	Inserts	Cost
The Star Democrat	08/02/23	08/02/23	1	

Ad Note:

Customer Note:

We Appreciate Your Business!
Thank You Joanne Drummer!

Planning Commission
MEETING AGENDA
Thursday, August 17, 2023 - 1:00 PM Council
Council Chambers, Easton Town Office
14 S Harrison Street

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File No.: 2023-870
Location: 625 Dover Road
Tax Map 103, Grid 0EA, Parcel 0990
Zoning District: R-7A
Nature of Request: Amendment to a previously approved Planned Unit Development (PUD) that would allow a shade structure to remain standing at 625 Dover Road on a seasonal basis without having to apply each year for a temporary use permit approval. The applicant is also requesting approval for the addition of a kitchen facility and walk-up cafe to the existing property at 625 Dover Road, also known as Tax Map 103, Parcel 0990.

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Applicant: Aspire Outdoors, LLC
File No.: 2023-004
Location: Camac Street
Tax Map 026, Grid 020, Parcel 0186
Zoning District: R-10A
Nature of Request: Sketch Site Plan approval for a proposed six-building apartment complex with a total of 162 units to be developed on the property located on Camac Street, also known as Tax Map 0026, Grid 0020, Parcel 0186. The proposed project also requires Special Exception and Variance approvals from the Board of Zoning Appeals and the applicant is seeking a formal recommendation from the Planning Commission to the Board.

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File No.: 2023-976
Location: 29311 Cecil Drive - Austin Medical Supplies
Tax Map 025, Grid 024, Parcel 0089, Lot 4
Zoning District: CL
Nature of Request: Sketch Site Plan approval for a proposed 2,334 sq ft. building addition for storage space with the interior fit-out for the sale and storage of medical supplies.

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Applicant: Robert S. Collison, P.A.
File No.: 2023-963
Location: 9719 Ocean Gateway
Tax Map 0025, Grid 0006, Parcel 0113,
Current County Zoning District: GC
Requested Town Zoning District: CG
Nature of Request: Petition for the Annexation of 3.25 acres of property located at 9719 Ocean Gateway, Easton, Maryland with a formal recommendation to the Town Council on the Annexation and the appropriate zoning classification.

5. Discussion Item

6. Adjournment.

3030137 SD 8/2/2023

TOWN OF EASTON

Planning & Zoning Department
14 South Harrison Street
P.O. Box 520

STAFF MEMORANDUM

To: Easton Planning and Zoning Commission
From: Joseph Mayer, Plan Reviewer
Date: August 17, 2023
Subject: **#4d - Amendment for Temporary Use Approval for a Tent and Kitchen FacilityFor Rise Up Coffee at 625 Dover Road**

Rise Up Coffee is returning to you for a PUD amendment seeking an approval that will permit the shade structure (tent) on a seasonal basis without having to seek a temporary use approval each year and for the permanent use of the "Mad Eggs" kitchen facility and a similarly sized walk-up cafe' on site at 625 Dover Road. The applicant intends to add the kitchen facility on the property this year, and to then add the walk-up cafe' in the near future. Both the kitchen facility and walk up cafe' will be manufactured from repurposed shipping containers. The kitchen will replace the food service functions currently provided by the existing trolley unit at 618 Dover Road. The kitchen and walk-up cafe will need a Building, Plumbing, Electrical, HVAC and possibly a Cooking Hood and Gas permit. The Health Department and Building Inspection Division will require both structures to hook up to public water & sewer and have a permanent foundation. In summary, from the past Planning Commission approval on April 20, 2023, Rise Up was approved for their temporary seasonal request through November 30, 2023 with the following conditions:

1. At the end of the temporary approval period, the tent and kitchen facility will be taken down and stored offsite.
2. All tripping hazards will be removed as deemed necessary by the Building Inspection Division.
3. Music from the loudspeakers is not to be played prior to 8 a.m. or after 7 p.m.
4. The restroom, tables and chairs may all remain in place and ready for use.

5. The applicant shall obtain a building permit for the temporary structures. In addition, approval from the Fire Marshal, Talbot County Health Department and Easton Utilities Commission is required.
6. The applicant shall produce mechanical equipment screening at the top of the temporary structure as deemed appropriate by staff and the Commission..

Rise Up Coffee is seeking a recommendation from the Planning Commission to the Town Council for the amendment of PUD, Zoning Ordinance No. 715 for a material change to grant a permanent approval for the shade structure (tent), the "Mad Eggs" kitchen facility and the walk-up cafe'.

RECOMMENDATION:

Staff recommends that you forward a recommendation to the Town Council with conditions:

1. The tent's time limit will be established as March 1st through November 30th and will be taken down and stored offsite on November 30th..
2. When the tent is disassembled, all tripping hazards will be removed as deemed necessary by the Building Inspection Division.
3. Music from the loudspeakers is not to be played prior to 8 a.m. or after 7 p.m.
4. The restroom, tables and chairs may all remain in place and ready for use.
5. Rise Up is required to obtain a building permit for the Mad-Eggs facility and walk-up cafe'. In addition, approval from the Fire Marshal, Talbot County Health Department and Easton Utilities Commission is required.
6. Upon completion of proposed work, the applicant shall coordinate with the Town's Engineering Department to proceed to the As-Built phase of the project to begin closing out the grading permit. The applicant will be required to submit As-builts for review.
7. Upon installation of the 'Mad Eggs" kitchen facility, the Town Planner may determine that mechanical equipment screening at the top of the structure is necessary and shall retain the right to seek approval/denial from the Planning Commission.

Joseph A. Mayer
Plan Reviewer
Planning & Zoning Department
Town of Easton
14 S. Harrison Street
Easton, Maryland 21601
Phone: 410-820-8822
jmayer@eastonMD.gov

TOWN OF
EASTON
ENGINEERING DEPARTMENT

DATE:	**August 10th, 2023**
TO:	**Rise Up - Owner**
	Zach Smith - Attorney
Cc:	**Rick Van Emburgh – Town Engineer**
	Miguel Salinas – Planning and Zoning Department
	Aaron Goller - EUC
FROM:	**Sierra Clem – Engineering Department**
SUBJECT:	**625 Dover Road - Rise Up - Temporary and Permanent Tent Requests**

Our office has reviewed the request for the tent and structures at 625 Dover Road - Rise Up to remain permanent in place of the approved building. The Engineering Department does not have any comment on the nature of this request.

The Engineering Department has noted that the Stormwater Management features and access to Town ROW were installed per the 2020-03-31 Approved Site Plans.

If the request is approved by the Planning Commission to accept the tent and structures as the permanent facility for Rise Up, our office will direct the applicant to proceed to the As-Built phase of the project to begin closing out the grading permit. The applicant will be required to submit As-builts for review.

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

ARMISTEAD, LEE, RUST & WRIGHT, P.A.
ATTORNEYS AT LAW

114 Bay STREET, BUILDING C
EASTON, MARYLAND 21601

TELEPHONE: (410) 819-8989
FACSIMILE: (410) 822-4787

EMAIL ADDRESS
ZACHSMITH@ALRWLAW.COM

July 26, 2023

Miguel Salinas, Director
Planning and Zoning
Town of Easton
14 S. Harrison Street
Easton Maryland 21601

Re: PUD Amendment for Rise Up Coffee Roasters
625 Dover Road Easton, Maryland

Dear Miguel:

Pursuant to our recent discussions, enclosed please find ten (10) copies of an application to amend the PUD approval for the Rise Up site located at 625 Dover Road. For the past two (2) years Rise Up has seasonally erected a shade structure over its outdoor seating area at this location, pursuant to temporary approvals issued by the Planning Commission. The shade structure has worked extremely well and has been very well received by the community. Accordingly, Rise Up desires to continue utilizing the shade structure moving forward, and hopes to avoid having to apply each and every year for a temporary approval. Additionally, to further enhance the outdoor seating area Rise Up desires to establish a Mad Eggs kitchen facility and a walk-up café on the site. These additions will allow Rise Up to better serve customers and will free up much needed space at its roasting facility located at 618 Dover Road. Both the new kitchen facility and the walk-up café will be manufactured from repurposed shipping containers. Rise Up is super excited about both the aesthetics and the function of these units. As we have discussed, shipping containers have been very successfully deployed in other similar situations, and contribute positively to creating an interesting and desirable sense of place. Initial feedback from the public on this initiative has been very positive!

Rise Up understands that permitting the above-described facilities must be approved as an amendment to the PUD for this site. The enclosed application is intended to facilitate the needed approval. Please process this application and let me know if anything further may be required.

Note, please recall that Rise Up originally submitted this request as a PRD application, and that Rise Up paid the application fee at that time. After discussion with your office, Rise Up was directed to instead submit the request as a PUD amendment. Because Rise Up has already paid the application fee, we understand that no additional fee is required at this time.

Thank you for your continued support of Rise Up! We look forward to discussing the request further with your team, the Planning Commission and the Town Council.

Sincerely,

Zach A. Smith

cc: Rise Up Coffee Roasters

RECEIVED
JUL 26 2023
TOWN OF EASTON

RECEIVED
JUL 26 2023
TOWN OF EASTC

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	N/A			
Original Property Size	Acres		Square Feet	
Telephone No.		Email		

Site Plan Information

Property Size	Acres	1.089 AC	Square Feet	
Structure's Floor Area			Structure's Square Feet	(See Attached)
Area of Disturbance			Number of Dwelling Units	

Property Information

Address	625 Dover Road, Easton, Maryland 21601						
Tax Map	103	Grid		Parcel	990	Lot	
Deed Refernce:	Liber	2774	Folio	440			
Plat Reference:	Liber	87	Folio	44			
Base Zoning District	PUD	Historic Y ☐ N ☒		Planned Redevelopment Y ☒ N ☐			
Source of Electricity	Easton Utilities						

Owner

Name	Rise Up Dover Road LLC		
Mailing Address	618 Dover Road, Easton, Maryland 21601		
Telephone No.		Email	

Applicant or Agent

Name	Rise Up Coffee Roasters c/o Zach Smith		
Mailing Address	114 Bay Street, Building C, Easton Maryland 21601		
Telephone No.	410-819-8989	Email	zachsmith@alrwlaw.com

Surveyor / Engineer

Name	N/A	License No.		Expiration Date	
Mailing Address					
Telephone No.		Email			

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 7/26/23

Printed Name of Applicant or Agent Zachary A. Smith

For Office Use Only

Planning Commission Required	Y ☒ N ☐		
Planning Commission Meeting Date	08/17/2023		
Sketch Approval Date		Project No.	PUD 23-01
Prelim/Dev. Approval Date		Application No.	2023-870
Final Approval Date		Sketch Fee Paid	
Recordation Date		Develop. Fee Paid	

Revised 02-2019

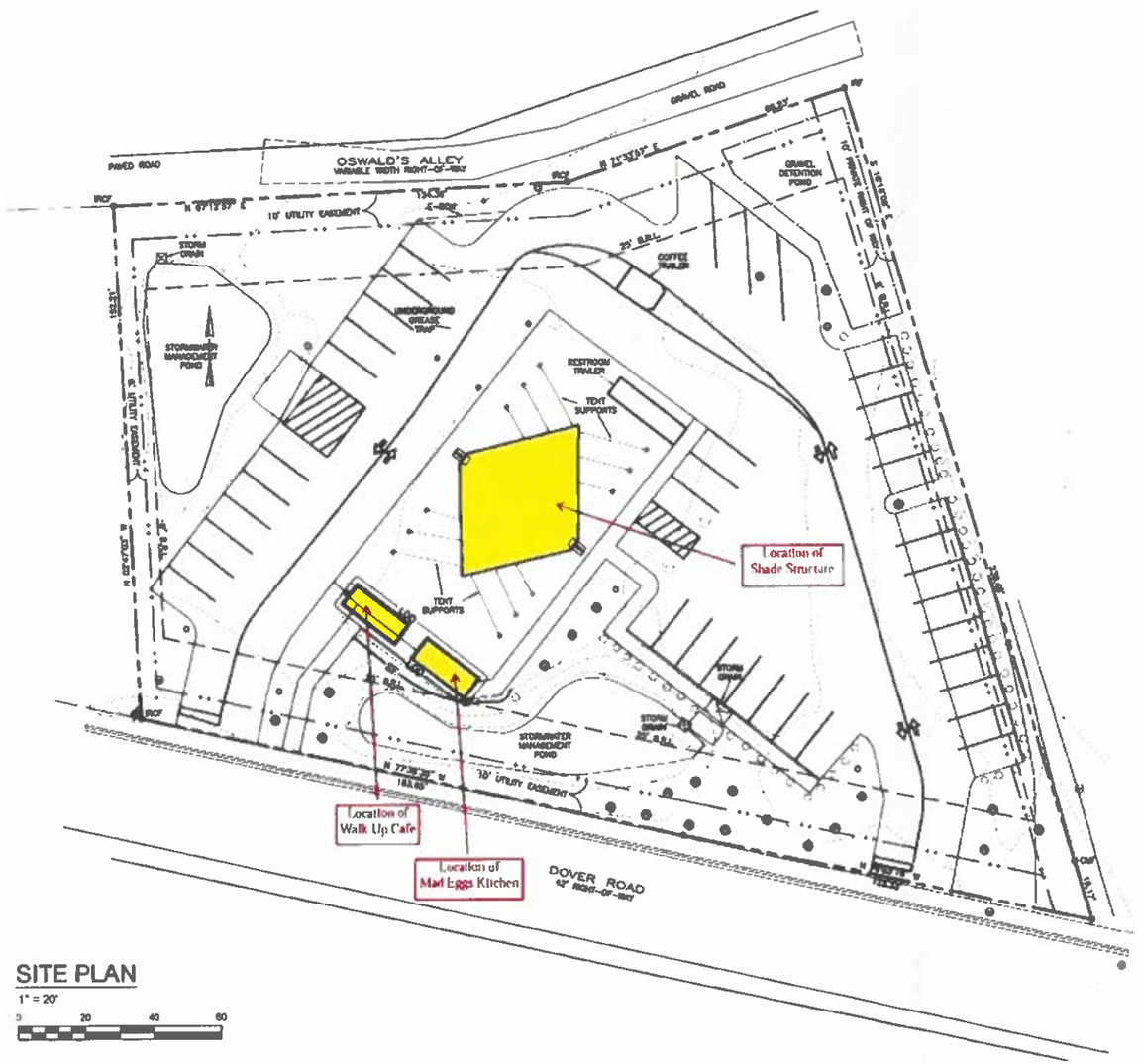
PURPOSE OF APPLICATION

Rise Up Coffee Roasters ("Rise Up") seeks to amend the PUD zoning for 625 Dover Road ("Property"). The Property is improved with an outdoor seating area, drive-up coffee kiosk, restroom facility, commercial parking lot/maneuvering area, landscaping and stormwater management features. Over the last several years Rise Up has sought and obtained temporary approvals from the Planning Commission to seasonally cover the outdoor seating area with a shade structure. The covered outdoor seating area has been highly utilized and very well received by the community. Accordingly, Rise Up desires to continue with this set up for the foreseeable future. Also, to better serve its customers, Rise Up intends to add a "Mad Eggs" kitchen facility on the Property this year, and to then add a separate similarly sized facility for a walk-up café in the near future. The Mad Eggs kitchen facility has also received a temporary approval from the Planning Commission for this year, running concurrent with the temporary approval for the shade structure. The walk-up café has not yet been manufactured and therefore is not included in the temporary approval.

To avoid having to continue seeking temporary approvals each year for the above-described facilities, Rise Up seeks an amendment to the PUD that will grant a permanent approval for: (i) the shade structure, (ii) the Mad Eggs kitchen facility, and (iii) the walk-up café.

The above-described facilities are shown and labeled on the site plan attached hereto as **Exhibit A**. A photograph of the shade structure is included as **Exhibit B**. Interior and exterior elevations for the Mad Eggs kitchen facility are shown on **Exhibit C**. The exterior graphics for the Mad Eggs kitchen facility are included as **Exhibit D**. Specific plans for the walk-up café have not yet been finalized, but the size and configuration of the walk-up café unit will be very similar to the Mad Eggs unit.

Exhibit A



SITE PLAN

1" = 20'

0 20 40 60

LEGEND

EXISTING	PROPOSED
PROPERTY LINE	
B.R.L. AND BUFFERS	
EASEMENT	
PARCEL LINES	
OVERHEAD UTILITY LINES	
FENCE	
EXISTING ELEVATION CONTOUR	
SWALE	
TELECOM PEDESTAL	
LIGHT POLE	
WATER METER	
MANHOLE	
SEWER MANHOLE	
SEWER VALVE	
UTILITY POLE	
SHRUB	
TREE	
PAVED AREA	
GRAVEL AREA	
LANDSCAPING	
CONCRETE AREA	
STORMWATER POND	
BUILDING	

CMF DENOTES CONCRETE MONUMENT FOUND
IRF DENOTES IRON ROD FOUND
IRCF DENOTES IRON ROD WITH CAP FOUND

DAVIS BOWEN & FRIEDEL, INC.
ARCHITECTS · ENGINEERS · SURVEYORS

General Notes

Revision

Project
RISE UP COFFEE ROASTERS

618 DOVER ROAD
EASTON, MARYLAND 21601

Sht No

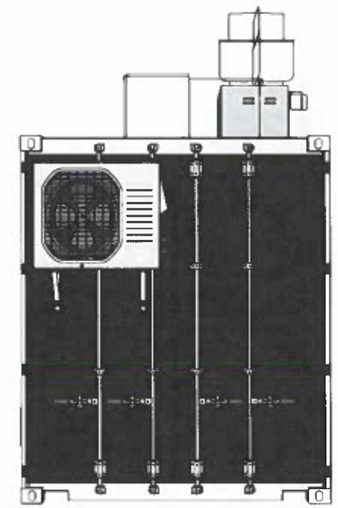
Sheet Title
SITE PLAN

Proj No: 4841A001.B01
Scale: AS NOTED
Sheet No: C1
Dwn By: CAM/BB
Date: 04/28/22

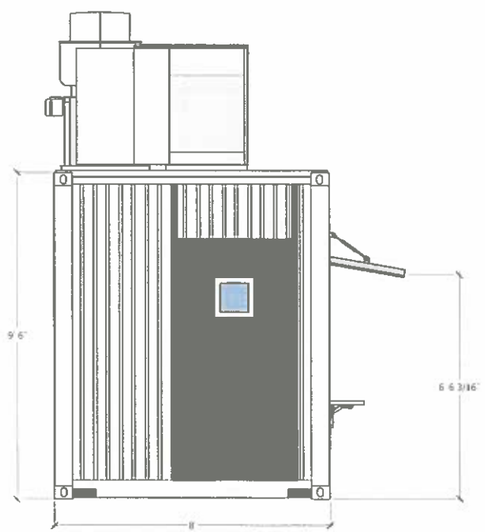
Exhibit B

Exhibit C

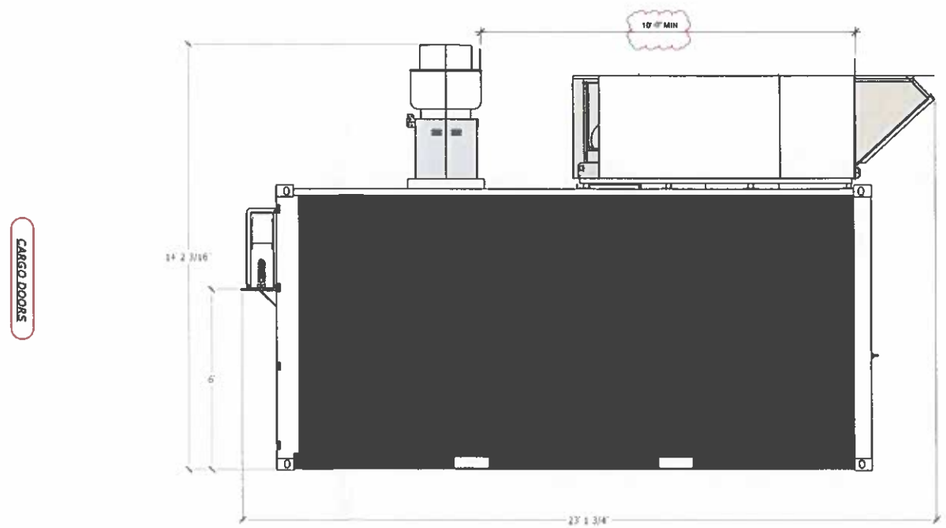
1 FRONT



2 CARGO DOOR END



3 MAN DOOR END



4 BACK

NOTE: DESIGN PER PERMANUFACTURED CONTAINER PROVIDED BY ROXBOX

ROXBOX
ROXBOX
4721 Ironton St. Suite A
Denver, CO 80239

RISE UP / MADD EGGS
20' HC KITCHEN

OVERVIEW

THIS DRAWING HAS NOT BEEN PUBLISHED BUT RATHER HAS BEEN PREPARED BY ROXBOX CONTAINERS FOR USE BY THE CLIENT NAMED IN THE TITLE BLOCK SOLELY IN RESPECT OF THE CONSTRUCTION, OPERATION AND MAINTENANCE OF THE FACILITY NAMED IN THE TITLE BLOCK AND SHALL NOT BE USED FOR ANY OTHER PURPOSES OR FURNISHED TO ANY OTHER PARTY WITHOUT THE EXPRESS CONCENT OF ROXBOX CONTAINERS

DRAWN BY: SB
DESIGNED BY: SB
DATE: 1/27/2022
REVISIONS
REV 22
PROJECT NUMBER 1163
S 02

Design Consultant
ARCHITECTURE
INNOVATION & DESIGN IN ARCHITECTURE, Inc.
115 PINE AVE, SUITE 250
Long Beach, CA 90802
www.idarchitecture.com

Architect
GEOFFREY B. LIM
AIA, NCARB, LEED AP

Engineering Consultant

Stamp
04/15/22

NEW CONSTRUCTION
ROXBOX
4721 IRONTON ST. SUITE A
DENVER, CO 80239

Project Address
MADD EGGS
625 DOVER ROAD
EASTON, MD 21601

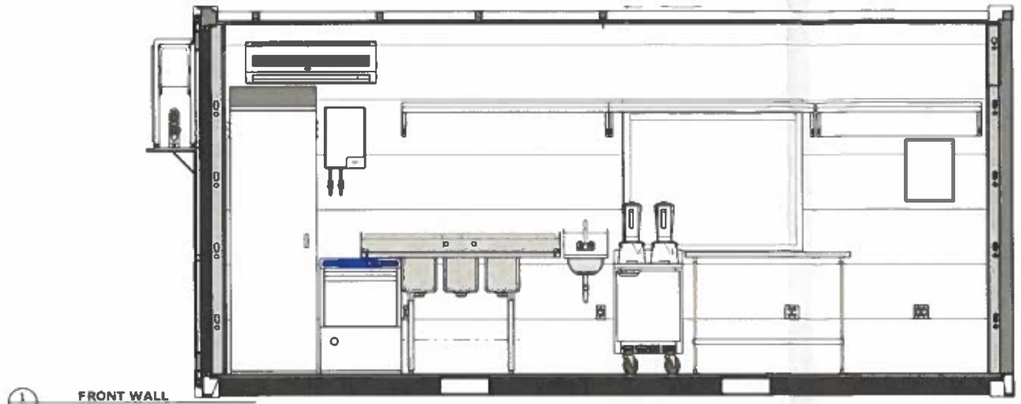
Issue For
PERMIT
Issue Date
04/15/2022
Revisions

NO.	REASON	DATE
1	PLAN CHECK CORRECTIONS	JUNE 30 2022

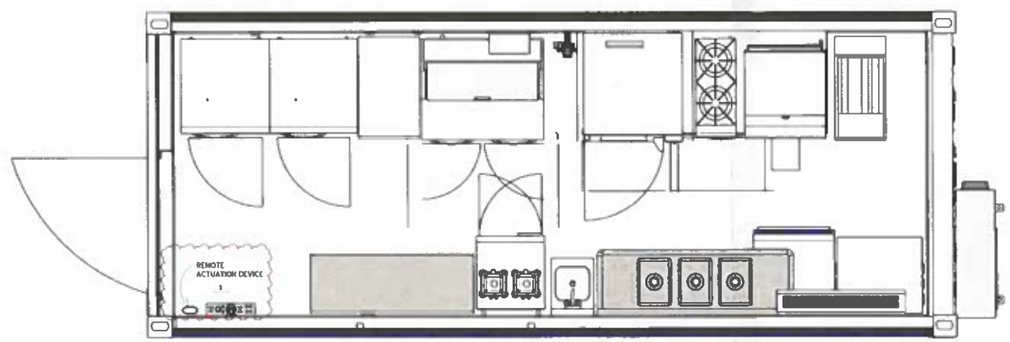
Principal In Charge
Project Manager
Drawn By
Project Number
199-001-22
Sheet Title
OVERVIEW

APPROVED
RADCO
Aug 04, 2022
APPROVED

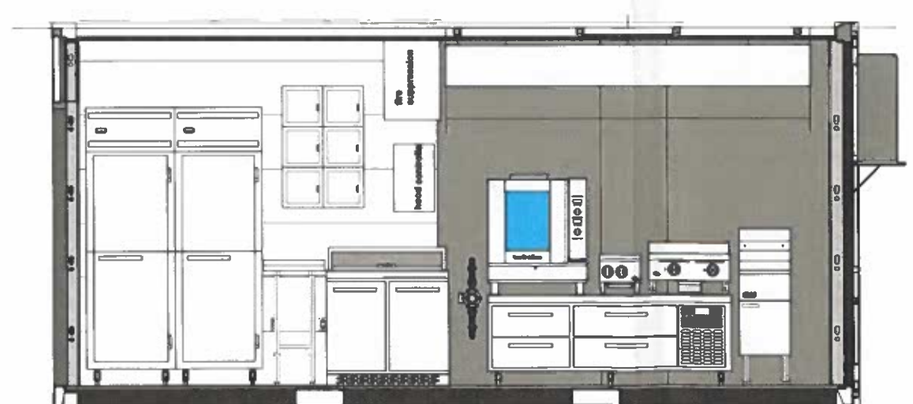
Sheet Number
S 02



1 FRONT WALL



2 PLAN VIEW



3 BACK WALL

NOTE: DESIGN PER PERMANUFACTURED CONTAINER PROVIDED BY ROXBOX

ROXBOX

ROXBOX
4721 Ironton St. Suite A
Denver, CO 80239

RISE UP / MADD EGGS 20' HC KITCHEN

SECTION PLANES

THIS DRAWING HAS NOT BEEN PUBLISHED BUT RATHER, HAS BEEN PREPARED BY ROXBOX CONTAINERS FOR USE BY THE CLIENT NAMED IN THE TITLE BLOCK SOLELY IN RESPECT OF THE CONSTRUCTION, OPERATION AND MAINTENANCE OF THE FACILITY NAMED IN THE TITLE BLOCK AND SHALL NOT BE USED FOR ANY OTHER PURPOSES OR FURNISHED TO ANY OTHER PARTY WITHOUT THE EXPRESS CONCENT OF ROXBOX CONTAINERS

DRAWN BY: SB
DESIGNED BY: SB
DATE: 1/27/2022

REVISIONS

REV 22

PROJECT NUMBER 1163

S 03

Design Consultant

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Long Beach, CA 90802
www.ideaexperience.com

Architect

GEOFFREY B. LIM
AIA, NCARB, LEED AP

Plans, maps, specifications, studies, and reports not bearing a seal imprint accompanied by an original signature by the licensed professional may have been fraudulently altered and shall not be considered an original copy. All information should be durably and utilized verified by the professional whose signature appears below.
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Engineering Consultant

Stamp

STATE OF MARYLAND
GEOFFREY B. LIM
No. 30000
ARCHITECT
04/15/22

NEW CONSTRUCTION

ROXBOX
4721 IRONTON ST. SUITE A
DENVER, CO 80239

Project Address
MAD EGGS

625 DOVER ROAD
EASTON, MD 21601

Issue For
PERMIT

Issue Date
04/15/2022

Revisions

NO.	REASON	DATE
1	PLAN CHECK CORRECTIONS	JUNE 30 2022

Principal in Charge
JC

Project Manager
DB

Drawn By

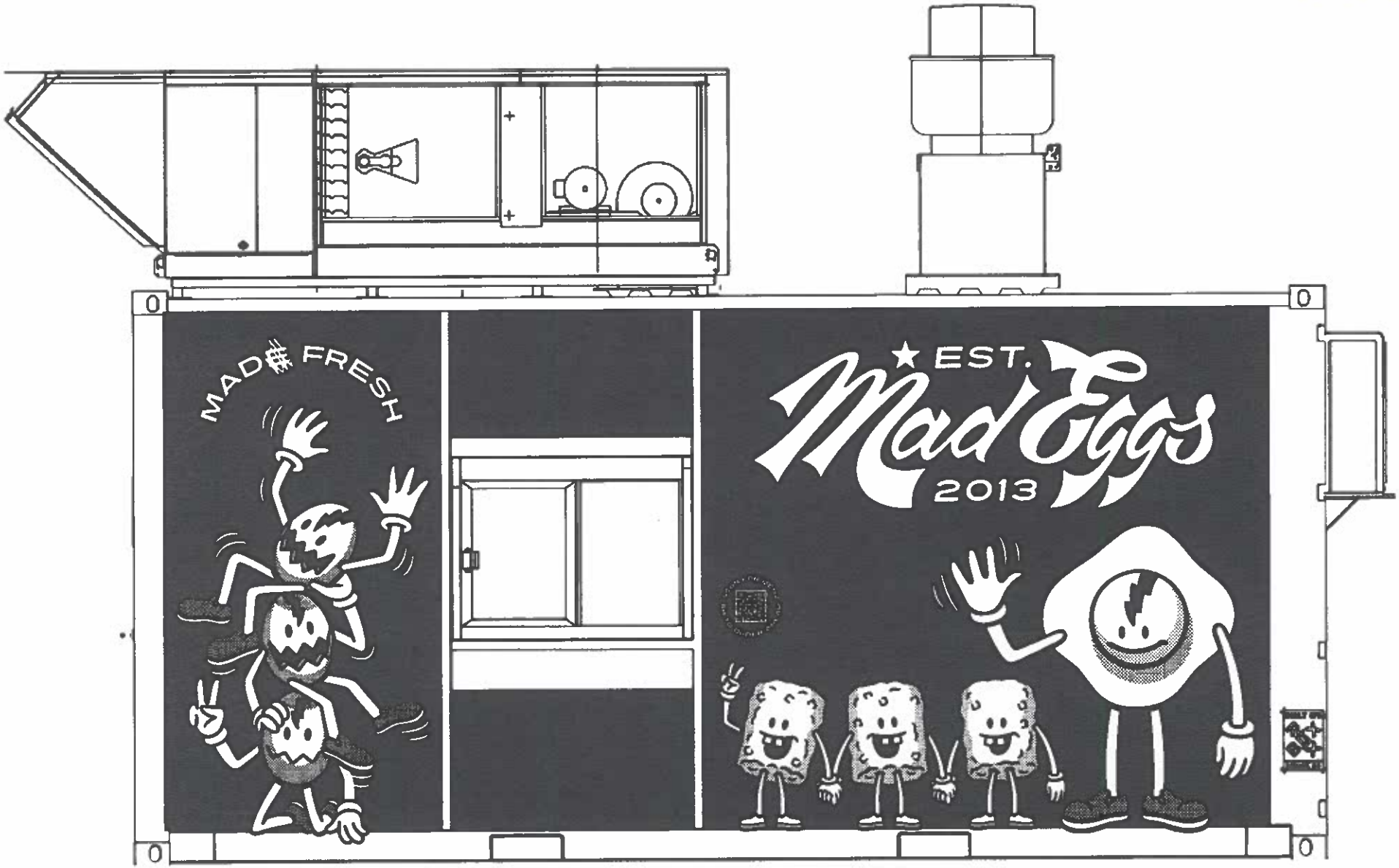
Project Number
199-001-22

Sheet Title
SECTION PLANS

APPROVED RADCO Aug 04, 2022 APPROVED

Sheet Number
S 03

Exhibit D



ORDINANCE NO. 715

AN ORDINANCE OF THE TOWN OF EASTON GRANTING THE APPLICATION OF RISE UP DOVER ROAD LLC FOR A PLANNED UNIT DEVELOPMENT UNDER THE PROVISIONS OF THE EASTON ZONING ORDINANCE

INTRODUCED BY Mr. Silverstein

WHEREAS, the Town of Easton is authorized by the Land Use Article of the Maryland Annotated Code (the "Code") to enact and administer a zoning ordinance, which ordinance is Chapter 28 of the Easton Town Code; and

WHEREAS, the Town is authorized by Section 4-201 *et seq.* of the Land Use Article of the Code to divide land within the municipal boundaries into zoning districts in a manner it deems best suited to execute the purposes of the Land Use Article; and

WHEREAS, Section 28-801 of the Easton Zoning Ordinance authorizes the Easton Town Council to approve, deny and amend Planned Unit Development ("PUD") zoning districts in order to encourage the development of land in certain areas of the Town according to a total development concept incorporating a detailed development plan; and

WHEREAS, Rise Up Dover Road LLC submitted an application to establish a PUD as described in the Town Council's findings of fact supporting this Ordinance and shown in detail on the plans referenced and attached hereto as Exhibit "A" (collectively, the "PUD Plan"). The PUD Plan is attached hereto as Exhibit "A" and the Findings of Fact are attached hereto as Exhibit "B"; both are incorporated herein.

WHEREAS, the Easton Town Council held a duly noticed public hearing regarding the PUD application and this Ordinance on September 5, 2017; and

WHEREAS, for the reasons expressed in the findings of fact of the Town Council, which are attached to this Ordinance as Exhibit "B", the Town Council concludes that the request for the PUD should be granted.

NOW, THEREFORE, the Town of Easton hereby ordains:

Section 1. The Findings of Fact attached hereto as Exhibit "B" are hereby incorporated into this Ordinance by reference.

Section 2. The application of Rise Up Dover Road LLC to establish a new PUD as depicted by Exhibit "A" and described by Exhibit B is hereby approved subject to the conditions set forth in Exhibit "B".

Section 3. Severability. The Easton Town Council intends that, if a court of competent jurisdiction issues a final decision holding that any part of this ordinance is invalid, the remaining provisions hereof remain in full force and effect.

Section 4. In accordance with Article II, Section 9 of the Easton Town Charter, this ordinance shall become effective twenty (20) calendar days after approval by the Mayor or passage of this ordinance by the Council over the Mayor's veto.

Silverstein	-	Yea
Lesher	-	Yea
Engle	-	Yea
Cook	-	Yea
Ford	-	Yea

I hereby certify that the above Ordinance was passed by a yea and nay vote of the Council this second day of October, 2017.

John Ford

John F. Ford, Town Council President

Delivered to the Mayor by me this third day of October, 2017.

Kathy M. Ruf

Kathy M. Ruf, Town Clerk

APPROVED: October 3, 2017

Date: October 3, 2017

Robert C. Willey

Robert C. Willey, Mayor

EFFECTIVE DATE: October 23, 2017.

EXHIBIT "A"

The following materials are referred to collectively as the "PUD Plan":

1. PUD Sketch Plan entitled "**PUD SKETCH PLAN OF RISE UP COFFEE ROASTERS TAX MAP 0103, GRID 000EA, PARCELS 986, 987, 988, 989, 990, 991, 992, & 993 FIRST ELECTION DISTRICT, TALBOT COUNTY, MARYLAND PREPARED FOR RISE UP DOVER ROAD LLC"** prepared by Rauch Inc. originally dated July 17, 2017 and revised through July 21, 2017; and

2. Architecture and floor plan drawings (4 pages total) untitled and undated.

COPIES ARE ON FILE AT THE TOWN OFFICE

EXHIBIT "B" TO ORDINANCE NO. 715

IN THE MATTER OF	:	BEFORE THE
	:	
THE APPLICATION OF	:	EASTON TOWN COUNCIL
	:	
RISE UP DOVER ROAD LLC	:	

FINDINGS OF FACT

During a meeting of the Easton Town Council held on September 5, 2017, a public hearing was held on the application of Rise Up Dover Road LLC[1] (the "Applicant") to create a new planned unit development ("PUD") in the Town of Easton to authorize the construction of an 8,000 square foot building to include a café, offices, and community meeting space for Rise Up Coffee. The subject property consists of eight parcels of land which are Parcels 986, 987, 988, 989, 990, 991, 992, and 993 on Talbot County Tax Map 103 (collectively, the "Property"). The Property is owned by Rise Up Dover Road LLC and is located across from the existing Rise Up Coffee establishment.

A. The PUD Amendment Application and the Public Hearing.

The Property is 1.09 acres more or less and is currently zoned R-7A Residential under the Easton Zoning Ordinance. The Property is located on Dover Road east of its intersection with Park Street. The Property is bounded on the north and west by residential properties and on the east by the Doverbrook Apartments. Across Dover Road and to the South is the existing Rise Up Coffee establishment and Park Place, a multi-use business building with a variety of businesses such as a pizzeria, the Department of Juvenile Services, a website design company, etc. Further to the southeast are additional residential properties. The Applicant is proposing to build an 8,000 square foot building to include a café, offices, and community meeting space. Roasting functions will remain at the existing location. The sketch plan was reviewed by the Planning Commission, which approved the sketch plan with some conditions, found the proposed PUD to be consistent with the Comprehensive Plan and unanimously recommended approval of the PUD to the Town Council. At the Town Council public hearing, the sketch plan shown had been changed to incorporate some of the Planning Commission's conditions and comments. The PUD sketch plan, along with the floor plan drawings, are Exhibit "A" to the ordinance to which these findings relate (the "PUD Plan"). The details of the PUD and the Council's reasons for supporting the PUD are set forth below.

[1] Technically, the application listed Rauch, Inc. as the Applicant, but they are the agent for Rise Up Dover Road LLC.

The Applicant was represented by Timothy Cureton, part of the Owner entity, Casey Rauch of Rauch Inc., who presented both testimonial and documentary evidence in support of the application. Following the close of the public hearing, during its regularly scheduled meeting on September 18, 2017, the Town Council developed a consensus concerning the application. The Council instructed the Town Attorney to prepare findings of fact reflecting these opinions and comments. In so doing, the Town Attorney has reviewed the evidence presented to the Council solely in the context of this application in order to set out the basis for the Council's decision.

B. Legal Background.

The Town of Easton Zoning Ordinance (the "Ordinance"), which is Chapter 28 of the Easton Town Code, establishes the Planned Unit Development (PUD) Zoning District for "carefully planned residential, mixed use and certain commercial developments at appropriate locations" in Easton.

The standards and regulations for PUD districts are found in Article VIII of the Ordinance. Section 28-801.A of the Ordinance explains that the PUD regulations are intended:

> . . . 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.

Section 28-801 sets out various development standards and procedures and, finally, establishes the standards by which PUD applications are reviewed by the Town Council. Section 28-801.C sets forth the uses that are permitted in a PUD District. Specifically, Section 28-801.C(2) provides that commercial uses are permitted in a PUD District, but they should be "oriented to benefit the residents of the neighborhood." Section 28-801.G articulates ten specific development standards, and authorizes the Town Council to modify the standards upon a showing by the applicant that the standard would place an undue burden upon the applicant and that compensation is provided by another means in the proposed project.

The PUD application procedure is described by Section 28-801.H. Upon receipt of a written recommendation by the Planning and Zoning Commission, the Council shall conduct a public hearing on the application. The Council shall consider, but is not bound by, the recommendation of the Commission. The Ordinance establishes seven standards that must be met as precondition to granting an application. If the Council affirmatively

finds that all preconditions have been met, the Council is then authorized but not required to grant the application. In making its decision, the Council:

> "may consider, in addition to the factors outlined above [i.e., the criteria set out in Section 28-801.H(3)B], other factors it deems appropriate including but not limited to the degree to which the proposed development:
>
> 1. helps accomplish the coordinated, adjusted, and harmonious development of the Town and its environs in accordance with present and future needs;
>
> 2. promotes health, safety, morals, order, convenience, prosperity, and general welfare; including among other things, adequate provisions for traffic, the promotion of public safety, adequate provisions for light and air, conservation of natural resources, the prevention of environmental pollution, the promotion of the healthful and convenient distribution of population;
>
> 3. exemplifies good civic design and arrangement and the stewardship of the Chesapeake Bay and the land as a universal ethic;
>
> 4. encourages the conservation of resources, including a reduction in resource consumption;
>
> 5. is located in a location suitable for it given existing and reasonably foreseeable development; and
>
> 6. encourages appropriate and sustainable economic growth."

These six enumerated standards are paraphrases of the statement of intent of the Ordinance found in Section 28-103. In short, the Ordinance sets out a two-step decision-making process: first, the Council must determine whether or not an application satisfies certain minimum criteria and, if it does, then the Council considers whether to grant or deny the application based upon relevant factors including the degree to which the application satisfies the standards enunciated by the General Assembly as goals for land use planning in this State.

C. Does the Proposed Development Meet the Minimum Criteria Set Out in the Easton Zoning Ordinance for PUD Development?

As required by Section 28-801.H(3)A of the Ordinance, the Town Council makes the following findings of fact with regard to the application:

1. The Town Council finds that the Property was properly posted and that adequate legal notice of the public hearing was published in the Easton Star-Democrat.

2. The Town Council finds that the proposed development conforms to applicable standards set forth in this Zoning Ordinance for planned unit developments. In particular, the Town Council finds that the development standards set forth in Section 28-801.G of the Ordinance are satisfied as follows:

(1) The land comprising the Property is in one ownership. Specifically, the Property is owned by Rise Up Dover Road LLC.

(2) The Property is of a configuration suitable for the development proposed. The size and configuration of the Property and the proposed site plan are suitable to accommodate the 8,000 proposed building in a manner consistent with applicable Town design guidelines and requirements.

(3) Public water and sewer systems are available to the Property for service of the PUD.

(4) The Property is adjacent to adequate transportation facilities capable of serving existing traffic and that expected to be generated by the proposed development. The PUD site has frontage on Dover Road. The Property is walkable to the downtown, and is very close to the Town's Rail-Trail network for pedestrian and bicycle access.

(5) The Applicant confirmed that it intends to begin construction of the development within one (1) year after final approval of the PUD.

(6) The Property has an area of 1.09 acres, which is below the 5 acre requirement. However, the Zoning Ordinance allows smaller sites if the PUD is compatible with existing development in the area and does not disrupt the orderly expansion of the transportation system of the Town. The PUD is compatible with the existing development in the area including the residential properties immediately surrounding it. It is merely an expansion of the existing use across the street. The PUD will not cause disruption of the orderly expansion of the transportation system.

(7) No residential units are proposed, so the maximum permitted residential density is not applicable.

(8) The proposed project does satisfy the 30% common open space requirement with a proposed common open space of 41.87%. The Applicant, or its successors in interest, will be responsible for the continued maintenance of the open space areas.

(9) Bulk standards (setback, lot size, lot coverage, and yard requirements), are hereby established as depicted on the PUD Plan and are as follows:

The minimum front and rear setback shall be 25 feet. The minimum side setback shall be 8 feet. The maximum height shall be 40 feet. The parking setback shall be 8 feet.

(10) Pursuant to Section 28-1001 of the Ordinance, 53 parking spaces are required. The Planning Commission granted a waiver for 3 spaces, so the sketch plan includes 50 parking spaces.

(11) There is an existing sidewalk along Dover Road.

In summary, as is more specifically set forth above, the Town Council finds that the proposed PUD complies with applicable Development Standards in the Ordinance.

3. On July 20, 2017, the Easton Planning and Zoning Commission voted unanimously to approve the sketch site plan and to issue a favorable recommendation regarding the PUD Plan's consistency with the Town's 2010 Comprehensive Plan (the "Plan"). The Planning Commission's recommendation is reported by an August 2, 2017 letter to Mayor Willey and the Easton Town Council. Based upon the recommendation of the Planning Commission and information contained within the record, the Council finds that the proposed PUD amendment conforms to the Town's Comprehensive Plan.

The Plan is intended to serve as the guide for land use decisions of the Town and articulates many broad policy issues and objectives intended to apply on a town-scale. As is the case in many instances, there are statements that support the PUD Plan and also statements that do not. The Future Land Use Map recommends a residential use for this property. However, this area has the potential to establish a high design standard for what is a major gateway into Easton's Downtown and the Hill with a use that is compatible with and oriented to benefit the residents of the neighborhood. The Comprehensive Plan encourages "convenient, appropriately scaled commercial services to support neighborhood needs." (Plan p. 120) This is also infill and redevelopment, which is preferred and one of the fundamental tenants in the Comprehensive Plan over new "greenfield" development.

For these reasons, the Town Council finds that even though there are statements to the contrary, in general, this application is consistent with and supported by the Comprehensive Plan.

4. The proposed PUD, in conjunction with existing and reasonably anticipated development in the neighborhood surrounding the site for the proposed PUD, will not interfere with the adequate and orderly provision of public services to the area. Public utility systems already exist and serve the Property. Nothing proposed will interfere with the continued provisions for public services in the area.

5. The Town Council finds that the proposed PUD will not cause unacceptable traffic congestion or hazards either in or near the site for the proposed PUD development or elsewhere in the Town or Talbot County. The Property adjoins Dover Road. Many of the cars that will frequent the new Rise Up Coffee facility, are currently customers that frequent the existing facility across the street. While the capacity will be increased in the new facility, the additional traffic will not cause unacceptable congestion or hazards. The Property is also walkable to the downtown and other amenities, and is in close proximity to the Town's Rail-Trail.

6. The record contains no indication that there are any features of ecological, historical, or cultural significance on the Property, and the Council so finds. Ecologically, stormwater management techniques and practices that comply with State and local regulations and protect sensitive, downstream resources are proposed.

7. The Town Council finds that the proposed PUD is compatible with existing development in the surrounding neighborhood and with development reasonably anticipated to occur in the neighborhood in terms of size, scale, design, and appearance. While the proposed structure is larger than some of the surrounding houses, with the proposed PUD Plan and the conditions imposed, there will be sufficient buffering and distance between them to soften the impact. In addition, the size and scale is consistent with the commercial uses located across the street in the Park Place building.

8. The proposed PUD will not adversely affect the value of property in the neighborhood surrounding the site. The redevelopment of the existing Rise Up Coffee facility has been a positive boost to the neighborhood. It is expected that the new facility will continue that trend. The Council finds that the proposed PUD will not adversely affect, and may enhance, the values of other parcels in neighborhood surrounding the Property.

D. Should the Town Council Exercise Its Legislative Discretion To Grant The Application?

The Council finds that the Applicant has met the minimum criteria for granting a PUD application. The Council has further concluded that it is appropriate for it to exercise its legislative discretion to grant the application.

The Council finds that the proposed PUD helps accomplish the coordinated, adjusted, and harmonious development of the Town and its environs in accordance with present and future needs and is located in a location suitable for its given existing and reasonably foreseeable development. This PUD provides infill development that adjoins an established street and infrastructure network. It provides the Town with a high quality design at a major gateway to the downtown. Based on the foregoing, the Town Council finds approval of the PUD to be in the public interest, subject to the conditions set forth below.

E. Conditions.

The following conditions are binding on the Applicant and any successor developer(s) of the land located within this PUD district:

1. The Applicant shall provide a visual buffer between the rooftop deck on the southern façade of the proposed building and the existing single family residence located at 615 Dover Road. The specific concern to be addressed is the potential impact on privacy in the adjacent residence from occupants of the roof top deck. Required buffering can be accomplished by either: (i) planting evergreen trees (min. 8' tall at installation) along the portion of the property line adjacent to the residence, or (ii) by constructing a vertical wall (6' min) on the western edge of the proposed rooftop deck.

2. The Town Council incorporates the conditions imposed by the Planning Commission. The compliance with these conditions shall be at the discretion of the Planning Commission, and the Planning Commission shall have the authority to approve minor amendments to these conditions should they determine it is reasonable to do so. The conditions are as follows:

   (a) The dumpster is to be relocated to the interior of the Property.
   (b) The Applicant shall install a "green barrier" along the rear of the Property to minimize visual impacts of the parking area upon adjacent properties.
   (c) The micro-bio-retention area shall incorporate landscaping.

VOTING TO GRANT THE APPLICATION:

Alan I. Silverstein

Pete Lesher

Ron E. Engle

Megan M. Cook

John Ford

John F. Ford, President

TOWN OF EASTON

14 South Harrison Street
Easton, Maryland 21601

August 2, 2023

Dear Resident,

The Easton Planning Commission will hold a public meeting on **Thursday, August 17, 2023 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 a previously approved Planned Unit Development (PUD) has been filed on behalf of Rise Up Dover Road LLC that will allow a shade structure to remain standing at 625 Dover Road on a seasonal basis without having to apply each year for a temporary use permit approval. The applicant is also requesting approval for the addition of a kitchen facility and walk-up café to the existing property at 625 Dover Road, also known as Tax Map 103, Parcel 0990.

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 are also available for review 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 e-mail at ssmith@eastonMD.gov.

Samantha N. Smith

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

APG Media of Chesapeake, LLC **07/31/23**
29088 Airpark Drive
Easton, MD 21601

Phone: Fax:
http://www.chespub.com

Cust. AcctID:	Creation Date: **07/31/23**
	Ad Date: **08/02/23**
	Class: **10**
Name: **Joanne Drummer**	Ad ID:
Company: **TOWN OF EASTON (L)**	Ad Taker: **AHALL**
Address: **PO Box 520**	Sales Person: **503**
EASTON, MD 21601	Words: **435**
	Lines: **75**
	Agate Lines: **342**
Telephone: **(410) 822-2525**	Depth: **9.5**
Email:	Inserts: **2**
Description: **Planning Comm Meeting**	Blind Box:

Other Charges:	Total:
Discount:	
Surcharge:	Paid Amount:
Credits:	
Bill Depth:	Amount Due:

CREDIT CARD DETAILS

PT	CT	CN	Number	Exp.	Amnt.

Publication	Start	Stop	Inserts	Cost
The Star Democrat	08/02/23	08/02/23	1	

Ad Note:

Sign posted on August 2, 2023

Customer Note:

We Appreciate Your Business!
Thank You Joanne Drummer!

Planning Commission
MEETING AGENDA
Thursday, August 17, 2023 - 1:00 PM Council
Council Chambers, Easton Town Office
14 S Harrison Street

Please continue to check our website at:
https://eastonmd.gov/128/Agendas-Minutes
for agenda updates.

1. Call to Order

2. Approval of Minutes.

a. Approval of the Decision Summary from the July 20, 2023 meeting.

b. Approval of the Draft Decision Summary from the April 4, 2023 Poplar Hill Supplemental Growth Allocation joint public hearing.

3. Old Business

a. **Applicant:** Rise Up Dover Road LLC
File No.: 2023-870
Location: 625 Dover Road
Tax Map 103, Grid 0EA, Parcel 0990
Zoning District: R-7A
Nature of Request: Amendment to a previously approved Planned Unit Development (PUD) that would allow a shade structure to remain standing at 625 Dover Road on a seasonal basis without having to apply each year for a temporary use permit approval. The applicant is also requesting approval for the addition of a kitchen facility and walk-up cafe to the existing property at 625 Dover Road, also known as Tax Map 103, Parcel 0990.

b. **Applicant:** Aspire Outdoors, LLC
File No.: 2023-004
Location: Camac Street
Tax Map 026, Grid 020, Parcel 0186
Zoning District: R-10A
Nature of Request: Sketch Site Plan approval for a proposed six-building apartment complex with a total of 162 units to be developed on the property located on Camac Street, also known as Tax Map 0026, Grid 0020, Parcel 0186. The proposed project also requires Special Exception and Variance approvals from the Board of Zoning Appeals and the applicant is seeking a formal recommendation from the Planning Commission to the Board.

4. New Business

a. **Applicant:** Easton Utilities Commission
File No.: 2023-882
Location: 8670 Commerce Drive
Tax Map 101, Grid 002, Parcel 004, Lot 3
Zoning District: BC
Nature of Request: Sketch Site Plan approval for a new water treatment plant processing building.

b. **Applicant:** Lane Engineering
File No.: 2023-976
Location: 29311 Cecil Drive - Austin Medical Supplies
Tax Map 025, Grid 024, Parcel 0089, Lot 4
Zoning District: CL
Nature of Request: Sketch Site Plan approval for a proposed 2,334 sq ft. building addition for storage space with the interior fit-out for the sale and storage of medical supplies.

c. **Applicant:** Robert S. Collison, P.A.
File No.: 2023-963
Location: 9719 Ocean Gateway
Tax Map 0025, Grid 0006, Parcel 0113,
Current County Zoning District: GC
Requested Town Zoning District: CG
Nature of Request: Petition for the Annexation of 3.25 acres of property located at 9719 Ocean Gateway, Easton, Maryland with a formal recommendation to the Town Council on the Annexation and the appropriate zoning classification.

5. Discussion Item

6. Adjournment.

3030137 SD 8/2/2023

MEMORANDUM

TO: EASTON PLANNING & ZONING COMMISSION

FROM: LYNN B. THOMAS, JR., AICP, TOWN PLANNER

DATE: AUGUST 9, 2023

SUBJECT: PROPOSED CANNABIS USE MORATORIUM

Enclosed you will find a copy of Ordinance Number 799. This is an Ordinance which was introduced at this past Monday's Town Council Meeting, at which time the Council took two actions: (1) they referred the matter to you for a recommendation and (2) they scheduled their Public Hearing on the matter for September 18, 2023 at 5:35 p.m.

The purpose of Ordinance 799 is to enact a 9 month moratorium on the "...application for, approval of, construction of, expansion of, processing or, or issuance of Building Permits for the operation of a business engaged in the growing, processing, and/or selling of cannabis within the Town of Easton…" This is the issue which Sharon mentioned to you at the last meeting. Please note that at this time, you are only weighing in on whether or not the Council should enact a moratorium to develop whatever regulations may be determined as appropriate for such uses. We are not, at this time, considering what those options might be. The moratorium would allow you and the council the time to develop them and foreclose the possibility of receiving applications for any such uses before we have any such regulations, restrictions, or guidelines in place.

ORDINANCE NO. 799

AN ORDINANCE OF THE TOWN OF EASTON ADOPTING A TEMPORARY MORATORIUM ON THE APPLICATION FOR, APPROVAL OF, CONSTRUCTION OF, EXPANSION OF, PROCESSING OF, OR ISSUANCE OF BUILDING PERMITS FOR THE OPERATION OF A BUSINESS ENGAGED IN THE GROWING, PROCESSING, AND/OR SELLING OF CANNABIS WITHIN THE TOWN OF EASTON FOR A PERIOD OF NINE (9) MONTHS PENDING CONSIDERATION AND ADOPTION OF REVISED ZONING ORDINANCE PROVISIONS AS THE TOWN COUNCIL MAY CONSIDER ADVISABLE TO PROMOTE THE PUBLIC HEALTH, SAFETY AND WELFARE

INTRODUCED BY _____

WHEREAS, the Town of Easton is authorized by Maryland Annotated Code, Local Government Article §5-202 to enact such ordinances as it deems necessary in order to assure the good government of the municipality, and to protect the health, comfort and convenience of the citizens of the municipality; and

WHEREAS, the Town of Easton is authorized by Maryland Annotated Code, Local Government Article §5-213 to enact and administer a zoning ordinance, which ordinance is Chapter 28 of the Easton Town Code (the "Zoning Ordinance"); and

WHEREAS, the Town of Easton is authorized by Maryland Annotated Code, Land Use Article §4-102 to develop and adopt zoning restrictions to promote the health, safety, morals or general welfare of the community, including the location and use of buildings, signs, structures and land; and

WHEREAS, by ballot referendum, Maryland voters approved making it legal for individuals aged 21 and older to possess and consume cannabis in Maryland; and

WHEREAS, the Maryland General Assembly passed the Cannabis Reform Act (HB556/SB516) which allowed for cannabis sales to adults 21 and older from licensed dispensaries and established the framework for adult-use cannabis sales beginning July 1, 2023; and

WHEREAS, the Cannabis Reform Act provides political subdivisions with the power to establish reasonable zoning requirements for cannabis facilities subject to certain limitations; and

WHEREAS, the Maryland Cannabis Administration is tasked under the Cannabis Reform Act with adopting various regulations relating to, but not omitted to, establishing: (1) operating requirements for cannabis licenses, (2) the maximum potency of cannabis products sold in the State, and (3) the packaging and labeling of cannabis products for sale. Not all of the regulations have been fully established at this time and/or are available for close study and consideration; and

WHEREAS, the Town's Code currently does not contain regulations regarding businesses engaged in the growing, processing and/or sale of recreational cannabis; and

WHEREAS, while the Town Code does have some provisions related to the growing, processing and/or sale of medical cannabis, those provisions need to be revisited in light of the Cannabis Reform Act; and

WHEREAS, the Town requires time to ensure that the appropriate study and desired public input can be obtained before establishing effective and enduring textual amendments to the Zoning Ordinance related to cannabis growing, processing and distribution; and

WHEREAS, the acceptance and processing of an application and/or site plan and/or issuance of other zoning approvals or business licenses for the operation of businesses engaged in the growing, processing and/or selling of cannabis, before appropriate study of the matter, obtaining desired public input, and consideration and approval of meaningful and effective Town ordinances and regulations governing the matter, would frustrate the Town's ability to protect the health, safety, and welfare of the residents and visitors to the Town and be adverse to the orderly business development of the Town; and

WHEREAS, the Town Council has determined that a temporary moratorium, for a term of nine (9) months, is a reasonable length of time to study, receive input and adopt any revisions to the Zoning Ordinance necessary; and

WHEREAS, the Easton Planning and Zoning Commission considered the matter at its August 17, 2023 meeting and has recommended that the Town Council approve this Ordinance.

NOW, THEREFORE, the Town of Easton hereby ordains that:

Section 1. A moratorium on the application for, consideration of, approval of, construction of, expansion of, processing of, or issuance of permits for businesses engaged in the growing, processing and/or selling of cannabis, is hereby imposed for a period of nine (9) months.

Section 2. During the moratorium, the Town (including the Town Planner's office, the Building Department, the Planning and Zoning Commission, the Board of Appeals, the Town staff, and the Town Council) shall not process, consider, review, or approve any

application, permit, license, or other approval under the Town Zoning Ordinance for businesses engaged in the growing, processing and/or selling of cannabis.

Section 3. The moratorium shall apply to applications currently pending before the Town, as well as, applications filed after the effective date of this Ordinance.

Section 4. This moratorium is adopted to allow sufficient time for the Town to accomplish the following:

a. Receive public input;

b. Consider any revisions to the Zoning Ordinance; and

c. Consider all such other matters as the Town Council, Planning and Zoning Commission, and Town staff deem appropriate.

Section 5. The Town Council shall have and reserves the right to extend or modify this moratorium on businesses engaged in the growing, processing and/or selling of cannabis for such additional period or periods and on such terms and conditions as it deems necessary for the health, safety and welfare of the citizens of the Town of Easton.

Section 6. If any section, subsection, sentence, clause or phrase of this Ordinance is, for any reason, held to be unconstitutional, such decision shall not affect the validity of the remaining portions of this Ordinance, which can be given effect without the invalid section, subsection, sentence, clause or phrase, and to that end, all provisions of this Ordinance are hereby declared to be severable.

Section 7. In accordance with Article II Section 9 of the Easton Town Charter, this ordinance shall become effective twenty (20) calendar days after approval by the Mayor or

passage of this ordinance by the Council over the Mayor's veto.

Curry	-
Abbatiello	-
Montgomery	-
Davis	-

I hereby certify that the above Ordinance was passed by a yea and nay vote of the Council this _____ day of _____, 2023.

_____
Don Abbatiello, Acting Town Council President

Delivered to the Mayor by me this _____ day of _____, 2023.

_____
Kathy M. Ruf, Town Clerk

APPROVED:

Date: _____ _____
Megan J. M. Cook, Mayor

EFFECTIVE DATE: _____, 2023