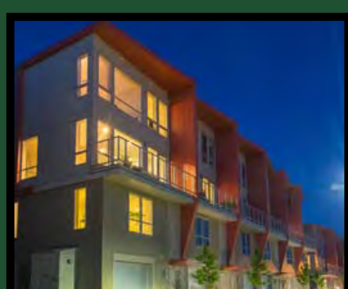
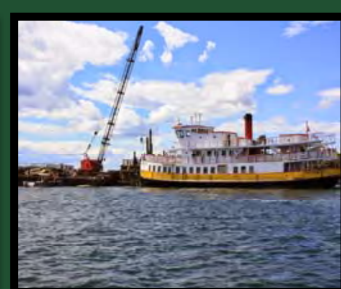
MAJOR SUBDIVISION AMENDMENT APPLICATION

WHITE ROCK TERRACE

TOWN OF CUMBERLAND, ME


Prepared By:

ACORN ENGINEERING, INC.

For:

THE SZANTON COMPANY

APRIL 3, 2023

ACORN Engineering, Inc. • www.acorn-engineering.com
207-775-2655 • PO Box 3372 • Portland • Maine • 04104

Section A

Cover Letter/Project Narrative

ACORN ENGINEERING, INC.

Cumberland Planning Board
Town of Cumberland, Maine
Cumberland, ME 04101

April 3, 2023

Subject: Town of Cumberland Major Subdivision Application
White Rock Terrace
Applicant: The Szanton Group

Ms. Nixon:

On behalf of The Szanton Group and the design team, Acorn Engineering, Inc. (Acorn) is resubmitting this application previously approved by the board on December 20, 2022 for the purpose of recording the subdivision plan at the registry.

The accompanying package of materials relate to the proposed affordable senior housing multiplex development on Sky View Drive. A 4.47-acre site has been divided from the existing 25.67-acre parcel to facilitate the development.

Building Description:
White Rock Terrace is proposed as a 55-unit apartment building to be located on Sky View Drive in Cumberland. The building will contain 8 two-bedroom units and 47 one-bedroom units. All 55 units will be age-restricted for households whose head is aged 55+. Additionally, all 55 units will be income restricted for households earning at or below 60% of the area median income. The building will also have indoor bike storage, fitness room, community room, coin-op laundry, rooftop deck and outdoor community space. There will also be two offices for property management staff. There will be weekly hours for both the property manager and a resident services coordinator.

The attached project narrative and attached application materials go into further detail about how this proposal meets the subdivision standards outlined in the Town of Cumberland's Zoning Ordinance.

The amendment application fee of $150 is attached to this submission.

Sincerely,

Sam Lebel

Sam Lebel, P.E.
Project Manager
Acorn Engineering, Inc.

The following documents and drawings will be uploaded onto the City's electronic submission site per the procedure outlined in the application:

Documents:

- Section A: Cover Letter/Project Narrative
- Section B: Major Subdivision Application
- Section C: Right, Title, & Interest
- Section D: Abutter List
- Section E: Financial & Technical Capacity
- Section F: Solid Waste Disposal Plan
- Section G: Stormwater Management Report
- Section H: Erosion & Sedimentation Control Report
- Section I: Lighting
- Section J: Architectural Design/Narrative
- Section K: Traffic Report

Drawings:

- Subdivision Plan, dated 02/26/2023

Project Narrative – White Rock Terrace

Building Description:

White Rock Terrace is proposed as a 55-unit apartment building to be located on Sky View Drive in Cumberland. The building will contain 8 two-bedroom units and 47 one-bedroom units. All 55 units will be age-restricted for households whose head is aged 55+. Additionally, all 55 units will be income restricted for households earning at or below 60% of the area median income. The building will also have indoor bike storage, fitness room, community room, coin-op laundry, rooftop deck and outdoor community space. There will also be two offices for property management staff. There will be weekly hours for both the property manager and a resident services coordinator.

Building Developer:

The Szanton Company, an affiliate of the Monks Companies, specializes in developing mixed-income rental housing in or near downtowns. We have completed eleven apartment projects in Maine and New Hampshire totaling 560 units. We have two apartment projects currently under construction totaling 115 units.

The mission of The Szanton Company is to create attractive and affordable rental housing that our residents are proud to call home. We do this by:

- Creating beautiful apartments of high quality in locations in or near downtowns, adding vitality to our cities and towns;
- Developing properties which provide a consistent, long-term return to their owners, thus ensuring their stability for residents, lenders, and neighborhoods;
- Serving people with diverse incomes;
- Creating amenities for our residents which enhance the quality of their lives;
- Incorporating environmental and energy sustainability in our properties, thereby reducing their impact on the earth's environment.

Building Management:

The Szanton Company is committed to long-term ownership of our apartment assets. In 2013, we founded Saco Falls Management, our property management arm, to ensure the highest standards of visual appearance and livability for our residents, neighbors, and communities. Saco Falls Management staff is dedicated to making residents the central focus of our organization and creating a rental experience which far exceeds our residents' expectations, both in level of upkeep of properties and responsiveness to their needs.

The proposed building will offer on-site office space for both a Property Manager as well as a Resident Services Coordinator that will provide office hours each week.

For more information on our management company, please visit www.sacofallsmanagement.com.

Project Narrative – White Rock Terrace

**MAJOR TRADITIONAL OR CLUSTERED SUBDIVISION
SUBMISSION REQUIREMENTS AND CHECKLIST**

The subdivision plan for a major traditional or clustered subdivision shall consist of an electronic submission and two (2) paper copies of all required application materials. Major subdivision review is a two-step process: 1) preliminary plan review and approval; 2) final plan review and approval. Occasionally, both preliminary and final approval may be granted by the Planning Board at the same meeting if all required information for both preliminary and final approval have been submitted, reviewed and approved by staff.
Following each submission requirement, a response is provided indicating where in the packet the information can be found or if a waiver has been requested.

PRELIMINARY PLAN

A. Preliminary plan location map. The preliminary plan shall be accompanied by a location map drawn at a scale of not over 1,000 feet to the inch to show the relation of the proposed subdivision to the adjacent properties and to the general surrounding area. The preliminary plan shall show all the area within 1,000 feet of any property line of the proposed subdivision. Within such area the location map shall show:

1. All existing subdivisions and approximate tract lines of adjacent parcels together with the names of the record owners of all adjacent parcels of land, those directly abutting or directly across any street adjoining the proposed subdivision.
2. Locations, widths and names of existing, filed or proposed streets, easements, and building lines pertaining to the proposed subdivision and to the adjacent properties.
3. The boundaries and designations of zoning districts, parks and other public spaces.
4. An outline of the proposed subdivision together with its street system and an indication of the future probable street system of the remaining portion of the tract, if the preliminary plan submitted covers only part of the subdivider's entire holding.
The cover sheet includes a location plan that identifies this project in relation to the surrounding developments. The existing conditions plan also includes some information regarding the neighboring properties.

B. Preliminary plan maps and information. The preliminary plan shall be submitted in 2 copies of one or more maps or drawings which may be printed or reproduced on paper with all dimensions shown in feet or decimals of a foot, drawn to a scale of one inch equals not more than 100 feet or, for plans describing construction of required improvements, a scale of one inch equals 40 feet; drawings are not to exceed 24 inches by 36 inches. All materials must also be provided in an electronic format. All plans shall be accompanied by the following information:

1. Proposed subdivision name or identifying title and the name of the municipality
Each plan within the plan set identifies the development along with its location.

2. Name and address of record owner, subdivider and designer of preliminary plan.
Each plan within the plan set identifies the application along with the professional that prepared the plan, multiple professionals were involved in the design of this project.

3. Date of plan submission, true North point and graphic scale.
Each plan within the plan set includes scales and north arrows as it applies.

4. Number of acres within the proposed subdivision, location of property lines, existing easements, buildings, watercourses and other essential existing physical features.

The existing condition plan includes the proposed lot area within this particular proposal. It also shows grading and other physical features associated with this development.

5. The names of all subdivisions immediately adjacent and the names of owners of record of adjacent acreage.
This parcel is within an existing subdivision, Cumberland Foreside Village, please see the Fifth Amended Subdivision plan for more details.

6. The space standard and setback provisions of the Chapter 315, Zoning, applicable to the area to be subdivided and any zoning district boundaries affecting the subdivision.
This parcel must meet the setbacks and zoning information within the Contract Zone Agreement its within. All applicable zoning has been adhered to for this development.

7. The location and size of any existing or proposed sewers and water mains, culverts, hydrants, and drains on the property to be subdivided. This shall show the connections with existing sewer or water systems. Where public water and/or sewerage is not to be provided, alternative means of water supply and sewage treatment and disposal shall be shown, both horizontally and vertically. If on-site groundwater wells are proposed, the effect of withdrawal of groundwater may be required by the Board as set forth in this chapter.
The extension of Sky View Drive includes public utilities that this building will connect into. The development will be served by public water and sewer services along with underground power and communications.

8. If individual or collective private sewage disposal system(s) is (are) proposed, the location and results of tests to ascertain subsurface soils and groundwater conditions shall be signed and numbered by a licensed site evaluator. If a cluster system or collective private sewage disposal system(s) is (are) proposed, a hydrogeologic investigation shall be submitted meeting the sewage disposal standards as set forth in this chapter. A hydrogeologic investigation may be required by the Board for individual systems as set forth in this chapter.
The development will connect into the public sewer line within Sky View Drive.

9. Location, names and present and proposed widths of existing and proposed streets, highways, easements, building lines, alleys, parks and other public open spaces both within and abutting the subdivision. Grades and street profiles of all streets, sidewalks or other public ways proposed by the subdivider shall be shown.
This information is included on the existing condition plan within the Plan Set.

10. Contour lines at intervals of two feet or at such intervals as the Planning Board may require, based on United States Geological Survey datum and referred to mean sea level.
The grading plan within the Plan Set includes both existing and proposed contours at an interval of 1 foot. Spot grades are also included to ensure minimum and maximum slopes are shown for the purposes of ADA requirements.

11. A high-intensity soil survey shall be conducted by a certified soil scientist to identify soils within the proposed development in accordance with United States Department of Agriculture Natural Resources Conservation Service National Cooperative Soil Classification. The soil boundaries and names shall be superimposed on a plot plan of the proposed development.
We are requesting a waiver from this submission requirement. Please see the waivers prepared for this application.

12. Deed reference and map of survey of tract boundary made and certified by a registered land surveyor, tied into established reference points. Deed restrictions, if any, shall be described.

The existing conditions/boundary survey plan is signed by a registered land surveyor. The lot proposed for this development is subject to a subdivision amendment currently being considered by the Planning Board, running parallel to this application. All plans regarding the existing and proposed boundary of this development will be signed and sealed by a professional land surveyor.

13. A surface drainage plan or stormwater management plan, with profiles and cross sections drawn by a professional engineer registered in the State of Maine, showing preliminary design of all facilities and conveyances necessary to meet the stormwater management standards as set forth in this chapter.
Drainage features are included on the grading plan and accompanying details. In addition a stormwater management report has been prepared to describe the overall drainage design.

14. The proposed lot lines with dimensions and suggested locations of buildings.
The site plan shows the proposed lot lines in addition to the location of the single proposed building associated with this development.

15. The location of temporary markers adequate to enable the Board to locate readily and appraise the basic layout in the field.
Stakes have been placed on the property to identify the locations of property corners, building corners and extents of the parking lot. A site walk was conducted and a plan provided that identified these locations.

16. All parcels of land proposed to be dedicated to public use and the conditions of such dedication.
No part of the property will be dedicated to public use.

17. The location of all natural features or site elements to be preserved.
A large stand of woodland will be preserved as part of this development. A minimum of 100 feet buffer from interstate 295 must be preserved per the Contract Zone Agreement, however as part of this plan, roughly 250 feet of woods will be preserved between interstate 295 and this development. The majority of this development will be located within an area that has been cleared of trees previously.

18. A grading and landscaping plan, including natural features to be preserved.
A landscaping plan has been included within the Plan Set.

19. Plans shall bear the seals or numbers of the registered professionals responsible for preparing appropriate sections of the plan. Surveys shall be stamped by registered professional engineers, soil surveys shall bear the numbers of a soil scientist, subsurface sewage disposal plans shall bear the number of the professional site evaluator responsible for those evaluations, geological evaluations shall bear a registered geologist's number and architectural work shall bear the architect's seal.
All plans are signed and sealed by the professional the prepared them. Please see the attached Plan Set for more details.

Project Narrative – White Rock Terrace

§ 250-4. Subdivision approval criteria.

The Planning Board shall consider the following criteria and before granting approval shall determine that:
For each approval criteria below a response in bold is provided to address how this application meets the ordinance.

A. Pollution. The proposed subdivision will not result in undue water or air pollution. In making this determination, it shall at least consider:

(1) The elevation of the land above sea level and its relation to the floodplains;
There are no floodplains located on this property.

(2) The nature of soils and subsoils and their ability to adequately support waste disposal
The proposed project will be connected into the public sewer system in Sky View Drive, no subsurface disposal system will be utilized for this development.

(3) The slope of the land and its effect on effluents;
Stormwater will be collected and treated on site prior to being discharged to the adjacent property.

(4) The availability of streams for disposal of effluents; and
No streams are located on the property.

(5) The applicable state and local health and water resource rules and regulations.
All state and local health regulations will be adhered to for this development. It is not anticipated there will be any detrimental water pollution related to this project.

B. Sufficient water. The proposed subdivision has sufficient water available for the reasonable, foreseeable needs of the subdivision;
The project will be served by public water provided by the Portland Water District. A watermain extension is required for the extension of Sky View Drive. An ability to serve letter and watermain extension approval will be provided once approved by the Portland Water District.

C. Municipal water supply. The proposed subdivision will not cause an unreasonable burden on an existing municipal water supply, if one is to be used;
It is not anticipated that this development will be a burden to the municipal water supply its connecting into. An ability to serve letter and watermain extension approval will be provided once approved by the Portland Water District.

D. Erosion. The proposed subdivision will not cause unreasonable soil erosion or a reduction in the land's capacity to hold water such that a dangerous or unhealthy condition results;
An Erosion and Sedimentation control plan is included within the plan set for this application. There are no detrimental effects anticipated by the development of this property.

E. Traffic. The proposed subdivision will not cause unreasonable highway or public road congestion or unsafe conditions with respect to the use of the highways or public roads, existing or proposed;
A traffic assessment has been completed for this application. The existing road system will adequately provide access to this project.

F. Sewage disposal. The proposed subdivision will provide for adequate sewage waste disposal and will not cause an unreasonable burden on municipal services, if they are utilized;
The project will be connected into the municipal sewer system. An ability to serve letter will be provided once reviewed and approved by the sewer district.

G. Municipal solid waste disposal. The proposed subdivision will not cause an unreasonable burden on the municipality's ability to dispose of solid waste, if municipal services are to be utilized;
It is not anticipated that this development will be a burden to the sewer district its connecting into. An ability to serve letter will be provided once reviewed and approved by the sewer district.

H. Aesthetic, cultural and natural values. The proposed subdivision will not have an undue adverse effect on the scenic or natural beauty of the area, aesthetics, historic sites, significant wildlife habitat identified by the Department of Inland Fisheries and Wildlife or the municipality, rare and irreplaceable natural areas, or any public rights for physical or visual access to the shoreline;
The property being developed is within a previously approved subdivision. There are no significant wildlife areas identified on the property.

I. Conformity with local ordinances and plans. The proposed subdivision conforms to a duly adopted subdivision regulation or ordinance, comprehensive plan, development plan or land use plan, if any. In making this determination, the Planning Board may interpret these ordinances and plans;
The plan conforms to all local ordinances, contract zones and comprehensive plan.

J. Financial and technical capacity. The applicant has adequate financial and technical capacity to meet the standards of this section as set forth in § 250-48;
The Szanton group has submitted an outline of the funding sources for the project. See section E of this application for more information.

K. Surface waters; outstanding river segments. Whenever situated entirely or partially within the watershed of any pond or lake or within 250 feet of any wetland, great pond or river, as defined in Title 38, Chapter 3, Subchapter 1, Article 2-B, of the Maine Revised Statutes Annotated, the proposed subdivision will not adversely affect the quality of that body of water or unreasonably affect the shoreline of that body of water. When lots in a subdivision have frontage on an outstanding river segment, the proposed subdivision plan must require principal structures to have a combined lot shore frontage and setback from the normal high-water mark of 500 feet. To avoid circumventing the intent of this provision, whenever a proposed subdivision adjoins a shoreland strip narrower than 250 feet which is not lotted, the proposed subdivision shall be reviewed as if lot lines extend to the shore. The frontage and setback provisions of this subsection do not apply either within areas zoned as general

development or its equivalent under shoreland zoning, Title 38, Chapter 3, Subchapter 1, Article 2-B, of the Maine Revised Statutes Annotated or within areas designated by ordinance as densely developed. The determination of which areas are densely developed must be based on a finding that existing development met the definition requirements of 30-A M.R.S.A. § 4401, Subsection 1, on September 23, 1983;
The property is not within a watershed of a pond or lake and is not within 250 feet of any wetland, pond or river.

L. Groundwater. The proposed subdivision will not, alone or in conjunction with existing activities, adversely affect the quality or quantity of groundwater;
No septic fields or wells are proposed, and stormwater will be collected, detained and treated before discharged. No activity on site will adversely effect the quantity and quality of groundwater.

M. Flood areas. Flood areas, or flood-prone areas, are based on the Federal Emergency Management Agency's Flood Boundary and Floodway Maps and Flood Insurance Rate Maps and information presented by the applicant whether the subdivision is in a flood-prone area. If the subdivision, or any part of it, is in such an area, the subdivider shall determine the 100-year flood elevation and flood hazard boundaries within the subdivision. The proposed subdivision plan must include a condition of plan approval requiring that principal structures in the subdivision will be constructed with their lowest floor, including the basement, at least one foot above the 100-year flood elevation;
The property is not within a flood zone.

N. Stormwater. The proposed subdivision will provide for adequate stormwater management;
Stormwater will be collected and treated on site by a variety of BMP's. The attached stormwater management report details how these BMP's will collect, detain and treat stormwater derived from this development. No downstream detrimental effects are anticipated.

O. Freshwater wetlands. All potential freshwater wetlands, as defined in 30-A M.R.S.A. § 4401, Subsection 2-A, within the proposed subdivision have been identified on any maps submitted as part of the application, regardless of the size of these wetlands. Any mapping of freshwater wetlands may be done with the help of the local soil and water conservation district; and
No freshwater wetlands are identified on the property being developed.

P. River, stream or brook. Any river, stream, or brook within or abutting the proposed subdivision has been identified on any map submitted as a part of the application. For purposes of this section, "river, stream or brook" has the same meaning as in 38 M.R.S.A. § 480-B, Subsection 9.
The Beginning with Habitat map attached within this application shows Norton Brook to the southeast of the property on the opposite side of Route 1, and Chenery Brook to the northwest of the property separated by Interstate 295. The project will have little to no effect on either of these brooks.

Section B

Major Subdivision Application

APPENDIX B

APPLICATION FOR MAJOR OR MINOR SUBDIVISIONS

Applicant's Contact Information

Name: Heritage Village Development Group LLC, c/o Peter Kennedy

Mailing Address: 12 Carroll Street, Falmouth, Maine

Email Address: pdkennedy4@gmail.com

Phone#: Office: ____________ Cell: 207-831-4586 Fax: ____________

Interest in property: Own

Interest in abutting properties, if any: none

Property Owner's Contact Information

Name: Same as applicant

Mailing Address: ____________

Email Address: ____________

Phone#: Office: ____________ Cell: ____________ Fax: ____________

Applicant's Architect, Landscape Architect, Engineer, Planner or Surveyor Contact Information (If more than one, please attach contact info for each one.)

Name: Acorn Engineering, Inc, Sam Lebel, P.E. (authorized agent)

Mailing Address: P.O. Box 3372, Portland, Maine 04104

Email Address: slebel@acorn-engineering.com

Phone#: Office: 207-775-2655 Cell: ____________ Fax: ____________

Project Information

Name of Project: Cumberland Foreside Village

Address of site: Sky View Drive

CCRD Book/Page #: ____________ Tax Map/Lot #: ____________

Zoning District: Heritage Village - Contract Zone Overlay District (If any): None

Site size (acres): 4.5 # of Lots: 1 # Buildings: ______ # Dwellings: 55

____ Minor Subdivision X Major Subdivision ____ Conservation Subdivision

OTHER INFORMATION

1. Is Board of Adjustment and Appeals approval required? None
2. Are any ordinance waivers requested? ___Yes X No (If yes, attach a list of waivers requested and reason for the request.)
3. Application fee per Town ordinance: $~~60~~ $~~150~~
4. This application form and all accompanying materials must be submitted to the Town Planner at least 21 days prior to the meeting at which it is to be considered by the Planning Board.

The undersigned, being the applicant, owner or legally authorized representative, states that all information contained in this application is true and correct to the best of his/her knowledge and hereby does submit the information for review by the Town and in accordance with applicable ordinances, statutes and regulations of the Town, state and federal governments.

Sam Lebel

Signature

4/3/23

Date

The Szanton Company
482 Congress St., Suite 203
Portland, ME 04101

October 17, 2022

RE: Authorizing Acorn Engineering, Inc.

To Whom it May Concern:

This letter is related to a proposed housing development to be located on Lot 7 off Sky View Drive in Cumberland, Maine. The building, to be called White Rock Terrace, is proposed to house 55 rental units reserved for households whose head is over the age of 55. The units are also restricted for households earning at or below 60% of the area median income. There would be 8 two-bedroom units and 47 one-bedroom units.

The Szanton Company is the developer and owner representative for this project and we authorize Acorn Engineering, Inc to act as the agent for The Szanton Company for the purpose of preparing and submitting all local and state permitting applications.

If there are any questions, please use kmartin@szantoncompany.com or 207-245-6436.

Thanks

KMartin

Kristin Martin
Development Officer
The Szanton Company

APPENDIX D

MAJOR TRADITIONAL OR CLUSTERED SUBDIVISION SUBMISSION REQUIREMENTS AND CHECKLIST

The subdivision plan for a major traditional or clustered subdivision shall consist of an electronic submission and two (2) paper copies of all required application materials. Major subdivision review is a two-step process: 1) preliminary plan review and approval; 2) final plan review and approval. Occasionally, both preliminary and final approval may be granted by the Planning Board at the same meeting if all required information for both preliminary and final approval have been submitted, reviewed and approved by staff.

PRELIMINARY PLAN

A. Preliminary plan location map. The preliminary plan shall be accompanied by a location map drawn at a scale of not over 1,000 feet to the inch to show the relation of the proposed subdivision to the adjacent properties and to the general surrounding area. The preliminary plan shall show all the area within 1,000 feet of any property line of the proposed subdivision. Within such area the location map shall show:

   1. All existing subdivisions and approximate tract lines of adjacent parcels together with the names of the record owners of all adjacent parcels of land, those directly abutting or directly across any street adjoining the proposed subdivision.
   2. Locations, widths and names of existing, filed or proposed streets, easements, and building lines pertaining to the proposed subdivision and to the adjacent properties.
   3. The boundaries and designations of zoning districts, parks and other public spaces.
   4. An outline of the proposed subdivision together with its street system and an indication of the future probable street system of the remaining portion of the tract, if the preliminary plan submitted covers only part of the subdivider's entire holding.

B. Preliminary plan maps and information. The preliminary plan shall be submitted in 2 copies of one or more maps or drawings which may be printed or reproduced on paper with all dimensions shown in feet or decimals of a foot, drawn to a scale of one inch equals not more than 100 feet or, for plans describing construction of required improvements, a scale of one inch equals 40 feet; drawings are not to exceed 24 inches by 36 inches. All materials must also be provided in an electronic format. All plans shall be accompanied by the following information:

   1. Proposed subdivision name or identifying title and the name of the municipality.
   2. Name and address of record owner, subdivider and designer of preliminary plan.
   3. Date of plan submission, true North point and graphic scale.
   4. Number of acres within the proposed subdivision, location of property lines, existing easements, buildings, watercourses and other essential existing physical features.
   5. The names of all subdivisions immediately adjacent and the names of owners of record of adjacent acreage.

6. The space standard and setback provisions of the Chapter 315, Zoning, applicable to the area to be subdivided and any zoning district boundaries affecting the subdivision.

7. The location and size of any existing or proposed sewers and water mains, culverts, hydrants, and drains on the property to be subdivided. This shall show the connections with existing sewer or water systems. Where public water and/or sewerage is not to be provided, alternative means of water supply and sewage treatment and disposal shall be shown, both horizontally and vertically. If on-site groundwater wells are proposed, the effect of withdrawal of groundwater may be required by the Board as set forth in this chapter.

8. If individual or collective private sewage disposal system(s) is (are) proposed, the location and results of tests to ascertain subsurface soils and groundwater conditions shall be signed and numbered by a licensed site evaluator. If a cluster system or collective private sewage disposal system(s) is (are) proposed, a hydrogeologic investigation shall be submitted meeting the sewage disposal standards as set forth in this chapter. A hydrogeologic investigation may be required by the Board for individual systems as set forth in this chapter.

9. Location, names and present and proposed widths of existing and proposed streets, highways, easements, building lines, alleys, parks and other public open spaces both within and abutting the subdivision. Grades and street profiles of all streets, sidewalks or other public ways proposed by the subdivider shall be shown.

10. Contour lines at intervals of two feet or at such intervals as the Planning Board may require, based on United States Geological Survey datum and referred to mean sea level.

11. A high-intensity soil survey shall be conducted by a certified soil scientist to identify soils within the proposed development in accordance with United States Department of Agriculture Natural Resources Conservation Service National Cooperative Soil Classification. The soil boundaries and names shall be superimposed on a plot plan of the proposed development.

12. Deed reference and map of survey of tract boundary made and certified by a registered land surveyor, tied into established reference points. Deed restrictions, if any, shall be described.

13. A surface drainage plan or stormwater management plan, with profiles and cross sections drawn by a professional engineer registered in the State of Maine, showing preliminary design of all facilities and conveyances necessary to meet the stormwater management standards as set forth in this chapter.

14. The proposed lot lines with dimensions and suggested locations of buildings.

15. The location of temporary markers adequate to enable the Board to locate readily and appraise the basic layout in the field.

16. All parcels of land proposed to be dedicated to public use and the conditions of such dedication.

17. The location of all natural features or site elements to be preserved.

18. A grading and landscaping plan, including natural features to be preserved.

19. Plans shall bear the seals or numbers of the registered professionals responsible for preparing appropriate sections of the plan. Surveys shall be stamped by registered professional engineers, soil surveys shall bear the numbers of a soil scientist, subsurface sewage disposal plans shall bear the number of the professional site evaluator responsible for those evaluations, geological evaluations shall bear a registered geologist's number and architectural work shall bear the architect's seal.

FINAL PLAN

C. The final subdivision plan for a major traditional or clustered subdivision shall consist of an electronic submission and two (2) paper copies of all required application materials. All materials must also be provided in an electronic format.

The final plan shall show:

1. All of the information presented on the preliminary plan and location map and any amendments thereto required by the Board or otherwise added to the plan. Engineering plans submitted shall be final plans on which construction may be based.
2. The name, registration number and seal of the engineer, land surveyor, geologist, soil scientist, architect or planning consultant who prepared the plan.
3. Street names and lines, pedestrian ways, lanes, easements, rights-of-way and areas to be reserved for or dedicated to public use.
4. The length of all straight lines, the deflection angles, radii, length of curves and central angles of all curves, tangent distance and tangent bearings for each street.
5. An actual field survey of the boundary lines of the tract, giving complete descriptive data by bearings and distances, made and certified by a licensed land surveyor. The corners of the tract shall be located on the ground and marked by monuments as herein required and shall be referenced as shown on the plan.
6. Sufficient data acceptable to the municipal officials to determine readily the location, bearing and length of every lot line and boundary line and to reproduce such lines upon the ground. Where practical these should be tied to reference points previously established.
7. The survey of the outside boundaries of the tract and the computation of the lot lines shall be performed to an accuracy of one foot in 5,000 feet. If requested by the Planning Board, the surveyor shall furnish copies of computation sheets for outside boundaries showing.
   - **a.** Sketch of traverse lines.
   - **b.** Closures;
   - **c.** Adjustments;
   - **d.** Coordinates; and
   - **e.** Computation of outside boundaries.

8. By proper designation, all public open space for which offers of cession are made by the subdivider and those spaces to which the title is reserved by him.
9. Lots and blocks within the subdivision numbered in accordance with local practice.
10. Proposed homeowners' covenants and restrictions.
11. Required MDEP stormwater maintenance documents.

D. There shall be submitted to the Board with final plan:

1. Copies of declarations, agreements or other documents showing the manner in which open space or easements are to be held and maintained.
2. Where conveyance of public open space or easements to the Town is contemplated, a written offer to make such conveyance to the Town and written evidence that the municipal officers are willing to accept such conveyances and are satisfied with the terms and conditions of the proposed conveyance and with the legal sufficiency of the proposed transfer documents. Such written evidence shall not constitute an acceptance by the municipality of any such public open space.

COMPLETION CHECKLIST FOR MAJOR TRADITIONAL OR CLUSTERED SUBDIVISION SUBMISSION REQUIREMENTS

Waivers: Please make a check in the *Waiver Request* column for any requested waivers. Attach a separate sheet citing the Subdivision Ordinance section number, description, and reason for the waiver request.

	Check if provided	**Location of information in packet, e.g. plan #, page #**	**Waiver Request?**
General Submissions:			
15 copies of plans and materials. All sheet sized to be 24" x 36"	✓	Application Submission	
1"=100' scale for general plan	✓	Plan Set	
1"=40' scale for construction of required improvements	✓	Plan Set	
Traffic Info?	✓	Application Section L	
Capacity to Serve letters?		**forward upon receipt**	
Financial and Technical Capacity (Sec.14)	✓	Application Section E	
Sewer user permits required? Status?			
Deed restrictions, if any, describe on separate sheet	N/A		
Cover Sheet:			
Proposed subdivision name	✓	Plan Set - Cover Sheet	

	Check if provided	Location of information in packet, e.g. plan #, page #	Waiver Request
Name & address of record owner, subdivider, and designer of preliminary plan	✓		
Location Map:			
Scale 1”=1000’	✓	Plan Set	
Shows area 1000’ from property lines	✓	Plan Set	
All existing subdivisions	✓	Plan Set	
Approximate tract lines of adjacent parcels	✓	Plan Set	
Approximate tract lines of parcels directly across street	✓	Plan Set	
Location of existing & proposed streets, easements, lot lines & bldg. lines of proposed subdivision & adjacent properties.	✓	Plan Set	
Existing Conditions Plan:			
Existing buildings	N/A		
Watercourses	N/A		
Legend	✓	Plan Set	
Wetlands	N/A		
Existing physical features (trees 10” diameter or more. Stone walls			✓
Trail System?	N/A		
Subdivision Plan:			
Date of plan submission, true north & graphic scale	✓	Plan Set	
Net residential acreage calculations	N/A		
Legend	✓	Plan Set	
Trail (connecting?)	N/A		
Widths of existing/proposed streets, easements & bldg. lines	N/A		
Names of existing/ proposed streets, easements & bldg. lines	✓	Plan Set	
Boundaries & designations of zoning districts, parks, public spaces	✓	Plan Set	
Outline of proposed subdivision w/ street system	✓	Plan Set	
Future probable street system of remaining portion of tract.	N/A		

	Check if provided	Location of information in packet, e.g. plan #, page #	Waiver Request
Opportunities for Connecting Road(s) (13.2D)	N/A		
Space and Setback of district	✓	Plan Set	
Classification of road	N/A		
Width of road(s)	N/A		
Drainage type (open, closed, mix)	✓	Plan Set/Stormwater Management report	
Type of byway provided (8.4D)	N/A		
Names of adjacent subdivisions	✓	Plan Set	
Names of owners of record of adjacent acreage	✓	Plan Set	
Any zoning district boundaries affecting subdivision	N/A		
Location & size of existing or proposed sewers, water mains, culverts, hydrants and drains on property	✓	Plan Set	
Connections w/existing sewer or water systems	✓	Plan Set	
Private water supply shown	N/A		
Private septic shown	N/A		
Hydro-geologic study			✓
(option for Board)			
Test pit locations	✓	Plan Set	
Well locations	N/A		
Signature & lic. # of site evaluator	N/A		
Existing streets: location, name(s), widths w/in and abutting	✓	Plan Set	
Proposed streets: location, name(s), widths w/in and abutting	✓	Plan Set	
The above for any highways, easements, bldg. lines, alleys, parks, other open spaces w/in and abutting	N/A		
Grades & street profiles of all streets, sidewalks or other public ways proposed	✓	Plan Set	
2'contour lines	✓	Plan Set	
High intensity soil survey by cert. soil scientist			✓
Soil boundaries & names superimposed on plot plan	✓	Plan Set	
Deed reference & map of survey of tract boundary by reg. land surveyor tied to established reference points	✓	Plan Set	

	Check if provided	Location of information in packet, e.g. plan #, page #	Waiver Request
Surface drainage or stormwater mgmt plan w/profiles & cross sections by a P.E. showing prelim. design and conveyances	✓	Plan Set/Stormwater Management report	
Proposed lot lines w/ dimensions and suggested bldg. locations.	✓	Plan Set	
Location of temp. markers in field	✓	Site walk diagram	
All parcels proposed to be dedicated to public use and conditions of such.	N/A		
Location of all natural features or site elements to be preserved	✓	Plan Set	
Street lighting details	✓	Plan Set	
Landscaping and grading plan including natural features to be preserved	✓	Plan Set - Landscape Plan	
Survey stamped by P.E.	✓	Plan Set	
Soil surveys w/# of soil scientist	N/A		
Septic plan w/ # of prof. site evaluator	N/A		
Geological evals w/ reg. geologists number	N/A		
Architect's seal	✓	Plan Set - Arch Renderings	
For Rt. One: 75' undisturbed buffer applicable to all buildings, structures, parking areas, drainage facilities and uses.	N/A		
Open Space?	✓	Plan Set	
Any part of parcel in a shoreland zone?	N/A		
Flood Map Number and rating?	N/A		
Stormwater Report?	✓	Application Section G	
Rivers, ponds, wetlands?	N/A		
Historic, archeological features?	N/A		
Solid waste disposal?	✓	Plan Set	
Required Notes on Plan:			
Fire Department notes	✓	Plan Set	
Clearing limits note	✓	Plan Set	
Re: approval limit of 90 days before recording or null p. 10	✓	Plan Set	
Actual field survey of boundary lines w/ monumentation shown	✓	Plan Set	
Assessor's approval of street names and assignment of lot numbers.	N/A		

	Check if provided	Location of information in packet, e.g. plan #, page #	Waiver Request
Designation of all open spaces w/ notes on ownership	N/A		
Copies of declarations, agreements or other documents showing the manner in which open space or easements are to	N/A		
Written offer for any conveyance to the Town of open space or easements along with written evidence that the Council is willing to accept such offer	N/A		
Evidence of Outside Agency Approvals		**forward upon receipt**	

As per Section 7.2 - REVIEW AND APPROVAL BY OTHER AGENCIES:

E. *Where review and approval of any subdivisions or site plan by any other governmental agency is required, such approval shall be submitted to the Planning Board in writing prior to the submission of the Final Plan.*

Please list below all outside agency approvals that are required for this subdivision.

- **Maine Department of Environmental Protection**: *List type of permit(s) required (e.g., SLODA, NRPA (tier type?), Maine Construction General Permit, etc.)*
  Amendment to the SLODA permit is required through DEP
- **none** ***US Army Corps of Engineers***
- **none** **Maine Department of Transportation**: *List type of permit(s) required*.
- **none** ***Maine Department of Inland Fisheries and Wildlife***
- **none** **Cumberland County Soils and Water Conservation Service:** Required by Town.

Other: (Please List):____

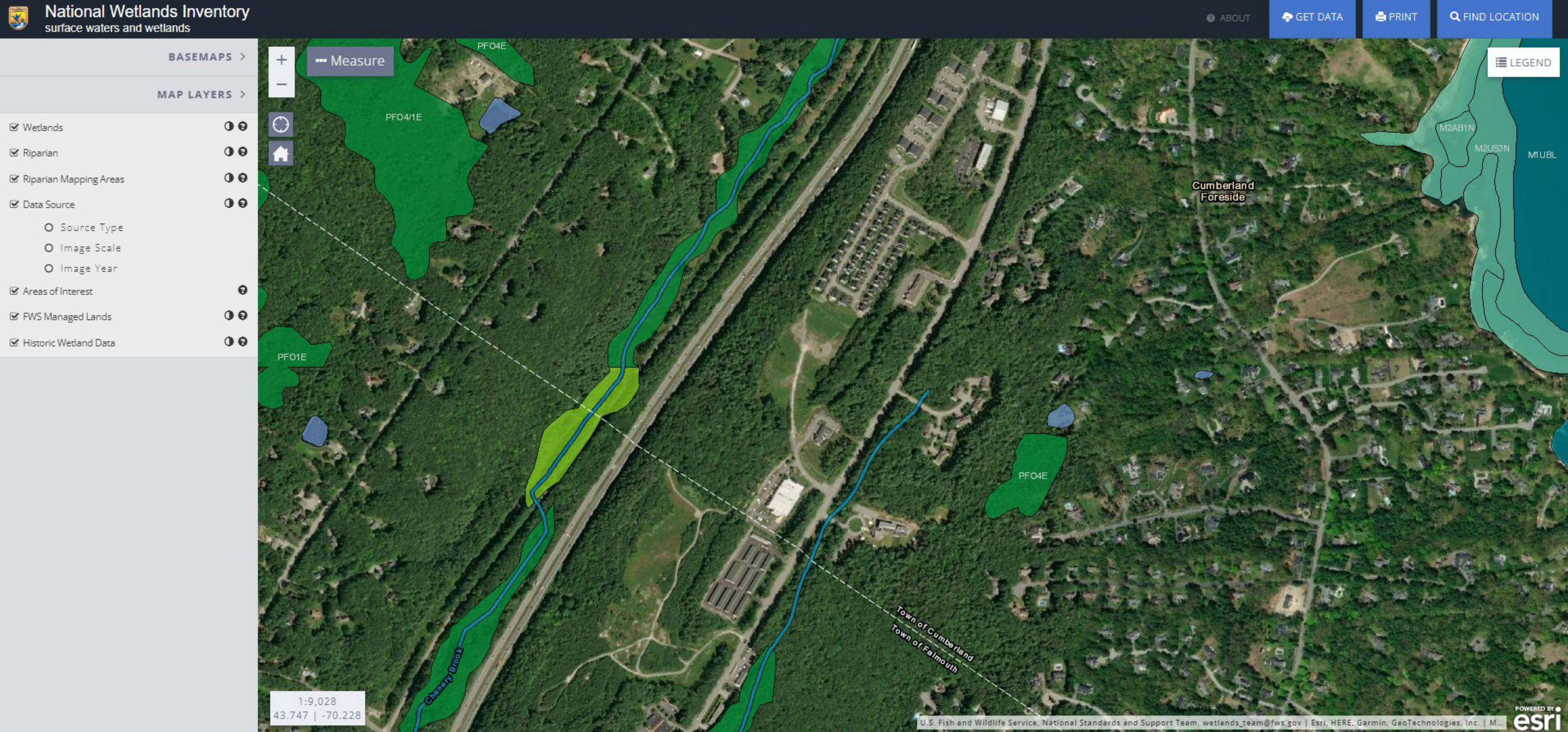
BwH Map Viewer

Welcome | Layers | Legend

Layer Details:

Toggle layers on and off. Layers with gray checkbox will appear once zoomed in or out to visible scale.

- Locator
  - State Of Maine Parcels
  - City/Township
  - Developed Land/Impervious Surfaces
- Important Natural Resources and Habitats
  - Physical Natural Resources
  - Rare Wildlife, Plants and Communities
  - Aquatic Species and Habitats
  - Other Important Wildlife Habitats
- Conservation and Connectivity Planning Resources
  - Blocks and Connectors
  - Conserved Lands
  - Focus Areas



National Wetlands Inventory
surface waters and wetlands
ABOUT
GET DATA
PRINT
FIND LOCATION
BASEMAPS
MAP LAYERS
Wetlands
Riparian
Riparian Mapping Areas
Data Source
Source Type
Image Scale
Image Year
Areas of Interest
FWS Managed Lands
Historic Wetland Data
Measure
LEGEND
PFO4E
PFO4/1E
PFO1E
PFO4E
M2AB1N
M2US3N
M1UBL
Cumberland Foreside
Town of Cumberland
Town of Falmouth
Chenery Brook
1:9,028
43.747 | -70.228
U.S. Fish and Wildlife Service, National Standards and Support Team, wetlands_team@fws.gov | Esri, HERE, Garmin, GeoTechnologies, Inc. | M...
POWERED BY esri

Waiver Request

<u>Submission Requirement</u>
Hydro-geologic study

<u>Waiver Request</u>
Eliminate the requirement to submit a Hydro-Geologic Study

<u>Explanation</u>
This development will be served by both public water and public sewer systems located within Sky View Drive. In addition, stormwater is proposed to be detained and treated on site within lined systems designed to maintain a separation from groundwater. There is no anticipated detrimental effects to the groundwater nor a need to determine the capacity of groundwater on site for this development.

Waiver Request

Submission Requirement

High Intensity soil survey by certified soil scientist

Waiver Request

Reduce the requirement from High Intensity to Medium Intensity (Class C) soil survey.

Explanation

This development will be served by both public water and public sewer systems located within Sky View Drive. In addition, stormwater is proposed to be detained and treated on site within lined systems designed to maintain a separation from groundwater. The types of soils on site will not be used to determine type of sewerage disposal system or stormwater treatment system on site and a Medium Intensity survey provides accurate enough information for site stormwater modeling.

Waiver Request

Submission Requirement
Existing physical features (trees 10” or greater)

Waiver Request
Eliminate the requirement to include location of individual trees

Explanation
Most of the development is within a cleared area on the property. Trees will be removed from the site to make room for the building and some outdoor activity areas, however the vast majority of existing trees on the property will be retained.

Waiver Request

Submission Requirement

Parking Requirement

Waiver Request

Reduce parking requirement from 2 spaces per dwelling unit to 1.4 spaces per dwelling unit.

Explanation

The Szanton Company completed a parking study of 55+ residents at our own properties in 2018 in preparation for an apartment building in Portland. Our parking study showed that:

- Portland based properties (based on 100% building occupancy):
  - 13 out of 28, 55+ households had cars for a rate of 46.4%
- Biddeford based properties (based on 100% building occupancy):
  - 40 out of 55, 55+ households had cars for a rate of 72.7%

In 2018, we also commissioned a Parking Assessment that was completed by Traffic Solutions in preparation for an apartment building for 55+ residents. This parking assessment looked at two senior housing facilities managed by Avesta Housing in the Greater Portland Area. The following information was gathered:

Table 1
Parking Utilization Data
Existing Greater Portland Area Senior Housing Facilities

Facility Location	# of Units	# of Site Spaces	July 2 Utilization Data		July 3 Utilization Data		July 5 Utilization Data		TOTAL	AVERAGE
			AM	PM	AM	PM	AM	PM		
Biddeford 5 Graham Street	35	26	n/a	18	18	17	17	17	87 vehicles	17.4 vehicles
Portland 47 Smith Street	20	20	n/a	5	5	6	6	6	28 vehicles	5.6 vehicles
TOTAL	55	46	n/a	23	23	23	23	23	114 vehicles	22.8 vehicles

NOTES:

(1) Avesta Housing provided information that all units at both identified senior housing facilities are currently occupied.

The results of the survey show a combined average peak parking demand of **22.8** parking spaces for the two senior adult apartment sites, which include a total of 55 senior adult housing units. Accordingly, the peak parking demand of the two Avesta properties is estimated at 0.41 spaces per apartment unit (22.8 ÷ 55 = 0.41 spaces per apartment unit).

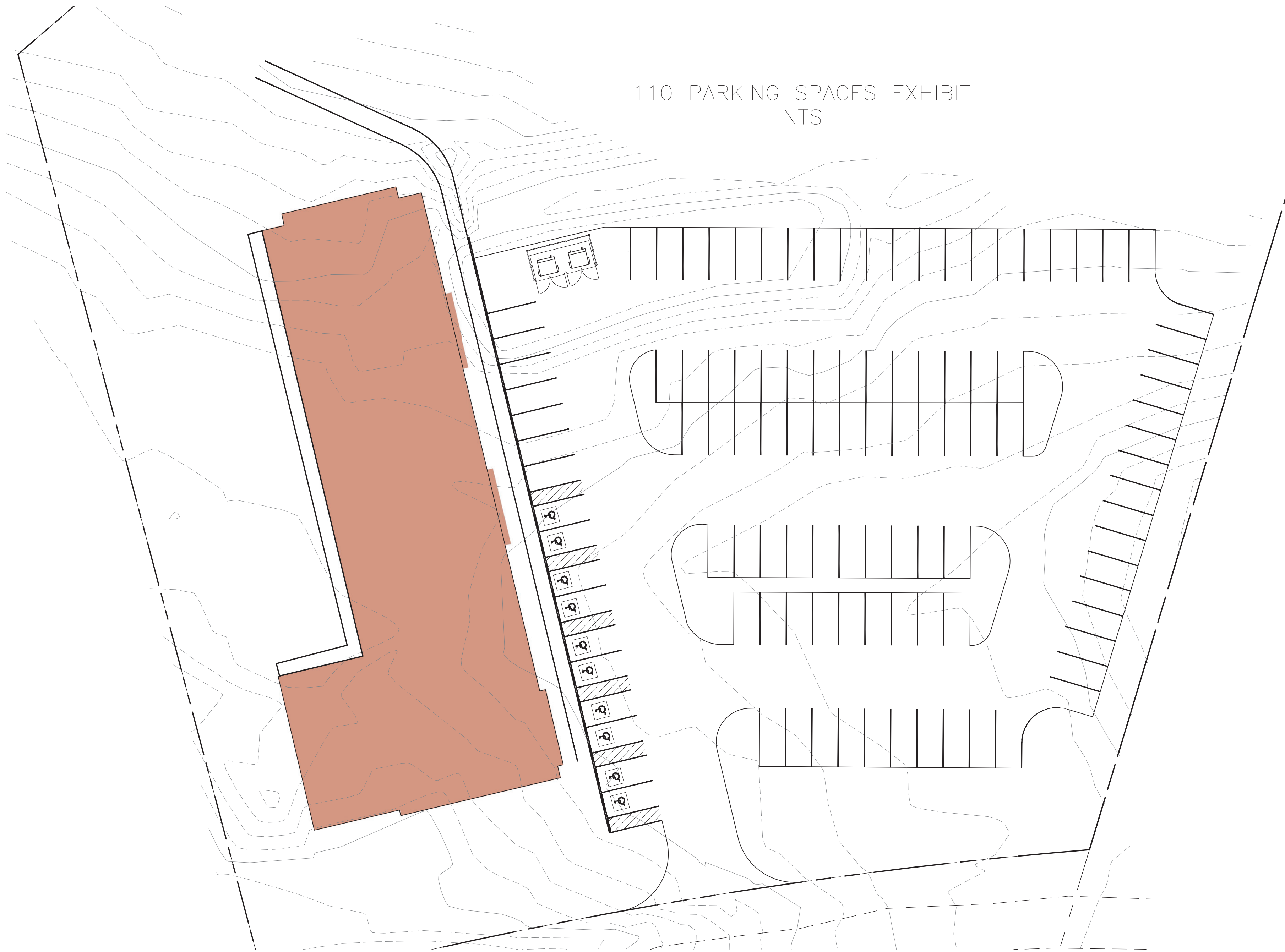
Traffic Solutions, applying the peak parking demand value of 0.41 spaces per unit, estimates the proposed 51 senior adult apartment units will require a minimum of 21 parking spaces to meet the estimated peak parking demand of the building tenants.

Unlike the Biddeford and Portland locations reviewed in these studies, the site located on Sky View Drive in Cumberland lacks access to public transportation and walkability to amenities within a half-mile. Due to this fact we acknowledge that White Rock Terrace will require more parking than is indicated in these studies.

Zoning requires 2 spaces per apartment. White Rock Terrace is largely one-bedroom units with only 8 of the 55 units being two-bedrooms. Due to the large number of one-bedroom units it is expected that many of the units will be occupied by single-person households and therefore only require on car. Due to this fact we are requesting to reduce the parking requirement from 110 spaces to 77 spaces. This will provide 1.4 spaces per apartment.

In addition, we have developed an alternative site plan option that shows the ability to add parking in the future if it is determined that the allotted 77 spaces are insufficient for demand.

110 PARKING SPACES EXHIBIT
NTS



Section C

Right, Title, & Interest

TO: KRISTIN MARTIN F: 207-245-6442

FROM: PETER KENNEDY 207-831-4586

WELL DONE!

Peter 26 APRIL 22

PURCHASE AND SALE AGREEMENT

This Purchase and Sale Agreement is entered into by the below-named parties as of the date on which the last to sign of Seller and Buyer have executed this Agreement as shown below next to their respective signatures (the "Effective Date").

1. PARTIES. HERITAGE VILLAGE DEVELOPMENT GROUP, LLC, a Florida limited liability company with a mailing address as set forth below ("Seller"), agrees to sell, and SZANTON MONKS PROPERTIES, LLC, a Maine limited liability company with a mailing address also set forth below ("Buyer"), agrees to buy, upon the terms and conditions hereinafter set forth, the real estate described in Paragraph 2 of this Agreement.

2. DESCRIPTION. The real estate to be sold by Seller to Buyer pursuant to this Agreement consists of a portion of the property of Seller located on Lot 7 ("Lot 7") of the Heritage Village Subdivision located on Rt. 1 in Cumberland, Maine, being generally shown on the sketch attached hereto as **Schedule A** thereto (the "Premises"). The boundaries of the Premises shall be determined by mutual agreement of the parties within 120 days of the Effective Date pending input from Town of Cumberland officials and the Buyer's engineering and design consultants, to be finalized by a survey of the Premises prepared by Owen Haskell, Inc. at Buyer's expense, and such metes and bounds surveyed description shall represent the Premises to be conveyed from Seller to Buyer at Closing.

The parties acknowledge the Buyer's intended use of the Premises to develop fifty-five (55) unit of high quality professionally managed rental housing for households headed by persons aged 55 years or more (the "Project") financed in part through the low-income housing tax credit and other sources provided or administered in part by Maine State Housing Authority and in compliance with the Amended and Restated Contract Zoning Agreement by and between the Town of Cumberland and Seller dated September 5, 2019 and recorded in Book 35978, Page 200 of the Cumberland County Registry of Deeds (the "Contract Zoning Agreement")

3. DEED. The Premises shall be conveyed by warranty deed (the "Deed"), which shall convey good and clear record and marketable title, free from all liens and encumbrances, with the exception of the easements, covenants and restrictions which do not, in the sole opinion of Buyer, adversely affect Buyer's proposed development of the Premises and do not violate or cause a violation of, or are otherwise inconsistent with, (i) any applicable local, state and federal laws, ordinances, rules and regulations; or (ii) any local, state or federal governmental permit, approval, license or consent which is necessary or convenient under applicable local, state and federal laws, ordinances, rules and regulations in order to permit Buyer's proposed development and use of the Premises.

4. PURCHASE PRICE. The purchase price (the "Purchase Price") for the Premises is Seven Hundred Seventy Thousand Dollars ($770,000.00), payable as follows:

(a) Within three (3) business days of the Effective Date, Buyer shall pay to Seller Three Thousand Dollars ($3,000.00) as an earnest money deposit (the "Deposit") to be held by Drummond Woodsum, counsel for the Buyer, and disbursed in accordance with, the terms and conditions of this Agreement, and to be applied toward the Purchase Price at Closing. Provisions regarding the refundability and non-refundability of the Deposit are in Sections 7 and 19; and

(b) The balance of the Purchase Price is to be paid to Seller by the Buyer at the time of Closing by certified or cashier's check, or wire transfer, subject to the credits and prorations hereinafter set forth.

5. WITHHOLDING TAX. Seller is hereby notified that Buyer will withhold two and one-half percent (2.5%) of the Purchase Price for transfer to Maine Revenue Services pursuant to 36 M.R.S.A. §5250-A unless (a) Seller furnishes a certificate to Buyer at the Closing, as hereinafter defined, stating, under penalty of perjury, that as of the date of the Closing, Seller is a resident of the State of Maine, or (b) Seller furnishes a certificate from the Maine Revenue Services to Buyer at the Closing stating that no taxes are due on the gain from the transfer of the Premises or that Seller has provided adequate security to the Maine Revenue Services to cover the tax liability resulting from said transfer.

6. TIME FOR PERFORMANCE/DELIVERY OF DEED.

(a) Except as expressly set forth to the contrary in this Agreement, the use of the "days" in this Agreement, including all addenda that may be made a part hereof, shall mean calendar days.

(b) The Deed and other transfer documents are to be delivered via overnight mail or by personal appearance by the Seller, and the consideration paid (the "Closing") on (i) the date that is eighteen (18) months from the Effective Date, or (ii) on such earlier date not less than seven (7) days following notice from Buyer to Seller thereof, at 11:00 a.m. at Drummond Woodsum, 84 Marginal Way, Suite 600, Portland, Maine or such other location as may be agreed by Buyer and Seller (the "Closing Date"). Notwithstanding the foregoing, Buyer shall have the right to extend the Closing Date for up to three (3) separate extensions of thirty (30) days (each, an "Extension Period") with the first such Extension Period extending the Closing Date an additional 30 days and each subsequent Extension Period extending the Closing Date an additional thirty (30) days from the then-applicable Closing Date. Buyer shall provide notice to the Seller of its exercise of each Extension Period prior to the then-applicable Closing Date. Upon Buyer's exercise of the first Extension Period, the Deposit shall be non-refundable and not applied to the Purchase Price at Closing.

7. BUYER'S INSPECTIONS.

Prior to the date set for Closing hereunder, Buyer and Buyer's agents, at their own risk and expense, shall have the right to enter, inspect, survey and conduct such other activities on or around the Premises as are necessary in order to conduct any investigations or inspections or surveys or other research as Buyer may choose to conduct or have performed, including without limitation geotechnical borings. Buyer shall be obligated to reasonably restore the Premises in a workmanlike manner promptly following the completion of any inspection or testing, except for the removal of any lead and asbestos sampling for which the Premises may be left as-is following the completion of such sampling. Buyer may terminate this Agreement prior to Closing if the results of Buyer's due diligence are unsatisfactory to Buyer in its sole discretion or for any other reason, by written notice to Seller. Upon any such termination within 120 days of the Effective Date, Buyer shall receive a full refund of the Deposit paid; after 120 days from the Effective Date, no amount of the Deposit shall be refunded to Buyer except if the Seller breaches or defaults under this Agreement or is unable to deliver title as required by this Agreement. Should after 120 days from the Effective Date Buyer notify Seller in writing that it no longer intends to close the transaction contemplated by this Agreement, Buyer shall assign and deliver to Seller all permits, approvals, surveys, drawings, environmental reports, any engineering reports affecting the Premises obtained by Buyer, if any, and to the extent permitted by law.

8. CLOSING DOCUMENTS. At the Closing, and in addition to any other documents referred to in this Agreement to be delivered to Buyer, Seller shall execute, acknowledge as necessary and deliver the following documents and such other documents as may be reasonably required to complete the transaction contemplated herein:

(a) Transfer Documents. The Deed and a Maine Real Estate Transfer Tax Declaration of Value; the real estate transfer tax imposed pursuant to 36 M.R.S.A. §4641-A shall be split equally between Seller and Buyer at Closing.

(b) Underground Oil Storage Tank Certification. A written notice certifying pursuant to 38 M.R.S.A. §563(6) an underground oil storage tank exists and shall disclose its registration number or numbers, the exact location of the facility, whether or not it has been abandoned in place, and that the facility is subject to regulation by the Maine Board of Environmental Protection; and

(c) Other Documents. Such other documents as are customarily delivered by Sellers to Buyers of real property in the State of Maine, including title insurance affidavits and reasonable evidence of Seller's company authority to sell the Premises.

9. SELLER'S WORK. Seller shall (i) preliminarily construct Skyview Drive, the road to the Premises from Route 1 as such is preliminarily depicted on Exhibit A of the Contract Zoning Agreement (the "Road"), sufficient for the passage of construction vehicles and including completion of a rough coat finish to the Road within six (6) months of the date of receipt of the Approvals, as such term is defined below; (ii) provide water, sewer, and electricity to the boundary of the Premises prior to Closing; and (iii) after Closing, complete the construction of the Road, including without limitation, the finish coat, within 3 months after receiving written notice from Buyer to proceed, which notice shall be given not later than 18 months after Closing. (collectively, the "Seller's Work"). Within a reasonable period of time after execution of this Agreement, Seller shall engage a contractor and other professionals as may be necessary to prepare plans and specifications for Seller's Work (the "Plans") and Seller shall deliver the Plans to Buyer within ten (10) days of Seller's receipt of the Plans for Buyer's approval, which shall not be unreasonably withheld. Buyer's approval or reasonable disapproval

shall be delivered to Seller within ten (10) days of Buyer's receipt of the Plans. If Buyer reasonably disapproves of any portion of the Plans, the parties shall meet, within five (5) business days after Buyer's disapproval, to agree upon revisions to the Plans to meet the reasonable satisfaction of Buyer. Buyer and Seller agree to cooperate in good faith to ensure the Plans are developed and approved in conjunction with Buyer's design and planning work for the Project so that governmental approval of the Plans and the Project can be concurrently obtained (collectively, the "Approvals"). Upon Buyer's approval of the Plans, Seller shall directly enter into an agreement(s) with third-party contractors to complete Seller's Work (each, a "Seller's Work Contract" and if more than one, collectively, the "Seller's Work Contracts") and to the extent required by law, Seller and its contractor(s) shall apply for and obtain all construction and/or any other permits, licenses or approvals from the Town of Cumberland required in order to perform Seller's Work. Seller shall provide Buyer with copies of all such Seller's Work Contracts and permits, licenses or approvals directly upon execution or receipt thereof. Seller's Work shall be conducted at Seller's sole cost and expense and in a good and workmanlike manner.

At Closing, Seller shall complete one of the following options to secure the completion of Seller's Work:

(i) An amount equal to One Hundred Fifty Percent (150%) of the sum of the costs per the Seller's Work Contracts to complete the portion of Seller's Work not completed by Closing shall be withheld from the Purchase Price and placed in a non-interest bearing escrow account by a mutually agreed upon escrow agent (the "Seller's Work Escrow") at Closing for application against Seller's obligations hereunder. Upon Seller's request, Buyer shall disburse reasonable monthly progress payments pursuant to Seller's Work Contract which shall be subject to a ten percent (10%) retainage payable on substantial completion of Seller's Work less 150% of punch list items. Upon completion of Seller's Work and payment for Seller's Work after Closing, any excess funds in Seller's Work Escrow shall be paid to Seller; or

(ii) Contingent on Buyer, Buyer's lenders, Buyer's low income housing tax credit investors, and Maine State Housing Authority's (collectively, "Buyer's Lenders") commercially reasonable approval, Seller shall deliver to Buyer an unconditional, clean, irrevocable letter of credit with a minimum term of twenty-four (24) months (the "Letter of Credit") in an amount equal to One Hundred Fifty Percent (150%) of the sum of the costs per the Seller's Work Contracts to complete the portion of Seller's Work not completed by Closing issued by a bank reasonably acceptable to Seller that accepts deposits, maintains accounts, and negotiates letters of credit. The Letter of Credit will be in form and content reasonably acceptable to Buyer, Buyer's lenders, Buyer's low income housing tax credit investors, and the Maine State Housing Authority. Buyer will pay all charges to obtain and maintain the Letter of Credit. The Letter of Credit will be payable solely upon its presentation with a sight draft and will be held by Buyer as security for the performance by Seller of its obligations to complete Seller's Work under this Agreement. If Seller fails to renew the Letter of Credit at least thirty (30) days before its expiration or replace it with a letter of credit satisfying the conditions of this Section, Buyer may draw upon the Letter of Credit in full and immediately deposit the proceeds with Buyer's attorney to be held in escrow for the purpose of securing Seller's obligation to complete Seller's

Work. If Seller completes Seller's Work, Buyer shall promptly return the Letter of Credit to Seller. Provided the bank issuing the Letter of Credit agrees, or provides its consent if necessary pursuant to the terms of the Letter of Credit, Buyer may assign the Letter of Credit, and Buyer's rights to issue a sight draft and present the Letter of Credit for payment and apply the proceeds thereof under this Agreement, to any one or more lender(s) providing or guarantying financing for the construction of the Project, or Buyer's performance of its obligations regarding the Project, without Seller's consent. Should Seller desire to elect this option (ii) to secure the completion of Seller's Work, Seller shall notify Buyer of the same and provide a draft of the proposed Letter of Credit to Buyer at least ninety (90) days prior to Closing for Buyer's and Buyer's Lenders' review, which consent shall be at Buyer's sole discretion, and Buyer's decision regarding such consent shall be given to Seller within thirty (30) days after Buyer's receipt of the proposed letter of credit. Should Seller fail to provide a draft of the proposed letter of credit to Buyer at least ninety (90) days prior to Closing or should Buyer not grant its consent in accordance with this Section, Seller shall proceed with option (i) above.

10. <u>POSSESSION AND CONDITION OF PREMISES</u>. Full possession of the Premises free of all tenants and occupants is to be delivered at the Closing, the Premises to be as is and in the same condition as they are now, reasonable wear and tear excepted. Seller agrees to make no change to the Premises in any manner inconsistent with the Contract Zoning Agreement, qualification of the Premises for low-income housing tax credits, and the development by Buyer thereof, as determined by Buyer in Buyer's sole discretion.

11. <u>EXTENSION TO PERFECT TITLE OR MAKE PREMISES CONFORM</u>. If Seller shall be unable to give title or to make conveyance, or to deliver possession of the Premises, all as herein stipulated, or, if at the time of the Closing the Premises do not conform with the terms and conditions hereof, then Seller shall use commercially reasonable efforts to remove any defects in title, or to deliver possession as provided herein, or to make the Premises conform to the terms and conditions hereof, as the case may be, in which event the time for performance hereof shall be extended for a period of up to forty-five (45) days, or such longer period as shall be agreed to by Buyer.

12. <u>FAILURE TO PERFECT TITLE OR MAKE PREMISES CONFORM</u>. If at the expiration of such extended time Seller shall have failed to remove any defects in title, deliver possession, or make the Premises conform, as the case may be, all as herein agreed, then, at Buyer's option, the full Deposit, together with all interest earned thereon, shall be promptly returned to Buyer and all other obligations of the parties hereto shall cease and this Agreement shall be void without recourse of the parties hereto.

13. <u>BUYER'S ELECTION TO ACCEPT TITLE AND CONDITION</u>. In addition to such other remedies available to Buyer under this Agreement, Buyer shall have the election to accept such title to the Premises in its then condition as Seller can deliver and to pay therefor the purchase price without deduction, in which case, Seller shall convey such title or deliver the Premises in such condition, except that in the event of such conveyance in accordance with the provisions of this clause the Premises shall have been damaged by fire or casualty insured against, then Seller shall, unless Seller have previously restored the Premises to its former

condition, and at Buyer's express election, pay over or assign to Buyer, on delivery of the deed, all amounts recovered or recoverable on account of such insurance, less any amounts reasonably expended by Seller for any partial restoration.

14. ACCEPTANCE OF DEED. The acceptance of the Deed and other transfer documents by Buyer shall be deemed to be a full performance and discharge of every agreement and obligation herein contained or expressed, except such as are, by the terms and conditions hereof, to be performed after the delivery of said documents or to otherwise survive the Closing hereunder.

15. USE OF PURCHASE MONEY TO CLEAR TITLE. To enable Seller to make conveyance as herein provided, Seller may, at the time of delivery of the Deed and other transfer documents, use the purchase money or any portion thereof, to clear the title of any or all encumbrances or interests, provided that all instruments so procured are recorded simultaneously with the delivery of said Deed and other transfer documents.

16. RISK OF LOSS. Until delivery of possession of the Premises from Seller to Buyer, risk or loss or damage to Premises by fire or otherwise shall be on Seller.

17. ADJUSTMENTS. All utilities shall be transferred to the Buyer as of the date of closing and the Seller shall be responsible for any utility charges prior to the date of closing, if any. The Buyer and Seller will each pay its share of the real estate transfer tax due on the sale as provided by law.

18. ADJUSTMENT OF UNASSESSED AND ABATED TAXES. Real estate taxes and any other municipal charges and assessments will be prorated as of the date of closing.

19. BROKERAGE. Seller and Buyer each represent and warrant to the other that no brokers, agents or consultants have been employed with respect to this transaction by either of them other than the following: Malone Commercial Brokers (acting through Seller).The commission and/or compensation of Malone Commercial Brokers shall be paid by Seller. Seller and Buyer agree to indemnify and hold the other harmless from any claim by any other broker or agent claiming compensation in respect of this transaction, alleging an agreement with Seller or Buyer, as the case may be. This agreement to indemnify and hold harmless shall survive the Closing.

20. DEFAULT. Should Seller fail to fulfill Seller's obligations hereunder, Buyer may elect to receive a refund of the Deposit, or to pursue all available remedies, including specific performance and reasonable attorney's fees. Should Buyer fail to fulfill Buyer's obligations hereunder, Seller shall retain the Deposit as liquidated damages as Seller's sole and exclusive remedy at law or in equity for Buyer's default without further recourse to Buyer and Buyer shall be relieved of all obligations hereunder.

21. SELLER'S WARRANTIES AND REPRESENTATIONS. Seller warrants and represents as of the date of execution by Seller of this Agreement and as of each date through and including the Closing that:

(a) That, to the best of Seller's knowledge, the information set forth in any property disclosures delivered by Seller to Buyer in connection with the delivery of this Agreement is accurate and complete;

(b) There is the best of Seller's knowledge, no hazardous or toxic wastes, substances, matters or materials, including but not limited to any material defined as hazardous or toxic from time to time by applicable state, local and federal law, are stored or otherwise located on the Premises or any adjacent property owned by Seller; and

In the event that changes occur as to any warranties and representations set forth in this Agreement, of which Seller has knowledge, Seller will immediately disclose same to Buyer when first available to Seller.

22. SELLER'S OBLIGATION TO PROVIDE DOCUMENTS.

Within ten (10) business days of the Effective Date, Seller shall provide access to Buyer of all documents (paper or electronic) in Seller's possession that could assist Buyer in the development of the Premises, including without limitation surveys, drawings, environmental reports, engineering reports, easements and any agreements affecting the Premises, together with any copies requested by the Buyer.

23. ASSIGNMENT. The rights and obligations of Buyer under this Agreement may be assigned, in whole or in part, by Buyer to an entity in which one of more of the principals of Buyer controls the entity or the entity's general partner, provided that such assignee agrees to assume all of Buyer's obligations hereunder not specifically retained by Buyer. The rights and obligations of Seller under this Agreement may not be assigned without the written consent of Buyer.

24. EXCLUSIVITY. Subject to the terms in Paragraph 2 above, Buyer shall have the exclusive right to purchase a portion of Lot 7 until the date that is 120 days after the Effective Date, and during such period the Seller shall not, directly or indirectly, engage in discussions or negotiations with any other person or entity relating to the sale, lease, or other disposition of all or any portion Lot 7.

25. MISCELLANEOUS.

(a) This Agreement shall be binding upon and inure to the benefit of the heirs, personal representatives, successors and assigns of the parties.

(b) Any notice relating in any way to this Agreement shall be in writing and shall be sent by (i) registered or certified mail, return receipt requested, (ii) overnight delivery by a nationally recognized courier, or (iii) hand delivery obtaining a receipt therefor, addressed as follows:

To Seller:	HERITAGE VILLAGE DEVELOPMENT GROUP, LLC 2341 Harbour Oaks Drive, Longboat Key, Florida, 34228
With copy to:	Philip H. Gleason, Esq. 24 Hillside Ave. Cumberland, Maine 04021
To Buyer.	SZANTON MONKS PROPERTIES, LLC c/o The Szanton Company 10 Free Street, 3rd Floor Portland, ME 04101 Attn: Nathan S. Szanton
With copy to:	John S. Kaminski, Esq. Drummond Woodsum & MacMahon 84 Marginal Way, Suite 600 Portland, Maine 04101-2480

and such notice shall be deemed delivered when so posted in the case of notice by certified mail, the next business day in the case of notice by overnight courier and the business day when delivered in the case of notice by hand delivery. Either party may, by such manner of notice, substitute persons or addresses for notice other than those listed above.

(c) All paragraph headings in this Agreement are for convenience of reference only and are of no independent legal significance.

(d) This Agreement may not be modified, waived or amended except in a writing signed by the parties hereto. No waiver of any breach or term hereof shall be effective unless made in writing signed by the party having the right to enforce such a breach, and no such waiver shall be construed as a waiver of any subsequent breach. No course of dealing or delay or omission on the part of any party in exercising any right or remedy shall operate as a waiver thereof or otherwise be prejudicial thereto.

(e) Any and all prior and contemporaneous discussions, undertakings, agreements (including without limitation any prior Agreements or Memorandums of Agreement previously executed by the parties hereto) and understandings of the parties are superseded by and merged in this Agreement, which alone fully and completely expresses their entire agreement.

(f) This Agreement may be simultaneously executed in any number of counterparts, each of which when so executed and delivered shall be an original, but such counterparts shall constitute one and the same instrument. This Agreement may be transmitted between the parties by DocuSign, facsimile machine and signatures appearing on faxed or emailed instruments shall be treated as original signatures. Docusigned, faxed or emailed Agreement containing either original or faxed or emailed signatures of all parties, and multiple counterparts of the same Agreement each containing separate original or faxed or emailed signatures of the parties, shall be binding on them.

(g) If any term or provision of this Agreement or the application thereof to any person or circumstances shall, at any time or to any extent, be invalid or unenforceable, the remainder of this Agreement, or the application of such term or provision to persons or circumstances other than those as to which this Agreement is held invalid or unenforceable, shall not be affected thereby, and each term and provision of this Agreement shall be valid and be enforced to the fullest extent permitted by law.

(h) It is expressly understood and agreed that time is of the essence in respect of this Agreement.

(i) This Agreement shall be governed by and construed and enforced in accordance with the laws in effect in the State of Maine.

IN WITNESS WHEREOF, Buyer and Seller have executed this Agreement as of the dates hereinafter set forth.

WITNESS:

SZANTON MONKS PROPERTIES, LLC

By: Nathan Szanton
Its: Manager

Date of Buyer's execution of this Agreement: April 22, 2022.

WITNESS:

Karen Kennedy

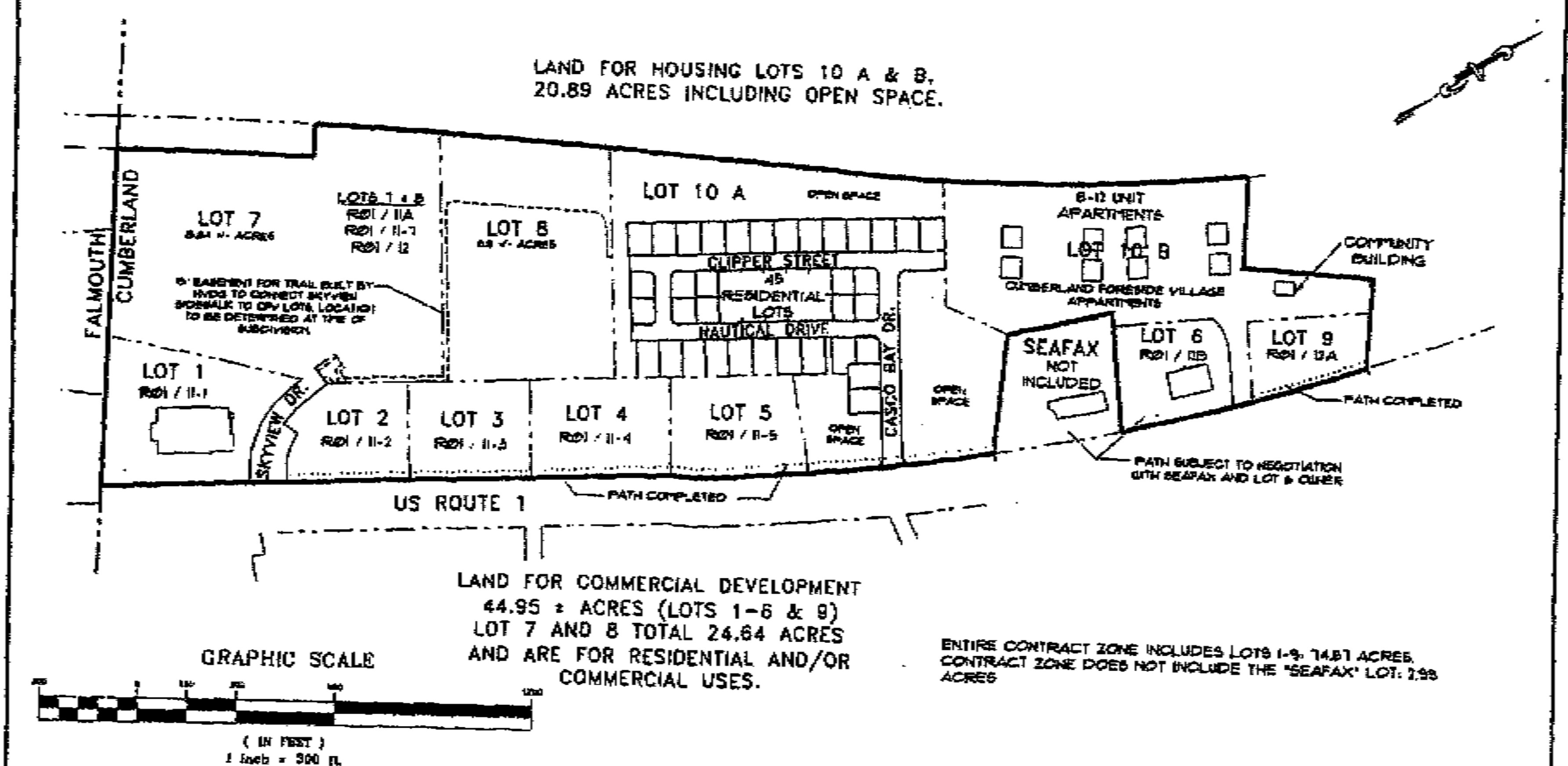
HERITAGE VILLAGE DEVELOPMENT GROUP, LLC

Peter D. Kennedy

By: Peter Kennedy
Its: President

Date of Seller's execution of this Agreement: April 26, 2022.

Exhibit A



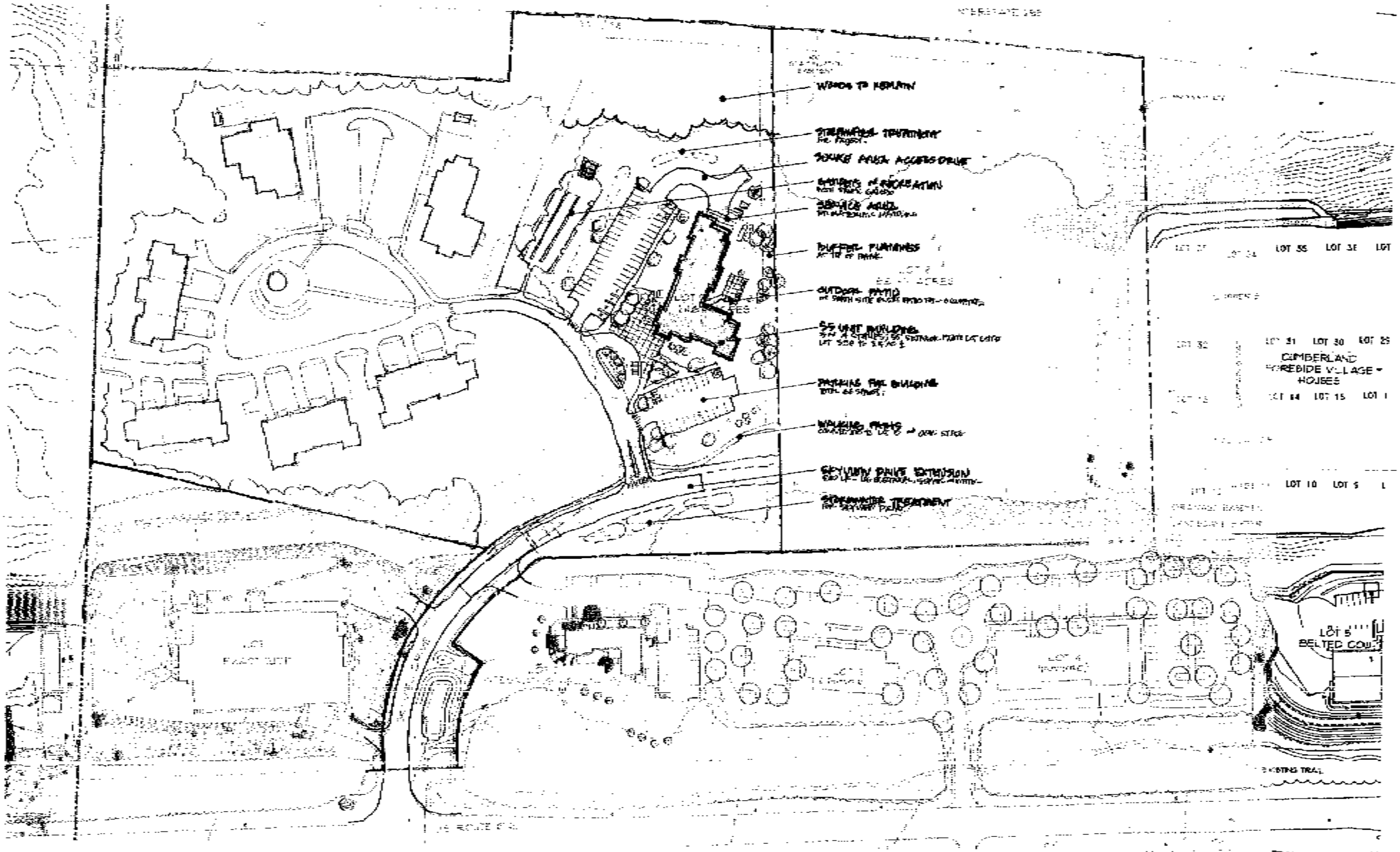
6	1/15/19	ADJUST LOT 7/LOT 8 LINE LOCATION
5	2/5/15	CHANGE SKYVIEW: RDV. NOTES, ADD TRAIL EASEMENT
4	2/10/16	REVISED LOT USES
3	1/28/16	ADDED TAX MAP & LOTS, CLARIFY ADDITIONAL AREA
2	1/25/16	DIVIDED LOT 9 FROM LOT 8
1	1/22/16	ADDED AREA TO CONTRACT ZONE

CONTRACT ZONE ILLUSTRATIVE PLAN
THIS IS NOT A SUBDIVISION PLAN

EXHIBIT A – CONTRACT ZONE 6-3-2019

HERITAGE VILLAGE DEVELOPMENT GROUP, LLC
CUMBERLAND FORESIDE VILLAGE
US ROUTE ONE, CUMBERLAND

SCALE: AS SHOWN DATE: MAR. 27, 2018 CHECK BY: SBM PROJECT: 111-HC



Per CZA Filed Amendment Language

Lot Division Plan

U.S. Route One, Cumberland, Maine
Heritage Village Development Group LLC

LOT DEVELOPMENT STUDY
BRANTON HOMES PROPERTIES, LLC
APRIL 2022
HERITAGE VILLAGE DEVELOPMENT GROUP, LLC

WALSH

Section D

200 Foot Radius Abutter List

STATE OF MAINE
DIV 24 STATE HOUSE STATION
AUGUSTA, ME 04333

HARDY, STREET, LLC
70 SUNSET PARK RD
ELLSWORTH, ME 04605

INTEGRATIVE, HEALTH CENTER OF ME
15 SKYVIEW DR, UNIT 1
CUMBERLAND FSDE, ME 04110

15 SKYVIEW HOLDINGS, LLC
15 SKYVIEW DR, SUITE 101
CUMBERLAND FSDE, ME 04110

LOLA IN PEARLS, LLC
12 RAILROAD ST
NEWPORT, ME 04953

ELIKRIS, REALTY LLC
11 COLEMAN WAY
FALMOUTH, ME 04105

BELTED COW REALTY LLC
42 US ROUTE 1, SUITE 2
CUMBERLAND FSDE, ME 04110

CUMBERLAND FORESIDE, VILLAGE HOMEOWNERS
ASSOCIATION
190 US RTE 1, PMB 3197
FALMOUTH, ME 04105

IVES, ELIZABETH R
18 NAUTICAL DR
CUMBERLAND FSDE, ME 04110

BELL, RONNIE-LYNN
20 NAUTICAL DR
CUMBERLAND FSDE, ME 04110

MCKENNEY, PETER C
639 GUILD DR.
VENICE, FL 34285

MAGEE, RHION
26 CLIPPER ST
CUMBERLAND FSDE, ME 04110

YOUNG, KIMBERLY
25 CLIPPER ST
CUMBERLAND FSDE, ME 04110

PAYNE, ERIC M
23 CLIPPER ST
CUMBERLAND FSDE, ME 04110

Section E

Financial & Technical Capacity

E. Technical Capacity

Please find attached descriptions and examples of technical capacity for The Szanton Company and Acorn Engineering.

White Rock Terrace

In the last 19 years, The Szanton Company has developed 11 buildings located in Portland, Biddeford, Lewiston, Auburn, Bath, Maine and Exeter, New Hampshire. There are a total of 560 apartments in these 11 buildings. There are 2 additional buildings in under construction and 3 in pre-development including White Rock Terrace.

All of these buildings have been developed using MaineHousing's Low Income Housing Tax Credit Program. Under this program MaineHousing awards Low-Income Housing Tax Credits that are sold for equity providing funds for construction. Additionally, MaineHousing provides subsidy and a mortgage for funding.

The Szanton Company plans to use this same model in the development of White Rock Terrace. Our pre-application was submitted to MaineHousing in October of 2022 to be awarded tax credits. Additionally, an application was submitted to the Cumberland County HOME Consortium for an award of HOME funds

Statement of Financial Capacity

The total project budget is approximately $19,000,000. Financing sources are projected as follows:

After Occupancy

Amount	**Source**	**Description / Notes**
$6,418,000	Low-Income Housing Tax Credit (LIHTC) Equity	An application has been submitted to the MaineHousing 4% PLA program in October 2022. MaineHousing allocates the right to take these tax credits, which are spaced out over ten years. These tax credits are sold to investors and the proceeds are used as equity to pay for the construction and other costs of the development. We have a long standing relationship with Evernorth, as an investor in this type of project through the purchase of LIHTC.
$6,490,000	Low-Income Housing Subsidy	Subsidy from MaineHousing that is tied to the allocation of LIHTCs.
$4,912,000	MaineHousing debt	An interest-bearing mortgage on the property and improvements from MaineHousing.
$600,000	HOME Funds through the Cumberland County Consortium	Deferred loan from the Cumberland County HOME Consortium County HOME Funding. We applied for this source in 2022.

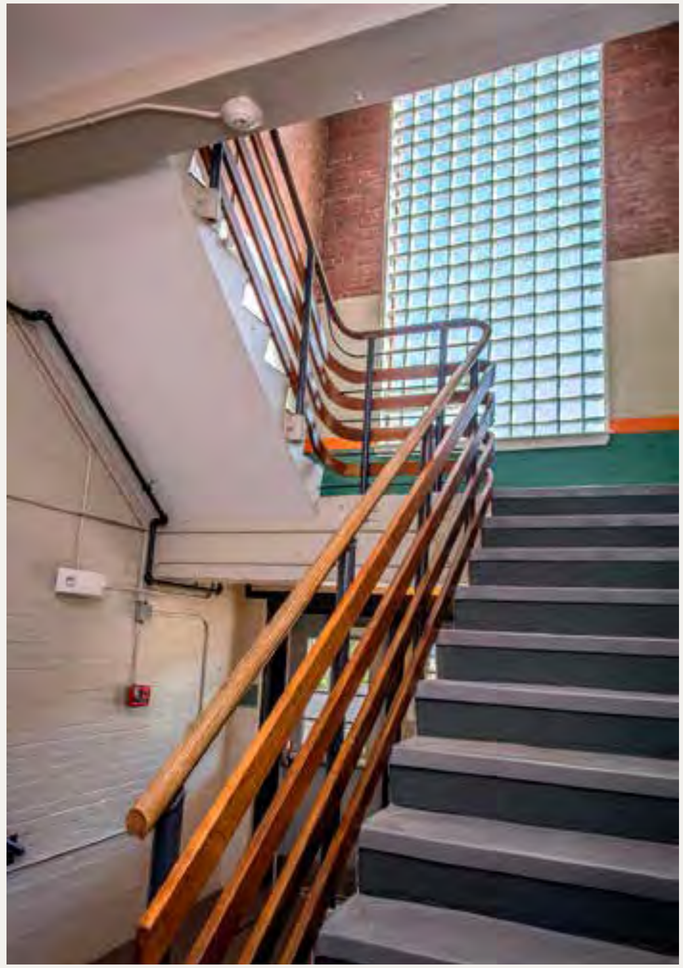
During Construction

Note: total amount needed during construction is approximately $17,000,000, which is the portion of the total budget required during construction. This total does not include approximately $2,000,000 that is paid at permanent loan closing, including a portion of developer fees; tax/insurance reserves; operating reserves; rent-up reserves; capital replacement reserves; and tax credit monitoring fees.

Amount	**Source**	**Description / Notes**
$12,000,000	Construction Loan from Bank (letter of interest to be obtained as part of tax credit application)	Construction loan for the duration of construction and lease-up, typically 13-15 months.
$1,300,000	Low-Income Housing Tax Credit Equity	A portion of the tax credit equity is contributed during construction, per IRS rules.
$3,245,000	MaineHousing Subsidy	50% of their total award is available for construction financing.
$600,000	HOME Funding	We will ask for the County to provide the project the HOME funding for construction financing.

THE SZANTON COMPANY

an Affiliate of the Monks Companies


41 STATE STREET


Saco Falls

ABOUT THE SZANTON COMPANY

The Szanton Company, an affiliate of the Monks Companies, specializes in developing mixed-income rental housing in or near downtowns. We have completed eight apartment projects in Maine and New Hampshire totaling 393 units.

The mission of The Szanton Company is to create attractive and affordable rental housing that our residents are proud to call home. We do this by:

- Creating beautiful apartments of high quality in locations in or near downtowns, adding vitality to our cities and towns;
- Developing properties which provide a consistent, long-term return to their owners, thus ensuring their stability for residents, lenders, and neighborhoods;
- Serving people with diverse incomes;
- Creating amenities for our residents which enhance the quality of their lives;
- Incorporating environmental and energy sustainability in our properties, thereby reducing their impact on the earth's environment.

The Szanton Company is committed to long-term ownership of our apartment assets. In 2013, we founded Saco Falls Management, our property management arm, to ensure the highest standards of visual appearance and livability for our residents, neighbors, and communities.

Rooftop solar panels at 53 Danforth

PRINCIPALS & STAFF

NATHAN SZANTON, PRESIDENT

Nathan founded the company in 1996. Since then he has been responsible for developing 617 apartment units in 24 projects. As manager or principal partner in these projects, Nathan has successfully navigated the process of market research, site acquisition, design, regulatory approvals, financing, construction, and marketing.

He has committed himself to creating comfortable and affordable rental homes for residents with diverse incomes. Some of these have been adaptive reuses for underused historic buildings; others have been thoughtfully designed new construction. Nathan holds a B.A. from Harvard University and a J.D. from the University of Maine School of Law.

ROBERT C.S. MONKS, PRINCIPAL

Robert C.S. Monks is an active capital partner and also provides a deep understanding of real estate development and financing. Throughout his career he has founded, led, and grown 19 businesses in the financial services, real estate, technology and communications sectors.

In 2011, Bobby became an owner and Chairman of Spinnaker Trust, a Maine based trust company managing over $1 billion in assets. Bobby attended Duke University and graduated from the University of Southern Maine with a Bachelor's Degree in Political Science.

Above: Walker Terrace
Left: The Mill at Saco Falls

Facing Page: The Lofts at Bates Mill

THE HARTLEY BLOCK

155 LISBON STREET, LEWISTON, MAINE

Above: The Hartley Block
Left: Historic images of same location

Facing Page Top: The Hartley Block façade
Facing Page Bottom: Before construction

“WE ARE THRILLED THAT THE SZANTON COMPANY WILL BE REINFORCING OUR DOWN-TOWN HISTORIC AND COMMERCIAL CORRIDOR BY BUILDING THIS IMPORTANT PROJECT.”

—Lewiston Mayor Shane Bouchard

THE HARTLEY BLOCK brings new life to a prominent 175’ x 100’ empty lot on downtown Lewiston’s Lisbon Street. In 2004 and 2006, four connected historic buildings on Lisbon Street suffered extensive fire damage and were condemned and demolished, leaving a gaping hole in the city’s most iconic street. One of the buildings was the site of the 1906 art studio of Marsden Hartley, an important early modern American painter born and raised in Lewiston.

A mixed-use, mixed-income project, The Hartley Block features 63 apartments aimed at a diversity of income groups and 4,000 sq. ft. of retail space along Lisbon Street. The project includes a fitness center, community room, children’s playroom, dedicated bike storage, wi-fi and covered parking directly behind the building. The site is within easy walking distance of the public library (across the street), shops, restaurants, cafes, and two major parks.

This project adds momentum to downtown Lewiston’s resurgence, including street-level public art at the entrance. Two 9-foot mosaic tile works, after Marsden Hartley paintings, animate its façade.

YEAR COMPLETED: 2019
UNITS: 63 (22 Market-Rate + 41 Income-Restricted)
ARCHITECT: Platz Associates
CONSTRUCTION MANAGER: Hebert Construction
FINANCING: MaineHousing; TD Bank; Northern New England Housing Investment Fund; City of Lewiston.

48 HAMPSHIRE

48 HAMPSHIRE STREET, AUBURN, MAINE

Located at the corner of Hampshire and Troy Streets, 48 HAMPSHIRE will aid the revitalization of downtown Auburn's important Hampshire Street corridor by bringing 53 high-quality new apartments to the neighborhood.

These will be a mixture of one, two and three-bedroom units, varying in size from 590-950 square feet. Included in the rent are heat and hot water, off-street parking, wi-fi, fitness center, community room and indoor bike storage.

48 Hampshire is located within easy walking distance of the public library, YMCA, shops, restaurants, grocery store, drugstores, and all the amenities of downtown Auburn.

The Szanton Company broke ground in March 2019 and expects to open to residents in April 2020.

Above: Rendering of completed project
Left: Same location, prior to construction

“We are looking forward to watching yet another major construction project in our downtown take shape — one that will provide quality workforce housing, inject capital into our local economy, and enhance the image of Auburn as we become the best small city in New England”

—Auburn Mayor Jason Levesque

Above: Rendering of East elevation

PROJECTED COMPLETION: 2020
UNITS: 53 (11 Market-Rate + 42 Income-Restricted)
ARCHITECT: Platz Associates
CONSTRUCTION MANAGER: Benchmark Construction
FINANCING: MaineHousing; Boston Financial;
NBT Bank; City of Auburn.

THE FURMAN BLOCK

100 PARRIS STREET, PORTLAND, MAINE

Above: Rendering of completed project, from corner of Kennebec and Brattle Streets

Right: Before construction, Nathan Szanton and Amy Cullen on project site

"I think this is the next big step in creating a multi-use neighborhood in this part of Bayside. It's pretty exciting to get this moving."

—Portland City Councilor David Brenerman

THE FURMAN BLOCK is The Szanton Company's first mixed-income project specifically for seniors, ages 55 and over. Located in the heart of Portland's West Bayside neighborhood, it's a short walk to Whole Foods and Trader Joe's, small restaurants and delis, the 3.5 mile trail that loops around Back Cove and a few blocks from downtown Congress Street's arts, business, and shopping district.

The property will feature 46 1-bedroom and five studio apartments. Some residents will have water views of Back Cove; others will enjoy views of Deering Oaks Park or Portland's downtown. All will have abundant natural light. Included in rent are heat and hot water, a fitness center, indoor bike storage and wi-fi. The property also features a community room and coin-op laundry. The street-level commercial space, to be owned and managed by Ross Furman, will be a combination of artists' studios and gallery space.

Repurposing an empty gravel lot at the corner of Parris and Kennebec Streets, The Furman Block contributes to the revitalization of this former industrial neighborhood.

PROJECTED COMPLETION: 2020
UNITS: 51 (11 Market-Rate + 40 Income-Restricted)
ARCHITECT: Archetype, P.A.
CONSTRUCTION MANAGER: Hebert Construction
FINANCING: MaineHousing; Northern New England Housing Investment Fund; City of Portland.

Above: Rendering of completed project, from corner of Kennebec and Parris Streets

REFERENCES

AUBURN

PETER CRICHTON
City Manager
207-333-6601, pcrichton@auburnmaine.gov

MICHAEL CHAMMINGS
Director of Economic and Community Development
207-333-6601, mchammings@auburnmaine.gov

BATH

PETER OWEN
City Manager
207-443-8330, powen@cityofbath.com

BIDDEFORD

JOHN BUBIER
Former City Manager
207-846-1515, john.bubier@gmail.com

ALAN CASAVANT
Mayor
207-284-4690, acasavant@biddefordmaine.org

GREG TANSLEY
City Planner
207-284-9115, gtansley@biddefordmaine.org

EXETER

RUSSELL DEAN
Town Manager
603-773-6102, rdean@exeternh.gov

DOUG EASTMAN
Building Code Enforcement Officer
603-773-6113, deastman@exeternh.gov

LEWISTON

ED BARRETT
City Administrator
207-513-3200, ebarrett@lewistonmaine.gov

DAVID HEDIGER
Director of Planning and Code Enforcement
207-513-3222, dhediger@lewistonmaine.gov

LINCOLN JEFFERS
Director of Economic and Community Development
207-513-3014, ljeffers@lewistonmaine.gov

PORTLAND

MARY DAVIS
Director of Housing and Community Development Division
207-874-8711, mpd@portlandmaine.gov

JILL DUSON
City Councilor
207-878-0769, jduson@portlandmaine.gov

NICK MAVODONES
City Councilor
207-774-0257, nmm@portlandmaine.gov



ACORN ENGINEERING, INC.

COMPANY PROFILE

Acorn Engineering, Inc. is a Portland-based civil and environmental engineering firm of nine full-time employees and four construction inspectors. Acorn's team has a diverse portfolio providing Maine with quality engineering and environmental services as well as state-wide construction administration on behalf of the Maine Department of Transportation.

A cornerstone of Acorn Engineering is the attention to quality and exceptional level of service on every project, regardless of size. Our engineers and scientists pride themselves on their extensive experience, which is backed by a broad knowledge of civil and environmental engineering practices from smaller residential projects to larger commercial projects that integrate environmental assessment and site redevelopment.

Acorn Engineering has demonstrated the ability to breakdown and synthesize widely disseminated regulations into accepted engineering practices and practical site assessment and development. As a result of Acorn's efforts, the Cumberland County Soil & Water Conservation District recently recognized Acorn as the Contractor of the Year. This was the first award associated with the nationally recognized Long Creek Restoration Project and the first time the Cumberland County Soil & Water Conservation District ever recognized an engineering firm as their Contractor of the Year.

Acorn's expertise covers the areas of: civil/site design, evaluation, development, and permitting; and construction phase services such as construction administration, construction documents, project bidding, and site inspection including erosion and sedimentation control. Acorn's experience also includes the field of environmental engineering and compliance such as: Phase I and Phase II environmental site assessments, soil and groundwater remediation planning and design; Maine's Voluntary Response Action Program (VRAP); and stormwater treatment system design and permitting.

Acorn's engineers have designed, permitted, and overseen construction on numerous single-family and multifamily residential projects including traditional subdivision designs featuring on-site sewage/septic disposal and drilled wells. Furthermore, Acorn has demonstrated extensive experience and capabilities with municipalities, the Maine Department of Transportation (MDOT), Maine Department of Environmental Protection (MDEP), soil & water conservation districts, conservation commissions, municipalities, and the private sector on environmental and site development projects as demonstrated by the following:

- Listed on Maine DEP's Pre-Qualified Vendor List for Environmental Consulting Services
- Listed on Maine DOT's Pre-Qualified Consultants for eight service areas (listed under Section I.D)
- Cumberland County Soil & Water Conservation District Contractor of the Year for work on the Long Creek Restoration Project

- **Public Works Redevelopment – Meeting House Hill**

Over the past two years, Acorn Engineering has worked in close association with the City of South Portland, neighbors, and private clients on the re-development of the former Public Works facility. The 6-acre site is nestled in the middle of the Meeting House Hill residential neighbor-hood and is currently a mix of storage buildings, fuel fill stations, miscellaneous stockpiles, and pavement. The site will be redeveloped into a mix of multifamily townhomes and single-family dwellings comprising 38 units along with a public park and community gardens.

In addition to the environmental remediation, Voluntary Response Action Program (VRAP), and other environmental considerations given the previous land use, the project is subject to a Maine DEP stormwater management law. The redevelopment design results in a reduction in impervious area of over 50% and reduces land use intensity across the site. Though not required, several stormwater BMP's have been implemented into the site as a best practice, further attenuating and treating stormwater runoff. In addition to the significant redevelopment plan, Acorn has designed an infrastructure plan to separate the storm and sewer mains. This will include installing 400 feet of new storm drain along the existing O'Neil Street right-of-way and 700 feet of new storm drain along the proposed O'Neil Street right-of-way extension. Overall, this effort will reduce the effects of combined sewer overflows (CSO) into Casco Bay which occur due to wet-weather events and the wastewater treatment plant's inability to provide capacity for both storm and sanitary sewer flows.

As part of this project, Acorn held a multitude of meetings with the City including the assistant City manager, the former Mayor, the entire planning division, and the chief engineer of Public Works. Furthermore, Acorn has collaborated with department heads of the Fire, Parks, Public Works, and Water Resource departments to ensure a feasible and ideal project for all parties. As a result, the process was truly a collaborative effort with a number of stakeholders weighing in on the design.

- **Munjoy Heights**

Acorn provided civil/site engineering and permitting for the design of Munjoy Heights – a six townhome, 29-unit development on the steep slopes of Munjoy Hill in the City of Portland. Acorn designed and developed construction drawings for the sanitary sewers, storm drains, water mains, driveways and pedestrian circulation, retaining wall locations, building locations, and drainage infrastructure to be built in compliance with City standards.

A key component to the project was coordinating with the City on the future combined sewer separation project and the site's overall stormwater management. Additionally, discussions with neighbors and stakeholders were paramount in the project's success.

The innovative urban infill project compliments the Munjoy Hill neighborhood with a communal design and plentiful native landscaping that replaced invasive species which previously dominated the eroding banks prior to the development. The $22 million project features a courtyard, terraced landscaping, a Portland Trails-maintained path that connects the redevelopment to the existing trail system, and low impact development (LID) techniques that meet MDEP Chapter 500 regulations. The stormwater management includes an underdrained sand filter and chambers that detain and treat stormwater on site in tandem with strategically placed rain gardens.

The project required extensive coordination and collaboration between the client, City of Portland, Portland Trails, the structural engineer, the architect, and the contractor to successfully complete the project with the first "woonerf" in the state and maintaining the existing public walking path through the property.

- **200 Valley St**

Working with Avesta Housing, Acorn Engineering provided civil engineering and permitting for Avesta's 60-unit project in the St. John Valley neighborhood. This urban infill project replaces the existing single-family house and abutting vacant lots into new affordable housing opportunities with two levels of covered parking, amenities, and a rebuilt project frontage with new sidewalks, street trees, and bicycle hitches.

As part of the project, Acorn developed a transportation and parking analysis to ensure that the provided parking will adequately serve the redevelopment. Furthermore, the design team identified and implemented multiple strategies to encourage residents to efficiently utilize the many modes of transportation available on the Portland peninsula.

- **Little Dolphin Drive & Jocelyn Place**

In collaboration with the South Portland Housing Authority and Risbara Holdings, Acorn provided civil engineering design and permitting of a multi-use subdivision at the end of Little Dolphin Drive in Scarborough. Proposed uses include a two-story office building and a three-story 60-unit senior housing facility with associated parking and landscaped areas.

In addition to a voluntary neighborhood meeting, the project went through a 3-step master plan phase with the Town of Scarborough in which the project was collaborated on with Planning Staff, the Planning Board, and neighbors.

The project is subject to Maine DEP and US Army Corps permits. To adequately treat stormwater on the site, Acorn has designed multiple stormwater BMPs meeting Maine DEP Chapter 500 regulations resulting in a low impact design.

- **89 Anderson Street**

In collaboration with Redfern properties and the East Bayside neighborhood, Acorn developed the civil/site engineering design of a mixed use 53-unit redevelopment of an existing under-utilized, urban infill lot in the East Bayside neighborhood. Acorn's scope of services included in the initial phase applying for and obtaining a zone change and conducting Phase I and Phase II Environmental Site Assessments to evaluate potential environmental contamination at the site.

After conducting the environmental remediation efforts, Acorn developed the site layout and design of sanitary sewers, storm drains, water mains, site driveway, retaining wall locations, building locations, parking lot design, building drainage structures, utility connections and landscaping plan (with a landscape architecture subconsultant) to meet the City of Portland Technical Standards. Acorn also integrated sidewalk and improvements associated with the project into the City's Anderson Street ByWay project. Furthermore, the project team worked with a non-profit organization, the Telling Room, to provide public art along the Fox Street streetcape in lieu of traditional fencing.

Overall, the project established an important mixed use building on a prominent corner lot adjacent to Kennedy Park which contains popular recreation space. The building houses a restaurant and the Gear Hub bicycle school on the first floor with residential apartments above which encourages an active street presence with housing, goods, and services that help tie the neighborhood together and keep eyes on the street.

- **667 Congress Street – The Hiawatha**

The $28 million project included the civil/site engineering design for the 8-story, first floor retail and 139-unit apartment building on Congress Street in Portland. Vehicle parking is served by two levels with separate access from Vernon and Avon St. The project featured building and site design in an historic district adjacent to Longfellow Square.

Services included, but is not limited to, permitting with the City of Portland, layout and design of sanitary sewers, storm drains, water mains, pedestrian and vehicle entrances, building locations, parking lot design, and parking garage grading and drainage. Acorn provided significant coordination between the Architect, Structural Engineer, Geotechnical Engineer, Construction Management Company, Owner, and the City.

Section F

Solid Waste

F. Solid Waste Disposal

The property management company or Owner shall be responsible for locating the solid waste and recyclable material to the space allocated for solid waste storage as noted on the Site Plan (C-10).

The solid waste containers will be fully enclosed and screened from the public view.

Section G

Stormwater Management

A C O R N ENGINEERING, INC.

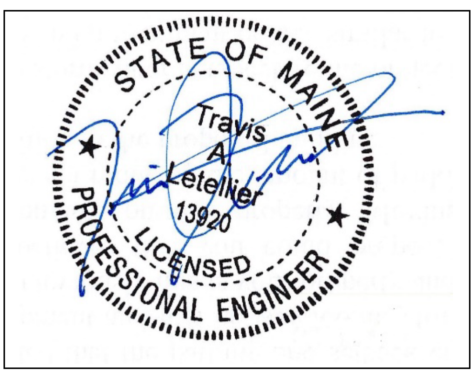
WHITE ROCK TERRACE STORMWATER MANAGEMENT REPORT

Prepared For:

The Szanton Company
Portland, Maine 04103

Prepared By:

Acorn Engineering, Inc.
PO Box 3372
Portland, Maine 04104



October 2022

INTRODUCTION

Acorn Engineering, Inc. has been retained by Szanton Company to provide civil engineering services for the proposed development at Sky View Drive. The property consists of approximately 4.47 acres of land and contains the following parcels (Map R1, Lot 107A).

A stormwater analysis was prepared to demonstrate that the project will meet the requirements set forth by Maine DEP Chapter 500 Basic and General Standards and the following requirements from the Town of Cumberland:

- Town of Cumberland Land Use Ordinance Article 14.6.2.D.
- Maine DEP Chapter 500 Stormwater Management.

EXISTING CONDITIONS

The project site is currently a portion of an undeveloped parcel, lot 107, within the Cumberland Foreside Village subdivision and will be accessed off Sky View Drive. The site has been partially cleared as part of the original subdivision build out and is a relatively flat site. No streams, wetlands or other protected natural resources are located on the property.

The site primarily consists of brush and wooded undeveloped area with two subcatchments.

- SC 1A – This subcatchment consists of primarily wooded land that slopes towards interstate 295.
- SC 2A – This subcatchment consists of woods and brush. A swale along Sky View Drive directs stormwater towards to Route 1 via stormwater BMP's within the Sky View Drive ROW.

It should be noted that the USGS soil survey has soil type HSG D in for the entire site.

PROPOSED DEVELOPMENT

The project features the development of a single four-story building with 55 one- and two-bedroom affordable rental units designated for senior housing. The building has a footprint of roughly 12,000 square feet and the development will provide 78 parking spaces and vehicular and pedestrian circulation. Overall the development will consist of 2.28 acres of disturbance, 1.86 acres of developed area including 42,700 sf (0.98 ac) of impervious cover.

The site has been graded to slope with the existing topography while providing for appropriate slopes in the parking areas. The slopes on the outside of the parking areas that are not part of a stormwater system will be appropriately stabilized per the specifications in the plans and are anticipated to be heavily landscaped for further slope protection and buffering. The majority of the site's runoff, including 97.6% of the new impervious area, will be piped or diverted to one of three stormwater BMP's on the property. The majority of strowmater treatment will be provided by a Grassed Underdrained Soil Filter (GUSF) located behind the dumpster enclosure. Additional treatment will be provided via two Roof Dripline

Filters and a Rain Garden.

The discharge from these systems will ultimately flow to a level lip spreader or riprap apron before entering the roadside ditch or surrounding woods. Two 15" storm drains are proposed to outlet into the existing ditch line with a proposed riprap apron to help reduce velocity, based on the peak 10-year flow rates the maximum water velocity discharging into the City's ditch system will be below 5 ft/sec. Maine DOT recommends grassed ditches be designed to ensure flow velocities are below 5 ft/sec for the 10-year storm, as such the stormwater outlet aligns with industry standard hydraulic design.

The development will be served by the Portland Water District, CMP, Spectrum, Consolidated Communications, and municipal sewer system. Utility mains and services have been coordinated with each respective utility company.

GENERAL STANDARDS – WATER QUALITY

All treatment BMPs proposed as part of this development were designed in accordance with The Maine Stormwater Management Design Manual Chapter 7.3 and 7.7.

Treatment Area
In accordance with Chapter 500, General Standard rules, treatment must be provided for no less than 95% of the impervious area and 80% of the developed area. As such, it is proposed that treatment is required via the GUSF, Roof Dripline Filter and Rain Garden BMP's.
The treatment of the impervious and developed surfaces by the BMPs are as follows:

Table 1 – New Impervious Area Treatment Area Table				
Existing Imp. Area (SF)	Proposed Total Imp. Area (SF)	Net Change in Imp. Area (SF)	Proposed Imp. Area with Treatment (SF)	% Overall New Imp. Area Treated
0	42,710	42,710	41,686	97.6%

Table 2 – New Developed Area Treatment				
Existing Dev. Area (SF)	Proposed Total Dev. Area (SF)	Net Change in Dev. Area (SF)	Proposed Dev. Area with Treatment (SF)	% Overall New Dev. Area Treated
0	81,225	81,225	65,000	80%

Grassed Underdrained Soil Filter

The grassed underdrained soil filter was sized to meet or exceed the requirements set forth within the MDEP Volume III BMPs Technical Design Manual, Chapter 7.3. Filter BMP

systems have shown to be effective at filtering out and removing a wide range of pollutants from stormwater runoff.
As shown above, the project anticipates meeting the required treatment for new impervious and developed surfaces with the filter BMPs.

Filter Area Sizing
A calculation for sand filter area is necessary to meet the requirements below the surface of the GUSF. As defined in the Volume III: BMPs Technical Design Manual, Chapter 7, the surface area of the filter shall be no less than the sum of 5% of the tributary impervious area and 2% of the tributary vegetated area. The filter area is calculated by the following formula:

[(Imp. SF x 0.05) + (Veg. SF x 0.02)] = Filter Area (SF)
Please refer to Table 2 below.

Table 2 – Total Filter Surface Area, displays the proposed USSF sizing requirements, actual size and the percentage of required area.

Table 3 – Total Filter Surface Area				
	Landscaped Area (SF)	Impervious Area (SF)	Required Filter Area (SF)	Actual Filter Area (SF)
GUSF	8,500	33,250	1,763	1,850

As shown, the size of the soil filter area will meet and exceed the surface area requirements.

Water Quality Volume
In accordance with the Volume III: BMPs Technical Design Manual, a water quality volume of 1.0 inches times the tributary impervious area plus 0.4 inches times the tributary vegetated area is required to be treated by the USSF. The water quality volume is calculated by the following formula:

$$\left(\frac{\text{Imp. SF x 1.0''}}{\text{12''/1'}}\right) + \left(\frac{\text{Veg. SF x 0.4''}}{\text{12''/1'}}\right) = \text{Treatment Volume (CF)}$$

The proposed water quality volume is as follows:

Table 5 – Water Quality Volume Table				
	Landscaped Area (SF)	Impervious Area (SF)	Treatment Volume Required (CF)	Treatment Volume Provided (CF)
GUSF	8,500	33,250	3,111	3,638

As shown, the size of the combined water quality volume will meet and exceed the treatment volume requirements. Values from the HydroCAD calculations are attached to this report.
The treatment volume was calculated by using the HydroCAD model and the rainfall that produces 18" of ponding within the pond.

A vertical orifice is modeled in HydroCAD at the end of the underdrain outlet to detain the stormwater for an approximate 24-hour time frame. The orifice is intended to be a PVC cap placed on the outfall pipe (no glue) with the orifice drilled into the cap eccentrically. The PVC cap can be easily inspected, removed, or replaced if necessary.

Roof Drip edge Filter:

At 2.5’ deep with clean, free-draining crushed stone, the new buildings will take the direct entry from the roof runoff before filtering this runoff through media. These systems are oversized in comparison to the tributary roof areas and provide storage for a 10-year storm or greater before overflowing away from the buildings.

FLOODING STANDARD – WATER QUANTITY

The proposed project was modeled using HydroCAD to verify that the post-development conditions do not exceed the pre-development conditions. A 24-hour SCS Type III storm distribution for the 2, 10, and 25-year storm events were used. The corresponding rainfall amounts for these storms are 3.10”, 4.60”, and 5.80” respectively. Due to the numerous variables, and inherent inaccuracies with the modeling program used to calculate stormwater runoff it is custom at Acorn Engineering, Inc. to round to the nearest whole number. However due to the small size of the project and the minimal existing flows, the stormwater runoff shall be rounded to the nearest tenth of a cubic feet per second (cfs).

Time of Concentration (Tc)

The times of concentration for subcatchments in both the pre and post conditions were calculated by entering the flow path with the associated ground cover and slopes. HydroCAD then calculated the Tc’s and incorporated the total Tc for each subcatchment into the model. When the calculated Tc was less than six minutes (0.1 hours), a direct entry of six minutes was used as advised by the TR-55 model. Consistent with previous submissions and best practices, the sheet flow length for any Tc path was capped at 100 feet.

Curve Number (CN)

Within the pre-development model, the wooded and vegetated ditches were conservatively considered good condition with appropriate underlying soil hydrologic group. In particular, the woods were given a “good” condition throughout the entire development. Based upon the understory, the CN value contained either light underbrush or dense underbrush, depending on the location as verified by multiple site visits. The site generally features denser underbrush towards the back of the parcels and less dense underbrush closer to Washington Avenue. Lastly, the wetlands were modeled as Woods in the D condition in both the pre and post.

The post development landscaped areas were given a good rating within the appropriate underlying hydrologic soil group. This assumption is reinforced given the aggressive landscape plan which will feature more porous conditions that are appropriately mulched along with future extensive root systems and canopy cover that will exist once the landscaping has matured.

Pre-development Calculations

The site consists of wooded area and wetlands in the predevelopment condition, for the purpose of this analysis the land has been divided into six separate sub catchments.

The existing cross culvert underneath Washington Ave, as well as the catch basin outlet for the northern Washington Ave ditch have been included in the model as reaches. The intent of this is to measure the capacity of the existing infrastructure down stream of any proposed peak flow alterations.

Peak flow rates for the pre-development storm events are as follows:

Table 6 – Pre-Development Peak Stormwater Flows			
Drainage Area	2-Year Storm Event (cfs)	10-Year Storm Event (cfs)	25-Year Storm Event (cfs)
POI #1	4.3	8.8	12.6
POI #2	0.9	1.6	2.3

Post-development Calculations

The post condition features the same four point of interests that exist in the pre-development condition, but with multiple BMPs throughout the north and south parcel dedicated for the treatment of runoff generated primarily by roof and pavement via porous pavement and the two (2) USSFs. The subcatchments are as follows:

- Subcatchment 1P – This subcatchment consists of primarily undeveloped woodland that flows to towards Interstate 295. (POA #1)
- Subcatchment 2P– This subcatchment consists of a portion of the entrance driveway, patio area and landscaping that is treated by a rain garden and discharges to the Sky View Drive ROW (POA #2).
- Subcatchment 3P – This subcatchment consists primarily of parking lot and half the roof area. This subcatchment is collected and piped to the GUSF for treatment and discharges towards Interstate stared 295. (POA #1)
- Subcatchment 4P – This subcatchment consists of the western side of the roof and is collected and treated in a roof dripline filter adjacent to the building. Overflow from this BMP heads towards Interstate 295. (POA #1)
- Subcatchment 5P – This subcatchment consists of a small portion of the roof and is collected and treated in a roof dripline filter adjacent to the building. Overflow from this BMP heads towards the Sky View Drive ROW (POA #2).
- Subcatchment 6P – This subcatchment consists of developed area that bypasses treatment on the development site and is collected and drained to the Sky Vie w Drive ROW (POA #2).

The post-development calculations include changes to the land use, and the compensation provided by the GUSF and associated engineered orifices.

The ideology HydroCad uses to model porous pavement assumes the pavement has no surface runoff under ideal conditions and accepts several inches of precipitation. An extended Tc is used to simulate the travel time through the base and the pavement is modelled as a pond which represents storage in the base material.

Table 7 – Post-Development Peak Stormwater Flows			
Drainage Area	2-Year Storm Event (cfs)	10-Year Storm Event (cfs)	25-Year Storm Event (cfs)
POI #1	3.7	7.4	14.2
POI #2	.03	0.7	1.1

The post-development calculations include changes to the land use and the compensation provided by the stormwater BMPs. The following table represents comparison of pre-development and post-development condition peak runoff rates for the proposed development and tributary area.

Table 8 – Comparison of Peak Flows						
POI	2-Year Storm Event (cfs)		10-Year Storm Event (cfs)		25-Year Storm Event (cfs)	
	Pre	Post	Pre	Post	Pre	Post
POI #1	4.3	3.7	8.8	7.4	12.6	14.2
POI #2	0.9	0.3	1.6	0.7	2.3	1.1

As shown in Table 7 and 8, the net impact of the post development peak flows will remain at or below the predevelopment levels in all but a small increase in the 25-year event. Overall the 25-year event will have a 1.0 CFS increase from the pre-development total of 14.9 CFS to the post-development total of 15.3 CFS. The majority of the increase is towards a large wooded buffer area between the development and Interstate 295, which includes an area that must be maintained as a wooded buffer. There are no anticipated detrimental downstream effects due to this minor increase in flows. The vast majority of storm events will see a decrease in stormwater flows at both points of analysis.

A post-development watershed map developed for this project can be viewed in Attachment B, and a copy of the HydroCAD calculations is included within Attachment C of this report.

SOILS

Onsite soil information includes the following:

- Soil Conservation Service Medium Intensity Soil Survey for Cumberland County

- United States Department of Agriculture Web Soil Survey

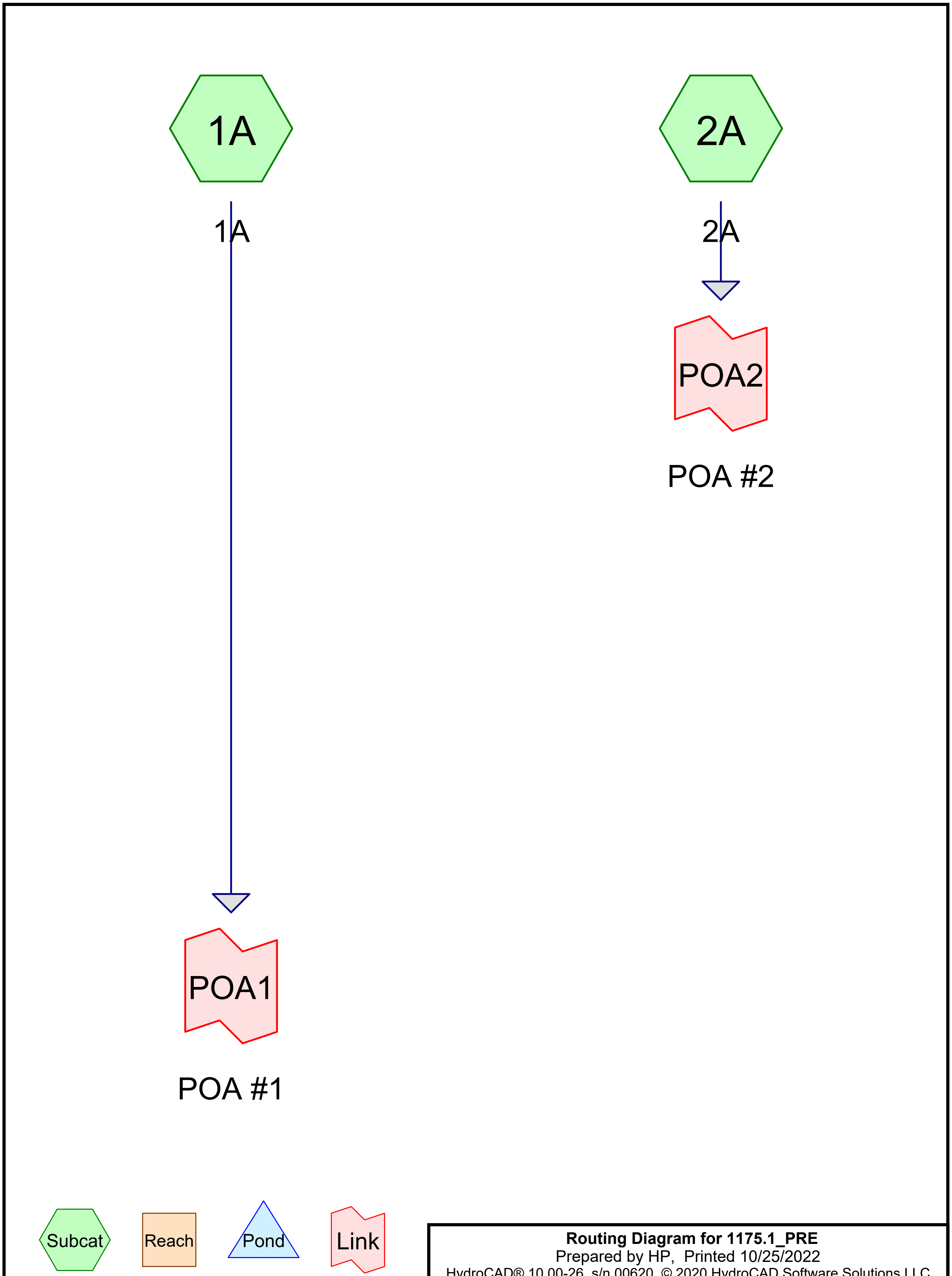
Given the soils information, listed above, no onsite wastewater is proposed; the applicant does not intend to perform a more intense hydric soil boundary delineation.

CONCLUSION

The proposed development was designed to meet the requirements implemented by the MDEP under the Stormwater Management Statute (38 M.R.S.A. § 420-D). The proposed project as designed is not anticipated to cause flooding or erosion problems within the subject site, abutters' sites, nor within the right-of-way. Overall, the project will provide an improvement to stormwater runoff and overall management from several perspectives as outlined above.

ATTACHMENTS

Attachment A: Pre-Development Watershed Map
Attachment B: Post-Development Watershed Map
Attachment C: HydroCAD Calculations
Attachment D: Soil Survey



Routing Diagram for 1175.1_PRE
Prepared by HP, Printed 10/25/2022
HydroCAD® 10.00-26 s/n 00620 © 2020 HydroCAD Software Solutions LLC

Project Notes

Rainfall events imported from "1176_POST.hcp"

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.701	80	>75% Grass cover, Good, HSG D (1A)
0.589	83	Brush, Poor, HSG D (2A)
3.183	77	Woods, Good, HSG D (1A, 2A)
4.474	**78**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
4.474	HSG D	1A, 2A
0.000	Other	
4.474		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.000	0.701	0.000	0.701	>75% Grass cover, Good	1A
0.000	0.000	0.000	0.589	0.000	0.589	Brush, Poor	2A
0.000	0.000	0.000	3.183	0.000	3.183	Woods, Good	1A, 2A
0.000	**0.000**	**0.000**	**4.474**	**0.000**	**4.474**	**TOTAL AREA**	

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1A: 1A Runoff Area=159,215 sf 0.00% Impervious Runoff Depth>1.10"
Flow Length=465' Tc=10.0 min CN=78 Runoff=4.33 cfs 0.335 af

Subcatchment 2A: 2A Runoff Area=35,658 sf 0.00% Impervious Runoff Depth>1.28"
Flow Length=352' Tc=22.1 min CN=81 Runoff=0.85 cfs 0.087 af

Link POA1: POA #1 Inflow=4.33 cfs 0.335 af
Primary=4.33 cfs 0.335 af

Link POA2: POA #2 Inflow=0.85 cfs 0.087 af
Primary=0.85 cfs 0.087 af

Total Runoff Area = 4.474 ac Runoff Volume = 0.423 af Average Runoff Depth = 1.13"
100.00% Pervious = 4.474 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment 1A: 1A

Runoff = 4.33 cfs @ 12.15 hrs, Volume= 0.335 af, Depth> 1.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-year Rainfall=3.10"

Area (sf)	CN	Description
128,675	77	Woods, Good, HSG D
30,540	80	>75% Grass cover, Good, HSG D
159,215	78	Weighted Average
159,215		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	100	0.0500	0.24		**Sheet Flow, A TO B SHEET** Grass: Short n= 0.150 P2= 3.10"
3.1	365	0.1500	1.94		**Shallow Concentrated Flow, B TO C** Woodland Kv= 5.0 fps
10.0	465	Total			

Summary for Subcatchment 2A: 2A

Runoff = 0.85 cfs @ 12.32 hrs, Volume= 0.087 af, Depth> 1.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-year Rainfall=3.10"

Area (sf)	CN	Description
9,998	77	Woods, Good, HSG D
25,660	83	Brush, Poor, HSG D
35,658	81	Weighted Average
35,658		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.1	100	0.0100	0.09		**Sheet Flow, A TO B SHEET** Grass: Dense n= 0.240 P2= 3.10"
3.0	252	0.0400	1.40		**Shallow Concentrated Flow, B TO C** Short Grass Pasture Kv= 7.0 fps
22.1	352	Total			

Summary for Link POA1: POA #1

Inflow Area = 3.655 ac, 0.00% Impervious, Inflow Depth > 1.10" for 2-year event
Inflow = 4.33 cfs @ 12.15 hrs, Volume= 0.335 af
Primary = 4.33 cfs @ 12.15 hrs, Volume= 0.335 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link POA2: POA #2

Inflow Area =	0.819 ac,	0.00% Impervious, Inflow Depth > 1.28"	for 2-year event	
Inflow =	0.85 cfs @	12.32 hrs, Volume=	0.087 af	
Primary =	0.85 cfs @	12.32 hrs, Volume=	0.087 af,	Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1A: 1A Runoff Area=159,215 sf 0.00% Impervious Runoff Depth>2.21"
Flow Length=465' Tc=10.0 min CN=78 Runoff=8.78 cfs 0.672 af

Subcatchment 2A: 2A Runoff Area=35,658 sf 0.00% Impervious Runoff Depth>2.45"
Flow Length=352' Tc=22.1 min CN=81 Runoff=1.63 cfs 0.167 af

Link POA1: POA #1 Inflow=8.78 cfs 0.672 af
Primary=8.78 cfs 0.672 af

Link POA2: POA #2 Inflow=1.63 cfs 0.167 af
Primary=1.63 cfs 0.167 af

Total Runoff Area = 4.474 ac Runoff Volume = 0.839 af Average Runoff Depth = 2.25"
100.00% Pervious = 4.474 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment 1A: 1A

Runoff = 8.78 cfs @ 12.15 hrs, Volume= 0.672 af, Depth> 2.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.60"

Area (sf)	CN	Description
128,675	77	Woods, Good, HSG D
30,540	80	>75% Grass cover, Good, HSG D
159,215	78	Weighted Average
159,215		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	100	0.0500	0.24		**Sheet Flow, A TO B SHEET** Grass: Short n= 0.150 P2= 3.10"
3.1	365	0.1500	1.94		**Shallow Concentrated Flow, B TO C** Woodland Kv= 5.0 fps
10.0	465	Total			

Summary for Subcatchment 2A: 2A

Runoff = 1.63 cfs @ 12.31 hrs, Volume= 0.167 af, Depth> 2.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.60"

Area (sf)	CN	Description
9,998	77	Woods, Good, HSG D
25,660	83	Brush, Poor, HSG D
35,658	81	Weighted Average
35,658		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.1	100	0.0100	0.09		**Sheet Flow, A TO B SHEET** Grass: Dense n= 0.240 P2= 3.10"
3.0	252	0.0400	1.40		**Shallow Concentrated Flow, B TO C** Short Grass Pasture Kv= 7.0 fps
22.1	352	Total			

Summary for Link POA1: POA #1

Inflow Area = 3.655 ac, 0.00% Impervious, Inflow Depth > 2.21" for 10-year event
Inflow = 8.78 cfs @ 12.15 hrs, Volume= 0.672 af
Primary = 8.78 cfs @ 12.15 hrs, Volume= 0.672 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link POA2: POA #2

Inflow Area =	0.819 ac,	0.00% Impervious,	Inflow Depth > 2.45"	for 10-year event
Inflow =	1.63 cfs @	12.31 hrs, Volume=	0.167 af	
Primary =	1.63 cfs @	12.31 hrs, Volume=	0.167 af,	Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1A: 1A Runoff Area=159,215 sf 0.00% Impervious Runoff Depth>3.18"
Flow Length=465' Tc=10.0 min CN=78 Runoff=12.58 cfs 0.967 af

Subcatchment 2A: 2A Runoff Area=35,658 sf 0.00% Impervious Runoff Depth>3.45"
Flow Length=352' Tc=22.1 min CN=81 Runoff=2.29 cfs 0.236 af

Link POA1: POA #1 Inflow=12.58 cfs 0.967 af
Primary=12.58 cfs 0.967 af

Link POA2: POA #2 Inflow=2.29 cfs 0.236 af
Primary=2.29 cfs 0.236 af

Total Runoff Area = 4.474 ac Runoff Volume = 1.203 af Average Runoff Depth = 3.23"
100.00% Pervious = 4.474 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment 1A: 1A

Runoff = 12.58 cfs @ 12.14 hrs, Volume= 0.967 af, Depth> 3.18"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-year Rainfall=5.80"

Area (sf)	CN	Description
128,675	77	Woods, Good, HSG D
30,540	80	>75% Grass cover, Good, HSG D
159,215	78	Weighted Average
159,215		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	100	0.0500	0.24		**Sheet Flow, A TO B SHEET** Grass: Short n= 0.150 P2= 3.10"
3.1	365	0.1500	1.94		**Shallow Concentrated Flow, B TO C** Woodland Kv= 5.0 fps
10.0	465	Total			

Summary for Subcatchment 2A: 2A

Runoff = 2.29 cfs @ 12.30 hrs, Volume= 0.236 af, Depth> 3.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-year Rainfall=5.80"

Area (sf)	CN	Description
9,998	77	Woods, Good, HSG D
25,660	83	Brush, Poor, HSG D
35,658	81	Weighted Average
35,658		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.1	100	0.0100	0.09		**Sheet Flow, A TO B SHEET** Grass: Dense n= 0.240 P2= 3.10"
3.0	252	0.0400	1.40		**Shallow Concentrated Flow, B TO C** Short Grass Pasture Kv= 7.0 fps
22.1	352	Total			

Summary for Link POA1: POA #1

Inflow Area = 3.655 ac, 0.00% Impervious, Inflow Depth > 3.18" for 25-year event
Inflow = 12.58 cfs @ 12.14 hrs, Volume= 0.967 af
Primary = 12.58 cfs @ 12.14 hrs, Volume= 0.967 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link POA2: POA #2

Inflow Area =	0.819 ac,	0.00% Impervious,	Inflow Depth > 3.45"	for 25-year event	
Inflow =	2.29 cfs @	12.30 hrs,	Volume=	0.236 af	
Primary =	2.29 cfs @	12.30 hrs,	Volume=	0.236 af,	Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1A: 1A	Runoff Area=159,215 sf 0.00% Impervious Runoff Depth>1.31" Flow Length=465' Tc=10.0 min CN=78 Runoff=5.18 cfs 0.399 af
Subcatchment 2A: 2A	Runoff Area=35,658 sf 0.00% Impervious Runoff Depth>1.50" Flow Length=352' Tc=22.1 min CN=81 Runoff=1.00 cfs 0.102 af
Link POA1: POA #1	Inflow=5.18 cfs 0.399 af Primary=5.18 cfs 0.399 af
Link POA2: POA #2	Inflow=1.00 cfs 0.102 af Primary=1.00 cfs 0.102 af

Total Runoff Area = 4.474 ac Runoff Volume = 0.501 af Average Runoff Depth = 1.34"
100.00% Pervious = 4.474 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment 1A: 1A

Runoff = 5.18 cfs @ 12.15 hrs, Volume= 0.399 af, Depth> 1.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr Custom Rainfall=3.40"

Area (sf)	CN	Description
128,675	77	Woods, Good, HSG D
30,540	80	>75% Grass cover, Good, HSG D
159,215	78	Weighted Average
159,215		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	100	0.0500	0.24		**Sheet Flow, A TO B SHEET** Grass: Short n= 0.150 P2= 3.10"
3.1	365	0.1500	1.94		**Shallow Concentrated Flow, B TO C** Woodland Kv= 5.0 fps
10.0	465	Total			

Summary for Subcatchment 2A: 2A

Runoff = 1.00 cfs @ 12.31 hrs, Volume= 0.102 af, Depth> 1.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr Custom Rainfall=3.40"

Area (sf)	CN	Description
9,998	77	Woods, Good, HSG D
25,660	83	Brush, Poor, HSG D
35,658	81	Weighted Average
35,658		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.1	100	0.0100	0.09		**Sheet Flow, A TO B SHEET** Grass: Dense n= 0.240 P2= 3.10"
3.0	252	0.0400	1.40		**Shallow Concentrated Flow, B TO C** Short Grass Pasture Kv= 7.0 fps
22.1	352	Total			

Summary for Link POA1: POA #1

Inflow Area = 3.655 ac, 0.00% Impervious, Inflow Depth > 1.31" for Custom event
Inflow = 5.18 cfs @ 12.15 hrs, Volume= 0.399 af
Primary = 5.18 cfs @ 12.15 hrs, Volume= 0.399 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link POA2: POA #2

Inflow Area =	0.819 ac,	0.00% Impervious,	Inflow Depth >	1.50"	for Custom event
Inflow =	1.00 cfs @	12.31 hrs,	Volume=	0.102 af	
Primary =	1.00 cfs @	12.31 hrs,	Volume=	0.102 af,	Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1A: 1A Runoff Area=159,215 sf 0.00% Impervious Runoff Depth>0.05"
Flow Length=465' Tc=10.0 min CN=78 Runoff=0.07 cfs 0.015 af

Subcatchment 2A: 2A Runoff Area=35,658 sf 0.00% Impervious Runoff Depth>0.08"
Flow Length=352' Tc=22.1 min CN=81 Runoff=0.03 cfs 0.006 af

Link POA1: POA #1 Inflow=0.07 cfs 0.015 af
Primary=0.07 cfs 0.015 af

Link POA2: POA #2 Inflow=0.03 cfs 0.006 af
Primary=0.03 cfs 0.006 af

Total Runoff Area = 4.474 ac Runoff Volume = 0.020 af Average Runoff Depth = 0.05"
100.00% Pervious = 4.474 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment 1A: 1A

Runoff = 0.07 cfs @ 12.46 hrs, Volume= 0.015 af, Depth> 0.05"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr WQ Rainfall=1.00"

Area (sf)	CN	Description
128,675	77	Woods, Good, HSG D
30,540	80	>75% Grass cover, Good, HSG D
159,215	78	Weighted Average
159,215		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	100	0.0500	0.24		**Sheet Flow, A TO B SHEET** Grass: Short n= 0.150 P2= 3.10"
3.1	365	0.1500	1.94		**Shallow Concentrated Flow, B TO C** Woodland Kv= 5.0 fps
10.0	465	Total			

Summary for Subcatchment 2A: 2A

Runoff = 0.03 cfs @ 12.53 hrs, Volume= 0.006 af, Depth> 0.08"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr WQ Rainfall=1.00"

Area (sf)	CN	Description
9,998	77	Woods, Good, HSG D
25,660	83	Brush, Poor, HSG D
35,658	81	Weighted Average
35,658		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.1	100	0.0100	0.09		**Sheet Flow, A TO B SHEET** Grass: Dense n= 0.240 P2= 3.10"
3.0	252	0.0400	1.40		**Shallow Concentrated Flow, B TO C** Short Grass Pasture Kv= 7.0 fps
22.1	352	Total			

Summary for Link POA1: POA #1

Inflow Area = 3.655 ac, 0.00% Impervious, Inflow Depth > 0.05" for WQ event
Inflow = 0.07 cfs @ 12.46 hrs, Volume= 0.015 af
Primary = 0.07 cfs @ 12.46 hrs, Volume= 0.015 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link POA2: POA #2

Inflow Area =	0.819 ac,	0.00% Impervious,	Inflow Depth > 0.08"	for WQ event
Inflow =	0.03 cfs @	12.53 hrs, Volume=	0.006 af	
Primary =	0.03 cfs @	12.53 hrs, Volume=	0.006 af,	Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1A: 1A Runoff Area=159,215 sf 0.00% Impervious Runoff Depth>1.94"
Flow Length=465' Tc=10.0 min CN=78 Runoff=7.73 cfs 0.592 af

Subcatchment 2A: 2A Runoff Area=35,658 sf 0.00% Impervious Runoff Depth>2.17"
Flow Length=352' Tc=22.1 min CN=81 Runoff=1.45 cfs 0.148 af

Link POA1: POA #1 Inflow=7.73 cfs 0.592 af
Primary=7.73 cfs 0.592 af

Link POA2: POA #2 Inflow=1.45 cfs 0.148 af
Primary=1.45 cfs 0.148 af

Total Runoff Area = 4.474 ac Runoff Volume = 0.740 af Average Runoff Depth = 1.98"
100.00% Pervious = 4.474 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment 1A: 1A

Runoff = 7.73 cfs @ 12.15 hrs, Volume= 0.592 af, Depth> 1.94"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr WQV USSF Rainfall=4.26"

Area (sf)	CN	Description
128,675	77	Woods, Good, HSG D
30,540	80	>75% Grass cover, Good, HSG D
159,215	78	Weighted Average
159,215		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	100	0.0500	0.24		**Sheet Flow, A TO B SHEET** Grass: Short n= 0.150 P2= 3.10"
3.1	365	0.1500	1.94		**Shallow Concentrated Flow, B TO C** Woodland Kv= 5.0 fps
10.0	465	Total			

Summary for Subcatchment 2A: 2A

Runoff = 1.45 cfs @ 12.31 hrs, Volume= 0.148 af, Depth> 2.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr WQV USSF Rainfall=4.26"

Area (sf)	CN	Description
9,998	77	Woods, Good, HSG D
25,660	83	Brush, Poor, HSG D
35,658	81	Weighted Average
35,658		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.1	100	0.0100	0.09		**Sheet Flow, A TO B SHEET** Grass: Dense n= 0.240 P2= 3.10"
3.0	252	0.0400	1.40		**Shallow Concentrated Flow, B TO C** Short Grass Pasture Kv= 7.0 fps
22.1	352	Total			

Summary for Link POA1: POA #1

Inflow Area = 3.655 ac, 0.00% Impervious, Inflow Depth > 1.94" for WQV USSF event
Inflow = 7.73 cfs @ 12.15 hrs, Volume= 0.592 af
Primary = 7.73 cfs @ 12.15 hrs, Volume= 0.592 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link POA2: POA #2

Inflow Area =	0.819 ac,	0.00% Impervious, Inflow Depth >	2.17"	for WQV USSF event
Inflow =	1.45 cfs @	12.31 hrs, Volume=	0.148 af	
Primary =	1.45 cfs @	12.31 hrs, Volume=	0.148 af,	Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1A: 1A	Runoff Area=159,215 sf 0.00% Impervious Runoff Depth>1.94" Flow Length=465' Tc=10.0 min CN=78 Runoff=7.73 cfs 0.592 af
Subcatchment 2A: 2A	Runoff Area=35,658 sf 0.00% Impervious Runoff Depth>2.17" Flow Length=352' Tc=22.1 min CN=81 Runoff=1.45 cfs 0.148 af
Link POA1: POA #1	Inflow=7.73 cfs 0.592 af Primary=7.73 cfs 0.592 af
Link POA2: POA #2	Inflow=1.45 cfs 0.148 af Primary=1.45 cfs 0.148 af

Total Runoff Area = 4.474 ac Runoff Volume = 0.740 af Average Runoff Depth = 1.98"
100.00% Pervious = 4.474 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment 1A: 1A

Runoff = 7.73 cfs @ 12.15 hrs, Volume= 0.592 af, Depth> 1.94"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr WQV USSF 1 Rainfall=4.26"

Area (sf)	CN	Description
128,675	77	Woods, Good, HSG D
30,540	80	>75% Grass cover, Good, HSG D
159,215	78	Weighted Average
159,215		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	100	0.0500	0.24		**Sheet Flow, A TO B SHEET** Grass: Short n= 0.150 P2= 3.10"
3.1	365	0.1500	1.94		**Shallow Concentrated Flow, B TO C** Woodland Kv= 5.0 fps
10.0	465	Total			

Summary for Subcatchment 2A: 2A

Runoff = 1.45 cfs @ 12.31 hrs, Volume= 0.148 af, Depth> 2.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr WQV USSF 1 Rainfall=4.26"

Area (sf)	CN	Description
9,998	77	Woods, Good, HSG D
25,660	83	Brush, Poor, HSG D
35,658	81	Weighted Average
35,658		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.1	100	0.0100	0.09		**Sheet Flow, A TO B SHEET** Grass: Dense n= 0.240 P2= 3.10"
3.0	252	0.0400	1.40		**Shallow Concentrated Flow, B TO C** Short Grass Pasture Kv= 7.0 fps
22.1	352	Total			

Summary for Link POA1: POA #1

Inflow Area = 3.655 ac, 0.00% Impervious, Inflow Depth > 1.94" for WQV USSF 1 event
Inflow = 7.73 cfs @ 12.15 hrs, Volume= 0.592 af
Primary = 7.73 cfs @ 12.15 hrs, Volume= 0.592 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link POA2: POA #2

Inflow Area =	0.819 ac,	0.00% Impervious,	Inflow Depth > 2.17"	for WQV USSF 1 event	
Inflow =	1.45 cfs @	12.31 hrs,	Volume=	0.148 af	
Primary =	1.45 cfs @	12.31 hrs,	Volume=	0.148 af,	Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1A: 1A Runoff Area=159,215 sf 0.00% Impervious Runoff Depth>1.20"
Flow Length=465' Tc=10.0 min CN=78 Runoff=4.72 cfs 0.365 af

Subcatchment 2A: 2A Runoff Area=35,658 sf 0.00% Impervious Runoff Depth>1.38"
Flow Length=352' Tc=22.1 min CN=81 Runoff=0.92 cfs 0.094 af

Link POA1: POA #1 Inflow=4.72 cfs 0.365 af
Primary=4.72 cfs 0.365 af

Link POA2: POA #2 Inflow=0.92 cfs 0.094 af
Primary=0.92 cfs 0.094 af

Total Runoff Area = 4.474 ac Runoff Volume = 0.459 af Average Runoff Depth = 1.23"
100.00% Pervious = 4.474 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment 1A: 1A

Runoff = 4.72 cfs @ 12.15 hrs, Volume= 0.365 af, Depth> 1.20"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr WQV USSF 2 Rainfall=3.24"

Area (sf)	CN	Description
128,675	77	Woods, Good, HSG D
30,540	80	>75% Grass cover, Good, HSG D
159,215	78	Weighted Average
159,215		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	100	0.0500	0.24		**Sheet Flow, A TO B SHEET** Grass: Short n= 0.150 P2= 3.10"
3.1	365	0.1500	1.94		**Shallow Concentrated Flow, B TO C** Woodland Kv= 5.0 fps
10.0	465	Total			

Summary for Subcatchment 2A: 2A

Runoff = 0.92 cfs @ 12.32 hrs, Volume= 0.094 af, Depth> 1.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr WQV USSF 2 Rainfall=3.24"

Area (sf)	CN	Description
9,998	77	Woods, Good, HSG D
25,660	83	Brush, Poor, HSG D
35,658	81	Weighted Average
35,658		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.1	100	0.0100	0.09		**Sheet Flow, A TO B SHEET** Grass: Dense n= 0.240 P2= 3.10"
3.0	252	0.0400	1.40		**Shallow Concentrated Flow, B TO C** Short Grass Pasture Kv= 7.0 fps
22.1	352	Total			

Summary for Link POA1: POA #1

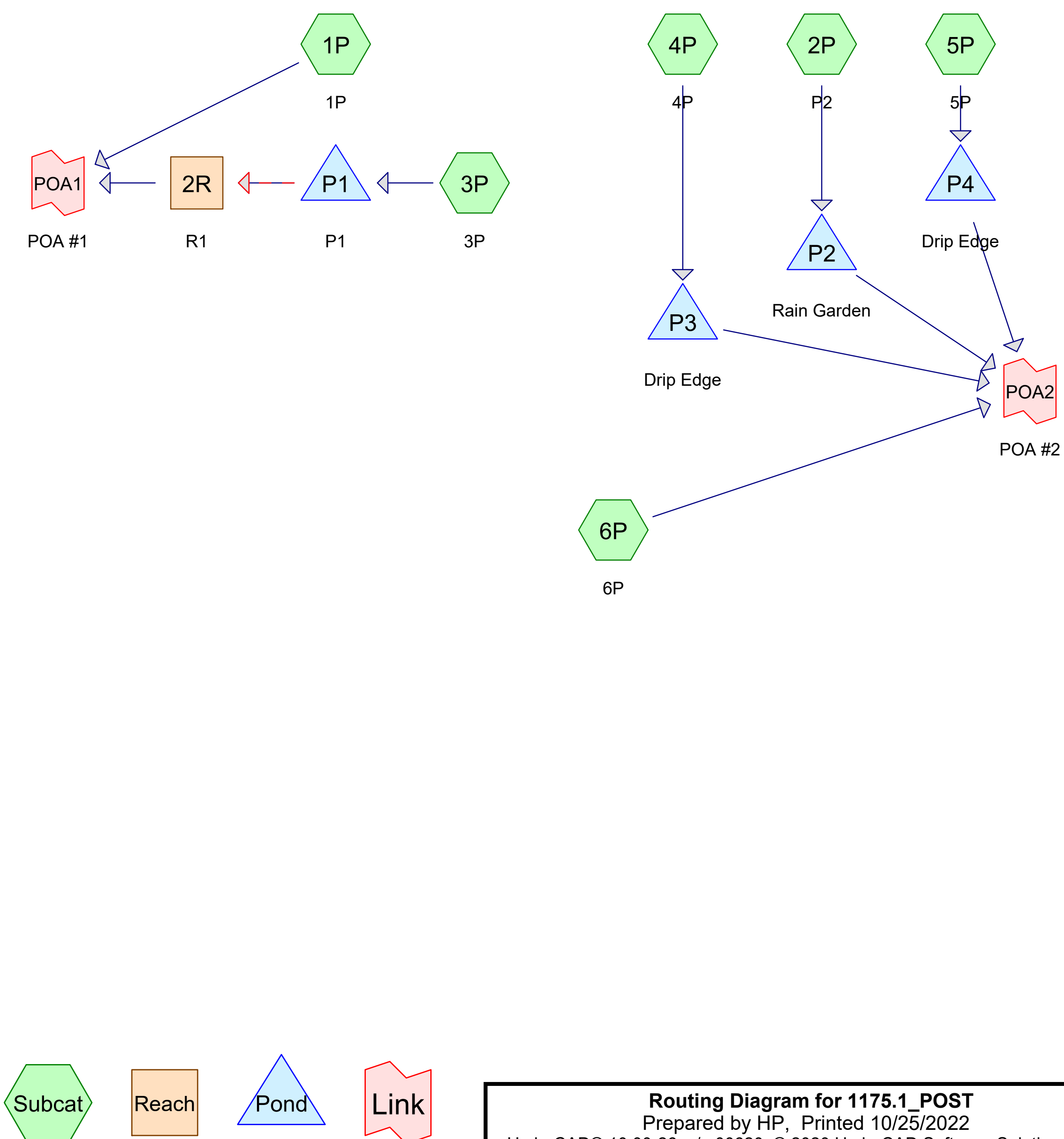
Inflow Area = 3.655 ac, 0.00% Impervious, Inflow Depth > 1.20" for WQV USSF 2 event
Inflow = 4.72 cfs @ 12.15 hrs, Volume= 0.365 af
Primary = 4.72 cfs @ 12.15 hrs, Volume= 0.365 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link POA2: POA #2

Inflow Area =	0.819 ac,	0.00% Impervious,	Inflow Depth >	1.38"	for WQV USSF 2 event
Inflow =	0.92 cfs @	12.32 hrs,	Volume=	0.094 af	
Primary =	0.92 cfs @	12.32 hrs,	Volume=	0.094 af,	Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs



Routing Diagram for 1175.1_POST
Prepared by HP, Printed 10/25/2022
HydroCAD® 10.00-26 s/n 00620 © 2020 HydroCAD Software Solutions LLC

Project Notes

Rainfall events imported from "1176_POST.hcp"

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.607	80	>75% Grass cover, Good, HSG D (1P, 2P, 3P, 6P)
0.057	98	DRIVE/WALK (2P)
0.335	98	HALF BUILDING (3P, 4P, 5P)
0.603	98	PAVE (3P, 6P)
0.029	98	SIDEWALK (3P)
1.844	77	Woods, Good, HSG D (1P)
4.474	**83**	**TOTAL AREA**

Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
3.451	HSG D	1P, 2P, 3P, 6P
1.023	Other	2P, 3P, 4P, 5P, 6P
4.474		**TOTAL AREA**

Ground Covers (selected nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.000	1.607	0.000	1.607	>75% Grass cover, Good	1P, 2P, 3P, 6P
0.000	0.000	0.000	0.000	0.057	0.057	DRIVE/WALK	2P
0.000	0.000	0.000	0.000	0.335	0.335	HALF BUILDING	3P, 4P, 5P
0.000	0.000	0.000	0.000	0.603	0.603	PAVE	3P, 6P
0.000	0.000	0.000	0.000	0.029	0.029	SIDEWALK	3P
0.000	0.000	0.000	1.844	0.000	1.844	Woods, Good	1P
0.000	**0.000**	**0.000**	**3.451**	**1.023**	**4.474**	**TOTAL AREA**	

Pipe Listing (selected nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	P1	114.00	112.00	60.0	0.0333	0.010	12.0	0.0	0.0
2	P2	115.90	115.65	24.0	0.0104	0.011	4.0	0.0	0.0

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1P: 1P Runoff Area=129,181 sf 0.00% Impervious Runoff Depth>1.10"
Flow Length=400' Tc=9.5 min CN=78 Runoff=3.56 cfs 0.272 af

Subcatchment 2P: P2 Runoff Area=7,295 sf 34.13% Impervious Runoff Depth>1.62"
Flow Length=352' Tc=22.1 min CN=86 Runoff=0.22 cfs 0.023 af

Subcatchment 3P: 3P Runoff Area=42,669 sf 77.97% Impervious Runoff Depth>2.31"
Tc=6.0 min CN=94 Runoff=2.64 cfs 0.189 af

Subcatchment 4P: 4P Runoff Area=6,503 sf 100.00% Impervious Runoff Depth>2.68"
Tc=6.0 min CN=98 Runoff=0.44 cfs 0.033 af

Subcatchment 5P: 5P Runoff Area=1,762 sf 100.00% Impervious Runoff Depth>2.68"
Tc=6.0 min CN=98 Runoff=0.12 cfs 0.009 af

Subcatchment 6P: 6P Runoff Area=7,490 sf 7.42% Impervious Runoff Depth>1.29"
Tc=6.0 min CN=81 Runoff=0.27 cfs 0.018 af

Reach 2R: R1 Avg. Flow Depth=0.10' Max Vel=0.28 fps Inflow=0.24 cfs 0.144 af
n=0.400 L=100.0' S=0.2200 '/' Capacity=35.42 cfs Outflow=0.24 cfs 0.142 af

Pond P1: P1 Peak Elev=118.70' Storage=3,944 cf Inflow=2.64 cfs 0.189 af
Primary=0.24 cfs 0.144 af Secondary=0.00 cfs 0.000 af Outflow=0.24 cfs 0.144 af

Pond P2: Rain Garden Peak Elev=117.89' Storage=360 cf Inflow=0.22 cfs 0.023 af
Discarded=0.06 cfs 0.022 af Primary=0.00 cfs 0.000 af Outflow=0.06 cfs 0.022 af

Pond P3: Drip Edge Peak Elev=121.92' Storage=776 cf Inflow=0.44 cfs 0.033 af
Outflow=0.02 cfs 0.019 af

Pond P4: Drip Edge Peak Elev=122.22' Storage=218 cf Inflow=0.12 cfs 0.009 af
Outflow=0.00 cfs 0.005 af

Link POA1: POA #1 Inflow=3.69 cfs 0.414 af
Primary=3.69 cfs 0.414 af

Link POA2: POA #2 Inflow=0.30 cfs 0.043 af
Primary=0.30 cfs 0.043 af

Total Runoff Area = 4.474 ac Runoff Volume = 0.545 af Average Runoff Depth = 1.46"
77.13% Pervious = 3.451 ac 22.87% Impervious = 1.023 ac

Summary for Subcatchment 1P: 1P

Runoff = 3.56 cfs @ 12.14 hrs, Volume= 0.272 af, Depth> 1.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-year Rainfall=3.10"

Area (sf)	CN	Description
80,321	77	Woods, Good, HSG D
48,860	80	>75% Grass cover, Good, HSG D
129,181	78	Weighted Average
129,181		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	100	0.0500	0.24		**Sheet Flow, A TO B SHEET** Grass: Short n= 0.150 P2= 3.10"
2.6	300	0.1500	1.94		**Shallow Concentrated Flow, B TO C** Woodland Kv= 5.0 fps
9.5	400	Total			

Summary for Subcatchment 2P: P2

Runoff = 0.22 cfs @ 12.31 hrs, Volume= 0.023 af, Depth> 1.62"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-year Rainfall=3.10"

	Area (sf)	CN	Description
*	2,490	98	DRIVE/WALK
	4,805	80	>75% Grass cover, Good, HSG D
	7,295	86	Weighted Average
	4,805		65.87% Pervious Area
	2,490		34.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.1	100	0.0100	0.09		**Sheet Flow, A TO B SHEET** Grass: Dense n= 0.240 P2= 3.10"
3.0	252	0.0400	1.40		**Shallow Concentrated Flow, B TO C** Short Grass Pasture Kv= 7.0 fps
22.1	352	Total			

Summary for Subcatchment 3P: 3P

Runoff = 2.64 cfs @ 12.09 hrs, Volume= 0.189 af, Depth> 2.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-year Rainfall=3.10"

	Area (sf)	CN	Description
*	25,690	98	PAVE
*	6,320	98	HALF BUILDING
	9,401	80	>75% Grass cover, Good, HSG D
*	1,258	98	SIDEWALK
	42,669	94	Weighted Average
	9,401		22.03% Pervious Area
	33,268		77.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 4P: 4P

Runoff = 0.44 cfs @ 12.09 hrs, Volume= 0.033 af, Depth> 2.68"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-year Rainfall=3.10"

	Area (sf)	CN	Description
*	6,503	98	HALF BUILDING
	6,503		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 5P: 5P

Runoff = 0.12 cfs @ 12.09 hrs, Volume= 0.009 af, Depth> 2.68"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-year Rainfall=3.10"

	Area (sf)	CN	Description
*	1,762	98	HALF BUILDING
	1,762		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 6P: 6P

Runoff = 0.27 cfs @ 12.10 hrs, Volume= 0.018 af, Depth> 1.29"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-year Rainfall=3.10"

	Area (sf)	CN	Description
*	556	98	PAVE
	6,934	80	>75% Grass cover, Good, HSG D
	7,490	81	Weighted Average
	6,934		92.58% Pervious Area
	556		7.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

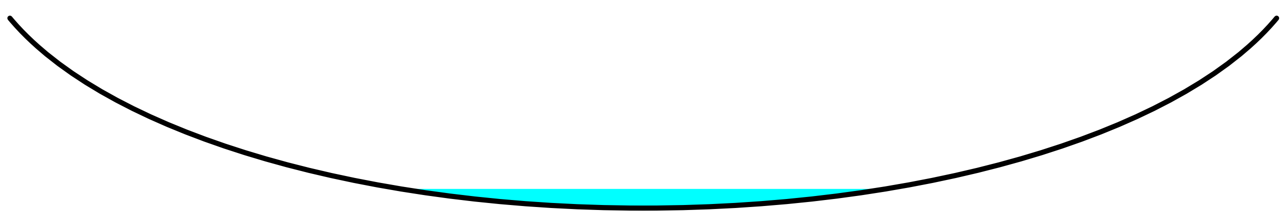
Summary for Reach 2R: R1

Inflow Area = 0.980 ac, 77.97% Impervious, Inflow Depth > 1.77" for 2-year event
Inflow = 0.24 cfs @ 13.00 hrs, Volume= 0.144 af
Outflow = 0.24 cfs @ 13.17 hrs, Volume= 0.142 af, Atten= 0%, Lag= 10.4 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.28 fps, Min. Travel Time= 5.9 min
Avg. Velocity = 0.21 fps, Avg. Travel Time= 7.8 min

Peak Storage= 83 cf @ 13.07 hrs
Average Depth at Peak Storage= 0.10'
Bank-Full Depth= 1.00' Flow Area= 26.7 sf, Capacity= 35.42 cfs

40.00' x 1.00' deep Parabolic Channel, n= 0.400
Length= 100.0' Slope= 0.2200 '/'
Inlet Invert= 102.00', Outlet Invert= 80.00'



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Summary for Pond P1: P1

Inflow Area = 0.980 ac, 77.97% Impervious, Inflow Depth > 2.31" for 2-year event
Inflow = 2.64 cfs @ 12.09 hrs, Volume= 0.189 af
Outflow = 0.24 cfs @ 13.00 hrs, Volume= 0.144 af, Atten= 91%, Lag= 54.6 min
Primary = 0.24 cfs @ 13.00 hrs, Volume= 0.144 af
Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 118.70' @ 13.00 hrs Surf.Area= 3,129 sf Storage= 3,944 cf

Plug-Flow detention time= 169.8 min calculated for 0.144 af (76% of inflow)
Center-of-Mass det. time= 111.9 min (870.6 - 758.8)

Volume	Invert	Avail.Storage	Storage Description
#1	117.10'	7,690 cf	**Ponding (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
117.10	1,804	0	0
119.75	4,000	7,690	7,690

Device	Routing	Invert	Outlet Devices
#1	Primary	114.00'	**12.0" Round Culvert** L= 60.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 114.00' / 112.00' S= 0.0333 '/' Cc= 0.600 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf
#2	Device 1	117.10'	**2.400 in/hr Exfiltration over Surface area**
#3	Device 1	118.60'	**24.0" Vert. Orifice/Grate** C= 0.600
#4	Secondary	118.75'	**20.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.24 cfs @ 13.00 hrs HW=118.70' (Free Discharge)
└─**1=Culvert** (Passes 0.24 cfs of 4.08 cfs potential flow)
  ├─**2=Exfiltration** (Exfiltration Controls 0.17 cfs)
  └─**3=Orifice/Grate** (Orifice Controls 0.06 cfs @ 1.07 fps)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=117.10' (Free Discharge)
└─**4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond P2: Rain Garden

Inflow Area = 0.167 ac, 34.13% Impervious, Inflow Depth > 1.62" for 2-year event
Inflow = 0.22 cfs @ 12.31 hrs, Volume= 0.023 af
Outflow = 0.06 cfs @ 12.92 hrs, Volume= 0.022 af, Atten= 74%, Lag= 36.5 min
Discarded = 0.06 cfs @ 12.40 hrs, Volume= 0.022 af
Primary = 0.00 cfs @ 12.92 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 117.89' @ 12.92 hrs Surf.Area= 1,038 sf Storage= 360 cf

Plug-Flow detention time= 90.4 min calculated for 0.022 af (97% of inflow)
Center-of-Mass det. time= 79.6 min (881.1 - 801.5)

Volume	Invert	Avail.Storage	Storage Description
#1	118.00'	509 cf	**Ponding above surface (Prismatic)** Listed below (Recalc)
#2	117.50'	173 cf	**Topsoil direct entry ponding (Prismatic)** Listed below (Recalc)
#3	117.00'	17 cf	**Filter/Gravel Layers (Prismatic)** Listed below (Recalc) 173 cf Overall x 10.0% Voids
#4	115.50'	207 cf	**3/4" Crushed Stone (Prismatic)** Listed below (Recalc) 519 cf Overall - 1 cf Embedded = 518 cf x 40.0% Voids
#5	115.90'	1 cf	**2.0" Round Pipe Storage** Inside #4 L= 28.0' S= 0.0100 '/' 1 cf Overall - 0.5" Wall Thickness = 1 cf
		907 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
118.00	346	0	0
118.60	531	263	263
119.00	700	246	509

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
117.50	346	0	0
118.00	346	173	173

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
117.00	346	0	0
117.50	346	173	173

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
115.50	346	0	0
117.00	346	519	519

Device	Routing	Invert	Outlet Devices
#1	Primary	115.90'	**4.0" Round Culvert** L= 24.0' Ke= 0.600 Inlet / Outlet Invert= 115.90' / 115.65' S= 0.0104 '/' Cc= 0.900 n= 0.011, Flow Area= 0.09 sf
#2	Device 1	116.00'	**0.1" Vert. CPV Drawdown Model** C= 0.600
#3	Discarded	115.50'	**2.410 in/hr Exfiltration over Surface area**
#4	Primary	118.60'	**17.0' long x 1.0' 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 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Discarded OutFlow Max=0.06 cfs @ 12.40 hrs HW=117.56' (Free Discharge)
└─**3=Exfiltration** (Exfiltration Controls 0.06 cfs)

Primary OutFlow Max=0.00 cfs @ 12.92 hrs HW=117.89' (Free Discharge)
├─**1=Culvert** (Passes 0.00 cfs of 0.49 cfs potential flow)
│ └─**2=CPV Drawdown Model** (Orifice Controls 0.00 cfs @ 6.61 fps)
└─**4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond P3: Drip Edge

Inflow Area = 0.149 ac,100.00% Impervious, Inflow Depth > 2.68" for 2-year event
Inflow = 0.44 cfs @ 12.09 hrs, Volume= 0.033 af
Outflow = 0.02 cfs @ 9.80 hrs, Volume= 0.019 af, Atten= 96%, Lag= 0.0 min
Primary = 0.02 cfs @ 9.80 hrs, Volume= 0.019 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 121.92' @ 14.88 hrs Surf.Area= 800 sf Storage= 776 cf

Plug-Flow detention time= 162.9 min calculated for 0.019 af (58% of inflow)
Center-of-Mass det. time= 79.8 min (818.6 - 738.9)

Volume	Invert	Avail.Storage	Storage Description
#1	119.50'	1,120 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 2,800 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
119.50	800	0	0
123.00	800	2,800	2,800

Device	Routing	Invert	Outlet Devices
#1	Primary	122.50'	**125.0' long x 1.0' 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 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#2	Primary	119.50'	**1.000 in/hr Exfiltration over Surface area**

Primary OutFlow Max=0.02 cfs @ 9.80 hrs HW=119.54' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)
2=Exfiltration (Exfiltration Controls 0.02 cfs)

Summary for Pond P4: Drip Edge

Inflow Area = 0.040 ac,100.00% Impervious, Inflow Depth > 2.68" for 2-year event
Inflow = 0.12 cfs @ 12.09 hrs, Volume= 0.009 af
Outflow = 0.00 cfs @ 9.55 hrs, Volume= 0.005 af, Atten= 96%, Lag= 0.0 min
Primary = 0.00 cfs @ 9.55 hrs, Volume= 0.005 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 122.22' @ 15.15 hrs Surf.Area= 200 sf Storage= 218 cf

Plug-Flow detention time= 162.1 min calculated for 0.005 af (54% of inflow)
Center-of-Mass det. time= 74.9 min (813.7 - 738.9)

Volume	Invert	Avail.Storage	Storage Description
#1	119.50'	280 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 700 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
119.50	200	0	0
123.00	200	700	700

Device	Routing	Invert	Outlet Devices
#1	Primary	122.50'	**125.0' long x 1.0' 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 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#2	Primary	119.50'	**1.000 in/hr Exfiltration over Surface area**

Primary OutFlow Max=0.00 cfs @ 9.55 hrs HW=119.54' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)
2=Exfiltration (Exfiltration Controls 0.00 cfs)

Summary for Link POA1: POA #1

Inflow Area = 3.945 ac, 19.36% Impervious, Inflow Depth > 1.26" for 2-year event
Inflow = 3.69 cfs @ 12.15 hrs, Volume= 0.414 af
Primary = 3.69 cfs @ 12.15 hrs, Volume= 0.414 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link POA2: POA #2

Inflow Area = 0.529 ac, 49.07% Impervious, Inflow Depth > 0.97" for 2-year event
Inflow = 0.30 cfs @ 12.10 hrs, Volume= 0.043 af
Primary = 0.30 cfs @ 12.10 hrs, Volume= 0.043 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1P: 1P Runoff Area=129,181 sf 0.00% Impervious Runoff Depth>2.21"
Flow Length=400' Tc=9.5 min CN=78 Runoff=7.22 cfs 0.545 af

Subcatchment 2P: P2 Runoff Area=7,295 sf 34.13% Impervious Runoff Depth>2.90"
Flow Length=352' Tc=22.1 min CN=86 Runoff=0.39 cfs 0.040 af

Subcatchment 3P: 3P Runoff Area=42,669 sf 77.97% Impervious Runoff Depth>3.69"
Tc=6.0 min CN=94 Runoff=4.10 cfs 0.302 af

Subcatchment 4P: 4P Runoff Area=6,503 sf 100.00% Impervious Runoff Depth>4.05"
Tc=6.0 min CN=98 Runoff=0.66 cfs 0.050 af

Subcatchment 5P: 5P Runoff Area=1,762 sf 100.00% Impervious Runoff Depth>4.05"
Tc=6.0 min CN=98 Runoff=0.18 cfs 0.014 af

Subcatchment 6P: 6P Runoff Area=7,490 sf 7.42% Impervious Runoff Depth>2.46"
Tc=6.0 min CN=81 Runoff=0.52 cfs 0.035 af

Reach 2R: R1 Avg. Flow Depth=0.29' Max Vel=0.58 fps Inflow=2.75 cfs 0.244 af
n=0.400 L=100.0' S=0.2200 '/' Capacity=35.42 cfs Outflow=2.43 cfs 0.242 af

Pond P1: P1 Peak Elev=118.87' Storage=4,494 cf Inflow=4.10 cfs 0.302 af
Primary=0.64 cfs 0.193 af Secondary=2.11 cfs 0.051 af Outflow=2.75 cfs 0.244 af

Pond P2: Rain Garden Peak Elev=118.62' Storage=670 cf Inflow=0.39 cfs 0.040 af
Discarded=0.09 cfs 0.036 af Primary=0.10 cfs 0.001 af Outflow=0.19 cfs 0.038 af

Pond P3: Drip Edge Peak Elev=122.51' Storage=963 cf Inflow=0.66 cfs 0.050 af
Outflow=0.41 cfs 0.031 af

Pond P4: Drip Edge Peak Elev=122.50' Storage=240 cf Inflow=0.18 cfs 0.014 af
Outflow=0.10 cfs 0.008 af

Link POA1: POA #1 Inflow=7.41 cfs 0.787 af
Primary=7.41 cfs 0.787 af

Link POA2: POA #2 Inflow=0.70 cfs 0.076 af
Primary=0.70 cfs 0.076 af

Total Runoff Area = 4.474 ac Runoff Volume = 0.987 af Average Runoff Depth = 2.65"
77.13% Pervious = 3.451 ac 22.87% Impervious = 1.023 ac

Summary for Subcatchment 1P: 1P

Runoff = 7.22 cfs @ 12.14 hrs, Volume= 0.545 af, Depth> 2.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.60"

Area (sf)	CN	Description
80,321	77	Woods, Good, HSG D
48,860	80	>75% Grass cover, Good, HSG D
129,181	78	Weighted Average
129,181		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	100	0.0500	0.24		**Sheet Flow, A TO B SHEET** Grass: Short n= 0.150 P2= 3.10"
2.6	300	0.1500	1.94		**Shallow Concentrated Flow, B TO C** Woodland Kv= 5.0 fps
9.5	400	Total			

Summary for Subcatchment 2P: P2

Runoff = 0.39 cfs @ 12.30 hrs, Volume= 0.040 af, Depth> 2.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.60"

	Area (sf)	CN	Description
*	2,490	98	DRIVE/WALK
	4,805	80	>75% Grass cover, Good, HSG D
	7,295	86	Weighted Average
	4,805		65.87% Pervious Area
	2,490		34.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.1	100	0.0100	0.09		**Sheet Flow, A TO B SHEET** Grass: Dense n= 0.240 P2= 3.10"
3.0	252	0.0400	1.40		**Shallow Concentrated Flow, B TO C** Short Grass Pasture Kv= 7.0 fps
22.1	352	Total			

Summary for Subcatchment 3P: 3P

Runoff = 4.10 cfs @ 12.09 hrs, Volume= 0.302 af, Depth> 3.69"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.60"

	Area (sf)	CN	Description
*	25,690	98	PAVE
*	6,320	98	HALF BUILDING
	9,401	80	>75% Grass cover, Good, HSG D
*	1,258	98	SIDEWALK
	42,669	94	Weighted Average
	9,401		22.03% Pervious Area
	33,268		77.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 4P: 4P

Runoff = 0.66 cfs @ 12.09 hrs, Volume= 0.050 af, Depth> 4.05"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.60"

	Area (sf)	CN	Description
*	6,503	98	HALF BUILDING
	6,503		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 5P: 5P

Runoff = 0.18 cfs @ 12.09 hrs, Volume= 0.014 af, Depth> 4.05"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.60"

	Area (sf)	CN	Description
*	1,762	98	HALF BUILDING
	1,762		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 6P: 6P

Runoff = 0.52 cfs @ 12.09 hrs, Volume= 0.035 af, Depth> 2.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.60"

	Area (sf)	CN	Description
*	556	98	PAVE
	6,934	80	>75% Grass cover, Good, HSG D
	7,490	81	Weighted Average
	6,934		92.58% Pervious Area
	556		7.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

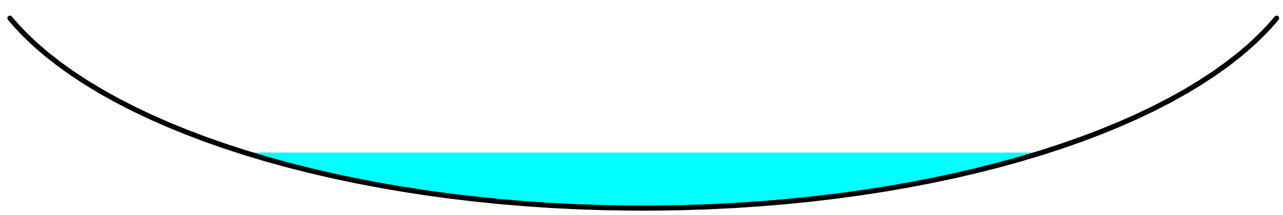
Summary for Reach 2R: R1

Inflow Area = 0.980 ac, 77.97% Impervious, Inflow Depth > 2.98" for 10-year event
Inflow = 2.75 cfs @ 12.20 hrs, Volume= 0.244 af
Outflow = 2.43 cfs @ 12.29 hrs, Volume= 0.242 af, Atten= 12%, Lag= 5.9 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.58 fps, Min. Travel Time= 2.9 min
Avg. Velocity = 0.24 fps, Avg. Travel Time= 6.9 min

Peak Storage= 419 cf @ 12.25 hrs
Average Depth at Peak Storage= 0.29'
Bank-Full Depth= 1.00' Flow Area= 26.7 sf, Capacity= 35.42 cfs

40.00' x 1.00' deep Parabolic Channel, n= 0.400
Length= 100.0' Slope= 0.2200 '/'
Inlet Invert= 102.00', Outlet Invert= 80.00'



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Summary for Pond P1: P1

Inflow Area = 0.980 ac, 77.97% Impervious, Inflow Depth > 3.69" for 10-year event
Inflow = 4.10 cfs @ 12.09 hrs, Volume= 0.302 af
Outflow = 2.75 cfs @ 12.20 hrs, Volume= 0.244 af, Atten= 33%, Lag= 6.5 min
Primary = 0.64 cfs @ 12.20 hrs, Volume= 0.193 af
Secondary = 2.11 cfs @ 12.20 hrs, Volume= 0.051 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 118.87' @ 12.20 hrs Surf.Area= 3,272 sf Storage= 4,494 cf

Plug-Flow detention time= 117.9 min calculated for 0.244 af (81% of inflow)
Center-of-Mass det. time= 65.3 min (815.1 - 749.8)

Volume	Invert	Avail.Storage	Storage Description
#1	117.10'	7,690 cf	**Ponding (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
117.10	1,804	0	0
119.75	4,000	7,690	7,690

Device	Routing	Invert	Outlet Devices
#1	Primary	114.00'	**12.0" Round Culvert** L= 60.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 114.00' / 112.00' S= 0.0333 '/' Cc= 0.600 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf
#2	Device 1	117.10'	**2.400 in/hr Exfiltration over Surface area**
#3	Device 1	118.60'	**24.0" Vert. Orifice/Grate** C= 0.600
#4	Secondary	118.75'	**20.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.63 cfs @ 12.20 hrs HW=118.87' (Free Discharge)
└─**1=Culvert** (Passes 0.63 cfs of 4.16 cfs potential flow)
  ├─**2=Exfiltration** (Exfiltration Controls 0.18 cfs)
  └─**3=Orifice/Grate** (Orifice Controls 0.45 cfs @ 1.77 fps)

Secondary OutFlow Max=2.07 cfs @ 12.20 hrs HW=118.87' (Free Discharge)
└─**4=Broad-Crested Rectangular Weir** (Weir Controls 2.07 cfs @ 0.86 fps)

Summary for Pond P2: Rain Garden

Inflow Area = 0.167 ac, 34.13% Impervious, Inflow Depth > 2.90" for 10-year event
Inflow = 0.39 cfs @ 12.30 hrs, Volume= 0.040 af
Outflow = 0.19 cfs @ 12.71 hrs, Volume= 0.038 af, Atten= 52%, Lag= 24.7 min
Discarded = 0.09 cfs @ 12.71 hrs, Volume= 0.036 af
Primary = 0.10 cfs @ 12.71 hrs, Volume= 0.001 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 118.62' @ 12.71 hrs Surf.Area= 1,576 sf Storage= 670 cf

Plug-Flow detention time= 90.3 min calculated for 0.038 af (93% of inflow)
Center-of-Mass det. time= 67.3 min (855.4 - 788.1)

Volume	Invert	Avail.Storage	Storage Description
#1	118.00'	509 cf	**Ponding above surface (Prismatic)**Listed below (Recalc)
#2	117.50'	173 cf	**Topsoil direct entry ponding (Prismatic)**Listed below (Recalc)
#3	117.00'	17 cf	**Filter/Gravel Layers (Prismatic)**Listed below (Recalc) 173 cf Overall x 10.0% Voids
#4	115.50'	207 cf	**3/4" Crushed Stone (Prismatic)**Listed below (Recalc) 519 cf Overall - 1 cf Embedded = 518 cf x 40.0% Voids
#5	115.90'	1 cf	**2.0" Round Pipe Storage** Inside #4 L= 28.0' S= 0.0100 '/' 1 cf Overall - 0.5" Wall Thickness = 1 cf
		907 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
118.00	346	0	0
118.60	531	263	263
119.00	700	246	509

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
117.50	346	0	0
118.00	346	173	173

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
117.00	346	0	0
117.50	346	173	173

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
115.50	346	0	0
117.00	346	519	519

Device	Routing	Invert	Outlet Devices
#1	Primary	115.90'	**4.0" Round Culvert** L= 24.0' Ke= 0.600 Inlet / Outlet Invert= 115.90' / 115.65' S= 0.0104 '/' Cc= 0.900 n= 0.011, Flow Area= 0.09 sf
#2	Device 1	116.00'	**0.1" Vert. CPV Drawdown Model** C= 0.600
#3	Discarded	115.50'	**2.410 in/hr Exfiltration over Surface area**
#4	Primary	118.60'	**17.0' long x 1.0' 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 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Discarded OutFlow Max=0.09 cfs @ 12.71 hrs HW=118.61' (Free Discharge)
└─**3=Exfiltration** (Exfiltration Controls 0.09 cfs)

Primary OutFlow Max=0.08 cfs @ 12.71 hrs HW=118.62' (Free Discharge)
├─**1=Culvert** (Passes 0.00 cfs of 0.57 cfs potential flow)
│ └─**2=CPV Drawdown Model** (Orifice Controls 0.00 cfs @ 7.78 fps)
└─**4=Broad-Crested Rectangular Weir** (Weir Controls 0.08 cfs @ 0.33 fps)

Summary for Pond P3: Drip Edge

Inflow Area = 0.149 ac,100.00% Impervious, Inflow Depth > 4.05" for 10-year event
Inflow = 0.66 cfs @ 12.09 hrs, Volume= 0.050 af
Outflow = 0.41 cfs @ 12.31 hrs, Volume= 0.031 af, Atten= 37%, Lag= 13.7 min
Primary = 0.41 cfs @ 12.31 hrs, Volume= 0.031 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 122.51' @ 12.30 hrs Surf.Area= 800 sf Storage= 963 cf

Plug-Flow detention time= 127.9 min calculated for 0.031 af (62% of inflow)
Center-of-Mass det. time= 49.7 min (785.3 - 735.6)

Volume	Invert	Avail.Storage	Storage Description
#1	119.50'	1,120 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 2,800 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
119.50	800	0	0
123.00	800	2,800	2,800

Device	Routing	Invert	Outlet Devices
#1	Primary	122.50'	**125.0' long x 1.0' 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 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#2	Primary	119.50'	**1.000 in/hr Exfiltration over Surface area**

Primary OutFlow Max=0.34 cfs @ 12.31 hrs HW=122.51' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 0.33 cfs @ 0.27 fps)
2=Exfiltration (Exfiltration Controls 0.02 cfs)

Summary for Pond P4: Drip Edge

Inflow Area = 0.040 ac,100.00% Impervious, Inflow Depth > 4.05" for 10-year event
Inflow = 0.18 cfs @ 12.09 hrs, Volume= 0.014 af
Outflow = 0.10 cfs @ 12.22 hrs, Volume= 0.008 af, Atten= 46%, Lag= 7.8 min
Primary = 0.10 cfs @ 12.22 hrs, Volume= 0.008 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 122.50' @ 12.20 hrs Surf.Area= 200 sf Storage= 240 cf

Plug-Flow detention time= 123.1 min calculated for 0.008 af (62% of inflow)
Center-of-Mass det. time= 45.8 min (781.4 - 735.6)

Volume	Invert	Avail.Storage	Storage Description
#1	119.50'	280 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 700 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
119.50	200	0	0
123.00	200	700	700

Device	Routing	Invert	Outlet Devices
#1	Primary	122.50'	**125.0' long x 1.0' 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 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#2	Primary	119.50'	**1.000 in/hr Exfiltration over Surface area**

Primary OutFlow Max=0.04 cfs @ 12.22 hrs HW=122.50' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 0.04 cfs @ 0.13 fps)
2=Exfiltration (Exfiltration Controls 0.00 cfs)

Summary for Link POA1: POA #1

Inflow Area = 3.945 ac, 19.36% Impervious, Inflow Depth > 2.39" for 10-year event
Inflow = 7.41 cfs @ 12.15 hrs, Volume= 0.787 af
Primary = 7.41 cfs @ 12.15 hrs, Volume= 0.787 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link POA2: POA #2

Inflow Area = 0.529 ac, 49.07% Impervious, Inflow Depth > 1.73" for 10-year event
Inflow = 0.70 cfs @ 12.31 hrs, Volume= 0.076 af
Primary = 0.70 cfs @ 12.31 hrs, Volume= 0.076 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1P: 1P Runoff Area=129,181 sf 0.00% Impervious Runoff Depth>3.18"
Flow Length=400' Tc=9.5 min CN=78 Runoff=10.34 cfs 0.785 af

Subcatchment 2P: P2 Runoff Area=7,295 sf 34.13% Impervious Runoff Depth>3.96"
Flow Length=352' Tc=22.1 min CN=86 Runoff=0.53 cfs 0.055 af

Subcatchment 3P: 3P Runoff Area=42,669 sf 77.97% Impervious Runoff Depth>4.80"
Tc=6.0 min CN=94 Runoff=5.27 cfs 0.392 af

Subcatchment 4P: 4P Runoff Area=6,503 sf 100.00% Impervious Runoff Depth>5.15"
Tc=6.0 min CN=98 Runoff=0.83 cfs 0.064 af

Subcatchment 5P: 5P Runoff Area=1,762 sf 100.00% Impervious Runoff Depth>5.15"
Tc=6.0 min CN=98 Runoff=0.22 cfs 0.017 af

Subcatchment 6P: 6P Runoff Area=7,490 sf 7.42% Impervious Runoff Depth>3.47"
Tc=6.0 min CN=81 Runoff=0.73 cfs 0.050 af

Reach 2R: R1 Avg. Flow Depth=0.40' Max Vel=0.72 fps Inflow=5.11 cfs 0.326 af
n=0.400 L=100.0' S=0.2200 '/' Capacity=35.42 cfs Outflow=4.61 cfs 0.324 af

Pond P1: P1 Peak Elev=118.94' Storage=4,731 cf Inflow=5.27 cfs 0.392 af
Primary=0.90 cfs 0.220 af Secondary=4.21 cfs 0.106 af Outflow=5.11 cfs 0.326 af

Pond P2: Rain Garden Peak Elev=118.65' Storage=688 cf Inflow=0.53 cfs 0.055 af
Discarded=0.09 cfs 0.042 af Primary=0.49 cfs 0.010 af Outflow=0.58 cfs 0.052 af

Pond P3: Drip Edge Peak Elev=122.51' Storage=962 cf Inflow=0.83 cfs 0.064 af
Outflow=0.25 cfs 0.037 af

Pond P4: Drip Edge Peak Elev=122.51' Storage=241 cf Inflow=0.22 cfs 0.017 af
Outflow=0.26 cfs 0.012 af

Link POA1: POA #1 Inflow=14.21 cfs 1.109 af
Primary=14.21 cfs 1.109 af

Link POA2: POA #2 Inflow=1.12 cfs 0.109 af
Primary=1.12 cfs 0.109 af

Total Runoff Area = 4.474 ac Runoff Volume = 1.364 af Average Runoff Depth = 3.66"
77.13% Pervious = 3.451 ac 22.87% Impervious = 1.023 ac

Summary for Subcatchment 1P: 1P

Runoff = 10.34 cfs @ 12.14 hrs, Volume= 0.785 af, Depth> 3.18"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-year Rainfall=5.80"

	Area (sf)	CN	Description
	80,321	77	Woods, Good, HSG D
	48,860	80	>75% Grass cover, Good, HSG D
	129,181	78	Weighted Average
	129,181		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	100	0.0500	0.24		**Sheet Flow, A TO B SHEET** Grass: Short n= 0.150 P2= 3.10"
2.6	300	0.1500	1.94		**Shallow Concentrated Flow, B TO C** Woodland Kv= 5.0 fps
9.5	400	Total			

Summary for Subcatchment 2P: P2

Runoff = 0.53 cfs @ 12.30 hrs, Volume= 0.055 af, Depth> 3.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-year Rainfall=5.80"

	Area (sf)	CN	Description
*	2,490	98	DRIVE/WALK
	4,805	80	>75% Grass cover, Good, HSG D
	7,295	86	Weighted Average
	4,805		65.87% Pervious Area
	2,490		34.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.1	100	0.0100	0.09		**Sheet Flow, A TO B SHEET** Grass: Dense n= 0.240 P2= 3.10"
3.0	252	0.0400	1.40		**Shallow Concentrated Flow, B TO C** Short Grass Pasture Kv= 7.0 fps
22.1	352	Total			

Summary for Subcatchment 3P: 3P

Runoff = 5.27 cfs @ 12.09 hrs, Volume= 0.392 af, Depth> 4.80"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-year Rainfall=5.80"

	Area (sf)	CN	Description
*	25,690	98	PAVE
*	6,320	98	HALF BUILDING
	9,401	80	>75% Grass cover, Good, HSG D
*	1,258	98	SIDEWALK
	42,669	94	Weighted Average
	9,401		22.03% Pervious Area
	33,268		77.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 4P: 4P

Runoff = 0.83 cfs @ 12.09 hrs, Volume= 0.064 af, Depth> 5.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-year Rainfall=5.80"

	Area (sf)	CN	Description
*	6,503	98	HALF BUILDING
	6,503		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 5P: 5P

Runoff = 0.22 cfs @ 12.09 hrs, Volume= 0.017 af, Depth> 5.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-year Rainfall=5.80"

	Area (sf)	CN	Description
*	1,762	98	HALF BUILDING
	1,762		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 6P: 6P

Runoff = 0.73 cfs @ 12.09 hrs, Volume= 0.050 af, Depth> 3.47"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-year Rainfall=5.80"

	Area (sf)	CN	Description
*	556	98	PAVE
	6,934	80	>75% Grass cover, Good, HSG D
	7,490	81	Weighted Average
	6,934		92.58% Pervious Area
	556		7.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

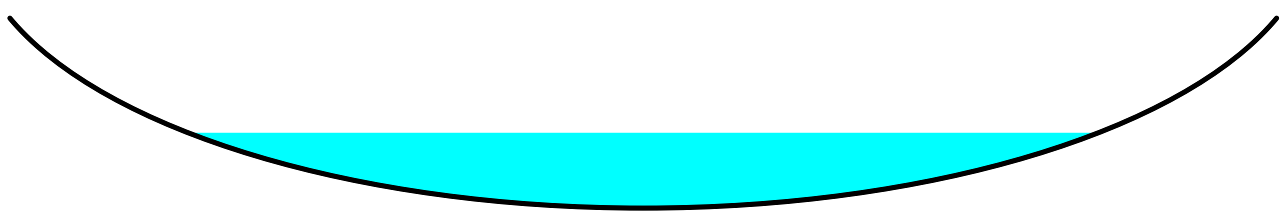
Summary for Reach 2R: R1

Inflow Area = 0.980 ac, 77.97% Impervious, Inflow Depth > 3.99" for 25-year event
Inflow = 5.11 cfs @ 12.12 hrs, Volume= 0.326 af
Outflow = 4.61 cfs @ 12.20 hrs, Volume= 0.324 af, Atten= 10%, Lag= 5.1 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.72 fps, Min. Travel Time= 2.3 min
Avg. Velocity = 0.26 fps, Avg. Travel Time= 6.4 min

Peak Storage= 665 cf @ 12.16 hrs
Average Depth at Peak Storage= 0.40'
Bank-Full Depth= 1.00' Flow Area= 26.7 sf, Capacity= 35.42 cfs

40.00' x 1.00' deep Parabolic Channel, n= 0.400
Length= 100.0' Slope= 0.2200 '/'
Inlet Invert= 102.00', Outlet Invert= 80.00'



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Summary for Pond P1: P1

Inflow Area = 0.980 ac, 77.97% Impervious, Inflow Depth > 4.80" for 25-year event
Inflow = 5.27 cfs @ 12.09 hrs, Volume= 0.392 af
Outflow = 5.11 cfs @ 12.12 hrs, Volume= 0.326 af, Atten= 3%, Lag= 1.9 min
Primary = 0.90 cfs @ 12.12 hrs, Volume= 0.220 af
Secondary = 4.21 cfs @ 12.12 hrs, Volume= 0.106 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 118.94' @ 12.12 hrs Surf.Area= 3,331 sf Storage= 4,731 cf

Plug-Flow detention time= 96.4 min calculated for 0.325 af (83% of inflow)
Center-of-Mass det. time= 48.7 min (794.3 - 745.6)

Volume	Invert	Avail.Storage	Storage Description
#1	117.10'	7,690 cf	**Ponding (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
117.10	1,804	0	0
119.75	4,000	7,690	7,690

Device	Routing	Invert	Outlet Devices
#1	Primary	114.00'	**12.0" Round Culvert** L= 60.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 114.00' / 112.00' S= 0.0333 '/' Cc= 0.600 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf
#2	Device 1	117.10'	**2.400 in/hr Exfiltration over Surface area**
#3	Device 1	118.60'	**24.0" Vert. Orifice/Grate** C= 0.600
#4	Secondary	118.75'	**20.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.87 cfs @ 12.12 hrs HW=118.93' (Free Discharge)
└─**1=Culvert** (Passes 0.87 cfs of 4.19 cfs potential flow)
  ├─**2=Exfiltration** (Exfiltration Controls 0.18 cfs)
  └─**3=Orifice/Grate** (Orifice Controls 0.68 cfs @ 1.97 fps)

Secondary OutFlow Max=3.96 cfs @ 12.12 hrs HW=118.93' (Free Discharge)
└─**4=Broad-Crested Rectangular Weir** (Weir Controls 3.96 cfs @ 1.07 fps)

Summary for Pond P2: Rain Garden

Inflow Area = 0.167 ac, 34.13% Impervious, Inflow Depth > 3.96" for 25-year event
Inflow = 0.53 cfs @ 12.30 hrs, Volume= 0.055 af
Outflow = 0.58 cfs @ 12.41 hrs, Volume= 0.052 af, Atten= 0%, Lag= 6.9 min
Discarded = 0.09 cfs @ 12.42 hrs, Volume= 0.042 af
Primary = 0.49 cfs @ 12.41 hrs, Volume= 0.010 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 118.65' @ 12.42 hrs Surf.Area= 1,590 sf Storage= 688 cf

Plug-Flow detention time= 76.0 min calculated for 0.052 af (93% of inflow)
Center-of-Mass det. time= 53.0 min (833.6 - 780.7)

Volume	Invert	Avail.Storage	Storage Description
#1	118.00'	509 cf	**Ponding above surface (Prismatic)** Listed below (Recalc)
#2	117.50'	173 cf	**Topsoil direct entry ponding (Prismatic)** Listed below (Recalc)
#3	117.00'	17 cf	**Filter/Gravel Layers (Prismatic)** Listed below (Recalc) 173 cf Overall x 10.0% Voids
#4	115.50'	207 cf	**3/4" Crushed Stone (Prismatic)** Listed below (Recalc) 519 cf Overall - 1 cf Embedded = 518 cf x 40.0% Voids
#5	115.90'	1 cf	**2.0" Round Pipe Storage** Inside #4 L= 28.0' S= 0.0100 '/' 1 cf Overall - 0.5" Wall Thickness = 1 cf
		907 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
118.00	346	0	0
118.60	531	263	263
119.00	700	246	509

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
117.50	346	0	0
118.00	346	173	173

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
117.00	346	0	0
117.50	346	173	173

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
115.50	346	0	0
117.00	346	519	519

Device	Routing	Invert	Outlet Devices
#1	Primary	115.90'	**4.0" Round Culvert** L= 24.0' Ke= 0.600 Inlet / Outlet Invert= 115.90' / 115.65' S= 0.0104 '/' Cc= 0.900 n= 0.011, Flow Area= 0.09 sf
#2	Device 1	116.00'	**0.1" Vert. CPV Drawdown Model** C= 0.600
#3	Discarded	115.50'	**2.410 in/hr Exfiltration over Surface area**
#4	Primary	118.60'	**17.0' long x 1.0' 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 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Discarded OutFlow Max=0.09 cfs @ 12.42 hrs HW=118.64' (Free Discharge)
└─**3=Exfiltration** (Exfiltration Controls 0.09 cfs)

Primary OutFlow Max=0.41 cfs @ 12.41 hrs HW=118.64' (Free Discharge)
├─**1=Culvert** (Passes 0.00 cfs of 0.58 cfs potential flow)
│ └─**2=CPV Drawdown Model** (Orifice Controls 0.00 cfs @ 7.82 fps)
└─**4=Broad-Crested Rectangular Weir** (Weir Controls 0.41 cfs @ 0.56 fps)

Summary for Pond P3: Drip Edge

Inflow Area = 0.149 ac,100.00% Impervious, Inflow Depth > 5.15" for 25-year event
Inflow = 0.83 cfs @ 12.09 hrs, Volume= 0.064 af
Outflow = 0.25 cfs @ 12.34 hrs, Volume= 0.037 af, Atten= 70%, Lag= 15.3 min
Primary = 0.25 cfs @ 12.34 hrs, Volume= 0.037 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 122.51' @ 12.34 hrs Surf.Area= 800 sf Storage= 962 cf

Plug-Flow detention time= 125.6 min calculated for 0.037 af (58% of inflow)
Center-of-Mass det. time= 43.5 min (777.8 - 734.3)

Volume	Invert	Avail.Storage	Storage Description
#1	119.50'	1,120 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 2,800 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
119.50	800	0	0
123.00	800	2,800	2,800

Device	Routing	Invert	Outlet Devices
#1	Primary	122.50'	**125.0' long x 1.0' 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 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#2	Primary	119.50'	**1.000 in/hr Exfiltration over Surface area**

Primary OutFlow Max=0.21 cfs @ 12.34 hrs HW=122.51' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 0.19 cfs @ 0.22 fps)
2=Exfiltration (Exfiltration Controls 0.02 cfs)

Summary for Pond P4: Drip Edge

Inflow Area = 0.040 ac,100.00% Impervious, Inflow Depth > 5.15" for 25-year event
Inflow = 0.22 cfs @ 12.09 hrs, Volume= 0.017 af
Outflow = 0.26 cfs @ 12.12 hrs, Volume= 0.012 af, Atten= 0%, Lag= 1.8 min
Primary = 0.26 cfs @ 12.12 hrs, Volume= 0.012 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 122.51' @ 12.10 hrs Surf.Area= 200 sf Storage= 241 cf

Plug-Flow detention time= 100.9 min calculated for 0.012 af (71% of inflow)
Center-of-Mass det. time= 34.3 min (768.6 - 734.3)

Volume	Invert	Avail.Storage	Storage Description
#1	119.50'	280 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 700 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
119.50	200	0	0
123.00	200	700	700

Device	Routing	Invert	Outlet Devices
#1	Primary	122.50'	**125.0' long x 1.0' 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 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#2	Primary	119.50'	**1.000 in/hr Exfiltration over Surface area**

Primary OutFlow Max=0.18 cfs @ 12.12 hrs HW=122.51' (Free Discharge)
├─**1=Broad-Crested Rectangular Weir** (Weir Controls 0.18 cfs @ 0.22 fps)
└─**2=Exfiltration** (Exfiltration Controls 0.00 cfs)

Summary for Link POA1: POA #1

Inflow Area = 3.945 ac, 19.36% Impervious, Inflow Depth > 3.37" for 25-year event
Inflow = 14.21 cfs @ 12.17 hrs, Volume= 1.109 af
Primary = 14.21 cfs @ 12.17 hrs, Volume= 1.109 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link POA2: POA #2

Inflow Area = 0.529 ac, 49.07% Impervious, Inflow Depth > 2.48" for 25-year event
Inflow = 1.12 cfs @ 12.11 hrs, Volume= 0.109 af
Primary = 1.12 cfs @ 12.11 hrs, Volume= 0.109 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1P: 1P Runoff Area=129,181 sf 0.00% Impervious Runoff Depth>1.31"
Flow Length=400' Tc=9.5 min CN=78 Runoff=4.26 cfs 0.323 af

Subcatchment 2P: P2 Runoff Area=7,295 sf 34.13% Impervious Runoff Depth>1.87"
Flow Length=352' Tc=22.1 min CN=86 Runoff=0.25 cfs 0.026 af

Subcatchment 3P: 3P Runoff Area=42,669 sf 77.97% Impervious Runoff Depth>2.59"
Tc=6.0 min CN=94 Runoff=2.93 cfs 0.211 af

Subcatchment 4P: 4P Runoff Area=6,503 sf 100.00% Impervious Runoff Depth>2.96"
Tc=6.0 min CN=98 Runoff=0.48 cfs 0.037 af

Subcatchment 5P: 5P Runoff Area=1,762 sf 100.00% Impervious Runoff Depth>2.96"
Tc=6.0 min CN=98 Runoff=0.13 cfs 0.010 af

Subcatchment 6P: 6P Runoff Area=7,490 sf 7.42% Impervious Runoff Depth>1.51"
Tc=6.0 min CN=81 Runoff=0.32 cfs 0.022 af

Reach 2R: R1 Avg. Flow Depth=0.14' Max Vel=0.36 fps Inflow=0.57 cfs 0.164 af
n=0.400 L=100.0' S=0.2200 '/' Capacity=35.42 cfs Outflow=0.52 cfs 0.161 af

Pond P1: P1 Peak Elev=118.77' Storage=4,180 cf Inflow=2.93 cfs 0.211 af
Primary=0.37 cfs 0.160 af Secondary=0.20 cfs 0.004 af Outflow=0.57 cfs 0.164 af

Pond P2: Rain Garden Peak Elev=118.05' Storage=416 cf Inflow=0.25 cfs 0.026 af
Discarded=0.08 cfs 0.025 af Primary=0.00 cfs 0.000 af Outflow=0.08 cfs 0.025 af

Pond P3: Drip Edge Peak Elev=122.28' Storage=890 cf Inflow=0.48 cfs 0.037 af
Outflow=0.02 cfs 0.020 af

Pond P4: Drip Edge Peak Elev=122.50' Storage=240 cf Inflow=0.13 cfs 0.010 af
Outflow=0.01 cfs 0.005 af

Link POA1: POA #1 Inflow=4.39 cfs 0.485 af
Primary=4.39 cfs 0.485 af

Link POA2: POA #2 Inflow=0.34 cfs 0.047 af
Primary=0.34 cfs 0.047 af

Total Runoff Area = 4.474 ac Runoff Volume = 0.629 af Average Runoff Depth = 1.69"
77.13% Pervious = 3.451 ac 22.87% Impervious = 1.023 ac

Summary for Subcatchment 1P: 1P

Runoff = 4.26 cfs @ 12.14 hrs, Volume= 0.323 af, Depth> 1.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr Custom Rainfall=3.40"

	Area (sf)	CN	Description
	80,321	77	Woods, Good, HSG D
	48,860	80	>75% Grass cover, Good, HSG D
	129,181	78	Weighted Average
	129,181		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	100	0.0500	0.24		**Sheet Flow, A TO B SHEET** Grass: Short n= 0.150 P2= 3.10"
2.6	300	0.1500	1.94		**Shallow Concentrated Flow, B TO C** Woodland Kv= 5.0 fps
9.5	400	Total			

Summary for Subcatchment 2P: P2

Runoff = 0.25 cfs @ 12.31 hrs, Volume= 0.026 af, Depth> 1.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr Custom Rainfall=3.40"

	Area (sf)	CN	Description
*	2,490	98	DRIVE/WALK
	4,805	80	>75% Grass cover, Good, HSG D
	7,295	86	Weighted Average
	4,805		65.87% Pervious Area
	2,490		34.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.1	100	0.0100	0.09		**Sheet Flow, A TO B SHEET** Grass: Dense n= 0.240 P2= 3.10"
3.0	252	0.0400	1.40		**Shallow Concentrated Flow, B TO C** Short Grass Pasture Kv= 7.0 fps
22.1	352	Total			

Summary for Subcatchment 3P: 3P

Runoff = 2.93 cfs @ 12.09 hrs, Volume= 0.211 af, Depth> 2.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr Custom Rainfall=3.40"

	Area (sf)	CN	Description
*	25,690	98	PAVE
*	6,320	98	HALF BUILDING
	9,401	80	>75% Grass cover, Good, HSG D
*	1,258	98	SIDEWALK
	42,669	94	Weighted Average
	9,401		22.03% Pervious Area
	33,268		77.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 4P: 4P

Runoff = 0.48 cfs @ 12.09 hrs, Volume= 0.037 af, Depth> 2.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr Custom Rainfall=3.40"

	Area (sf)	CN	Description
*	6,503	98	HALF BUILDING
	6,503		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 5P: 5P

Runoff = 0.13 cfs @ 12.09 hrs, Volume= 0.010 af, Depth> 2.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr Custom Rainfall=3.40"

	Area (sf)	CN	Description
*	1,762	98	HALF BUILDING
	1,762		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 6P: 6P

Runoff = 0.32 cfs @ 12.09 hrs, Volume= 0.022 af, Depth> 1.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr Custom Rainfall=3.40"

	Area (sf)	CN	Description
*	556	98	PAVE
	6,934	80	>75% Grass cover, Good, HSG D
	7,490	81	Weighted Average
	6,934		92.58% Pervious Area
	556		7.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

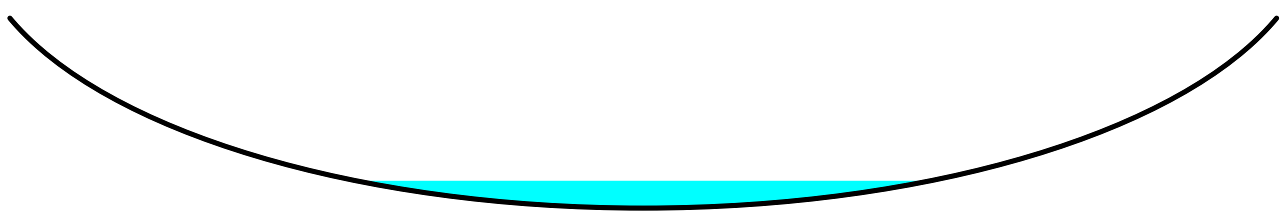
Summary for Reach 2R: R1

Inflow Area = 0.980 ac, 77.97% Impervious, Inflow Depth > 2.00" for Custom event
Inflow = 0.57 cfs @ 12.53 hrs, Volume= 0.164 af
Outflow = 0.52 cfs @ 12.67 hrs, Volume= 0.161 af, Atten= 8%, Lag= 8.6 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.36 fps, Min. Travel Time= 4.6 min
Avg. Velocity = 0.22 fps, Avg. Travel Time= 7.5 min

Peak Storage= 145 cf @ 12.60 hrs
Average Depth at Peak Storage= 0.14'
Bank-Full Depth= 1.00' Flow Area= 26.7 sf, Capacity= 35.42 cfs

40.00' x 1.00' deep Parabolic Channel, n= 0.400
Length= 100.0' Slope= 0.2200 '/'
Inlet Invert= 102.00', Outlet Invert= 80.00'



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Summary for Pond P1: P1

Inflow Area = 0.980 ac, 77.97% Impervious, Inflow Depth > 2.59" for Custom event
Inflow = 2.93 cfs @ 12.09 hrs, Volume= 0.211 af
Outflow = 0.57 cfs @ 12.53 hrs, Volume= 0.164 af, Atten= 81%, Lag= 26.6 min
Primary = 0.37 cfs @ 12.53 hrs, Volume= 0.160 af
Secondary = 0.20 cfs @ 12.53 hrs, Volume= 0.004 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 118.77' @ 12.53 hrs Surf.Area= 3,191 sf Storage= 4,180 cf

Plug-Flow detention time= 156.4 min calculated for 0.163 af (77% of inflow)
Center-of-Mass det. time= 99.7 min (856.2 - 756.5)

Volume	Invert	Avail.Storage	Storage Description
#1	117.10'	7,690 cf	**Ponding (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
117.10	1,804	0	0
119.75	4,000	7,690	7,690

Device	Routing	Invert	Outlet Devices
#1	Primary	114.00'	**12.0" Round Culvert** L= 60.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 114.00' / 112.00' S= 0.0333 '/' Cc= 0.600 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf
#2	Device 1	117.10'	**2.400 in/hr Exfiltration over Surface area**
#3	Device 1	118.60'	**24.0" Vert. Orifice/Grate** C= 0.600
#4	Secondary	118.75'	**20.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.36 cfs @ 12.53 hrs HW=118.77' (Free Discharge)
└─**1=Culvert** (Passes 0.36 cfs of 4.11 cfs potential flow)
  ├─**2=Exfiltration** (Exfiltration Controls 0.18 cfs)
  └─**3=Orifice/Grate** (Orifice Controls 0.19 cfs @ 1.42 fps)

Secondary OutFlow Max=0.17 cfs @ 12.53 hrs HW=118.77' (Free Discharge)
└─**4=Broad-Crested Rectangular Weir** (Weir Controls 0.17 cfs @ 0.38 fps)

Summary for Pond P2: Rain Garden

Inflow Area = 0.167 ac, 34.13% Impervious, Inflow Depth > 1.87" for Custom event
Inflow = 0.25 cfs @ 12.31 hrs, Volume= 0.026 af
Outflow = 0.08 cfs @ 12.84 hrs, Volume= 0.025 af, Atten= 69%, Lag= 32.1 min
Discarded = 0.08 cfs @ 12.84 hrs, Volume= 0.025 af
Primary = 0.00 cfs @ 12.84 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 118.05' @ 12.84 hrs Surf.Area= 1,400 sf Storage= 416 cf

Plug-Flow detention time= 89.4 min calculated for 0.025 af (95% of inflow)
Center-of-Mass det. time= 73.4 min (871.7 - 798.2)

Volume	Invert	Avail.Storage	Storage Description
#1	118.00'	509 cf	**Ponding above surface (Prismatic)** Listed below (Recalc)
#2	117.50'	173 cf	**Topsoil direct entry ponding (Prismatic)** Listed below (Recalc)
#3	117.00'	17 cf	**Filter/Gravel Layers (Prismatic)** Listed below (Recalc) 173 cf Overall x 10.0% Voids
#4	115.50'	207 cf	**3/4" Crushed Stone (Prismatic)** Listed below (Recalc) 519 cf Overall - 1 cf Embedded = 518 cf x 40.0% Voids
#5	115.90'	1 cf	**2.0" Round Pipe Storage** Inside #4 L= 28.0' S= 0.0100 '/' 1 cf Overall - 0.5" Wall Thickness = 1 cf
		907 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
118.00	346	0	0
118.60	531	263	263
119.00	700	246	509

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
117.50	346	0	0
118.00	346	173	173

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
117.00	346	0	0
117.50	346	173	173

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
115.50	346	0	0
117.00	346	519	519

Device	Routing	Invert	Outlet Devices
#1	Primary	115.90'	**4.0" Round Culvert** L= 24.0' Ke= 0.600 Inlet / Outlet Invert= 115.90' / 115.65' S= 0.0104 '/' Cc= 0.900 n= 0.011, Flow Area= 0.09 sf
#2	Device 1	116.00'	**0.1" Vert. CPV Drawdown Model** C= 0.600
#3	Discarded	115.50'	**2.410 in/hr Exfiltration over Surface area**
#4	Primary	118.60'	**17.0' long x 1.0' 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 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Discarded OutFlow Max=0.08 cfs @ 12.84 hrs HW=118.05' (Free Discharge)
└─**3=Exfiltration** (Exfiltration Controls 0.08 cfs)

Primary OutFlow Max=0.00 cfs @ 12.84 hrs HW=118.05' (Free Discharge)
├─**1=Culvert** (Passes 0.00 cfs of 0.51 cfs potential flow)
│ └─**2=CPV Drawdown Model** (Orifice Controls 0.00 cfs @ 6.89 fps)
└─**4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond P3: Drip Edge

Inflow Area = 0.149 ac,100.00% Impervious, Inflow Depth > 2.96" for Custom event
Inflow = 0.48 cfs @ 12.09 hrs, Volume= 0.037 af
Outflow = 0.02 cfs @ 9.50 hrs, Volume= 0.020 af, Atten= 96%, Lag= 0.0 min
Primary = 0.02 cfs @ 9.50 hrs, Volume= 0.020 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 122.28' @ 15.19 hrs Surf.Area= 800 sf Storage= 890 cf

Plug-Flow detention time= 162.8 min calculated for 0.020 af (53% of inflow)
Center-of-Mass det. time= 73.3 min (811.3 - 738.0)

Volume	Invert	Avail.Storage	Storage Description
#1	119.50'	1,120 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 2,800 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
119.50	800	0	0
123.00	800	2,800	2,800

Device	Routing	Invert	Outlet Devices
#1	Primary	122.50'	**125.0' long x 1.0' 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 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#2	Primary	119.50'	**1.000 in/hr Exfiltration over Surface area**

Primary OutFlow Max=0.02 cfs @ 9.50 hrs HW=119.54' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)
2=Exfiltration (Exfiltration Controls 0.02 cfs)

Summary for Pond P4: Drip Edge

Inflow Area = 0.040 ac,100.00% Impervious, Inflow Depth > 2.96" for Custom event
Inflow = 0.13 cfs @ 12.09 hrs, Volume= 0.010 af
Outflow = 0.01 cfs @ 13.72 hrs, Volume= 0.005 af, Atten= 92%, Lag= 98.0 min
Primary = 0.01 cfs @ 13.72 hrs, Volume= 0.005 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 122.50' @ 13.70 hrs Surf.Area= 200 sf Storage= 240 cf

Plug-Flow detention time= 161.4 min calculated for 0.005 af (53% of inflow)
Center-of-Mass det. time= 70.8 min (808.8 - 738.0)

Volume	Invert	Avail.Storage	Storage Description
#1	119.50'	280 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 700 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
119.50	200	0	0
123.00	200	700	700

Device	Routing	Invert	Outlet Devices
#1	Primary	122.50'	**125.0' long x 1.0' 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 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#2	Primary	119.50'	**1.000 in/hr Exfiltration over Surface area**

Primary OutFlow Max=0.01 cfs @ 13.72 hrs HW=122.50' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 0.00 cfs @ 0.03 fps)
2=Exfiltration (Exfiltration Controls 0.00 cfs)

Summary for Link POA1: POA #1

Inflow Area = 3.945 ac, 19.36% Impervious, Inflow Depth > 1.47" for Custom event
Inflow = 4.39 cfs @ 12.14 hrs, Volume= 0.485 af
Primary = 4.39 cfs @ 12.14 hrs, Volume= 0.485 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link POA2: POA #2

Inflow Area = 0.529 ac, 49.07% Impervious, Inflow Depth > 1.06" for Custom event
Inflow = 0.34 cfs @ 12.09 hrs, Volume= 0.047 af
Primary = 0.34 cfs @ 12.09 hrs, Volume= 0.047 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1P: 1P Runoff Area=129,181 sf 0.00% Impervious Runoff Depth>0.05"
Flow Length=400' Tc=9.5 min CN=78 Runoff=0.05 cfs 0.012 af

Subcatchment 2P: P2 Runoff Area=7,295 sf 34.13% Impervious Runoff Depth>0.17"
Flow Length=352' Tc=22.1 min CN=86 Runoff=0.02 cfs 0.002 af

Subcatchment 3P: 3P Runoff Area=42,669 sf 77.97% Impervious Runoff Depth>0.47"
Tc=6.0 min CN=94 Runoff=0.57 cfs 0.038 af

Subcatchment 4P: 4P Runoff Area=6,503 sf 100.00% Impervious Runoff Depth>0.75"
Tc=6.0 min CN=98 Runoff=0.13 cfs 0.009 af

Subcatchment 5P: 5P Runoff Area=1,762 sf 100.00% Impervious Runoff Depth>0.75"
Tc=6.0 min CN=98 Runoff=0.04 cfs 0.003 af

Subcatchment 6P: 6P Runoff Area=7,490 sf 7.42% Impervious Runoff Depth>0.08"
Tc=6.0 min CN=81 Runoff=0.01 cfs 0.001 af

Reach 2R: R1 Avg. Flow Depth=0.07' Max Vel=0.23 fps Inflow=0.11 cfs 0.038 af
n=0.400 L=100.0' S=0.2200 '/' Capacity=35.42 cfs Outflow=0.11 cfs 0.038 af

Pond P1: P1 Peak Elev=117.37' Storage=517 cf Inflow=0.57 cfs 0.038 af
Primary=0.11 cfs 0.038 af Secondary=0.00 cfs 0.000 af Outflow=0.11 cfs 0.038 af

Pond P2: Rain Garden Peak Elev=115.53' Storage=5 cf Inflow=0.02 cfs 0.002 af
Discarded=0.02 cfs 0.002 af Primary=0.00 cfs 0.000 af Outflow=0.02 cfs 0.002 af

Pond P3: Drip Edge Peak Elev=119.93' Storage=138 cf Inflow=0.13 cfs 0.009 af
Outflow=0.02 cfs 0.009 af

Pond P4: Drip Edge Peak Elev=119.98' Storage=39 cf Inflow=0.04 cfs 0.003 af
Outflow=0.00 cfs 0.003 af

Link POA1: POA #1 Inflow=0.16 cfs 0.049 af
Primary=0.16 cfs 0.049 af

Link POA2: POA #2 Inflow=0.03 cfs 0.013 af
Primary=0.03 cfs 0.013 af

Total Runoff Area = 4.474 ac Runoff Volume = 0.065 af Average Runoff Depth = 0.18"
77.13% Pervious = 3.451 ac 22.87% Impervious = 1.023 ac

Summary for Subcatchment 1P: 1P

Runoff = 0.05 cfs @ 12.45 hrs, Volume= 0.012 af, Depth> 0.05"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr WQ Rainfall=1.00"

	Area (sf)	CN	Description
	80,321	77	Woods, Good, HSG D
	48,860	80	>75% Grass cover, Good, HSG D
	129,181	78	Weighted Average
	129,181		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	100	0.0500	0.24		**Sheet Flow, A TO B SHEET** Grass: Short n= 0.150 P2= 3.10"
2.6	300	0.1500	1.94		**Shallow Concentrated Flow, B TO C** Woodland Kv= 5.0 fps
9.5	400	Total			

Summary for Subcatchment 2P: P2

Runoff = 0.02 cfs @ 12.38 hrs, Volume= 0.002 af, Depth> 0.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr WQ Rainfall=1.00"

	Area (sf)	CN	Description
*	2,490	98	DRIVE/WALK
	4,805	80	>75% Grass cover, Good, HSG D
	7,295	86	Weighted Average
	4,805		65.87% Pervious Area
	2,490		34.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.1	100	0.0100	0.09		**Sheet Flow, A TO B SHEET** Grass: Dense n= 0.240 P2= 3.10"
3.0	252	0.0400	1.40		**Shallow Concentrated Flow, B TO C** Short Grass Pasture Kv= 7.0 fps
22.1	352	Total			

Summary for Subcatchment 3P: 3P

Runoff = 0.57 cfs @ 12.09 hrs, Volume= 0.038 af, Depth> 0.47"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr WQ Rainfall=1.00"

	Area (sf)	CN	Description
*	25,690	98	PAVE
*	6,320	98	HALF BUILDING
	9,401	80	>75% Grass cover, Good, HSG D
*	1,258	98	SIDEWALK
	42,669	94	Weighted Average
	9,401		22.03% Pervious Area
	33,268		77.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 4P: 4P

Runoff = 0.13 cfs @ 12.09 hrs, Volume= 0.009 af, Depth> 0.75"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr WQ Rainfall=1.00"

	Area (sf)	CN	Description
*	6,503	98	HALF BUILDING
	6,503		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 5P: 5P

Runoff = 0.04 cfs @ 12.09 hrs, Volume= 0.003 af, Depth> 0.75"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr WQ Rainfall=1.00"

	Area (sf)	CN	Description
*	1,762	98	HALF BUILDING
	1,762		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 6P: 6P

Runoff = 0.01 cfs @ 12.27 hrs, Volume= 0.001 af, Depth> 0.08"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr WQ Rainfall=1.00"

	Area (sf)	CN	Description
*	556	98	PAVE
	6,934	80	>75% Grass cover, Good, HSG D
	7,490	81	Weighted Average
	6,934		92.58% Pervious Area
	556		7.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

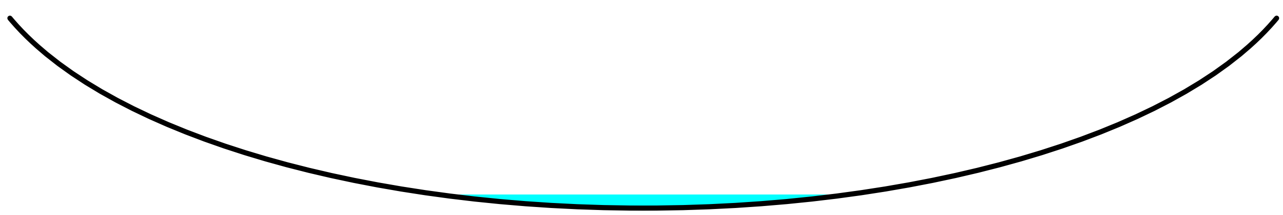
Summary for Reach 2R: R1

Inflow Area = 0.980 ac, 77.97% Impervious, Inflow Depth > 0.47" for WQ event
Inflow = 0.11 cfs @ 12.55 hrs, Volume= 0.038 af
Outflow = 0.11 cfs @ 12.78 hrs, Volume= 0.038 af, Atten= 0%, Lag= 13.8 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.23 fps, Min. Travel Time= 7.4 min
Avg. Velocity = 0.15 fps, Avg. Travel Time= 11.3 min

Peak Storage= 50 cf @ 12.66 hrs
Average Depth at Peak Storage= 0.07'
Bank-Full Depth= 1.00' Flow Area= 26.7 sf, Capacity= 35.42 cfs

40.00' x 1.00' deep Parabolic Channel, n= 0.400
Length= 100.0' Slope= 0.2200 '/'
Inlet Invert= 102.00', Outlet Invert= 80.00'



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Summary for Pond P1: P1

Inflow Area = 0.980 ac, 77.97% Impervious, Inflow Depth > 0.47" for WQ event
Inflow = 0.57 cfs @ 12.09 hrs, Volume= 0.038 af
Outflow = 0.11 cfs @ 12.55 hrs, Volume= 0.038 af, Atten= 80%, Lag= 27.6 min
Primary = 0.11 cfs @ 12.55 hrs, Volume= 0.038 af
Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 117.37' @ 12.55 hrs Surf.Area= 2,028 sf Storage= 517 cf

Plug-Flow detention time= 36.4 min calculated for 0.038 af (100% of inflow)
Center-of-Mass det. time= 34.7 min (830.6 - 795.9)

Volume	Invert	Avail.Storage	Storage Description
#1	117.10'	7,690 cf	**Ponding (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
117.10	1,804	0	0
119.75	4,000	7,690	7,690

Device	Routing	Invert	Outlet Devices
#1	Primary	114.00'	**12.0" Round Culvert** L= 60.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 114.00' / 112.00' S= 0.0333 '/' Cc= 0.600 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf
#2	Device 1	117.10'	**2.400 in/hr Exfiltration over Surface area**
#3	Device 1	118.60'	**24.0" Vert. Orifice/Grate** C= 0.600
#4	Secondary	118.75'	**20.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.11 cfs @ 12.55 hrs HW=117.37' (Free Discharge)
└─**1=Culvert** (Passes 0.11 cfs of 3.37 cfs potential flow)
  ├─**2=Exfiltration** (Exfiltration Controls 0.11 cfs)
  └─**3=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=117.10' (Free Discharge)
└─**4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond P2: Rain Garden

Inflow Area = 0.167 ac, 34.13% Impervious, Inflow Depth > 0.17" for WQ event
Inflow = 0.02 cfs @ 12.38 hrs, Volume= 0.002 af
Outflow = 0.02 cfs @ 12.46 hrs, Volume= 0.002 af, Atten= 4%, Lag= 5.0 min
Discarded = 0.02 cfs @ 12.46 hrs, Volume= 0.002 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 115.53' @ 12.46 hrs Surf.Area= 346 sf Storage= 5 cf

Plug-Flow detention time= 4.2 min calculated for 0.002 af (99% of inflow)
Center-of-Mass det. time= 3.3 min (855.3 - 852.1)

Volume	Invert	Avail.Storage	Storage Description
#1	118.00'	509 cf	**Ponding above surface (Prismatic)** Listed below (Recalc)
#2	117.50'	173 cf	**Topsoil direct entry ponding (Prismatic)** Listed below (Recalc)
#3	117.00'	17 cf	**Filter/Gravel Layers (Prismatic)** Listed below (Recalc) 173 cf Overall x 10.0% Voids
#4	115.50'	207 cf	**3/4" Crushed Stone (Prismatic)** Listed below (Recalc) 519 cf Overall - 1 cf Embedded = 518 cf x 40.0% Voids
#5	115.90'	1 cf	**2.0" Round Pipe Storage** Inside #4 L= 28.0' S= 0.0100 '/' 1 cf Overall - 0.5" Wall Thickness = 1 cf
		907 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
118.00	346	0	0
118.60	531	263	263
119.00	700	246	509

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
117.50	346	0	0
118.00	346	173	173

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
117.00	346	0	0
117.50	346	173	173

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
115.50	346	0	0
117.00	346	519	519

Device	Routing	Invert	Outlet Devices
#1	Primary	115.90'	**4.0" Round Culvert** L= 24.0' Ke= 0.600 Inlet / Outlet Invert= 115.90' / 115.65' S= 0.0104 '/' Cc= 0.900 n= 0.011, Flow Area= 0.09 sf
#2	Device 1	116.00'	**0.1" Vert. CPV Drawdown Model** C= 0.600
#3	Discarded	115.50'	**2.410 in/hr Exfiltration over Surface area**
#4	Primary	118.60'	**17.0' long x 1.0' 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 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Discarded OutFlow Max=0.02 cfs @ 12.46 hrs HW=115.53' (Free Discharge)
└─**3=Exfiltration** (Exfiltration Controls 0.02 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=115.50' (Free Discharge)
├─**1=Culvert** (Controls 0.00 cfs)
│ └─**2=CPV Drawdown Model** (Controls 0.00 cfs)
└─**4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond P3: Drip Edge

Inflow Area = 0.149 ac,100.00% Impervious, Inflow Depth > 0.75" for WQ event
Inflow = 0.13 cfs @ 12.09 hrs, Volume= 0.009 af
Outflow = 0.02 cfs @ 11.75 hrs, Volume= 0.009 af, Atten= 86%, Lag= 0.0 min
Primary = 0.02 cfs @ 11.75 hrs, Volume= 0.009 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 119.93' @ 12.61 hrs Surf.Area= 800 sf Storage= 138 cf

Plug-Flow detention time= 55.1 min calculated for 0.009 af (100% of inflow)
Center-of-Mass det. time= 53.8 min (812.3 - 758.5)

Volume	Invert	Avail.Storage	Storage Description
#1	119.50'	1,120 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc) 2,800 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
119.50	800	0	0
123.00	800	2,800	2,800

Device	Routing	Invert	Outlet Devices
#1	Primary	122.50'	**125.0' long x 1.0' 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 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#2	Primary	119.50'	**1.000 in/hr Exfiltration over Surface area**

Primary OutFlow Max=0.02 cfs @ 11.75 hrs HW=119.54' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)
2=Exfiltration (Exfiltration Controls 0.02 cfs)

Summary for Pond P4: Drip Edge

Inflow Area = 0.040 ac,100.00% Impervious, Inflow Depth > 0.75" for WQ event
Inflow = 0.04 cfs @ 12.09 hrs, Volume= 0.003 af
Outflow = 0.00 cfs @ 11.75 hrs, Volume= 0.003 af, Atten= 87%, Lag= 0.0 min
Primary = 0.00 cfs @ 11.75 hrs, Volume= 0.003 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 119.98' @ 12.64 hrs Surf.Area= 200 sf Storage= 39 cf

Plug-Flow detention time= 63.2 min calculated for 0.003 af (99% of inflow)
Center-of-Mass det. time= 61.7 min (820.3 - 758.5)

Volume	Invert	Avail.Storage	Storage Description
#1	119.50'	280 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc) 700 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
119.50	200	0	0
123.00	200	700	700

Device	Routing	Invert	Outlet Devices
#1	Primary	122.50'	**125.0' long x 1.0' 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 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#2	Primary	119.50'	**1.000 in/hr Exfiltration over Surface area**

Primary OutFlow Max=0.00 cfs @ 11.75 hrs HW=119.54' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)
2=Exfiltration (Exfiltration Controls 0.00 cfs)

Summary for Link POA1: POA #1

Inflow Area = 3.945 ac, 19.36% Impervious, Inflow Depth > 0.15" for WQ event
Inflow = 0.16 cfs @ 12.46 hrs, Volume= 0.049 af
Primary = 0.16 cfs @ 12.46 hrs, Volume= 0.049 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link POA2: POA #2

Inflow Area = 0.529 ac, 49.07% Impervious, Inflow Depth > 0.29" for WQ event
Inflow = 0.03 cfs @ 12.27 hrs, Volume= 0.013 af
Primary = 0.03 cfs @ 12.27 hrs, Volume= 0.013 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1P: 1P Runoff Area=129,181 sf 0.00% Impervious Runoff Depth>1.94"
Flow Length=400' Tc=9.5 min CN=78 Runoff=6.35 cfs 0.480 af

Subcatchment 2P: P2 Runoff Area=7,295 sf 34.13% Impervious Runoff Depth>2.60"
Flow Length=352' Tc=22.1 min CN=86 Runoff=0.35 cfs 0.036 af

Subcatchment 3P: 3P Runoff Area=42,669 sf 77.97% Impervious Runoff Depth>3.38"
Tc=6.0 min CN=94 Runoff=3.77 cfs 0.276 af

Subcatchment 4P: 4P Runoff Area=6,503 sf 100.00% Impervious Runoff Depth>3.74"
Tc=6.0 min CN=98 Runoff=0.61 cfs 0.047 af

Subcatchment 5P: 5P Runoff Area=1,762 sf 100.00% Impervious Runoff Depth>3.74"
Tc=6.0 min CN=98 Runoff=0.16 cfs 0.013 af

Subcatchment 6P: 6P Runoff Area=7,490 sf 7.42% Impervious Runoff Depth>2.18"
Tc=6.0 min CN=81 Runoff=0.46 cfs 0.031 af

Reach 2R: R1 Avg. Flow Depth=0.25' Max Vel=0.53 fps Inflow=1.99 cfs 0.221 af
n=0.400 L=100.0' S=0.2200 '/' Capacity=35.42 cfs Outflow=1.81 cfs 0.219 af

Pond P1: P1 Peak Elev=118.84' Storage=4,405 cf Inflow=3.77 cfs 0.276 af
Primary=0.55 cfs 0.184 af Secondary=1.44 cfs 0.036 af Outflow=1.99 cfs 0.221 af

Pond P2: Rain Garden Peak Elev=118.52' Storage=620 cf Inflow=0.35 cfs 0.036 af
Discarded=0.09 cfs 0.034 af Primary=0.00 cfs 0.000 af Outflow=0.09 cfs 0.034 af

Pond P3: Drip Edge Peak Elev=122.50' Storage=961 cf Inflow=0.61 cfs 0.047 af
Outflow=0.12 cfs 0.026 af

Pond P4: Drip Edge Peak Elev=122.50' Storage=240 cf Inflow=0.16 cfs 0.013 af
Outflow=0.11 cfs 0.008 af

Link POA1: POA #1 Inflow=6.50 cfs 0.699 af
Primary=6.50 cfs 0.699 af

Link POA2: POA #2 Inflow=0.49 cfs 0.066 af
Primary=0.49 cfs 0.066 af

Total Runoff Area = 4.474 ac Runoff Volume = 0.883 af Average Runoff Depth = 2.37"
77.13% Pervious = 3.451 ac 22.87% Impervious = 1.023 ac

Summary for Subcatchment 1P: 1P

Runoff = 6.35 cfs @ 12.14 hrs, Volume= 0.480 af, Depth> 1.94"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr WQV USSF Rainfall=4.26"

	Area (sf)	CN	Description
	80,321	77	Woods, Good, HSG D
	48,860	80	>75% Grass cover, Good, HSG D
	129,181	78	Weighted Average
	129,181		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	100	0.0500	0.24		**Sheet Flow, A TO B SHEET** Grass: Short n= 0.150 P2= 3.10"
2.6	300	0.1500	1.94		**Shallow Concentrated Flow, B TO C** Woodland Kv= 5.0 fps
9.5	400	Total			

Summary for Subcatchment 2P: P2

Runoff = 0.35 cfs @ 12.30 hrs, Volume= 0.036 af, Depth> 2.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr WQV USSF Rainfall=4.26"

	Area (sf)	CN	Description
*	2,490	98	DRIVE/WALK
	4,805	80	>75% Grass cover, Good, HSG D
	7,295	86	Weighted Average
	4,805		65.87% Pervious Area
	2,490		34.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.1	100	0.0100	0.09		**Sheet Flow, A TO B SHEET** Grass: Dense n= 0.240 P2= 3.10"
3.0	252	0.0400	1.40		**Shallow Concentrated Flow, B TO C** Short Grass Pasture Kv= 7.0 fps
22.1	352	Total			

Summary for Subcatchment 3P: 3P

Runoff = 3.77 cfs @ 12.09 hrs, Volume= 0.276 af, Depth> 3.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr WQV USSF Rainfall=4.26"

	Area (sf)	CN	Description
*	25,690	98	PAVE
*	6,320	98	HALF BUILDING
	9,401	80	>75% Grass cover, Good, HSG D
*	1,258	98	SIDEWALK
	42,669	94	Weighted Average
	9,401		22.03% Pervious Area
	33,268		77.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 4P: 4P

Runoff = 0.61 cfs @ 12.09 hrs, Volume= 0.047 af, Depth> 3.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr WQV USSF Rainfall=4.26"

	Area (sf)	CN	Description
*	6,503	98	HALF BUILDING
	6,503		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 5P: 5P

Runoff = 0.16 cfs @ 12.09 hrs, Volume= 0.013 af, Depth> 3.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr WQV USSF Rainfall=4.26"

	Area (sf)	CN	Description
*	1,762	98	HALF BUILDING
	1,762		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 6P: 6P

Runoff = 0.46 cfs @ 12.09 hrs, Volume= 0.031 af, Depth> 2.18"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr WQV USSF Rainfall=4.26"

	Area (sf)	CN	Description
*	556	98	PAVE
	6,934	80	>75% Grass cover, Good, HSG D
	7,490	81	Weighted Average
	6,934		92.58% Pervious Area
	556		7.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

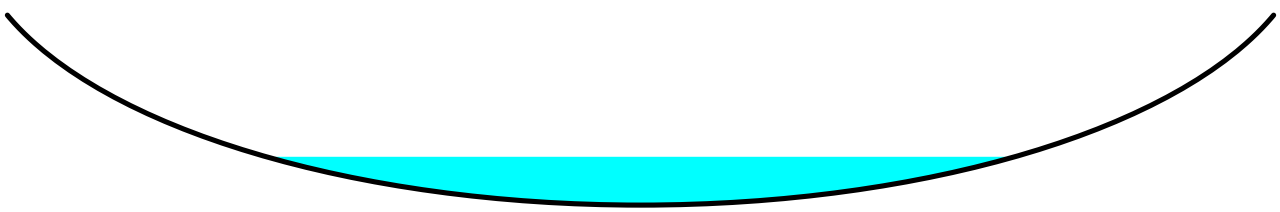
Summary for Reach 2R: R1

Inflow Area = 0.980 ac, 77.97% Impervious, Inflow Depth > 2.70" for WQV USSF event
Inflow = 1.99 cfs @ 12.24 hrs, Volume= 0.221 af
Outflow = 1.81 cfs @ 12.35 hrs, Volume= 0.219 af, Atten= 9%, Lag= 7.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.53 fps, Min. Travel Time= 3.1 min
Avg. Velocity = 0.24 fps, Avg. Travel Time= 7.0 min

Peak Storage= 341 cf @ 12.30 hrs
Average Depth at Peak Storage= 0.25'
Bank-Full Depth= 1.00' Flow Area= 26.7 sf, Capacity= 35.42 cfs

40.00' x 1.00' deep Parabolic Channel, n= 0.400
Length= 100.0' Slope= 0.2200 '/'
Inlet Invert= 102.00', Outlet Invert= 80.00'



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Summary for Pond P1: P1

Inflow Area = 0.980 ac, 77.97% Impervious, Inflow Depth > 3.38" for WQV USSF event
Inflow = 3.77 cfs @ 12.09 hrs, Volume= 0.276 af
Outflow = 1.99 cfs @ 12.24 hrs, Volume= 0.221 af, Atten= 47%, Lag= 8.9 min
Primary = 0.55 cfs @ 12.24 hrs, Volume= 0.184 af
Secondary = 1.44 cfs @ 12.24 hrs, Volume= 0.036 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 118.84' @ 12.24 hrs Surf.Area= 3,249 sf Storage= 4,405 cf

Plug-Flow detention time= 125.6 min calculated for 0.220 af (80% of inflow)
Center-of-Mass det. time= 72.5 min (823.9 - 751.4)

Volume	Invert	Avail.Storage	Storage Description
#1	117.10'	7,690 cf	**Ponding (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
117.10	1,804	0	0
119.75	4,000	7,690	7,690

Device	Routing	Invert	Outlet Devices
#1	Primary	114.00'	**12.0" Round Culvert** L= 60.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 114.00' / 112.00' S= 0.0333 '/' Cc= 0.600 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf
#2	Device 1	117.10'	**2.400 in/hr Exfiltration over Surface area**
#3	Device 1	118.60'	**24.0" Vert. Orifice/Grate** C= 0.600
#4	Secondary	118.75'	**20.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.54 cfs @ 12.24 hrs HW=118.84' (Free Discharge)
└─**1=Culvert** (Passes 0.54 cfs of 4.15 cfs potential flow)
  ├─**2=Exfiltration** (Exfiltration Controls 0.18 cfs)
  └─**3=Orifice/Grate** (Orifice Controls 0.36 cfs @ 1.68 fps)

Secondary OutFlow Max=1.40 cfs @ 12.24 hrs HW=118.84' (Free Discharge)
└─**4=Broad-Crested Rectangular Weir** (Weir Controls 1.40 cfs @ 0.76 fps)

Summary for Pond P2: Rain Garden

Inflow Area = 0.167 ac, 34.13% Impervious, Inflow Depth > 2.60" for WQV USSF event
Inflow = 0.35 cfs @ 12.30 hrs, Volume= 0.036 af
Outflow = 0.09 cfs @ 12.92 hrs, Volume= 0.034 af, Atten= 75%, Lag= 37.4 min
Discarded = 0.09 cfs @ 12.92 hrs, Volume= 0.034 af
Primary = 0.00 cfs @ 12.92 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 118.52' @ 12.92 hrs Surf.Area= 1,545 sf Storage= 620 cf

Plug-Flow detention time= 91.2 min calculated for 0.034 af (93% of inflow)
Center-of-Mass det. time= 69.3 min (859.9 - 790.6)

Volume	Invert	Avail.Storage	Storage Description
#1	118.00'	509 cf	**Ponding above surface (Prismatic)** Listed below (Recalc)
#2	117.50'	173 cf	**Topsoil direct entry ponding (Prismatic)** Listed below (Recalc)
#3	117.00'	17 cf	**Filter/Gravel Layers (Prismatic)** Listed below (Recalc) 173 cf Overall x 10.0% Voids
#4	115.50'	207 cf	**3/4" Crushed Stone (Prismatic)** Listed below (Recalc) 519 cf Overall - 1 cf Embedded = 518 cf x 40.0% Voids
#5	115.90'	1 cf	**2.0" Round Pipe Storage** Inside #4 L= 28.0' S= 0.0100 '/' 1 cf Overall - 0.5" Wall Thickness = 1 cf
		907 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
118.00	346	0	0
118.60	531	263	263
119.00	700	246	509

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
117.50	346	0	0
118.00	346	173	173

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
117.00	346	0	0
117.50	346	173	173

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
115.50	346	0	0
117.00	346	519	519

Device	Routing	Invert	Outlet Devices
#1	Primary	115.90'	**4.0" Round Culvert** L= 24.0' Ke= 0.600 Inlet / Outlet Invert= 115.90' / 115.65' S= 0.0104 '/' Cc= 0.900 n= 0.011, Flow Area= 0.09 sf
#2	Device 1	116.00'	**0.1" Vert. CPV Drawdown Model** C= 0.600
#3	Discarded	115.50'	**2.410 in/hr Exfiltration over Surface area**
#4	Primary	118.60'	**17.0' long x 1.0' 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 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Discarded OutFlow Max=0.09 cfs @ 12.92 hrs HW=118.52' (Free Discharge)
└─**3=Exfiltration** (Exfiltration Controls 0.09 cfs)

Primary OutFlow Max=0.00 cfs @ 12.92 hrs HW=118.52' (Free Discharge)
├─**1=Culvert** (Passes 0.00 cfs of 0.56 cfs potential flow)
│ └─**2=CPV Drawdown Model** (Orifice Controls 0.00 cfs @ 7.64 fps)
└─**4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond P3: Drip Edge

Inflow Area = 0.149 ac,100.00% Impervious, Inflow Depth > 3.74" for WQV USSF event
Inflow = 0.61 cfs @ 12.09 hrs, Volume= 0.047 af
Outflow = 0.12 cfs @ 12.47 hrs, Volume= 0.026 af, Atten= 81%, Lag= 23.0 min
Primary = 0.12 cfs @ 12.47 hrs, Volume= 0.026 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 122.50' @ 12.45 hrs Surf.Area= 800 sf Storage= 961 cf

Plug-Flow detention time= 143.3 min calculated for 0.026 af (57% of inflow)
Center-of-Mass det. time= 58.2 min (794.4 - 736.2)

Volume	Invert	Avail.Storage	Storage Description
#1	119.50'	1,120 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 2,800 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
119.50	800	0	0
123.00	800	2,800	2,800

Device	Routing	Invert	Outlet Devices
#1	Primary	122.50'	**125.0' long x 1.0' 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 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#2	Primary	119.50'	**1.000 in/hr Exfiltration over Surface area**

Primary OutFlow Max=0.07 cfs @ 12.47 hrs HW=122.50' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 0.05 cfs @ 0.14 fps)
2=Exfiltration (Exfiltration Controls 0.02 cfs)

Summary for Pond P4: Drip Edge

Inflow Area = 0.040 ac,100.00% Impervious, Inflow Depth > 3.74" for WQV USSF event
Inflow = 0.16 cfs @ 12.09 hrs, Volume= 0.013 af
Outflow = 0.11 cfs @ 12.32 hrs, Volume= 0.008 af, Atten= 34%, Lag= 13.9 min
Primary = 0.11 cfs @ 12.32 hrs, Volume= 0.008 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 122.50' @ 12.30 hrs Surf.Area= 200 sf Storage= 240 cf

Plug-Flow detention time= 121.1 min calculated for 0.008 af (66% of inflow)
Center-of-Mass det. time= 47.9 min (784.1 - 736.2)

Volume	Invert	Avail.Storage	Storage Description
#1	119.50'	280 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 700 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
119.50	200	0	0
123.00	200	700	700

Device	Routing	Invert	Outlet Devices
#1	Primary	122.50'	**125.0' long x 1.0' 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 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#2	Primary	119.50'	**1.000 in/hr Exfiltration over Surface area**

Primary OutFlow Max=0.05 cfs @ 12.32 hrs HW=122.50' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 0.05 cfs @ 0.14 fps)
2=Exfiltration (Exfiltration Controls 0.00 cfs)

Summary for Link POA1: POA #1

Inflow Area = 3.945 ac, 19.36% Impervious, Inflow Depth > 2.13" for WQV USSF event
Inflow = 6.50 cfs @ 12.14 hrs, Volume= 0.699 af
Primary = 6.50 cfs @ 12.14 hrs, Volume= 0.699 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link POA2: POA #2

Inflow Area = 0.529 ac, 49.07% Impervious, Inflow Depth > 1.50" for WQV USSF event
Inflow = 0.49 cfs @ 12.09 hrs, Volume= 0.066 af
Primary = 0.49 cfs @ 12.09 hrs, Volume= 0.066 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1P: 1P Runoff Area=129,181 sf 0.00% Impervious Runoff Depth>1.94"
Flow Length=400' Tc=9.5 min CN=78 Runoff=6.35 cfs 0.480 af

Subcatchment 2P: P2 Runoff Area=7,295 sf 34.13% Impervious Runoff Depth>2.60"
Flow Length=352' Tc=22.1 min CN=86 Runoff=0.35 cfs 0.036 af

Subcatchment 3P: 3P Runoff Area=42,669 sf 77.97% Impervious Runoff Depth>3.38"
Tc=6.0 min CN=94 Runoff=3.77 cfs 0.276 af

Subcatchment 4P: 4P Runoff Area=6,503 sf 100.00% Impervious Runoff Depth>3.74"
Tc=6.0 min CN=98 Runoff=0.61 cfs 0.047 af

Subcatchment 5P: 5P Runoff Area=1,762 sf 100.00% Impervious Runoff Depth>3.74"
Tc=6.0 min CN=98 Runoff=0.16 cfs 0.013 af

Subcatchment 6P: 6P Runoff Area=7,490 sf 7.42% Impervious Runoff Depth>2.18"
Tc=6.0 min CN=81 Runoff=0.46 cfs 0.031 af

Reach 2R: R1 Avg. Flow Depth=0.25' Max Vel=0.53 fps Inflow=1.99 cfs 0.221 af
n=0.400 L=100.0' S=0.2200 '/' Capacity=35.42 cfs Outflow=1.81 cfs 0.219 af

Pond P1: P1 Peak Elev=118.84' Storage=4,405 cf Inflow=3.77 cfs 0.276 af
Primary=0.55 cfs 0.184 af Secondary=1.44 cfs 0.036 af Outflow=1.99 cfs 0.221 af

Pond P2: Rain Garden Peak Elev=118.52' Storage=620 cf Inflow=0.35 cfs 0.036 af
Discarded=0.09 cfs 0.034 af Primary=0.00 cfs 0.000 af Outflow=0.09 cfs 0.034 af

Pond P3: Drip Edge Peak Elev=122.50' Storage=961 cf Inflow=0.61 cfs 0.047 af
Outflow=0.12 cfs 0.026 af

Pond P4: Drip Edge Peak Elev=122.50' Storage=240 cf Inflow=0.16 cfs 0.013 af
Outflow=0.11 cfs 0.008 af

Link POA1: POA #1 Inflow=6.50 cfs 0.699 af
Primary=6.50 cfs 0.699 af

Link POA2: POA #2 Inflow=0.49 cfs 0.066 af
Primary=0.49 cfs 0.066 af

Total Runoff Area = 4.474 ac Runoff Volume = 0.883 af Average Runoff Depth = 2.37"
77.13% Pervious = 3.451 ac 22.87% Impervious = 1.023 ac

Summary for Subcatchment 1P: 1P

Runoff = 6.35 cfs @ 12.14 hrs, Volume= 0.480 af, Depth> 1.94"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr WQV USSF 1 Rainfall=4.26"

	Area (sf)	CN	Description
	80,321	77	Woods, Good, HSG D
	48,860	80	>75% Grass cover, Good, HSG D
	129,181	78	Weighted Average
	129,181		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	100	0.0500	0.24		**Sheet Flow, A TO B SHEET** Grass: Short n= 0.150 P2= 3.10"
2.6	300	0.1500	1.94		**Shallow Concentrated Flow, B TO C** Woodland Kv= 5.0 fps
9.5	400	Total			

Summary for Subcatchment 2P: P2

Runoff = 0.35 cfs @ 12.30 hrs, Volume= 0.036 af, Depth> 2.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr WQV USSF 1 Rainfall=4.26"

	Area (sf)	CN	Description
*	2,490	98	DRIVE/WALK
	4,805	80	>75% Grass cover, Good, HSG D
	7,295	86	Weighted Average
	4,805		65.87% Pervious Area
	2,490		34.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.1	100	0.0100	0.09		**Sheet Flow, A TO B SHEET** Grass: Dense n= 0.240 P2= 3.10"
3.0	252	0.0400	1.40		**Shallow Concentrated Flow, B TO C** Short Grass Pasture Kv= 7.0 fps
22.1	352	Total			

Summary for Subcatchment 3P: 3P

Runoff = 3.77 cfs @ 12.09 hrs, Volume= 0.276 af, Depth> 3.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr WQV USSF 1 Rainfall=4.26"

	Area (sf)	CN	Description
*	25,690	98	PAVE
*	6,320	98	HALF BUILDING
	9,401	80	>75% Grass cover, Good, HSG D
*	1,258	98	SIDEWALK
	42,669	94	Weighted Average
	9,401		22.03% Pervious Area
	33,268		77.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 4P: 4P

Runoff = 0.61 cfs @ 12.09 hrs, Volume= 0.047 af, Depth> 3.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr WQV USSF 1 Rainfall=4.26"

	Area (sf)	CN	Description
*	6,503	98	HALF BUILDING
	6,503		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 5P: 5P

Runoff = 0.16 cfs @ 12.09 hrs, Volume= 0.013 af, Depth> 3.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr WQV USSF 1 Rainfall=4.26"

	Area (sf)	CN	Description
*	1,762	98	HALF BUILDING
	1,762		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 6P: 6P

Runoff = 0.46 cfs @ 12.09 hrs, Volume= 0.031 af, Depth> 2.18"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr WQV USSF 1 Rainfall=4.26"

	Area (sf)	CN	Description
*	556	98	PAVE
	6,934	80	>75% Grass cover, Good, HSG D
	7,490	81	Weighted Average
	6,934		92.58% Pervious Area
	556		7.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

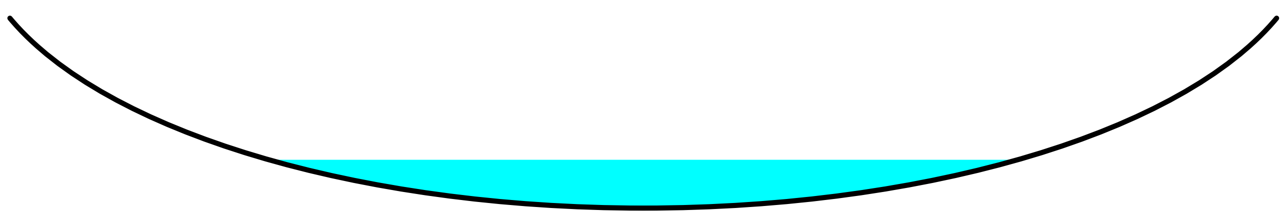
Summary for Reach 2R: R1

Inflow Area = 0.980 ac, 77.97% Impervious, Inflow Depth > 2.70" for WQV USSF 1 event
Inflow = 1.99 cfs @ 12.24 hrs, Volume= 0.221 af
Outflow = 1.81 cfs @ 12.35 hrs, Volume= 0.219 af, Atten= 9%, Lag= 7.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.53 fps, Min. Travel Time= 3.1 min
Avg. Velocity = 0.24 fps, Avg. Travel Time= 7.0 min

Peak Storage= 341 cf @ 12.30 hrs
Average Depth at Peak Storage= 0.25'
Bank-Full Depth= 1.00' Flow Area= 26.7 sf, Capacity= 35.42 cfs

40.00' x 1.00' deep Parabolic Channel, n= 0.400
Length= 100.0' Slope= 0.2200 '/'
Inlet Invert= 102.00', Outlet Invert= 80.00'



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Summary for Pond P1: P1

Inflow Area = 0.980 ac, 77.97% Impervious, Inflow Depth > 3.38" for WQV USSF 1 event
Inflow = 3.77 cfs @ 12.09 hrs, Volume= 0.276 af
Outflow = 1.99 cfs @ 12.24 hrs, Volume= 0.221 af, Atten= 47%, Lag= 8.9 min
Primary = 0.55 cfs @ 12.24 hrs, Volume= 0.184 af
Secondary = 1.44 cfs @ 12.24 hrs, Volume= 0.036 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 118.84' @ 12.24 hrs Surf.Area= 3,249 sf Storage= 4,405 cf

Plug-Flow detention time= 125.6 min calculated for 0.220 af (80% of inflow)
Center-of-Mass det. time= 72.5 min (823.9 - 751.4)

Volume	Invert	Avail.Storage	Storage Description
#1	117.10'	7,690 cf	**Ponding (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
117.10	1,804	0	0
119.75	4,000	7,690	7,690

Device	Routing	Invert	Outlet Devices
#1	Primary	114.00'	**12.0" Round Culvert** L= 60.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 114.00' / 112.00' S= 0.0333 '/' Cc= 0.600 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf
#2	Device 1	117.10'	**2.400 in/hr Exfiltration over Surface area**
#3	Device 1	118.60'	**24.0" Vert. Orifice/Grate** C= 0.600
#4	Secondary	118.75'	**20.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.54 cfs @ 12.24 hrs HW=118.84' (Free Discharge)
└─**1=Culvert** (Passes 0.54 cfs of 4.15 cfs potential flow)
  ├─**2=Exfiltration** (Exfiltration Controls 0.18 cfs)
  └─**3=Orifice/Grate** (Orifice Controls 0.36 cfs @ 1.68 fps)

Secondary OutFlow Max=1.40 cfs @ 12.24 hrs HW=118.84' (Free Discharge)
└─**4=Broad-Crested Rectangular Weir** (Weir Controls 1.40 cfs @ 0.76 fps)

Summary for Pond P2: Rain Garden

Inflow Area = 0.167 ac, 34.13% Impervious, Inflow Depth > 2.60" for WQV USSF 1 event
Inflow = 0.35 cfs @ 12.30 hrs, Volume= 0.036 af
Outflow = 0.09 cfs @ 12.92 hrs, Volume= 0.034 af, Atten= 75%, Lag= 37.4 min
Discarded = 0.09 cfs @ 12.92 hrs, Volume= 0.034 af
Primary = 0.00 cfs @ 12.92 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 118.52' @ 12.92 hrs Surf.Area= 1,545 sf Storage= 620 cf

Plug-Flow detention time= 91.2 min calculated for 0.034 af (93% of inflow)
Center-of-Mass det. time= 69.3 min (859.9 - 790.6)

Volume	Invert	Avail.Storage	Storage Description
#1	118.00'	509 cf	**Ponding above surface (Prismatic)** Listed below (Recalc)
#2	117.50'	173 cf	**Topsoil direct entry ponding (Prismatic)** Listed below (Recalc)
#3	117.00'	17 cf	**Filter/Gravel Layers (Prismatic)** Listed below (Recalc) 173 cf Overall x 10.0% Voids
#4	115.50'	207 cf	**3/4" Crushed Stone (Prismatic)** Listed below (Recalc) 519 cf Overall - 1 cf Embedded = 518 cf x 40.0% Voids
#5	115.90'	1 cf	**2.0" Round Pipe Storage** Inside #4 L= 28.0' S= 0.0100 '/' 1 cf Overall - 0.5" Wall Thickness = 1 cf
		907 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
118.00	346	0	0
118.60	531	263	263
119.00	700	246	509

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
117.50	346	0	0
118.00	346	173	173

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
117.00	346	0	0
117.50	346	173	173

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
115.50	346	0	0
117.00	346	519	519

Device	Routing	Invert	Outlet Devices
#1	Primary	115.90'	**4.0" Round Culvert** L= 24.0' Ke= 0.600 Inlet / Outlet Invert= 115.90' / 115.65' S= 0.0104 '/' Cc= 0.900 n= 0.011, Flow Area= 0.09 sf
#2	Device 1	116.00'	**0.1" Vert. CPV Drawdown Model** C= 0.600
#3	Discarded	115.50'	**2.410 in/hr Exfiltration over Surface area**
#4	Primary	118.60'	**17.0' long x 1.0' 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 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Discarded OutFlow Max=0.09 cfs @ 12.92 hrs HW=118.52' (Free Discharge)
└─**3=Exfiltration** (Exfiltration Controls 0.09 cfs)

Primary OutFlow Max=0.00 cfs @ 12.92 hrs HW=118.52' (Free Discharge)
├─**1=Culvert** (Passes 0.00 cfs of 0.56 cfs potential flow)
│ └─**2=CPV Drawdown Model** (Orifice Controls 0.00 cfs @ 7.64 fps)
└─**4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond P3: Drip Edge

Inflow Area = 0.149 ac,100.00% Impervious, Inflow Depth > 3.74" for WQV USSF 1 event
Inflow = 0.61 cfs @ 12.09 hrs, Volume= 0.047 af
Outflow = 0.12 cfs @ 12.47 hrs, Volume= 0.026 af, Atten= 81%, Lag= 23.0 min
Primary = 0.12 cfs @ 12.47 hrs, Volume= 0.026 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 122.50' @ 12.45 hrs Surf.Area= 800 sf Storage= 961 cf

Plug-Flow detention time= 143.3 min calculated for 0.026 af (57% of inflow)
Center-of-Mass det. time= 58.2 min (794.4 - 736.2)

Volume	Invert	Avail.Storage	Storage Description
#1	119.50'	1,120 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc) 2,800 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
119.50	800	0	0
123.00	800	2,800	2,800

Device	Routing	Invert	Outlet Devices
#1	Primary	122.50'	**125.0' long x 1.0' 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 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#2	Primary	119.50'	**1.000 in/hr Exfiltration over Surface area**

Primary OutFlow Max=0.07 cfs @ 12.47 hrs HW=122.50' (Free Discharge)
├─**1=Broad-Crested Rectangular Weir** (Weir Controls 0.05 cfs @ 0.14 fps)
└─**2=Exfiltration** (Exfiltration Controls 0.02 cfs)

Summary for Pond P4: Drip Edge

Inflow Area = 0.040 ac,100.00% Impervious, Inflow Depth > 3.74" for WQV USSF 1 event
Inflow = 0.16 cfs @ 12.09 hrs, Volume= 0.013 af
Outflow = 0.11 cfs @ 12.32 hrs, Volume= 0.008 af, Atten= 34%, Lag= 13.9 min
Primary = 0.11 cfs @ 12.32 hrs, Volume= 0.008 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 122.50' @ 12.30 hrs Surf.Area= 200 sf Storage= 240 cf

Plug-Flow detention time= 121.1 min calculated for 0.008 af (66% of inflow)
Center-of-Mass det. time= 47.9 min (784.1 - 736.2)

Volume	Invert	Avail.Storage	Storage Description
#1	119.50'	280 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc) 700 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
119.50	200	0	0
123.00	200	700	700

Device	Routing	Invert	Outlet Devices
#1	Primary	122.50'	**125.0' long x 1.0' 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 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#2	Primary	119.50'	**1.000 in/hr Exfiltration over Surface area**

Primary OutFlow Max=0.05 cfs @ 12.32 hrs HW=122.50' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 0.05 cfs @ 0.14 fps)
2=Exfiltration (Exfiltration Controls 0.00 cfs)

Summary for Link POA1: POA #1

Inflow Area = 3.945 ac, 19.36% Impervious, Inflow Depth > 2.13" for WQV USSF 1 event
Inflow = 6.50 cfs @ 12.14 hrs, Volume= 0.699 af
Primary = 6.50 cfs @ 12.14 hrs, Volume= 0.699 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link POA2: POA #2

Inflow Area = 0.529 ac, 49.07% Impervious, Inflow Depth > 1.50" for WQV USSF 1 event
Inflow = 0.49 cfs @ 12.09 hrs, Volume= 0.066 af
Primary = 0.49 cfs @ 12.09 hrs, Volume= 0.066 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1P: 1P Runoff Area=129,181 sf 0.00% Impervious Runoff Depth>1.20"
Flow Length=400' Tc=9.5 min CN=78 Runoff=3.88 cfs 0.296 af

Subcatchment 2P: P2 Runoff Area=7,295 sf 34.13% Impervious Runoff Depth>1.74"
Flow Length=352' Tc=22.1 min CN=86 Runoff=0.24 cfs 0.024 af

Subcatchment 3P: 3P Runoff Area=42,669 sf 77.97% Impervious Runoff Depth>2.44"
Tc=6.0 min CN=94 Runoff=2.77 cfs 0.199 af

Subcatchment 4P: 4P Runoff Area=6,503 sf 100.00% Impervious Runoff Depth>2.81"
Tc=6.0 min CN=98 Runoff=0.46 cfs 0.035 af

Subcatchment 5P: 5P Runoff Area=1,762 sf 100.00% Impervious Runoff Depth>2.81"
Tc=6.0 min CN=98 Runoff=0.12 cfs 0.009 af

Subcatchment 6P: 6P Runoff Area=7,490 sf 7.42% Impervious Runoff Depth>1.39"
Tc=6.0 min CN=81 Runoff=0.30 cfs 0.020 af

Reach 2R: R1 Avg. Flow Depth=0.11' Max Vel=0.31 fps Inflow=0.31 cfs 0.153 af
n=0.400 L=100.0' S=0.2200 '/' Capacity=35.42 cfs Outflow=0.30 cfs 0.151 af

Pond P1: P1 Peak Elev=118.74' Storage=4,085 cf Inflow=2.77 cfs 0.199 af
Primary=0.31 cfs 0.153 af Secondary=0.00 cfs 0.000 af Outflow=0.31 cfs 0.153 af

Pond P2: Rain Garden Peak Elev=117.99' Storage=394 cf Inflow=0.24 cfs 0.024 af
Discarded=0.06 cfs 0.023 af Primary=0.00 cfs 0.000 af Outflow=0.06 cfs 0.023 af

Pond P3: Drip Edge Peak Elev=122.09' Storage=828 cf Inflow=0.46 cfs 0.035 af
Outflow=0.02 cfs 0.019 af

Pond P4: Drip Edge Peak Elev=122.40' Storage=232 cf Inflow=0.12 cfs 0.009 af
Outflow=0.00 cfs 0.005 af

Link POA1: POA #1 Inflow=4.01 cfs 0.447 af
Primary=4.01 cfs 0.447 af

Link POA2: POA #2 Inflow=0.32 cfs 0.044 af
Primary=0.32 cfs 0.044 af

Total Runoff Area = 4.474 ac Runoff Volume = 0.584 af Average Runoff Depth = 1.57"
77.13% Pervious = 3.451 ac 22.87% Impervious = 1.023 ac

Summary for Subcatchment 1P: 1P

Runoff = 3.88 cfs @ 12.14 hrs, Volume= 0.296 af, Depth> 1.20"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr WQV USSF 2 Rainfall=3.24"

Area (sf)	CN	Description
80,321	77	Woods, Good, HSG D
48,860	80	>75% Grass cover, Good, HSG D
129,181	78	Weighted Average
129,181		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	100	0.0500	0.24		**Sheet Flow, A TO B SHEET** Grass: Short n= 0.150 P2= 3.10"
2.6	300	0.1500	1.94		**Shallow Concentrated Flow, B TO C** Woodland Kv= 5.0 fps
9.5	400	Total			

Summary for Subcatchment 2P: P2

Runoff = 0.24 cfs @ 12.31 hrs, Volume= 0.024 af, Depth> 1.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr WQV USSF 2 Rainfall=3.24"

	Area (sf)	CN	Description
*	2,490	98	DRIVE/WALK
	4,805	80	>75% Grass cover, Good, HSG D
	7,295	86	Weighted Average
	4,805		65.87% Pervious Area
	2,490		34.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.1	100	0.0100	0.09		**Sheet Flow, A TO B SHEET** Grass: Dense n= 0.240 P2= 3.10"
3.0	252	0.0400	1.40		**Shallow Concentrated Flow, B TO C** Short Grass Pasture Kv= 7.0 fps
22.1	352	Total			

Summary for Subcatchment 3P: 3P

Runoff = 2.77 cfs @ 12.09 hrs, Volume= 0.199 af, Depth> 2.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr WQV USSF 2 Rainfall=3.24"

	Area (sf)	CN	Description
*	25,690	98	PAVE
*	6,320	98	HALF BUILDING
	9,401	80	>75% Grass cover, Good, HSG D
*	1,258	98	SIDEWALK
	42,669	94	Weighted Average
	9,401		22.03% Pervious Area
	33,268		77.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 4P: 4P

Runoff = 0.46 cfs @ 12.09 hrs, Volume= 0.035 af, Depth> 2.81"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr WQV USSF 2 Rainfall=3.24"

	Area (sf)	CN	Description
*	6,503	98	HALF BUILDING
	6,503		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 5P: 5P

Runoff = 0.12 cfs @ 12.09 hrs, Volume= 0.009 af, Depth> 2.81"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr WQV USSF 2 Rainfall=3.24"

	Area (sf)	CN	Description
*	1,762	98	HALF BUILDING
	1,762		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 6P: 6P

Runoff = 0.30 cfs @ 12.10 hrs, Volume= 0.020 af, Depth> 1.39"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr WQV USSF 2 Rainfall=3.24"

	Area (sf)	CN	Description
*	556	98	PAVE
	6,934	80	>75% Grass cover, Good, HSG D
	7,490	81	Weighted Average
	6,934		92.58% Pervious Area
	556		7.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

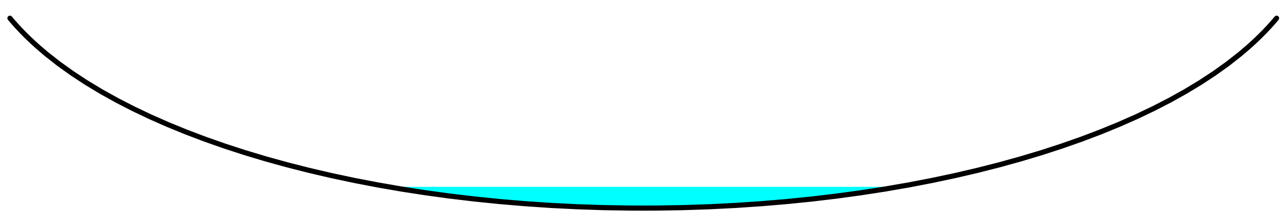
Summary for Reach 2R: R1

Inflow Area = 0.980 ac, 77.97% Impervious, Inflow Depth > 1.88" for WQV USSF 2 event
Inflow = 0.31 cfs @ 12.79 hrs, Volume= 0.153 af
Outflow = 0.30 cfs @ 12.96 hrs, Volume= 0.151 af, Atten= 0%, Lag= 10.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.31 fps, Min. Travel Time= 5.4 min
Avg. Velocity = 0.22 fps, Avg. Travel Time= 7.7 min

Peak Storage= 99 cf @ 12.87 hrs
Average Depth at Peak Storage= 0.11'
Bank-Full Depth= 1.00' Flow Area= 26.7 sf, Capacity= 35.42 cfs

40.00' x 1.00' deep Parabolic Channel, n= 0.400
Length= 100.0' Slope= 0.2200 '/'
Inlet Invert= 102.00', Outlet Invert= 80.00'



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Summary for Pond P1: P1

Inflow Area = 0.980 ac, 77.97% Impervious, Inflow Depth > 2.44" for WQV USSF 2 event
Inflow = 2.77 cfs @ 12.09 hrs, Volume= 0.199 af
Outflow = 0.31 cfs @ 12.79 hrs, Volume= 0.153 af, Atten= 89%, Lag= 42.4 min
Primary = 0.31 cfs @ 12.79 hrs, Volume= 0.153 af
Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 118.74' @ 12.79 hrs Surf.Area= 3,166 sf Storage= 4,085 cf

Plug-Flow detention time= 164.6 min calculated for 0.153 af (77% of inflow)
Center-of-Mass det. time= 106.4 min (864.1 - 757.6)

Volume	Invert	Avail.Storage	Storage Description
#1	117.10'	7,690 cf	**Ponding (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
117.10	1,804	0	0
119.75	4,000	7,690	7,690

Device	Routing	Invert	Outlet Devices
#1	Primary	114.00'	**12.0" Round Culvert** L= 60.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 114.00' / 112.00' S= 0.0333 '/' Cc= 0.600 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf
#2	Device 1	117.10'	**2.400 in/hr Exfiltration over Surface area**
#3	Device 1	118.60'	**24.0" Vert. Orifice/Grate** C= 0.600
#4	Secondary	118.75'	**20.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.31 cfs @ 12.79 hrs HW=118.74' (Free Discharge)
1=Culvert (Passes 0.31 cfs of 4.10 cfs potential flow)
2=Exfiltration (Exfiltration Controls 0.18 cfs)
3=Orifice/Grate (Orifice Controls 0.13 cfs @ 1.29 fps)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=117.10' (Free Discharge)
4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond P2: Rain Garden

Inflow Area = 0.167 ac, 34.13% Impervious, Inflow Depth > 1.74" for WQV USSF 2 event
Inflow = 0.24 cfs @ 12.31 hrs, Volume= 0.024 af
Outflow = 0.06 cfs @ 12.92 hrs, Volume= 0.023 af, Atten= 73%, Lag= 36.5 min
Discarded = 0.06 cfs @ 12.92 hrs, Volume= 0.023 af
Primary = 0.00 cfs @ 12.92 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 117.99' @ 12.92 hrs Surf.Area= 1,038 sf Storage= 394 cf

Plug-Flow detention time= 91.7 min calculated for 0.023 af (96% of inflow)
Center-of-Mass det. time= 78.0 min (877.9 - 799.9)

Volume	Invert	Avail.Storage	Storage Description
#1	118.00'	509 cf	**Ponding above surface (Prismatic)** Listed below (Recalc)
#2	117.50'	173 cf	**Topsoil direct entry ponding (Prismatic)** Listed below (Recalc)
#3	117.00'	17 cf	**Filter/Gravel Layers (Prismatic)** Listed below (Recalc) 173 cf Overall x 10.0% Voids
#4	115.50'	207 cf	**3/4" Crushed Stone (Prismatic)** Listed below (Recalc) 519 cf Overall - 1 cf Embedded = 518 cf x 40.0% Voids
#5	115.90'	1 cf	**2.0" Round Pipe Storage** Inside #4 L= 28.0' S= 0.0100 '/' 1 cf Overall - 0.5" Wall Thickness = 1 cf
		907 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
118.00	346	0	0
118.60	531	263	263
119.00	700	246	509

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
117.50	346	0	0
118.00	346	173	173

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
117.00	346	0	0
117.50	346	173	173

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
115.50	346	0	0
117.00	346	519	519

Device	Routing	Invert	Outlet Devices
#1	Primary	115.90'	**4.0" Round Culvert** L= 24.0' Ke= 0.600 Inlet / Outlet Invert= 115.90' / 115.65' S= 0.0104 '/' Cc= 0.900 n= 0.011, Flow Area= 0.09 sf
#2	Device 1	116.00'	**0.1" Vert. CPV Drawdown Model** C= 0.600
#3	Discarded	115.50'	**2.410 in/hr Exfiltration over Surface area**
#4	Primary	118.60'	**17.0' long x 1.0' 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 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Discarded OutFlow Max=0.06 cfs @ 12.92 hrs HW=117.99' (Free Discharge)
└─**3=Exfiltration** (Exfiltration Controls 0.06 cfs)

Primary OutFlow Max=0.00 cfs @ 12.92 hrs HW=117.99' (Free Discharge)
├─**1=Culvert** (Passes 0.00 cfs of 0.50 cfs potential flow)
│ └─**2=CPV Drawdown Model** (Orifice Controls 0.00 cfs @ 6.78 fps)
└─**4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond P3: Drip Edge

Inflow Area = 0.149 ac,100.00% Impervious, Inflow Depth > 2.81" for WQV USSF 2 event
Inflow = 0.46 cfs @ 12.09 hrs, Volume= 0.035 af
Outflow = 0.02 cfs @ 9.65 hrs, Volume= 0.019 af, Atten= 96%, Lag= 0.0 min
Primary = 0.02 cfs @ 9.65 hrs, Volume= 0.019 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 122.09' @ 15.04 hrs Surf.Area= 800 sf Storage= 828 cf

Plug-Flow detention time= 162.8 min calculated for 0.019 af (55% of inflow)
Center-of-Mass det. time= 76.7 min (815.1 - 738.4)

Volume	Invert	Avail.Storage	Storage Description
#1	119.50'	1,120 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 2,800 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
119.50	800	0	0
123.00	800	2,800	2,800

Device	Routing	Invert	Outlet Devices
#1	Primary	122.50'	**125.0' long x 1.0' 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 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#2	Primary	119.50'	**1.000 in/hr Exfiltration over Surface area**

Primary OutFlow Max=0.02 cfs @ 9.65 hrs HW=119.54' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)
2=Exfiltration (Exfiltration Controls 0.02 cfs)

Summary for Pond P4: Drip Edge

Inflow Area = 0.040 ac,100.00% Impervious, Inflow Depth > 2.81" for WQV USSF 2 event
Inflow = 0.12 cfs @ 12.09 hrs, Volume= 0.009 af
Outflow = 0.00 cfs @ 9.40 hrs, Volume= 0.005 af, Atten= 96%, Lag= 0.0 min
Primary = 0.00 cfs @ 9.40 hrs, Volume= 0.005 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 122.40' @ 15.29 hrs Surf.Area= 200 sf Storage= 232 cf

Plug-Flow detention time= 162.2 min calculated for 0.005 af (52% of inflow)
Center-of-Mass det. time= 71.8 min (810.3 - 738.4)

Volume	Invert	Avail.Storage	Storage Description
#1	119.50'	280 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 700 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
119.50	200	0	0
123.00	200	700	700

Device	Routing	Invert	Outlet Devices
#1	Primary	122.50'	**125.0' long x 1.0' 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 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#2	Primary	119.50'	**1.000 in/hr Exfiltration over Surface area**

Primary OutFlow Max=0.00 cfs @ 9.40 hrs HW=119.54' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)
2=Exfiltration (Exfiltration Controls 0.00 cfs)

Summary for Link POA1: POA #1

Inflow Area = 3.945 ac, 19.36% Impervious, Inflow Depth > 1.36" for WQV USSF 2 event
Inflow = 4.01 cfs @ 12.14 hrs, Volume= 0.447 af
Primary = 4.01 cfs @ 12.14 hrs, Volume= 0.447 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link POA2: POA #2

Inflow Area = 0.529 ac, 49.07% Impervious, Inflow Depth > 1.01" for WQV USSF 2 event
Inflow = 0.32 cfs @ 12.10 hrs, Volume= 0.044 af
Primary = 0.32 cfs @ 12.10 hrs, Volume= 0.044 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

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 Cumberland County and Part of Oxford County, Maine

July 20, 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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Contents

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.

Soil Map


70° 13' 10" W
70° 12' 47" W
43° 45' 5" N
43° 44' 54" N
401840
401890
401940
401990
402040
402090
402140
402190
402240
402290
4844970
4844920
4844870
4844820
4844770
4844720
4844670
Chenery Brook
295
HsC
BuC2
HsC
Soil Map may not be valid at this scale.
Map Scale: 1:2,290 if printed on A landscape (11" x 8.5") sheet.
N
Meters
0 30 60 120 180
Feet
0 100 200 400 600
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N 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 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Cumberland County and Part of Oxford County, Maine
Survey Area Data: Version 18, Aug 31, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 22, 2021—Oct 7, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

MAP LEGEND	MAP INFORMATION
	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
BuC2	Buxton silt loam, 8 to 15 percent slopes	8.9	75.5%
HsC	Lyman-Abram complex, 8 to 15 percent slopes, very rocky	2.9	24.5%
Totals for Area of Interest		**11.8**	**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.

Cumberland County and Part of Oxford County, Maine

BuC2—Buxton silt loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2x1by
Elevation: 10 to 490 feet
Mean annual precipitation: 33 to 60 inches
Mean annual air temperature: 36 to 52 degrees F
Frost-free period: 90 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Buxton and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Buxton

Setting

Landform: Marine terraces, river valleys
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Fine glaciomarine deposits

Typical profile

Ap - 0 to 7 inches: silt loam
Bw1 - 7 to 18 inches: silt loam
Bw2 - 18 to 23 inches: silty clay loam
BC - 23 to 35 inches: silty clay loam
C - 35 to 65 inches: silty clay

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 17 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 9.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C/D
Hydric soil rating: No

HsC—Lyman-Abram complex, 8 to 15 percent slopes, very rocky

Map Unit Setting

National map unit symbol: 2x1d1
Elevation: 0 to 520 feet
Mean annual precipitation: 36 to 65 inches
Mean annual air temperature: 36 to 52 degrees F
Frost-free period: 90 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Lyman and similar soils: 45 percent
Abram and similar soils: 35 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lyman

Setting

Landform: Hills, ridges
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Nose slope, crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy supraglacial till derived from granite and gneiss and/or loamy supraglacial till derived from phyllite and/or loamy supraglacial till derived from mica schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 3 inches: loam
E - 3 to 5 inches: fine sandy loam
Bhs - 5 to 7 inches: loam
Bs1 - 7 to 11 inches: loam
Bs2 - 11 to 18 inches: channery loam
R - 18 to 79 inches: bedrock

Properties and qualities

Slope: 8 to 15 percent
Surface area covered with cobbles, stones or boulders: 1.5 percent
Depth to restrictive feature: 11 to 24 inches to lithic bedrock
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 14.03 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: Low (about 3.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s

Hydrologic Soil Group: D
Hydric soil rating: No

Description of Abram

Setting

Landform: Ridges, hills
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Nose slope, crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy subglacial till

Typical profile

Oa - 0 to 2 inches: highly decomposed plant material
E - 2 to 3 inches: loam
Bs - 3 to 6 inches: loam
R - 6 to 79 inches: bedrock

Properties and qualities

Slope: 8 to 15 percent
Surface area covered with cobbles, stones or boulders: 1.5 percent
Depth to restrictive feature: 3 to 13 inches to lithic bedrock
Drainage class: Excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: More than 80 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: Very low (about 1.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Hydric soil rating: No

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Section H

Erosion & Sedimentation Control Report

H. WHITE ROCK TERRACE EROSION & SEDIMENTATION CONTROL REPORT

Prepared For:

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Portland, Maine 04103

Prepared By:

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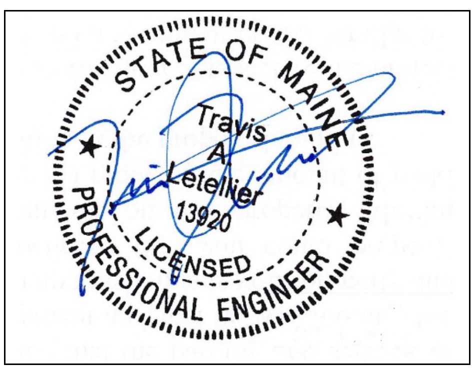


October 2022

INTRODUCTION

Acorn Engineering, Inc. has been retained by Szanton Company to provide civil engineering services for the proposed development at Sky View Drive. The property consists of approximately 4.47 acres of land and contains the following parcels (Map R1, Lot 107A).

The following Erosion and Sedimentation Control Report was developed in accordance with the Maine DEP Chapter 500 Stormwater Management Appendix A and B (1), Amended August 12, 2015. This narrative also meets the standards required in the Maine DEP's Erosion & Sediment Control BMP's Manual, revised in 2016.

1.0 EXISTING CONDITIONS

The proposed project site is located off Read Street and abuts a railroad bed to the west. A Boundary & Topographic Survey has been prepared by Owen Haskell, Inc., dated October 7, 2022.

Abutting Uses include:

- North Residential Use
- South/East Commercial Use
- West I-295

The project features the development of a single four-story building with 55 one- and two-bedroom affordable rental units designated for senior housing. The building has a footprint of roughly 12,000 square feet and the development will provide 78 parking spaces and vehicular and pedestrian circulation. The site in its existing condition drains water in roughly two directions, to the east and west. Please see the Stormwater Report for more detailed information on the existing and proposed sub catchments.

1.1 Existing Soils

Onsite soil information includes the following:

- Soil Conservation Service Medium Intensity Soil Survey for Cumberland County
- United States Department of Agriculture Web Soil Survey

The area within and surrounding the project includes soil types listed in the table below. The susceptibility of soils to erosion is indicated on a relative "K" scale of values over a range of 0.02 to 0.69. Higher "K" values indicate more erodible soils.

Table 1 - "K" Value		
Soils Type	**Subsurface**	**Substratum**
Buxton silt loam	0.49	0.49
Lyman-Abram complex	0.32	0.32

The soil "K" value for the soil, listed above, shows a higher susceptibility to erosion, as derived from the Soil Conservation Service Medium Intensity Soil Survey for Cumberland County. Implementation of the proposed Erosion & Sedimentation Measures by the contractor will be important to limit erosion during large storm events.

1.2 Existing Erosion Problems

There are no signs of erosion.

1.3 Critical Areas

There are no critical areas that require special attention during construction.

1.4 Protected Natural Resource

The client is not aware of the presence of any existing significant natural features located on the site as listed in Section 14-526 (b) 1. of the Land Use Code. The project is not located within a watershed classified as an Urban Impaired Stream by the Maine DEP.

1.5 Previous Construction Activity (5 years)

Acorn Engineering, Inc. is not aware of any construction related activities within the project limits within the past 5 years. Historical imagery shows the existence of a warehouse in the proposed footprint until around 2012.

1.6 Timber Harvesting

Acorn Engineering, Inc. is not aware of any timber harvesting within the past five years.

2.0 EROSION CONTROL MEASURES AND SITE STABILIZATION

As part of the site development, the following temporary and permanent erosion and sedimentation control devices shall be implemented. Devices shall be installed as described in this report or within the plan set. See the Maine Erosion and Sediment Control Handbook for Construction: Best Management Practices for further reference.

2.1 Temporary Erosion Control Measures

The following temporary erosion and sedimentation control measures are planned for the project's construction period:

2.1.1 Crushed stone stabilized construction entrances shall be placed at all access points to the project site where there are disturbed areas. The following specifications shall be followed at a minimum:

- Stone size shall be 2-3 inches, or reclaimed or recycled concrete equivalent.
- The thickness of the entrance stone layer shall be no less than 6 inches.
- The entrance shall not be less than 20 feet wide, however not less than the full width of points where ingress or egress occurs. The length shall not be less than 50 feet in length.
- Geotextile fabric (woven or non-woven) shall be placed over the entire entrance area.
- The entrance/exit shall be maintained to the extent that it will prevent the tracking of sediment onto public road ways.

2.1.2 Siltation fence or erosion control berm shall be installed down gradient of any disturbed areas to trap runoff borne sediments until permanent stabilization is achieved. The silt fence or erosion control berm shall be installed per the details provided in the plan set and inspected before and immediately after each rainfall and at least daily during prolonged rainfall. Repairs shall be made if there are any signs of erosion or sedimentation below the fence line or berm. If there are signs of undercutting at the center or the edges, or impounding of large volumes of water behind the fence or berm, the barrier shall be replaced with a stone check dam.

2.1.3 Hay mulch including hydro seeding is intended to provide cover for denuded or seeded areas until revegetation is established. Mulch placed between April 15th and November 1st on slopes of less than 15 percent shall be covered by fabric netting and anchored with staples in accordance with the manufacturer's recommendation. Mulch placed between November 1st and April 15th on slopes equal to or steeper than 8 percent and equal to or flatter than 2:1 shall use mats or fabric netting and anchored with staples in accordance with the manufacturer's recommendation.

2.1.4 At any time of the year, all slopes greater than 3:1 shall be stabilized with Double Net Erosion Control Blanket Bionet SC150BN by North American

Green or Approved Equal, or Erosion Control Mix Slope Protection as detailed within the plans.

2.1.5 Sky View Drive shall be swept to control mud and dust from the construction site as necessary. Add additional stone to the stabilized construction entrance to minimize the tracking of material off the site and onto the surrounding roadways.

2.1.6 During demolition, clearing and grubbing operations, stone check dams shall be installed at any areas of concentrated flow. The maximum height of the check dam shall not exceed 2 feet. The center of the check dam shall be 6 inches below the outer edges of the dam. The contractor shall mulch the side slopes and install stone check dams for all newly excavated ditch lines within 24 hours of their creation.

2.1.7 Silt fence stake spacing shall not exceed 6 feet unless the fence is supported with 14-gauge wire in which case the maximum spacing shall not exceed 10 feet. The silt fence shall be “toed” into the ground.

2.1.8 Storm drain inlet protection shall be provided to storm drains using any of the following: hay bale drop inlet structures, silt fence drop inlet sediment filter, gravel and wire mesh drop inlet sediment filter, or curb inlet sediment filter. Barriers shall be inspected after every rainfall event and repaired as necessary. Sediments shall be removed when accumulation has reached ½ the design height.

2.1.9 Dust control shall be accomplished using any of the following: water, calcium chloride, stone, or an approved MDEP product. Dust control shall be applied as needed to accomplish dust control.

2.1.10 Temporary loam, seed, and mulching shall be used in areas where no other erosion control measure is used. Application rates for seeding are provided at the end of this report.

2.1.11 Stockpiles shall be stabilized within 7 days of formation unless a scheduled rain event occurs prior to the 7-day window, in which case the stockpile shall be stabilized prior to the rain event. Methods of stabilization shall be mulch, erosion control mix, or erosion control blankets/mats. Silt fence or a wood waste compost filter berm shall be placed downhill of any soil stockpile location.

2.1.12 For disturbance between November 1 and April 15, please refer to winter stabilization plan in this report and the Maine Erosion and Sediment Control BMP manual for further information.

2.1.13 It is of the utmost importance that stormwater runoff and potential sediment from the construction site be diverted around the proposed underdrains until the trench is backfilled.

2.2 Permanent Erosion Control Measures

The following permanent erosion control measures are intended for post disturbance areas of the project.

2.2.1 All disturbed areas during construction, not subject to other proposed conditions, shall receive a minimum 4" of loam, limed, and mulched. Erosion control blankets or mats shall be placed over the mulch in areas noted in paragraph 4.1 of this report.

2.2.2 All stormwater devices shall be installed, and tributary areas stabilized prior receiving stormwater.

2.2.3 Refer to the Maine Erosion and Sediment Control BMP manual for additional information.

3.0 DETAILS AND SPECIFICATIONS

3.1 Erosion & Sedimentation Control Details and Specifications are included in the plan set.

4.0 STABILIZATION PLAN FOR WINTER CONSTRUCTION

Winter Construction consists of earthwork disturbance between the dates of November 1 and April 15. If a construction site is not stabilized with pavement, a road gravel base, 75% mature vegetation cover or riprap by November 15, then the site shall be protected with over-winter stabilization. Any area not stabilized with pavement, vegetation, mulching, erosion control mix, erosion control mats, riprap, or gravel base on a road shall be considered open.

The contractor shall limit the work area to areas that work will occur in during the subsequent 15 days and so that it can be mulched one day prior to a snow event. The contractor shall stabilize work areas prior to opening additional work areas to minimize areas without erosion control measures.

The following measures shall be implemented during winter construction periods:

4.1 Sediment Barriers

During frozen conditions, sediment barriers may consist of erosion control mix berms or any other recognized sediment barriers as frozen soil prevents the proper installation of hay bales or silt fences.

4.2 Mulching

All areas shall be considered to be denuded until seeded and mulched. Hay and straw mulch shall be applied at a rate of 150 lb. per 1,000 square feet or 3 tons/acre (twice the normal accepted rate of 75-lbs./1,000 s.f. or 1.5 tons/acre) and shall be properly anchored. Erosion control mix must be applied with a minimum 4-inch thickness. Mulch shall not be spread on top of snow. The snow shall be removed down to a one-inch depth or less prior to application. After each day of final grading, the area shall be properly stabilized with anchored hay or straw or erosion control matting. An area shall be considered to have been stabilized when exposed surfaces have been either mulched or adequately anchored so that ground surface is not visible through the mulch. Between the dates of November 1 and April 15, all mulch shall be anchored by either mulch netting, tracking or wood cellulose fiber. The cover will be considered sufficient when the ground surface is not visible through the mulch. After November 1st, mulch and anchoring of all exposed soil shall occur at the end of each final grading workday.

4.3 Soil Stockpiling

Stockpiles of soil or subsoil shall be mulched for over winter protection with hay or straw at twice the normal rate or with a four-inch layer of erosion control mix. This shall be done within 24 hours of stocking and re-established prior to any rainfall or snowfall.

4.4 Seeding

Between the dates of October 15th and April 1st, loam or seed shall not be required. During periods of above freezing temperatures finished areas shall be fine graded and either protected with mulch or temporarily seeded and mulched until the final treatment can be applied. If the date is after November 1st and if the exposed area has not been loamed, final grading with a uniform surface, then the area may be dormant seeded at a rate of 3 times higher than specified for permanent seed and then mulched.

Dormant seeding may be placed prior to the placement of mulch or erosion control blankets. If dormant seeding is used for the site, all disturbed areas shall receive 4" of loam and seed at an application rate of 5 lbs./1,000 s.f. All areas seeded during the winter shall be inspected in the spring for adequate catch. All areas insufficiently vegetated (less than 75% catch) shall be revegetated by replacing loam, seed and mulch. If dormant seeding is not used for the site, all disturbed areas shall be revegetated in the spring.

4.5 Over winter stabilization of disturbed soils

By September 15th, all disturbed soils on areas having a slope less than 15% shall be seeded and mulched. If the disturbed areas are not stabilized by this date, then one of the following actions shall be taken to stabilize the soil for late fall and winter:

- Stabilize the soil with temporary vegetation – By October 1st, seed the disturbed soil with winter rye at a seeding rate of 3lbs per 1,000 s.f., lightly mulch the seeded soil with hay or straw at 75 lbs per 1,000 s.f., and anchor the mulch with plastic netting. Monitor growth of the rye over the next 30 days. If the rye fails to grow at least three inches or fails to cover at least 75% of the disturbed soil before November 1st, then mulch the area for over-winter protection.

- Stabilize the soil with sod – Stabilize the disturbed soil with properly installed sod by October 1st. Proper installation includes pinning the sod onto the soil with wire pins, rolling the sod to guarantee contact between the sod and underlying soil, and watering the sod to promote root growth into the disturbed soil.

- Stabilize the soil with mulch – By November 15th, mulch the disturbed soil by spreading hay or straw at a rate of at least 150 lbs per 1,000 s.f. on the area so that no soil is visible through the mulch. Immediately after applying the mulch, anchor the mulch with plastic netting to prevent wind from moving the mulch off the disturbed soil.

4.6 Over winter stabilization of disturbed slopes

All stone-covered slopes shall be constructed and stabilized by November 15th. All slopes to be vegetated shall be seeded and mulched by September 1st. A slope is considered a grade greater than 15%. If a slope to be vegetated is not stabilized by September 1st, then one of the following action shall be taken to stabilize the slope for late fall and winter:

- Stabilize the soil with temporary vegetation and erosion control mats – By October 1st the disturbed slope shall be seeded with winter rye at a seeding rate of 3 lbs per 1,000 s.f. and then install erosion control mats or anchored mulch over the seeding. If the rye fails to grow at least three inches or fails to cover at least 75% of the slope by November 1st, then the contractor shall cover the slope with a layer of erosion control mix or with stone riprap.

- Stabilize the soil with sod – The disturbed slope shall be stabilized with properly installed sod by October 1st. Proper installation includes the contractor pinning the sod onto the slope with wire pins, rolling the sod to guarantee contact between the sod and underlying soil, and watering the sod to promote root growth into the disturbed soil. The contractor shall not use late-season sod installation to stabilize slopes having a grade greater than 3H:1V or having groundwater seeps on the slope face.

- Stabilize the soil with erosion control mix – Erosion control mix shall be properly installed by November 15th. The contractor shall not use erosion control mix to stabilize slopes having grades greater than 2H:1V or having groundwater seeps on the slope face.

- Stabilize the soil with stone riprap – Place a layer of stone riprap on the slope by November 15th. A registered professional engineer shall be hired to determine the stone size needed for stability on the slope and to design a filter layer for underneath the riprap.

5.0 INSPECTION AND MAINTENANCE

A person with knowledge of erosion and stormwater control, including the standards and conditions in the permit, shall conduct periodic visual inspections of installed erosion control measures. The frequency of inspection shall occur at least once every two weeks, as well as after a "storm event". A "storm event" shall consist 0.5 inches of rain within a 24-hour period. The following Erosion and Sediment Control - Best Management Practices (BMP's) shall inspected in the manner as described.

5.1 Sediment Barriers

Hay bale barriers, silt fences and filter berms shall be inspected and repaired for the following if there are any signs of erosion or sedimentation below them. If there are signs of undercutting at the center or the edges of the barrier, or impounding of large volumes of water behind them, sediment barriers shall be replaced with a temporary check dam. Should the fabric on a silt fence or filter barrier decompose or become ineffective prior to the end of the expected usable life and the barrier is still necessary, the fabric shall be replaced promptly. Sediment deposits should be removed when deposits reach approximately one-half the height of the barrier. Filter berms should be reshaped as needed. Any sediment deposits remaining in place after the silt fence or filter barrier is no longer required should be dressed to conform to the existing grade, prepared and seeded.

5.2 Stabilized Stone Construction Entrances

The exit shall be maintained in a condition that will prevent tracking of sediment onto public rights-of-way. When the control pad becomes ineffective, the stone shall be removed along with the collected soil material and redistributed on site in a stable manner. The entrance should then be reconstructed. The contractor shall sweep or wash pavement at exits, which have experienced mud-tracking on to the pavement or traveled way. When washing is required, it shall be done on an area stabilized with aggregate, which drains into an approved sediment trapping device. All sediment shall be prevented from entering storm drains, ditches, or waterways.

6.3 Mulched Areas

All mulches must be inspected periodically, in particular after rainstorms, to check for rill erosion. If less than 90% of the soil surface is covered by mulch, additional mulch shall be immediately applied. Nets must be inspected after rain events for dislocation or failure. If washouts or breakage occur, re-install the nets as necessary after repairing damage to the slope. Where mulch is used in conjunction with ornamental plantings, inspect periodically throughout the year to determine if mulch is maintaining coverage of the soil surface. Repair as needed.

6.4 Dust Control

When temporary dust control measures are used, repetitive treatment shall be applied as needed to accomplish control.

6.5 Stormwater Appurtenances

All underdrains, storm drains, and catch basins need to be operating effectively and free of debris.

6.6 Erosion and Sedimentation Control Inspections:

Acorn Engineering has personnel qualified to conduct Erosion and Sedimentation Control Inspections. For further information, contact:

Contact: Will Savage, PE
Telephone: (207) 775-2655

Qualifications:

- Maine Professional Engineering License #11419
- Maine DEP - Certified in Maintenance & Inspection of Stormwater BMP's Cert #14
- Certified Erosion, Sediment and Storm Water Inspector (CESSWI) Cert #0293
- Certified Professional in Erosion and Sediment Control (CPESC) Cert. #4620

The Contractor has sole responsibility for complying with the Erosion and Sedimentation Report/Plan, including control of fugitive dust. The Contractor shall be responsible for any monetary penalties resulting from failure to comply with these standards.

6.0 IMPLEMENTATION SCHEDULE

The following implementation sequence is intended to maximize the effectiveness of the above described erosion control measures. Contractors should avoid overexposing disturbed areas and limit the amount of stabilization area.

1. Install a stabilized construction entrance in all locations where construction traffic will enter and exit the site.
2. Install perimeter silt fence or erosion control berm.
3. Install all other erosion control devices as necessary throughout the remainder of this schedule.
4. Commence installation of drainage infrastructure.
5. Prioritize the downhill side to contain runoff within the site while providing an engineered outlet to the municipal storm drain system within Read Street.
6. Commence earthwork operations, associated with the parking lot construction.
7. Commence installation of utilities.
8. Continue earthwork and grading to subgrade as necessary for construction.
9. Complete installation of drainage infrastructure, as well as other utility work.
10. Complete remaining earthwork operations.
11. Install sub-base and base gravels in paved areas.
12. Install paving, curbing and brickwork.
13. Loam, lime, fertilize, seed and mulch disturbed areas and complete all landscaping.
14. Once the site is stabilized and mulching of landscape areas is complete, remove all temporary erosion control measures.
15. Touch up areas without a vigorous catch of grass with loam and seed.
16. Complete site signage and striping.
17. Execute proper maintenance of all temporary and permanent erosion control measures throughout the project.

The above implementation sequence should be generally followed by the site contractor. However, the contractor may construct several items simultaneously. The contractor shall submit to the owner a schedule of the completion of the work. If the contractor is to commence the construction of more than one item above, they shall limit the amount of exposed areas to those areas in which work is expected to be undertaken during the following 30 days.

The contractor shall re-vegetate disturbed areas as rapidly as possible. All areas shall be permanently stabilized within 7 days of final grading or before a storm event. The contractor shall incorporate planned inlets and drainage systems as early as possible into the construction phase.

7.0 CONCLUSION

The above erosion control narrative is intended to minimize the development impact by implementing temporary and permanent erosion control measures. The contractor shall also refer to the Maine Erosion and Sediment Control BMP manual for additional information.

8.0 ATTACHMENTS

- Temporary Seeding Plan

TEMPORARY SEEDING PLAN

Site Preparation

The seeded areas shall be feasibly graded out to provide the use of equipment for seedbed preparation, seeding, mulch application, and mulch anchoring. If necessary, the site may require additional temporary erosion control measures outlined in the Erosion Control report.

Seedbed Preparation

Fertilizer shall be applied to the site at a rate of 13.8 pounds per 1,000 square feet. The composition of the fertilizer shall be 10-10-10 (N-P2O5-K2O) or equivalent.

Limestone shall be applied to the site at a rate of 138 pounds per 1,000 square feet.

Seeding

The composition and amount of temporary seed applied to a site shall be determined by the following table:

Seed	Pounds / 1,000 S.F.	Recommended Seeding Dates
Winter Rye	2.57	Aug-15 to Oct-1
Oats	1.84	Apr-1 to Jul-1 Aug-15 to Sep-15
Annual Ryegrass	0.92	Apr-1 to Jul-1
Sudangrass	0.92	May-15 to Aug-15
Perennial	0.92	Aug-15 to Sep-15

Mulching

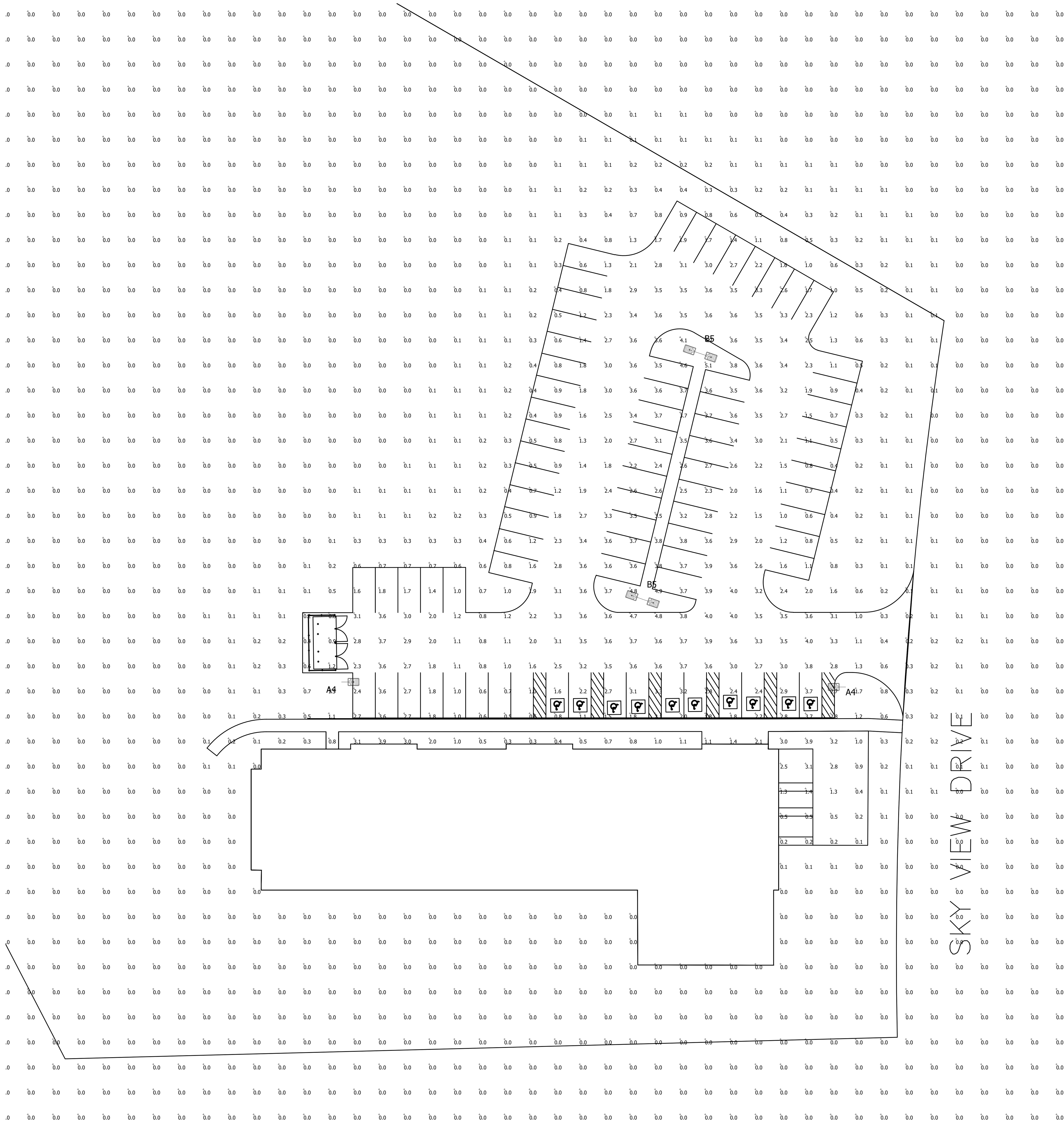
Mulch shall be applied at a rate of 70 lbs – 90 lbs per 1,000 square feet. The mulch shall be installed at a minimum depth of 4 inches. The seeded area shall be mulched immediately after seed is applied. Mulching during the winter season shall be double the normal amount.

Conclusion

Please refer to the Maine Erosion and Sediment Control BMP manual for additional information pertaining to temporary seeding and mulching.

Section I

Lighting Specifications

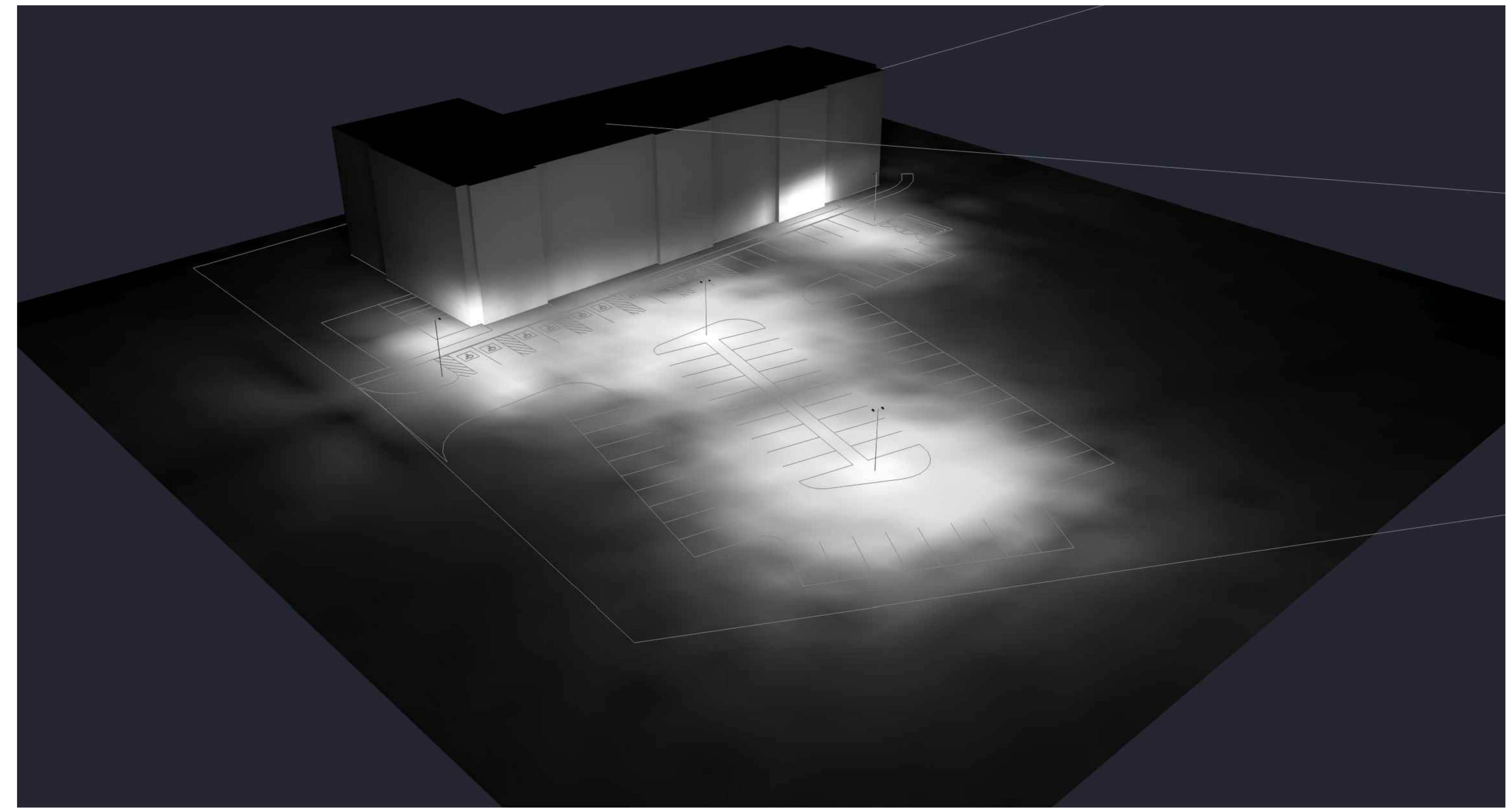


Luminaire Schedule

Symbol	Qty	Label	Mounting Height	LLF	Lum. Lumens	Lum. Watts	Description
	2	B5	20' - 0" AFG	0.900	17209	135	VP-1-160L-135-3K7-5QW
	2	A4	20' - 0" AFG	0.900	14224	111.9	VP-1-160L-115-3K7-4W

Calculation Summary

Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Overall Area	Illuminance	Fc	0.28	5.1	0.0	N.A.	N.A.
Parking Area	Illuminance	Fc	2.49	5.1	0.4	6.23	12.75



GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 - FT.

1. THIS LIGHTING DESIGN IS BASED ON LIMITED INFORMATION SUPPLIED BY OTHERS TO CURRENT. SITE DETAILS PROVIDED HEREON ARE REPRODUCED ONLY AS A VISUALIZATION AID. FIELD DEVIATIONS MAY SIGNIFICANTLY AFFECT PREDICTED PERFORMANCE. PRIOR TO INSTALLATION, CRITICAL SITE INFORMATION (POLE LOCATIONS, ORIENTATION, MOUNTING HEIGHT, ETC.) SHOULD BE COORDINATED WITH THE CONTRACTOR AND/OR SPECIFIER RESPONSIBLE FOR THE PROJECT.
2. LUMINAIRE DATA IS TESTED TO INDUSTRY STANDARDS UNDER LABORATORY CONDITIONS. OPERATING VOLTAGE AND NORMAL MANUFACTURING TOLERANCES OF LAMP, BALLAST, AND LUMINAIRE MAY AFFECT FIELD RESULTS.
3. CONFORMANCE TO FACILITY CODE AND OTHER LOCAL REQUIREMENTS IS THE RESPONSIBILITY OF THE OWNER AND/OR THE OWNER'S REPRESENTATIVE.

TITLE:

SKYVIEW DRIVE APARTMENTS
CUMBERLAND, ME
SITE PHOTOMETRIC PLAN

REVISED FROM DRAWING NUMBER(S):

Current

DN BY: DHK	DATE: 10/19/22	CHK BY: N/A
REV. BY:	DATE:	SCALE: AS NOTED
QUOTE: N/A	DRAWING / DESIGN NO.: A221196	

Date: Oct 20, 2022

Swaney Lighting
PO Box 1597
Scarborough ME 04070
Phone: (207) 883-7100
Fax: (207) 885-9606

Job Name

SKYVIEW DRIVE APARTMENTS

SLA22-53562

CUMBERLAND ME

Bid Date
Oct 20, 2022

Submittal Date
Oct 20, 2022

Designer & Consultants:
Swaney Application Design
applications

Transmittal

Swaney Lighting
PO Box 1597
Scarborough ME 04070
Phone: (207) 883-7100
From: Therese "TC" Freeman X-103

Project **SKYVIEW DRIVE APARTMENTS**
Quote# SLA22-53562
Location CUMBERLAND ME
Contact:

ATTACHED WE ARE SENDING YOU 1 COPY OF THE FOLLOWING ITEM:

- ☐ Drawings
- ☐ Prints
- ☐ Plans
- ☐ Specifications
- ☐ Information
- ☒ Submittals
- Other:

THESE ARE TRANSMITTED FOR:

- ☐ Prior Approval
- ☒ Approval
- ☐ Approval as Submitted
- ☐ Approval as Noted
- ☐ Resubmittal for Approval
- ☐ Corrections
- ☐ Your Use
- ☐ Review and Comment
- ☐ Record
- Bids due on:
- Other:

Type	MFG	Part
B5	BEACON PRODUCTS	VP-1-160L-135-3K7-5QW-UNV-A-***
	Item Note: 2@180 DEG	
B5	BEACON PRODUCTS	SSSB20-40A-2-B3-***
A4	BEACON PRODUCTS	VP-1-160L-135-3K7-4W-UNV-A-***
A4	BEACON PRODUCTS	SSSB20-40A-1-B3-***

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DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

VIPER Area/Site

VIPER LUMINAIRE

MICROSTRIKE | OPTICS STRIKE

FEATURES

- Low profile LED area/site luminaire with a variety of IES distributions for lighting applications such as auto dealership, retail, commercial, and campus parking lots
- Featuring two different optical technologies, Strike and Micro Strike Optics, which provide the best distribution patterns for retrofit or new construction
- Rated for high vibration applications including bridges and overpasses. All sizes are rated for 1.5G
- Control options including photo control, occupancy sensing, NX Lighting Controls™, wiSCAPE and 7-Pin with networked controls
- New customizable lumen output feature allows for the wattage and lumen output to be customized in the factory to meet whatever specification requirements may entail
- Field interchangeable mounting provides additional flexibility after the fixture has shipped

c UL us IP65 BUY AMERICAN SOLUTIONS See Certification Specifications DLC LISTED DLC LISTED PREMIUM

CONTROL TECHNOLOGY

NX LIGHTING CONTROLS wiSCAPE™

SPECIFICATIONS

CONSTRUCTION
- Die-cast housing with hidden vertical heat fins are optimal for heat dissipation while keeping a clean smooth outer surface
- Corrosion resistant, die-cast aluminum housing with 1000 hour powder coat paint finish
- External hardware is corrosion resistant

OPTICS
- Micro Strike Optics (160, 320, 480, or 720 LED counts) maximize uniformity in applications and come standard with mid-power LEDs which evenly illuminate the entire luminous surface area to provide a low glare appearance. Catalog logic found on page 2
- Strike Optics (36, 72, 108, or 162 LED counts) provide best in class distributions and maximum pole spacing in new applications with high powered LEDs. Strike optics are held in place with a polycarbonate bezel to mimic the appearance of the Micro Strike Optics so both solutions can be combined on the same application. Catalog logic found on page 3
- Both optics maximize target zone illumination with minimal losses at the house-side, reducing light trespass issues. Additional backlight control shields and house side shields can be added for further reduction of illumination behind the pole
- One-piece silicone gasket ensures a weatherproof seal
- Zero up-light at 0 degrees of tilt
- Field rotatable optics

INSTALLATION
- Mounting patterns for each arm can be found on page 11
- Optional universal mounting block for ease of installation during retrofit applications. Available as an option (ASQU) or accessory for square and round poles.

INSTALLATION (CONTINUED)
- All mounting hardware included
- Knuckle arm fitter option available for 2-3/8" OD tenon
- For products with EPA less than 1 mounted to a pole greater that 20ft, a vibration damper is recommended

ELECTRICAL
- Universal 120-277 VAC or 347-480 VAC input voltage, 50/60 Hz
- Ambient operating temperature -40˚C to 40˚C
- Drivers have greater than 90% power factor and less than 20% THD
- LED drivers have output power over-voltage, over-current protection and short circuit protection with auto recovery
- Field replaceable surge protection device provides 20kA protection meeting ANSI/IEEE C62.41.2 Category C High and Surge Location Category C3; Automatically takes fixture off-line for protection when device is compromised

CONTROLS
- Photo control, occupancy sensor programmable controls, and Zigbee wireless controls available for complete on/off and dimming control
- Please consult brand or sales representative when combining control and electrical options as some combinations may not operate as anticipated depending on your application
- 7-pin ANSI C136.41-2013 photocontrol receptacle option available for twist lock photocontrols or wireless control modules (control accessories sold separately)
- 0- 10V Dimming Drivers are standard and dimming leads are extended out of the luminaire unless control options require connection to the dimming leads. Must specify if wiring leads are to be greater than the 6" standard

CONTROLS (CONTINUED)
- NX Lighting Controls™ available with in fixture wireless control module, features dimming and occupancy sensor
- wiSCAPE® available with in fixture wireless control module, features dimming and occupancy sensor. Also available in 7-pin configuration

CERTIFICATIONS
- DLC® (DesignLights Consortium Qualified), with both Premium and Standard Qualified configurations. Please refer to the DLC website for specific product qualifications at http://www.designlights.org
- Listed to UL1598 and CSA C22.2#250.0-24 for wet locations and 40˚C ambient temperatures
- 1.5 G rated for ANSI C136.31 high vibration applications
- Fixture is IP65 rated
- Meets IDA recommendations using 3K CCT configuration at 0 degrees of tilt
- This product qualifies as a "designated country construction material" per FAR 52.225-11 Buy American-Construction Materials under Trade Agreements effective 04/23/2020.

WARRANTY
- 5 year warranty

KEY DATA	
Lumen Range	5,000–80,000
Wattage Range	36–600
Efficacy Range (LPW)	92–155
Weight lbs. (kg)	13.7-30.9 (6.2-13.9)

Submitted by Swaney Lighting		Catalog Number:	Type:
SLA	**Job Name:** SKYVIEW DRIVE APARTMENTS Designer & Consultants: Swaney Application Design	VP-1-160L-135-3K7-5QW-UNV-A-*** Notes: 2@180 DEG	**B5** SLA22-53562

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DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

VIPER Area/Site

VIPER LUMINAIRE

MICROSTRIKE OPTICS – ORDERING GUIDE

Example: VP–2–320L-145–3K7–2–R–UNV–A3–BLT

CATALOG #

VP – – – – – – – –

Series

VP	Viper

Optic Platform

Micro Strike

Size

1	Size 1
2	Size 2
3	Size 3
4	Size 4

Light Engine

160L-35 [6]	5500 lumens
160L-50 [6]	7500 lumens
160L-75	10000 lumens
160L-100	12500 lumens
160L-115	15000 lumens
160L-135	18000 lumens
160L-160	21000 lumens
320L-145	21000 lumens
320L-170	24000 lumens
320L-185	27000 lumens
320L-210	30000 lumens
320L-235	33000 lumens
320L-255	36000 lumens
320L-315 [6]	40000 lumens
480L-285	40000 lumens
480L-320	44000 lumens
480L-340	48000 lumens
480L-390	52000 lumens
480L-425	55000 lumens
480L-470	60000 lumens
720L-435	60000 lumens
720L-475	65000 lumens
720L-515	70000 lumens
720L-565 [6]	75000 lumens
720L-600 [6]	80000 lumens
CLO	Custom Lumen Output [1]

CCT/CRI

AP	AP-Amber Phosphor Converted
27K8	2700K, 80 CRI
3K7	3000K, 70 CRI
3K8	3000K, 80 CRI
35K8	3500K, 80 CRI
3K9	3000K, 90 CRI
4K7	4000K, 70 CRI
4K8	4000K, 80 CRI
4K9	4000K, 90 CRI
5K7	5000K, 70 CRI
5K8	5000K, 80 CRI

Distribution

2	Type 2
3	Type 3
4F	Type 4 Forward
4W	Type 4 Wide
5QW	Type 5 Square Wide

Optic Rotation

BLANK	No Rotation
L	Optic rotation left
R	Optic rotation right

Voltage

UNV	120-277V
120	120V
208	208V
240	240V
277	277V
347	347V
480	480V

– – –

Mounting

A	Arm mount for square pole/flat surface
A_	Arm mount for round pole [2]
ASQU	Universal arm mount for square pole
A_U	Universal arm mount for round pole [2]
AAU	Adjustable arm for pole mounting (universal drill pattern)
AA_U	Adjustable arm mount for round pole [2]
ADU	Decorative upswept Arm (universal drill pattern)
AD_U	Decorative upswept arm mount for round pole [2]
MAF	Mast arm fitter for 2-3/8" OD horizontal arm
K	Knuckle
T	Trunnion
WB	Wall Bracket, horizontal tenon with MAF
WM	Wall mount bracket with decorative upswept arm
WA	Wall mount bracket with adjustable arm

Specify Stnd. finish

Color

BLT	Black Matte Textured
BLS	Black Gloss Smooth
DBT	Dark Bronze Matte Textured
DBS	Dark Bronze Gloss Smooth
GTT	Graphite Matte Textured
LGS	Light Grey Gloss Smooth
LGT	Light Grey Gloss Textured
PSS	Platinum Silver Smooth
WHT	White Matte Textured
WHS	White Gloss Smooth
VGT	Verde Green Textured

Color Option

CC	Custom Color

Options

F	Fusing
2PF	Dual Power Feed
2DR	Dual Driver
TE	Tooless Entry
BC	Backlight Control
TB	Terminal Block

Network Control Options

NXWS16F	NX Networked Wireless Enabled Integral NXSMP2-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming [1,3,4]
NXWS40F	NX Networked Wireless Enabled Integral NXSMP2-HMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming [1,3,4]
NXW	NX Networked Wireless Radio Module NXRM2 and Bluetooth Programming, without Sensor [3,4]
WIR	wiSCAPE® In-Fixture Module [3,4]
WIRSC	wiSCAPE® Module and Occupancy Sensor [3,4]

Stand Alone Sensors

BTS-14F	Bluetooth® Programmable, BTSMP-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens
BTS-40F	Bluetooth® Programmable, BTSMP-HMO PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens
BTSO-12F	Bluetooth® Programmable, BTSMP-OMNI-O PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens
7PR	7-Pin Receptacle [4]
7PR-SC	7-Pin Receptacle with shorting cap [4]
3PR	3-Pin twist lock [4]
3PR-SC	3-Pin receptacle with shorting cap [4]
3PR-TL	3-Pin PCR with photocontrol [4]

Programmed Controls

ADD	AutoDim Timer Based Dimming [4]
ADT	AutoDim Time of Day Dimming [4]

Photocontrols

PC	Button Photocontrol [4,7]

1 – Items with a grey background can be done as a custom order. Contact brand representative for more information
2 – Replace "_" with "2" for 2.5"-3.4" OD pole, "3" for 3.5"-4.13" OD pole, "4" for 4.18"-5.25" OD pole, "5" for 5.5"-6.5" OD pole
3 – Networked Controls cannot be combined with other control options
4 – Not available with 2PF option
5 – Not available with Dual Driver option
6 – Some voltage restrictions may apply when combined with controls
7 – Not available with 480V

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VIPER Area/Site

VIPER LUMINAIRE

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

DELIVERED LUMENS

For delivered lumens, please see Lumens Data PDF on www.Currentlighting.com

PROJECTED LUMEN MAINTENANCE

Ambient Temp.	0	25,000	*TM-21-11 36,000	50,000	100,000	Calculated L_{70} (Hours)
25°C / 77°F	1.00	0.97	0.96	0.95	0.91	408,000
40°C / 104°F	0.99	0.96	0.95	0.94	0.89	356,000

LUMINAIRE AMBIENT TEMPERATURE FACTOR (LATF)

Ambient Temperature		Lumen Multiplier
0°C	32°F	1.03
10°C	50°F	1.01
20°C	68°F	1.00
25°C	77°F	1.00
30°C	86°F	0.99
40°C	104°F	0.98

Micro Strike Lumen Multiplier			
CCT	70 CRI	80 CRI	90 CRI
2700K	–	0.841	–
3000K	0.977	0.861	0.647
3500K	–	0.900	–
4000K	1	0.926	0.699
5000K	1	0.937	0.791
Monochromatic Amber Multiplier			
Amber	0.250		

Strike Lumen Multiplier			
CCT	70 CRI	80 CRI	90 CRI
2700K	–	0.859	–
3000K	0.941	0.912	0.703
3500K	–	0.906	–
4000K	1	0.894	0.734
5000K	1	0.879	0.711
Monochromatic Amber Multiplier			
Amber	0.255		

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DATE: | LOCATION:

TYPE: | PROJECT:

CATALOG #:

VIPER Area/Site

VIPER LUMINAIRE

ELECTRICAL DATA: MICRO STRIKE

# OF LEDS	160						
NOMINAL WATTAGE	35	50	75	100	115	135	160
SYSTEM POWER (W)	34.9	50.5	72.1	97.2	111.9	132.2	157.8
INPUT VOLTAGE (V)	CURRENT (Amps)						
120	0.29	0.42	0.63	0.83	0.96	1.13	1.33
208	0.17	0.24	0.36	0.48	0.55	0.65	0.77
240	0.15	0.21	0.31	0.42	0.48	0.56	0.67
277	0.13	0.18	0.27	0.36	0.42	0.49	0.58
347	0.10	0.14	0.22	0.29	0.33	0.39	0.46
480	0.07	0.10	0.16	0.21	0.24	0.28	0.33

# OF LEDS	320						
NOMINAL WATTAGE	145	170	185	210	235	255	315
SYSTEM POWER (W)	150	166.8	185.7	216.2	240.9	261.5	312
INPUT VOLTAGE (V)	CURRENT (Amps)						
120	1.21	1.42	1.54	1.75	1.96	2.13	2.63
208	0.70	0.82	0.89	1.01	1.13	1.23	1.51
240	0.60	0.71	0.77	0.88	0.98	1.06	1.31
277	0.52	0.61	0.67	0.76	0.85	0.92	1.14
347	0.42	0.49	0.53	0.61	0.68	0.73	0.91
480	0.30	0.35	0.39	0.44	0.49	0.53	0.66

# OF LEDS	480					
NOMINAL WATTAGE	285	320	340	390	425	470
SYSTEM POWER (W)	286.2	316.7	338.4	392.2	423.2	468
INPUT VOLTAGE (V)	CURRENT (Amps)					
120	2.38	2.67	2.83	3.25	3.54	3.92
208	1.37	1.54	1.63	1.88	2.04	2.26
240	1.19	1.33	1.42	1.63	1.77	1.96
277	1.03	1.16	1.23	1.41	1.53	1.70
347	0.82	0.92	0.98	1.12	1.22	1.35
480	0.59	0.67	0.71	0.81	0.89	0.98

# OF LEDS	720				
NOMINAL WATTAGE	435	475	515	565	600
SYSTEM POWER (W)	429.3	475	519.1	565.2	599.9
INPUT VOLTAGE (V)	CURRENT (Amps)				
120	3.63	3.96	4.29	4.71	5.00
208	2.09	2.28	2.48	2.72	2.88
240	1.81	1.98	2.15	2.35	2.50
277	1.57	1.71	1.86	2.04	2.17
347	1.25	1.37	1.48	1.63	1.73
480	0.91	0.99	1.07	1.18	1.25

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ELECTRICAL DATA: STRIKE

# OF LEDS	36				
NOMINAL WATTAGE	39	55	85	105	120
SYSTEM POWER (W)	39.6	56.8	83.6	108.2	120.9
INPUT VOLTAGE (V)	CURRENT (Amps)				
120	0.33	0.46	0.71	0.88	0.96
208	0.19	0.26	0.41	0.50	0.55
240	0.16	0.23	0.35	0.44	0.48
277	0.14	0.20	0.31	0.38	0.42
347	0.11	0.16	0.24	0.30	0.33
480	0.08	0.11	0.18	0.22	0.24

# OF LEDS	72				
NOMINAL WATTAGE	115	145	180	210	240
SYSTEM POWER (W)	113.7	143.2	179.4	210.2	241.7
INPUT VOLTAGE (V)	CURRENT (Amps)				
120	1.00	1.21	1.50	1.75	1.79
208	0.58	0.70	0.87	1.01	1.03
240	0.50	0.60	0.75	0.88	0.90
277	0.43	0.52	0.65	0.76	0.78
347	0.35	0.42	0.52	0.61	0.62
480	0.25	0.30	0.38	0.44	0.45

# OF LEDS	108				
NOMINAL WATTAGE	215	250	280	325	365
SYSTEM POWER (W)	214.8	250.8	278.3	324.7	362.6
INPUT VOLTAGE (V)	CURRENT (Amps)				
120	2.00	2.08	2.33	3.04	2.67
208	1.15	1.20	1.35	1.75	1.54
240	1.00	1.04	1.17	1.52	1.33
277	0.87	0.90	1.01	1.32	1.16
347	0.69	0.72	0.81	1.05	0.92
480	0.50	0.52	0.58	0.76	0.67

# OF LEDS		162				
NOMINAL WATTAGE	320	365	405	445	485	545
SYSTEM POWER (W)	322.1	362.6	403.6	445.1	487.1	543.9
INPUT VOLTAGE (V)		CURRENT (Amps)				
120	2.71	2.67	3.38	3.71	4.04	4.54
208	1.56	1.54	1.95	2.14	2.33	2.62
240	1.35	1.33	1.69	1.85	2.02	2.27
277	1.17	1.16	1.46	1.61	1.75	1.97
347	0.94	0.92	1.17	1.28	1.40	1.57
480	0.68	0.67	0.84	0.93	1.01	1.14

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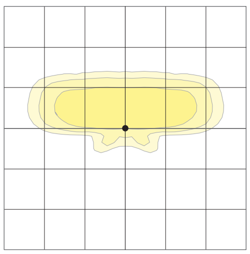
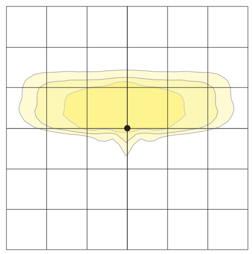
MICRO STRIKE PHOTOMETRY

The following diagrams represent the general distribution options offered for this product. For detailed information on specific product configurations, see website photometric test reports.

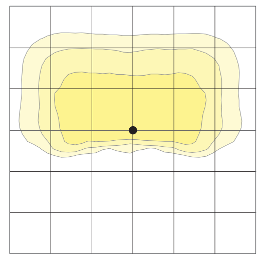
Type 2



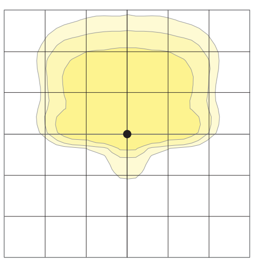
Type 3



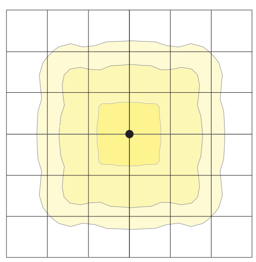
Type 4 Wide



Type 4F



Type 5QW



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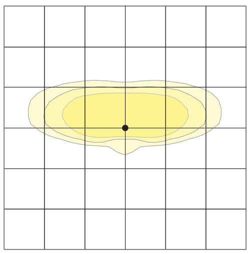
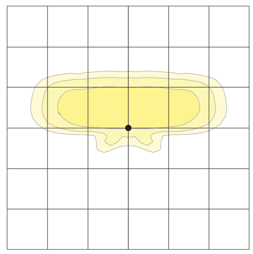
OPTIC STRIKE PHOTOMETRY

The following diagrams represent the general distribution options offered for this product. For detailed information on specific product configurations, see website photometric test reports.

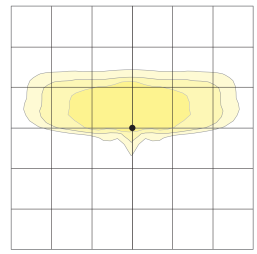
Type FR – Front Row/Auto Optic



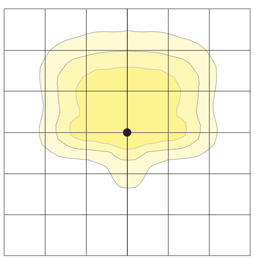
Type 2



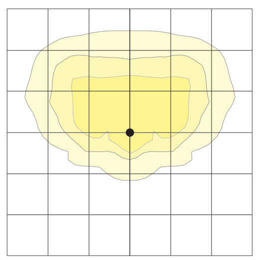
Type 3



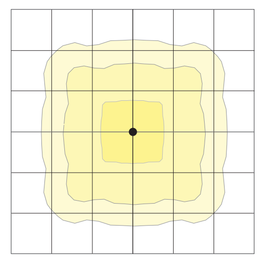
Type 4 Forward



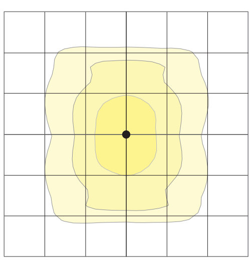
Type 4 Wide



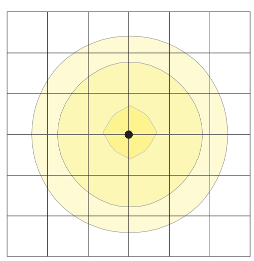
Type 5QM



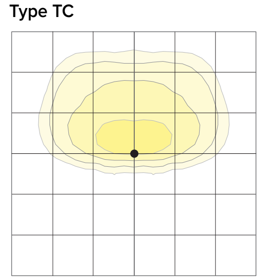
Type 5R (rectangular)



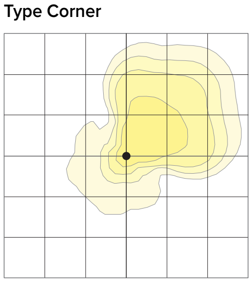
Type 5W (round wide)



Type TC



Type Corner



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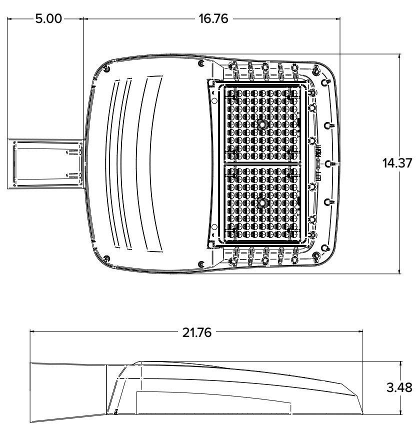
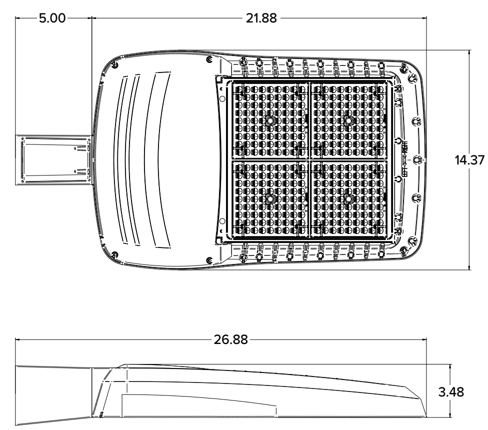
DIMENSIONS

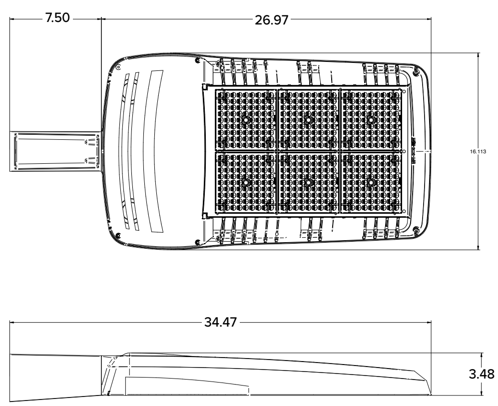
SIZE 1



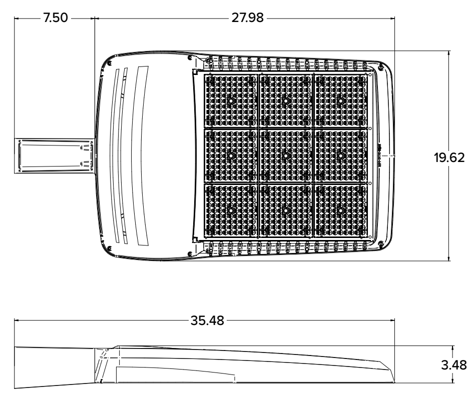
SIZE 2

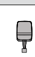
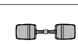
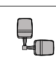
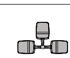
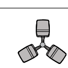
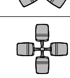


SIZE 3



SIZE 4



	EPA				
	VP1 (Size 1)	VP2 (Size 2)	VP3 (Size 3)	VP4 (Size 4)	Config.
Single Fixture	0.454	0.555	0.655	0.698	
Two at 180	0.908	1.110	1.310	1.396	
Two at 90	0.583	0.711	0.857	0.948	
Three at 90	1.037	1.266	1.512	1.646	
Three at 120	0.943	1.155	1.392	1.680	
Four at 90	1.166	1.422	1.714	1.896	

	Weight	
	lbs	kgs
VP1 (Size 1)	13.7	6.2
VP2 (Size 2)	16.0	7.26
VP3 (Size 3)	25.9	11.7
VP4 (Size 4)	30.8	13.9

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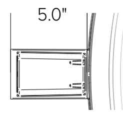
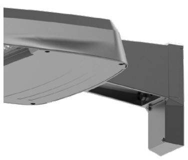
MOUNTING

A–STRAIGHT ARM MOUNT

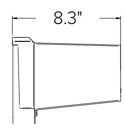
Fixture ships with integral arm for ease of installation. Compatible with Current Outdoor B3 drill pattern. For round poles add applicable suffix (2/3/4/5)

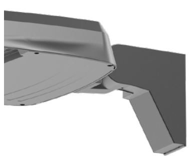




ASQU–UNIVERSAL ARM MOUNT

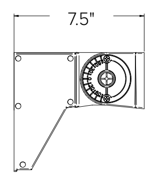
Universal mounting block for ease of installation. Compatible with drill patterns from 2.5" to 4.5" and Current drill pattern S2. For round poles add applicable suffix (2/3/4/5)

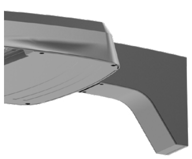




AAU–ADJUSTABLE ARM FOR POLE MOUNTING

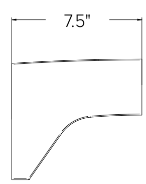
Rotatable arm mounts directly to pole. Compatible with drill patterns from 2.5" to 4.5" and Current drill pattern S2. For round poles add applicable suffix (2/3/4/5). Rotatable in 15˚ aiming angle increments. Micro Strike configurations have a 45° aiming limitation.
Strike configurations have a 30° aiming limitation.

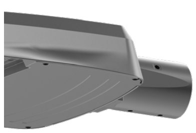




ADU–DECORATIVE UPSWEPT ARM

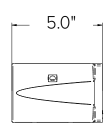
Upswept Arm compatible with drill patterns from 2.5" to 4.5". For round poles add applicable suffix (2/3/4/5).

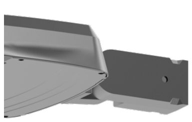




MAF–MAST ARM FITTER

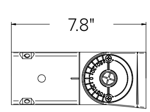
Fits 2-3/8" OD horizontal tenons.

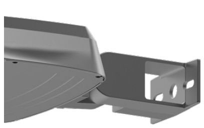




K–KNUCKLE

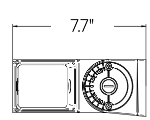
Knuckle mount 15˚ aiming angle increments for precise aiming and control, fits 2-3/8" tenons or pipes. Micro Strike configurations have a 45° aiming limitation. Strike configurations have a 30° aiming limitation.





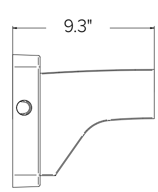
T–TRUNNION

Trunnion for surface and crossarm mounting using (1) 3/4" or (2) 1/2" size through bolts. Micro Strike configurations have a 45° aiming limitation. Strike configurations have a 30° aiming limitation.



WM–WALL MOUNT

Compatible with universal arm mount, adjustable arm mount, and decorative arm mount. The WA option uses the same wall bracket but replaces the decorative arm with an adjustable arm.



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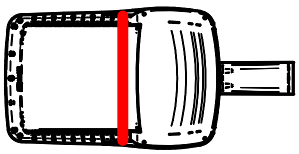
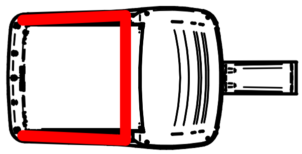
ADDITIONAL INFORMATION (CONTINUED)

HOUSE SIDE SHIELD FIELD INSTALL ACCESSORIES

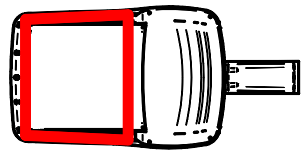
VPR2x HSS-90-B-xx



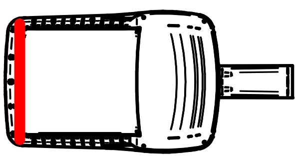
VPR2x HSS-270-BSS-xx



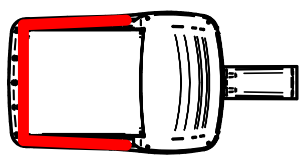
VPR2x HSS-360-xx



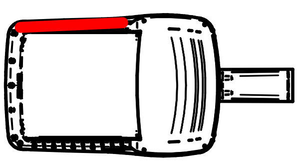
VPR2x HSS-90-F-xx



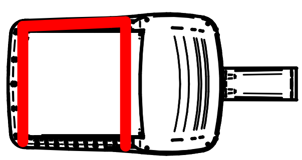
VPR2x HSS-270-FSS-xx



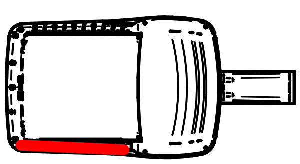
VPR2x HSS-90-S-xx



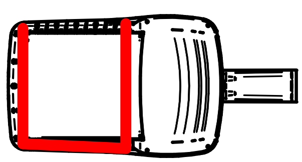
VPR2x HSS-270-FSB-xx



VPR2x HSS-90-S-xx



VPR2x HSS-270-FSB-xx



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DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

VIPER Area/Site

VIPER LUMINAIRE

ADDITIONAL INFORMATION (CONTINUED)

PROGRAMMED CONTROLS

ADD-AutoDim Timer Based Options

- Light delay options from 1-9 hours after the light is turned on to dim the light by 10-100%. To return the luminaire to its original light level there are dim return options from 1-9 hours after the light has been dimmed previously.

EX: ADD-6-5-R6

ADD Control Options	Configurations Choices	Example Choice Picked
Auto-Dim Options	1-9 Hours	6 - Delay 6 hours
Auto-Dim Brightness	10-100% Brightness	5 - Dim to 50% brightness
Auto-Dim Return	Delay 0-9 Hours	R6 - Return to full output after 6 hours

ADT-AutoDim Time of Day Based Option

- Light delay options from 1AM-9PM after the light is turned on to dim the light by 10-100%. To return the luminaire to its original light level there are dim return options from 1AM-9PM after the light has been dimmed previously.

EX: ADT-6-5-R6

ADD Control Options	Configurations Choices	Example Choice Picked
Auto-Dim Options	12-3 AM and 6-11 PM	6 - Dim at 6PM
Auto-Dim Brightness	10-100% Brightness	5 - Dim to 50%
Auto-Dim Return	12-6 AM and 9-11P	R6 - Return to full output at 6AM

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Job Name:
SKYVIEW DRIVE APARTMENTS
Designer & Consultants: Swaney Application Design

Catalog Number:
SSSB20-40A-2-B3-***

Notes:

Type:
B5
SLA22-53562

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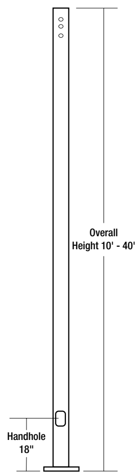
DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

SSS-B Series Poles

SQUARE STRAIGHT STEEL



APPLICATIONS

- Lighting installations for side and top mounting of luminaires with effective projected area (EPA) not exceeding maximum allowable loading of the specified pole in its installed geographic location

CONSTRUCTION

- SHAFT: One-piece straight steel with square cross section, flat sides and minimum 0.23" radius on all corners; Minimum yield of 46,000 psi (ASTM-A500, Grade B); Longitudinal weld seam to appear flush with shaft side wall; Steel base plate with axial bolt circle slots welded flush to pole shaft having minimum yield of 36,000 psi (ASTM A36)
- BASE COVER: Two-piece square aluminum base cover included standard
- POLE CAP: Pole shaft supplied with removable cover when applicable; Tenon and post-top configurations also available
- HAND HOLE: Rectangular 3x5 steel hand hole frame (2.38" x 4.38" opening); Mounting provisions for grounding lug located behind gasketed cover
- ANCHOR BOLTS: Four galvanized anchor bolts provided per pole with minimum yield of 55,000 psi (ASTM F1554). Galvanized hardware with two washers and two nuts per bolt for leveling

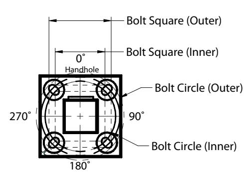
  Anchor bolt part numbers: 3/4 x 30 x 3 — TAB-30-M38
  1 x 36 x 4 — TAB-36-M38

FINISH

- Durable thermoset polyester powder coat paint finish with nominal 3.0 mil thickness
- Powder paint prime applied over "white metal" steel substrate cleaned via mechanical shot blast method
- Decorative finish coat available in multiple standard colors; Custom colors available; RAL number preferable

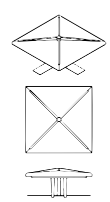
WAREHOUSE 'STOCKED' POLES:

- SSSH20-40A-4-HV-DB-RDC, SSSH25-40A-4-HV-DB-RDC and SSSH30-50B-4-HV-DB-RDC
- The HV designation in the above catalog numbers is a combination drill pattern of the Current S2 pattern and the Beacon B3/B4 Viper pattern (rectangular arm mounting)

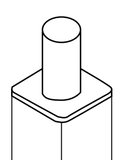


TOP VIEW

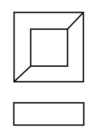
POLE CAP



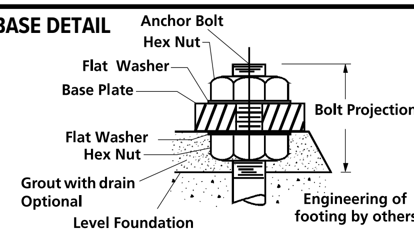
TENON



BASE COVER



BASE DETAIL



ORDERING INFORMATION

ORDERING EXAMPLE: Reference page 2 for available configurations

SSS -B – 25 – 40 – A/B/C – 2L – B3 – Specify Stnd. finish – UL

SERIES
- **SSS-B** Square Straight Steel Pole Beacon

HEIGHT
Reference page 2 Ordering matrix
20

SHAFT
Reference page 2 Ordering matrix
40

THICKNESS
Reference page 2 Ordering matrix
A

MOUNTING

1	Single arm mount
2	Two fixtures at 180°
2L	Two fixtures at 90°
3T	Three fixtures at 90°
4	Four fixtures at 90°
TA	Tenon (2.38" OD x 4" Tall)
TB	Tenon (2.88" OD x 4" Tall)
TC	Tenon (3.5" OD x 6" Tall)
TR[1]	Removable Tenon (2.375 x 4.25)
OT	Open Top (includes pole cap)

FINISH

BLT	Black Matte Textured
BLS	Black Gloss Smooth
DBT	Dark Bronze Matte Textured
DBS	Dark Bronze Gloss Smooth
GTT	Graphite Matte Textured
LGS	Light Grey Gloss Smooth
PSS	Platinum Silver Smooth
WHT	White Matte Textured
WHS	White Gloss Smooth
VGT	Verde Green Textured

Color Option

CC	Custom Color

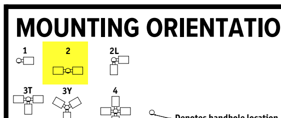
OPTIONS

GFI[2]	20 Amp GFCI Receptacle and Cover
EHH[2]	Extra Handhole
C05[2]	.5" Coupling
C07[2]	.75" Coupling
C20[2]	2" Coupling
MPB[2]	Mid-pole Luminaire Bracket
VM2	2nd mode vibration damper
LAB	Less Anchor Bolts
UL	UL Certified

DRILL PATTERN

B1	Cruzer, "AM" arm
B3	2 bolt (2-½" spacing), Viper "A" arm
S2	2 bolt (3-½" spacing), Viper "AD" arm

MOUNTING ORIENTATION



1 Removable tenon used in conjunction with side arm mounting. First specify desired arm configuration followed by the **"TR"** notation. Example: **SSS-B-25-40-A-1-B1-TR-BBT**
2 Specify option location using logic found on page 2 **(Option Orientation)**
3 VM1 recommended on poles 20' and taller with EPA of less than 1.

ACCESSORIES - Order Separately

Catalog Number	Description
VM1[3]	1st mode vibration damper
VM2SXX	2nd mode vibration damper

Current

currentlighting.com/beacon

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SSS-B Series Poles

SQUARE STRAIGHT STEEL

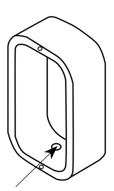
DATE: LOCATION:
TYPE: PROJECT:
CATALOG #:

ORDERING INFORMATION Cont.

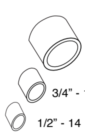
Catalog Number	Height		Nominal Shaft Dimensions	Wall Thick-ness	Bolt Circle (suggested)	Bolt Circle (range)	Bolt Square (range)	Base Plate Square	Anchor bolt size	Bolt Projection	Pole weight
	Feet	Meters									
SSS-B-10-40-A-XX-XX	10	3.0	4" square	0.125"	9"	8" - 10"	5.66" - 7.07"	9"	3/4" x 30" x 3"	3.5	77
SSS-B-12-40-A-XX-XX	12	3.7	4" square	0.125"	9"	8" - 10"	5.66" - 7.07"	9"	3/4" x 30" x 3"	3.5	90
SSS-B-14-40-A-XX-XX	14	4.3	4" square	0.125"	9"	8" - 10"	5.66" - 7.07"	9"	3/4" x 30" x 3"	3.5	103
SSS-B-16-40-A-XX-XX	16	4.9	4" square	0.125"	9"	8" - 10"	5.66" - 7.07"	9"	3/4" x 30" x 3"	3.5	116
SSS-B-18-40-A-XX-XX	18	5.5	4" square	0.125"	9"	8" - 10"	5.66" - 7.07"	9"	3/4" x 30" x 3"	3.5	129
SSS-B-20-40-A-XX-XX	20	6.1	4" square	0.125"	9"	8" - 10"	5.66" - 7.07"	9"	3/4" x 30" x 3"	3.5	142
SSS-B-25-40-A-XX-XX	25	7.6	4" square	0.125"	9"	8" - 10"	5.66" - 7.07"	9"	3/4" x 30" x 3"	3.5	175
SSS-B-14-40-B-XX-XX	14	4.3	4" square	.188"	11"	10" - 12"	7.07" - 8.48"	10.50"	3/4" x 30" x 3"	3.5	152
SSS-B-16-40-B-XX-XX	16	4.9	4" square	.188"	11"	10" - 12"	7.07" - 8.48"	10.50"	3/4" x 30" x 3"	3.5	171
SSS-B-18-40-B-XX-XX	18	5.5	4" square	.188"	11"	10" - 12"	7.07" - 8.48"	10.50"	3/4" x 30" x 3"	3.5	190
SSS-B-20-40-B-XX-XX	20	6.1	4" square	.188"	11"	10" - 12"	7.07" - 8.48"	10.50"	3/4" x 30" x 3"	3.5	209
SSS-B-25-40-B-XX-XX	25	7.6	4" square	.188"	11"	10" - 12"	7.07" - 8.48"	10.50"	3/4" x 30" x 3"	3.5	257
SSS-B-30-40-B-XX-XX	30	9.1	4" square	.188"	11"	10" - 12"	7.07" - 8.48"	10.50"	3/4" x 30" x 3"	3.5	304
SSS-B-16-50-B-XX-XX	16	4.9	5" square	.188"	11"	10.25" - 13.25"	7.25" - 9.37"	11.50"	1" x 36" x 4"	4.5	219
SSS-B-18-50-B-XX-XX	18	5.5	5" square	.188"	11"	10.25" - 13.25"	7.25" - 9.37"	11.50"	1" x 36" x 4"	4.5	243
SSS-B-20-50-B-XX-XX	20	6.1	5" square	.188"	11"	10.25" - 13.25"	7.25" - 9.37"	11.50"	1" x 36" x 4"	4.5	267
SSS-B-25-50-B-XX-XX	25	7.6	5" square	.188"	11"	10.25" - 13.25"	7.25" - 9.37"	11.50"	1" x 36" x 4"	4.5	327
SSS-B-30-50-B-XX-XX	30	9.1	5" square	.188"	11"	10.25" - 13.25"	7.25" - 9.37"	11.50"	1" x 36" x 4"	4.5	387
SSS-B-25-50-C-XX-XX	25	7.6	5" square	.25"	11"	10.25" - 13.25"	7.25" - 9.37"	11.50"	1" x 36" x 4"	4.5	427
SSS-B-30-50-C-XX-XX	30	9.1	5" square	.25"	11"	10.25" - 13.25"	7.25" - 9.37"	11.50"	1" x 36" x 4"	4.5	507
SSS-B-20-60-B-XX-XX	20	6.1	6" square	.188"	12"	11.00" - 13.25"	7.81" - 9.37"	12.25"	1" x 36" x 6"	4.5	329
SSS-B-25-60-B-XX-XX	25	7.6	6" square	.188"	12"	11.00" - 13.25"	7.81" - 9.37"	12.25"	1" x 36" x 6"	4.5	404
SSS-B-30-60-B-XX-XX	30	9.1	6" square	.188"	12"	11.00" - 13.25"	7.81" - 9.37"	12.25"	1" x 36" x 6"	4.5	479
SSS-B-35-60-B-XX-XX	35	10.7	6" square	.188"	12"	11.00" - 13.25"	7.81" - 9.37"	12.25"	1" x 36" x 6"	4.5	554
SSS-B-40-60-B-XX-XX	40	12.2	6" square	.188"	12"	11.00" - 13.25"	7.81" - 9.37"	12.25"	1" x 36" x 6"	4.5	629

NOTE Factory supplied template must be used when setting anchor bolts. Beacon Products will deny any claim for incorrect anchorage placement resulting from failure to use factory supplied template and anchor bolts.

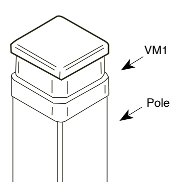
EHH - EXTRA HANDHOLE



C05 - C07 - C20 - COUPLING

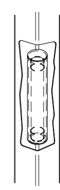


VM1 - VIBRATION DAMPER 1ST MODE



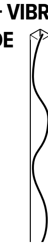
Field Installed Pole Top damper designed to reduce pole top deflection or sway. VM1 is recommended for pole systems 25' and taller with a total EPA of 1.0 or less.

VM2 - VIBRATION DAMPER 2ND MODE



Factory installed, internal damper designed to alter pole resonance to reduce movement and material fatigue caused by 2nd mode vibration.

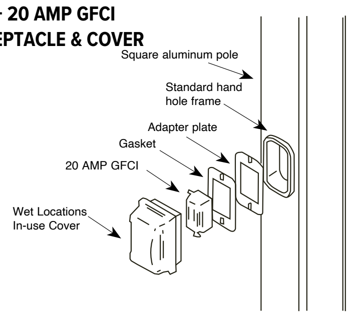
VM2SXX - VIBRATION DAMPER 2ND MODE



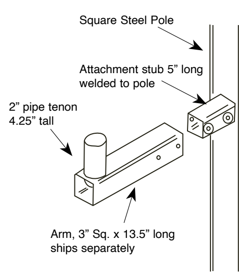
VM2S08 – 8'
VM2S12 – 12'
VM2S16 – 16'
VM2S20 – 20'
VM2S24 – 24'

Field installed, internal damper designed to alter pole resonance to reduce movement and material fatigue caused by 2nd mode vibration.

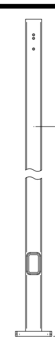
GFI – 20 AMP GFCI RECEPTACLE & COVER



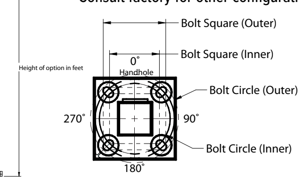
MPB - MID POLE BRACKET



OPTION ORIENTATION



Follow the logic below when ordering location specific options. For each option, include its orientation (in degrees) and its height (in feet). Example: Option C07 should be ordered as: **SSS-B-20-40-A-TA-DB-C05-0-15** (.5" coupling on the handhole/arm side of pole, 15 feet up from the pole base) 1' spacing required between option. Consult factory for other configurations.



For more information about pole vibration and vibration dampers, please consult our website.
Due to our continued efforts to improve our products, product specifications are subject to change without notice.

DATE: LOCATION:

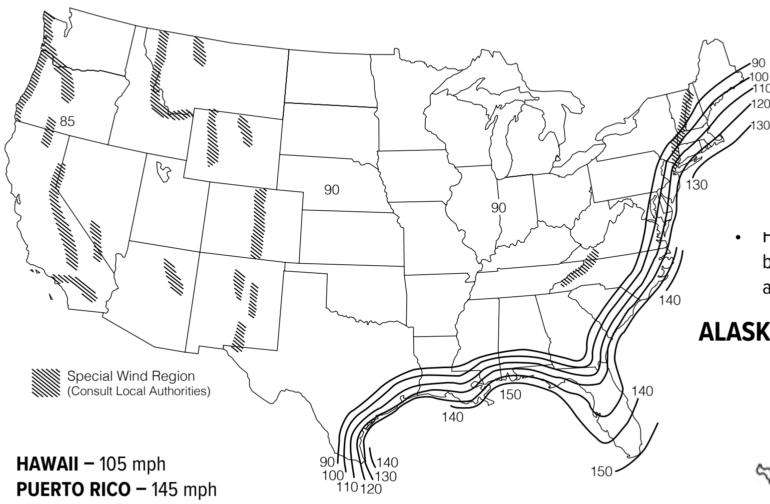
TYPE: PROJECT:

CATALOG #:

SSS-B Series Poles

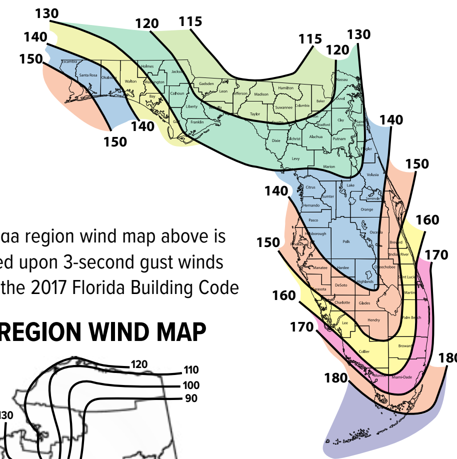
SQUARE STRAIGHT STEEL

ASCE7-05 WIND MAP



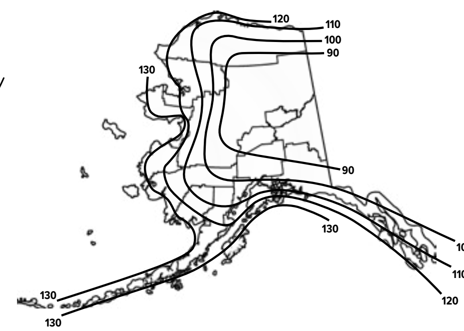
HAWAII – 105 mph
PUERTO RICO – 145 mph

FLORIDA REGION WIND MAP



- Florida region wind map above is based upon 3-second gust winds and the 2017 Florida Building Code

ALASKA REGION WIND MAP



ASCE 7-05 wind map EPA Load Rating - 3 second gust wind speeds (Use for all locations except Florida)										
Catalog Number	85	90	100	105	110	120	130	140	145	150
SSS-B-10-40-A	25.0	25.0	25.0	22.8	20.6	17.0	14.2	11.9	11.0	10.1
SSS-B-12-40-A	25.0	25.0	20.0	18.0	16.1	13.2	10.8	8.9	8.1	7.4
SSS-B-14-40-A	23.1	20.4	16.1	14.3	12.8	10.2	8.2	6.6	5.9	5.3
SSS-B-16-40-A	19.0	16.7	13.0	11.5	10.1	7.9	6.2	4.7	4.1	3.6
SSS-B-18-40-A	15.6	13.6	10.0	9.0	7.8	5.9	4.4	3.1	2.6	2.1
SSS-B-20-40-A	12.7	10.9	7.9	6.9	5.9	4.2	2.8	1.7	1.3	0.9
SSS-B-25-40-A	7.3	5.9	3.8	2.9	2.1	0.8	NR	NR	NR	NR
SSS-B-14-40-B	25.0	25.0	23.3	20.8	18.6	15.1	12.3	10.2	9.2	8.4
SSS-B-16-40-B	25.0	24.9	19.4	17.3	15.4	12.3	9.9	8.0	7.2	6.4
SSS-B-18-40-B	24.0	20.8	16.1	14.2	12.5	9.8	7.7	6.1	5.3	4.7
SSS-B-20-40-B	20.2	17.5	13.2	11.6	10.1	7.7	5.9	4.4	3.8	3.2
SSS-B-25-40-B	12.8	11.0	7.9	6.7	5.5	3.7	2.3	1.2	0.7	NR
SSS-B-30-40-B	8.0	6.6	4.1	3.1	2.2	0.8	NR	NR	NR	NR
SSS-B-16-50-B	25.0	25.0	25.0	25.0	24.8	20.1	16.5	13.6	12.3	11.2
SSS-B-18-50-B	25.0	25.0	25.0	22.9	20.4	16.4	13.2	10.7	9.6	8.6
SSS-B-20-50-B	25.0	25.0	21.3	18.9	16.7	13.2	10.4	8.1	7.2	6.3
SSS-B-25-50-B	20.7	17.8	13.3	11.5	9.8	7.2	5.0	3.3	2.6	1.9
SSS-B-30-50-B	13.5	11.3	7.7	6.2	4.9	2.8	1.1	NR	NR	NR
SSS-B-25-50-C	25.0	25.0	19.4	17.1	15.1	11.7	9.0	6.9	6.0	5.1
SSS-B-30-50-C	20.1	17.3	12.7	10.9	9.3	6.6	4.5	2.8	2.1	1.4
SSS-B-20-60-B	25.0	25.0	25.0	25.0	25.0	20.2	16.1	12.9	11.5	10.3
SSS-B-25-60-B	25.0	25.0	20.6	18.0	15.6	11.8	8.7	6.2	5.2	4.2
SSS-B-30-60-B	21.4	18.1	12.9	10.7	8.8	5.7	3.3	1.3	NR	NR
SSS-B-35-60-B	14.0	11.3	6.9	5.2	3.6	1.0	NR	NR	NR	NR
SSS-B-40-60-B	8.1	5.8	2.2	nr	NR	NR	NR	NR	NR	NR

Florida Building Code 2017 EPA Load Rating - 3 second gust wind speeds (Use for Florida only)								
Catalog Number	115	120	130	140	150	160	170	180
SSS-B-10-40-A	25.0	25.0	25.0	25.0	21.4	18.4	15.9	13.9
SSS-B-12-40-A	25.0	25.0	23.6	19.8	16.7	14.2	12.1	10.4
SSS-B-14-40-A	25.0	23.1	19.0	15.7	13.1	10.9	9.1	7.6
SSS-B-16-40-A	20.8	18.7	15.2	12.3	10.1	8.2	6.7	5.4
SSS-B-18-40-A	16.8	15.0	11.9	9.4	7.5	5.9	4.5	3.4
SSS-B-20-40-A	13.6	11.9	9.2	7.1	5.3	3.9	2.7	1.7
SSS-B-25-40-A	7.4	6.2	4.1	2.5	1.1	NR	NR	NR
SSS-B-14-40-B	25.0	23.6	19.4	16.1	13.4	11.2	9.4	7.8
SSS-B-16-40-B	21.4	19.2	15.6	12.7	10.4	8.5	6.9	5.6
SSS-B-18-40-B	17.2	15.4	12.2	9.7	7.7	6.1	4.7	3.6
SSS-B-20-40-B	13.9	12.3	9.5	7.3	5.5	4.1	2.9	1.9
SSS-B-25-40-B	7.7	6.4	4.3	2.6	1.3	NR	NR	NR
SSS-B-30-40-B	3.2	2.1	NR	NR	NR	NR	NR	NR
SSS-B-16-50-B	25.0	25.0	25.0	25.0	25.0	21.4	18.2	15.5
SSS-B-18-50-B	25.0	25.0	25.0	24.4	20.4	17.0	14.2	11.9
SSS-B-20-50-B	25.0	25.0	24.4	19.9	1 6.3	13.4	11.0	8.9
SSS-B-25-50-B	21.8	19.3	15.0	11.5	8.8	6.5	4.7	3.1
SSS-B-30-50-B	13.7	11.7	8.2	5.5	3.3	1.5	NR	NR
SSS-B-25-50-C	21.8	19.3	15.0	11.5	8.8	6.5	4.7	3.1
SSS-B-30-50-C	13.7	11.7	8.2	5.5	3.3	1.5	NR	NR
SSS-B-20-60-B	25.0	25.0	25.0	21.9	17.8	14.5	11.7	9.4
SSS-B-25-60-B	23.8	20.9	16.1	12.3	9.2	6.6	4.5	2.8
SSS-B-30-60-B	14.6	12.3	8.4	5.3	2.8	0.8	NR	NR
SSS-B-35-60-B	7.5	5.6	2.4	NR	NR	NR	NR	NR
SSS-B-40-60-B	1.8	NR	NR	NR	NR	NR	NR	NR

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

SSS-B Series Poles

SQUARE STRAIGHT STEEL

NOTES

Wind-speed Website disclaimer:
Current has no connection to the linked website and makes no representations as to its accuracy. While the information presented on this third-party website provides a useful starting point for analyzing wind conditions, Current has not verified any of the information on this third party website and assumes no responsibility or liability for its accuracy. The material presented in the windspeed website should not be used or relied upon for any specific application without competent examination and verification of its accuracy, suitability and applicability by engineers or other licensed professionals. Current does not intend that the use of this information replace the sound judgment of such competent professionals, having experience and knowledge in the field of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the results of the windspeed report provided by this website. Users of the information from this third party website assume all liability arising from such use. Use of the output of these referenced websites do not imply approval by the governing building code bodies responsible for building code approval and interpretation for the building site described by latitude/longitude location in the windspeed report. http://windspeed.atcouncil.org

NOTES

- Allowable EPA, to determine max pole loading weight, multiply allowable EPA by 30 lbs.
- The tables for allowable pole EPA are based on the ASCE 7-05 Wind Map or the Florida Region Wind Map for the 2010 Florida Building Code. The Wind Maps are intended only as a general guide and cannot be used in conjunction with other maps. Always consult local authorities to determine maximum wind velocities, gusting and unique wind conditions for each specific application
- Allowable pole EPA for jobsite wind conditions must be equal to or greater than the total EPA for fixtures, arms, and accessories to be assembled to the pole. Responsibility lies with the specifier for correct pole selection. Installation of poles without luminaires or attachment of any unauthorized accessories to poles is discouraged and shall void the manufacturer's warranty
- Wind speeds and listed EPAs are for ground mounted installations. Poles mounted on structures (such as bridges and buildings) must consider vibration and coefficient of height factors beyond this general guide; Consult local and federal standards
- Wind Induced Vibration brought on by steady, unidirectional winds and other unpredictable aerodynamic forces are not included in wind velocity ratings.
- Extreme Wind Events like, Hurricanes, Typhoons, Cyclones, or Tornadoes may expose poles to flying debris, wind shear or other detrimental effects not included in wind velocity ratings

Due to our continued efforts to improve our products, product specifications are subject to change without notice.

Submitted by Swaney Lighting

Job Name:
SKYVIEW DRIVE APARTMENTS
Designer & Consultants: Swaney Application Design

Catalog Number:
VP-1-160L-135-3K7-4W-UNV-A-***

Notes:

Type:
A4

SLA22-53562

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VIPER Area/Site

VIPER LUMINAIRE

DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

MICROSTRIKE | OPTICS STRIKE

FEATURES

- Low profile LED area/site luminaire with a variety of IES distributions for lighting applications such as auto dealership, retail, commercial, and campus parking lots
- Featuring two different optical technologies, Strike and Micro Strike Optics, which provide the best distribution patterns for retrofit or new construction
- Rated for high vibration applications including bridges and overpasses. All sizes are rated for 1.5G
- Control options including photo control, occupancy sensing, NX Lighting Controls™, wiSCAPE and 7-Pin with networked controls
- New customizable lumen output feature allows for the wattage and lumen output to be customized in the factory to meet whatever specification requirements may entail
- Field interchangeable mounting provides additional flexibility after the fixture has shipped

c UL us IP65 BUY AMERICAN SOLUTIONS See Certification Specifications DLC LISTED DLC LISTED PREMIUM

CONTROL TECHNOLOGY

NX LIGHTING CONTROLS wiSCAPE™

SPECIFICATIONS

CONSTRUCTION
- Die-cast housing with hidden vertical heat fins are optimal for heat dissipation while keeping a clean smooth outer surface
- Corrosion resistant, die-cast aluminum housing with 1000 hour powder coat paint finish
- External hardware is corrosion resistant

OPTICS
- Micro Strike Optics (160, 320, 480, or 720 LED counts) maximize uniformity in applications and come standard with mid-power LEDs which evenly illuminate the entire luminous surface area to provide a low glare appearance. Catalog logic found on page 2
- Strike Optics (36, 72, 108, or 162 LED counts) provide best in class distributions and maximum pole spacing in new applications with high powered LEDs. Strike optics are held in place with a polycarbonate bezel to mimic the appearance of the Micro Strike Optics so both solutions can be combined on the same application. Catalog logic found on page 3
- Both optics maximize target zone illumination with minimal losses at the house-side, reducing light trespass issues. Additional backlight control shields and house side shields can be added for further reduction of illumination behind the pole
- One-piece silicone gasket ensures a weatherproof seal
- Zero up-light at 0 degrees of tilt
- Field rotatable optics

INSTALLATION
- Mounting patterns for each arm can be found on page 11
- Optional universal mounting block for ease of installation during retrofit applications. Available as an option (ASQU) or accessory for square and round poles.

INSTALLATION (CONTINUED)
- All mounting hardware included
- Knuckle arm fitter option available for 2-3/8" OD tenon
- For products with EPA less than 1 mounted to a pole greater that 20ft, a vibration damper is recommended

ELECTRICAL
- Universal 120-277 VAC or 347-480 VAC input voltage, 50/60 Hz
- Ambient operating temperature -40°C to 40°C
- Drivers have greater than 90% power factor and less than 20% THD
- LED drivers have output power over-voltage, over-current protection and short circuit protection with auto recovery
- Field replaceable surge protection device provides 20kA protection meeting ANSI/IEEE C62.41.2 Category C High and Surge Location Category C3; Automatically takes fixture off-line for protection when device is compromised

CONTROLS
- Photo control, occupancy sensor programmable controls, and Zigbee wireless controls available for complete on/off and dimming control
- Please consult brand or sales representative when combining control and electrical options as some combinations may not operate as anticipated depending on your application
- 7-pin ANSI C136.41-2013 photocontrol receptacle option available for twist lock photocontrols or wireless control modules (control accessories sold separately)
- 0- 10V Dimming Drivers are standard and dimming leads are extended out of the luminaire unless control options require connection to the dimming leads. Must specify if wiring leads are to be greater than the 6" standard

CONTROLS (CONTINUED)
- NX Lighting Controls™ available with in fixture wireless control module, features dimming and occupancy sensor
- wiSCAPE® available with in fixture wireless control module, features dimming and occupancy sensor. Also available in 7-pin configuration

CERTIFICATIONS
- DLC® (DesignLights Consortium Qualified), with both Premium and Standard Qualified configurations. Please refer to the DLC website for specific product qualifications at http://www.designlights.org
- Listed to UL1598 and CSA C22.2#250.0-24 for wet locations and 40°C ambient temperatures
- 1.5 G rated for ANSI C136.31 high vibration applications
- Fixture is IP65 rated
- Meets IDA recommendations using 3K CCT configuration at 0 degrees of tilt
- This product qualifies as a "designated country construction material" per FAR 52.225-11 Buy American-Construction Materials under Trade Agreements effective 04/23/2020.

WARRANTY
- 5 year warranty

KEY DATA	
Lumen Range	5,000–80,000
Wattage Range	36–600
Efficacy Range (LPW)	92–155
Weight lbs. (kg)	13.7-30.9 (6.2-13.9)

Submitted by Swaney Lighting	Catalog Number:	Type:
Job Name: SKYVIEW DRIVE APARTMENTS Designer & Consultants: Swaney Application Design	VP-1-160L-135-3K7-4W-UNV-A-*** Notes:	**A4** SLA22-53562

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DATE: | LOCATION:

TYPE: | PROJECT:

CATALOG #:

VIPER Area/Site

VIPER LUMINAIRE

MICROSTRIKE OPTICS – ORDERING GUIDE

Example: VP–2–320L-145–3K7–2–R–UNV–A3–BLT

CATALOG #

Series (VP)

VP	Viper

Optic Platform

Micro Strike

Size

1	Size 1
2	Size 2
3	Size 3
4	Size 4

Light Engine

Size		
1	160L-35 [6]	5500 lumens
1	160L-50 [6]	7500 lumens
1	160L-75	10000 lumens
1	160L-100	12500 lumens
1	160L-115	15000 lumens
1	160L-135	18000 lumens
1	160L-160	21000 lumens
2	320L-145	21000 lumens
2	320L-170	24000 lumens
2	320L-185	27000 lumens
2	320L-210	30000 lumens
2	320L-235	33000 lumens
2	320L-255	36000 lumens
2	320L-315 [6]	40000 lumens
3	480L-285	40000 lumens
3	480L-320	44000 lumens
3	480L-340	48000 lumens
3	480L-390	52000 lumens
3	480L-425	55000 lumens
3	480L-470	60000 lumens
4	720L-435	60000 lumens
4	720L-475	65000 lumens
4	720L-515	70000 lumens
4	720L-565 [6]	75000 lumens
4	720L-600 [6]	80000 lumens
	CLO	Custom Lumen Output [1]

CCT/CRI

AP	AP-Amber Phosphor Converted
27K8	2700K, 80 CRI
3K7	3000K, 70 CRI
3K8	3000K, 80 CRI
35K8	3500K, 80 CRI
3K9	3000K, 90 CRI
4K7	4000K, 70 CRI
4K8	4000K, 80 CRI
4K9	4000K, 90 CRI
5K7	5000K, 70 CRI
5K8	5000K, 80 CRI

Distribution

2	Type 2
3	Type 3
4F	Type 4 Forward
4W	Type 4 Wide
5QW	Type 5 Square Wide

Optic Rotation

BLANK	No Rotation
L	Optic rotation left
R	Optic rotation right

Voltage

UNV	120-277V
120	120V
208	208V
240	240V
277	277V
347	347V
480	480V

Mounting

A	Arm mount for square pole/flat surface
A_	Arm mount for round pole [2]
ASQU	Universal arm mount for square pole
A_U	Universal arm mount for round pole [2]
AAU	Adjustable arm for pole mounting (universal drill pattern)
AA_U	Adjustable arm mount for round pole [2]
ADU	Decorative upswept Arm (universal drill pattern)
AD_U	Decorative upswept arm mount for round pole [2]
MAF	Mast arm fitter for 2-3/8" OD horizontal arm
K	Knuckle
T	Trunnion
WB	Wall Bracket, horizontal tenon with MAF
WM	Wall mount bracket with decorative upswept arm
WA	Wall mount bracket with adjustable arm

Specify Stnd. finish

Color

BLT	Black Matte Textured
BLS	Black Gloss Smooth
DBT	Dark Bronze Matte Textured
DBS	Dark Bronze Gloss Smooth
GTT	Graphite Matte Textured
LGS	Light Grey Gloss Smooth
LGT	Light Grey Gloss Textured
PSS	Platinum Silver Smooth
WHT	White Matte Textured
WHS	White Gloss Smooth
VGT	Verde Green Textured
Color Option	
CC	Custom Color

Options

F	Fusing
2PF	Dual Power Feed
2DR	Dual Driver
TE	Toolless Entry
BC	Backlight Control
TB	Terminal Block

Network Control Options

NXWS16F	NX Networked Wireless Enabled Integral NXSMP2-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming [1,3,4]
NXWS40F	NX Networked Wireless Enabled Integral NXSMP2-HMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming [1,3,4]
NXW	NX Networked Wireless Radio Module NXRM2 and Bluetooth Programming, without Sensor [3,4]
WIR	wiSCAPE® In-Fixture Module [3,4]
WIRSC	wiSCAPE® Module and Occupancy Sensor [3,4]
Stand Alone Sensors	
BTS-14F	Bluetooth® Programmable, BTSMP-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens
BTS-40F	Bluetooth® Programmable, BTSMP-HMO PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens
BTSO-12F	Bluetooth® Programmable, BTSMP-OMNI-O PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens
7PR	7-Pin Receptacle [4]
7PR-SC	7-Pin Receptacle with shorting cap [4]
3PR	3-Pin twist lock [4]
3PR-SC	3-Pin receptacle with shorting cap [4]
3PR-TL	3-Pin PCR with photocontrol [4]
Programmed Controls	
ADD	AutoDim Timer Based Dimming [4]
ADT	AutoDim Time of Day Dimming [4]
Photocontrols	
PC	Button Photocontrol [4,7]

1 – Items with a grey background can be done as a custom order. Contact brand representative for more information
2 – Replace "_" with "2" for 2.5"-3.4" OD pole, "3" for 3.5"-4.13" OD pole, "4" for 4.18"-5.25" OD pole, "5" for 5.5"-6.5" OD pole
3 – Networked Controls cannot be combined with other control options
4 – Not available with 2PF option
5 – Not available with Dual Driver option
6 – Some voltage restrictions may apply when combined with controls
7 – Not available with 480V

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DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

VIPER Area/Site

VIPER LUMINAIRE

DELIVERED LUMENS

For delivered lumens, please see Lumens Data PDF on www.Currentlighting.com

PROJECTED LUMEN MAINTENANCE

Ambient Temp.	0	25,000	*TM-21-11 36,000	50,000	100,000	Calculated L_{70} (Hours)
25°C / 77°F	1.00	0.97	0.96	0.95	0.91	408,000
40°C / 104°F	0.99	0.96	0.95	0.94	0.89	356,000

LUMINAIRE AMBIENT TEMPERATURE FACTOR (LATF)

Ambient Temperature		Lumen Multiplier
0°C	32°F	1.03
10°C	50°F	1.01
20°C	68°F	1.00
25°C	77°F	1.00
30°C	86°F	0.99
40°C	104°F	0.98

Micro Strike Lumen Multiplier			
CCT	70 CRI	80 CRI	90 CRI
2700K	–	0.841	–
3000K	0.977	0.861	0.647
3500K	–	0.900	–
4000K	1	0.926	0.699
5000K	1	0.937	0.791
Monochromatic Amber Multiplier			
Amber	0.250		

Strike Lumen Multiplier			
CCT	70 CRI	80 CRI	90 CRI
2700K	–	0.859	–
3000K	0.941	0.912	0.703
3500K	–	0.906	–
4000K	1	0.894	0.734
5000K	1	0.879	0.711
Monochromatic Amber Multiplier			
Amber	0.255		

DATE: | LOCATION:
TYPE: | PROJECT:
CATALOG #:

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VIPER Area/Site

VIPER LUMINAIRE

ELECTRICAL DATA: MICRO STRIKE

# OF LEDS	160						
NOMINAL WATTAGE	35	50	75	100	115	135	160
SYSTEM POWER (W)	34.9	50.5	72.1	97.2	111.9	132.2	157.8
INPUT VOLTAGE (V)	CURRENT (Amps)						
120	0.29	0.42	0.63	0.83	0.96	1.13	1.33
208	0.17	0.24	0.36	0.48	0.55	0.65	0.77
240	0.15	0.21	0.31	0.42	0.48	0.56	0.67
277	0.13	0.18	0.27	0.36	0.42	0.49	0.58
347	0.10	0.14	0.22	0.29	0.33	0.39	0.46
480	0.07	0.10	0.16	0.21	0.24	0.28	0.33

# OF LEDS	320						
NOMINAL WATTAGE	145	170	185	210	235	255	315
SYSTEM POWER (W)	150	166.8	185.7	216.2	240.9	261.5	312
INPUT VOLTAGE (V)	CURRENT (Amps)						
120	1.21	1.42	1.54	1.75	1.96	2.13	2.63
208	0.70	0.82	0.89	1.01	1.13	1.23	1.51
240	0.60	0.71	0.77	0.88	0.98	1.06	1.31
277	0.52	0.61	0.67	0.76	0.85	0.92	1.14
347	0.42	0.49	0.53	0.61	0.68	0.73	0.91
480	0.30	0.35	0.39	0.44	0.49	0.53	0.66

# OF LEDS	480					
NOMINAL WATTAGE	285	320	340	390	425	470
SYSTEM POWER (W)	286.2	316.7	338.4	392.2	423.2	468
INPUT VOLTAGE (V)	CURRENT (Amps)					
120	2.38	2.67	2.83	3.25	3.54	3.92
208	1.37	1.54	1.63	1.88	2.04	2.26
240	1.19	1.33	1.42	1.63	1.77	1.96
277	1.03	1.16	1.23	1.41	1.53	1.70
347	0.82	0.92	0.98	1.12	1.22	1.35
480	0.59	0.67	0.71	0.81	0.89	0.98

# OF LEDS	720				
NOMINAL WATTAGE	435	475	515	565	600
SYSTEM POWER (W)	429.3	475	519.1	565.2	599.9
INPUT VOLTAGE (V)	CURRENT (Amps)				
120	3.63	3.96	4.29	4.71	5.00
208	2.09	2.28	2.48	2.72	2.88
240	1.81	1.98	2.15	2.35	2.50
277	1.57	1.71	1.86	2.04	2.17
347	1.25	1.37	1.48	1.63	1.73
480	0.91	0.99	1.07	1.18	1.25

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DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

VIPER Area/Site

VIPER LUMINAIRE

ELECTRICAL DATA: STRIKE

# OF LEDS	36				
NOMINAL WATTAGE	39	55	85	105	120
SYSTEM POWER (W)	39.6	56.8	83.6	108.2	120.9
INPUT VOLTAGE (V)	CURRENT (Amps)				
120	0.33	0.46	0.71	0.88	0.96
208	0.19	0.26	0.41	0.50	0.55
240	0.16	0.23	0.35	0.44	0.48
277	0.14	0.20	0.31	0.38	0.42
347	0.11	0.16	0.24	0.30	0.33
480	0.08	0.11	0.18	0.22	0.24

# OF LEDS	72				
NOMINAL WATTAGE	115	145	180	210	240
SYSTEM POWER (W)	113.7	143.2	179.4	210.2	241.7
INPUT VOLTAGE (V)	CURRENT (Amps)				
120	1.00	1.21	1.50	1.75	1.79
208	0.58	0.70	0.87	1.01	1.03
240	0.50	0.60	0.75	0.88	0.90
277	0.43	0.52	0.65	0.76	0.78
347	0.35	0.42	0.52	0.61	0.62
480	0.25	0.30	0.38	0.44	0.45

# OF LEDS	108				
NOMINAL WATTAGE	215	250	280	325	365
SYSTEM POWER (W)	214.8	250.8	278.3	324.7	362.6
INPUT VOLTAGE (V)	CURRENT (Amps)				
120	2.00	2.08	2.33	3.04	2.67
208	1.15	1.20	1.35	1.75	1.54
240	1.00	1.04	1.17	1.52	1.33
277	0.87	0.90	1.01	1.32	1.16
347	0.69	0.72	0.81	1.05	0.92
480	0.50	0.52	0.58	0.76	0.67

# OF LEDS		162				
NOMINAL WATTAGE	320	365	405	445	485	545
SYSTEM POWER (W)	322.1	362.6	403.6	445.1	487.1	543.9
INPUT VOLTAGE (V)		CURRENT (Amps)				
120	2.71	2.67	3.38	3.71	4.04	4.54
208	1.56	1.54	1.95	2.14	2.33	2.62
240	1.35	1.33	1.69	1.85	2.02	2.27
277	1.17	1.16	1.46	1.61	1.75	1.97
347	0.94	0.92	1.17	1.28	1.40	1.57
480	0.68	0.67	0.84	0.93	1.01	1.14

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VIPER Area/Site

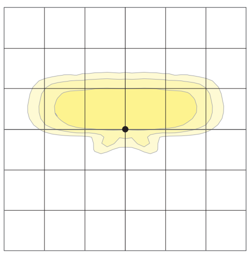
VIPER LUMINAIRE

DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

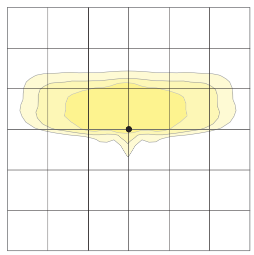
MICRO STRIKE PHOTOMETRY

The following diagrams represent the general distribution options offered for this product. For detailed information on specific product configurations, see website photometric test reports.

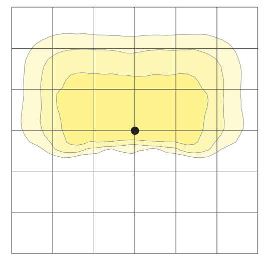
Type 2



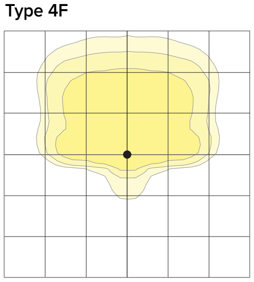
Type 3



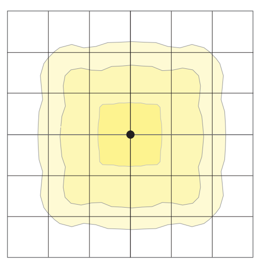
Type 4 Wide



Type 4F



Type 5QW



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VIPER Area/Site

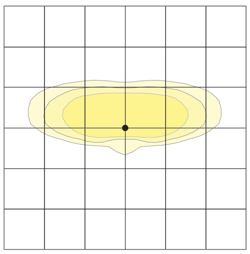
VIPER LUMINAIRE

DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

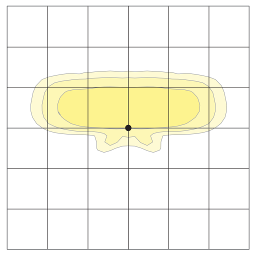
OPTIC STRIKE PHOTOMETRY

The following diagrams represent the general distribution options offered for this product. For detailed information on specific product configurations, see website photometric test reports.

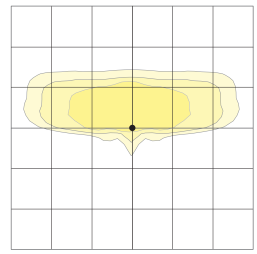
Type FR – Front Row/Auto Optic



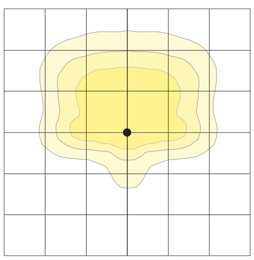
Type 2



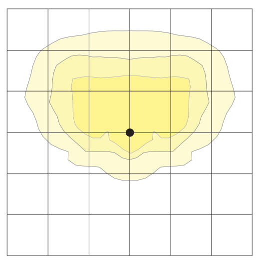
Type 3



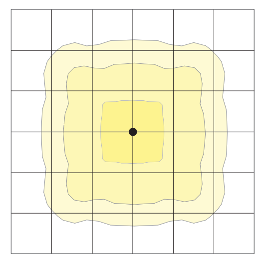
Type 4 Forward



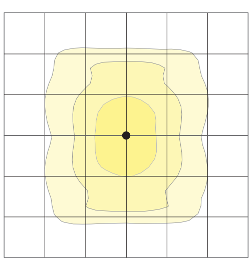
Type 4 Wide



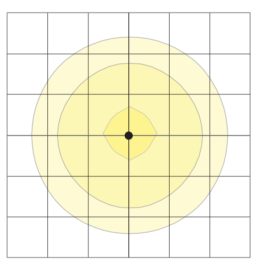
Type 5QM



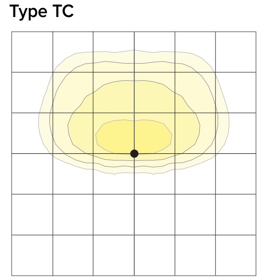
Type 5R (rectangular)



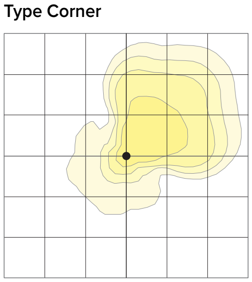
Type 5W (round wide)



Type TC



Type Corner



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VIPER Area/Site

VIPER LUMINAIRE

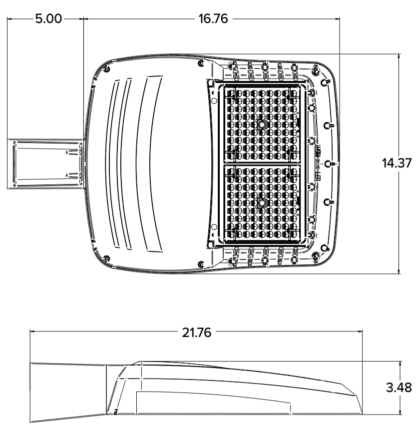
DATE: LOCATION:

TYPE: PROJECT:

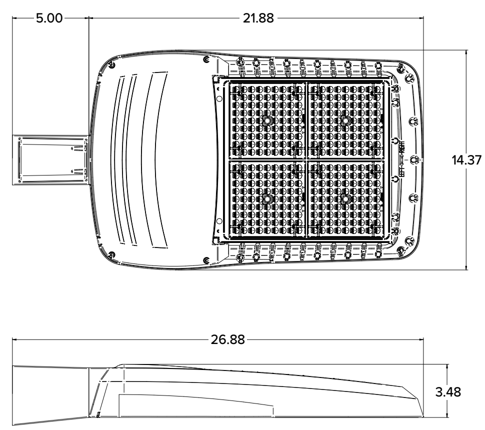
CATALOG #:

DIMENSIONS

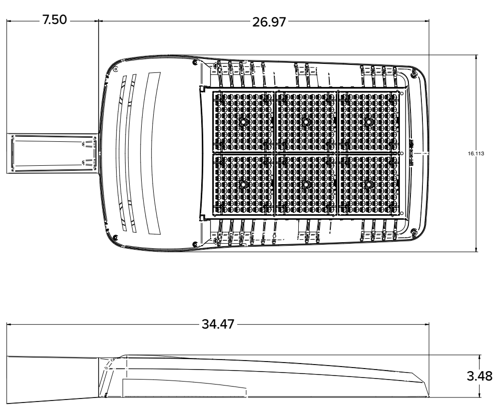
SIZE 1



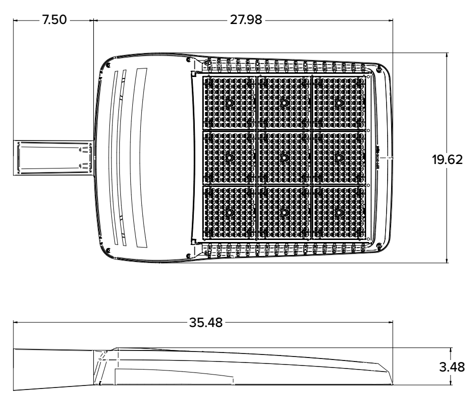
SIZE 2



SIZE 3



SIZE 4



	EPA				
	VP1 (Size 1)	VP2 (Size 2)	VP3 (Size 3)	VP4 (Size 4)	Config.
Single Fixture	0.454	0.555	0.655	0.698	
Two at 180	0.908	1.110	1.310	1.396	
Two at 90	0.583	0.711	0.857	0.948	
Three at 90	1.037	1.266	1.512	1.646	
Three at 120	0.943	1.155	1.392	1.680	
Four at 90	1.166	1.422	1.714	1.896	

	Weight	
	lbs	kgs
VP1 (Size 1)	13.7	6.2
VP2 (Size 2)	16.0	7.26
VP3 (Size 3)	25.9	11.7
VP4 (Size 4)	30.8	13.9

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

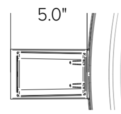
VIPER Area/Site

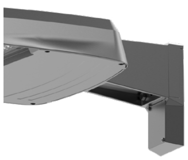
VIPER LUMINAIRE

MOUNTING

A–STRAIGHT ARM MOUNT

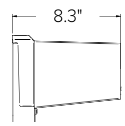
Fixture ships with integral arm for ease of installation. Compatible with Current Outdoor B3 drill pattern. For round poles add applicable suffix (2/3/4/5)

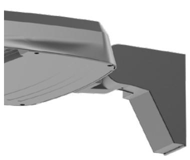




ASQU–UNIVERSAL ARM MOUNT

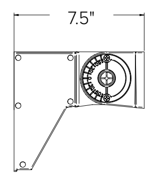
Universal mounting block for ease of installation. Compatible with drill patterns from 2.5" to 4.5" and Current drill pattern S2. For round poles add applicable suffix (2/3/4/5)

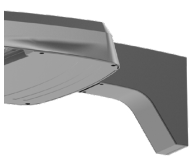




AAU–ADJUSTABLE ARM FOR POLE MOUNTING

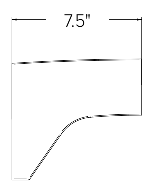
Rotatable arm mounts directly to pole. Compatible with drill patterns from 2.5" to 4.5" and Current drill pattern S2. For round poles add applicable suffix (2/3/4/5). Rotatable in 15˚ aiming angle increments. Micro Strike configurations have a 45° aiming limitation.
Strike configurations have a 30° aiming limitation.

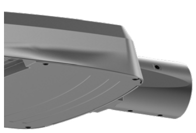




ADU–DECORATIVE UPSWEPT ARM

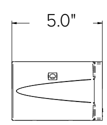
Upswept Arm compatible with drill patterns from 2.5" to 4.5". For round poles add applicable suffix (2/3/4/5).

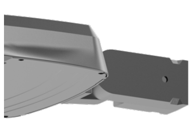




MAF–MAST ARM FITTER

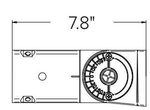
Fits 2-3/8" OD horizontal tenons.

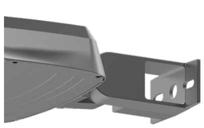




K–KNUCKLE

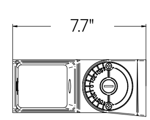
Knuckle mount 15˚ aiming angle increments for precise aiming and control, fits 2-3/8" tenons or pipes. Micro Strike configurations have a 45° aiming limitation. Strike configurations have a 30° aiming limitation.





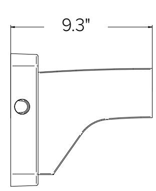
T–TRUNNION

Trunnion for surface and crossarm mounting using (1) 3/4" or (2) 1/2" size through bolts. Micro Strike configurations have a 45° aiming limitation. Strike configurations have a 30° aiming limitation.



WM–WALL MOUNT

Compatible with universal arm mount, adjustable arm mount, and decorative arm mount. The WA option uses the same wall bracket but replaces the decorative arm with an adjustable arm.



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VIPER Area/Site

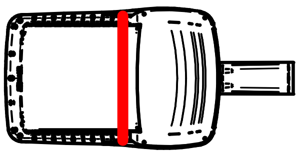
VIPER LUMINAIRE

DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

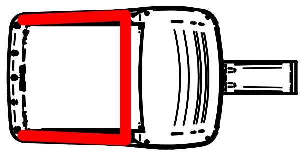
ADDITIONAL INFORMATION (CONTINUED)

HOUSE SIDE SHIELD FIELD INSTALL ACCESSORIES

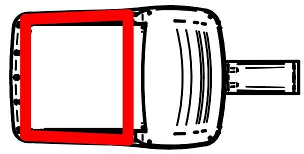
VPR2x HSS-90-B-xx



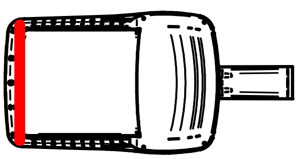
VPR2x HSS-270-BSS-xx



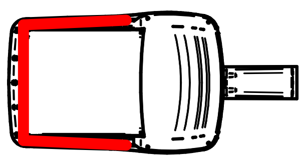
VPR2x HSS-360-xx



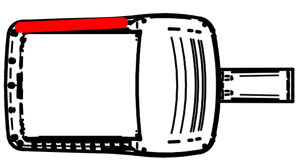
VPR2x HSS-90-F-xx



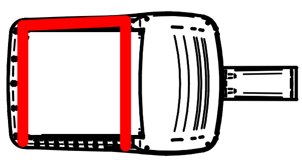
VPR2x HSS-270-FSS-xx



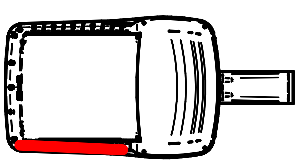
VPR2x HSS-90-S-xx



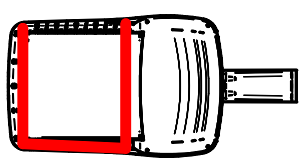
VPR2x HSS-270-FSB-xx



VPR2x HSS-90-S-xx



VPR2x HSS-270-FSB-xx



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DATE: | LOCATION:
TYPE: | PROJECT:
CATALOG #:

VIPER Area/Site

VIPER LUMINAIRE

ADDITIONAL INFORMATION (CONTINUED)

PROGRAMMED CONTROLS

ADD-AutoDim Timer Based Options

- Light delay options from 1-9 hours after the light is turned on to dim the light by 10-100%. To return the luminaire to its original light level there are dim return options from 1-9 hours after the light has been dimmed previously.

EX: ADD-6-5-R6

ADD Control Options	Configurations Choices	Example Choice Picked
Auto-Dim Options	1-9 Hours	6 - Delay 6 hours
Auto-Dim Brightness	10-100% Brightness	5 - Dim to 50% brightness
Auto-Dim Return	Delay 0-9 Hours	R6 - Return to full output after 6 hours

ADT-AutoDim Time of Day Based Option

- Light delay options from 1AM-9PM after the light is turned on to dim the light by 10-100%. To return the luminaire to its original light level there are dim return options from 1AM-9PM after the light has been dimmed previously.

EX: ADT-6-5-R6

ADD Control Options	Configurations Choices	Example Choice Picked
Auto-Dim Options	12-3 AM and 6-11 PM	6 - Dim at 6PM
Auto-Dim Brightness	10-100% Brightness	5 - Dim to 50%
Auto-Dim Return	12-6 AM and 9-11P	R6 - Return to full output at 6AM

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Job Name:
SKYVIEW DRIVE APARTMENTS
Designer & Consultants: Swaney Application Design

Catalog Number:
SSSB20-40A-1-B3-***

Notes:

Type:
A4
SLA22-53562

DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

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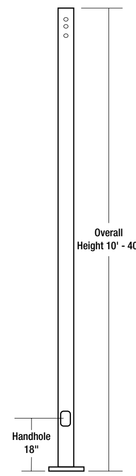
SSS-B Series Poles

SQUARE STRAIGHT STEEL



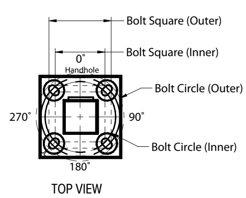
APPLICATIONS
- Lighting installations for side and top mounting of luminaires with effective projected area (EPA) not exceeding maximum allowable loading of the specified pole in its installed geographic location

CONSTRUCTION
- SHAFT: One-piece straight steel with square cross section, flat sides and minimum 0.23" radius on all corners; Minimum yield of 46,000 psi (ASTM-A500, Grade B); Longitudinal weld seam to appear flush with shaft side wall; Steel base plate with axial bolt circle slots welded flush to pole shaft having minimum yield of 36,000 psi (ASTM A36)
- BASE COVER: Two-piece square aluminum base cover included standard
- POLE CAP: Pole shaft supplied with removable cover when applicable; Tenon and post-top configurations also available
- HAND HOLE: Rectangular 3x5 steel hand hole frame (2.38" x 4.38" opening); Mounting provisions for grounding lug located behind gasketed cover
- ANCHOR BOLTS: Four galvanized anchor bolts provided per pole with minimum yield of 55,000 psi (ASTM F1554). Galvanized hardware with two washers and two nuts per bolt for leveling

  Anchor bolt part numbers: 3/4 x 30 x 3 — TAB-30-M38
  1 x 36 x 4 — TAB-36-M38

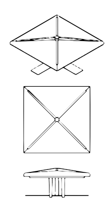
FINISH
- Durable thermoset polyester powder coat paint finish with nominal 3.0 mil thickness
- Powder paint prime applied over "white metal" steel substrate cleaned via mechanical shot blast method
- Decorative finish coat available in multiple standard colors; Custom colors available; RAL number preferable

WAREHOUSE 'STOCKED' POLES:
- SSSH20-40A-4-HV-DB-RDC, SSSH25-40A-4-HV-DB-RDC and SSSH30-50B-4-HV-DB-RDC
- The HV designation in the above catalog numbers is a combination drill pattern of the Current S2 pattern and the Beacon B3/B4 Viper pattern (rectangular arm mounting)

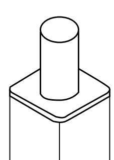


TOP VIEW

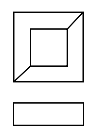
POLE CAP



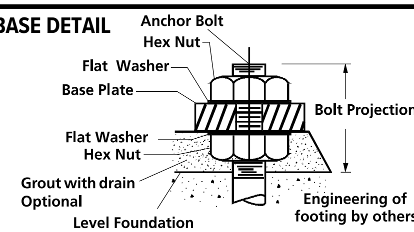
TENON



BASE COVER



BASE DETAIL



ORDERING INFORMATION

ORDERING EXAMPLE: SSS -B - 25 - 40 - A/B/C - 2L - B3 - Specify Stnd. finish - UL

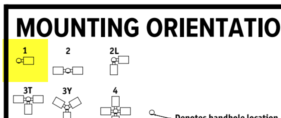
Reference page 2 for available configurations

SERIES	HEIGHT	SHAFT	THICKNESS	MOUNTING
SSS-B Square Straight Steel Pole Beacon	Reference page 2 Ordering matrix **20**	Reference page 2 Ordering matrix **40**	Reference page 2 Ordering matrix **A**	**1** Single arm mount
				2 Two fixtures at 180˚
				2L Two fixtures at 90˚
				3T Three fixtures at 90˚
				4 Four fixtures at 90˚
				TA Tenon (2.38" OD x 4" Tall)
				TB Tenon (2.88" OD x 4" Tall)
				TC Tenon (3.5" OD x 6" Tall)
				TR[1] Removable Tenon (2.375 x 4.25)
				OT Open Top (includes pole cap)

FINISH	
BLT	Black Matte Textured
BLS	Black Gloss Smooth
DBT	Dark Bronze Matte Textured
DBS	Dark Bronze Gloss Smooth
GTT	Graphite Matte Textured
LGS	Light Grey Gloss Smooth
PSS	Platinum Silver Smooth
WHT	White Matte Textured
WHS	White Gloss Smooth
VGT	Verde Green Textured
Color Option	
CC	Custom Color

OPTIONS	
GFI[2]	20 Amp GFCI Receptacle and Cover
EHH[2]	Extra Handhole
C05[2]	.5" Coupling
C07[2]	.75" Coupling
C20[2]	2" Coupling
MPB[2]	Mid-pole Luminaire Bracket
VM2	2nd mode vibration damper
LAB	Less Anchor Bolts
UL	UL Certified

MOUNTING ORIENTATION



1 Removable tenon used in conjunction with side arm mounting. First specify desired arm configuration followed by the **"TR"** notation. Example: **SSS-B-25-40-A-1-B1-TR-BBT**
2 Specify option location using logic found on page 2 **(Option Orientation)**
3 VM1 recommended on poles 20' and taller with EPA of less than 1.

DRILL PATTERN	
B1	Cruzer, "AM" arm
B3	2 bolt (2-½" spacing), Viper "A" arm
S2	2 bolt (3-½" spacing), Viper "AD" arm

ACCESSORIES - Order Separately

Catalog Number	Description
VM1[3]	1st mode vibration damper
VM2SXX	2nd mode vibration damper

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SSS-B Series Poles

SQUARE STRAIGHT STEEL

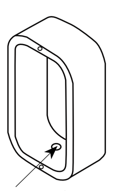
DATE: LOCATION:
TYPE: PROJECT:
CATALOG #:

ORDERING INFORMATION Cont.

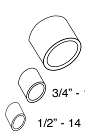
Catalog Number	Height		Nominal Shaft Dimensions	Wall Thick-ness	Bolt Circle (suggested)	Bolt Circle (range)	Bolt Square (range)	Base Plate Square	Anchor bolt size	Bolt Projection	Pole weight
	Feet	Meters									
SSS-B-10-40-A-XX-XX	10	3.0	4" square	0.125"	9"	8" - 10"	5.66" - 7.07"	9"	3/4" x 30" x 3"	3.5	77
SSS-B-12-40-A-XX-XX	12	3.7	4" square	0.125"	9"	8" - 10"	5.66" - 7.07"	9"	3/4" x 30" x 3"	3.5	90
SSS-B-14-40-A-XX-XX	14	4.3	4" square	0.125"	9"	8" - 10"	5.66" - 7.07"	9"	3/4" x 30" x 3"	3.5	103
SSS-B-16-40-A-XX-XX	16	4.9	4" square	0.125"	9"	8" - 10"	5.66" - 7.07"	9"	3/4" x 30" x 3"	3.5	116
SSS-B-18-40-A-XX-XX	18	5.5	4" square	0.125"	9"	8" - 10"	5.66" - 7.07"	9"	3/4" x 30" x 3"	3.5	129
SSS-B-20-40-A-XX-XX	20	6.1	4" square	0.125"	9"	8" - 10"	5.66" - 7.07"	9"	3/4" x 30" x 3"	3.5	142
SSS-B-25-40-A-XX-XX	25	7.6	4" square	0.125"	9"	8" - 10"	5.66" - 7.07"	9"	3/4" x 30" x 3"	3.5	175
SSS-B-14-40-B-XX-XX	14	4.3	4" square	.188"	11"	10" - 12"	7.07" - 8.48"	10.50"	3/4" x 30" x 3"	3.5	152
SSS-B-16-40-B-XX-XX	16	4.9	4" square	.188"	11"	10" - 12"	7.07" - 8.48"	10.50"	3/4" x 30" x 3"	3.5	171
SSS-B-18-40-B-XX-XX	18	5.5	4" square	.188"	11"	10" - 12"	7.07" - 8.48"	10.50"	3/4" x 30" x 3"	3.5	190
SSS-B-20-40-B-XX-XX	20	6.1	4" square	.188"	11"	10" - 12"	7.07" - 8.48"	10.50"	3/4" x 30" x 3"	3.5	209
SSS-B-25-40-B-XX-XX	25	7.6	4" square	.188"	11"	10" - 12"	7.07" - 8.48"	10.50"	3/4" x 30" x 3"	3.5	257
SSS-B-30-40-B-XX-XX	30	9.1	4" square	.188"	11"	10" - 12"	7.07" - 8.48"	10.50"	3/4" x 30" x 3"	3.5	304
SSS-B-16-50-B-XX-XX	16	4.9	5" square	.188"	11"	10.25" - 13.25"	7.25" - 9.37"	11.50"	1" x 36" x 4"	4.5	219
SSS-B-18-50-B-XX-XX	18	5.5	5" square	.188"	11"	10.25" - 13.25"	7.25" - 9.37"	11.50"	1" x 36" x 4"	4.5	243
SSS-B-20-50-B-XX-XX	20	6.1	5" square	.188"	11"	10.25" - 13.25"	7.25" - 9.37"	11.50"	1" x 36" x 4"	4.5	267
SSS-B-25-50-B-XX-XX	25	7.6	5" square	.188"	11"	10.25" - 13.25"	7.25" - 9.37"	11.50"	1" x 36" x 4"	4.5	327
SSS-B-30-50-B-XX-XX	30	9.1	5" square	.188"	11"	10.25" - 13.25"	7.25" - 9.37"	11.50"	1" x 36" x 4"	4.5	387
SSS-B-25-50-C-XX-XX	25	7.6	5" square	.25"	11"	10.25" - 13.25"	7.25" - 9.37"	11.50"	1" x 36" x 4"	4.5	427
SSS-B-30-50-C-XX-XX	30	9.1	5" square	.25"	11"	10.25" - 13.25"	7.25" - 9.37"	11.50"	1" x 36" x 4"	4.5	507
SSS-B-20-60-B-XX-XX	20	6.1	6" square	.188"	12"	11.00" - 13.25"	7.81" - 9.37"	12.25"	1" x 36" x 6"	4.5	329
SSS-B-25-60-B-XX-XX	25	7.6	6" square	.188"	12"	11.00" - 13.25"	7.81" - 9.37"	12.25"	1" x 36" x 6"	4.5	404
SSS-B-30-60-B-XX-XX	30	9.1	6" square	.188"	12"	11.00" - 13.25"	7.81" - 9.37"	12.25"	1" x 36" x 6"	4.5	479
SSS-B-35-60-B-XX-XX	35	10.7	6" square	.188"	12"	11.00" - 13.25"	7.81" - 9.37"	12.25"	1" x 36" x 6"	4.5	554
SSS-B-40-60-B-XX-XX	40	12.2	6" square	.188"	12"	11.00" - 13.25"	7.81" - 9.37"	12.25"	1" x 36" x 6"	4.5	629

NOTE Factory supplied template must be used when setting anchor bolts. Beacon Products will deny any claim for incorrect anchorage placement resulting from failure to use factory supplied template and anchor bolts.

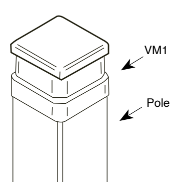
EHH - EXTRA HANDHOLE



C05 - C07 - C20 - COUPLING

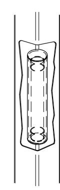


VM1 - VIBRATION DAMPER 1ST MODE



Field Installed Pole Top damper designed to reduce pole top deflection or sway. VM1 is recommended for pole systems 25' and taller with a total EPA of 1.0 or less.

VM2 - VIBRATION DAMPER 2ND MODE



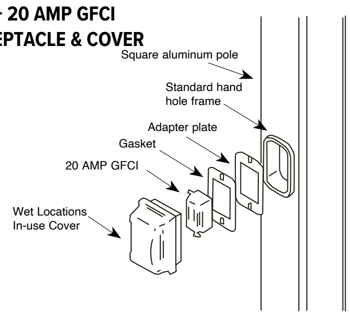
Factory installed, internal damper designed to alter pole resonance to reduce movement and material fatigue caused by 2nd mode vibration.

VM2SXX - VIBRATION DAMPER 2ND MODE

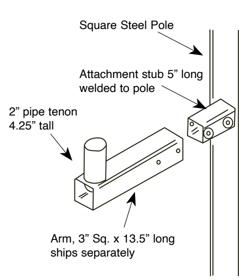
VM2S08 – 8'
VM2S12 – 12'
VM2S16 – 16'
VM2S20 – 20'
VM2S24 – 24'

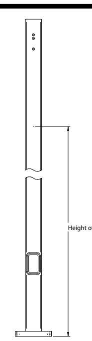
Field installed, internal damper designed to alter pole resonance to reduce movement and material fatigue caused by 2nd mode vibration.

GFI – 20 AMP GFCI RECEPTACLE & COVER



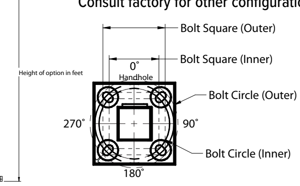
MPB - MID POLE BRACKET





OPTION ORIENTATION

Follow the logic below when ordering location specific options. For each option, include its orientation (in degrees) and its height (in feet). Example: Option C07 should be ordered as: **SSS-B-20-40-A-TA-DB-C05-0-15** (.5" coupling on the handhole/arm side of pole, 15 feet up from the pole base) 1' spacing required between option. Consult factory for other configurations.



For more information about pole vibration and vibration dampers, please consult our website.
Due to our continued efforts to improve our products, product specifications are subject to change without notice.

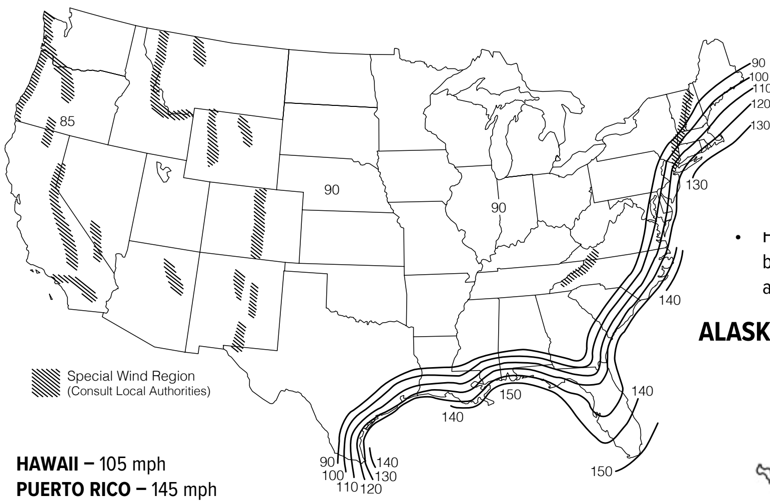
BEACON
design . performance . technology

SSS-B Series Poles

SQUARE STRAIGHT STEEL

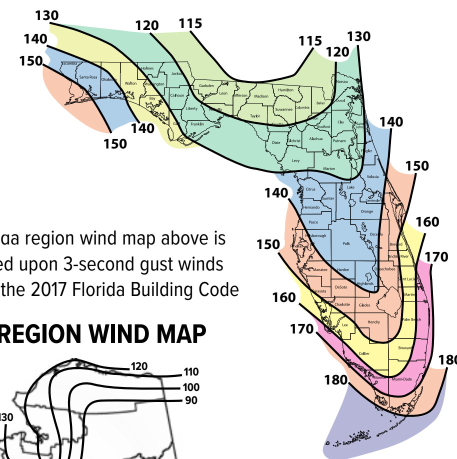
DATE: | LOCATION:
TYPE: | PROJECT:
CATALOG #:

ASCE7-05 WIND MAP



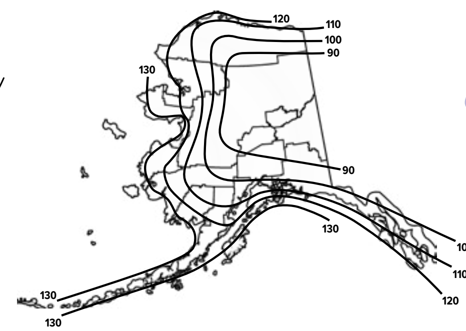
HAWAII – 105 mph
PUERTO RICO – 145 mph

FLORIDA REGION WIND MAP



- Florida region wind map above is based upon 3-second gust winds and the 2017 Florida Building Code

ALASKA REGION WIND MAP



ASCE 7-05 wind map EPA Load Rating - 3 second gust wind speeds (Use for all locations except Florida)										
Catalog Number	85	90	100	105	110	120	130	140	145	150
SSS-B-10-40-A	25.0	25.0	25.0	22.8	20.6	17.0	14.2	11.9	11.0	10.1
SSS-B-12-40-A	25.0	25.0	20.0	18.0	16.1	13.2	10.8	8.9	8.1	7.4
SSS-B-14-40-A	23.1	20.4	16.1	14.3	12.8	10.2	8.2	6.6	5.9	5.3
SSS-B-16-40-A	19.0	16.7	13.0	11.5	10.1	7.9	6.2	4.7	4.1	3.6
SSS-B-18-40-A	15.6	13.6	10.0	9.0	7.8	5.9	4.4	3.1	2.6	2.1
SSS-B-20-40-A	12.7	10.9	7.9	6.9	5.9	4.2	2.8	1.7	1.3	0.9
SSS-B-25-40-A	7.3	5.9	3.8	2.9	2.1	0.8	NR	NR	NR	NR
SSS-B-14-40-B	25.0	25.0	23.3	20.8	18.6	15.1	12.3	10.2	9.2	8.4
SSS-B-16-40-B	25.0	24.9	19.4	17.3	15.4	12.3	9.9	8.0	7.2	6.4
SSS-B-18-40-B	24.0	20.8	16.1	14.2	12.5	9.8	7.7	6.1	5.3	4.7
SSS-B-20-40-B	20.2	17.5	13.2	11.6	10.1	7.7	5.9	4.4	3.8	3.2
SSS-B-25-40-B	12.8	11.0	7.9	6.7	5.5	3.7	2.3	1.2	0.7	NR
SSS-B-30-40-B	8.0	6.6	4.1	3.1	2.2	0.8	NR	NR	NR	NR
SSS-B-16-50-B	25.0	25.0	25.0	25.0	24.8	20.1	16.5	13.6	12.3	11.2
SSS-B-18-50-B	25.0	25.0	25.0	22.9	20.4	16.4	13.2	10.7	9.6	8.6
SSS-B-20-50-B	25.0	25.0	21.3	18.9	16.7	13.2	10.4	8.1	7.2	6.3
SSS-B-25-50-B	20.7	17.8	13.3	11.5	9.8	7.2	5.0	3.3	2.6	1.9
SSS-B-30-50-B	13.5	11.3	7.7	6.2	4.9	2.8	1.1	NR	NR	NR
SSS-B-25-50-C	25.0	25.0	19.4	17.1	15.1	11.7	9.0	6.9	6.0	5.1
SSS-B-30-50-C	20.1	17.3	12.7	10.9	9.3	6.6	4.5	2.8	2.1	1.4
SSS-B-20-60-B	25.0	25.0	25.0	25.0	25.0	20.2	16.1	12.9	11.5	10.3
SSS-B-25-60-B	25.0	25.0	20.6	18.0	15.6	11.8	8.7	6.2	5.2	4.2
SSS-B-30-60-B	21.4	18.1	12.9	10.7	8.8	5.7	3.3	1.3	NR	NR
SSS-B-35-60-B	14.0	11.3	6.9	5.2	3.6	1.0	NR	NR	NR	NR
SSS-B-40-60-B	8.1	5.8	2.2	nr	NR	NR	NR	NR	NR	NR

Florida Building Code 2017 EPA Load Rating - 3 second gust wind speeds (Use for Florida only)								
Catalog Number	115	120	130	140	150	160	170	180
SSS-B-10-40-A	25.0	25.0	25.0	25.0	21.4	18.4	15.9	13.9
SSS-B-12-40-A	25.0	25.0	23.6	19.8	16.7	14.2	12.1	10.4
SSS-B-14-40-A	25.0	23.1	19.0	15.7	13.1	10.9	9.1	7.6
SSS-B-16-40-A	20.8	18.7	15.2	12.3	10.1	8.2	6.7	5.4
SSS-B-18-40-A	16.8	15.0	11.9	9.4	7.5	5.9	4.5	3.4
SSS-B-20-40-A	13.6	11.9	9.2	7.1	5.3	3.9	2.7	1.7
SSS-B-25-40-A	7.4	6.2	4.1	2.5	1.1	NR	NR	NR
SSS-B-14-40-B	25.0	23.6	19.4	16.1	13.4	11.2	9.4	7.8
SSS-B-16-40-B	21.4	19.2	15.6	12.7	10.4	8.5	6.9	5.6
SSS-B-18-40-B	17.2	15.4	12.2	9.7	7.7	6.1	4.7	3.6
SSS-B-20-40-B	13.9	12.3	9.5	7.3	5.5	4.1	2.9	1.9
SSS-B-25-40-B	7.7	6.4	4.3	2.6	1.3	NR	NR	NR
SSS-B-30-40-B	3.2	2.1	NR	NR	NR	NR	NR	NR
SSS-B-16-50-B	25.0	25.0	25.0	25.0	25.0	21.4	18.2	15.5
SSS-B-18-50-B	25.0	25.0	25.0	24.4	20.4	17.0	14.2	11.9
SSS-B-20-50-B	25.0	25.0	24.4	19.9	16.3	13.4	11.0	8.9
SSS-B-25-50-B	21.8	19.3	15.0	11.5	8.8	6.5	4.7	3.1
SSS-B-30-50-B	13.7	11.7	8.2	5.5	3.3	1.5	NR	NR
SSS-B-25-50-C	21.8	19.3	15.0	11.5	8.8	6.5	4.7	3.1
SSS-B-30-50-C	13.7	11.7	8.2	5.5	3.3	1.5	NR	NR
SSS-B-20-60-B	25.0	25.0	25.0	21.9	17.8	14.5	11.7	9.4
SSS-B-25-60-B	23.8	20.9	16.1	12.3	9.2	6.6	4.5	2.8
SSS-B-30-60-B	14.6	12.3	8.4	5.3	2.8	0.8	NR	NR
SSS-B-35-60-B	7.5	5.6	2.4	NR	NR	NR	NR	NR
SSS-B-40-60-B	1.8	NR	NR	NR	NR	NR	NR	NR

DATE: | LOCATION:

TYPE: | PROJECT:

CATALOG #:

SSS-B Series Poles

SQUARE STRAIGHT STEEL

NOTES

Wind-speed Website disclaimer:
Current has no connection to the linked website and makes no representations as to its accuracy. While the information presented on this third-party website provides a useful starting point for analyzing wind conditions, Current has not verified any of the information on this third party website and assumes no responsibility or liability for its accuracy. The material presented in the windspeed website should not be used or relied upon for any specific application without competent examination and verification of its accuracy, suitability and applicability by engineers or other licensed professionals. Current does not intend that the use of this information replace the sound judgment of such competent professionals, having experience and knowledge in the field of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the results of the windspeed report provided by this website. Users of the information from this third party website assume all liability arising from such use. Use of the output of these referenced websites do not imply approval by the governing building code bodies responsible for building code approval and interpretation for the building site described by latitude/longitude location in the windspeed report. http://windspeed.atcouncil.org

NOTES

- Allowable EPA, to determine max pole loading weight, multiply allowable EPA by 30 lbs.
- The tables for allowable pole EPA are based on the ASCE 7-05 Wind Map or the Florida Region Wind Map for the 2010 Florida Building Code. The Wind Maps are intended only as a general guide and cannot be used in conjunction with other maps. Always consult local authorities to determine maximum wind velocities, gusting and unique wind conditions for each specific application
- Allowable pole EPA for jobsite wind conditions must be equal to or greater than the total EPA for fixtures, arms, and accessories to be assembled to the pole. Responsibility lies with the specifier for correct pole selection. Installation of poles without luminaires or attachment of any unauthorized accessories to poles is discouraged and shall void the manufacturer's warranty
- Wind speeds and listed EPAs are for ground mounted installations. Poles mounted on structures (such as bridges and buildings) must consider vibration and coefficient of height factors beyond this general guide; Consult local and federal standards
- Wind Induced Vibration brought on by steady, unidirectional winds and other unpredictable aerodynamic forces are not included in wind velocity ratings.
- Extreme Wind Events like, Hurricanes, Typhoons, Cyclones, or Tornadoes may expose poles to flying debris, wind shear or other detrimental effects not included in wind velocity ratings

Due to our continued efforts to improve our products, product specifications are subject to change without notice.

Section J

Architectural Design/Narrative

October 24, 2022

Carla Nixon
Town Planner
Town of Cumberland Maine
290 Tuttle Road
Cumberland, ME 04021

Re: White Rock Apartments

Design Narrative

Dear Carla,

We are pleased to present the White Rock Apartments design to the Town of Cumberland. The following narrative describes how the proposed design responds to the Route One Design Standards in section 400 of the Zoning Ordinance.

Section 400

Building Design

All structures shall be designed in the traditional New England style of architecture whenever feasible.

Response: The proposed structure has gable roof forms with projecting bays which are traditional New England Architectural forms.

Facades

Unbroken facades in excess of 80 feet are overwhelming whether they are visible from Route 1, other roadways or pedestrian areas, or when they abut residential areas. Breaking up the plane of the wall is required to reduce this sense of overwhelming scale. Where the plane of the wall is broken, the offset shall be proportionate to the building's height and length. A general rule of thumb for such projections or recesses is that their depth shall be at least 3% of the façade's length, and they shall extend for at least 20% of the façade's length.

Response: The building design has projecting bays and gables roof forms to break up the facade lengths.

Entrances

Large structures shall have clearly defined and highly visible entrances emphasized through such devices as significant variations in rooflines or cornice lines, changes in materials, porticos, landscape treatments, distinctive lighting or other architectural treatments.

Response: The Main Entry is defined by an entry porch with columns and a change in siding material from the building above.

Materials

Traditional siding materials common to New England are brick, painted clapboard and either painted or unpainted shingles. Contemporary materials that have the same visual characteristics as traditional materials (e.g., cementitious clapboards or vinyl siding) are acceptable if attention is paid to detailing (e.g., corners, trim at openings, changes in material).

Response: The building design includes clapboard siding, shingle siding forms and asphalt roof shingles which are very common materials in New England.

Details

Architectural details, such as colonnades, pilasters, gable ends, awnings, display windows and appropriately positioned light fixtures, shall be used to reduce the scale and uniformity of larger buildings.

Response: The building design includes eave overhangs, columns and trim that is in scale with the facades of the building, and help break down the scale of those facades.

Windows

Windows shall reflect a classic New England style by featuring divided lights (window panes) and detailing trim around them.

Response: The building design includes double hung windows with divided lites and window trim

207-747-5159

senatorearchitecture.com

ryan@senatorearchitecture.com

500 Congress Street, Suite 2
Portland, Maine 04101

Awnings and Canopies

Awnings and canopies can enhance the appearance and function of a building by providing shade, shelter, shadow patterns, and visual interest. Where awnings are used, they shall complement the overall design and color of the building.

Response: The building design includes entry canopies that compliment the overall building design.

Sincerely,

Ryan Senatore, AIA LEED AP

Principal

207-747-5159

senatorearchitecture.com

ryan@senatorearchitecture.com

500 Congress Street, Suite 2
Portland, Maine 04101

Section K

Traffic Report

Barton & Loguidice

Traffic Assessment

Date: October 24, 2022

To: **Will Savage, P.E., President, Acorn Engineering, Inc.**
Travis Letellier, P.E., Project Manager, Acorn Engineering, Inc.

From: Jacob Sirois
Engineer 1
Barton & Loguidice, LLC.

William J. Bray, P.E.
Senior Managing Traffic Engineer
Barton & Loguidice, LLC.

Re: **White Rock Terrace Housing Development**
Sky View Drive, Cumberland, Maine

Introduction

The Szanton Company is proposing development of a 55-unit senior adult housing development on Sky View Drive in the Town of Cumberland (Refer to Image 1 below for the location of the proposed development site). The site will be accessed via a single full access driveway entrance located on the western side of Sky View Drive. The driveway entrance provides direct access to a parking lot which sits adjacent to the proposed residential building.

The purpose of this traffic assessment is to evaluate and measure the level of impact on traffic operations and safety resulting with the development of the proposed project. Site generated trip projections are provided for *"key"* peak hour time periods throughout a typical week; and, road safety conditions are assessed based upon a review of MaineDOT's latest three-year road safety data for the immediate section of US Route 1.

Figure 1 Proposed Development Site

Site Trip Generation

Daily and peak hour trip generation was determined for the proposed development based upon trip tables presented in the 11th edition of the Institute of Transportation Engineers (ITE) "**TRIP GENERATION MANUAL**". The ITE publication provides numerous land use categories and the average volume of trips generated by each category.

Site trip estimates for the White Rock Terrace housing development are based upon LUC #251 – Senior Adult Housing – Single Family; which is described in the ITE publication as: *a development with a specific age restriction for its residents, typically a minimum of 55 years of age for at least one resident of the household. The dwelling units may either be detached or attached.* Calculation of the total number of trips generated per each corresponding time period are summarized below in Table 1.

Table 1
ITE Trip Generation Calculations

Land Use	**Senior Adult Housing-Single Family - LUC 251**					
Time Period	**Dwelling Units**	**Trip Generation Rate Trips/Dwelling Units**	**Trips Generated**	**Distribution Entering / Exiting**	**Enter**	**Exit**
Weekday	55	4.31	237	50% / 50%	119	118
AM Weekday Peak Hour (Street)	55	0.24	13	33% / 67%	4	9
PM Weekday Peak Hour (Street)	55	0.30	17	61% / 39%	10	7
AM Weekday Peak Hour (Generator)	55	0.34	19	43% / 57%	8	11
PM Weekday Peak Hour (Generator)	55	0.39	21	56% / 44%	12	9

As presented in the preceding table, the proposed White Rock Terrace senior adult development will be a low trip generator; generating 13 trips during the morning peak hour of the street and 17 trips during the evening peak hour of the street. The trips generated during the peak hours of the site will be slightly higher, with the development producing 19 trips in the morning and 21 trips in the evening. During a typical weekday, the site is expected to produce approximately 237 daily trips.

Existing Road Safety Conditions

The Maine Department of Transportation's (MaineDOT) Accident Records Section provided the latest three-year (2019 through 2021) crash data for the segment of Route 1 between the Falmouth Town Line and the intersection at Route 1, Casco Bay Drive and Granite Ridge Road for a distance of approximately 0.47 miles. Their report is presented as follows:

2019 -2021 Traffic Accident Summary
Route 1 between Falmouth Town Line and Casco Bay Drive/Granite Ridge Road

Location	Total Crashes	Critical Rate Factor
1. Falmouth Town Line	0	0
2. Route 1 @ Casco Bay Drive and Granite Ridge Road	1	0.32
3. Route 1 btw. Falmouth Town Line and Casco Bay Drive and Granite Ridge Road	3	0.20

The MaineDOT considers any roadway intersection or segment a high crash location if both of the following criteria are met:

- ***8 or more accidents in a three-year period***
- ***A Critical Rate Factor greater than 1.00***

As the data presented in the chart shows, there are no identified high crash locations within the defined study area.

Summary

1. The proposed housing development is estimated to generate a total of 237 trips during a typical weekday. During the peak hours of the street, the development is projected to generate 13 trips in the morning and 17 trips in the evening peak hours. The peak hours of the site generate slightly higher volumes of site trips with a total of 19 trips in the morning and 21 trips in the evening peak hours. Overall, the project will be a low volume trip generator and well below the minimum MaineDOT threshold of 100 new peak hour trips ends that require a Traffic Movement Permit.

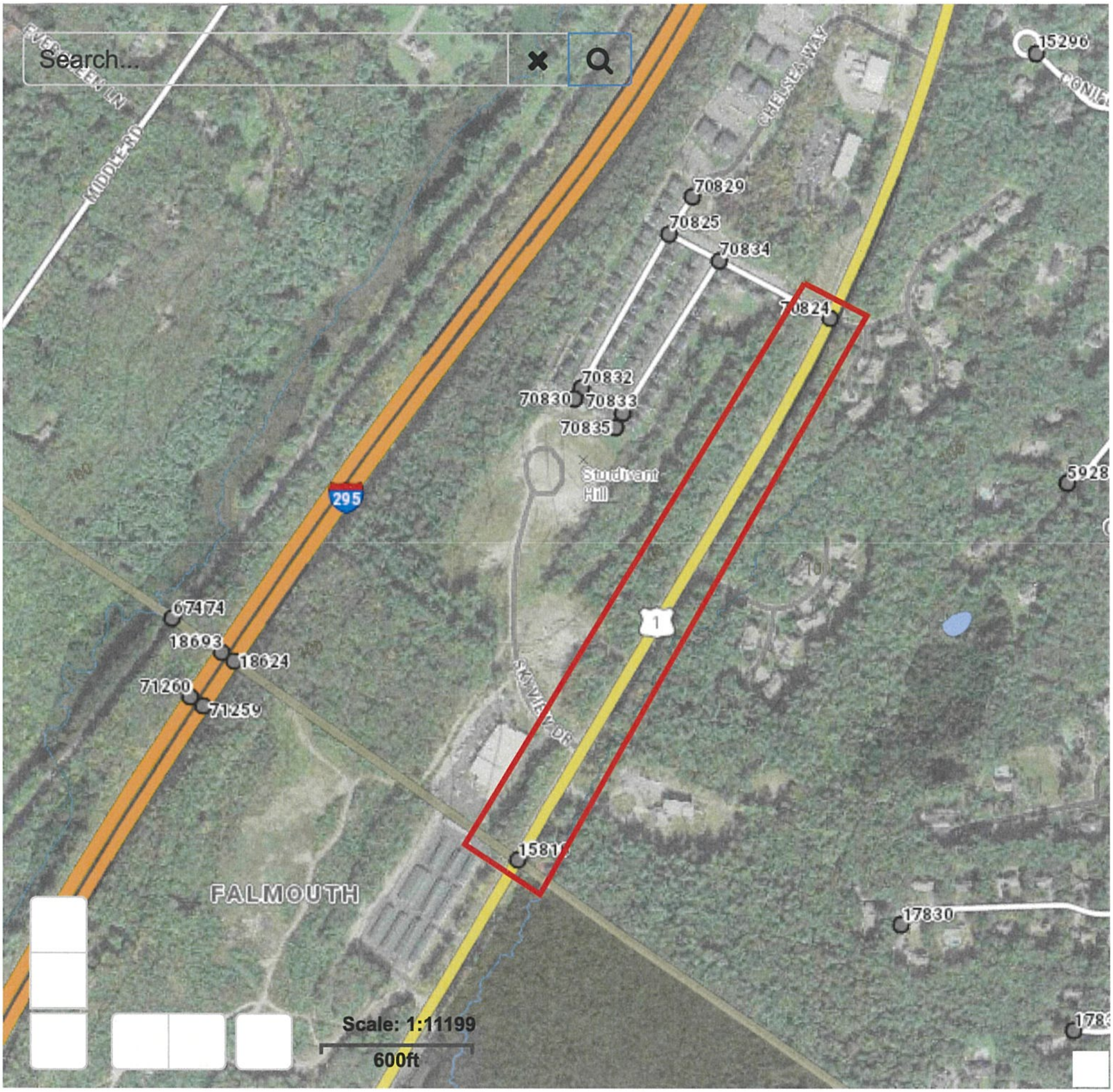
2. A review of MaineDOT crash data available for the latest 3-year period (2019-2021) for the section of Route 1 between the Falmouth Town Line and the intersection of Route 1 at Casco Bay Drive and Granite Ridge Road was performed. Our review indicated that there are no high crash locations within the defined study area. 3.

William J. Bray, PE, Date: 10/24/2022

B &L

APPENDIX

Appendix A - Maine DOT Crash Data



Search...
EVERGREEN LN
MIDDLE RD
CHELSEA WAY
15296
CONIFER
70829
70825
70834
70824
70832
70830
70833
70835
Sturdivant Hill
295
5928
67474
18693
18624
71260
71259
1
SKYVIEW DR
15810
FALMOUTH
17830
Scale: 1:11199
600ft

Maine Department Of Transportation - Office of Safety, Crash Records Section

Crash Summary Report

Report Selections and Input Parameters

REPORT SELECTIONS

- [x] **Crash Summary I**
- [ ] **Section Detail**
- [x] **Crash Summary II**
- [ ] **1320 Public**
- [ ] **1320 Private**
- [ ] **1320 Summary**

REPORT DESCRIPTION

Cumberland
Rt 1 from Falmouth T/L to True Springs Drive

REPORT PARAMETERS

Year 2019, Start Month 1 through Year 2021 End Month: 12

Route: **0001X**	Start Node: **15810**	Start Offset: **0**	☐ **Exclude First Node**
	End Node: **70824**	End Offset: **0**	☐ **Exclude Last Node**

Crash Summary I

Nodes

Node	Route - MP	Node Description	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual M Ent-Veh	Crash Rate	Critical Rate	CRF
15810	0001X - 56.89	TL Cumberland Falmouth	1	0	0	0	0	0	0	0.0	3.162	0.00	0.36	0.00
												Statewide Crash Rate:	0.12	
70824	0001X - 57.36	Int of CASCO BAY DR ROUTE 1	1	1	0	0	0	0	1	0.0	2.845	0.12	0.37	0.00
												Statewide Crash Rate:	0.12	
Study Years: 3.00		NODE TOTALS:		1	0	0	0	0	1	0.0	6.007	0.06	0.30	0.18

Crash Summary I

Sections

Start Node	End Node	Element	Offset Begin - End	Route - MP	Section Length	U/R	Total Crashes	K	Injury Crashes A	B	C	PD	Percent Injury	Annual HMVM	Crash Rate	Critical Rate	CRF
15810	70824	3937606	0 - 0.47	0001X - 56.89	0.47	1	3	0	0	0	0	3	0.0	0.01486	67.29	339.52	0.00
TL Cumberland Falmouth				US 1											Statewide Crash Rate: 184.86		
Study Years: 3.00				Section Totals:	0.47		3	0	0	0	0	3	0.0	0.01486	67.29	339.52	0.20
				Grand Totals:	0.47		4	0	0	0	0	4	0.0	0.01486	89.72	383.34	0.23

Crash Summary

Section Details

Start Node	End Node	Element	Offset Begin - End	Route - MP	Total Crashes	Injury Crashes K	A	B	C	PD	Crash Report	Crash Date	Crash Mile Point	Injury Degree
15810	70824	3937606	0 - 0.47	0001X - 56.89	3	0	0	0	0	3	2019-65179	09/13/2019	56.97	PD
											2020-28925	11/20/2020	57.12	PD
											2019-53537	05/11/2019	57.34	PD
				Totals:	3	0	0	0	0	3				

Crash Summary II - Characteristics

Crashes by Day and Hour

	AM												PM													
Day Of Week	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	Un	Tot
SUNDAY	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
MONDAY	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
TUESDAY	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
WEDNESDAY	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
THURSDAY	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
FRIDAY	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2
SATURDAY	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2
Totals	1	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	**4**

Hour of Day

Vehicle Counts by Type

Unit Type	Total	Unit Type	Total
1-Passenger Car	2	23-Bicyclist	0
2-(Sport) Utility Vehicle	3	24-Witness	0
3-Passenger Van	0	25-Other	0
4-Cargo Van (10K lbs or Less)	0	26-Construction	0
5-Pickup	0	27-Farm Vehicle	0
6-Motor Home	0	**Total**	**5**
7-School Bus	0		
8-Transit Bus	0		
9-Motor Coach	0		
10-Other Bus	0		
11-Motorcycle	0		
12-Moped	0		
13-Low Speed Vehicle	0		
14-Autocycle	0		
15-Experimental	0		
16-Other Light Trucks (10,000 lbs or Less)	0		
17-Medium/Heavy Trucks (More than 10,000 lbs)	0		
18-ATV - (4 wheel)	0		
20-ATV - (2 wheel)	0		
21-Snowmobile	0		
22-Pedestrian	0		

Crash Summary II - Characteristics

Crashes by Driver Action at Time of Crash

Driver Action at Time of Crash	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
No Contributing Action	3	1	0	0	0	0	4
Ran Off Roadway	0	0	0	0	0	0	0
Failed to Yield Right-of-Way	0	0	0	0	0	0	0
Ran Red Light	0	0	0	0	0	0	0
Ran Stop Sign	0	0	0	0	0	0	0
Disregarded Other Traffic Sign	0	0	0	0	0	0	0
Disregarded Other Road Markings	0	0	0	0	0	0	0
Exceeded Posted Speed Limit	0	0	0	0	0	0	0
Drove Too Fast For Conditions	0	0	0	0	0	0	0
Improper Turn	0	0	0	0	0	0	0
Improper Backing	0	0	0	0	0	0	0
Improper Passing	0	0	0	0	0	0	0
Wrong Way	0	0	0	0	0	0	0
Followed Too Closely	0	0	0	0	0	0	0
Failed to Keep in Proper Lane	0	0	0	0	0	0	0
Operated Motor Vehicle in Erratic, Reckless, Careless, Negligent or Aggressive Manner	0	0	0	0	0	0	0
Swerved or Avoided Due to Wind, Slippery Surface, Motor Vehicle, Object, Non-Motorist in Roadway	0	0	0	0	0	0	0
Over-Correcting/Over-Steering	0	0	0	0	0	0	0
Other Contributing Action	0	0	0	0	0	0	0
Unknown	1	0	0	0	0	0	1
Total	**4**	**1**	**0**	**0**	**0**	**0**	**5**

Crashes by Apparent Physical Condition And Driver

Apparent Physical Condition	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
Apparently Normal	4	1	0	0	0	0	5
Physically Impaired	0	0	0	0	0	0	0
Emotional(Depressed, Angry, Disturbed, etc.)	0	0	0	0	0	0	0
Ill (Sick)	0	0	0	0	0	0	0
Asleep or Fatigued	0	0	0	0	0	0	0
Under the Influence of Medications/Drugs/Alcohol	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0
Total	**4**	**1**	**0**	**0**	**0**	**0**	**5**

Driver Age by Unit Type

Age	Driver	Bicycle	SnowMobile	Pedestrian	ATV	Total
09-Under	0	0	0	0	0	0
10-14	0	0	0	0	0	0
15-19	0	0	0	0	0	0
20-24	1	0	0	0	0	1
25-29	0	0	0	0	0	0
30-39	0	0	0	0	0	0
40-49	1	0	0	0	0	1
50-59	2	0	0	0	0	2
60-69	1	0	0	0	0	1
70-79	0	0	0	0	0	0
80-Over	0	0	0	0	0	0
Unknown	0	0	0	0	0	0
Total	**5**	**0**	**0**	**0**	**0**	**5**

Crash Summary II - Characteristics

Most Harmful Event

Most Harmful Event	Total
1-Overturn / Rollover	0
2-Fire / Explosion	0
3-Immersion	0
4-Jackknife	0
5-Cargo / Equipment Loss Or Shift	0
6-Fell / Jumped from Motor Vehicle	0
7-Thrown or Falling Object	0
8-Other Non-Collision	0
9-Pedestrian	0
10-Pedalcycle	0
11-Railway Vehicle - Train, Engine	0
12-Animal	2
13-Motor Vehicle in Transport	3
14-Parked Motor Vehicle	0
15-Struck by Falling, Shifting Cargo or Anything Set in Motion by Motor Vehicle	0
16-Work Zone / Maintenance Equipment	0
17-Other Non-Fixed Object	0
18-Impact Attenuator / Crash Cushion	0
19-Bridge Overhead Structure	0
20-Bridge Pier or Support	0
21-Bridge Rail	0
22-Cable Barrier	0
23-Culvert	0
24-Curb	0
25-Ditch	0
26-Embankment	0
27-Guardrail Face	0
28-Guardrail End	0
29-Concrete Traffic Barrier	0
30-Other Traffic Barrier	0
31-Tree (Standing)	0
32-Utility Pole / Light Support	0
33-Traffic Sign Support	0
34-Traffic Signal Support	0
35-Fence	0
36-Mailbox	0
37-Other Post, Pole, or Support	0
38-Other Fixed Object (wall, building, tunnel, etc.)	0
39-Unknown	0
40-Gate or Cable	0
41-Pressure Ridge	0
Total	**5**

Traffic Control Devices

Traffic Control Device	Total
1-Traffic Signals (Stop & Go)	0
2-Traffic Signals (Flashing)	0
3-Advisory/Warning Sign	0
4-Stop Signs - All Approaches	0
5-Stop Signs - Other	0
6-Yield Sign	0
7-Curve Warning Sign	0
8-Officer, Flagman, School Patrol	0
9-School Bus Stop Arm	0
10-School Zone Sign	1
11-R.R. Crossing Device	0
12-No Passing Zone	0
13-None	3
14-Other	0
Total	**4**

Injury Data

Severity Code	Injury Crashes	Number Of Injuries
K	0	0
A	0	0
B	0	0
C	0	0
PD	4	0
Total	**4**	**0**

Road Character

Road Grade	Total
1-Level	4
2-On Grade	0
3-Top of Hill	0
4-Bottom of Hill	0
5-Other	0
Total	**4**

Light

Light Condition	Total
1-Daylight	3
2-Dawn	0
3-Dusk	0
4-Dark - Lighted	1
5-Dark - Not Lighted	0
6-Dark - Unknown Lighting	0
7-Unknown	0
Total	**4**

Maine Department Of Transportation - Office of Safety, Crash Records Section

Crash Summary II - Characteristics

Crashes by Year and Month

Month	2019	2020	2021	Total
JANUARY	0	0	0	0
FEBRUARY	0	0	0	0
MARCH	0	0	0	0
APRIL	0	0	0	0
MAY	1	0	0	1
JUNE	0	0	1	1
JULY	0	0	0	0
AUGUST	0	0	0	0
SEPTEMBER	1	0	0	1
OCTOBER	0	0	0	0
NOVEMBER	0	1	0	1
DECEMBER	0	0	0	0
Total	**2**	**1**	**1**	**4**

Report is limited to the last 10 years of data.

Crash Summary II - Characteristics

Crashes by Crash Type and Type of Location

Crash Type	Straight Road	Curved Road	Three Leg Intersection	Four Leg Intersection	Five or More Leg Intersection	Driveways	Bridges	Interchanges	Other	Parking Lot	Private Way	Cross Over	Railroad Crossing	Traffic Circle-Roundabout	Total
Object in Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rear End - Sideswipe	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Head-on - Sideswipe	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Intersection Movement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Train	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Went Off Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
All Other Animal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycle	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jackknife	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rollover	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fire	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Submersion	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thrown or Falling Object	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bear	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Deer	2	0	1	0	0	0	0	0	0	0	0	0	0	0	3
Moose	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Turkey	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	**3**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**

Maine Department Of Transportation - Office of Safety, Crash Records Section

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather / Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Blowing Sand, Soil, Dirt												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Blowing Snow												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Clear												
Dark - Lighted	1	0	0	0	0	0	0	0	0	0	0	1
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	2	0	0	0	0	0	0	0	0	0	0	2
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Cloudy												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	1	0	0	0	0	0	0	0	0	0	0	1
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0

Maine Department Of Transportation - Office of Safety, Crash Records Section

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather / Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Fog, Smog, Smoke												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Other												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Rain												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Severe Crosswinds												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Sleet, Hail (Freezing Rain or Drizzle)												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Snow												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**

WHITE ROCK TERRACE

THE SZANTON COMPANY
CUMBERLAND, MAINE

LEGEND

EXISTING		PROPOSED
—UD—UD—	UNDERDRAIN	—UD—UD—
	STRIPING	
	SEDIMENTATION BARRIER	
	EDGE OF EX. PAVEMENT	
	CURB	
	SIGN	
	LAMP OR LIGHT POLE	
	WATER VALVE	
	FIRE HYDRANT	
S	SEWER MANHOLE	
	CATCH BASIN	
D	DRAIN MANHOLE	
UGE	UNDERGROUND ELECTRIC LINE	UGE
E	ELECTRICAL MANHOLE	
8"W 8"W	UNDERGROUND WATER LINE	8"W 8"W
131	MINOR CONTOURS (1 FT)	131
130	MAJOR CONTOURS (5 FT)	130
	STORM DRAIN LINE	
S S	SEWER LINE	S S
	EXISTING/PROPOSED BUILDING	
	PROPERTY LINE	
	SETBACKS	
	GRADE BREAK	

REFER TO THE EXISTING CONDITIONS PLAN FOR ADDITIONAL INFORMATION

INDEX

CALL BEFORE YOU DIG
1-888-DIG-SAFE
1-888-344-7233

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(207)245-6436

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ELECTRIC:

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162 CANCO ROAD
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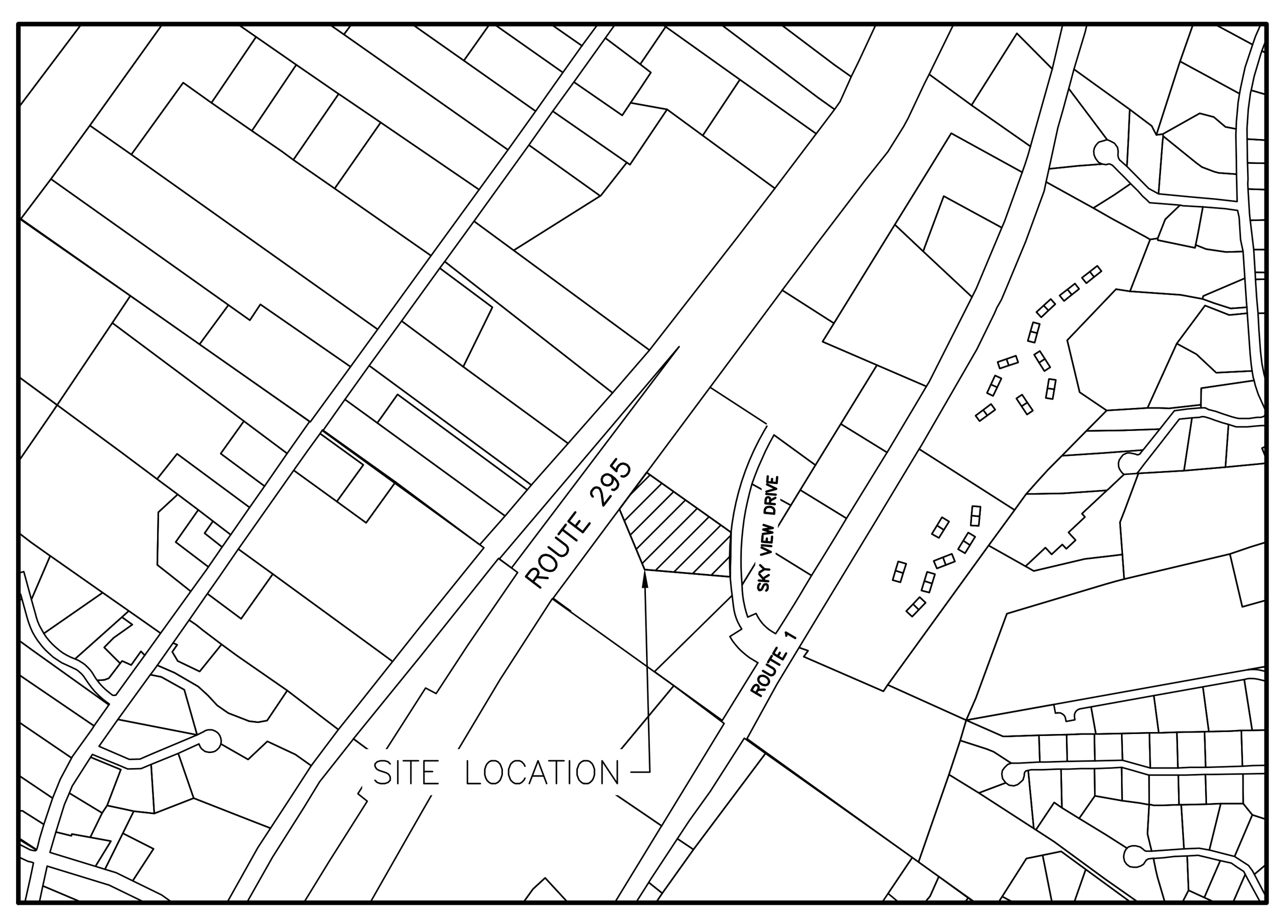

VICINITY MAP
NTS

ABBREVIATIONS

PARTIAL LIST OF ABBREVIATIONS AND THEIR CORRESPONDING MEANING. PLEASE CONTACT THE ENGINEER FOR ANY CLARIFICATION

APPROX.	APPROXIMATE
BC	BOTTOM OF CURB
BMP	BEST MANAGEMENT PRACTICE
BOT.	BOTTOM
CB	CATCH BASIN
CF	CUBIC FOOT
CIP	CAST IN PLACE
CL	CENTERLINE
CM	CONSTRUCTION MANAGER
CMP	CENTRAL MAINE POWER
CONC.	CONCRETE
CPP	CORRUGATED PLASTIC PIPE
CY	CUBIC YARD
DIP	DUCTILE IRON PIPE
DIA.	DIAMETER
DIM.	DIMENSION
EA.	EACH
ELEC.	ELECTRICAL
ELEV.	ELEVATION
EQUIV.	EQUIVALENT
EST.	ESTIMATE
EEMP.	ENVIRONMENTAL MEDIA MANAGEMENT PLAN
EX.	EXISTING
FFE	FINISH FLOOR ELEVATION
FT.	FEET
GAL.	GALVANIZED
ID	INNER DIAMETER
IN.	INCH
INV.	INVERT
L	LENGTH
MAX.	MAXIMUM
MDOT	MAINE DEPARTMENT OF TRANSPORTATION
M.E.P	MECHANICAL, ELECTRICAL, PLUMBING DESIGNER
MFG.	MANUFACTURED
MH	MANHOLE
MIN.	MINIMUM
O.C.	ON CENTER
OD	OUTSIDE DIAMETER
OHE/T/C	OVERHEAD ELECTRIC/TELEPHONE/CABLE
PC	PRECAST
PE	PROFESSIONAL ENGINEER
PL	PROPERTY LINE
PLS	PROFESSIONAL LAND SURVEYOR
PROP.	PROPOSED
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYL CHLORIDE
PWD	PORTLAND WATER DISTRICT
R	RADIUS
RD	ROOF DRAIN
RET.	RETAINING
ROW	RIGHT OF WAY
S	SLOPE
SD	STORM DRAIN
SDR	STANDARD DIMENSION RATIO
SF	SQUARE FEET
SMH	SEWER MANHOLE
SPEC.	SPECIFICATION
TC	TOP OF CURB
TW	TOP OF WALL
TYP.	TYPICAL
UD	UNDERDRAIN
UGE	UNDERGROUND ELECTRIC
VIF	VERIFY IN FIELD

STATE OF MAINE
WILLIAM H. SAVAGE
11419
10/25/22
LICENSED PROFESSIONAL ENGINEER

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY / DATE
TOWN SUBMISSION	TAL 10/25/22
COMMENT RESPONSE	TAL 11/28/22
DEP RESPONSE	TAL 01/11/23
SUBDIVISION PLAN	TAL 02/26/23

DRAWING NAME: COVER SHEET & LEGEND
PROJECT NAME/ADDRESS: WHITE ROCK TERRACE – SKYVIEW DRIVE
CLIENT/OWNER OF RECORD: THE SZANTON COMPANY 10 FREE STREET, SECOND FLOOR, PORTLAND ME 04101

A C O R N ENGINEERING, INC.

ACORN ENGINEERING, INC. PO BOX 3372, PORTLAND MAINE 04101 (207) 775-2655

FILE:	1175.1_CIVIL
JN:	1175.1
SCALE:	AS NOTED
DESIGNED BY:	TAL
DRAWN BY:	AWG
CHECKED BY:	WHS

DRAWING NO.
C-01

GENERAL NOTES:

1. THE CONTRACTOR SHALL CALL THE APPROPRIATE UTILITY COMPANIES AND DIG SAFE AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION FOR UTILITIES. OTHERWISE IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION OF UNDERGROUND UTILITIES AND LOCATE ANY POTENTIAL CONFLICTS WITH THE APPROVED PLANS PRIOR TO CONSTRUCTION.

2. THE CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE OF ALL EROSION CONTROL MEASURES SHOWN ON THE PLAN. IF DEEMED NECESSARY BY THE OWNER OR OWNER'S REPRESENTATIVE (IF APPLICABLE), ADDITIONAL EROSION CONTROL MEASURES SHALL BE INSTALLED AT NO ADDITIONAL COST TO THE OWNER.

3. THE CONTRACTOR SHALL PREPARE THEIR OWN MATERIAL SCHEDULE BASED ON THE PLANS AND FIELD VERIFICATION BY THE CONTRACTOR. ALL MATERIAL SCHEDULES SHOWN WITHIN THE PLAN SET ARE FOR GENERAL INFORMATION ONLY.

4. ALL CONSTRUCTION METHODS, TESTING AND MATERIALS SHALL CONFORM TO THE MAINE DEPARTMENT OF TRANSPORTATION SPECIFICATIONS, THE TOWN OF CUMBERLAND AND SERVICING UTILITY REQUIREMENTS, IF ANY. IN CASES WHERE THESE CONFLICT THE MOST STRINGENT SPECIFICATION SHALL APPLY AT NO ADDITIONAL COST TO THE OWNER.

5. THE SITE CONTRACTOR SHALL MAINTAIN A SET OF PAPER AND CAD DRAWINGS WHICH SHALL RECORD THE ACTUAL LOCATION, DIMENSIONS, ELEVATIONS, MATERIALS OF THEIR WORK, INDICATING THEREON ALL VARIATIONS FROM THE CONTRACT DRAWINGS. THE CONTRACTOR SHALL PROVIDE THE OWNER WITH ONE COMPLETE SET OF REPRODUCIBLE RECORD DRAWINGS, IN .DWG FORMAT AND PAPER, STAMPED ''AS-BUILT''. IF AUTOCAD CAPABILITY IS NOT AVAILABLE, EXCLUDE FROM BID IN WRITING.

6. THE CONTRACTOR WILL REMAIN SOLELY AND COMPLETELY RESPONSIBLE FOR ENFORCEMENT OF AND COMPLIANCE WITH 1) ALL CONTRACT PLANS AND SPECIFICATIONS, 2) APPLICABLE INTERNATIONAL BUILDING CODE REQUIREMENTS, AND 3) ALL SITE WORKING CONDITIONS AND SAFETY REQUIREMENTS, DAY AND NIGHT, FOR BOTH PERSONS AND PROPERTY, IN EACH CASE BOTH BY THE CONTRACTOR AND ITS SUBCONTRACTORS. THESE INCLUDE ALL OSHA, NIOSH, U.S. EPA AND ANY OTHER APPLICABLE GOVERNMENTAL REGULATIONS.

7. EXISTING CONDITIONS, BOUNDARY SURVEY, AND TOPOGRAPHY FROM THE PLAN TITLED BOUNDARY & TOPOGRAPHIC SURVEY BY OWEN HASKELL, INC FOR THE SZANTON COMPANY, LLC, DATED 10/7/22.

8. SUBSURFACE DATA HAVE BEEN OBTAINED BY SUMMIT ENGINEERING, INC. AND SHALL BE INCLUDED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL ALSO REVIEW THE REPORT PRIOR TO SUBMITTING A BID.

9. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ACCESS TO THE SITE AT ALL TIMES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY MARKINGS, SIGNAGE AND INCIDENTALS TO MAINTAIN A SAFE VEHICLE AND PEDESTRIAN ACCESS THOUGH THE LIFE OF THE PROJECT. THE CONTRACTOR SHALL NOTIFY THE CUMBERLAND DEPARTMENT OF PUBLIC WORKS ROUTINELY REGARDING TEMPORARY IMPACTS OR CHANGES TO SITE ACCESS CONDITIONS.

10. CONSTRUCTION MANAGEMENT PLAN NARRATIVE PREPARED BY ACORN ENGINEERING, INC. SHALL BE REFERRED TO FOR ANTICIPATED PROJECT SCHEDULE AND CLOSURES. TRAFFIC CONTROL SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

11. CONTRACTOR TO DETERMINE SOIL CLASSIFICATION INDEPENDENTLY FOR TRENCH, SHORING, AND OTHER SIMILAR CONSTRUCTION MEANS AND METHODS APPLICATIONS.

12. NO HOLES, TRENCHES, OR STRUCTURES SHALL BE LEFT OPEN OR UNATTENDED OVERNIGHT IN ANY AREA ACCESSIBLE TO THE PUBLIC OR WITHIN THE PUBLIC RIGHT-OF-WAY.

13. THE CONTRACTOR SHALL CONDUCT A PRE-CONSTRUCTION SURVEY OF INTERIOR SUBGRADE AND ABOVE GRADE ACCESSIBLE WALLS, CEILINGS, FLOORS, ROOF AND VISIBLE EXTERIOR AS VIEWED FROM THE GRADE LEVEL. THIS SHALL BE COMPLETED AT A MINIMUM FOR STRUCTURES IMMEDIATELY ABUTTING THE SITE. A COPY OF THE SURVEY SHOULD BE PROVIDED TO THE OWNER. DOCUMENT WITH PICTURES AT A MINIMUM.

14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY TRENCH PAVEMENT THAT HAS EXPERIENCED EXCESSIVE SETTLEMENT, CRACKING, OR OPENING OF JOINTS. REPAIRS MAY INCLUDE OVERLAY. REMOVAL OF WORK MAY BE NECESSARY AFTER THE FINAL ACCEPTANCE OF WORK OR PRIOR TO THE END OF THE WARRANTY PERIOD. THIS WORK SHALL BE DONE AT THE CONTRACTOR'S EXPENSE.

CIVIL SITE NOTES:

1. THE CONTRACTOR SHALL SUBMIT IN WRITING ANY REQUESTS TO ACORN TO MODIFY THE CONTRACT DOCUMENTS.

2. ALL SHOP, ERECTION, AND CONSTRUCTION DRAWINGS SHALL BE CHECKED AND STAMPED BY THE CONTRACTOR PRIOR TO SUBMISSION FOR ACORN'S REVIEW. ANY UNCHECKED OR NON-STAMPED SUBMITTALS WILL BE RETURNED WITHOUT REVIEW.

3. CONTRACTOR SHALL THOROUGHLY INSPECT AND SURVEY EXISTING STRUCTURES AND SITE TO VERIFY CONDITIONS THAT AFFECT THE WORK SHOWN ON THE DRAWINGS. CONTRACTOR TO NOTIFY ACORN OF ANY DISCREPANCIES PRIOR TO PROCEEDING.

4. DETAILS SHOWN APPLY TO ALL SIMILAR CONDITIONS UNLESS OTHERWISE INDICATED.

5. ALTHOUGH ALL DUE DILIGENCE HAS BEEN APPLIED TO MAKE THE DRAWINGS AS COMPLETE AS POSSIBLE, NOT ALL DETAILS ARE ILLUSTRATED, NOR IS EVERY EXCEPTION CONDITION ADDRESSED WITHIN THE CONTRACT DOCUMENTS.

6. ALL PROPRIETARY CONNECTIONS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

7. THE CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION OF ALL WORK, INCLUDING DIMENSION AND LAYOUT VERIFICATION, MATERIALS COORDINATION, SHOP DRAWING REVIEW, AND THE WORK OF ANY SUBCONTRACTORS.

8. UNLESS OTHERWISE SPECIFICALLY INDICATED, THE DRAWINGS DO NOT DESCRIBE OR DIRECT MEANS OR METHODS OF CONSTRUCTION.

9. THE CONTRACTOR, IN THE PROPER SEQUENCE, SHALL PERFORM OR SUPERVISE ALL WORK NECESSARY TO ACHIEVE THE FINAL COMPLETED STRUCTURE, AND TO PROTECT THE STRUCTURE, WORKMEN, AND OTHERS DURING THE CONSTRUCTION. SUCH WORK SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, SHORING FOR CONSTRUCTION EQUIPMENT, SHORING FOR EXCAVATION, FORMWORK, SCAFFOLDING, SAFETY DEVICES AND PROGRAMS OF ALL KINDS, SUPPORT AND BRACING FOR CRANES AND OTHER ERECTION EQUIPMENT.

10. DO NOT BACKFILL AGAINST RETAINING WALLS UNTIL SUPPORTING SLABS AND FLOOR FRAMING ARE IN PLACE AND SECURELY ANCHORED, UNLESS ADEQUATE BRACING IS PROVIDED. PRIOR TO BACKFILL, PROVIDE CURING OF CONCRETE FOR 28 DAYS OR AS DIRECTED BY MATERIALS TESTING ENGINEER.

11. TEMPORARY BRACING SHALL REMAIN IN PLACE UNTIL ALL FLOORS, WALLS, ROOFS AND OTHER SUPPORTING ELEMENTS ARE IN PLACE, IF APPLICABLE.

12. ALL PAVEMENT JOINTS SHALL BE SAWCUT AND APPLIED WITH TACK COAT PRIOR TO PAVING TO PROVIDE A DURABLE AND UNIFORM JOINT.

13. ACORN BEARS NO RESPONSIBILITY FOR THE ABOVE ITEMS, AND SITE OBSERVATION VISITS DO NOT IN ANY WAY INCLUDE INSPECTION OF THEM.

14. EXCAVATIONS ACCOMPLISHED AS PART OF THIS PROJECT SHALL BE CONSTRUCTED IN ACCORDANCE WITH SUBPART P OF 29 CRF PART 1926.650-.652 (CONSTRUCTION STANDARD FOR EXCAVATIONS).

15. ALL TRENCH PAVEMENT REPAIR SHALL BE COMPLETED WITH THE USE OF A STREET PAVER WITH A SCREED WIDTH CAPABLE OF SPANNING THE FULL WIDTH OF THE TRENCH UNLESS OTHERWISE AUTHORIZED BY THE ENGINEER.

SPECIAL INSPECTION NOTES

1. ALL SITE SOILS-RELATED WORK AND FOOTING EXCAVATIONS PRIOR TO PLACING FORMS SHALL BE REVIEWED BY THE PROJECT GEOTECHNICAL ENGINEER.

2. ALL SITE DRAINAGE-RELATED WORK SHALL BE REVIEWED BY ACORN ENGINEERING.

3. NORMAL REVIEWS BY LOCAL BUILDING DEPARTMENT. NOTIFY 48 HOURS PRIOR TO REQUIRED REVIEW.

4. REQUIRED SPECIAL INSPECTIONS PER I.B.C. SECTION 1705.6 BY AN APPROVED SPECIAL INSPECTOR RETAINED BY OWNER. CONTRACTOR TO COORDINATE SPECIAL INSPECTIONS.

5. SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON WHO SHALL DEMONSTRATE COMPETENCE, TO THE SATISFACTION OF THE BUILDING OFFICIAL, FOR INSPECTION OF THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION.

5.1. DUTIES AND RESPONSIBILITIES OF THE SPECIAL INSPECTOR SHALL BE TO OBSERVE AND/OR TEST THE WORK ASSIGNED AND OUTLINE ABOVE FOR CONFORMANCE WITH THE CONTRACT DOCUMENTS. ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION.

5.2. THE SPECIAL INSPECTOR SHALL FURNISH REGULAR REPORTS TO THE BUILDING OFFICIAL, THE ARCHITECT AND ENGINEER OF RECORD, AND OTHER DESIGNATED PERSONS. PROGRESS REPORTS FOR CONTINUOUS INSPECTION SHALL BE FURNISHED WEEKLY. INDIVIDUAL REPORTS OF PERIODIC INSPECTIONS SHALL BE FURNISHED WITHIN ONE WEEK OF INSPECTION DATES. THE REPORTS SHALL NOTE UNCORRECTED DEFICIENCIES, AND NET CHANGES TO THE APPROVED CONSTRUCTION DOCUMENTS AUTHORIZED BY THE ENGINEER OF RECORD.

5.3. THE SPECIAL INSPECTOR SHALL SUBMIT A FINAL SIGNED REPORT WITHIN TEN DAYS OF THE FINAL INSPECTION STATING WHETHER THE WORK REQUIRING A SPECIAL INSPECTION WAS, TO THE BEST OF THE INSPECTOR'S KNOWLEDGE AND BELIEF, IN CONFORMANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS AND THE APPLICABLE WORKMANSHIP PROVISIONS OF THE INTERNATIONAL BUILDING CODE. WORK NOT IN COMPLIANCE SHALL BE NOTED IN THE REPORT.

5.4. SPECIAL INSPECTOR SHALL BE EMPLOYED BY THE OWNER AND COORDINATED BY THE CONTRACTOR.

LAYOUT NOTES:

1. MONUMENTS DELINEATING PROPERTY LINES OR RIGHT OF WAYS SHALL NOT BE DISTURBED DURING CONSTRUCTION OPERATIONS. IN THE CASE A MONUMENT IS DISTURBED, AT THE CONTRACTOR'S EXPENSE, THE MONUMENT SHALL BE RESET TO ITS ORIGINAL LOCATION AND ELEVATION BY A LICENSED PROFESSIONAL LAND SURVEYOR.

2. ALL DIMENSIONS ON THE FOLLOWING SHEETS TAKE PRECEDENT OVER SCALED DIMENSIONS. EACH DRAWING WITH A BAR SCALE MEANS THAT THE DRAWING/DETAIL HAS BEEN SCALED AS ACCURATELY AS POSSIBLE, AND THE BAR SCALE IS FOR GENERAL REFERENCE ONLY. IF NO BAR SCALE IS PRESENT, THEN THERE IS NO SCALE TO THAT DRAWING/DETAIL. AT NO TIME SHOULD DRAWINGS BE SCALED FROM. ANY DISCREPANCIES BETWEEN DRAWINGS, DETAILS, SPECIFICATIONS AND THE FIELD CONDITION SHALL BE IMMEDIATELY REPORTED TO ACORN FOR FURTHER DIRECTIONS BEFORE ANY ADDITIONAL WORK PROCEEDS.

3. SIGNAGE, STRIPING, AND PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

4. ALL TRAFFIC CONTROL SIGNS INDICATED ON THE SITE LAYOUT PLAN ARE TO MEET ALL REQUIREMENTS & CONDITIONS OF THE TOWN OF CUMBERLAND, MAINE DEPARTMENT OF TRANSPORTATION AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.

5. THE CONTRACTOR SHALL OBTAIN THE SERVICES OF A LICENSED PROFESSIONAL LAND SURVEYOR TO PROVIDE A MINIMUM OF TWO TEMPORARY BENCHMARKS WITHIN THE SITE AND TO LOCATE PROPOSED STRUCTURE CORNERS.

6. CONTRACTOR TO ENSURE THAT ACCESS, INCLUDING BUT NOT LIMITED TO WALKWAYS, DRIVEWAYS, AND MAILBOXES ADJACENT TO THE PROJECT REMAIN FUNCTIONAL AND AVAILABLE FOR USE AT ALL TIMES.

PERMITTING NOTES

1. THIS PROJECT IS SUBJECT TO THE TERMS AND CONDITIONS OF A SITE PLAN APPROVAL FROM THE TOWN OF CUMBERLAND AND AN AMENDMENT TO A MAINE DEP STORMWATER SITE LAW PERMIT #L-21578-39-C-N.

2. THE CONTRACTOR SHALL REVIEW THE ABOVE REFERENCED PERMITS PRIOR TO SUBMITTING A BID FOR THIS PROJECT, AND INCLUDE COSTS AS NECESSARY TO COMPLY WITH THE CONDITIONS OF THESE PERMITS.

3. ALL WORK WITHIN THE PUBLIC RIGHT-OF-WAY REQUIRES A STREET OPENING PERMIT FROM THE TOWN OF CUMBERLAND. ADDITIONALLY, COORDINATE WITH THE DEPARTMENT OF PUBLIC WORKS.

GRADING AND DRAINAGE NOTES:

1. TOPSOIL STRIPPED FROM THE SITE THAT IS SUITABLE FOR REUSE AS LOAM (MEETS THE REQUIREMENTS WITHIN SECTION 615 OF THE MDOT STANDARD SPECIFICATIONS, MOST RECENT VERSION AND IS FREE OF TRACEABLE AMOUNTS OF CONTAMINANTS) SHALL BE STOCKPILED WITHIN THE PROPOSED LIMIT OF WORK AREA. THE CONTRACTOR SHALL NOT ASSUME THAT ANY STRIPPED TOPSOIL WILL BE ACCEPTABLE FOR REUSE WITH THEIR ESTIMATE.

2. THE CONTRACTOR SHALL ANTICIPATE THAT GROUNDWATER WILL BE ENCOUNTERED DURING CONSTRUCTION AND SHALL INCLUDE SUFFICIENT COSTS WITHIN THEIR BID TO PROVIDE DEWATERING AS NECESSARY; NO SEPARATE PAYMENT SHALL BE MADE TO THE CONTRACTOR FOR DEWATERING. DEWATERING SHALL INCLUDE TREATMENT OF SILT THROUGH THE USE OF A DIRTBAG BY ACF ENVIRONMENTAL OR APPROVED EQUIVALENT. FLOWS FROM DEWATERING ACTIVITIES SHALL NOT BE DISCHARGED INTO SANITARY SEWERS. SEE BORING LOGS FOR ADDITIONAL INFORMATION.

3. THE OWNER SHALL BE RESPONSIBLE FOR OBTAINING ANY EASEMENT OR TEMPORARY CONSTRUCTION RIGHTS AS NECESSARY BY PRIVATE ADJACENT LAND OWNERS. THE CONTRACTOR SHALL NOT DISTURB ANY SOIL BEYOND THE PROPERTY LINE WITHOUT NOTIFYING AND OBTAINING SUCH EASEMENT OR TEMPORARY CONSTRUCTION RIGHT FROM THE ADJACENT LAND OWNERS. PRIOR TO THE CONTRACTOR PRICING THE WORK, THEY SHALL PROVIDE ACORN WITH PROOF OF SUCH EASEMENT OR TEMPORARY RIGHTS. SHOULD EASEMENTS OR TEMPORARY RIGHTS NOT BE AVAILABLE, THE CONTRACTOR SHALL INCLUDE COST FOR BRACING AND SHORING AS NECESSARY.

4. THE CONTRACTOR SHALL PROVIDE A FINISH PAVEMENT SURFACE FREE OF LOW SPOTS AND PONDING AREAS. THE MINIMUM SLOPE SHALL MEET OR EXCEED 0.5% IN ALL CASES. ALL SLOPES SHALL BE AWAY FROM BUILDINGS AND TOP OF PAVEMENT SHALL BE AT OR BELOW EXISTING FINISH FLOOR ELEVATIONS.

5. NO ADDITIONAL PAYMENT FOR UNSUITABLE MATERIALS.

6. ALL STORM DRAIN PIPE SHALL BE SMOOTH BORE INTERIOR PROVIDING A MANNINGS ROUGHNESS COEFFICIENT OF N=0.012 OR LESS.

7. ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.

8. NATIVE SOILS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LIMIT THE DISTURBANCE TO SUBGRADE SOILS. SHOULD THE SUBGRADE BECOME YIELDING OR DIFFICULT TO WORK, CONTACT ACORN. THE DISTURBED AREAS SHALL BE EXCAVATED AND BACKFILLED WITH COMPACTED SELECT FILL OR CRUSHED STONE AT NO ADDITIONAL EXPENSE TO THE OWNER.

EROSION CONTROL NOTES:

1. DISTURBED AREAS ARE DEFINED AS THOSE SURFACES WHERE EXISTING VEGETATION OR STRUCTURES HAVE BEEN REMOVED, EXPOSING NATIVE SOIL TO THE ELEMENTS.

2. ALL ROUTINE WORK ACTIVITIES SHALL BE CONDUCTED IN SUCH A WAY TO LIMIT THE AMOUNT OF DISTURBED AREA AT ONE TIME TO THE EXTENT PRACTICABLE.

3. PRIOR TO THE START OF ANY CLEARING/LAND DISTURBING ACTIVITIES, THE CONTRACTOR SHALL INSTALL APPLICABLE EROSION CONTROL DEVICES SUCH AS PERIMETER SILT FENCE, AND OTHER APPLICABLE MEASURES. IN THE EVENT THE CONTRACTOR IS NOT SURE A EROSION CONTROL MEASURE SHOULD BE IMPLEMENTED, THE CONTRACTOR SHALL CONTACT THE ENGINEER OF RECORD TO CONFIRM IMPLEMENTATION OF ANY EROSION CONTROL DEVICES.

4. ALL GROUND AREAS GRADED FOR CONSTRUCTION SHALL BE GRADED, LOAMED, SEEDED AND MULCH SHALL BE APPLIED AS SOON AS POSSIBLE WITHIN 7 DAYS FOLLOWING THE COMPLETION OF ANY SOIL DISTURBANCE, AND PRIOR TO ANY STORM EVENT.

5. EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSTALLED TO THE SATISFACTION OF THE TOWN. THE CONTRACTOR SHALL REFERENCE THE APPROVED EROSION AND SEDIMENTATION CONTROL REPORT FOR TEMPORARY AND PERMANENT EROSION AND SEDIMENTATION CONTROL DEVICES IN ADDITION TO THE PLAN SET. THE CONTRACTOR SHALL ALSO REFER TO THE MAINE D.E.P.'S CURRENT MAINE EROSION AND SEDIMENT CONTROL BMP MANUAL FOR ADDITIONAL INFORMATION.

6. PRIOR TO PAVING, THE CONTRACTOR SHALL REMOVE ALL SEDIMENT FROM STORM DRAINS, CATCH BASINS, AND APPURTENANCES.

7. REFER TO THE EROSION CONTROL DETAILS & NOTES FOR ADDITIONAL INFORMATION.

UTILITY NOTES:

1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND ELEVATION OF THE EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED UPON RECORDS OF VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED UPON AS BEING EXACT OR COMPLETE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO TEST PIT TO DETERMINE THE EXACT LOCATION AND ELEVATION OF UTILITIES TO COORDINATE WITH THE PROPOSED CONNECTIONS OR CROSSING. ANY DISCREPANCIES SHALL BE IMMEDIATELY REPORTED TO ACORN FOR FURTHER DIRECTIONS BEFORE ANY ADDITIONAL WORK PROCEEDS.

2. CONTRACTOR SHALL, AT NO ADDITIONAL COST TO THE OWNER, CONDUCT EXPLORATORY EXCAVATIONS AT LOCATIONS WHERE PROPOSED EXCAVATION WILL INTERSECT WITH EXISTING UTILITIES, PRIOR TO THE ORDERING OF STRUCTURES.

3. ALL NEW SANITARY MANHOLES SHALL BE VACUUM TESTED BEFORE BACKFILLING. TESTING SHALL BE COMPLETED IN ACCORDANCE WITH TECHNICAL REPORT #16 (TR-16): GUIDES FOR THE DESIGN OF WASTEWATER TREATMENT WORKS, PREPARED BY THE NEW ENGLAND INTERSTATE WATER POLLUTION CONTROL COMMISSION.

4. SEWER MANHOLES SHALL BE 4' ID UNLESS OTHERWISE STATED ON THE PLANS.

5. CONTRACTOR TO PROVIDE 5' OF COVER FROM TOP OF PIPE TO FINISH GRADE FOR WATER MAINS.

6. THRUST BLOCKS SHALL BE USED FOR THRUST RESTRAIN ON WATER MAINS. DETAIL AND LIMITS FOR THRUST BLOCKS ARE SHOWN WITHIN THE PLAN SET.

7. WATER INFRASTRUCTURE SHALL BE TESTED IN ACCORDANCE WITH THE PORTLAND WATER DISTRICT DOCUMENT ''WATER AND SEWER CONSTRUCTION SPECIFICATIONS AND PROCEDURE'', MOST RECENT REVISION.

8. ALL REQUIRED FITTINGS FOR THE WATER MAIN ARE NOT SHOWN ON DRAWINGS. CONTRACTOR SHALL FURNISH AND INSTALL ALL NECESSARY FITTINGS REQUIRED TO CONSTRUCT THE WATER MAIN IN ACCORDANCE WITH TOWN OF CUMBERLAND, STATE OF MAINE, AND AMERICAN WATER WORKS ASSOCIATION STANDARDS AND REGULATIONS.

9. CONTRACTOR SHALL COORDINATE WORK REGARDING ANY WATER MAIN CONNECTION AND WATER MAIN SHUTDOWN WITH THE PORTLAND WATER DISTRICT AT LEAST SEVEN (7) DAYS PRIOR TO CONSTRUCTION.

10. ALL WATER PIPE INSTALLATION SHALL CONFORM WITH THE PORTLAND WATER DISTRICT SPECIFICATIONS AND PROCEDURES, MOST RECENT EDITION.

11. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.

12. SEWER, GAS, TELEPHONE, ELECTRICITY, CABLE, WATER AND ANY OTHER UTILITY CONNECTIONS SHALL BE REVIEWED BY PLUMBING, ELECTRICAL, AND MECHANICAL DESIGNER FOR CONSISTENCY WITH THEIR PLANS PRIOR TO CONSTRUCTION.

13. COORDINATE EXIT POINT FOR SECONDARY UTILITY SERVICES WITH THE ARCHITECT/ELECTRICAL ENGINEER. SECONDARY LINE LOCATIONS NOT PROVIDED BY ACORN WITHIN THE UTILITY PLAN.

14. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN ALL THE NECESSARY PERMITS FOR THE INSTALLATION OF THE UTILITIES AND STORMDRAINS WITHIN THE PUBLIC RIGHT OF WAY. THE CONTRACTOR SHALL SUBMIT A MAINTENANCE OF TRAFFIC PLAN TO THE TOWN IN ACCORDANCE WITH THE TOWN OF CUMBERLAND STANDARDS PRIOR TO ANY WORK.

15. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL BOXES, FITTINGS, CONNECTORS, COVER PLATES AND OTHER MISCELLANEOUS ITEMS NOT NECESSARILY DETAILED ON THE DRAWINGS TO RENDER INSTALLATION OF UTILITIES COMPLETE AND OPERATIONAL AT NO EXTRA EXPENSE TO THE OWNER.

16. ALL PIPE LINES SHALL SLOPE UNIFORMLY BETWEEN ELEVATIONS INDICATED ON THE DRAWINGS. NO CRESTS OR SAGS IN THE PIPING WILL BE PERMITTED. ALL HORIZONTAL AND VERTICAL BENDS IN PRESSURIZED PIPE LINES SHALL BE SUITABLY RESTRAINED WITH THRUST BLOCKS OR RETAINER GLANDS. RETAINER GLANDS ALLOWED FOR DUCTILE IRON PIPE ONLY. PROVIDE ALL BENDS, HORIZONTAL AND VERTICAL, AS REQUIRED TO MEET THE GRADES AND ALIGNMENTS INDICATED ON THE DRAWINGS.

17. ALL WASTEWATER PIPING, EXCLUDING BUILDING DRAINS, AND ALL PRESSURIZED PIPING, TO INCLUDE WATER MAINS, INSTALLED BENEATH STRUCTURES SHALL BE ENCASED IN CONCRETE.

18. WHERE NEW PIPING IS TO BE CONNECTED TO EXISTING PIPING, THE CONTRACTOR SHALL FURNISH AND INSTALL ALL ADAPTERS, FITTINGS AND ADDITIONAL PIPE AS REQUIRED TO ENSURE A COMPLETE AND PROPERLY FUNCTIONING CONNECTION. CONTRACTOR TO VERIFY LOCATION, ELEVATION, ORIENTATION AND MATERIAL OF CONSTRUCTION. ADAPTERS AND FITTINGS ARE INCIDENTAL TO THE PIPE INSTALLATION.

19. WHENEVER POSSIBLE, WATER LINES SHOULD BE INSTALLED OVER WASTEWATER LINES. A MINIMUM SEPARATION OF 18 INCHES BETWEEN THE BOTTOM OF THE WATER LINE AND THE TOP OF THE WASTEWATER LINE SHALL BE MAINTAINED WHERE POSSIBLE. WHERE A WATER LINE CROSSES UNDER THE WASTEWATER LINE, A FULL LENGTH OF WASTEWATER PIPE SHALL BE CENTERED ABOVE THE WATER LINE SO THAT BOTH JOINTS WILL BE AS FAR FROM THE WATER LINE AS POSSIBLE.

20. THE CONTRACTOR SHALL BE ANTICIPATE THAT THE NATIVE SILT AND CLAY SOILS WILL NOT BE SUITABLE FOR PIPE TRENCH BACKFILL IN PAVED AREAS.

21. GROUNDWATER SHALL BE CONTROLLED TO A LEVEL OF AT LEAST ONE FOOT BELOW SUBGRADE OF THE PIPE OR STRUCTURE. THE CONTRACTOR SHALL MAINTAIN THE LOWERED GROUNDWATER LEVEL UNTIL CONSTRUCTION HAS BEEN COMPLETED TO SUCH AN EXTENT THAT THE STRUCTURES OR PIPES WILL NOT BE FLOATED OR OTHERWISE DAMAGED.

22. EXCAVATION TO SUBGRADE IN NATIVE SILT AND CLAY SHALL BE COMPLETED WITH A SMOOTH EDGE BUCKET TO MINIMIZE SUBGRADE DISTURBANCE.

23. ALL ADJUSTMENTS TO FINISHED GRADE ARE TO BE COMPLETED BY THE CONTRACTOR. THE CONTRACTOR SHALL CONFIRM STRUCTURES THAT REQUIRE ADJUSTMENT WITH THE ENGINEER OR OWNERS REPRESENTATIVE PRIOR TO ADJUSTING FRAMES.

DEMOLITION NOTES:

1. THE FOLLOWING ITEMS ARE TYPICAL OF MATERIAL WHICH MAY BE ON SITE:
   - ROCK AND CONCRETE FOUNDATIONS
   - CONCRETE SLABS
   - BITUMINOUS ASPHALT PAVEMENT
   - CONCRETE PADS AND BLOCKS
   - FENCE POST AND FENCING
   - UNDERGROUND UTILITY LINES
   - ABOVE AND OR BELOW FUEL OIL AND PROPANE GAS TANKS
   - STORM DRAIN PIPES AND APPURTENANCE STRUCTURES
   - OTHER TRASH & MISCELLANEOUS SOLID WASTES

2. THE CONTRACTOR IS ADVISED TO VISIT THE SITE TO CONFIRM DEMOLITION ITEMS SINCE THE LIST IS NOT INCLUSIVE OF THE SITE CONDITIONS WHICH MAY BE ENCOUNTERED

3. ALL DISPOSAL OF DEMOLITION DEBRIS OR WASTE SHALL BE IN ACCORDANCE WITH ALL LOCAL, STATE, & FEDERAL REGULATIONS. CONTRACTORS SHALL PROVIDE OWNER WITH APPROPRIATE "BILLS OF LADING" DEMONSTRATING PROPER DISPOSAL OF ALL MATERIALS.

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
TOWN SUBMISSION	TAL 10/25/22
COMMENT RESPONSE	TAL 11/28/22
DEP RESPONSE	TAL 01/11/23
SUBDIVISION PLAN	TAL 02/26/23

DRAWING NAME: GENERAL NOTES

PROJECT NAME/ADDRESS: WHITE ROCK TERRACE - SKYVIEW DRIVE

CLIENT/OWNER OF RECORD: THE SZANTON COMPANY
10 FREE STREET, SECOND FLOOR, PORTLAND ME 04101

ACORN ENGINEERING, INC.

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

ACORN ENGINEERING, INC.
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DRAWN BY:	AWG
CHECKED BY:	WHS

STATE OF MAINE ... LICENSED PROFESSIONAL ENGINEER
2/26/2023

DRAWING NO.

C-02

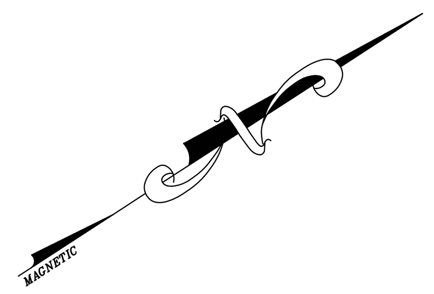
EASEMENT TABLE

LINE	LENGTH	BEARING
E-L1	49.98	N84°10'10"E
E-L2	27.06	S59°15'17"E
E-L3	50.00	S30°44'43"W
E-L4	37.57'	S84°10'10"W
E-L5	33.91'	S84°10'10"W
E-L6	32.03'	S30°44'33"W
E-L7	60.00'	N31°42'16"W
E-L8	60.00'	S80°06'31"W
E-L9	60.00'	N58°40'48"W
E-L10	40.00'	N46°11'29"W
E-L11	32.00'	N08°03'52"W
E-L12	30.00'	N48°15'26"E
E-L13	37.86'	N44°53'07"E
E-L14	706.57'	N59°15'17"W
E-L15	36.00'	N30°44'43"E
E-L16	702.31'	S59°15'17"E
E-L17	36.00'	S30°44'43"W

LOT LINE TABLE

LINE	LENGTH	BEARING
L2	50.00	N65°14'51"E
L3	27.06	S59°15'17"E
L4	27.06	N59°15'17"W
L5	45.00	S30°44'43"W
L6	15.00	N30°44'43"E
L7	5.00	N30°44'43"E

CURVE	LENGTH	RADIUS
E-C1	89.81'	1501.00
E-C2	44.89'	166.00
E-C3	99.96'	166.00
E-C4	120.04'	356.00
E-C5	39.62'	1691.00
E-C6	36.25'	22768.32



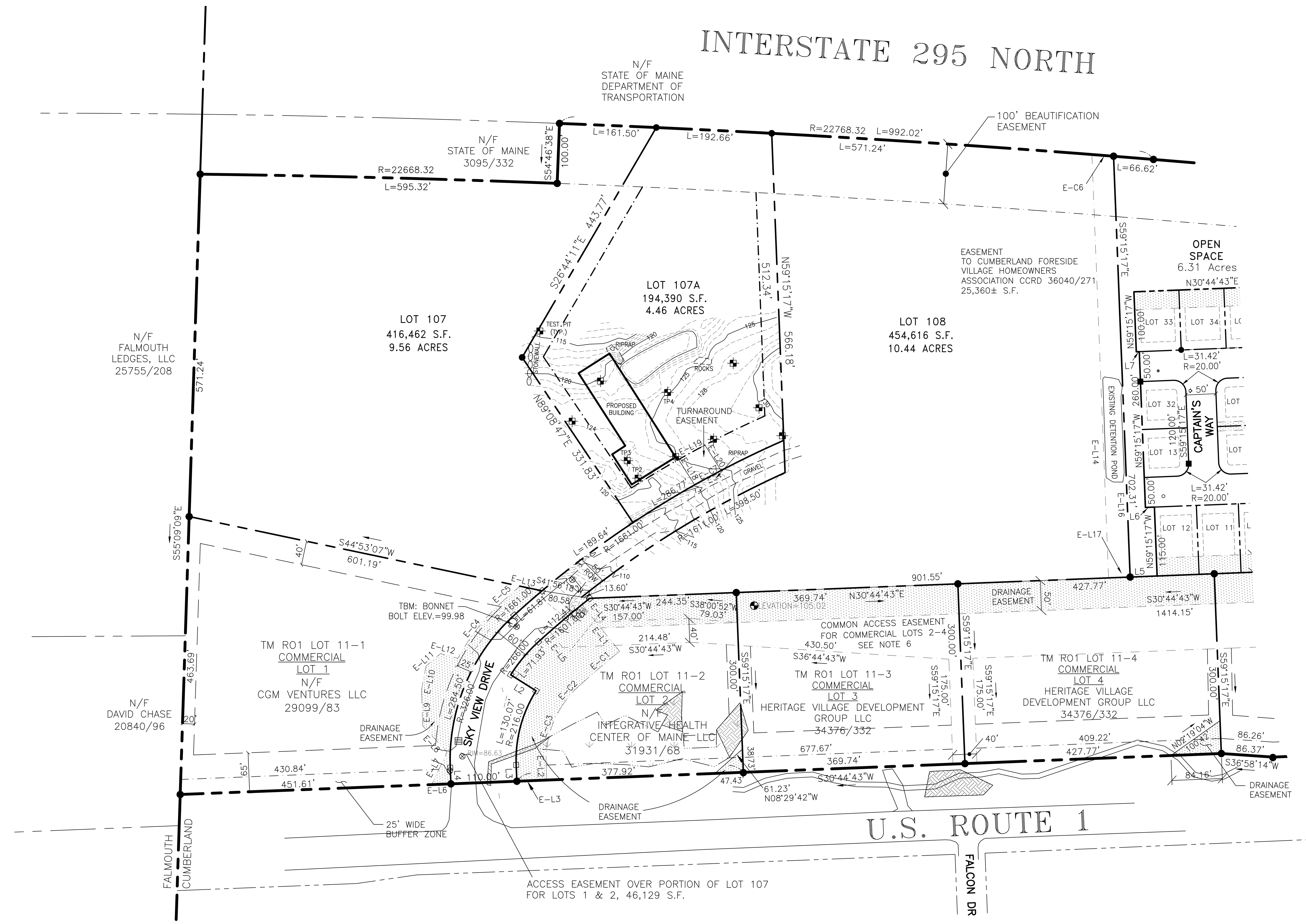
LEGEND

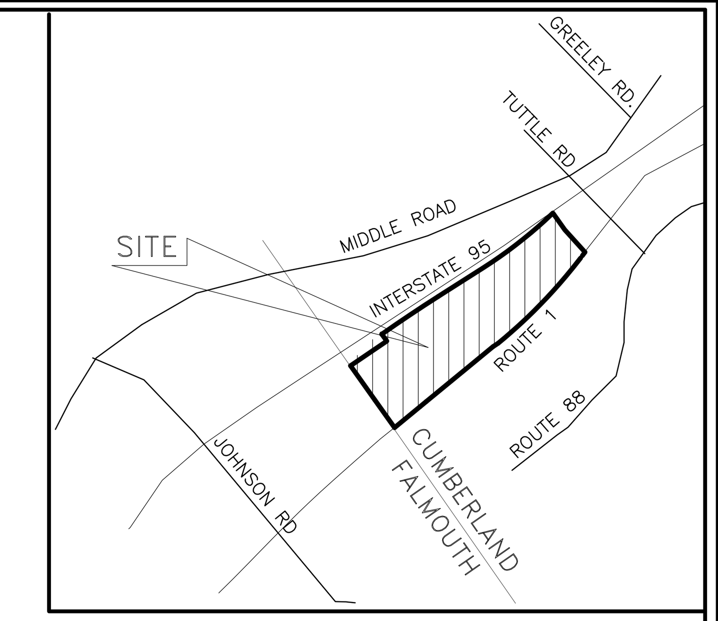
EXISTING

EASEMENT
DRAINAGE EASEMENT
WETLAND LIMIT
WETLAND

PROPOSED

BUILDING SETBACK
EASEMENT
BUFFER
CMP TRANSFORMER EASEMENT
BOUND TO BE SET
IRON PIPE TO BE SET





LOCATION PLAN N.T.S.

ZONE INFORMATION

CUMBERLAND: CONTRACT ZONE

SPACE STANDARDS:	CONTRACT ZONE RESIDENTIAL	CONTRACT ZONE COMMERCIAL	CONTRACT ZONE ASSISTED LIVING	CONTRACT ZONE WAREHOUSE	CONTRACT ZONE MULTI FAMILY
MINIMUM LOT SIZE:	5,000 S.F.				
MINIMUM FRONTAGE:	50 FEET	150 FEET (RTE. 1) 75 FEET ON INTERIOR LOTS	150 FEET	75 FEET 75 FEET ON INTERIOR LOTS	
MINIMUM FRONT SETBACK:	15 FEET	25 FEET	50 FEET	25 FEET	50 FEET
MINIMUM SIDE SETBACK:	9 FEET	20 FEET 15 FEET ON INTERIOR LOTS	30 FEET	15 FEET	30 FEET
MINIMUM REAR SETBACK:	15 FEET	40 FEET	50 FEET	20 FEET	50 FEET
DRIVEWAY SETBACK:	5 FEET	10 FEET (UNLESS DRIVES ARE SHARED BY 2 OR MORE LOTS			5 FEET

NOTE:

REFER TO FIFTH AMENDED AND RESTATED CONTRACT ZONING AGREEMENT BY AND BETWEEN THE TOWN OF CUMBERLAND AND CUMBERLAND FORESIDE VILLAGE, LLC TO BE RECORDED FOR FURTHER INFORMATION.

IF AN ASSISTED LIVING FACILITY, DUPLEX OR MULTIPLEX DWELLING IS ADJACENT TO A COMMERCIAL LOT, THERE SHALL BE A 25 FOOT BUFFER OF UNDISTURBED OR REPLANTED VEGETATION. THE DEVELOPER SHALL PROVIDE FOR ADDITIONAL PLANTINGS, AS APPROVED BY THE PLANNING BOARD, WITHIN THE 25 FOOT UNDISTURBED BUFFER WHERE EXISTING CONDITIONS DO NOT PROVIDE ADEQUATE SCREENING BETWEEN THE PROPERTIES.

ANY BUILDING THAT IS CONSTRUCTED FOR THE SOLE PURPOSE OF AND USED EXCLUSIVELY IN CONNECTION WITH THE DEVELOPMENT OF MULTIPLEX DWELLINGS AND LOCATED ON THE SAME LOT AS THE MULTIPLEX DWELLINGS, SUCH AS A COMMUNITY CENTER OR RENTAL OFFICE, SHALL BE SUBJECT TO THE SETBACK REQUIREMENTS OF THIS SECTION; PROVIDED, HOWEVER, THAT THE REAR SETBACK FOR SUCH BUILDING SHALL BE NOT LESS THAN 25 FEET.

SCALE : 1" = 100'

0' 50' 100' 200'

PLAN REFERENCE

BOUNDARY INFORMATION TAKEN FROM "BOUNDARY PLAN, CUMBERLAN FORESIDE VILLAGE, U.S. ROUTE ONE, CUMBERLAND, MAINE MADE FOR CUMBERLAND FORESIDE VILLAGE LLC, 50 GRAY ROAD, FALMOUTH, MAINE" BY OWEN HASKELL, INC., 15 CASCO STREET, PORTLAND, ME 04101, JUNE 07, 2006, REV. 3 01-08-07.

NOTES

1. OWNERS OF RECORD:
   LOT 107: HERITAGE VILLAGE DEVELOPMENT GROUP LLC, 12 CARROLL STREET, FALMOUTH, MAINE
   BOOK 34376, PAGE 332
   LOT 9: DAVID CHASE, 50 GRAY ROAD, FALMOUTH, MAINE
   BOOK 34376, PAGE 330

2. MARKERS TO BE SET AT ALL CORNERS.

3. THE APPROVAL OF THIS PLAN BY THE PLANNING BOARD DOES NOT CONSTITUTE ACCEPTANCE BY THE TOWN OF ANY STREET, EASEMENT, OPEN SPACE AREA, PARK, PLAYGROUND, OR OTHER RECREATION AREA THEREON.

4. PROJECT HAS AN APPROVED DEPARTMENT OF ENVIRONMENTAL PROTECTION PERMIT. PERMIT NO. L-21578-39-L-A.

5. PROJECT HAS AN APPROVED MAINE DEPARTMENT OF TRANSPORTATION PERMIT. PERMIT ID NO. 01-00070-A-M.

6. ACCESS EASEMENT ACROSS COMMERCIAL LOT 5 IS LIMITED TO THE EXISTING RIGHTS OF COMMERCIAL LOT 2 ONLY.

EXISTING CONDITIONS PLAN
LOT 109
CUMBERLAND FORESIDE VILLAGE

U.S ROUTE ONE, CUMBERLAND, MAINE
MADE FOR OWNER OF RECORD

HERITAGE VILLAGE DEVELOPMENT GROUP LLC

PETER KENNEDY 12 CARROLL STREET, FALMOUTH, MAINE

OWEN HASKELL, INC.
390 U.S. ROUTE ONE, FALMOUTH, ME 04105 (207) 774-0424
PROFESSIONAL LAND SURVEYORS

Drwn By	RWC	Date	Job No.
Trace By	RWC	OCTOBER 7, 2022	2001-219 C
Check By	JWS	Scale	Drwg. No.
Book No.	FILE	1" = 100'	1-109

GENERAL NOTES:

1. ALL SIDEWALK AND CURBING SHALL BE BUILT TO TOWN OF CUMBERLAND STANDARDS.
2. EXISTING CONDITIONS PROVIDED BY OWEN HASKELL, INC ON A PLAN ENTITLED BOUNDARY AND TOPOGRAPHIC SURVEY. PLAN IS DATED OCTOBER 7, 2022 .
3. ALL PAVEMENT STRIPING AND MARKINGS SHALL COMPLY TO TOWN OF CUMBERLAND STANDARDS.
4. ANY ASPHALT TO BE REMOVED SHALL BE STRIPPED AND PROPERLY DISPOSED OF OFFSITE.
5. ALL RAMPS TO CONFORM TO ADA GUIDELINES. SLOPE SHALL NOT EXCEED 1 INCH PER FOOT.
6. ALL SITE SIGNAGE TO COMPLY WITH MUTCD STANDARDS. CONTRACTOR TO COORDINATE AND INSTALL.
7. FOLLOWING COMPLETION OF CONSTRUCTION, THE OWNER SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND MANAGEMENT OF DRIVEWAYS, SITE LIGHTING, TRASH REMOVAL AND SNOW REMOVAL.

STANDARD NOTES FOR MAJOR DEVELOPMENT REVIEW PLANS:

1. PRIOR TO ANY CERTIFICATE OF OCCUPANCY BEING ISSUED, THE APPLICANT'S DESIGNING ENGINEER SHALL SUBMIT A FINAL INSPECTION REPORT TO THE CITY INDICATING THAT THE STORMWATER SYSTEM AND ALL SITE IMPROVEMENTS HAVE BEEN COMPLETED IN ACCORDANCE WITH THE APPROVED PLAN. MINIMUM 48 HOUR NOTICE REQUIRED.
2. A BUILDING/USE PERMIT SHALL BE REQUIRED FOR ALL ACTIVITIES REGULATED BY THE ZONING AND LAND USE CODE INCLUDING, BUT NOT LIMITED TO THE FOLLOWING:
   - 3.1 THE CONSTRUCTION, ALTERATION, RELOCATION, DEMOLITION, PLACEMENT, OR REMOVAL OF OR THE ADDITION TO ANY STRUCTURE OR BUILDING OR PART THEREOF;
   - 3.2 THE CONSTRUCTION/ INSTALLATION OF A WALL OR FENCE 3.5 FEET OR GREATER IN HEIGHT IN ACCORDANCE WITH ARTICLE XII, SEC. 7;
   - 3.3 THE ERECTION/ INSTALLATION OF A SIGN OR THE REPLACEMENT OF A SIGN FACE REGULATED IN ACCORDANCE WITH ARTICLE XII, SECTION 16 OF THIS CODE;
   - 3.4 THE CONSTRUCTION OF A DRIVEWAY OR PARKING LOT;
   - 3.5 THE CHANGE OF USE OR OCCUPANCY OF A BUILDING, STRUCTURE, OR LOT OF LAND
3. NO PERMIT SHALL BE ISSUED FOR THE CONSTRUCTION, ADDITION, ALTERATION, REMOVAL, DEMOLITION OR CHANGE OF USE OF ANY BUILDING, STRUCTURE OR PART THEREOF, OR FOR THE USE OF ANY PREMISES UNLESS THE PLANS AND INTENDED USE INDICATE THAT THE BUILDING, STRUCTURE OR PREMISES IS TO CONFORM IN ALL RESPECTS TO ZONING AND LAND USE CODE OF THE CITY OF LEWISTON AND THE LAND USE LAWS OF THE STATE OF MAINE.
4. THE GRANTING OF THIS APPROVAL IS DEPENDENT UPON AND LIMITED TO THE PROPOSALS AND PLANS CONTAINED IN THE APPLICATION AND SUPPORTING DOCUMENTS SUBMITTED AND AFFIRMED TO BY THE APPLICANT. ANY VARIATION FROM THESE PLANS, PROPOSALS, AND SUPPORTING DOCUMENTS IS SUBJECT TO REVIEW AND APPROVAL PRIOR TO IMPLEMENTATION. FURTHER SUBDIVISION OF PROPOSED LOTS BY THE APPLICANT OR FUTURE OWNERS IS SPECIFICALLY PROHIBITED WITHOUT PRIOR APPROVAL OF THE BOARD
5. THE APPLICANT SHALL SECURE AND COMPLY WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL LICENSES, PERMITS, AUTHORIZATIONS, CONDITIONS, AGREEMENTS, AND ORDERS PRIOR TO OR DURING CONSTRUCTION AND OPERATION, AS APPROPRIATE.

SPACE AND BULK STANDARDS

CONTRACT ZONE MULTI-FAMILY	REQUIRED	PROVIDED
FRONT YARD SETBACK	50'	50.50'
SIDE YARD SETBACK	30'	30.50'
REAR YARD SETBACK	50'	>50'
MAX BUILDING HEIGHT	50'	49.90'
MIN STREET FRONTAGE	50'	285'
MIN LOT SIZE	2 ACRES	4.4 ACRES
MAX SITE COVERAGE	30%	7%
MIN OPEN SPACE	20%	57%

PARKING TABLE

AREA	PARKING SPACES
9'X18' SPACES	67
ADA SPACES	10
TOTAL	77**
TOWN CODE REQUIREMENT (2 PER UNIT)	110**

**WAIVER GRANTED BY PLANNING BOARD TO REDUCE PARKING

20 0 20 40

SCALE: 1' = 20'

ISSUED FOR	BY / DATE
TOWN SUBMISSION	TAL 10/25/22
COMMENT RESPONSE	TAL 11/28/22
DEP RESPONSE	TAL 01/11/23
SUBDIVISION PLAN	TAL 02/26/23

DRAWING NAME: **OVERALL SITE PLAN**

PROJECT NAME/ ADDRESS: **WHITE ROCK TERRACE – SKYVIEW DRIVE**

CLIENT/OWNER OF RECORD: THE SZANTON COMPANY
10 FREE STREET, SECOND FLOOR, PORTLAND ME 04101

ACORN ENGINEERING, INC.

ACORN ENGINEERING, INC.
PO BOX 3372, PORTLAND MAINE 04101
(207) 775-2655

FILE:	1175.1_CIVIL
JN:	1175.1
SCALE:	AS NOTED
DESIGNED BY:	TAL
DRAWN BY:	AWG
CHECKED BY:	WHS

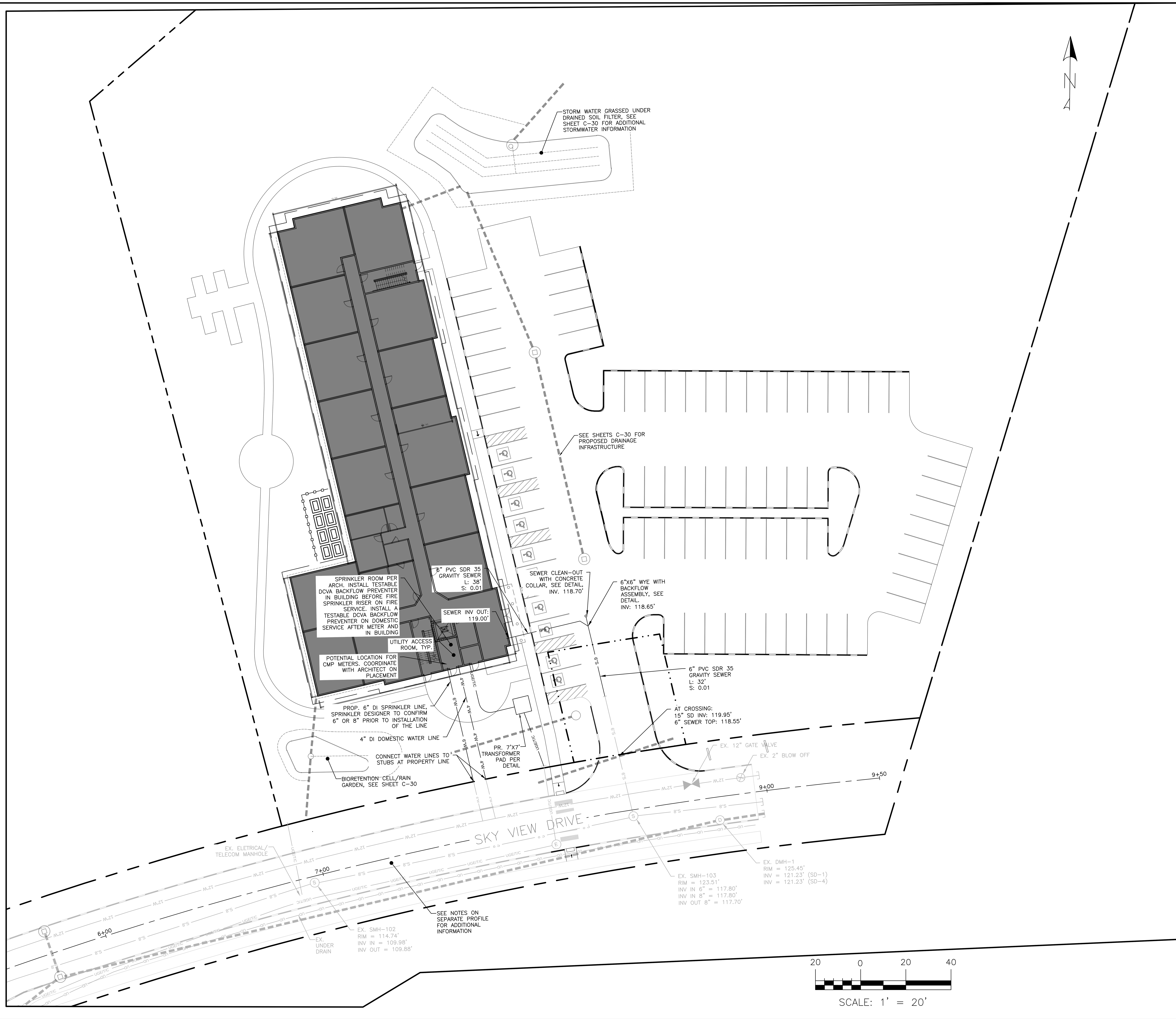
STATE OF MAINE LICENSED PROFESSIONAL ENGINEER 2/26/2023

DRAWING NO.

C-10

GENERAL NOTES:

1. LOCATION OF PROPOSED CONNECTIONS ARE APPROXIMATE. CONTRACTOR TO CONTACT ENGINEER IF FIELD INFORMATION VARIES FROM INFORMATION ON PLANS.
2. CONTRACTOR IS TO BE CAUTIONED THAT CERTAIN LOCATIONS AND/OR ELEVATIONS OF EXISTING UTILITIES HAVE BEEN PROVIDED THROUGH UTILITY COORDINATION OR OTHER OBSERVATIONS. INFORMATION IS NOT TO BE RELIED UPON AS EXACT OR COMPLETE. CONTRACTOR TO FIELD VERIFY AND COORDINATE WITH UTILITY COMPANY AND DIG SAFE NO LESS THAN 72 HOURS PRIOR TO ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF ALL UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS INDICATED IN THE CONTRACT DOCUMENTS. CONTRACTOR TO NOTIFY ENGINEER OF ANY DIFFERENTIATIONS FROM EXISTING CONDITIONS, INCLUDING UTILITY INFORMATION, PRIOR TO ANY CHANGES.
3. FOR ALL UTILITIES, ACORN ENGINEERING DESIGN LIMITS END AT EXTERIOR WALL OF BUILDING. METERING OF UTILITIES TO BE COMPLETED BY M.E.P. UNLESS SPECIFIED OTHERWISE.
4. CONTRACTOR TO COORDINATE WITH ARCHITECT ON FINAL UTILITY CONNECTIONS WITHIN THE BUILDING.
5. SEWER UTILITIES: CONTRACTOR TO COORDINATE WITH ARCHITECT FOR FINAL SERVICE CONNECTION. SEWER UTILITIES TO BE CONSTRUCTED IN ACCORDANCE WITH TOWN OF CUMBERLAND TECHNICAL STANDARDS. VALVE FOR BACKFLOW PREVENTION SHALL BE INSTALLED WITHIN THE THE PROPERTY LINES FOR EACH TOWN SEWER CONNECTION. CONTACT ENGINEER IF INVERT FIELD CONDITIONS VARY FROM DESIGN.
6. WATER UTILITIES: FINAL PIPE SIZING PROVIDED BY M.E.P. ENGINEER AND FIRE PROTECTION DESIGNER. INTERNAL METERING, BACKFLOW PREVENTION, AND PRESSURE REDUCERS TO BE COMPLETED BY M.E.P. ENGINEER. DOMESTIC WATER PIPE SIZES WILL DETERMINE THE FINAL WATER METERING OPTIONS. ALL TENANTS OF THE BUILDING MUST BE ABLE TO ACCESS THE WATER METER, CONTRACTOR TO FOLLOW METERING GUIDELINES OF THE PORTLAND WATER DISTRICT AND THE TOWN OF CUMBERLAND.
7. ELECTRIC UTILITIES: ELECTRIC DESIGN TO BE FINALIZED BY M.E.P. ENGINEER. ELECTRICAL LOAD TO BE DETERMINED BY M.E.P. ENGINEER. METER LOCATION AND TRANSFORMER SIZE, IF NECESSARY DEFINED BY M.E.P. M.E.P. TO FINALIZE SERVICE CONNECTION TO BUILDING. ALL ELECTRIC CONSTRUCTION SHALL CONFORM TO CMP GUIDEBOOK OF STANDARD REQUIREMENTS, MOST RECENT EDITION. DESIGN SUBJECT TO FINAL APPROVAL FROM CMP.



ISSUED FOR	BY / DATE
TOWN SUBMISSION	TAL 10/25/22
COMMENT RESPONSE	TAL 11/28/22
DEP RESPONSE	TAL 01/11/23
SUBDIVISION PLAN	TAL 02/26/23

DRAWING NAME: UTILITY PLAN

PROJECT NAME/ ADDRESS: WHITE ROCK TERRACE - SKYVIEW DRIVE

CLIENT/OWNER OF RECORD: THE SZANTON COMPANY
10 FREE STREET, SECOND FLOOR, PORTLAND ME 04101

ACORN ENGINEERING, INC.

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

ACORN ENGINEERING, INC.
PO BOX 3372, PORTLAND MAINE 04101
(207) 775-2655

FILE:	1175.1_CIVIL
JN:	1175.1
SCALE:	AS NOTED
DESIGNED BY:	TAL
DRAWN BY:	AWG
CHECKED BY:	WHS

STATE OF MAINE LICENSED PROFESSIONAL ENGINEER
2/26/2023

DRAWING NO.

C-20

GENERAL NOTES:

1. DESIGN OF TEMPORARY SOIL RESTRAINT MEASURES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR IF NECESSARY FOR CONSTRUCTION.
2. CONTRACTOR SHALL ENSURE THAT UNDERDRAINS ARE CONSTRUCTED WITH POSITIVE OUTLET TO PROPOSED CONNECTIONS.
3. CATCH BASIN INLET PROTECTION TO BE INSTALLED WITHIN ANY STRUCTURES DOWNGRADIENT OF ACTIVE CONSTRUCTION.
4. SEDIMENTATION BARRIERS ARE TO BE INSTALLED DOWNGRADIENT OF ALL ACTIVE CONSTRUCTION WORK PER DETAIL. BARRIERS TO NOT EXTEND PAST PROPERTY LINES; BARRIERS SHOWN OFFSET FROM PROPERTY LINES ON PLANS FOR VISUAL PURPOSES ONLY.
5. ANY SLOPE BETWEEN AND INCLUDING, 2:1 TO 3:1 SHALL BE STABILIZED WITH ECB. SLOPES STEEPER THAN 2:1 SHALL BE REINFORCED WITH RIPRAP. SEE DETAILS.
6. ALL UNDERDRAINS SHALL HAVE A MINIMUM SLOPE OF 0.20%
7. ALL STORM DRAIN SHALL BE EITHER PVC SDR 35, OR ADS N-12 DUAL WALL, OR APPROVED EQUIVALENT.
8. ALL STRUCTURES 4' INSIDE DIA. UNLESS OTHERWISE NOTED.
9. COORDINATE DOWNSPOUT INSTALLATION WITH ARCHITECT.
10. CONTRACTOR IS RESPONSIBLE FOR ENSURING PIPE MATERIAL IS RATED FOR PROPOSED DEPTHS.
11. SLOPES WITHIN ADA PARKING AND ACCESS AISLES TO BE LESS THAN 2%

BEDROCK DEPTH TABLE

TEST PIT	TP ELEV. (FT)	BEDROCK ELEV. (FT)
TP-1	119.5	104.0
TP-2	124.5	116.5
TP-3	123.0	119.0
TP-4	126.5	122.0
TP-5	129.5	125.0
TP-6	128.5	124.0
TP-7	125.5	121.0
TP-8	119.0	111.0
TP-9	119.5	113.0
TP-10	119.5	114.0

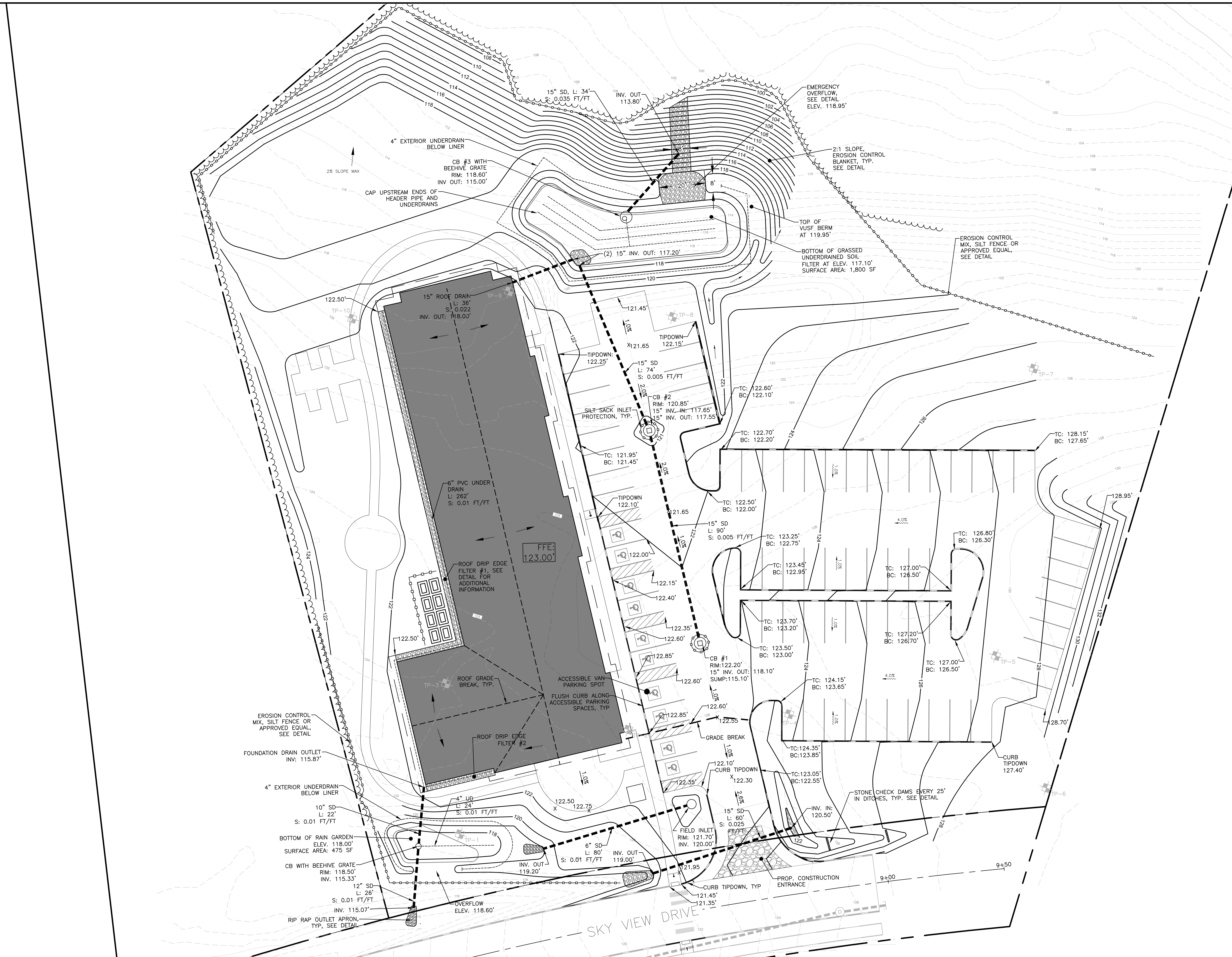
DEP BLASTING PERFORMANCE STANDARDS:

a) GROUND VIBRATION AT OFFSITE STRUCTURES NOT OWNED OR CONTROLLED BY THE DEVELOPER MAY NOT EXCEED THE LIMITS SHOWN IN FIGURE B-1 OF APPENDIX B, U.S. BUREAU OF MINES REPORT OF INVESTIGATIONS 8507;

b) AIR OVERPRESSURE OFFSITE MAY NOT EXCEED THE LIMITS PROVIDED AT DEPARTMENT RULES CHAPTER 375.10(C)(4)(C) AND 38 MRS §490-Z(14)(H);

c) FLYROCK MUST BE CONTROLLED SO AS TO REMAIN ON THE SITE AND MAY NOT ENTER A PROTECTED RESOURCE UNLESS THE DEPARTMENT HAS PREVIOUSLY APPROVED ALTERATION OF THAT RESOURCE IN THE IMPACTED AREA;

d) RECORDS OF BLASTS GENERALLY CONSISTENT WITH THE REQUIREMENTS OF 38 MRS §490-Z(14)(L) MUST BE KEPT FOR AT LEAST ONE YEAR FROM THE DATE OF THE LAST BLAST AND PROVIDED TO THE DEPARTMENT IF REQUESTED (NOTE THAT THE DEPARTMENT GENERALLY DOES NOT CONSIDER SUCH RECORDS INCOMPLETE IF THE SOCIAL SECURITY NUMBER OF THE BLASTER IS NOT INCLUDED).



20 0 20 40

SCALE: 1' = 20'

ISSUED FOR

ISSUED FOR	BY / DATE
TOWN SUBMISSION	TAL 10/25/22
COMMENT RESPONSE	TAL 11/28/22
DEP RESPONSE	TAL 01/11/23
SUBDIVISION PLAN	TAL 02/26/23
DEP RESPONSE #2	TAL 04/10/23

DRAWING NAME: GRADING & DRAINAGE PLAN

PROJECT NAME/ ADDRESS: WHITE ROCK TERRACE - SKYVIEW DRIVE

CLIENT/OWNER OF RECORD: THE SZANTON COMPANY 10 FREE STREET, SECOND FLOOR, PORTLAND ME 04101

ACORN ENGINEERING, INC.

ACORN ENGINEERING, INC. PO BOX 3372, PORTLAND MAINE 04101 (207) 775-2655

FILE:	1175.1_CIVIL
JN:	1175.1
SCALE:	AS NOTED
DESIGNED BY:	TAL
DRAWN BY:	AWG
CHECKED BY:	WHS

STATE OF MAINE Travis A. Letellier 13920 LICENSED PROFESSIONAL ENGINEER

2/26/2023

DRAWING NO.

C-30

ZONING NOTES:

1. OWNERS OF RECORD:
   LOT 107A: SZANTON MONKS PROPERTIES, LLC.
   10 FREE STREET, PORTLAND, MAINE
   BOOK 35978, PAGE 200
2. ZONING DISTRICT: HERITAGE VILLAGE CONTRACT ZONE – MULTI-FAMILY
3. PROPOSED USE: RESIDENTIAL MULTI-PLEX
4. DIMENSIONAL STANDARDS:

SPACE STANDARDS:	REQUIRED	PROVIDED
MINIMUM LOT SIZE:	2 ACRES	4.4 ACRES
MINIMUM FRONTAGE:	50 FEET	285 FEET
MINIMUM FRONT SETBACK:	50 FEET	50.5 FEET
MINIMUM SIDE SETBACK:	30 FEET	30.5 FEET
MINIMUM REAR SETBACK:	50 FEET	>50 FEET
MAXIMUM SITE COVERAGE:	30%	7%
MINIMUM OPEN SPACE:	20%	57%
MAXIMUM BUILDING HEIGHT:	50 FEET	49.9 FEET

5. PARCEL ID: MAP R-01/LOT 107A
6. PROPOSED IMPERVIOUS AREA: 42,700 S.F. (0.98 ACRE)
7. PROJECT LOCATION IS OUTSIDE OF THE 100-YEAR FLOODPLAIN
8. PARKING SUMMARY: 1.4 SPACES PER UNIT PER ORDINANCE (WAIVER GRANTED)
   PROVIDED
   77 SPACES
9. THERE ARE NO WETLANDS LOCATED ON THE SITE.
10. OUTSIDE AGENCY APPROVALS:
    PROJECT HAS AN APPROVED DEPARTMENT OF ENVIRONMENTAL PROTECTION PERMIT. PERMIT NO. L-21578-39-L-A. AN AMENDMENT APPLICATION FOR THIS PERMIT IS PENDING.
    PROJECT HAS AN APPROVED MAINE DEPARTMENT OF TRANSPORTATION PERMIT. PERMIT ID NO. 01-00070-A-M.
11. UTILITIES PROVIDED:
    WATER: PORTLAND WATER DISTRICT
    SEWER: TOWN OF CUMBERLAND SEWER DEPARTMENT
    POWER: CENTRAL MAINE POWER

PLAN REFERENCE:

FIFTH AMENDED SUBDIVISION PLAN, CUMBERLAND FORESIDE VILLAGE, FOR HERITAGE DEVELOPMENT GROUP, LCC. BY OWEN HASKELL, INC. DATED OCTOBER 20, 2022.

CONDITIONS OF APPROVAL:

1. A PRECONSTRUCTION CONFERENCE IS REQUIRED PRIOR TO THE START OF CONSTRUCTION.
2. THE AMENDED SLODA PERMIT SHALL BE SUBMITTED TO THE TOWN PLANNER PRIOR TO THE PRECONSTRUCTION CONFERENCE.
3. A PERFORMANCE GUARANTEE IN AN AMOUNT AND FORM ACCEPTABLE TO THE TOWN MANAGER WILL BE REQUIRED PRIOR TO THE PRECONSTRUCTION CONFERENCE.
4. ALL CLEARING LIMITS SHALL BE FLAGGED AND APPROVED BY THE TOWN ENGINEER PRIOR TO THE PRECONSTRUCTION CONFERENCE.
5. A BLASTING PERMIT, IF REQUIRED, SHALL BE OBTAINED FROM THE CODE ENFORCEMENT OFFICER.
6. ALL LEGAL AND TECHNICAL REVIEW FEES SHALL BE PAID TO THE TOWN PRIOR TO THE PRECONSTRUCTION CONFERENCE.
7. AN ELECTRONIC COPY OF THE AS-BUILT PLANS SHALL BE SUBMITTED TO THE TOWN PLANNER PRIOR TO THE RELEASE OF ANY REMAINING INSPECTION FEES.
8. THE OWNER WILL BE RESPONSIBLE FOR THE REMOVAL OF SOLID WASTE VIA A PRIVATE WASTE HAULER.
9. A SIGN PERMIT FOR ANY PROPOSED SIGNS IS REQUIRED.
10. All STORAGE FOR FUEL, CHEMICALS, CHEMICAL OR INDUSTRIAL WASTES, BIODEGRADABLE RAW MATERIALS, OR LIQUID, GASEOUS OR SOLID MATERIALS SHALL MEET THE STANDARDS OF THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION AND THE STATE FIRE MARSHAL'S OFFICE.
11. THE BUILDING SHALL COMPLY WITH THE REQUIREMENTS OF THE STATE FIRE MARSHAL'S OFFICE AND THE TOWN FIRE CHIEF.
12. A PARKING STUDY AFTER ONE YEAR OF OCCUPANCY SHALL BE CONDUCTED TO DETERMINE IF THE AREA RESERVED FOR ADDITIONAL PARKING SHOULD BE UTILIZED.
13. A FINAL LANDSCAPING PLAN WITH ADDITIONAL TREE PLANTINGS BETWEEN THE BUILDING AND SKYVIEW DRIVE AND BETWEEN THE BUILDING AND NAUTICAL WAY BE REVIEWED AND APPROVED BY THE TOWN PLANNER PRIOR TO THE PRE-CONSTRUCTION CONFERENCE.

STANDARD CONDITIONS OF APPROVAL:

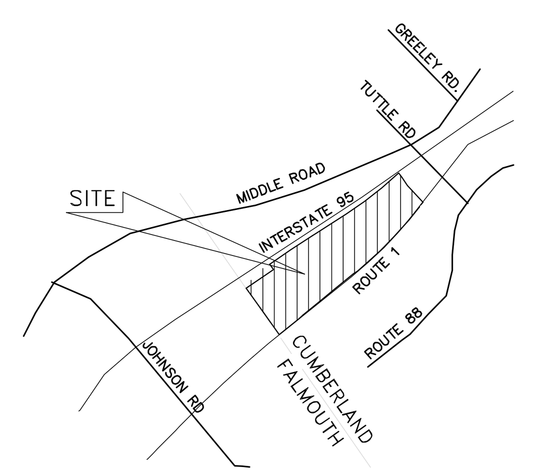
STANDARD CONDITION OF APPROVAL: THIS APPROVAL IS DEPENDENT UPON AND LIMITED TO THE PROPOSALS AND PLANS CONTAINED IN THE APPLICATION AND SUPPORTING DOCUMENTS SUBMITTED BY THE APPLICANT. ANY VARIATION FROM THE PLANS, PROPOSALS AND SUPPORTING DOCUMENTS, EXCEPT DE MINIMIS CHANGES AS SO DETERMINED BY THE TOWN PLANNER WHICH DO NOT AFFECT APPROVAL STANDARDS, IS SUBJECT TO REVIEW AND APPROVAL OF THE PLANNING BOARD PRIOR TO IMPLEMENTATION.

WAIVERS GRANTED:

1. WAIVER FROM A HYDROGEOLOGIC STUDY.
2. WAIVER FROM A HIGH INTENSITY SOIL SURVEY.
3. PARTIAL WAIVER OF THE PARKING REQUIREMENT TO REDUCE THE NUMBER OF REQUIRED SPACES FROM 2 SPACES PER UNIT TO 1.4 SPACES PER UNIT.
4. WAIVER FROM THE NOTING THE LOCATION OF TREES GREATER THAN 1 0" IN DIAMETER ON THE PLAN.

SUBDIVISION PLAN, APPROVED BY THE TOWN OF CUMBERLAND PLANNING BOARD

CHAIRPERSON: DATE:



LOCATION PLAN N.T.S.

OWNER OF RECORD:

SZANTON MONKS PROPERTIES, LLC.
10 FREE ST, 2ND FLOOR
PORTLAND, ME
CONTACT: KRISTIN MARTIN

CIVIL/SITE ENGINEER:

ACORN ENGINEERING, INC.
500 WASHINGTON STREET, SUITE 200
PORTLAND, MAINE
CONTACT: TRAVIS LETELLIER, P.E.

SURVEYOR:

OWEN HASKELL, INC.
390 U.S. ROUTE 1
FALMOUTH, MAINE
CONTACT: JOHN SCHWANDA, P.L.S.

RECORDING INFORMATION
STATE OF MAINE,
CUMBERLAND COUNTY
REGISTRY OF DEEDS

RECEIVED:

RECORDED IN

ATTEST:

REGISTRAR

FOR RECORDING
NOT FOR CONSTRUCTION

ISSUED FOR	BY / DATE
TOWN SUBMISSION	TAL 10/25/22
COMMENT RESPONSE	TAL 11/28/22
DEP RESPONSE	TAL 01/11/23
SUBDIVISION PLAN	TAL 02/26/23

DRAWING NAME: SUBDIVISION PLAN

PROJECT NAME/ADDRESS: WHITE ROCK TERRACE – SKYVIEW DRIVE

CLIENT/OWNER OF RECORD: THE SZANTON COMPANY
10 FREE STREET, SECOND FLOOR, PORTLAND ME 04101

A C O R N ENGINEERING, INC.

ACORN ENGINEERING, INC.
PO BOX 3372, PORTLAND MAINE 04101
(207) 775-2655

FILE:	1175.1_CIVIL
JN:	1175.1
SCALE:	AS NOTED
DESIGNED BY:	TAL
DRAWN BY:	AWG
CHECKED BY:	WHS

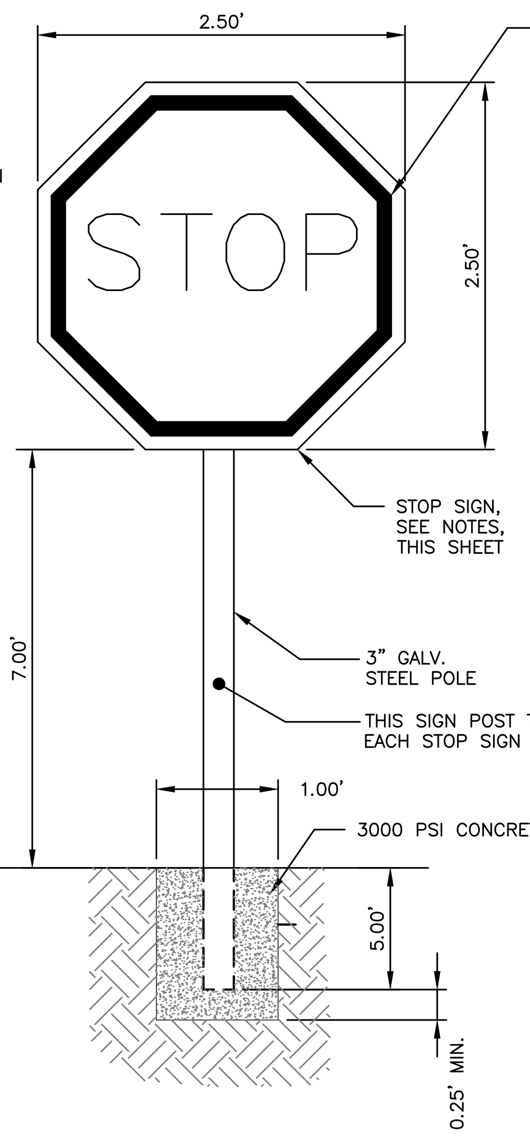
STATE OF MAINE
Travis A. Letellier
13920
LICENSED PROFESSIONAL ENGINEER
2/26/2023

DRAWING NO.

EXH

NOTES:

1. ALL ASPECTS OF STOP SIGN CONSTRUCTION SHALL BE IN ACCORDANCE WITH MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, 2009 OR MOST RECENT EDITION.
2. SIGN SHALL BE CONSTRUCTED AS SIGN R1-1 UNDER THE "REGULATORY SIGNS, BARRICADES, AND GATES" (R1 SERIES) WITHIN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, 2009 OR MOST RECENT EDITION.
3. SIGN POST CONSTRUCTION AND MOUNTING SHALL BE IN ACCORDANCE WITH CHAPTER 2A OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, 2009 OR MOST RECENT EDITION.

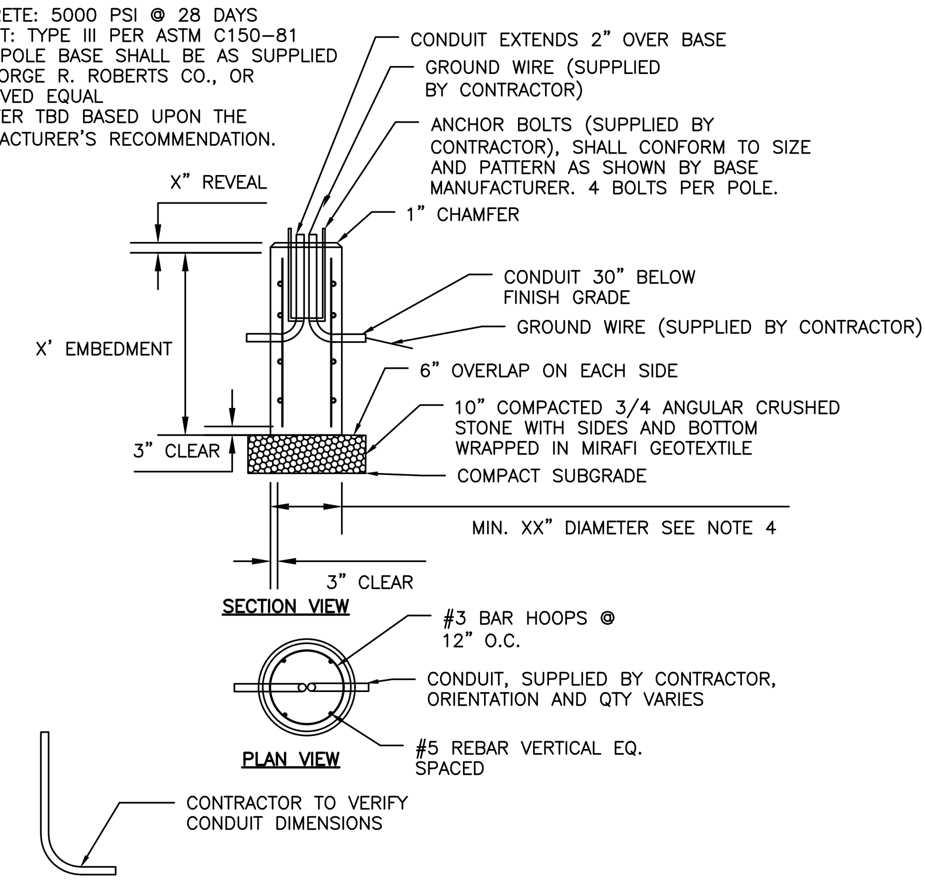


TRAFFIC SIGN DETAIL
NOT TO SCALE

SCHEDULE		
HEIGHT OF POLE	MIN DIAMETER	MIN EMBEDMENT
<20'	18"	5'
20'-40'	2'	6'
>40'	3'	8'

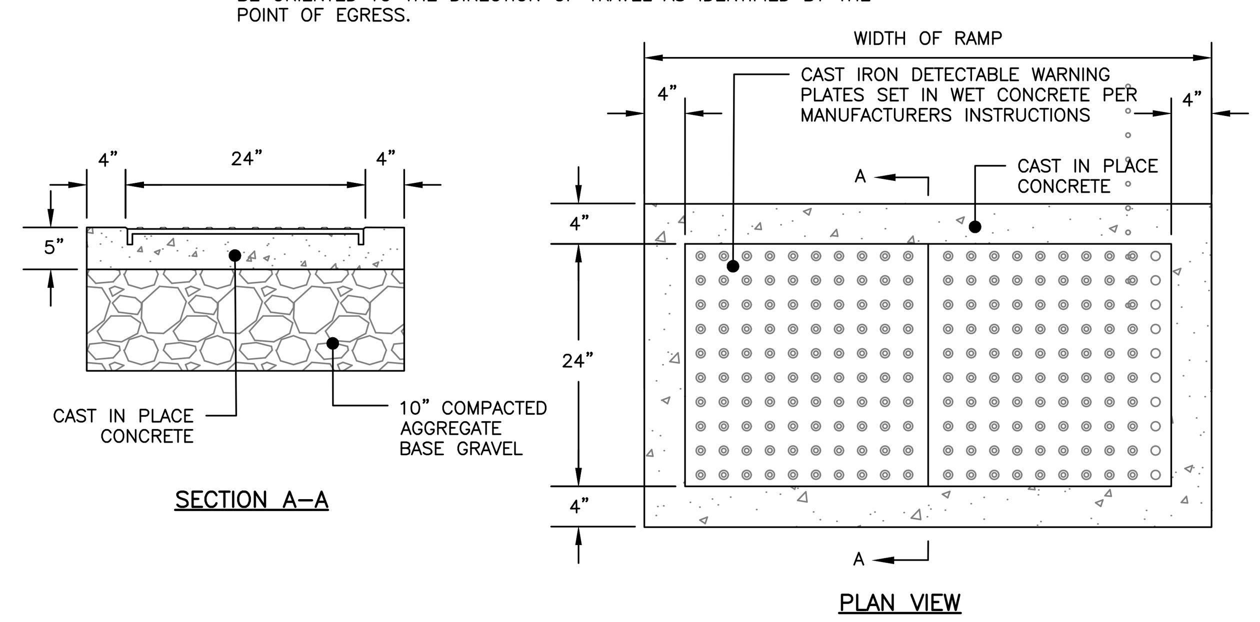
REVEALS	
APPLICATIONS	REVEAL
STREET/SIDEWALK	4"
OTHER PED HARDSCAPE	FLUSH
PEDESTRIAN LAWN/MULCH	4"
PARKING AREAS (OPEN TRAFFIC)	24-36"

NOTES:
1. CONCRETE: 5000 PSI @ 28 DAYS
2. CEMENT: TYPE III PER ASTM C150-81
3. LIGHT POLE BASE SHALL BE AS SUPPLIED BY GEORGE R. ROBERTS CO., OR APPROVED EQUAL.
4. DIAMETER TBD BASED UPON THE MANUFACTURER'S RECOMMENDATION.

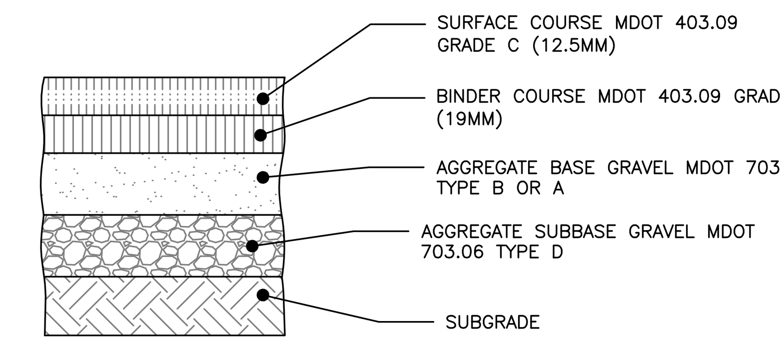


LIGHT POLE BASE
NOT TO SCALE

NOTES:
1. ALL DETECTABLE WARNING PLATES SHALL BE UNCOATED CAST IRON. FOLLOW MANUFACTURER'S INSTRUCTIONS FOR INSTALLATION.
2. CAST IN PLACE CONCRETE SHALL MEET SPECIFICATIONS FOR MDOT CLASS A STRUCTURAL CONCRETE, MINIMUM COMPRESSIVE STRENGTH 4,000 PSI. THE EXPOSED CONCRETE BORDER SHALL RECEIVE A UNIFORM BROOM FINISH PERPENDICULAR TO THE FLOW OF PEDESTRIAN TRAFFIC.
3. TRUNCATED DOMES SHALL BE ALIGNED IN ROWS, PARALLEL AND PERPENDICULAR TO THE PREDOMINANT DIRECTION OF TRAVEL. TRUNCATED DOME BRICKS AND GRANITE PAVERS ARE NOT ALLOWED.
4. SIZE: THE DETECTABLE WARNING PLATES SHALL EXTEND 24 INCHES MINIMUM IN THE DIRECTION OF TRAVEL AND THE FULL WIDTH OF THE CURB RAMP, LANDING, OR BLENDED TRANSITION TO THE STREET.
5. ORIENTATION: THE DETECTABLE WARNING PANEL SHALL BE LOCATED SO THAT THE EDGE NEAREST THE CURB LINE IS 6 INCHES MINIMUM AND 8 INCHES MAXIMUM FORM THE CURB LINE. THE PANEL SHALL BE ORIENTED TO THE DIRECTION OF TRAVEL AS IDENTIFIED BY THE POINT OF EGRESS.



SIDEWALK RAMP DETECTABLE WARNING PANEL
NOT TO SCALE



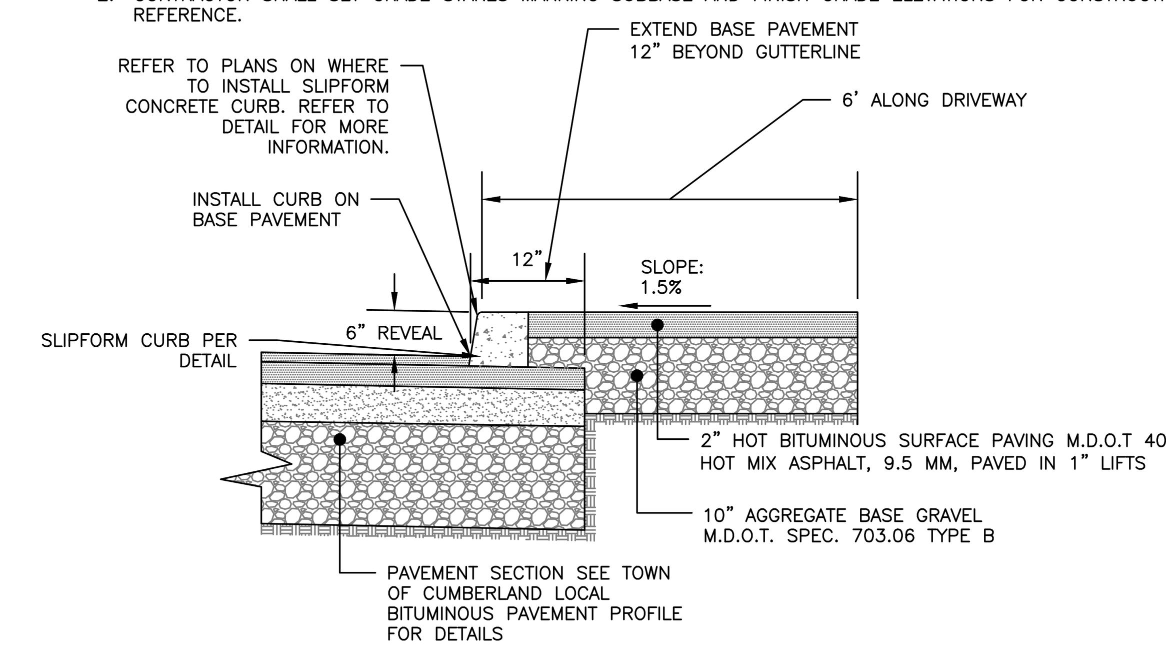
NOTE:
COMPACT SUBGRADE TO 95% MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D-1557

THICKNESS OF LAYERS

STANDARD	LAYERS
1-1/2"	SURFACE COURSE MDOT 703.09 (12.5mm)
2-1/4"	BINDER COURSE MDOT 703.09 (19mm)
3"	AGGREGATE BASE GRAVEL MDOT 703.06 TYPE A
12"	AGGREGATE SUBBASE GRAVEL MDOT 703.06 TYPE D

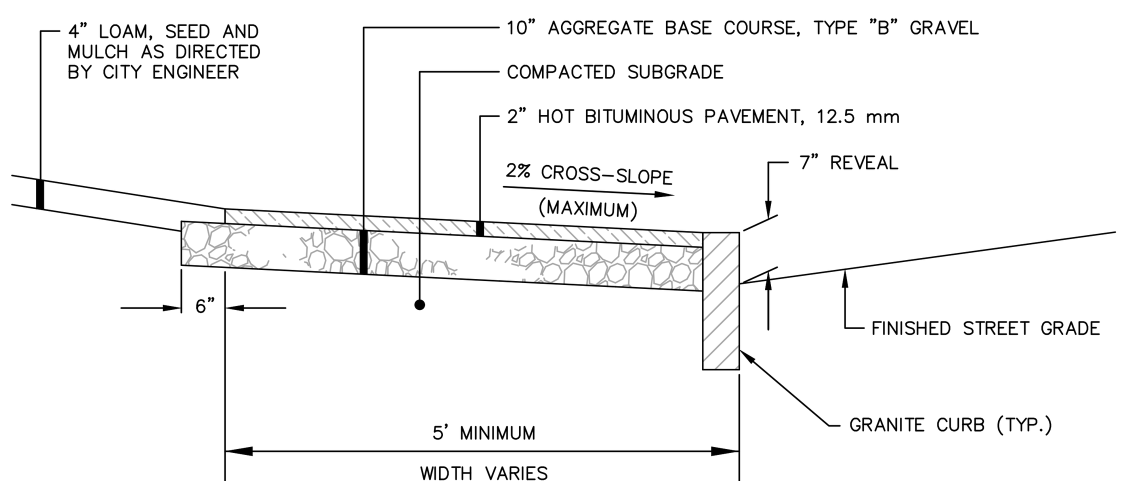
INTERNAL PARKING AND PRIVATE DRIVE PAVEMENT PROFILE
NOT TO SCALE

NOTES:
1. COMPACT GRAVEL SUBBASE, BASE COURSE TO 95% MAXIMUM DENSITY USING HEAVY ROLLER COMPACTION.
2. CONTRACTOR SHALL SET GRADE STAKES MARKING SUBBASE AND FINISH GRADE ELEVATIONS FOR CONSTRUCTION REFERENCE.



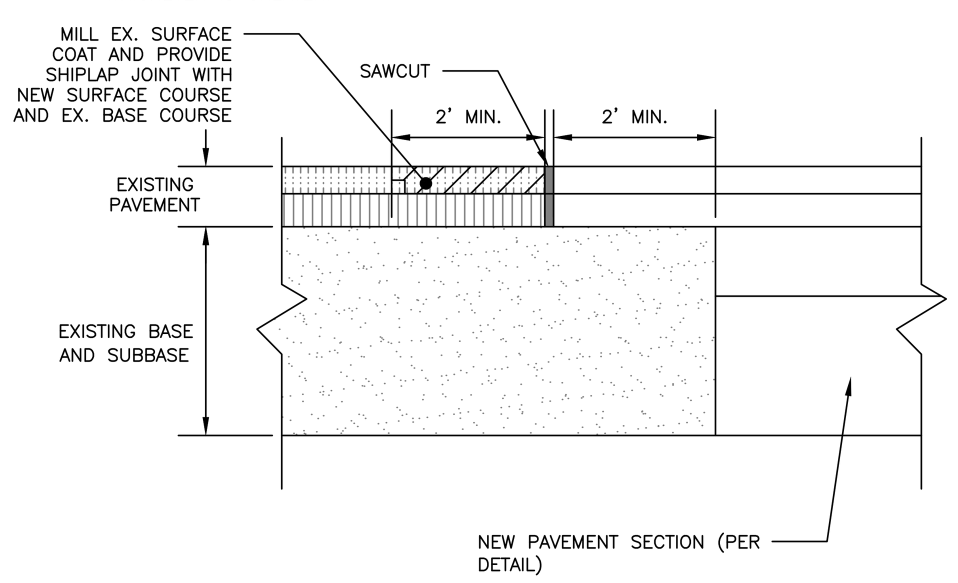
INTERNAL BITUMINOUS SIDEWALK ALONG DRIVEWAY DETAIL
NOT TO SCALE

NOTE:
COMPACT SUBGRADE TO 95% MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D-1557



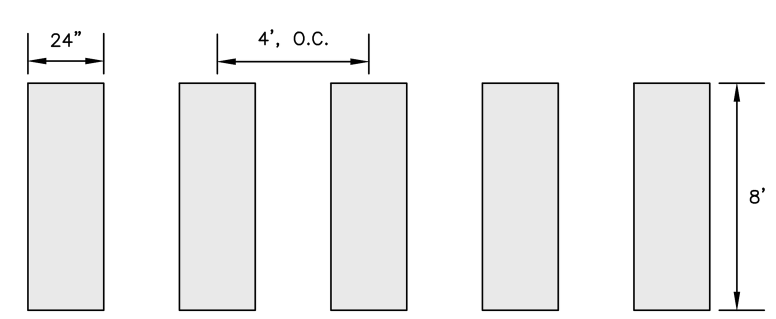
BITUMINOUS SIDEWALK
NOT TO SCALE

NOTES:
1. SAWCUT EXISTING PAVEMENT AND REMOVE 2' STRIP OF EXISTING PAVEMENT. CREATE UNIFORM AND RIGID BUTT JOINT AND APPLY BITUMINOUS TACK COAT AT AN APPLICATION RATE OF 0.10 TO 0.14 GALLONS PER SQUARE YARD PRIOR TO PLACEMENT OF NEW BITUMINOUS PAVEMENT.
2. THE NEW PAVEMENT SECTION SHALL MEET PAVEMENT SECTION DETAIL AT A MINIMUM OR THE THE EXISTING PAVEMENT AND AGGREGATE BASE AND SUBBASE DEPTH WHICHEVER IS GREATER.

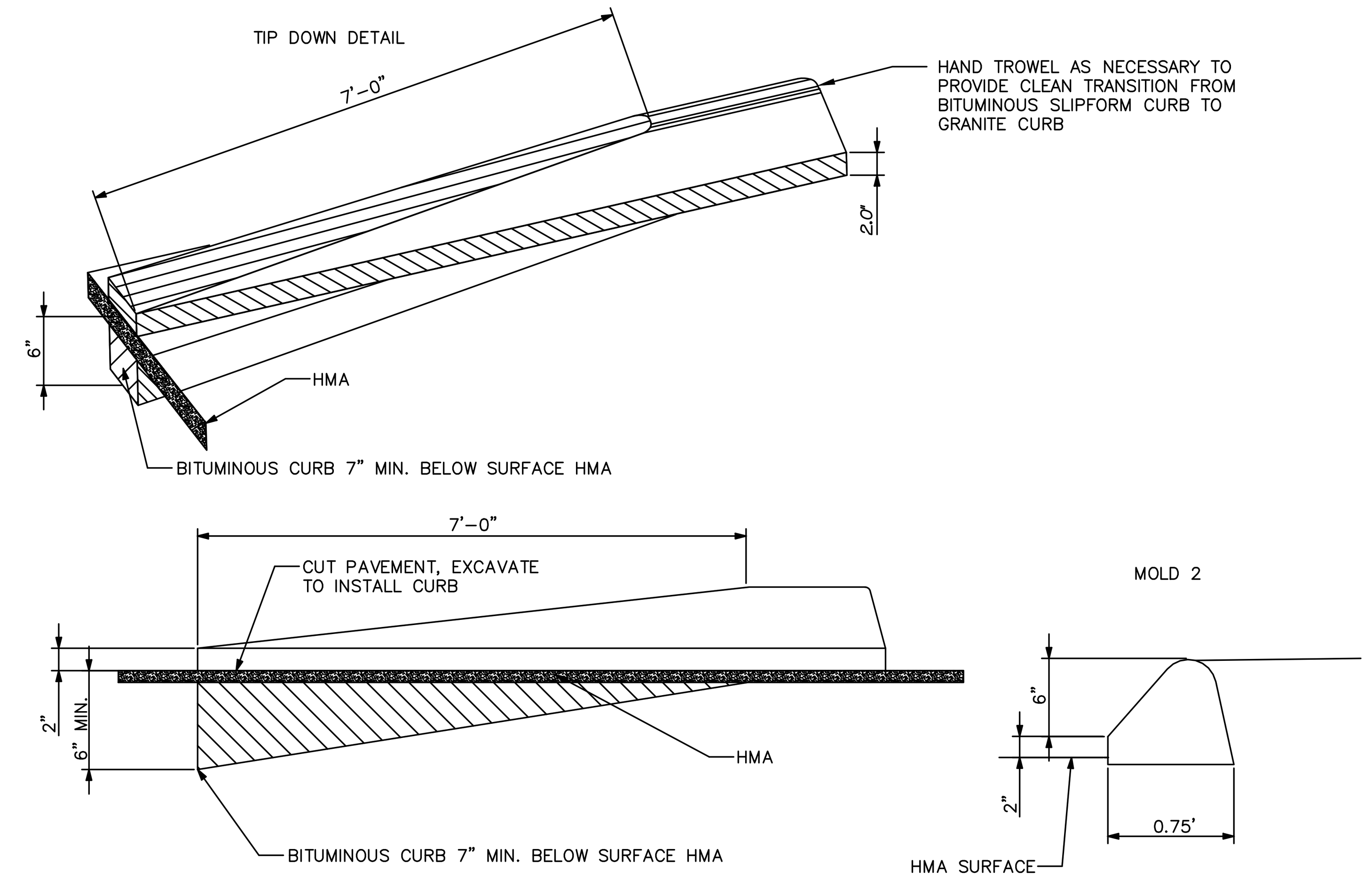


PAVEMENT SAWCUT DETAIL
NOT TO SCALE

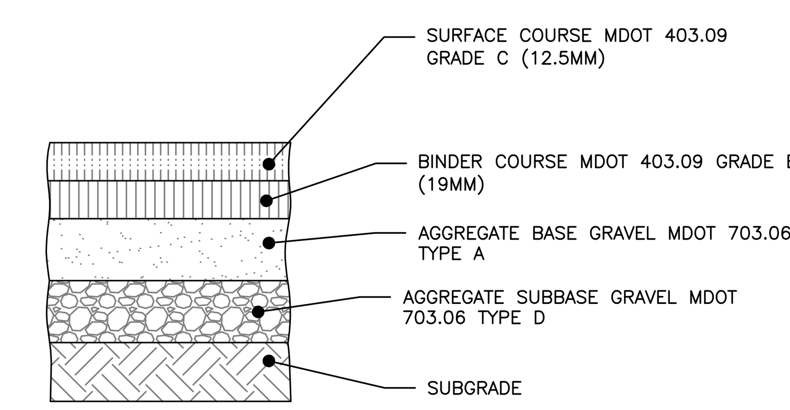
NOTE:
1. CROSSWALKS TO BE BUILT IN CONFORMANCE WITH MUTCD STANDARDS, LATEST EDITION.
2. CROSSWALKS ARE TO BE PAINTED WHITE MEETING MAINE DOT SPECIFICATIONS.
3. BLOCKS TO BE PARALLEL TO THE DIRECTION OF CAR TRAFFIC.



BLOCK CROSSWALK
NOT TO SCALE



SLIPFORM BITUMINOUS CURB DETAIL
NOT TO SCALE

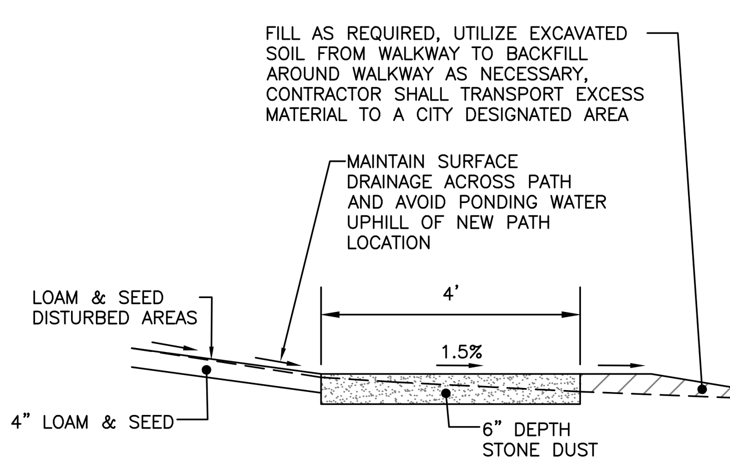


NOTES:
1. COMPACT SUBGRADE TO 95% MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D-1557
2. SURFACE AND AGGREGATE MATERIALS SHALL MEET THE TOWN OF CUMBERLAND STANDARDS IN ADDITION TO MDOT STANDARDS.

THICKNESS OF LAYERS

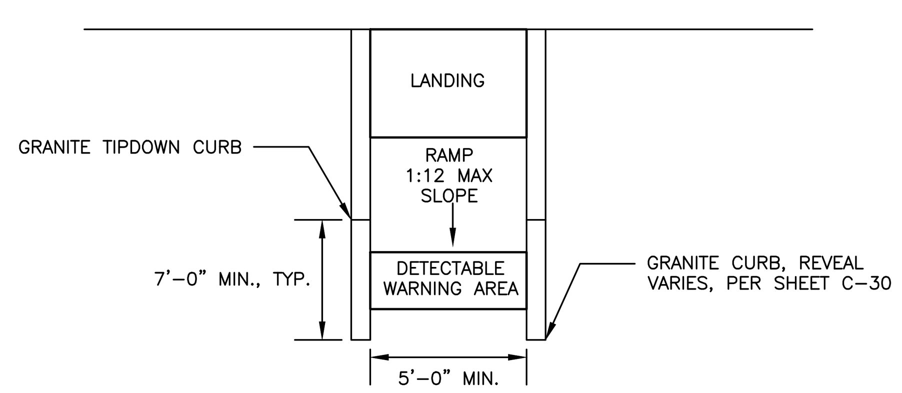
STANDARD	LAYERS
2"	SURFACE COURSE MDOT 403.09 GRADE C (9.5mm)
3.5"	BINDER COURSE MDOT 403.09 GRADE B (19mm)
3"	AGGREGATE BASE GRAVEL MDOT 703.06 TYPE A
21"	AGGREGATE SUBBASE GRAVEL MDOT 703.06 TYPE D

TOWN OF CUMBERLAND BITUMINOUS PAVEMENT PROFILE
NOT TO SCALE



4' WIDE STONE DUST PATH
NOT TO SCALE

NOTES:
1. ALL RAMPS SHALL COMPLY WITH CITY OF BIDDEFORD AND ADA STANDARDS.
2. SIDEWALK MATERIAL SHALL BE PER CITY SIDEWALK MATERIAL POLICY.
3. FLARED SECTIONS SHOULD MATCH SURFACE MATERIAL USED FOR SIDEWALK CONSTRUCTION.



DESIGN ELEMENT	SLOPE IN DIRECTION OF TRAVEL	CROSS SLOPE
APPROACH	8.33% MAX	2%
LANDING	2%	2%
RAMP	8.33% MAX	MATCH STREET GRADE
SIDEWALK	PER C-30	2%

SIDEWALK RAMP LAYOUT
NOT TO SCALE

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY / DATE
TOWN SUBMISSION	TAL 10/25/22
COMMENT RESPONSE	TAL 11/28/22
DEP RESPONSE	TAL 01/11/23
SUBDIVISION PLAN	TAL 02/26/23

DRAWING NAME: SITE DETAILS - 1
PROJECT NAME/ADDRESS: WHITE ROCK TERRACE - SKYVIEW DRIVE
CLIENT/OWNER OF RECORD: THE SZANTON COMPANY
10 FREE STREET, SECOND FLOOR, PORTLAND ME 04101

A C O R N ENGINEERING, INC.
ACORN ENGINEERING, INC.
PO BOX 3372, PORTLAND MAINE 04101
(207) 775-2655

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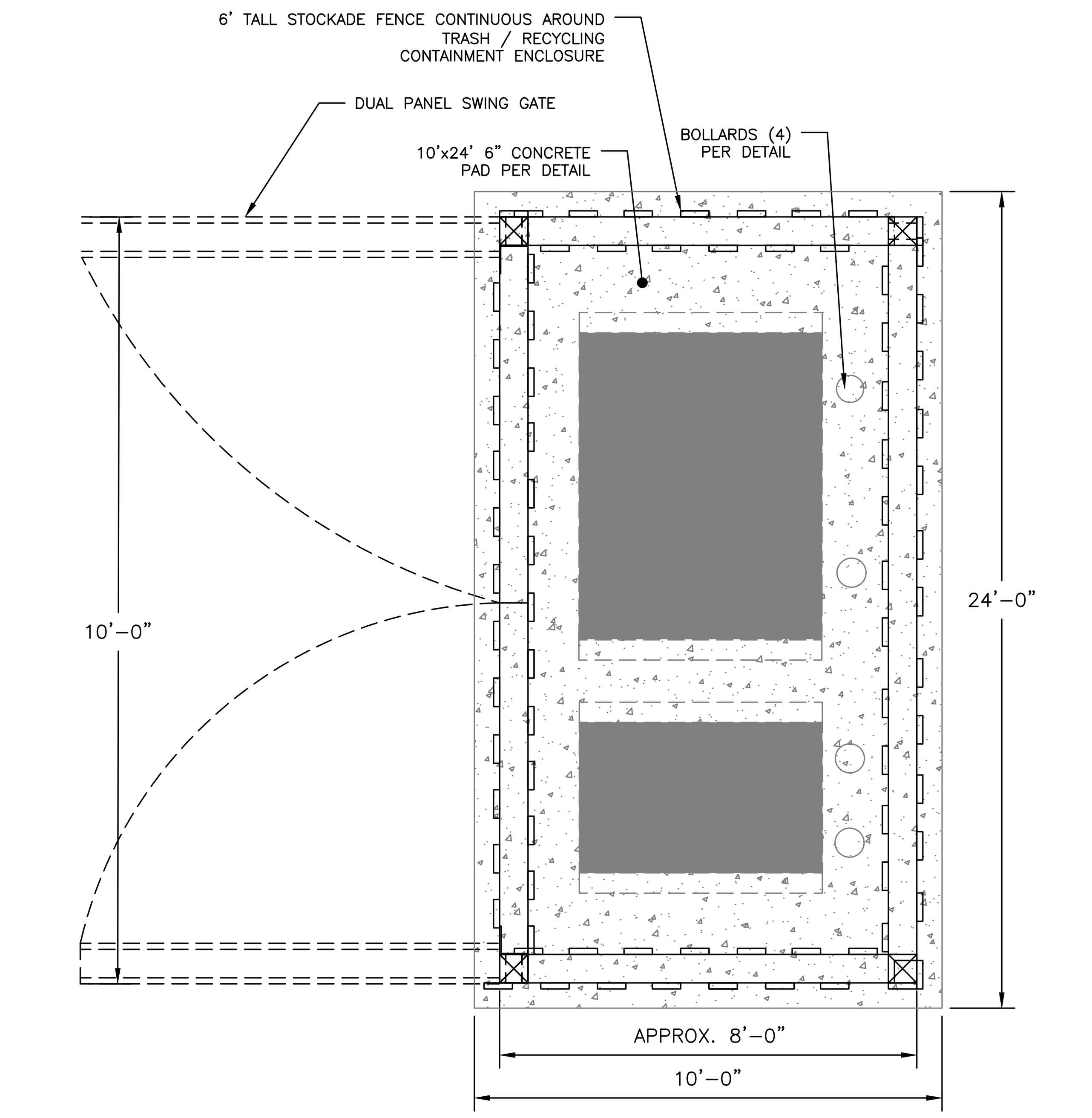
SCALE:	AS NOTED
DESIGNED BY:	TAL
DRAWN BY:	AWG
CHECKED BY:	WHS

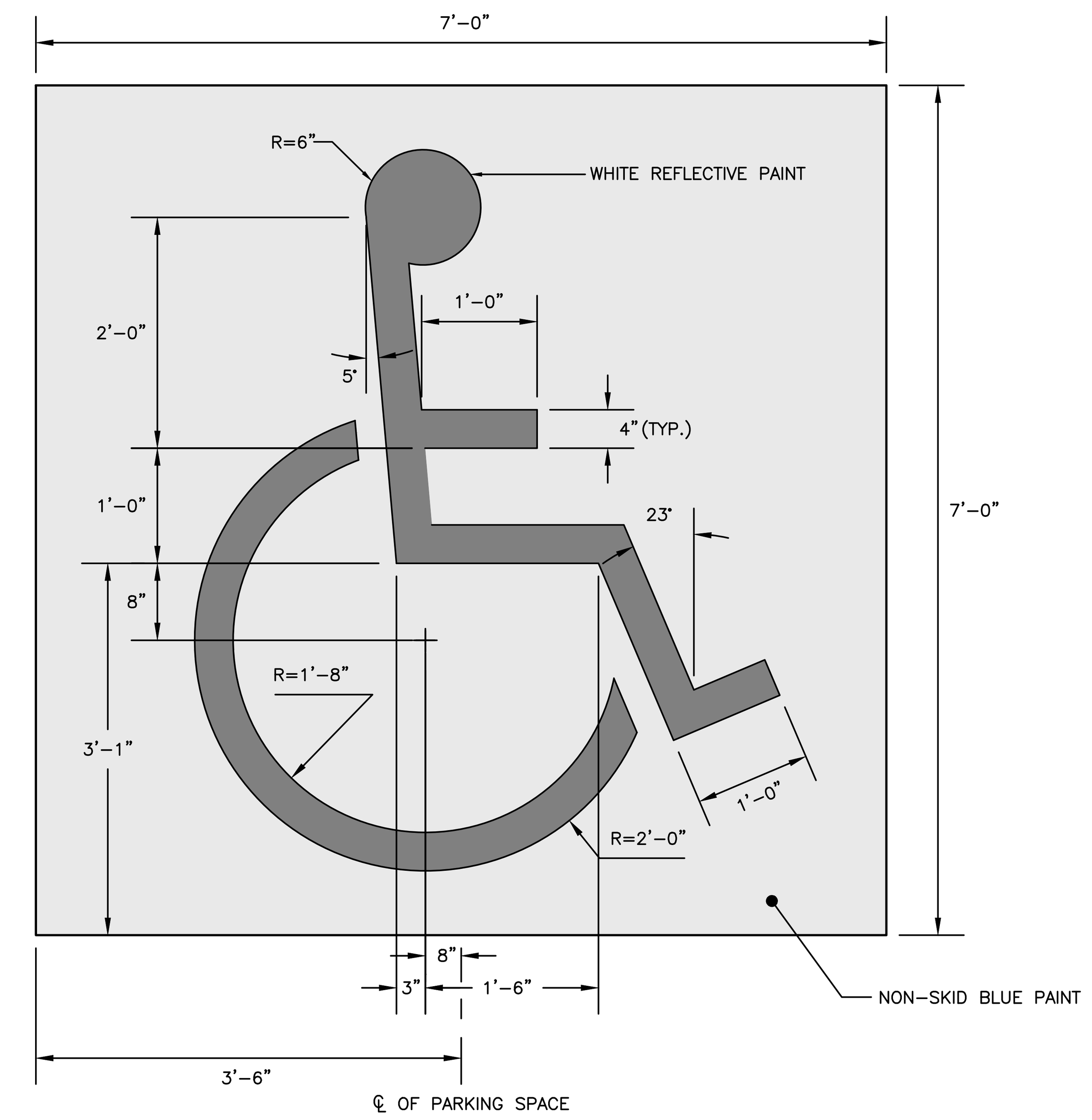
STATE OF MAINE ... PROFESSIONAL ENGINEER
2/26/2023

DRAWING NO.
C-40

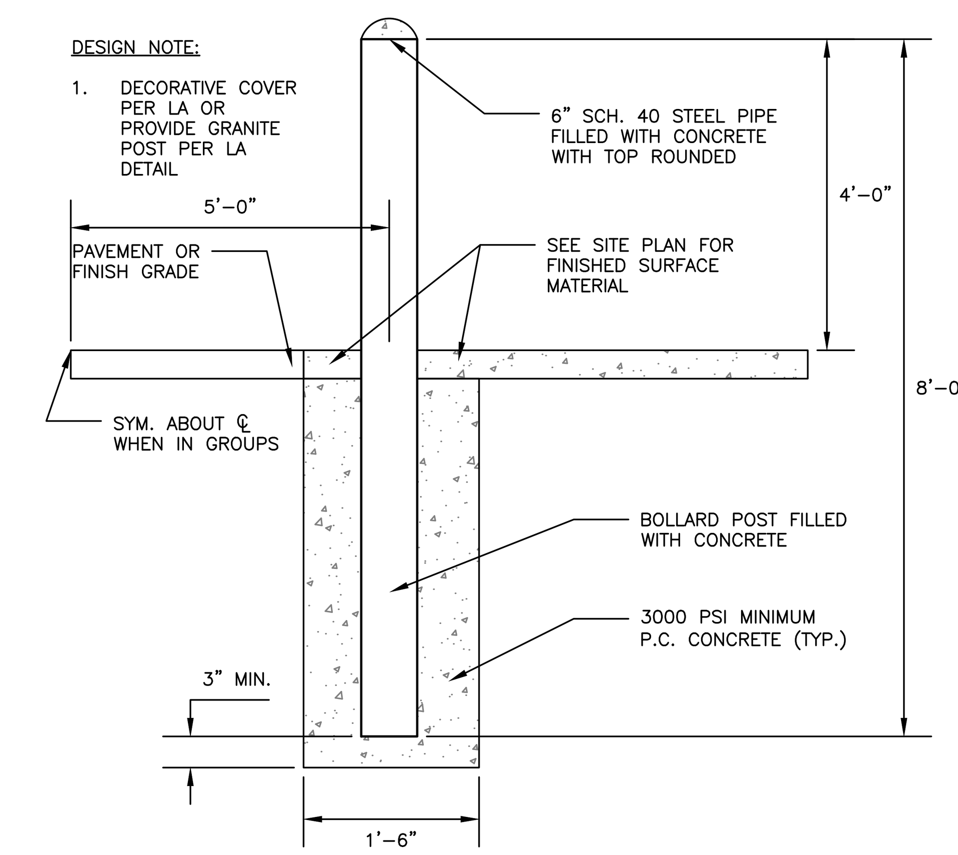


PLAN VIEW

TRASH ENCLOSURE DETAIL
NOT TO SCALE



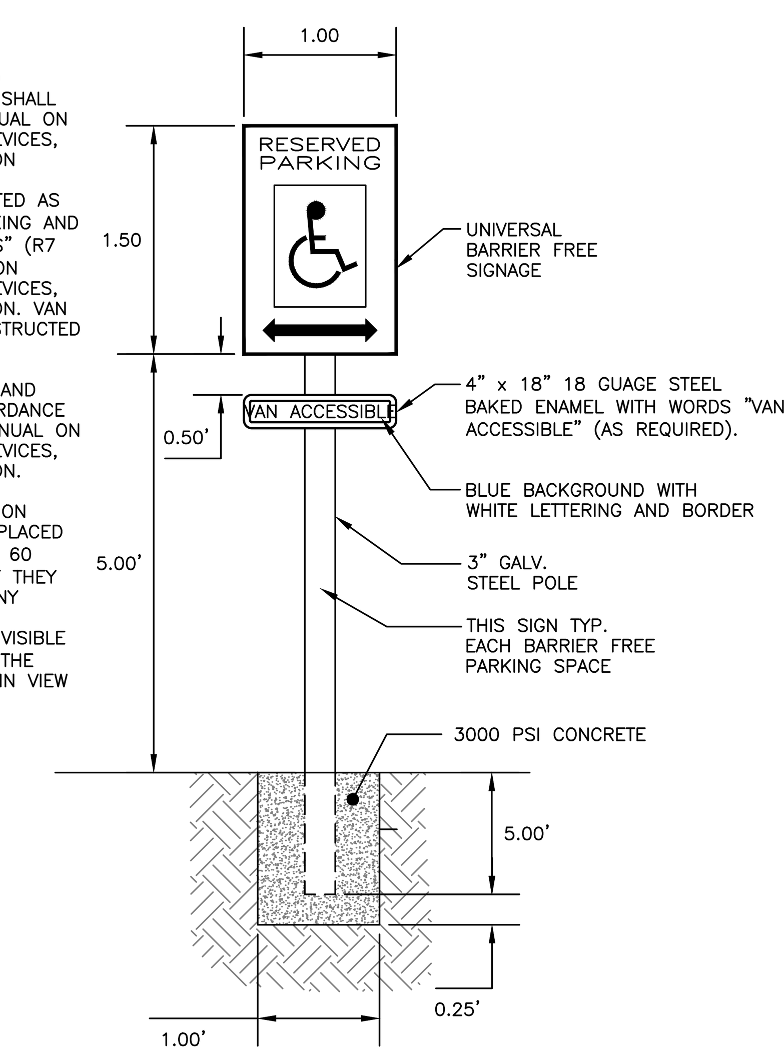
INTERNATIONAL BARRIER FREE SYMBOL
NOT TO SCALE



PIPE BOLLARD
NOT TO SCALE

NOTES:

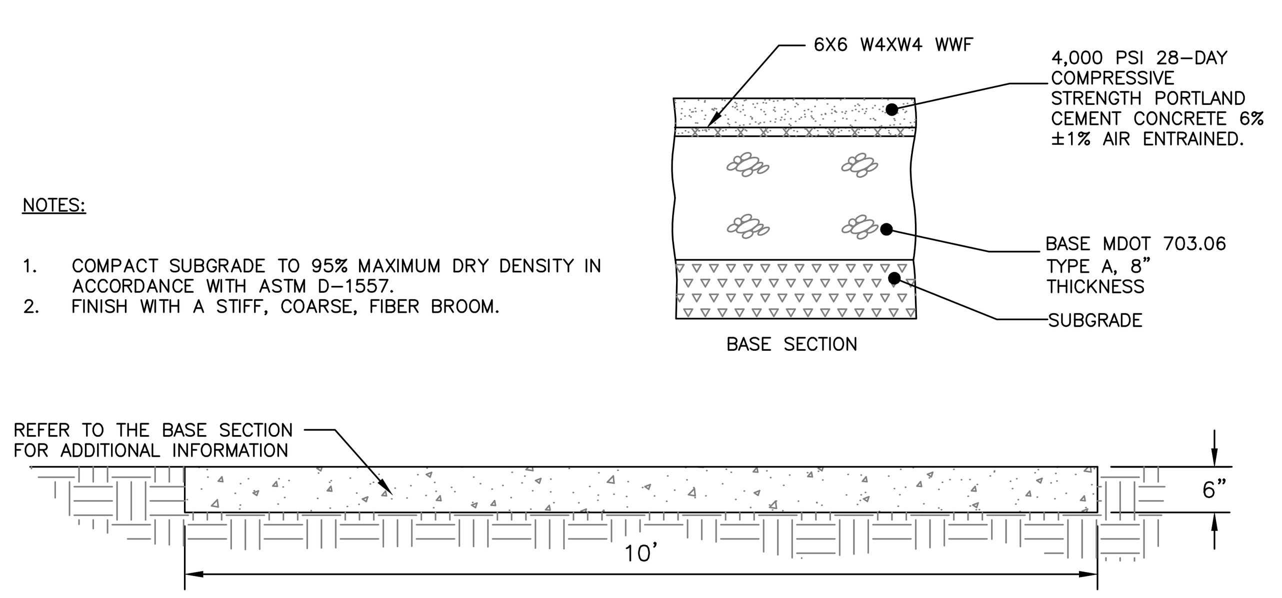
1. ALL ASPECTS OF RESERVED PARKING SIGN CONSTRUCTION SHALL BE IN ACCORDANCE WITH MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, 2009 OR MOST RECENT EDITION
2. SIGN SHALL BE CONSTRUCTED AS SIGN R7-8 UNDER THE "PARKING AND STANDING SIGNS AND PLAQUES" (R7 SERIES) WITHIN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, 2009 OR MOST RECENT EDITION. VAN ACCESSIBILITY SHALL BE CONSTRUCTED AS SIGN R7-8a OR R7-8b.
3. SIGN POST CONSTRUCTION AND MOUNTING SHALL BE IN ACCORDANCE WITH CHAPTER 2A OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, 2009 OR MOST RECENT EDITION.
4. SIGN SHALL BE INSTALLED ON BUILDING. SIGNS SHOULD BE PLACED AT SUCH A HEIGHT (AT LEAST 60 INCHES ABOVE SURFACE) THAT THEY DO NOT GET OBSCURED BY ANY PARKED VEHICLES OR OTHER OBSTRUCTIONS AND MUST BE VISIBLE FROM THE DRIVER'S SEAT OF THE VEHICLE AND LOCATED RIGHT IN VIEW OF PARKING.



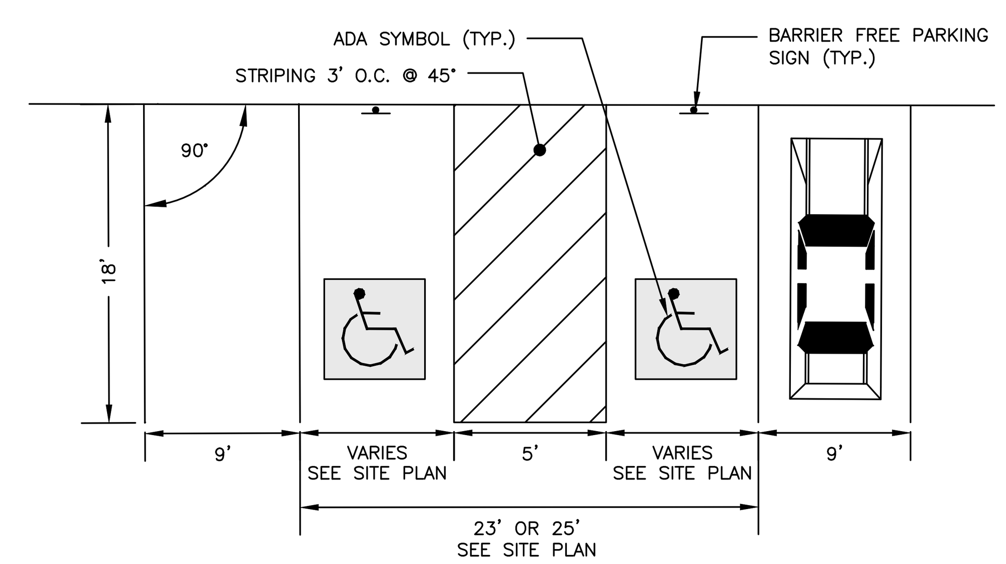
BARRIER FREE PARKING SIGN
NOT TO SCALE

NOTES:

1. COMPACT SUBGRADE TO 95% MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D-1557.
2. FINISH WITH A STIFF, COARSE, FIBER BROOM.



CONCRETE PAD DETAIL
NOT TO SCALE



PARKING SPACE DIMENSIONS
NOT TO SCALE

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
TOWN SUBMISSION	TAL 10/25/22
COMMENT RESPONSE	TAL 11/28/22
DEP RESPONSE	TAL 01/11/23
SUBDIVISION PLAN	TAL 02/26/23

DRAWING NAME: SITE DETAILS – 2

PROJECT NAME/ ADDRESS: WHITE ROCK TERRACE – SKYVIEW DRIVE

CLIENT/OWNER OF RECORD: THE SZANTON COMPANY
10 FREE STREET, SECOND FLOOR, PORTLAND ME 04101

A C O R N ENGINEERING, INC.

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

ACORN ENGINEERING, INC.
PO BOX 3372, PORTLAND MAINE 04101
(207) 775-2655

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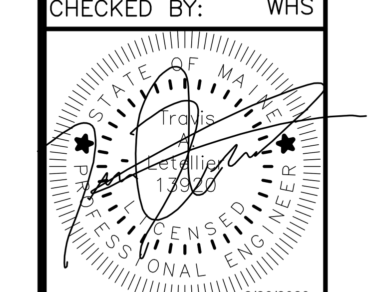
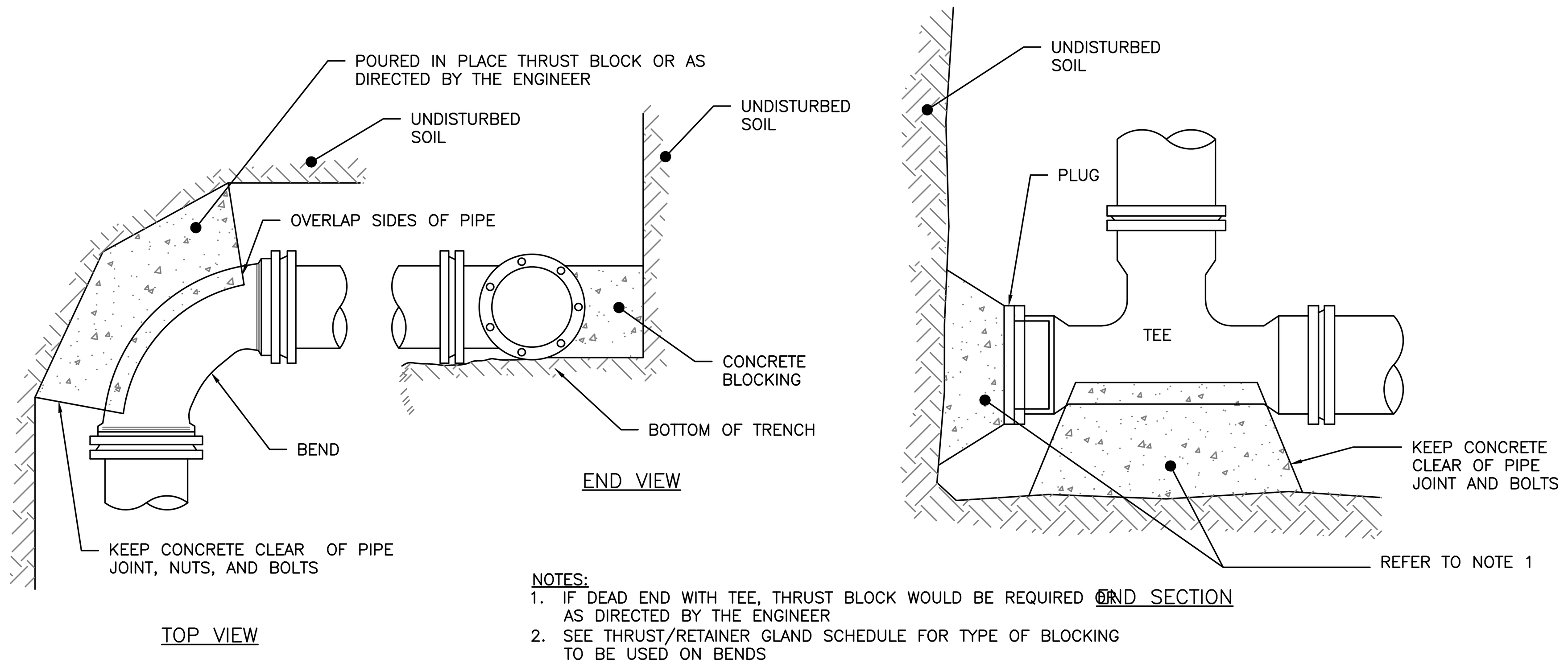
DESIGNED BY:	TAL
DRAWN BY:	AWG
CHECKED BY:	WHS



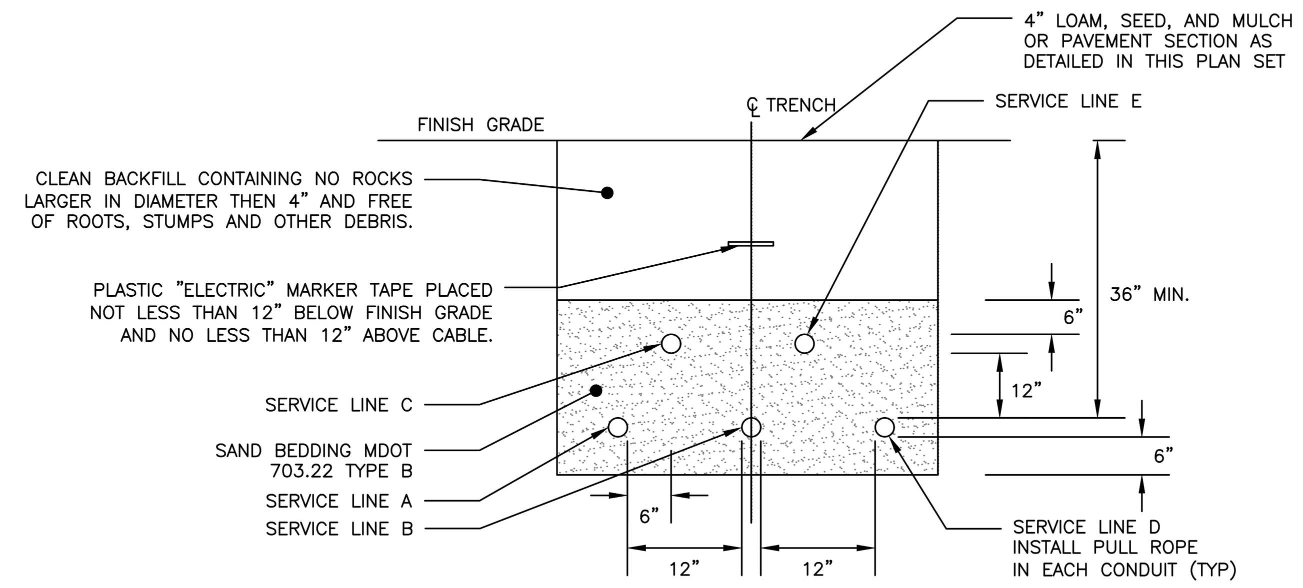
DRAWING NO.

C-41



NOTES:
1. IF DEAD END WITH TEE, THRUST BLOCK WOULD BE REQUIRED AS DIRECTED BY THE ENGINEER
2. SEE THRUST/RETAINER GLAND SCHEDULE FOR TYPE OF BLOCKING TO BE USED ON BENDS

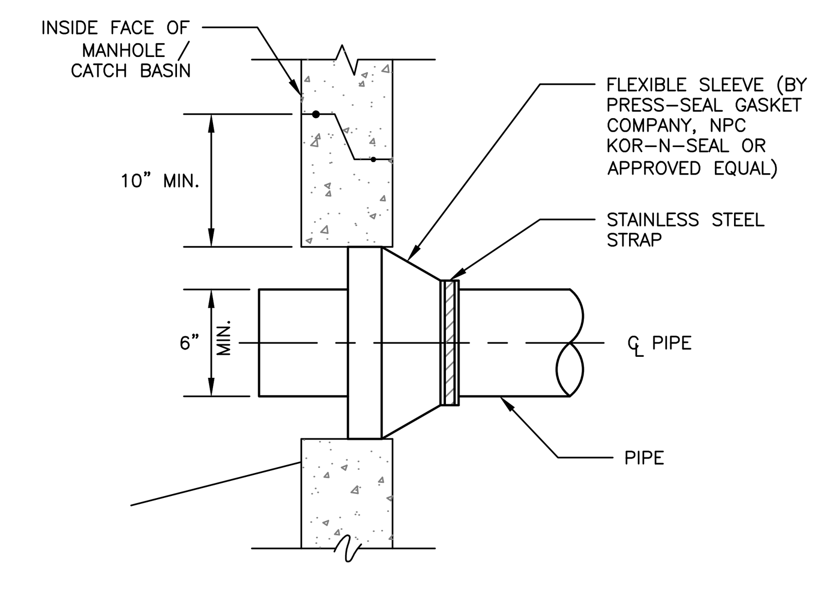
THRUST BLOCKING: REGULAR BEND
NOT TO SCALE



CONDUIT TYPE				
SERVICE	CONDUIT SIZE	GRASS AND PAVED AREAS	UTILITY	REMARKS
A	5"	SCHEDULE 40 PVC ELECTRICAL GRADE	PRIMARY POWER	SEE NOTE 1
B	5"	SCHEDULE 40 PVC ELECTRICAL GRADE	PRIMARY POWER	SEE NOTE 1
C	2-4"	SCHEDULE 40 PVC	COMMUNICATION	–
D	5"	SCHEDULE 40 PVC ELECTRICAL GRADE	SPARE	SEE NOTE 1
E	2-4"	SCHEDULE 40 PVC	CABLE	–

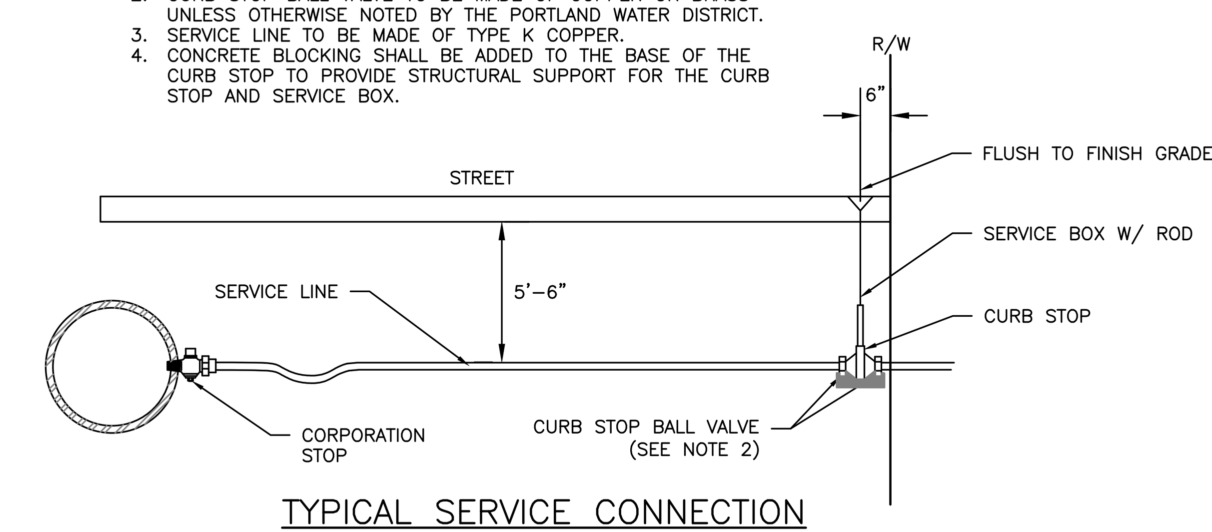
NOTES:
1. ONE CONDUIT CAPPED FOR SPARE, PROVIDE GALVANIZED STEEL LONG SWEEP AT RISER POLE AND EXTEND GALVANIZED CONDUIT TO 10" ABOVE GRADE AT POLE WITH STAND-OFF BRACKETS.
2. MINIMUM SEPARATION OF 24 INCHES BETWEEN PRIMARY CABLE/CONDUIT AND GAS LINES SHALL BE MAINTAINED.
3. CONDUITS WITHIN THE TOWN RIGHT-OF-WAY SHALL BE ENCASED IN CONCRETE.
4. FINAL SIZE OF CONDUITS TO BE SPECIFIED BY MEP, ELECTRICIAN, OR DESIGN/BUILD ELECTRICAL CONTRACTOR.

UTILITY TRENCH – PRIMARY AND SECONDARY POWER, TELEPHONE, AND CABLE
NOT TO SCALE



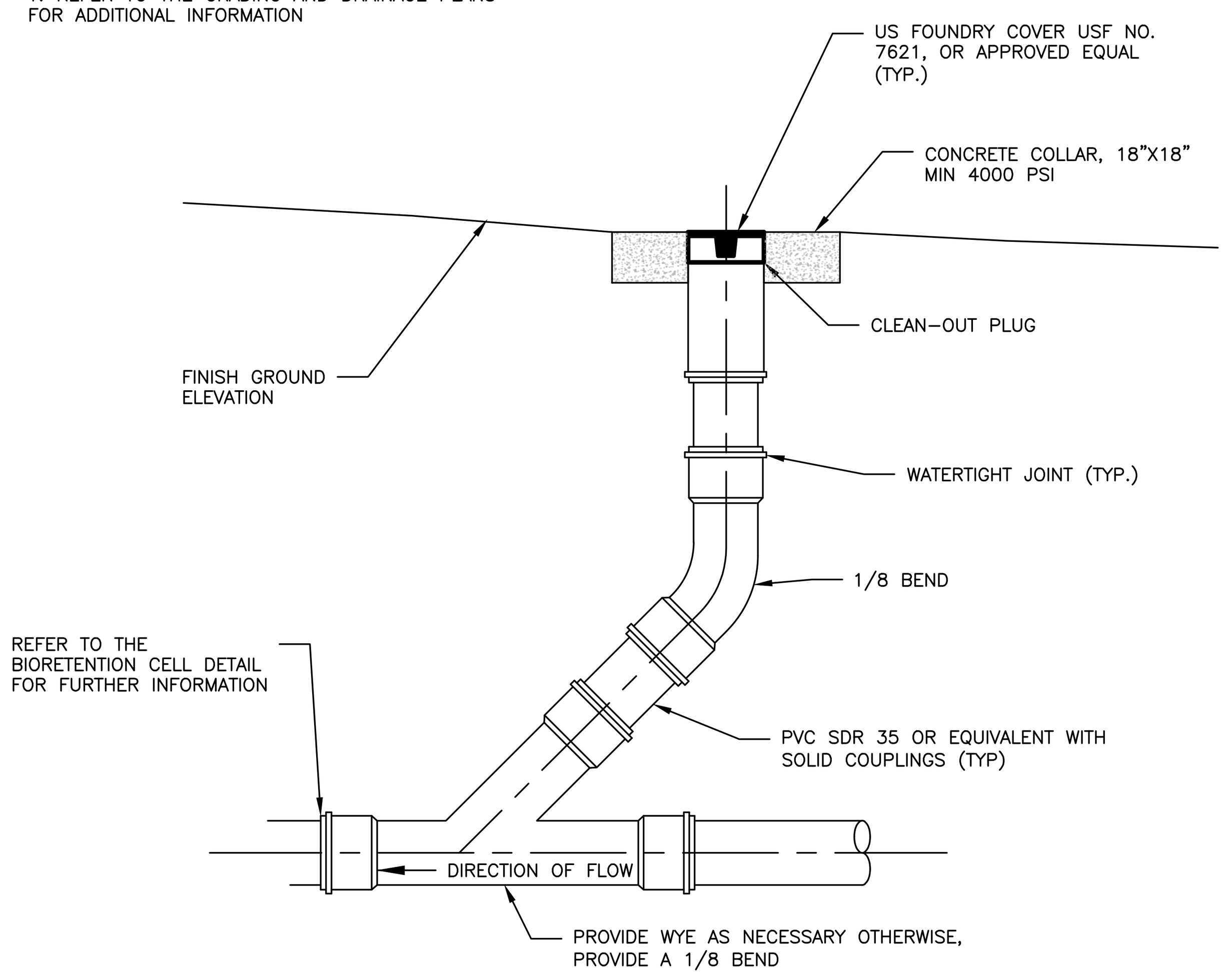
NEW PIPE TO NEW STRUCTURE CONNECTION DETAIL
NOT TO SCALE

NOTES:
1. ALL MATERIALS AND INSTALLATION PROCEDURES MUST COMPLY WITH THE PORTLAND WATER DISTRICT (PWD) SPECIFICATIONS.
2. CURB STOP BALL VALVE TO BE MADE OF COPPER OR BRASS UNLESS OTHERWISE NOTED BY THE PORTLAND WATER DISTRICT.
3. SERVICE LINE TO BE MADE OF TYPE K COPPER.
4. CONCRETE BLOCKING SHALL BE ADDED TO THE BASE OF THE CURB STOP TO PROVIDE STRUCTURAL SUPPORT FOR THE CURB STOP AND SERVICE BOX.



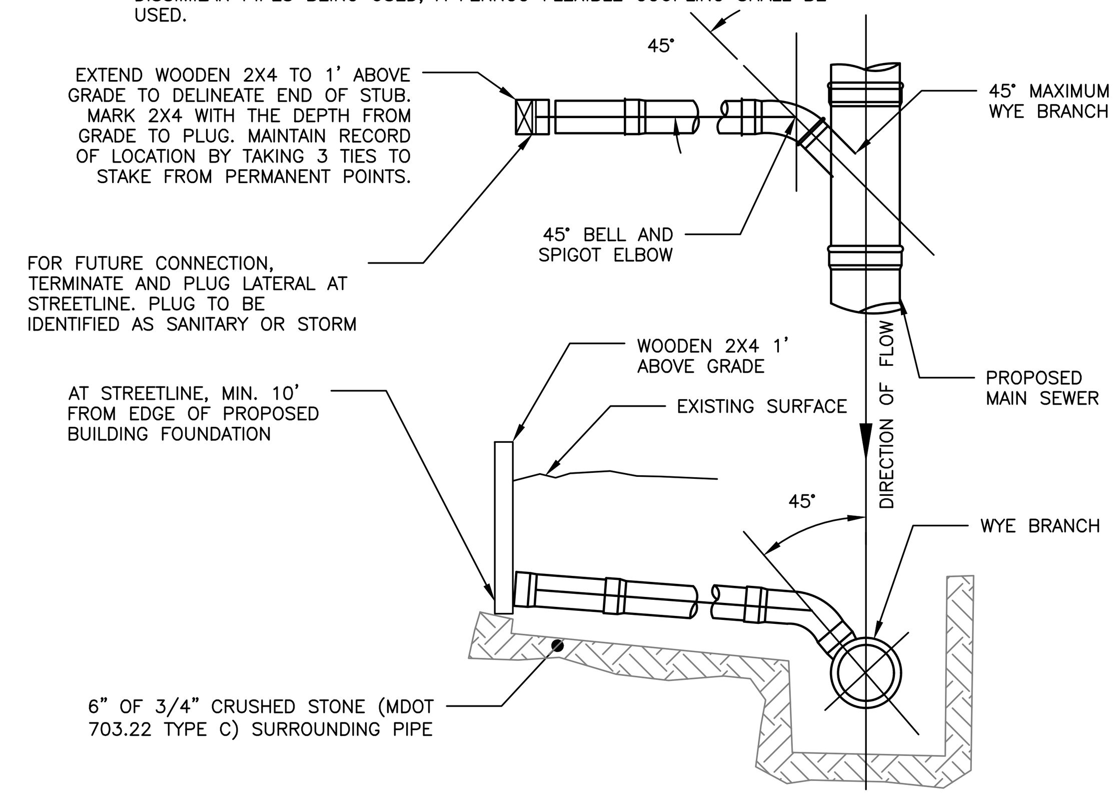
TYPICAL SERVICE CONNECTION
NOT TO SCALE

DESIGN NOTES:
1. REFER TO THE GRADING AND DRAINAGE PLANS FOR ADDITIONAL INFORMATION



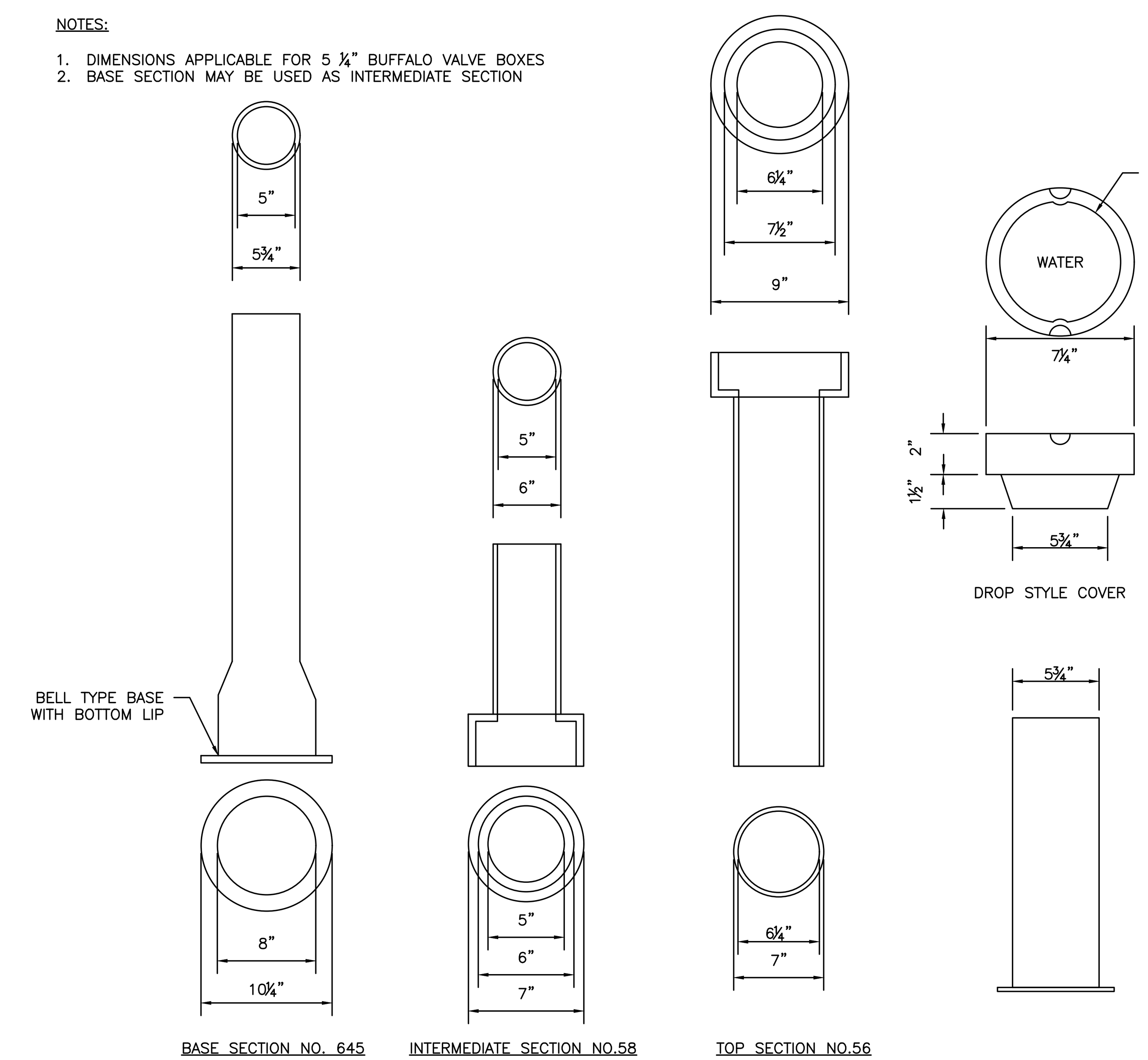
CLEANOUT DETAIL WITH CONCRETE COLLAR
NOT TO SCALE

NOTES:
1. LOCATION WITH WARNING TAPE SHALL BE INSTALLED OVER CENTERLINE OF PIPE AT A MAXIMUM OF 24 INCHES BELOW FINISH GRADE.
2. SITE CONTRACTOR TO COORDINATE CONNECTION OF SEWER LATERAL TO HOUSEHOLD PLUMBING WITH ARCHITECTURAL CONTRACTOR
3. CONNECTION OF PROPOSED SEWER LATERAL TO HOUSEHOLD PLUMBING SHOULD INCORPORATE USE OF SIMILAR PIPE MATERIALS. IN THE CASE OF DISSIMILAR PIPES BEING USED, A FERNCO FLEXIBLE COUPLING SHALL BE USED.

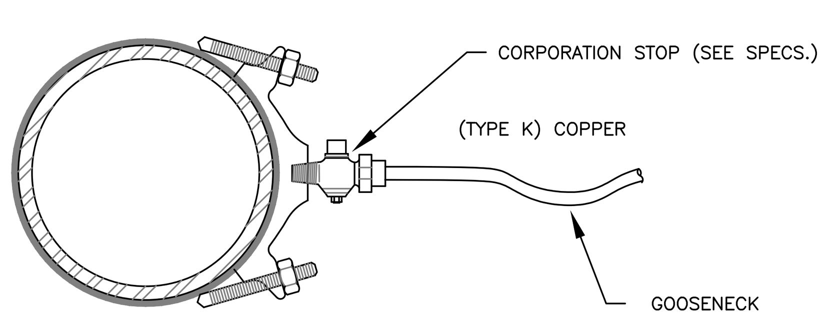


SEWER TEE/WYE CONNECTION DETAIL
NOT TO SCALE

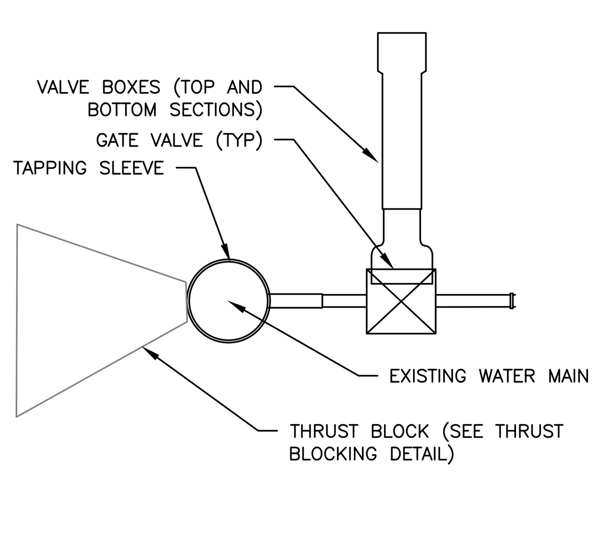
NOTES:
1. DIMENSIONS APPLICABLE FOR 5 ¼" BUFFALO VALVE BOXES
2. BASE SECTION MAY BE USED AS INTERMEDIATE SECTION



VALVE BOX & COVER
NOT TO SCALE



SERVICE SADDLE: 4" C.C. THREAD
NOT TO SCALE



TAPPING SLEEVE AND VALVE
NOT TO SCALE

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY / DATE
TOWN SUBMISSION	TAL 10/25/22
COMMENT RESPONSE	TAL 11/28/22
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DRAWING NAME: UTILITY DETAILS – 1

PROJECT NAME/ADDRESS: WHITE ROCK TERRACE – SKYVIEW DRIVE

CLIENT/OWNER OF RECORD: THE SZANTON COMPANY
10 FREE STREET, SECOND FLOOR, PORTLAND ME 04101

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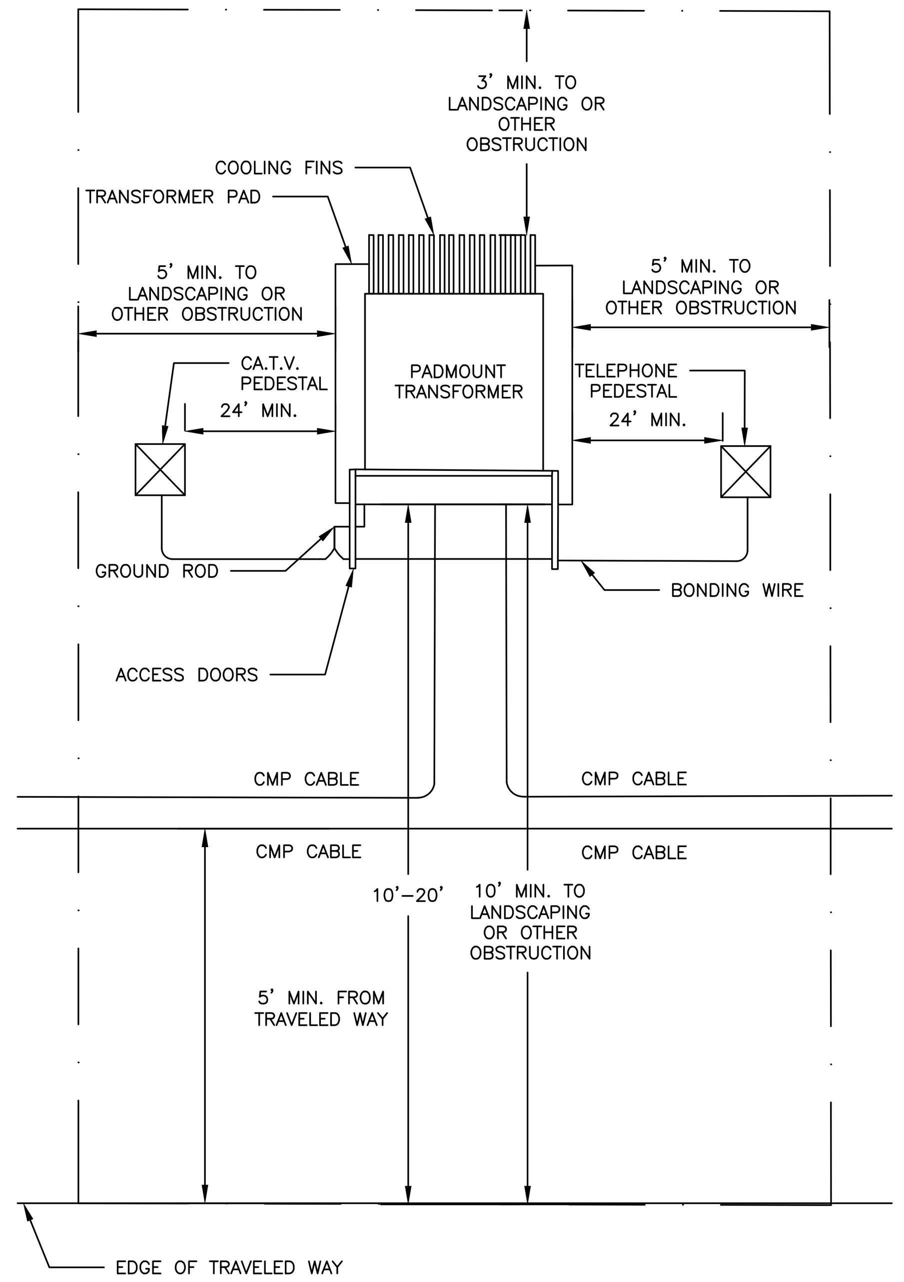
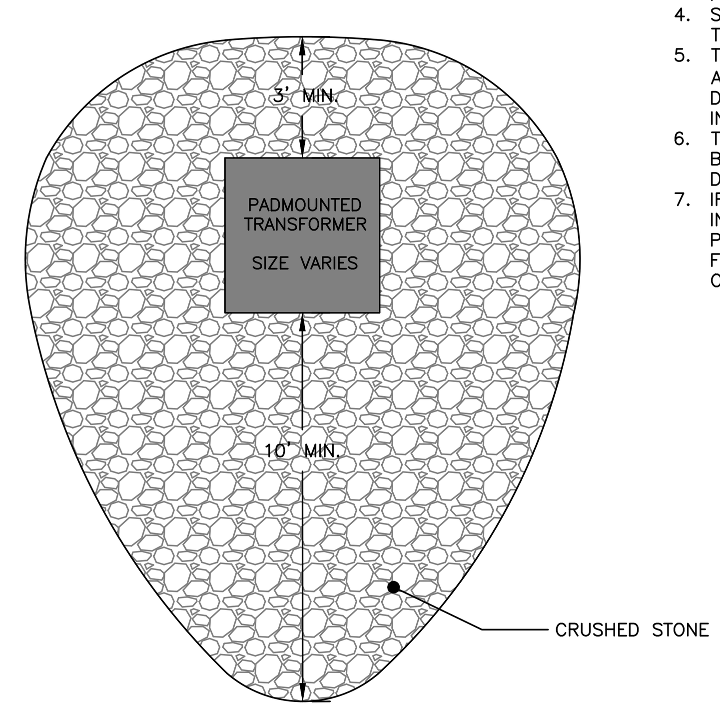
STATE OF MAINE LICENSED PROFESSIONAL ENGINEER
2/26/2023

DRAWING NO.
C-42

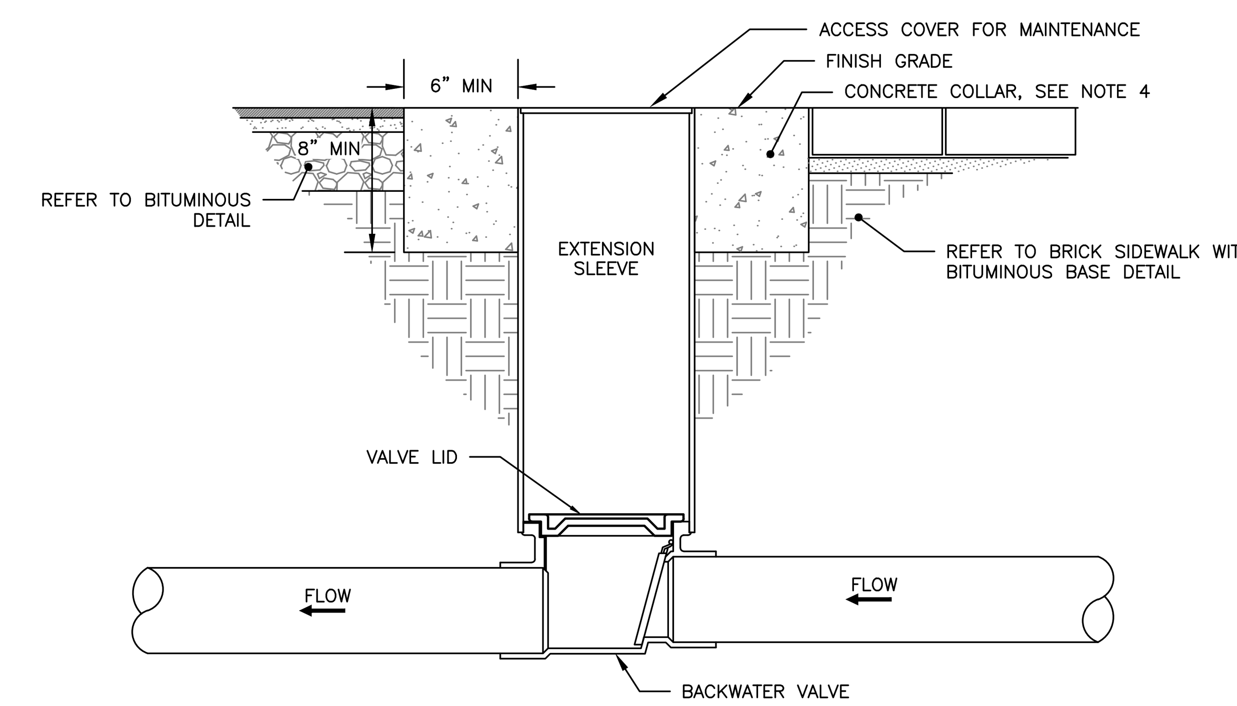


PAD MOUNTED TRANSFORMER
NOT TO SCALE



CMP TRANSFORMER SETBACKS
NOT TO SCALE

NOTES:
1. WHERE DANGER OF PLOW OR TRAFFIC DAMAGE EXISTS, BARRIERS CONSISTING OF CONCRETE FILLED 6 INCH IPS STEEL POSTS SET 4 FEET DEEP SHALL BE PROVIDED FOR PROTECTION (PRESSURE TREATED 6X6 INCH MIN. TIMBER POSTS MAY BE SUBSTITUTED IN RESIDENTIAL AREAS). POSTS SHALL NOT INTERFERE WITH TRANSFORMER ACCESS. GENERALLY THE POSTS SHALL BE LOCATED NEAR THE CORNERS OF THE TRANSFORMERS WITH A MINIMUM CLEARANCE OF 2' FROM EDGE OF POST TO EDGE OF PAD.
2. THE SETBACKS DEPICT CLEARANCES FROM OBSTRUCTIONS INCLUDING TREES, SHRUBS, AND FENCES.
3. THERE SHALL BE NO OPENINGS IN THE BUILDING WALL IN BACK OF, BESIDE, OR OVER THE TRANSFORMER UNLESS THE TRANSFORMER IS A MIN. OF 10 FEET FROM THE BUILDING.
4. SIDE CLEARANCES FROM DOORS OR WINDOWS SHALL NOT BE LESS THAN 10 FEET.
5. THERE SHALL BE A MIN. OF 10 FEET BETWEEN THE TRANSFORMER AND ANY GAS METER/REGULATOR, GAS RELIEF VALVE, GAS VENT DISCHARGE, GAS FILLING CONNECTION, OR PROPANE TANK. SOME INSURANCE COMPANIES MAY REQUIRE INCREASED CLEARANCES.
6. TRANSFORMER SHALL BE LOCATED FAR ENOUGH AWAY FROM BUILDING OVERHANGS SO THAT THEY WILL NOT BE SUBJECT TO DAMAGE BY FALLING ICE AND SNOW.
7. IF TRANSFORMER IS NOT INSTALLED IMMEDIATELY UPON THE INSTALLATION OF THE CABLE IN THE PAD, THE CONTRACTOR SHALL PROVIDE AND INSTALL A CMP APPROVED CONCRETE, STEEL, OR FIBERGLASS COVER OVER THE PAD OPENING TO ELIMINATE EXPOSURE OF THE CABLE.



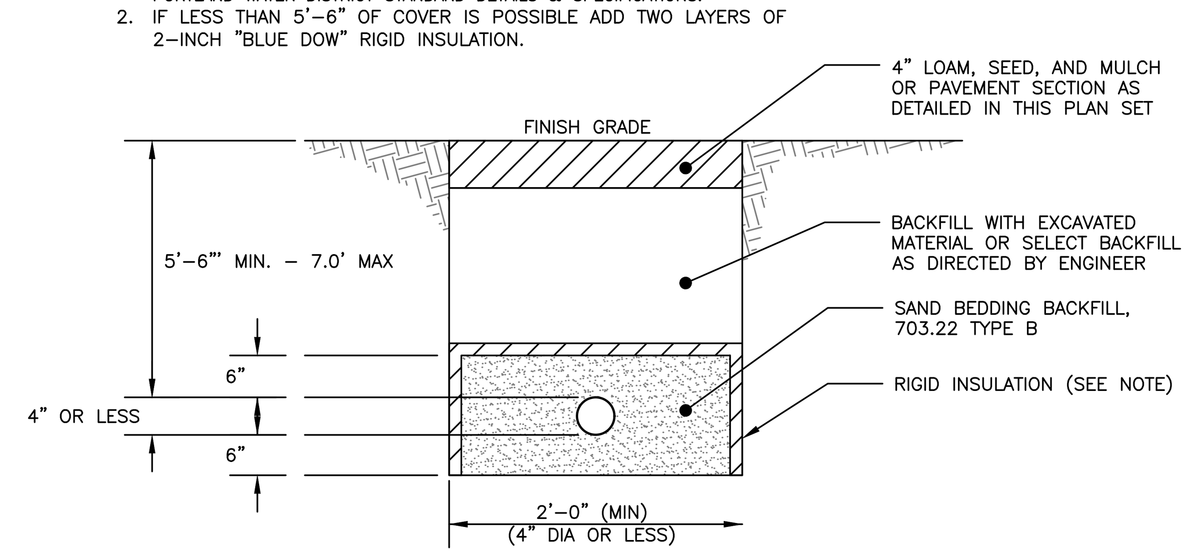
NOTES:

1. BACKFLOW VALVE TO BE PROVIDED BY AGRI DRAIN CORPORATION OR AN APPROVED EQUAL.
2. VALVE TO BE INSTALLED TO MANUFACTURER'S SPECIFICATIONS AND COMPLY WITH RULES AND REGULATIONS AS OUTLINED IN SECTION 2 OF THE CITY OF BIDDEFORD TECHNICAL MANUAL.
3. VALVE SHALL BE INSTALLED WITH A VALVE BOX AND COVER TO PROVIDE EASY ACCESS AND MAINTENANCE; VALVE COVER SHALL STATE 'SEWER' ON LID FLUSH TO SURFACE. REFER TO VALVE & BOX COVER DETAIL FOR ADDITIONAL INFORMATION.
4. CONCRETE COLLAR AT A MINIMUM 24-HOUR COMPRESSIVE STRENGTH OF 3,000 PSI.

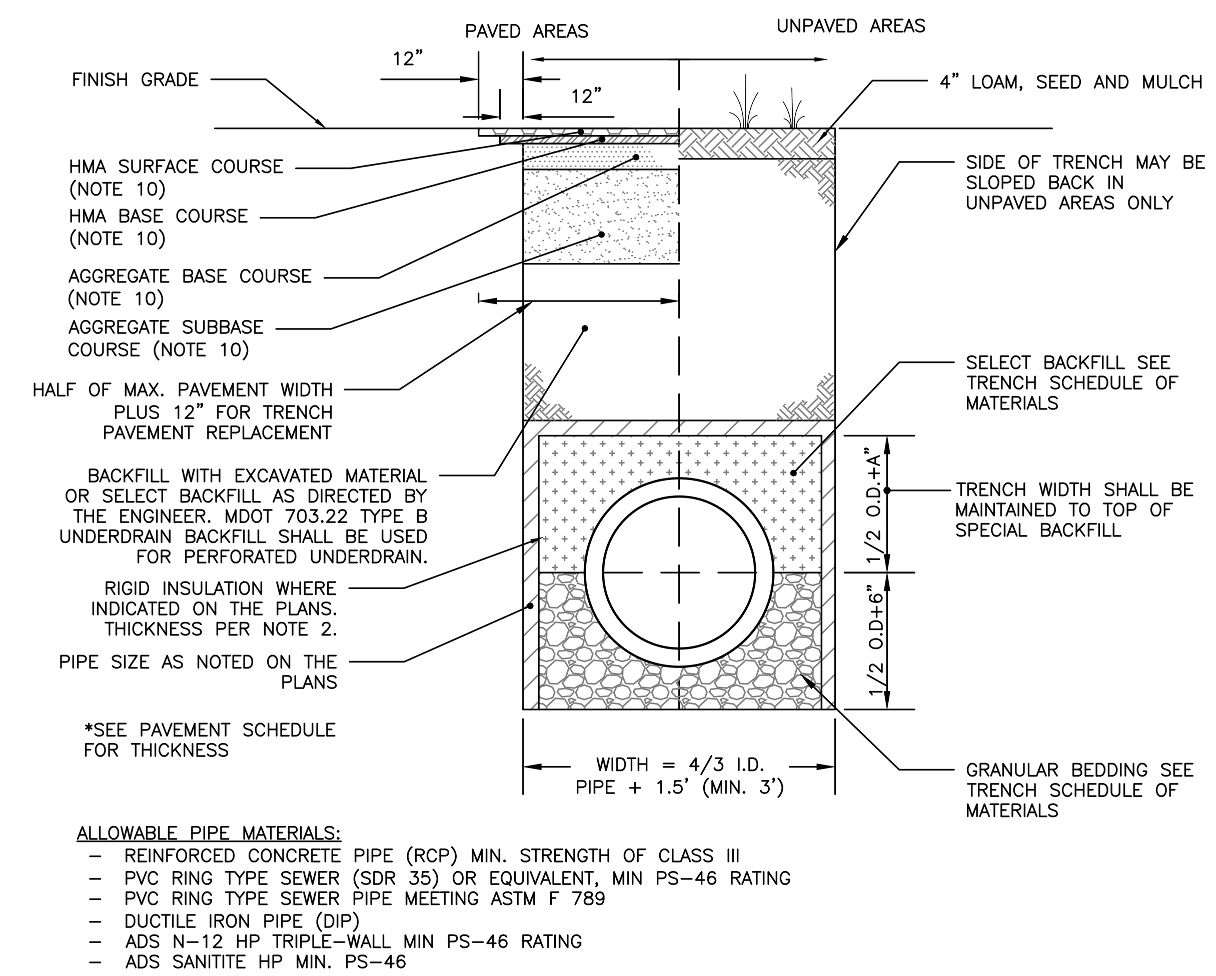
BACKFLOW VALVE ASSEMBLY
NOT TO SCALE

NOTES:

1. THE WATER TRENCH SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PORTLAND WATER DISTRICT STANDARD DETAILS & SPECIFICATIONS.
2. IF LESS THAN 5'-6" OF COVER IS POSSIBLE ADD TWO LAYERS OF 2-INCH "BLUE DOW" RIGID INSULATION.



WATER SERVICE TRENCH SECTION DETAIL
NOT TO SCALE



ALLOWABLE PIPE MATERIALS:
- REINFORCED CONCRETE PIPE (RCP) MIN. STRENGTH OF CLASS III
- PVC RING TYPE SEWER (SDR 35) OR EQUIVALENT, MIN PS-46 RATING
- PVC RING TYPE SEWER PIPE MEETING ASTM F 789
- DUCTILE IRON PIPE (DIP)
- ADS N-12 HP TRIPLE-WALL MIN PS-46 RATING
- ADS SANITITE HP MIN. PS-46

SCHEDULE OF MATERIALS

TYPE OF PIPE	GRANULAR BEDDING	SELECT BACKFILL
CMP DUCTILE IRON RCP	MDOT 703.22 TYPE B UD BACKFILL	MDOT 703.22 TYPE B UD BACKFILL
PVC/HDPE	MDOT 703.22 TYPE C 3/4" CRUSHED STONE	MDOT 703.22 TYPE B UD BACKFILL
CMP	MDOT 703.22 TYPE C 3/4" CRUSHED STONE	MDOT 703.22 TYPE C 3/4" CRUSHED STONE

NOTES:

1. ANY ALTERNATE TRENCHING METHODS SHALL BE APPROVED IN ADVANCE BY THE CITY.
2. BRACING AND SHEETING OR OTHER TRENCH PROTECTION TO BE PROVIDED TO MEET APPLICABLE STATE AND O.S.H.A. SAFETY STANDARDS. ALL SUCH TRENCH PROTECTION TO BE THE RESPONSIBILITY OF THE CONTRACTOR.
3. ALL CONSTRUCTION METHODS SHALL CONFORM TO THE CITY OF BIDDEFORD TECHNICAL STANDARDS FIGURE II-2.
4. WHERE APPLICABLE, PERFORATIONS IN STORM DRAIN (PERF. SD) SHALL BE ORIENTED UP.
5. STORM DRAIN COVER BETWEEN 2' AND 3' SHALL INCLUDE 4" OF RIGID INSULATION. COVER BETWEEN 3' AND 4' SHALL INCLUDE 2' RIGID INSULATION. OTHER UTILITIES: ADD 2" OF RIGID INSULATION FOR EACH FOOT ABOVE MINIMUM DEPTH.
6. INSTALL WARNING TAPE DIRECTLY ABOVE UTILITIES AT THE TOP OF SUBGRADE.
6. IN PAVED AREAS, DEPTHS OF GRAVEL AND HOT MIX ASPHALT PAVEMENT SHALL MATCH THE GREATER OF EXISTING CONDITIONS OR THE REQUIREMENTS FOR THE CORRESPONDING STREET CLASSIFICATION.
7. MINIMUM COVER
   7.1. 2'-0" - STORM DRAIN
   7.2. 5'-0" - SEWER
8. NO TREES SHALL BE PLANTED WITHIN 5' OF A SEWER PIPE OR SERVICE
9. THIS DETAIL SHALL BE APPLIED ONLY TO DRAINAGE PIPE TRENCHES OUTSIDE OF THE CITY OF BIDDEFORD ROW.
10. THICKNESS AS NOTED BY SURFACE DETAILS
11. ALL PROPOSED TREES PLANTED WITHIN 10' OF A STORM OR SEWER PIPE SHALL BE PLANTED AT A DEPTH NO GREATER THAN 3' DEEP. PERMEABLE LANDSCAPE FABRIC SHALL CREATE A ROOT BARRIER AROUND THE PIPES. CONTRACTOR SHALL COORDINATE WITH THE LANDSCAPE DRAWINGS.

STORM DRAIN AND SEWER TYPICAL TRENCH SECTION
NOT TO SCALE

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY / DATE
TOWN SUBMISSION	TAL 10/25/22
COMMENT RESPONSE	TAL 11/28/22
DEP RESPONSE	TAL 01/11/23
SUBDIVISION PLAN	TAL 02/26/23

DRAWING NAME: UTILITY DETAILS - 2

PROJECT NAME/ADDRESS: WHITE ROCK TERRACE - SKYVIEW DRIVE

CLIENT/OWNER OF RECORD: THE SZANTON COMPANY
10 FREE STREET, SECOND FLOOR, PORTLAND ME 04101

A C O R N ENGINEERING, INC.
ACORN ENGINEERING, INC.
PO BOX 3372, PORTLAND MAINE 04101
(207) 775-2655

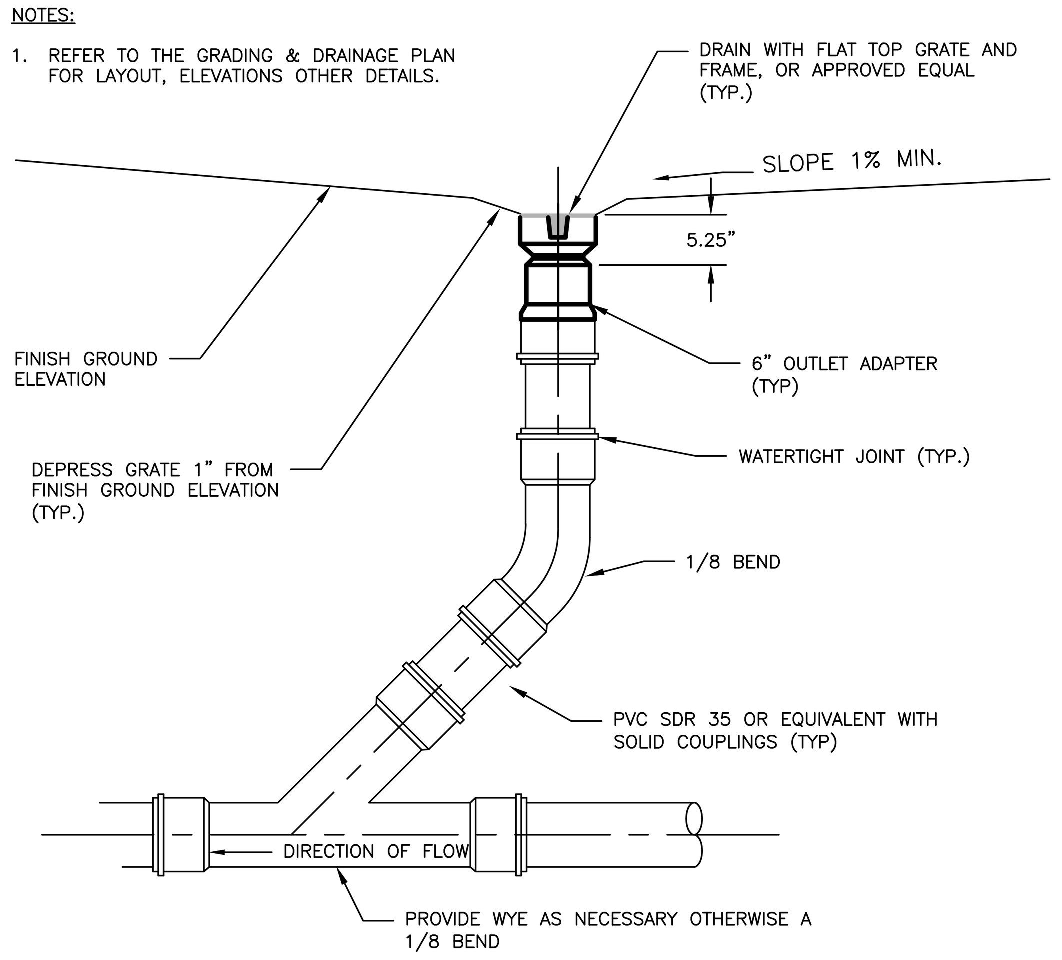
FILE:	1175.1_CIVIL
JN:	1175.1
SCALE:	AS NOTED
DESIGNED BY:	TAL
DRAWN BY:	AWG
CHECKED BY:	WHS

STATE OF MAINE
Travis A. Letellier
13920
LICENSED PROFESSIONAL ENGINEER
2/26/2023

DRAWING NO.
C-43

NOTES:

1. REFER TO THE GRADING & DRAINAGE PLAN FOR LAYOUT, ELEVATIONS OTHER DETAILS.

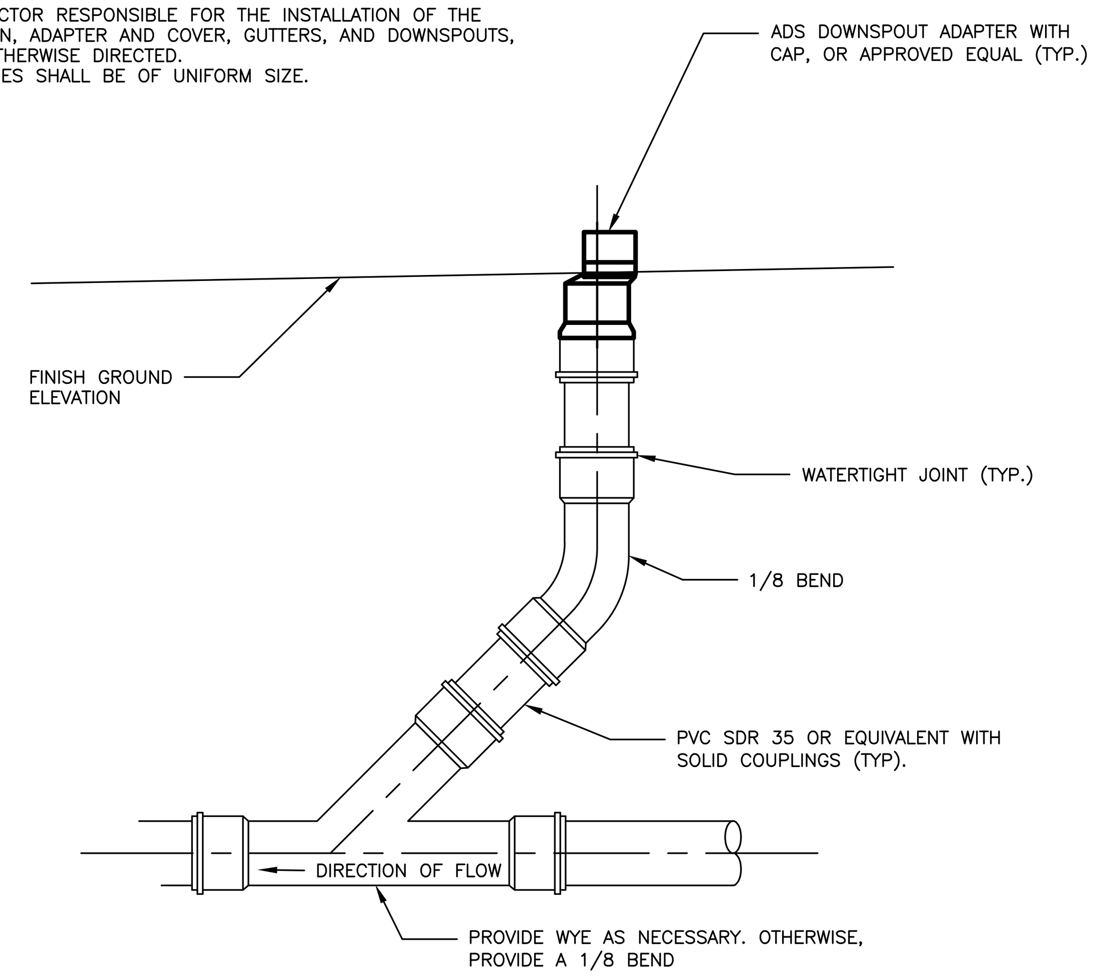


INLINE DRAIN DETAIL WITH GRATE

NOT TO SCALE

NOTES:

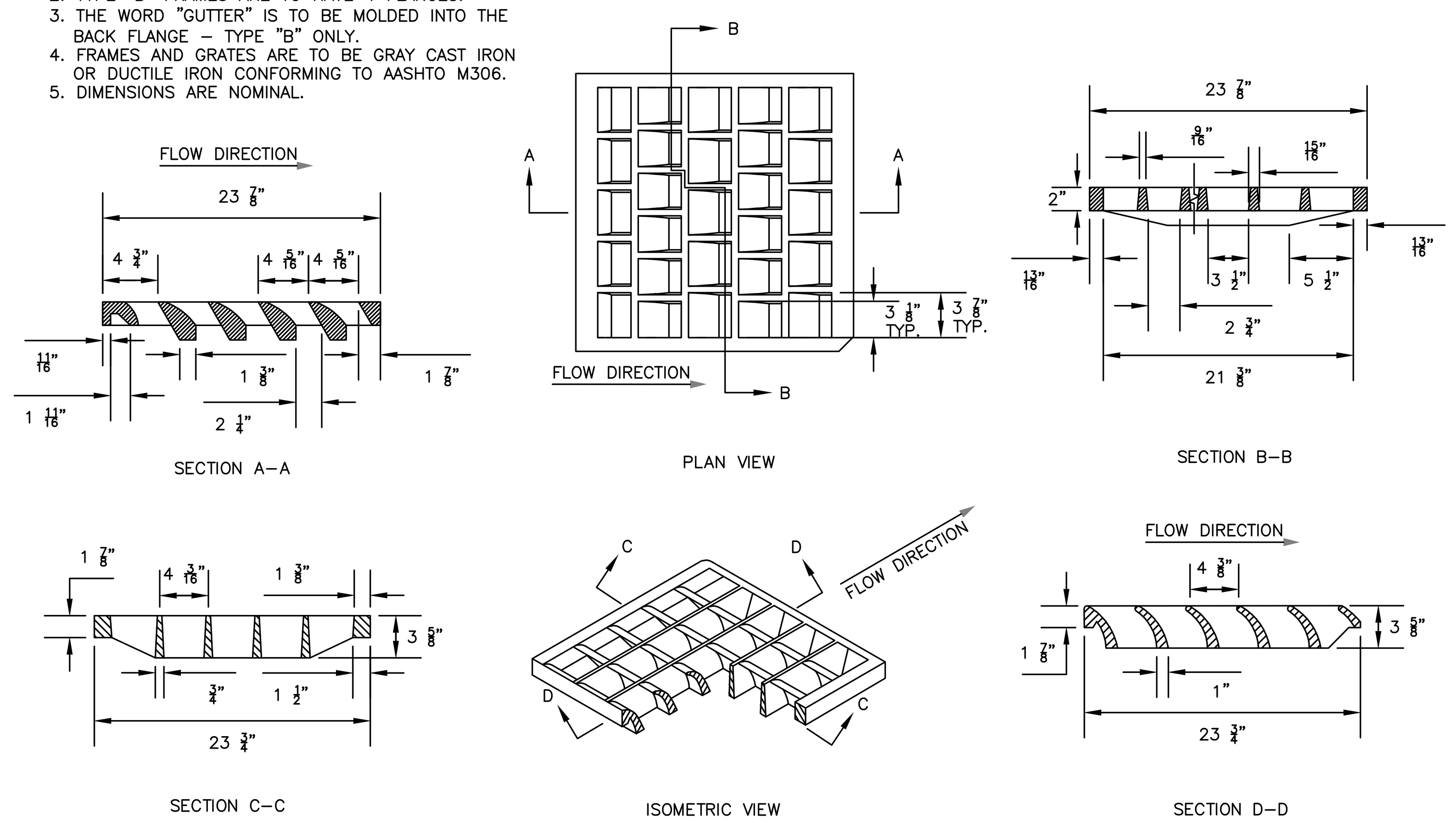
1. CONTRACTOR RESPONSIBLE FOR THE INSTALLATION OF THE ROOF DRAIN, ADAPTER AND COVER, GUTTERS, AND DOWNSPOUTS, UNLESS OTHERWISE DIRECTED.
2. ALL PIPES SHALL BE OF UNIFORM SIZE.



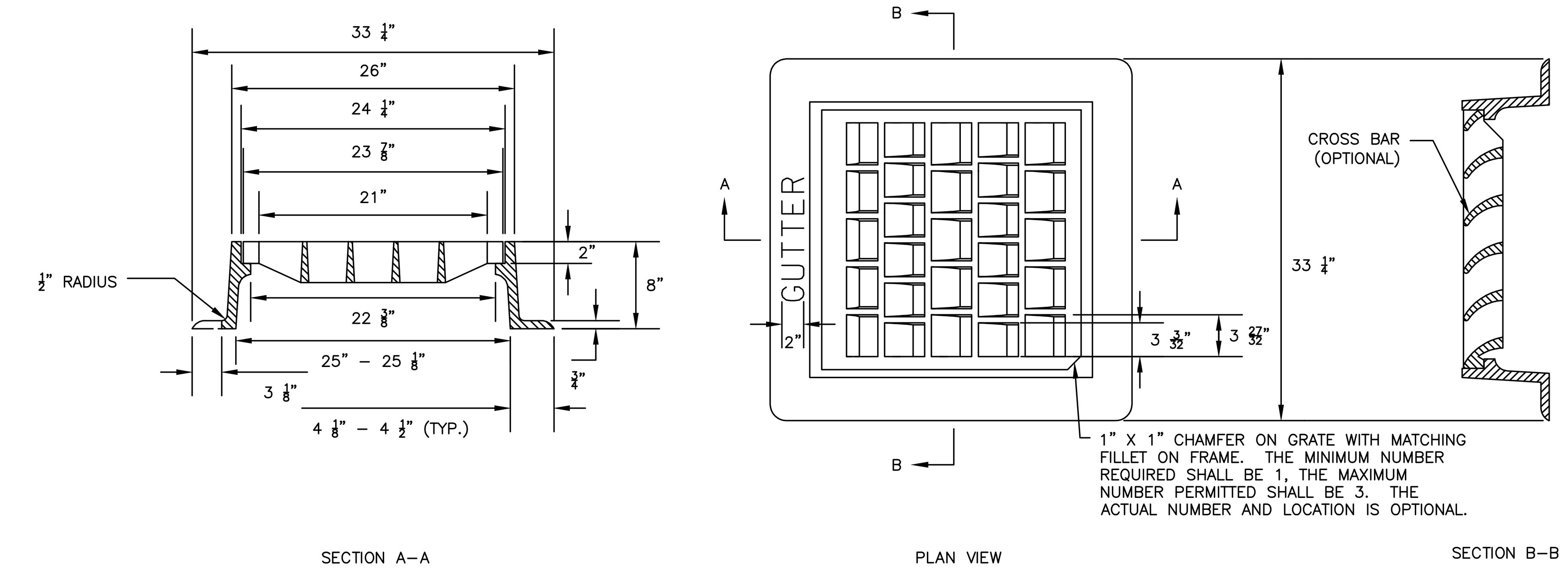
ROOF DRAIN DETAIL

NOT TO SCALE

NOTES:
1. TYPE "A" FRAMES ARE TO HAVE 3 FLANGES.
2. TYPE "B" FRAMES ARE TO HAVE 4 FLANGES.
3. THE WORD "GUTTER" IS TO BE MOLDED INTO THE BACK FLANGE – TYPE "B" ONLY.
4. FRAMES AND GRATES ARE TO BE GRAY CAST IRON OR DUCTILE IRON CONFORMING TO AASHTO M306.
5. DIMENSIONS ARE NOMINAL.



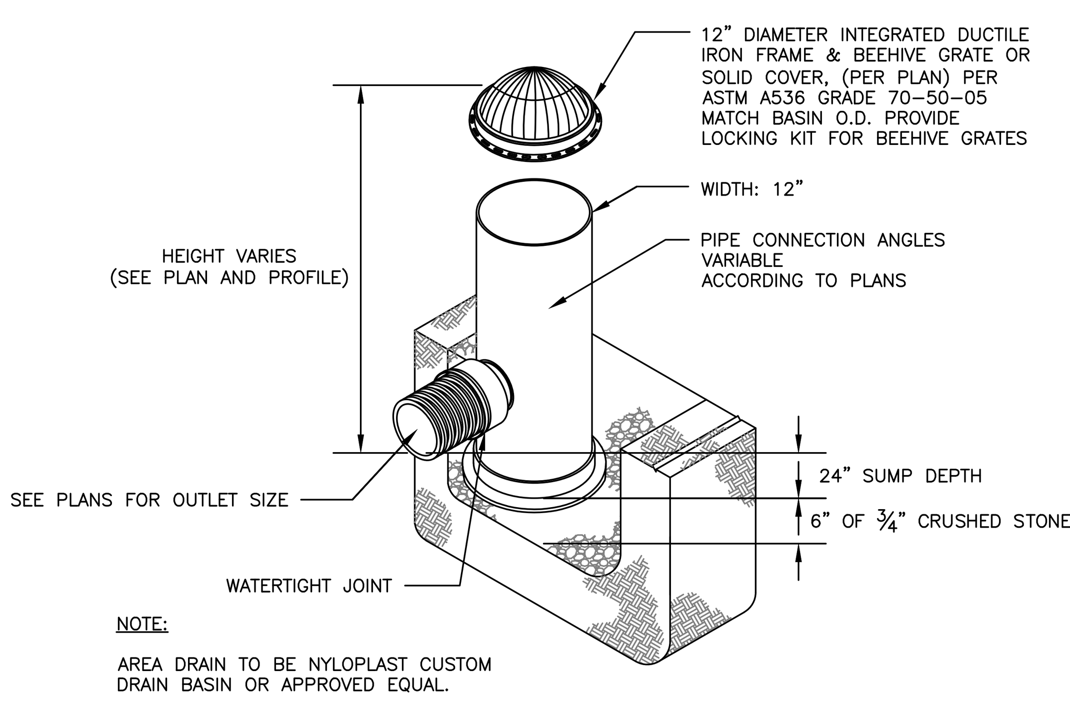
GRATE DETAIL



FRAME DETAIL

CATCH BASIN FRAME & GRATE – SQUARE

NOT TO SCALE



NOTE:

AREA DRAIN TO BE NYLOPLAST CUSTOM DRAIN BASIN OR APPROVED EQUAL.

BIOCELL OVERFLOW DETAIL

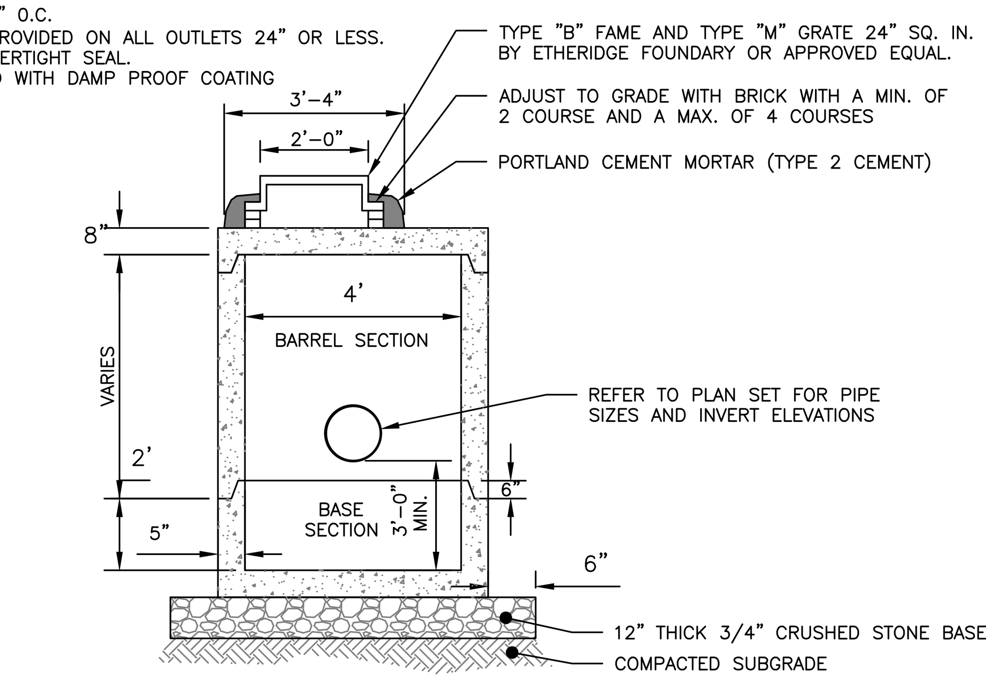
NOT TO SCALE

1. ALL CONCRETE SHALL HAVE A MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 4000 lbs. PER SQ. INCH AT THE END OF 28 DAYS, UNLESS OTHERWISE NOTED.
2. MANHOLES MAY BE CONSTRUCTED OF PRECAST REINFORCED CONCRETE, OR CAST IN PLACE.
3. PRECAST REINFORCED CONE BARREL MANUFACTURED PER ASTM SPEC. C–478.
4. ALL STORM AND SEWER MANHOLE COVERS SHALL BE SOLD AND SHALL HAVE ONE ⅞" DIAMETER DRILLED PICK HOLE LOCATED 8" FROM THE CENTER OF THE COVER.
5. ALL SANITARY MANHOLE COVERS SHALL HAVE "SEWER" CAST INTO THE COVER. ALL STORMWATER/DRAIN MANHOLE COVERS SHALL HAVE "DRAIN" CAST INTO THE COVER.
6. ALL MANHOLE RISERS SHALL BE ETHERIDGE 24" OR APPROVAL EQUAL.
7. SEWER BRICK SHALL CONFORM TO ASTM SPEC. DESIGNATE ON C–32–63, GRADE MA AND SA.
8. ALL SANITARY MANHOLES SHALL HAVE A WATERPROOFING COATING APPLIED TO THE EXTERIOR SURFACE.
9. CATCH BASIN FRAMES FOR TYPE A4 CATCH BASIN CURB INLETS SHALL BE ETHERIDGE DR5A OR APPROVED EQUAL.
10. CASTINGS SHALL CONFORM TO ASTM DESIGNATION A48–CLASS 35.
11. EXISTING MANHOLES, CATCH BASINS, FRAMES, AND COVERS SHALL BE SALVAGED BY THE CONTRACTOR, AND SHALL REMAIN THE PROPERTY OF THE CITY OF PORTLAND.
12. ALL CATCH BASIN OUTLETS SHALL BE INSTALLED WITH A CASCO TRAP PER DETAIL.

GENERAL NOTES FOR MANHOLES AND CATCH BASINS

NOTES:

1. ALL CONCRETE TO HAVE A MIN. OF 4,000 PSI COMPRESSIVE STRENGTH AT 28 DAYS.
2. DESIGN LOAD FOR H–20 WHEEL LOAD.
3. CATCH BASIN TO CONFORM TO ASTM–C478 SPECIFICATIONS.
4. REINFORCE TO 0.12 IN SQ./LF.
5. JOINTS SEALED WITH BUTYL RUBBER.
6. POLYPROPYLENE STEPS 12" O.C.
7. CASCO TRAPS SHALL BE PROVIDED ON ALL OUTLETS 24" OR LESS.
8. ALL PIPES TO HAVE A WATERTIGHT SEAL.
9. STRUCTURE TO BE APPLIED WITH DAMP PROOF COATING

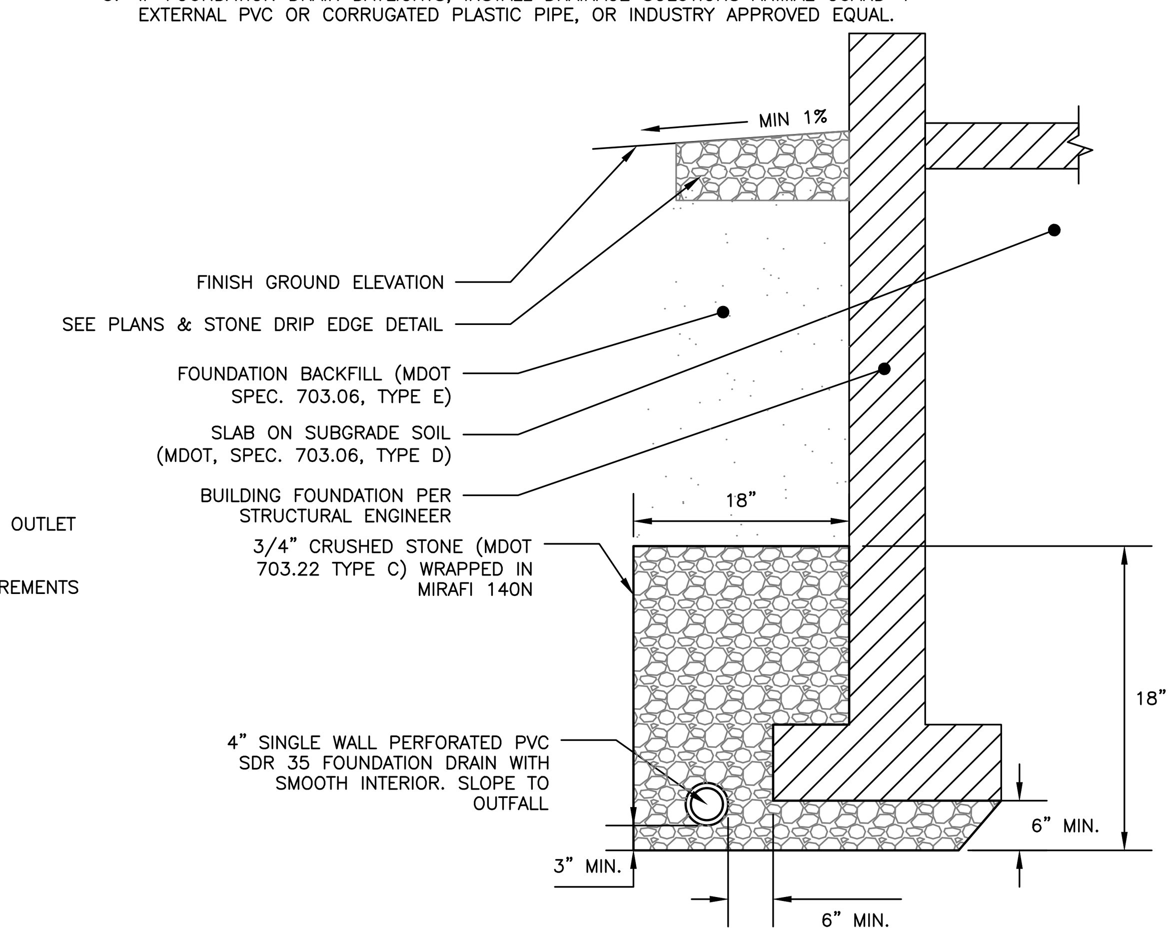


4'–0" PRECAST CATCH BASIN WITH FLATTOP

NOT TO SCALE

NOTES:

1. REFER TO THE BUILDING ARCHITECTS PLANS FOR THE BUILDING FOUNDATION, BACKFILL, ROOF DRAIN, SIDEWALK AND OTHER DETAILS.
2. PERFORATIONS IN UNDERDRAIN PIPE SHALL BE ORIENTED DOWN.
3. INSTALL STONE DRIP EDGE IN A LOCATIONS SUBJECT TO ROOF RUNOFF. WIDTH SHALL BE A MIN. 12" BEYOND THE PROJECTION OF THE ROOF EVE.
4. FOUNDATION WALL FOOTINGS SHALL BE CONSTRUCTED TO A MIN. DEPTH OF 4 FT BELOW ADJACENT FINISH GRADE. REFER TO STRUCTURAL ENGINEERS PLANS FOR ADDITIONAL INFORMATION AND MIN. REQUIREMENTS.
5. IF FOUNDATION DRAIN DAYLIGHTS, INSTALL DRAINAGE SOLUTIONS ANIMAL GUARD 4" EXTERNAL PVC OR CORRUGATED PLASTIC PIPE, OR INDUSTRY APPROVED EQUAL.

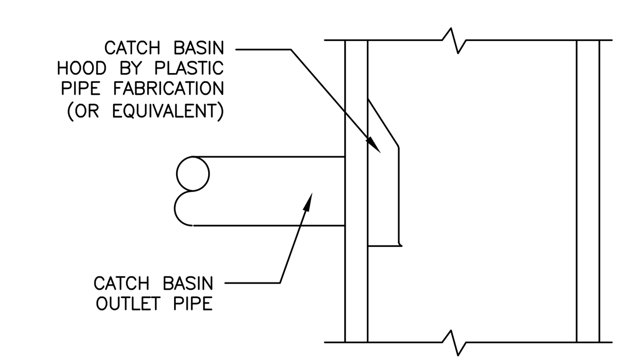


FOUNDATION DRAIN DETAIL

NOT TO SCALE

NOTES:

1. INSTALL CATCH BASIN HOODS IN ALL CATCH BASINS WITH A 12" OR 15" OUTLET PIPE.
2. PREFERRED STYLE DESIGNED TO ELIMINATE CEMENTING OF THE TRAP.
3. REFER TO MANUFACTURER'S RECOMMENDATIONS FOR INSTALLATION REQUIREMENTS



CATCH BASIN HOOD DETAIL

NOT TO SCALE

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY / DATE
TOWN SUBMISSION	TAL 10/25/22
COMMENT RESPONSE	TAL 11/28/22
DEP RESPONSE	TAL 01/11/23
SUBDIVISION PLAN	TAL 02/26/23

DRAWING NAME: DRAINAGE DETAILS

PROJECT NAME/ADDRESS: WHITE ROCK TERRACE – SKYVIEW DRIVE

CLIENT/OWNER OF RECORD: THE SZANTON COMPANY
10 FREE STREET, SECOND FLOOR, PORTLAND ME 04101

A C O R N ENGINEERING, INC.
ACORN ENGINEERING, INC.
PO BOX 3372, PORTLAND MAINE 04101
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DESIGNED BY:	TAL
DRAWN BY:	AWG
CHECKED BY:	WHS

STATE OF MAINE
Travis A. Letellier
13920
LICENSED PROFESSIONAL ENGINEER
2/26/2023

DRAWING NO.

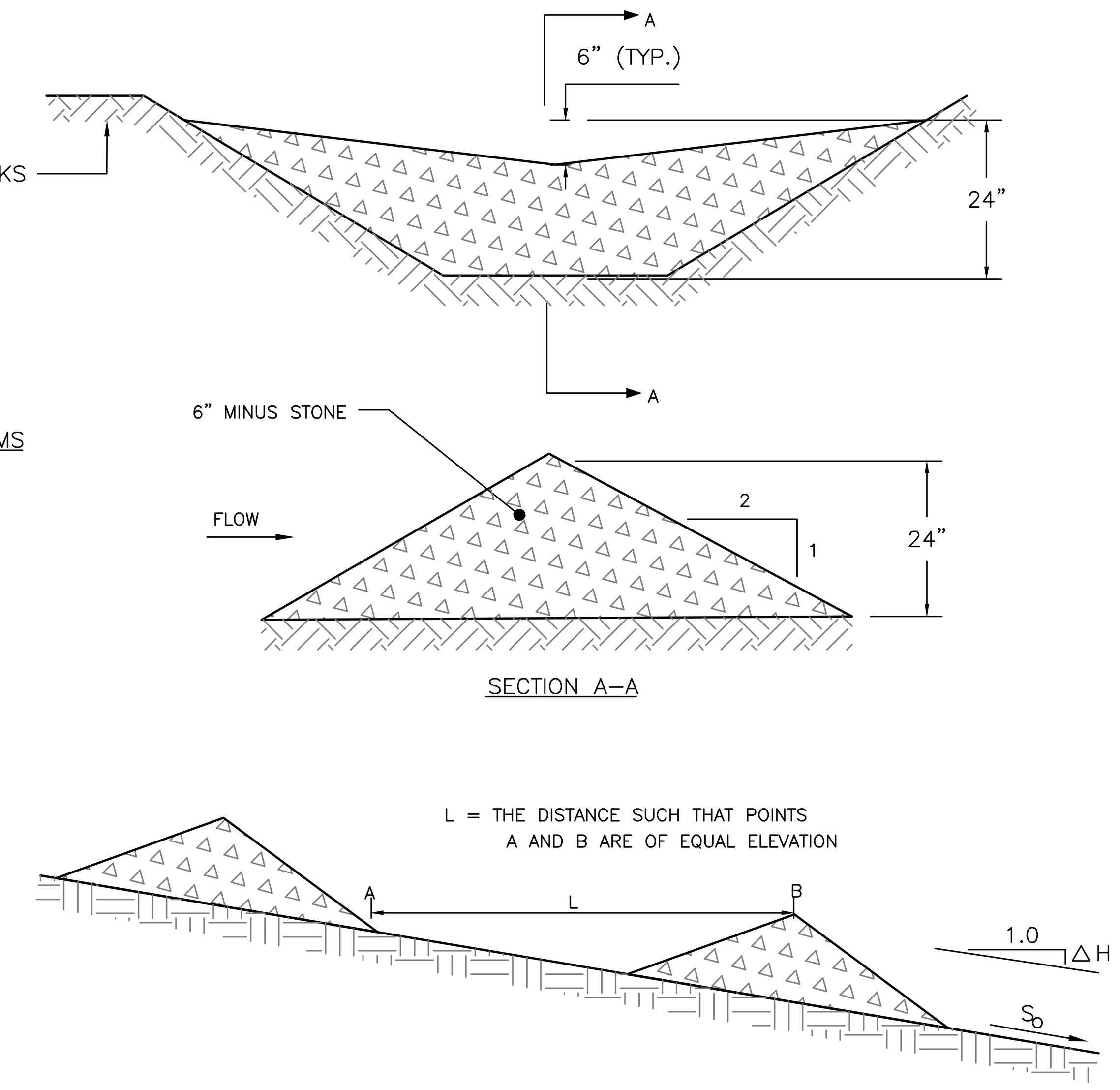
C-44

NOTES:

1. CHECK DAMS SHOULD BE INSTALLED BEFORE RUNOFF IS DIRECTED TO THE SWALE.
2. THE AREA AROUND EACH CHECK DAM SHOULD BE FREE OF DEBRIS.
3. A STONE CHECK DAM SHOULD BE COMPRISED OF WELL-GRADED CRUSHED ROCK WITH A MAXIMUM SIZE OF 6 INCHES AND A MINIMUM STONE SIZE OF 1 INCH. LARGER STONES MAY BE USED ON STEEP SLOPES.
4. THE MAXIMUM HEIGHT OF A STONE CHECK DAM SHOULD BE 2 FEET WITH A 6-INCH DEPRESSION AT ITS CENTER FOR OVERFLOW. THE EDGES OF THE DAM SHOULD BE KEYED ONTO THE EMBANKMENTS TO PREVENT SIDE EROSION.
5. MECHANICAL PLACEMENT FOLLOWED BY HAND PLACEMENT WILL BE NECESSARY TO ACHIEVE A TIGHT MASS WITHIN THE CHANNEL AND TO ENSURE THAT THE CENTER OF THE DAM IS LOWER THAN THE EDGES.
6. ANY EROSION DOWNGRADIENT OR AROUND THE EDGES OF STONE CHECK DAMS SHOULD BE CORRECTED IMMEDIATELY.
7. THE CHECK DAMS MAY BE REMOVED WHEN THE SWALE IS STABILIZED WITH VEGETATION (90% COVERAGE)

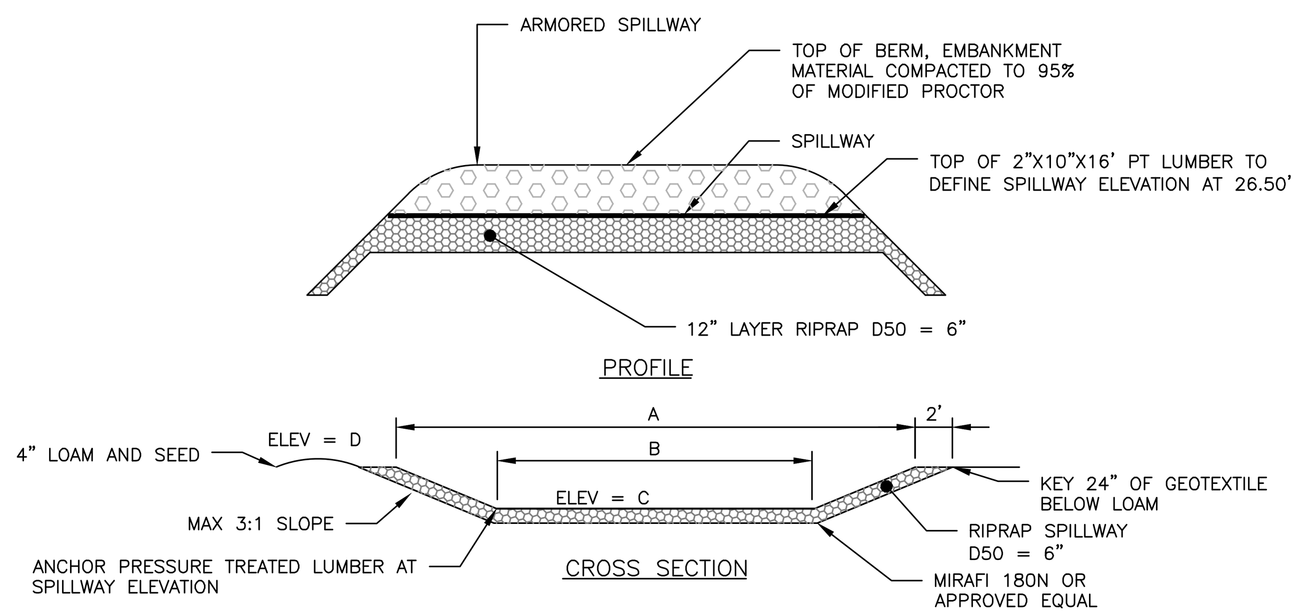
SPACING BETWEEN CHECK DAMS

S_o (FT./FT.)	L (FT.)
0.020	75
0.030	50
0.040	40
0.050	30
0.080	20
0.100	10



STONE CHECK DAM

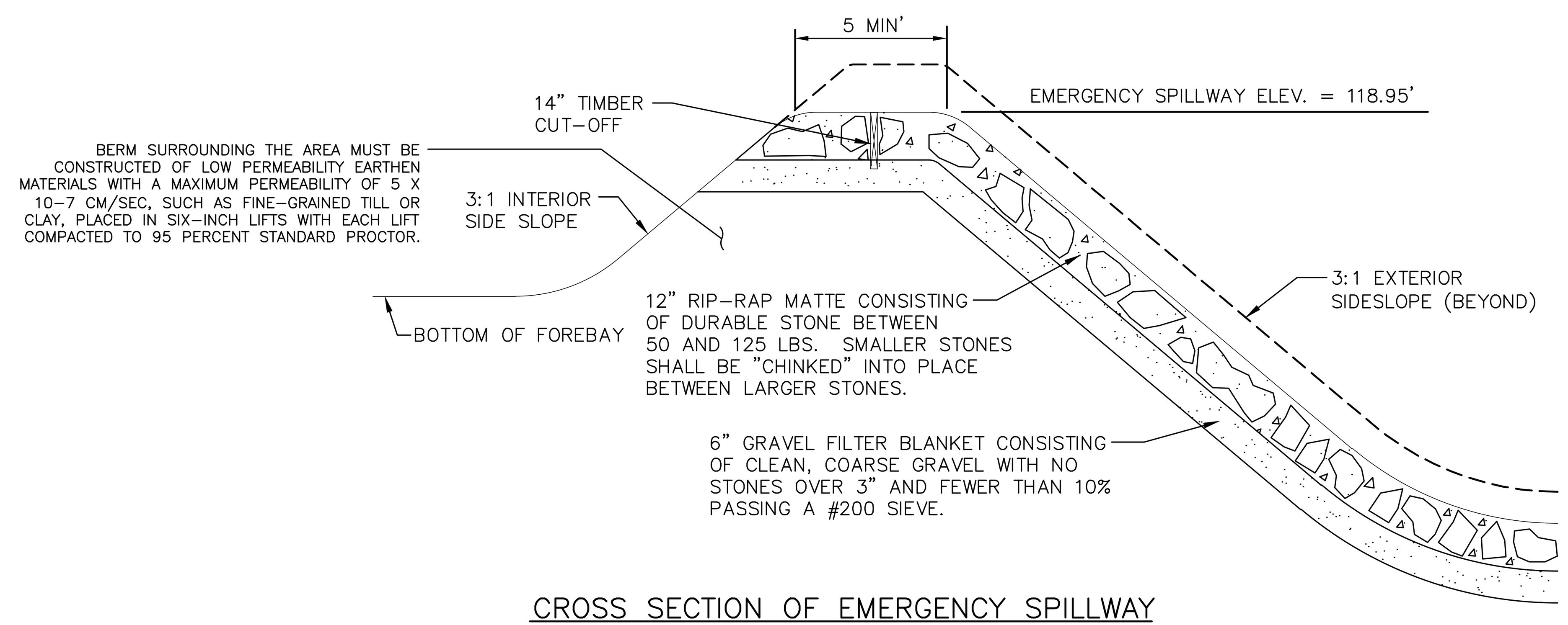
NOT TO SCALE



SCHEDULE		
	ITEM	DIMENSION/ELEVATION
A	SPILLWAY WIDTH (TOP)	26'
B	SPILLWAY WIDTH (BOT)	20'
C	SPILLWAY INVERT ELEV.	118.95'
D	TOP OF BERM ELEV.	119.75'

OVERFLOW SPILLWAY DETAIL

NOT TO SCALE



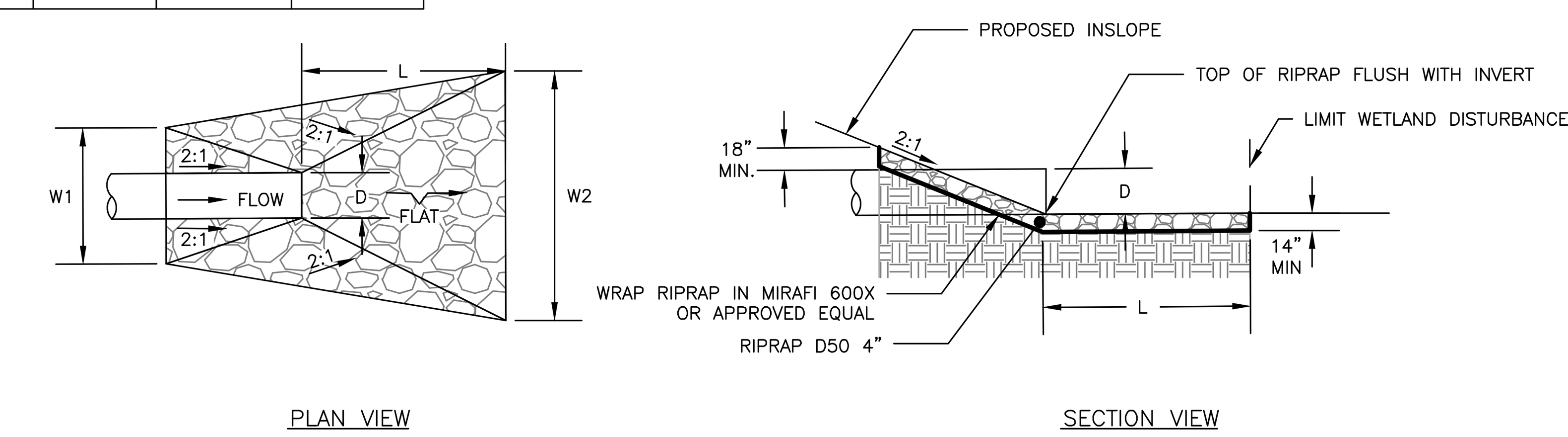
CROSS SECTION OF EMERGENCY SPILLWAY

NOT TO SCALE

SCHEDULE – SINGLE CULVERT			
CULVERT DIAMETER (D)	LENGTH (L)	WIDTH (W1)	WIDTH (W2)
D	4.5D	3D	D+L
12"	4.5'	3'	7.5'
15"	5.6'	3.7'	9.3'

NOTES:

1. RIPRAP SHALL BE DESCRIBED BY M.D.O.T. 703.26 EXCEPT SIZE SHALL BE AS SHOWN.
2. REFERENCE FOR ADDITIONAL INFORMATION: BEST MANAGEMENT PRACTICES FOR EROSION AND SEDIMENT CONTROL – CULVERT INLET/OUTLET PROTECTION.

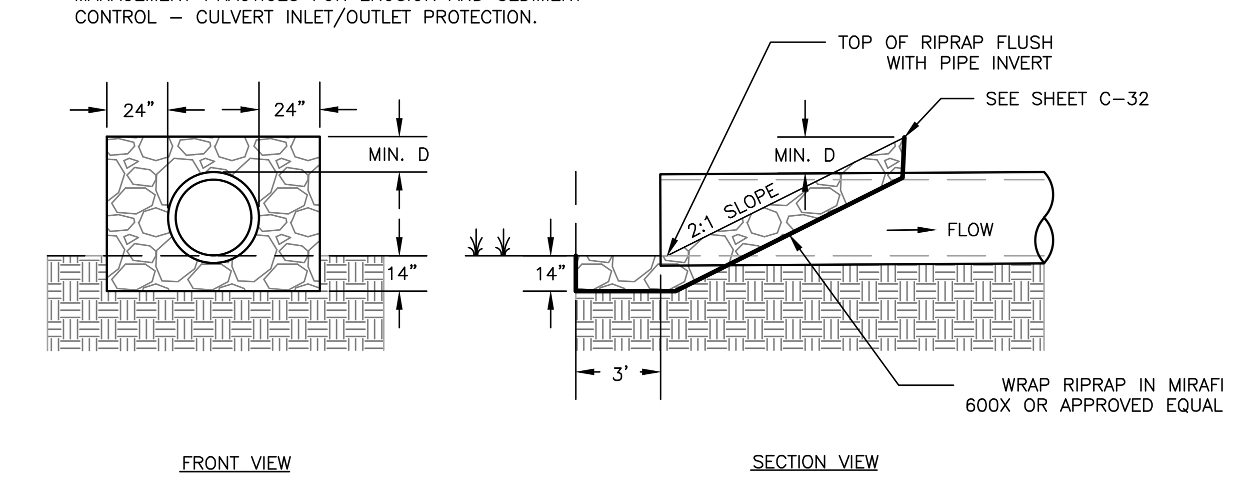


RIPRAP OUTLET APRON DETAIL

NOT TO SCALE

NOTES:

1. RIPRAP SHALL BE DESCRIBED BY M.D.O.T. 703.26 EXCEPT SIZE SHALL BE AS SHOWN.
2. REFERENCE FOR ADDITIONAL INFORMATION: BEST MANAGEMENT PRACTICES FOR EROSION AND SEDIMENT CONTROL – CULVERT INLET/OUTLET PROTECTION.

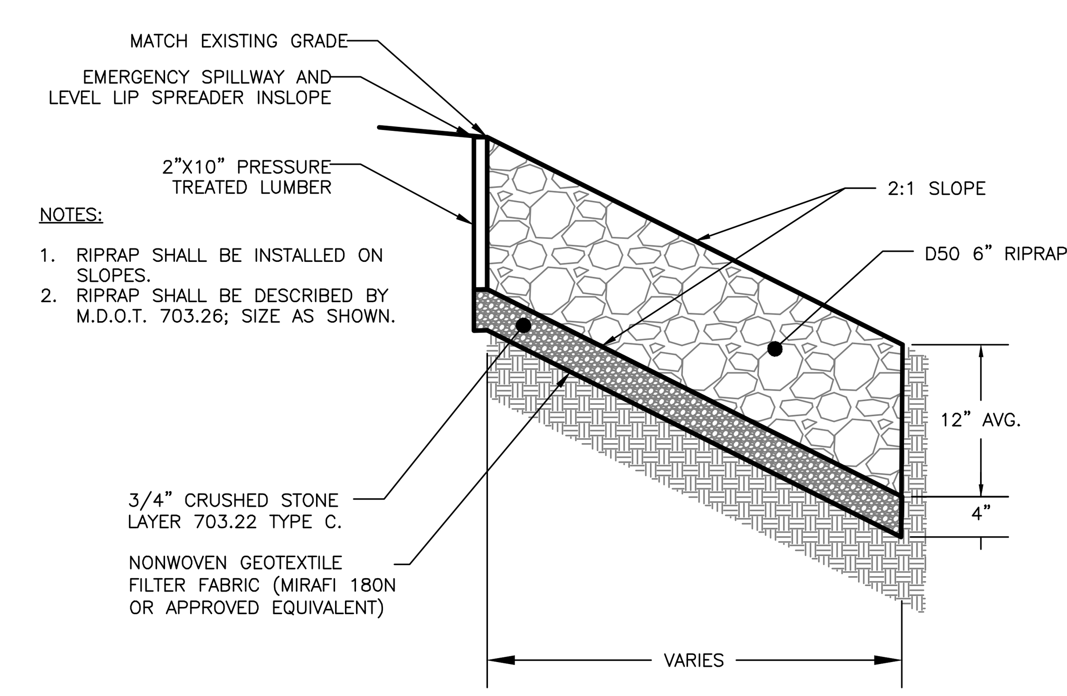


RIPRAP INLET APRON DETAIL

NOT TO SCALE

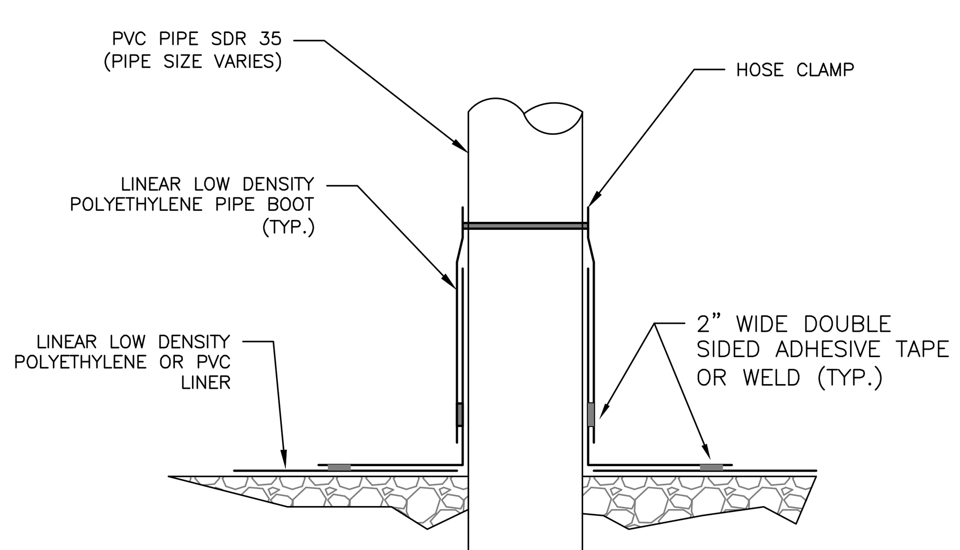
NOTES:

1. RIPRAP SHALL BE INSTALLED ON SLOPES.
2. RIPRAP SHALL BE DESCRIBED BY M.D.O.T. 703.26; SIZE AS SHOWN.



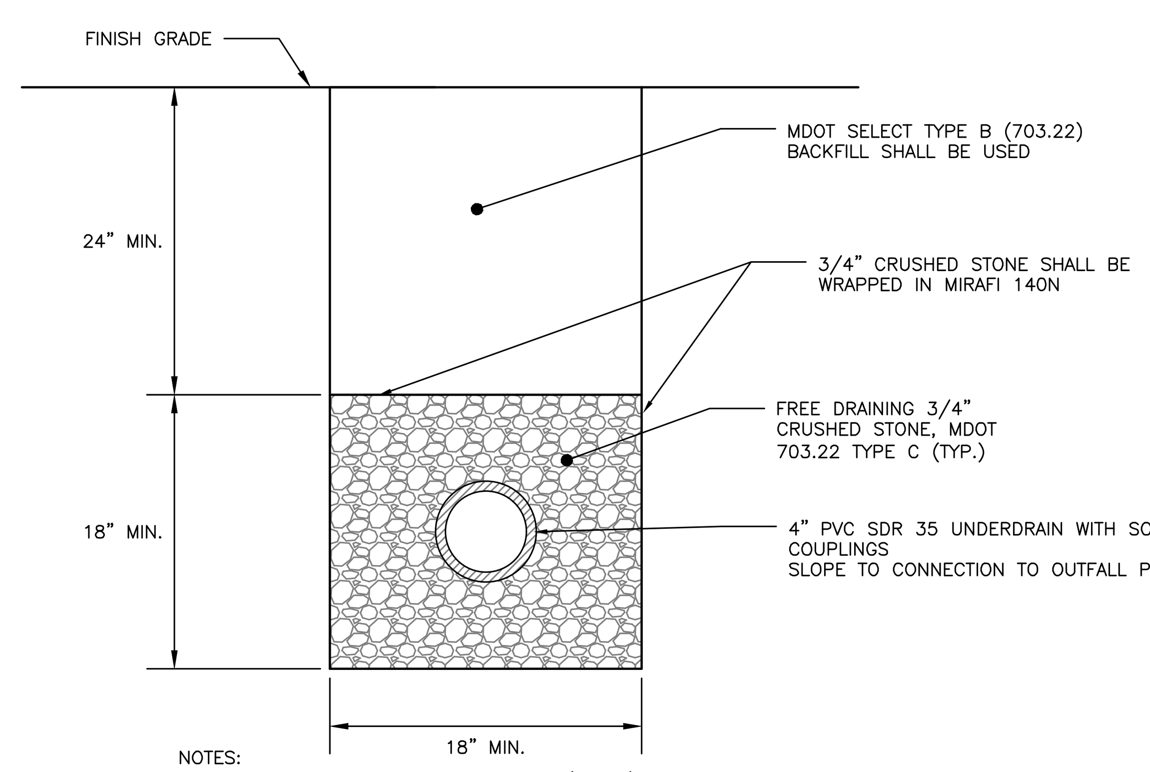
RIPRAP CROSS-SECTION

NOT TO SCALE



TYPICAL PIPE PENETRATION DETAIL

NOT TO SCALE



NOTES:
1. MINIMUM UNDERDRAIN SLOPE 0.0025 (0.25%)
2. PERFORATIONS IN UNDERDRAIN PIPE SHALL BE ORIENTED DOWN.

UNDERDRAIN DETAIL

NOT TO SCALE

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY / DATE
TOWN SUBMISSION	TAL 10/25/22
COMMENT RESPONSE	TAL 11/28/22
DEP RESPONSE	TAL 01/11/23
SUBDIVISION PLAN	TAL 02/28/23
DEP RESPONSE #2	TAL 04/10/23

DRAWING NAME: DRAINAGE DETAILS – 2

PROJECT NAME/ADDRESS: WHITE ROCK TERRACE – SKYVIEW DRIVE

CLIENT/OWNER OF RECORD: THE SZANTON COMPANY
10 FREE STREET, SECOND FLOOR, PORTLAND ME 04101

A C O R N ENGINEERING, INC.

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

ACORN ENGINEERING, INC.
PO BOX 3372, PORTLAND MAINE 04101
(207) 775-2655

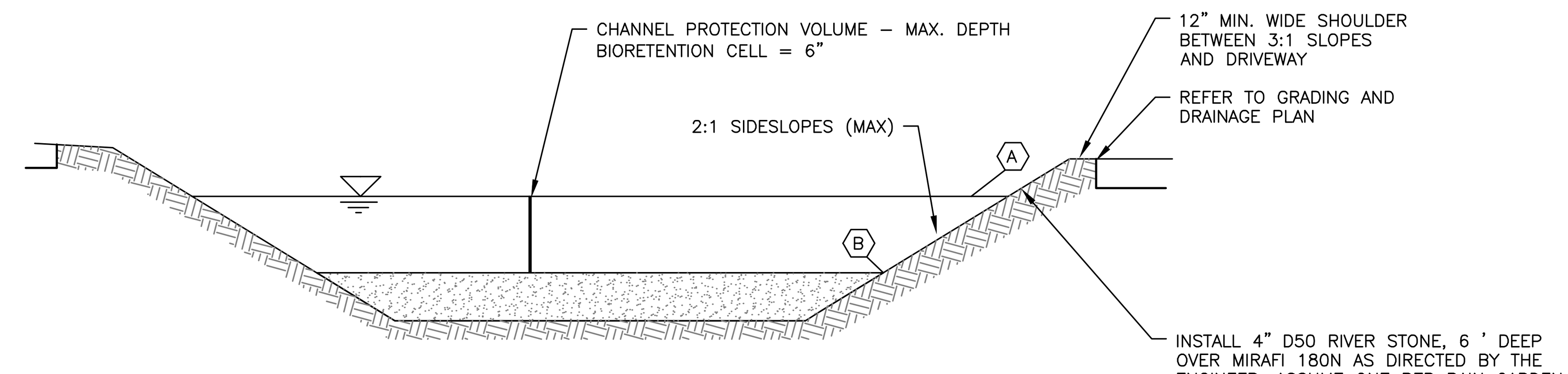
FILE:	1175.1_CIVIL
JN:	1175.1
SCALE:	AS NOTED
DESIGNED BY:	TAL
DRAWN BY:	AWG
CHECKED BY:	WHS

STATE OF MAINE ... LICENSED PROFESSIONAL ENGINEER 2/26/2023

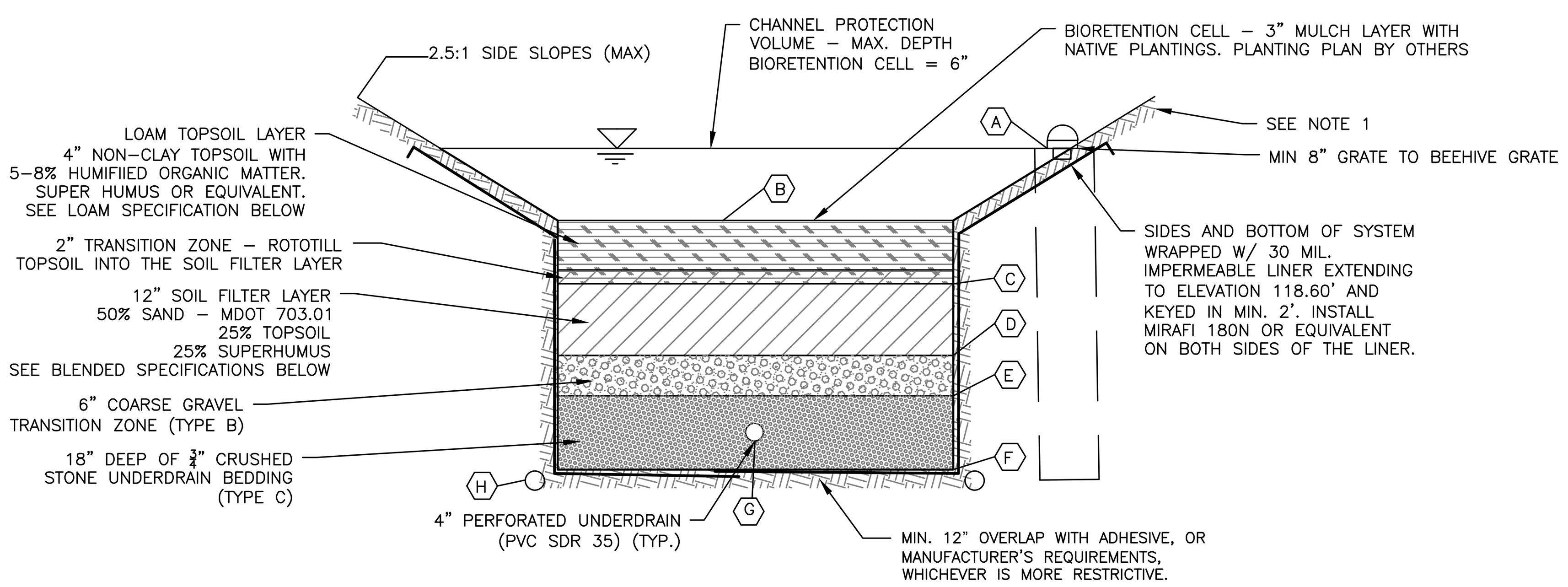
DRAWING NO.

C-45

SCHEDULE	
ITEM	BIOCELL
(A) PROPOSED OVERFLOW	118.60'
(B) TOP OF LOAM TOPSOIL LAYER	118.00'
(C) TOP OF FILTER	117.50'
(D) TOP OF TRANSITION GRAVEL	116.50'
(E) TOP OF CRUSHED STONE	116.00'
(F) BOTTOM OF CRUSHED STONE	115.18'
(G) UNDERDRAIN INVERT	115.33'
(H) UNDERDRAIN INVERT (EXTERNAL)	115.00'



CROSS SECTION



SIDE VIEW

NOTES:
1. THE SIDESLOPES SHALL BE STABILIZED WITH A MIN. OF 4" LOAM, EROSION CONTROL BLANKETS SC150BN BY NORTH AMERICAN GREEN OR APPROVED EQUAL AND A CONSERVATION SEED MIX.

2. LIGHT COMPACTION SOIL FILTER AND PIPE BEDDING MATERIAL. (90 TO 92% STANDARD PROCTOR). TESTING SHALL BE PERFORMED BY A QUALIFIED MATERIAL TESTING FIRM.

3. THE SOIL FILTER MEDIA SHALL NOT BE CONSTRUCTED UNTIL THE AREA DRAINING TO THE BASIN HAS BEEN PERMANENTLY STABILIZED.

4. MINIMUM UNDERDRAIN SLOPE 0.0025.

5. TESTING: SIEVE ANALYSIS INCLUDING HYDROMETER TESTING FOR CLAY CONTENT FOR EACH LAYER SHALL BE PERFORMED BY A QUALIFIED SOIL TESTING LABORATORY AND SUBMITTED TO THE PROJECT ENGINEER FOR APPROVAL 2 WEEKS PRIOR TO CONSTRUCTION. ALL TESTING AND SUBMITTALS SHALL BE IN ACCORDANCE WITH THE MOST RECENT VERSION OF THE MAINE DEP – TECHNICAL DESIGN MANUAL SECTION 7.2.5 TESTING AND SUBMITTALS.

6. ACORN ENGINEERING, INC., RECOMMENDS THE SOIL FILTER LAYER BE SUPPLIED BY JONES ASSOCIATES, INC., AUBURN, ME.

RAIN GARDEN CELL DETAIL
NOT TO SCALE

6" SOIL FILTER BED – LOAM TOPSOIL SPECIFICATION	
SIEVE SIZE	% PASSING BY WEIGHT
#4	75–95
#10	60–90
#40	35–85
#200	20–70

1. CLAY FRACTION <2% PASSING THE #200 SIEVE.

2. LOAM SHALL BE LOOSE AND FRIABLE AND SHALL BE FREE FROM ADMIXTURE OF SUBSOIL, REFUSE, LARGE STONES, CLODS OR ROOTS OR RHIZOMES OR "WITCH GRASS" OR OTHER UNDESIRABLE GRASSES.

SOIL FILTER BED – SUPERHUMUS OR EQUIV. SPECIFICATION	
SIEVE SIZE	% PASSING BY WEIGHT
1"	100
#200	0–5

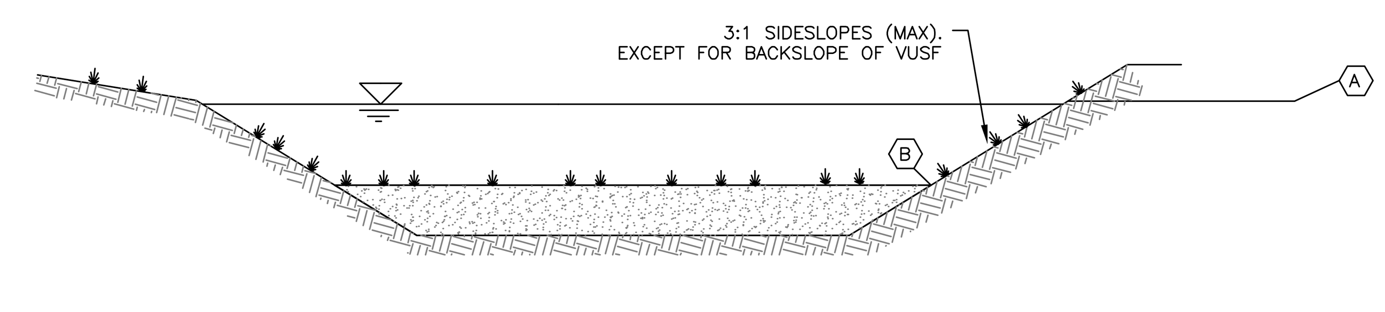
MINIMAL CLAY CONTENT, NO MORE THAN 3–5% PASSING #200 SIEVE

12" SOIL FILTER BED – BLENDED SAND, LOAM, SUPERHUMUS SIEVE ANALYSIS	
SIEVE SIZE	% PASSING BY WEIGHT
#10	85–100
#20	70–100
#60	15–40
#200	8–15

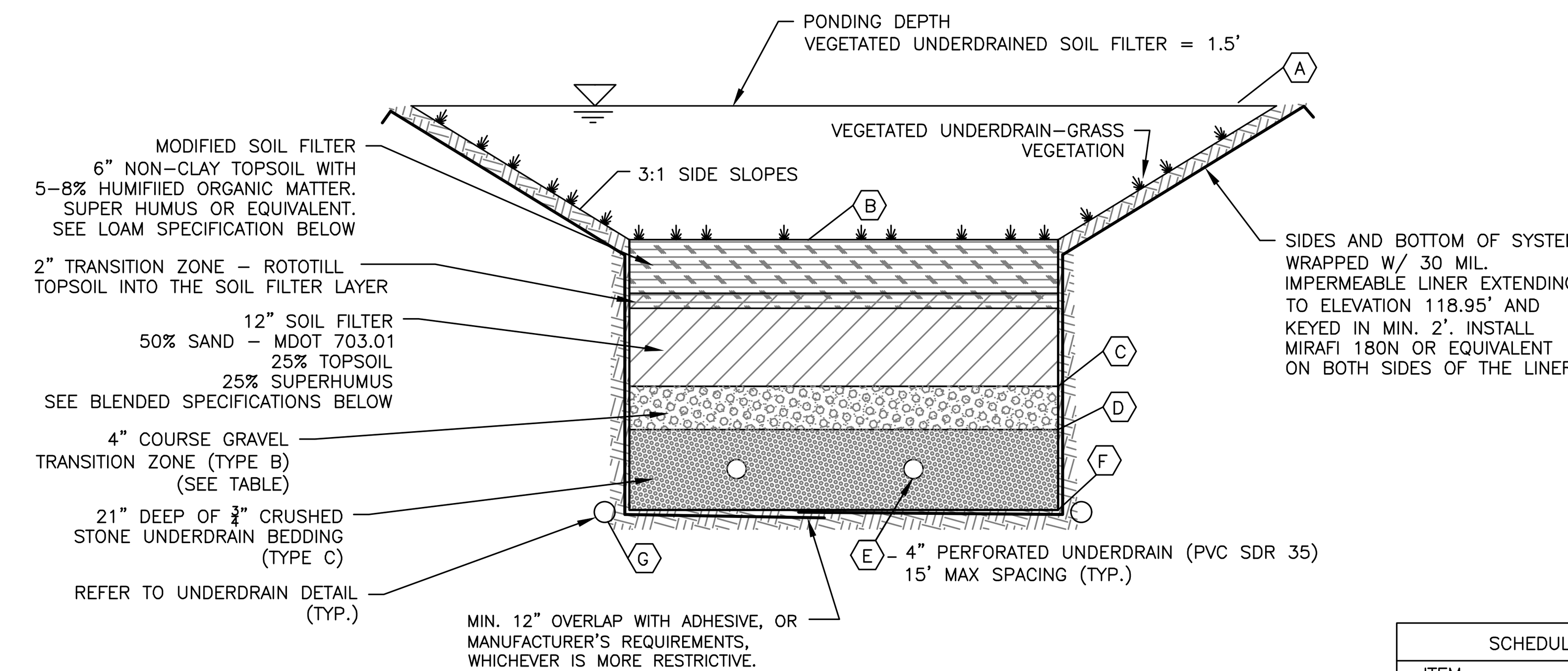
1. CLAY FRACTION <2% PASSING THE #200 SIEVE.
2. SUPERHUMUS OR EQUIVALENT

SOIL FILTER BED – TRANSITION ZONE (TYPE B)	
SIEVE SIZE	% PASSING BY WEIGHT
1"	90–100
1/2"	75–100
#4	50–100
#20	15–80
#50	0–15
#200	0–5

SOIL FILTER BED – UNDERDRAIN BEDDING (TYPE C)	
SIEVE SIZE	% PASSING BY WEIGHT
1"	100
3/4"	90–100
3/8"	0–75
#4	0–25
#10	0–5



CROSS SECTION



SIDE VIEW

SCHEDULE	
ITEM	ELEV.
(A) OVERFLOW INVERT	118.95'
(B) TOP OF SOIL FILTER	117.10'
(C) TOP OF GRAVEL	115.43'
(D) TOP OF STONE	115.10'
(E) UNDERDRAIN INVERT	114.00'
(F) BOTTOM OF STONE	113.35'
(G) UNDERDRAIN INVERT (EXTERNAL)	113.15'

NOTES:

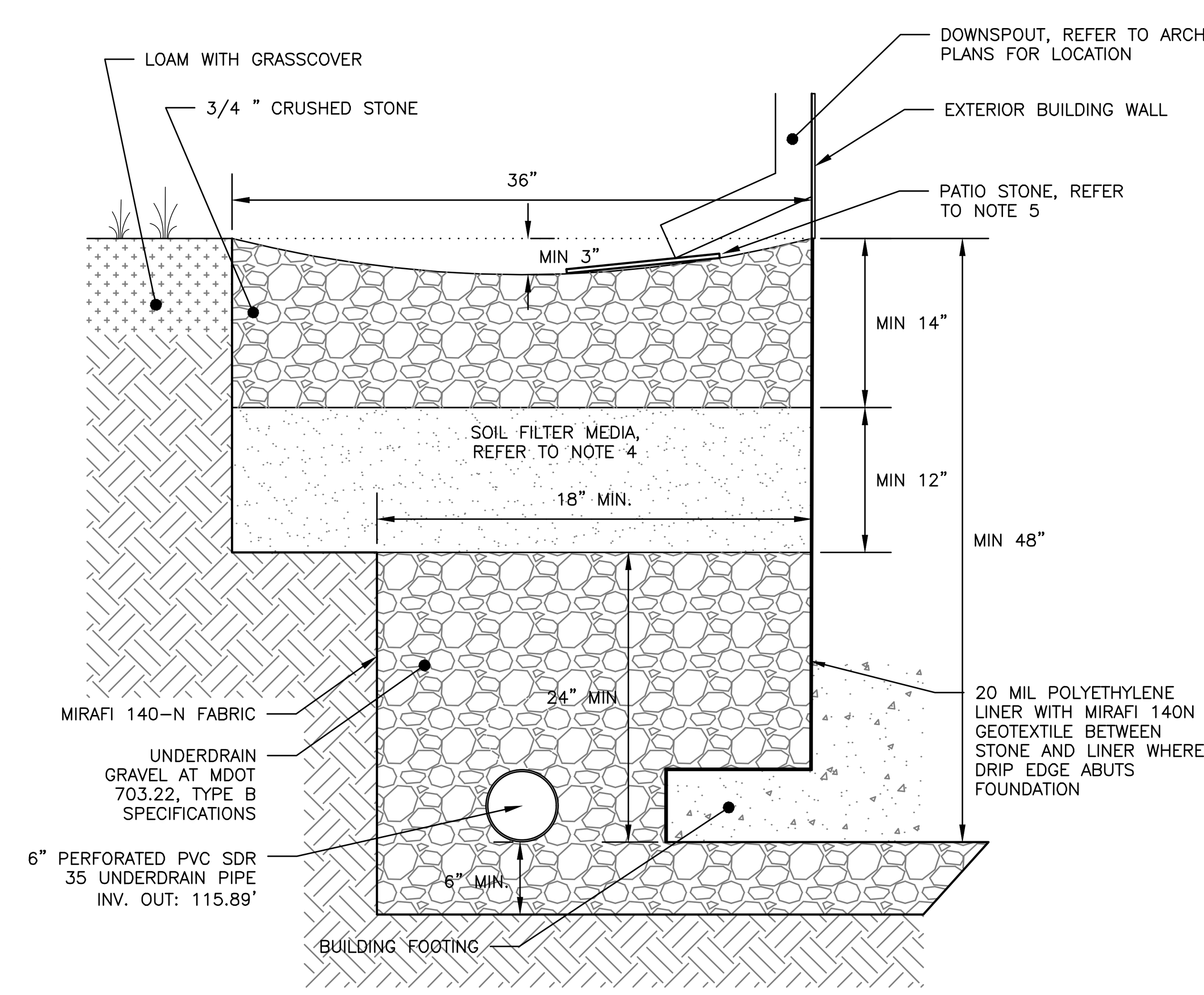
1. THE SIDESLOPES SHALL BE STABILIZED WITH A MIN. OF 4" LOAM, EROSION CONTROL BLANKETS SC150BN BY NORTH AMERICAN GREEN OR APPROVED EQUAL AND A CONSERVATION SEED MIX. THE BOTTOM OF THE VEGETATED UNDERDRAIN SHALL BE STABILIZED WITH EROSION CONTROL BLANKETS SC150BN BY NORTH AMERICAN GREEN OR APPROVED EQUAL AND A CONSERVATION SEED MIX
2. LIGHT COMPACTION SOIL FILTER AND PIPE BEDDING MATERIAL. (90 TO 92% STANDARD PROCTOR). TESTING SHALL BE PERFORMED BY A QUALIFIED MATERIAL TESTING FIRM.
3. THE SOIL FILTER MEDIA SHALL NOT BE CONSTRUCTED UNTIL THE AREA DRAINING TO THE BASIN HAS BEEN PERMANENTLY STABILIZED.
4. THE SEDIMENT FOREBAY SHALL BE CONSTRUCTED PRIOR TO CONSTRUCTION OF THE SOIL FILTER AND INSPECTED AND MAINTAINED DURING CONSTRUCTION. MAINTENANCE SHALL INCLUDE REMOVAL OF ANY ACCUMULATED SEDIMENT.
5. A LANDSCAPE DESIGNER OR ARCHITECT SHOULD BE INVOLVED TO TO SELECT THE APPROPRIATE PLANTS FOR THE BIORETENTION CELL AND FOR THE SITE CONDITIONS. PLANTING PLAN BY OTHERS.
6. MINIMUM UNDERDRAIN SLOPE 0.0025 FT/FT TOWARDS THE OUTLET.
7. TESTING: SIEVE ANALYSIS INCLUDING HYDROMETER TESTING FOR CLAY CONTENT FOR EACH LAYER SHALL BE PERFORMED BY A QUALIFIED SOIL TESTING LABORATORY AND SUBMITTED TO THE PROJECT ENGINEER FOR APPROVAL 2 WEEKS PRIOR TO CONSTRUCTION. ALL TESTING AND SUBMITTALS SHALL BE IN ACCORDANCE WITH THE MAINE DEP – TECHNICAL DESIGN MANUAL SECTION 7.2.5 TESTING AND SUBMITTALS.

VEGETATED UNDERDRAINED SOIL FILTER DETAIL
NOT TO SCALE

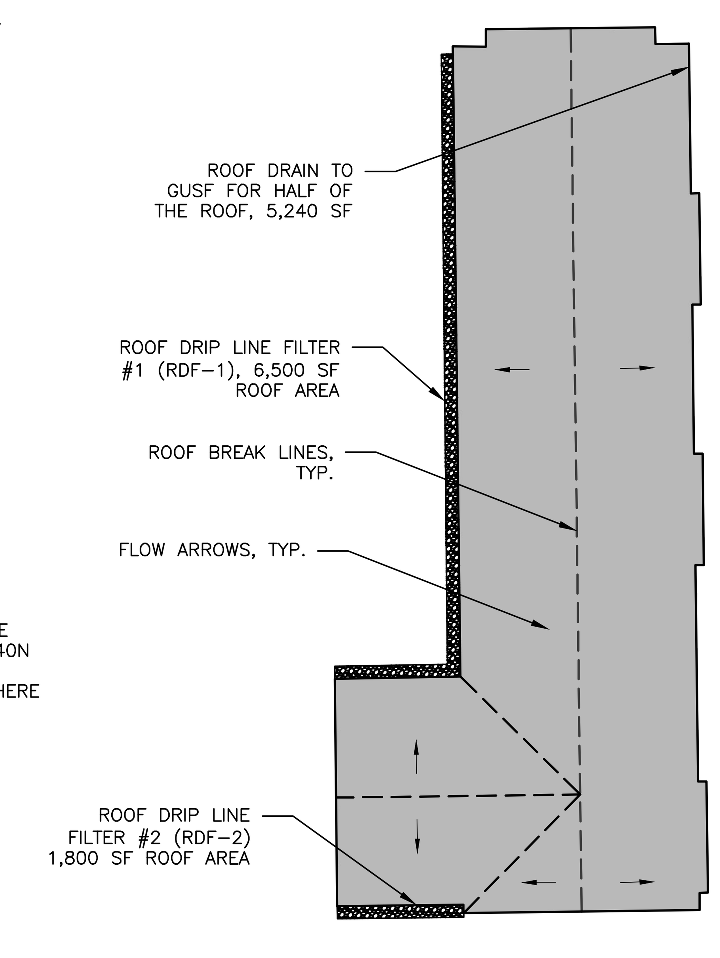
NOTES:

1. FINAL DESIGN MUST COMPLY WITH ALL APPROPRIATE SPECIFICATIONS FROM THE STORMWATER MANAGEMENT FOR MAINE BMP MANUAL, CHAPTER 7.
2. THE CRUSHED STONE RESERVOIR BED MUST CONSIST OF CRUSHED ROCK WITH A POROSITY OF 40%.
3. FOUNDATION BACKFILL MAY BE USED AS SOIL FILTER MEDIA AS LONG AS THE MATERIAL IS A MINERAL SOIL WITH BETWEEN 4–7% FINES (PASSING #200 SIEVE) AND IS 4" THICK AT MINIMUM.
4. THE SOIL FILTER MEDIA SHALL NOT BE CONSTRUCTED UNTIL THE AREA DRAINING TO THE BASIN HAS BEEN PERMANENTLY STABILIZED.
5. PATIO STONE TO BE PLACED AS TO REDIRECT CONCENTRATED FLOW FROM DOWNSPOUT. CONTRACTOR TO FINALIZE STONE SIZE.

BMP SIZING TABLE					
ID	ROOF (SF)	TREATMENT VOLUME REQ. (SF)	AREA (SF)	DEPTH (FT)	TREATMENT VOLUME PROV. (SF)
RDF-1	6,500	541	525	2.58	550
RDF-2	1,800	150	90	4.17	150



SECTION VIEW



WHITE ROCK TERRACE SCHEMATIC PLAN VIEW

ROOF DRIPLINE FILTRATION DETAIL
NOT TO SCALE

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
TOWN SUBMISSION	TAL 10/25/22
COMMENT RESPONSE	TAL 11/28/22
DEP RESPONSE	TAL 01/11/23
SUBDIVISION PLAN	TAL 02/26/23
DEP RESPONSE #2	TAL 04/10/23

DRAWING NAME: DRAINAGE DETAILS – 3

PROJECT NAME/ ADDRESS: WHITE ROCK TERRACE – SKYVIEW DRIVE

CLIENT/OWNER OF RECORD: THE SZANTON COMPANY
10 FREE STREET, SECOND FLOOR, PORTLAND ME 04101

ACORN ENGINEERING, INC.

ACORN ENGINEERING, INC.
PO BOX 3372, PORTLAND MAINE 04101
(207) 775-2655

FILE:	1175.1_CIVIL
JN:	1175.1
SCALE:	AS NOTED
DESIGNED BY:	TAL
DRAWN BY:	AWG
CHECKED BY:	WHS

STATE OF MAINE
Travis A. Letellier
13923
LICENSED PROFESSIONAL ENGINEER
2/26/2023

DRAWING NO.
C-46

1.0 EROSION CONTROL MEASURES AND SITE STABILIZATION

AS PART OF THE SITE DEVELOPMENT, THE FOLLOWING TEMPORARY AND PERMANENT EROSION AND SEDIMENTATION CONTROL DEVICES SHALL BE IMPLEMENTED. DEVICES SHALL BE INSTALLED AS DESCRIBED IN THIS REPORT OR WITHIN THE PLAN SET. SEE THE MAINE EROSION AND SEDIMENT CONTROL HANDBOOK FOR CONSTRUCTION: BEST MANAGEMENT PRACTICES FOR FURTHER REFERENCE.

1.1 TEMPORARY EROSION CONTROL MEASURES

THE FOLLOWING TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES ARE PLANNED FOR THE PROJECT'S CONSTRUCTION PERIOD:

1.1.1 CRUSHED STONE STABILIZED CONSTRUCTION ENTRANCES SHALL BE PLACED AT ALL ACCESS POINTS TO THE PROJECT SITE WHERE THERE ARE DISTURBED AREAS. THE FOLLOWING SPECIFICATIONS SHALL BE FOLLOWED AT A MINIMUM:
- STONE SIZE SHALL BE 2–3 INCHES, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
- THE THICKNESS OF THE ENTRANCE STONE LAYER SHALL BE NO LESS THAN 6 INCHES.
- THE ENTRANCE SHALL NOT BE LESS THAN 20 FEET WIDE, HOWEVER NOT LESS THAN THE FULL WIDTH OF POINTS WHERE INGRESS OR EGRESS OCCURS. THE LENGTH SHALL NOT BE LESS THAN 50 FEET IN LENGTH.
- GEOTEXTILE FABRIC (WOVEN OR NON–WOVEN) SHALL BE PLACED OVER THE ENTIRE ENTRANCE AREA.
- THE ENTRANCE/EXIT SHALL BE MAINTAINED TO THE EXTENT THAT IT WILL PREVENT THE TRACKING OF SEDIMENT ONTO PUBLIC ROAD WAYS.

1.1.2 SILTATION FENCE OR EROSION CONTROL BERM SHALL BE INSTALLED DOWN GRADIENT OF ANY DISTURBED AREAS TO TRAP RUNOFF BORNE SEDIMENTS UNTIL PERMANENT STABILIZATION IS ACHIEVED. THE SILT FENCE OR EROSION CONTROL BERM SHALL BE INSTALLED PER THE DETAILS PROVIDED IN THE PLAN SET AND INSPECTED BEFORE AND IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. REPAIRS SHALL BE MADE IF THERE ARE ANY SIGNS OF EROSION OR SEDIMENTATION BELOW THE FENCE LINE OR BERM. IF THERE ARE SIGNS OF UNDERCUTTING AT THE CENTER OR THE EDGES, OR IMPOUNDING OF LARGE VOLUMES OF WATER BEHIND THE FENCE OR BERM, THE BARRIER SHALL BE REPLACED WITH A STONE CHECK DAM.

1.1.3 HAY MULCH INCLUDING HYDRO SEEDING IS INTENDED TO PROVIDE COVER FOR DENUDED OR SEEDED AREAS UNTIL REVEGETATION IS ESTABLISHED. MULCH PLACED BETWEEN APRIL 15TH AND NOVEMBER 1ST ON SLOPES OF LESS THAN 15 PERCENT SHALL BE COVERED BY FABRIC NETTING AND ANCHORED WITH STAPLES IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION. MULCH PLACED BETWEEN NOVEMBER 1ST AND APRIL 15TH ON SLOPES EQUAL TO OR STEEPER THAN 8 PERCENT AND EQUAL TO OR FLATTER THAN 2:1 SHALL USE MATS OR FABRIC NETTING AND ANCHORED WITH STAPLES IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION.

1.1.4 AT ANY TIME OF THE YEAR, ALL SLOPES STEEPER THAN 3:1 SHALL BE STABILIZED WITH DOUBLE NET EROSION CONTROL BLANKET BIONET SC150BN BY NORTH AMERICAN GREEN OR APPROVED EQUAL, OR EROSION CONTROL MIX SLOPE PROTECTION AS DETAILED WITHIN THE PLANS.

1.1.5 SKY VIEW DRIVE SHALL BE SWEPT TO CONTROL MUD AND DUST FROM THE CONSTRUCTION SITE AS NECESSARY. ADD ADDITIONAL STONE TO THE STABILIZED CONSTRUCTION ENTRANCE TO MINIMIZE THE TRACKING OF MATERIAL OFF THE SITE AND ONTO THE SURROUNDING ROADWAYS.

1.1.6 DURING DEMOLITION, CLEARING AND GRUBBING OPERATIONS, STONE CHECK DAMS SHALL BE INSTALLED AT ANY AREAS OF CONCENTRATED FLOW. THE MAXIMUM HEIGHT OF THE CHECK DAM SHALL NOT EXCEED 2 FEET. THE CENTER OF THE CHECK DAM SHALL BE 6 INCHES BELOW THE OUTER EDGES OF THE DAM. THE CONTRACTOR SHALL MULCH THE SIDE SLOPES AND INSTALL STONE CHECK DAMS FOR ALL NEWLY EXCAVATED DITCH LINES WITHIN 24 HOURS OF THEIR CREATION.

1.1.7 SILT FENCE STAKE SPACING SHALL NOT EXCEED 6 FEET UNLESS THE FENCE IS SUPPORTED WITH 14 GAUGE WIRE IN WHICH CASE THE MAXIMUM SPACING SHALL NOT EXCEED 10 FEET. THE SILT FENCE SHALL BE "TOED" INTO THE GROUND.

1.1.8 STORMDRAIN INLET PROTECTION SHALL BE PROVIDED TO STORMDRAINS THROUGH THE USE OF ANY OF THE FOLLOWING: HAY BALE DROP INLET STRUCTURES, SILT FENCE DROP INLET SEDIMENT FILTER, GRAVEL AND WIRE MESH DROP INLET SEDIMENT FILTER, OR CURB INLET SEDIMENT FILTER. BARRIERS SHALL BE INSPECTED AFTER EVERY RAINFALL EVENT AND REPAIRED AS NECESSARY. SEDIMENTS SHALL BE REMOVED WHEN ACCUMULATION HAS REACHED ½ THE DESIGN HEIGHT.

1.1.9 DUST CONTROL SHALL BE ACCOMPLISHED BY THE USE OF ANY OF THE FOLLOWING: WATER, CALCIUM CHLORIDE, STONE, OR AN APPROVED MDEP PRODUCT. DUST CONTROL SHALL BE APPLIED AS NEEDED TO ACCOMPLISH DUST CONTROL.

1.1.10 TEMPORARY LOAM, SEED, AND MULCHING SHALL BE USED IN AREAS WHERE NO OTHER EROSION CONTROL MEASURE IS USED. APPLICATION RATES FOR SEEDING ARE PROVIDED AT THE END OF THIS REPORT.

1.1.11 STOCKPILES SHALL BE STABILIZED WITHIN 7 DAYS OF FORMATION UNLESS A SCHEDULED RAIN EVENT OCCURS PRIOR TO THE 7 DAY WINDOW, IN WHICH CASE THE STOCKPILE SHALL BE STABILIZED PRIOR TO THE RAIN EVENT. METHODS OF STABILIZATION SHALL BE MULCH, EROSION CONTROL MIX, OR EROSION CONTROL BLANKETS/MATS. SILT FENCE OR A WOOD WASTE COMPOST FILTER BERM SHALL BE PLACED DOWNHILL OF ANY SOIL STOCKPILE LOCATION.

1.1.12 FOR DISTURBANCE BETWEEN NOVEMBER 1 AND APRIL 15, PLEASE REFER TO WINTER STABILIZATION PLAN IN THIS REPORT AND THE MAINE EROSION AND SEDIMENT CONTROL BMP MANUAL FOR FURTHER INFORMATION.

1.1.13 IT IS OF THE UTMOST IMPORTANCE THAT STORMWATER RUNOFF AND POTENTIAL SEDIMENT FROM THE CONSTRUCTION SITE BE DIVERTED AROUND THE PROPOSED UNDERDRAINS UNTIL THE TRENCH IS BACKFILLED.

1.2 PERMANENT EROSION CONTROL MEASURES

THE FOLLOWING PERMANENT EROSION CONTROL MEASURES ARE INTENDED FOR POST DISTURBANCE AREAS OF THE PROJECT.

1.2.1 ALL DISTURBED AREAS DURING CONSTRUCTION, NOT SUBJECT TO OTHER PROPOSED CONDITIONS, SHALL RECEIVE A MINIMUM 4" OF LOAM AND SHALL BE LIMED, AND MULCHED.
1.2.2 EROSION CONTROL BLANKETS OR MATS SHALL BE PLACED OVER THE MULCH IN AREAS NOTED IN PARAGRAPH 4.2 OF THIS REPORT.
1.2.3 ALL STORMWATER DEVICES SHALL BE INSTALLED AND TRIBUTARY AREAS STABILIZED PRIOR RECEIVING STORMWATER.
1.2.4 REFER TO THE MAINE EROSION AND SEDIMENT CONTROL BMP MANUAL FOR ADDITIONAL INFORMATION.

2.0 EROSION AND SEDIMENTATION CONTROL PLAN

2.1 THE EROSION AND SEDIMENTATION CONTROL PLAN IS INCLUDED WITHIN THE PLAN SET.

3.0 DETAILS AND SPECIFICATIONS

3.1 EROSION CONTROL DETAILS AND SPECIFICATIONS ARE INCLUDED IN THE PLAN SET.

4.0 STABILIZATION PLAN FOR WINTER CONSTRUCTION

WINTER CONSTRUCTION CONSISTS OF EARTHWORK DISTURBANCE BETWEEN THE DATES OF NOVEMBER 1 AND APRIL 15. IF A CONSTRUCTION SITE IS NOT STABILIZED WITH PAVEMENT, A ROAD GRAVEL BASE, 75% MATURE VEGETATION COVER OR RIPRAP BY NOVEMBER 15, THEN THE SITE SHALL BE PROTECTED WITH OVER–WINTER STABILIZATION. ANY AREA NOT STABILIZED WITH PAVEMENT, VEGETATION, MULCHING, EROSION CONTROL MIX, EROSION CONTROL MATS, RIPRAP, OR GRAVEL BASE ON A ROAD SHALL BE CONSIDERED OPEN.

THE CONTRACTOR SHALL LIMIT THE WORK AREA TO AREAS THAT WORK WILL OCCUR IN DURING THE SUBSEQUENT 15 DAYS AND SO THAT IT CAN BE MULCHED ONE DAY PRIOR TO A SNOW EVENT. THE CONTRACTOR SHALL STABILIZE WORK AREAS PRIOR TO OPENING ADDITIONAL WORK AREAS TO MINIMIZE AREAS WITHOUT EROSION CONTROL MEASURES.

THE FOLLOWING MEASURES SHALL BE IMPLEMENTED DURING WINTER CONSTRUCTION PERIODS:

4.1 SEDIMENT BARRIERS

DURING FROZEN CONDITIONS, SEDIMENT BARRIERS MAY CONSIST OF EROSION CONTROL MIX BERMS OR ANY OTHER RECOGNIZED SEDIMENT BARRIERS AS FROZEN SOIL PREVENTS THE PROPER INSTALLATION OF HAY BALES OR SILT FENCES.

4.2 MULCHING

ALL AREAS SHALL BE CONSIDERED TO BE DENUDED UNTIL SEEDED AND MULCHED. HAY AND STRAW MULCH SHALL BE APPLIED AT A RATE OF 150 LB. PER 1,000 SQUARE FEET OR 3 TONS/ACRE (TWICE THE NORMAL ACCEPTED RATE OF 75–LBS./1,000 S.F. OR 1.5 TONS/ACRE) AND SHALL BE PROPERLY ANCHORED. EROSION CONTROL MIX MUST BE APPLIED WITH A MINIMUM 4 INCH THICKNESS. MULCH SHALL NOT BE SPREAD ON TOP OF SNOW. THE SNOW SHALL BE REMOVED DOWN TO A ONE–INCH DEPTH OR LESS PRIOR TO APPLICATION. AFTER EACH DAY OF FINAL GRADING, THE AREA SHALL BE PROPERLY STABILIZED WITH ANCHORED HAY OR STRAW OR EROSION CONTROL MATTING. AN AREA SHALL BE CONSIDERED TO HAVE BEEN STABILIZED WHEN EXPOSED SURFACES HAVE BEEN EITHER MULCHED OR ADEQUATELY ANCHORED SO THAT GROUND SURFACE IS NOT VISIBLE THROUGH THE MULCH. BETWEEN THE DATES OF NOVEMBER 1 AND APRIL 15, ALL MULCH SHALL BE ANCHORED BY EITHER MULCH NETTING, TRACKING OR WOOD CELLULOSE FIBER. THE COVER WILL BE CONSIDERED SUFFICIENT WHEN THE GROUND SURFACE IS NOT VISIBLE THROUGH THE MULCH. AFTER NOVEMBER 1ST, MULCHING AND ANCHORING OF ALL EXPOSED SOIL SHALL OCCUR AT THE END OF EACH FINAL GRADING WORKDAY.

4.3 SOIL STOCKPILING

STOCKPILES OF SOIL OR SUBSOIL SHALL BE MULCHED FOR OVER WINTER PROTECTION WITH HAY OR STRAW AT TWICE THE NORMAL RATE OR WITH A FOUR–INCH LAYER OF EROSION CONTROL MIX. THIS SHALL BE DONE WITHIN 24 HOURS OF STOCKING AND RE–ESTABLISHED PRIOR TO ANY RAINFALL OR SNOWFALL.

4.4 SEEDING

BETWEEN THE DATES OF OCTOBER 15TH AND APRIL 1ST, LOAM OR SEED SHALL NOT BE REQUIRED. DURING PERIODS OF ABOVE FREEZING TEMPERATURES FINISHED AREAS SHALL BE FINE GRADED AND EITHER PROTECTED WITH MULCH OR TEMPORARILY SEEDED AND MULCHED UNTIL SUCH TIME AS THE FINAL TREATMENT CAN BE APPLIED. IF THE DATE IS AFTER NOVEMBER 1ST AND IF THE EXPOSED AREA HAS NOT BEEN LOAMED, FINAL GRADING WITH A UNIFORM SURFACE, THEN THE AREA MAY BE DORMANT SEEDED AT A RATE OF 3 TIMES HIGHER THAN SPECIFIED FOR PERMANENT SEED AND THEN MULCHED.

DORMANT SEEDING MAY BE PLACED PRIOR TO THE PLACEMENT OF MULCH OR EROSION CONTROL BLANKETS. IF DORMANT SEEDING IS USED FOR THE SITE, ALL DISTURBED AREAS SHALL RECEIVE 4" OF LOAM AND SEED AT AN APPLICATION RATE OF 5 LBS/1,000 S.F. ALL AREAS SEEDED DURING THE WINTER SHALL BE INSPECTED IN THE SPRING FOR ADEQUATE CATCH. ALL AREAS INSUFFICIENTLY VEGETATED (LESS THAN 75% CATCH) SHALL BE REVEGETATED BY REPLACING LOAM, SEED AND MULCH. IF DORMANT SEEDING IS NOT USED FOR THE SITE, ALL DISTURBED AREAS SHALL BE REVEGETATED IN THE SPRING.

4.5 OVER WINTER STABILIZATION OF DISTURBED SOILS

BY SEPTEMBER 15TH, ALL DISTURBED SOILS ON AREAS HAVING A SLOPE LESS THAN 15% SHALL BE SEEDED AND MULCHED. IF THE DISTURBED AREAS ARE NOT STABILIZED BY THIS DATE, THEN ONE OF THE FOLLOWING ACTIONS SHALL BE TAKEN TO STABILIZE THE SOIL FOR LATE FALL AND WINTER:

- STABILIZE THE SOIL WITH TEMPORARY VEGETATION – BY OCTOBER 1ST, SEED THE DISTURBED SOIL WITH WINTER RYE AT A SEEDING RATE OF 3LBS PER 1,000 S.F., LIGHTLY MULCH THE SEEDED SOIL WITH HAY OR STRAW AT 75 LBS PER 1,000 S.F., AND ANCHOR THE MULCH WITH PLASTIC NETTING. MONITOR GROWTH OF THE RYE OVER THE NEXT 30 DAYS. IF THE RYE FAILS TO GROW AT LEAST THREE INCHES OR FAILS TO COVER AT LEAST 75% OF THE DISTURBED SOIL BEFORE NOVEMBER 1ST, THEN MULCH THE AREA FOR OVER–WINTER PROTECTION.

- STABILIZE THE SOIL WITH SOD – STABILIZE THE DISTURBED SOIL WITH PROPERLY INSTALLED SOD BY OCTOBER 1ST. PROPER INSTALLATION INCLUDES PINNING THE SOD ONTO THE SOIL WITH WIRE PINS, ROLLING THE SOD TO GUARANTEE CONTACT BETWEEN THE SOD AND UNDERLYING SOIL, AND WATERING THE SOD TO PROMOTE ROOT GROWTH INTO THE DISTURBED SOIL.

- STABILIZE THE SOIL WITH MULCH – BY NOVEMBER 15TH, MULCH THE DISTURBED SOIL BY SPREADING HAY OR STRAW AT A RATE OF AT LEAST 150 LBS PER 1,000 S.F. ON THE AREA SO THAT NO SOIL IS VISIBLE THROUGH THE MULCH. IMMEDIATELY AFTER APPLYING THE MULCH, ANCHOR THE MULCH WITH PLASTIC NETTING TO PREVENT WIND FROM MOVING THE MULCH OFF THE DISTURBED SOIL.

4.6 OVER WINTER STABILIZATION OF DISTURBED SLOPES

ALL STONE–COVERED SLOPES SHALL BE CONSTRUCTED AND STABILIZED BY NOVEMBER 15TH. ALL SLOPES TO BE VEGETATED SHALL BE SEEDED AND MULCHED BY SEPTEMBER 1ST. A SLOPE IS CONSIDERED A GRADE GREATER THAN 15%. IF A SLOPE TO BE VEGETATED IS NOT STABILIZED BY SEPTEMBER 1ST, THEN ONE OF THE FOLLOWING ACTION SHALL BE TAKEN TO STABILIZE THE SLOPE FOR LATE FALL AND WINTER:

- STABILIZE THE SOIL WITH TEMPORARY VEGETATION AND EROSION CONTROL MATS – BY OCTOBER 1ST THE DISTURBED SLOPE SHALL BE SEEDED WITH WINTER RYE AT A SEEDING RATE OF 3 LBS PER 1,000 S.F. AND THEN INSTALL EROSION CONTROL MATS OR ANCHORED MULCH OVER THE SEEDING. IF THE RYE FAILS TO GROW AT LEAST THREE INCHES OR FAILS TO COVER AT LEAST 75% OF THE SLOPE BY NOVEMBER 1ST, THEN THE CONTRACTOR SHALL COVER THE SLOPE WITH A LAYER OF EROSION CONTROL MIX OR WITH STONE RIPRAP.

- STABILIZE THE SOIL WITH SOD – THE DISTURBED SLOPE SHALL BE STABILIZED WITH PROPERLY INSTALLED SOD BY OCTOBER 1ST. PROPER INSTALLATION INCLUDES THE CONTRACTOR PINNING THE SOD ONTO THE SLOPE WITH WIRE PINS, ROLLING THE SOD TO GUARANTEE CONTACT BETWEEN THE SOD AND UNDERLYING SOIL, AND WATERING THE SOD TO PROMOTE ROOT GROWTH INTO THE DISTURBED SOIL. THE CONTRACTOR SHALL NOT USE LATE–SEASON SOD INSTALLATION TO STABILIZE SLOPES HAVING A GRADE GREATER THAN 3H:1V OR HAVING GROUNDWATER SEEPS ON THE SLOPE FACE.

- STABILIZE THE SOIL WITH EROSION CONTROL MIX – EROSION CONTROL MIX SHALL BE PROPERLY INSTALLED BY NOVEMBER 15TH. THE CONTRACTOR SHALL NOT USE EROSION CONTROL MIX TO STABILIZE SLOPES HAVING GRADES GREATER THAN 2H:1V OR HAVING GROUNDWATER SEEPS ON THE SLOPE FACE.

- STABILIZE THE SOIL WITH STONE RIPRAP – PLACE A LAYER OF STONE RIPRAP ON THE SLOPE BY NOVEMBER 15TH. A REGISTERED PROFESSIONAL ENGINEER SHALL BE HIRED TO DETERMINE THE STONE SIZE NEEDED FOR STABILITY ON THE SLOPE AND TO DESIGN A FILTER LAYER FOR UNDERNEATH THE RIPRAP.

5.0 INSPECTION AND MAINTENANCE

A PERSON WITH KNOWLEDGE OF EROSION AND STORMWATER CONTROL, INCLUDING THE STANDARDS AND CONDITIONS IN THE PERMIT, SHALL CONDUCT PERIODIC VISUAL INSPECTIONS OF INSTALLED EROSION CONTROL MEASURES. THE FREQUENCY OF INSPECTION SHALL OCCUR AT LEAST ONCE EVERY TWO WEEKS, AS WELL AS AFTER A "STORM EVENT". A "STORM EVENT" SHALL CONSIST 0.5 INCHES OF RAIN WITHIN A 24 HOUR PERIOD. THE FOLLOWING EROSION AND SEDIMENT CONTROL – BEST MANAGEMENT PRACTICES (BMP'S) SHALL INSPECTED IN THE MANNER AS DESCRIBED.

5.1 SEDIMENT BARRIERS

HAY BALE BARRIERS, SILT FENCES AND FILTER BERMS SHALL BE INSPECTED AND REPAIRED FOR THE FOLLOWING IF THERE ARE ANY SIGNS OF EROSION OR SEDIMENTATION BELOW THEM. IF THERE ARE SIGNS OF UNDERCUTTING AT THE CENTER OR THE EDGES OF THE BARRIER, OR IMPOUNDING OF LARGE VOLUMES OF WATER BEHIND THEM, SEDIMENT BARRIERS SHALL BE REPLACED WITH A TEMPORARY CHECK DAM. SHOULD THE FABRIC ON A SILT FENCE OR FILTER BARRIER DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER IS STILL NECESSARY, THE FABRIC SHALL BE REPLACED PROMPTLY. SEDIMENT DEPOSITS SHOULD BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE–HALF THE HEIGHT OF THE BARRIER. FILTER BERMS SHOULD BE RESHAPED AS NEEDED. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE OR FILTER BARRIER IS NO LONGER REQUIRED SHOULD BE DRESSED TO CONFORM TO THE EXISTING GRADE, PREPARED AND SEEDED.

5.2 STABILIZED STONE CONSTRUCTION ENTRANCES

THE EXIT SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OF SEDIMENT ONTO PUBLIC RIGHTS–OF–WAY. WHEN THE CONTROL PAD BECOMES INEFFECTIVE, THE STONE SHALL BE REMOVED ALONG WITH THE COLLECTED SOIL MATERIAL AND REDISTRIBUTED ON SITE IN A STABLE MANNER. THE ENTRANCE SHOULD THEN BE RECONSTRUCTED. THE CONTRACTOR SHALL SWEEP OR WASH PAVEMENT AT EXITS, WHICH HAVE EXPERIENCED MUD–TRACKING ON TO THE PAVEMENT OR TRAVELED WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH AGGREGATE, WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING STORM DRAINS, DITCHES, OR WATERWAYS.

5.3 MULCHED AREAS

ALL MULCHES MUST BE INSPECTED PERIODICALLY, IN PARTICULAR AFTER RAINSTORMS, TO CHECK FOR RILL EROSION. IF LESS THAN 90% OF THE SOIL SURFACE IS COVERED BY MULCH, ADDITIONAL MULCH SHALL BE IMMEDIATELY APPLIED. NETS MUST BE INSPECTED AFTER RAIN EVENTS FOR DISLOCATION OR FAILURE. IF WASHOUTS OR BREAKAGE OCCUR, RE–INSTALL THE NETS AS NECESSARY AFTER REPAIRING DAMAGE TO THE SLOPE. WHERE MULCH IS USED IN CONJUNCTION WITH ORNAMENTAL PLANTINGS, INSPECT PERIODICALLY THROUGHOUT THE YEAR TO DETERMINE IF MULCH IS MAINTAINING COVERAGE OF THE SOIL SURFACE. REPAIR AS NEEDED.

5.4 DUST CONTROL

WHEN TEMPORARY DUST CONTROL MEASURES ARE USED, REPETITIVE TREATMENT SHALL BE APPLIED AS NEEDED TO ACCOMPLISH CONTROL.

5.5 STORMWATER APPURTENANCES

ALL UNDERDRAINS, STORM DRAINS, AND CATCH BASINS NEED TO BE OPERATING EFFECTIVELY AND FREE OF DEBRIS.

5.6 EROSION AND SEDIMENTATION CONTROL INSPECTIONS:

ACORN ENGINEERING HAS PERSONNEL QUALIFIED TO CONDUCT EROSION AND SEDIMENTATION CONTROL INSPECTIONS. FOR FURTHER INFORMATION CONTACT:

CONTACT: WILL SAVAGE, PE
TELEPHONE: (207) 775–2655

QUALIFICATIONS:

- MAINE PROFESSIONAL ENGINEERING LICENSE #11419
- MAINE DEP – CERTIFIED IN MAINTENANCE & INSPECTION OF STORMWATER BMP'S CERT #14
- CERTIFIED EROSION, SEDIMENT AND STORM WATER INSPECTOR (CESSWI) CERT #0293
- CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL (CPESC) CERT. #4620

THE CONTRACTOR HAS SOLE RESPONSIBILITY FOR COMPLYING WITH THE EROSION AND SEDIMENTATION REPORT/PLAN, INCLUDING CONTROL OF FUGITIVE DUST. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY MONETARY PENALTIES RESULTING FROM FAILURE TO COMPLY WITH THESE STANDARDS.

6.0 IMPLEMENTATION SCHEDULE

THE FOLLOWING IMPLEMENTATION SEQUENCE IS INTENDED TO MAXIMIZE THE EFFECTIVENESS OF THE ABOVE DESCRIBED EROSION CONTROL MEASURES. CONTRACTORS SHOULD AVOID OVEREXPOSING DISTURBED AREAS AND LIMIT THE AMOUNT OF STABILIZATION AREA.

1. INSTALL A STABILIZED CONSTRUCTION ENTRANCE IN ALL LOCATIONS WHERE CONSTRUCTION TRAFFIC WILL ENTER AND EXIT THE SITE.
2. INSTALL PERIMETER SILT FENCE OR EROSION CONTROL BERM.
3. INSTALL ALL OTHER EROSION CONTROL DEVICES AS NECESSARY THROUGHOUT THE REMAINDER OF THIS SCHEDULE.
4. COMMENCE INSTALLATION OF DRAINAGE INFRASTRUCTURE.
5. PRIORITIZE THE DOWNHILL SIDE TO CONTAIN RUNOFF WITHIN THE SITE WHILE PROVIDING AN ENGINEERED OUTLET WITH SILTATION BARRIER TO THE MUNICIPAL STORMWATER SYSTEM WITHIN SKY VIEW DRIVE.
6. COMMENCE EARTHWORK OPERATIONS, WALL AND FOUNDATION INSTALLATION.
7. COMMENCE INSTALLATION OF UTILITIES.
8. CONTINUE EARTHWORK AND GRADING TO SUBGRADE AS NECESSARY FOR CONSTRUCTION.
9. COMPLETE INSTALLATION OF DRAINAGE INFRASTRUCTURE, AS WELL AS OTHER UTILITY WORK.
10. COMPLETE REMAINING EARTHWORK OPERATIONS.
11. INSTALL SUB–BASE AND BASE GRAVELS IN PAVED AREAS.
12. INSTALL PAVING, CURBING AND BRICKWORK.
13. LOAM, LIME, FERTILIZE, SEED AND MULCH DISTURBED AREAS AND COMPLETE ALL LANDSCAPING.
14. ONCE THE SITE IS STABILIZED, 90% CATCH OF GRASS HAS BEEN OBTAINED, OR MULCHING OF LANDSCAPE AREAS IS COMPLETE REMOVE ALL TEMPORARY EROSION CONTROL MEASURES.
15. TOUCH UP AREAS WITHOUT A VIGOROUS CATCH OF GRASS WITH LOAM AND SEED.
16. COMPLETE SITE SIGNAGE AND STRIPING.
17. EXECUTE PROPER MAINTENANCE OF ALL TEMPORARY AND PERMANENT EROSION CONTROL MEASURES THROUGHOUT THE PROJECT.

THE ABOVE IMPLEMENTATION SEQUENCE SHOULD BE GENERALLY FOLLOWED BY THE SITE CONTRACTOR. HOWEVER, THE CONTRACTOR MAY CONSTRUCT SEVERAL ITEMS SIMULTANEOUSLY. THE CONTRACTOR SHALL SUBMIT TO THE OWNER A SCHEDULE OF THE COMPLETION OF THE WORK. IF THE CONTRACTOR IS TO COMMENCE THE CONSTRUCTION OF MORE THAN ONE ITEM ABOVE, THEY SHALL LIMIT THE AMOUNT OF EXPOSED AREAS TO THOSE AREAS IN WHICH WORK IS EXPECTED TO BE UNDERTAKEN DURING THE FOLLOWING 30 DAYS.

THE CONTRACTOR SHALL RE–VEGETATE DISTURBED AREAS AS RAPIDLY AS POSSIBLE. ALL AREAS SHALL BE PERMANENTLY STABILIZED WITHIN 7 DAYS OF FINAL GRADING OR BEFORE A STORM EVENT. THE CONTRACTOR SHALL INCORPORATE PLANNED INLETS AND DRAINAGE SYSTEMS AS EARLY AS POSSIBLE INTO THE CONSTRUCTION PHASE.

7.0 SEEDING PLAN

7.1 SITE PREPARATION

THE SEEDED AREAS SHALL BE FEASIBLY GRADED OUT TO PROVIDE THE USE OF EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING. IF NECESSARY, THE SITE MAY REQUIRE ADDITIONAL TEMPORARY EROSION CONTROL MEASURES OUTLINED IN THE EROSION CONTROL REPORT.

7.2 SEEDBED PREPARATION

FERTILIZER SHALL BE APPLIED TO THE SITE AT A RATE OF 13.8 POUNDS PER 1,000 SQUARE FEET. THE COMPOSITION OF THE FERTILIZER SHALL BE 10–10–10 (N–P2O5–K2O) OR EQUIVALENT.

LIMESTONE SHALL BE APPLIED TO THE SITE AT A RATE OF 138 POUNDS PER 1,000 SQUARE FEET.

7.3 SEEDING

THE COMPOSITION AND AMOUNT OF TEMPORARY SEED APPLIED TO A SITE SHALL BE DETERMINED BY THE FOLLOWING TABLE:

TEMPORARY SEED APPLICATION RATES

SEED	LBS / ACRE	LBS / 1,000 SF	RECOMMENDED SEEDING DATES
WINTER RYE	112	2.6	8/15 TO 10/1
OATS	80	1.8	4/1 TO 7/1 8/15 TO 9/15
ANNUAL RYEGRASS	40	0.9	4/1 TO 7/1
SUDANGRASS	40	0.9	5/15 TO 8/15
PERENNIAL	40	0.9	8/15 TO 9/15
TOTAL	312	7.1	

PERMANENT SEED APPLICATION RATES

SEED	LBS / ACRE
KENTUCKY BLUEGRASS	20.00
CREEPING RED FESCUE	20.00
PERENNIAL RYEGRASS	4.80
TOTAL	44.8 LBS/ACRE

7.4 MULCHING

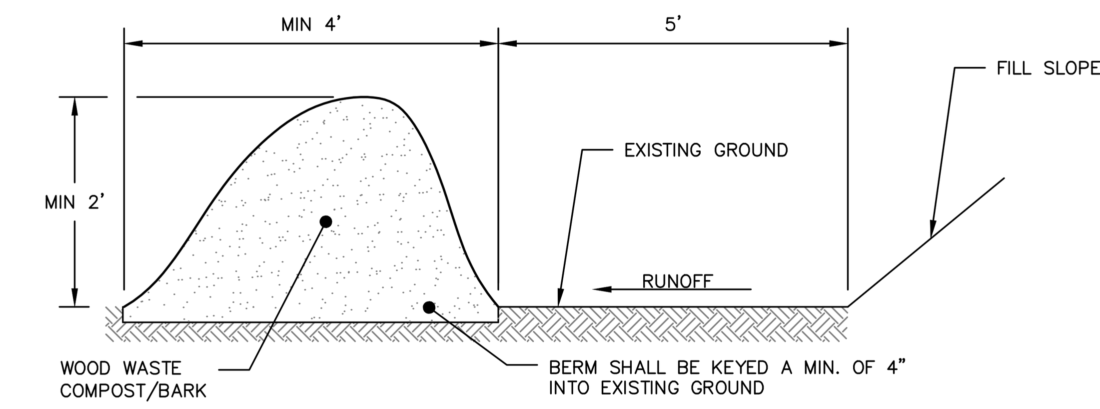
MULCH SHALL BE HARDWOOD AND APPLIED AT A RATE OF 70 LBS – 90 LBS PER 1,000 SQUARE FEET. THE MULCH SHALL BE INSTALLED AT A MINIMUM DEPTH OF 4 INCHES. THE SEEDED AREA SHALL BE MULCHED IMMEDIATELY AFTER SEED IS APPLIED. MULCHING DURING THE WINTER SEASON SHALL BE DOUBLE THE NORMAL AMOUNT. REFER TO DETAIL FOR MORE INFORMATION.

8.0 CONCLUSION

THE ABOVE EROSION CONTROL NARRATIVE IS INTENDED TO MINIMIZE THE DEVELOPMENT IMPACT BY IMPLEMENTING TEMPORARY AND PERMANENT EROSION CONTROL MEASURES. THE CONTRACTOR SHALL ALSO REFER TO THE MAINE EROSION AND SEDIMENT CONTROL BMP MANUAL FOR ADDITIONAL INFORMATION.

NOTES:

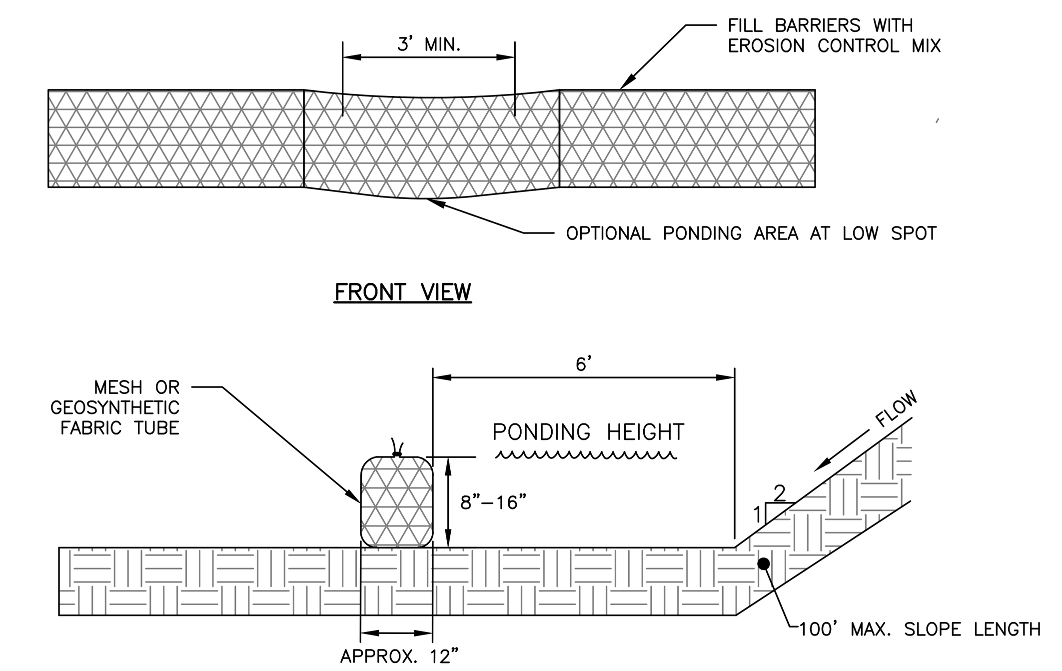
1. THE EROSION CONTROL MIX SHALL CONFORM TO THE FOLLOWING STANDARDS AND IN ACCORDANCE WITH THE MAINE DOT CHAPTER 700, SECTION 717.04(D):
   1.1. pH BETWEEN 5.0 – 8.0
   1.2. PARTICLE SIZE (BY WEIGHT):
      1.2.1. 100% PASSING A 150 MM (6 IN) SCREEN
      1.2.2. 75 TO 85% PASSING A 19 MM (0.75 IN) SCREEN
   1.3. SOLUBLE SALTS CONTENT < 4.0 MMHOS/CM
   1.4. ORGANIC MATTER 20 TO 100% , DRY WEIGHT BASIS
2. THE BERM SHOULD BE PLACED, UNCOMPACTED, ALONG A RELATIVELY LEVEL CONTOUR, WHEN NECESSARY THE BERM MAY BE PLACED PERPENDICULAR TO THE SLOPE ALONG THE PROPERTY LINE TO CONTAIN THE SEDIMENT PROVIDED A BERM IS LOCATED AT THE BASE OF THE SLOPE.
3. BERMS SHALL REMAIN IN PLACE UNTIL UPSTREAM AREA IS STABILIZED OR 90% CATCH OF VEGETATION IS ATTAINED. BERMS SHALL BE REMOVED OFFSITE OR BY SPREADING SUCH THAT NATIVE EARTH CAN BE SEEN BELOW.



EROSION CONTROL MIX BERM DETAIL
NOT TO SCALE

NOTES:

1. FULL CONTACT WITH THE GROUND IS CRITICAL TO PREVENT SHORT CIRCUITING UNDER THE TUBE – THE GROUND SURFACE SHOULD BE SMOOTH AND LEVEL. IN WOODED AREAS, PROTRUDING ROOTS AND DEBRIS MAY NEED TO BE REMOVED. IN GRASSED AREAS, THE GRASS NEEDS TO BE EITHER MOWED OR COMPRESSED DOWN.
2. STAKING MAY BE NECESSARY ON STEEP SLOPES.
3. UPON FINAL STABILIZATION, THE TUBE CAN BE CUT OPEN AND THE MATERIAL SPREAD OUT ONTO THE GROUND. THE MESH MATERIAL SHOULD BE REMOVE.
4. LOOSE COMPOST MAY BE BACKFILLED ALONG THE UPSLOPE SIDE OF THE COMPOST FILTER SOCK, FILLING THE SEAM BETWEEN THE SOIL SURFACE AND THE DEVICE, IMPROVING FILTRATION AND SEDIMENT RETENTION.



FILTER SOCK DETAIL
NOT TO SCALE

PERMIT LEVEL
NOT ISSUED FOR
CONSTRUCTION

ISSUED FOR	BY / DATE
TOWN SUBMISSION	TAL 10/25/22
COMMENT RESPONSE	TAL 11/28/22
DEP RESPONSE	TAL 01/11/23
SUBDIVISION PLAN	TAL 02/26/23

DRAWING NAME: EROSION & SEDIMENTATION CONTROL NOTES
PROJECT NAME/ADDRESS: WHITE ROCK TERRACE – SKYVIEW DRIVE
CLIENT/OWNER OF RECORD: THE SZANTON COMPANY
10 FREE STREET, SECOND FLOOR, PORTLAND ME 04101

A C O R N ENGINEERING, INC.

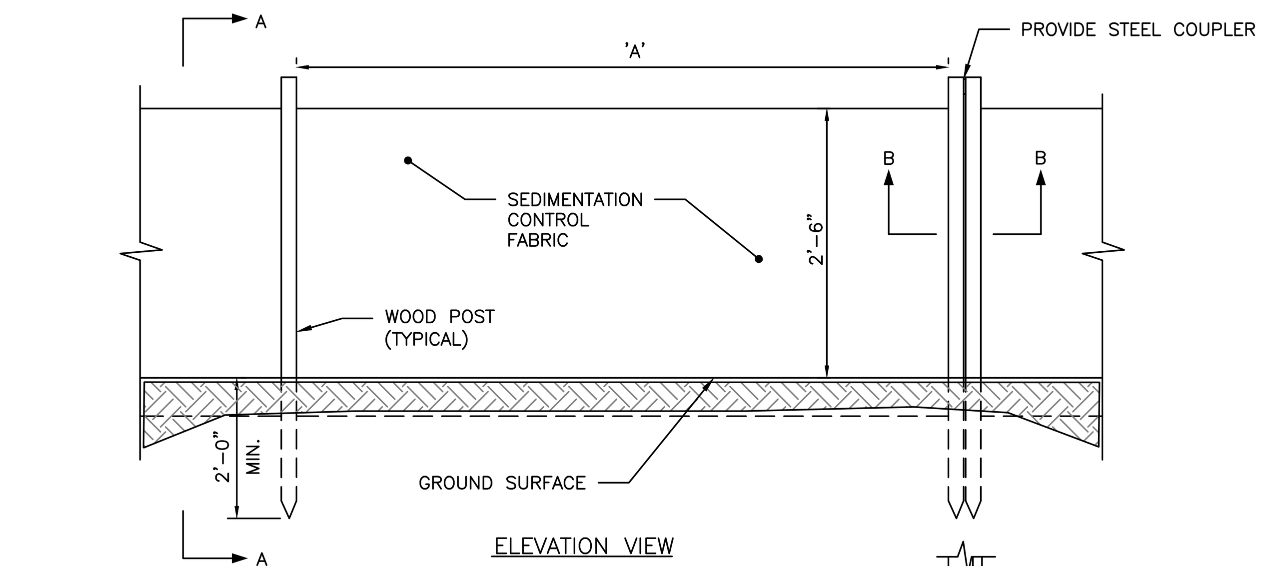
THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

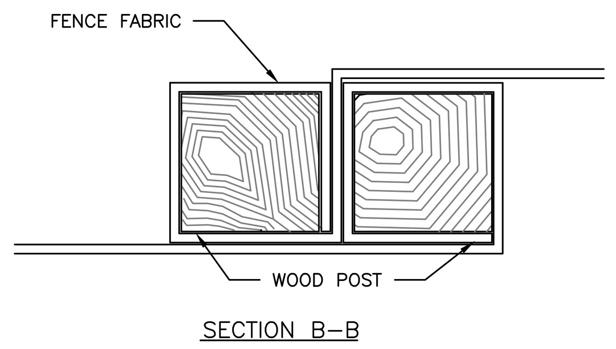
ACORN ENGINEERING, INC.
PO BOX 3372, PORTLAND MAINE 04101
(207) 775–2655

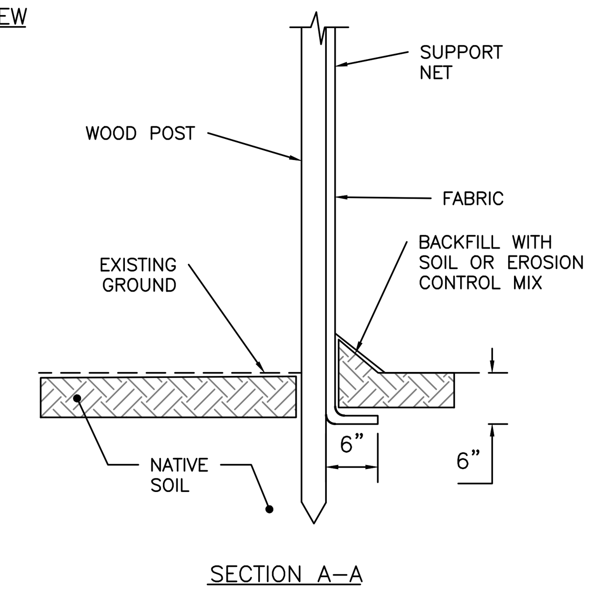
FILE: 1175.1_CIVIL
JN: 1175.1
SCALE: AS NOTED
DESIGNED BY: TAL
DRAWN BY: AWG
CHECKED BY: WHS

2/26/2023

DRAWING NO.
C-47



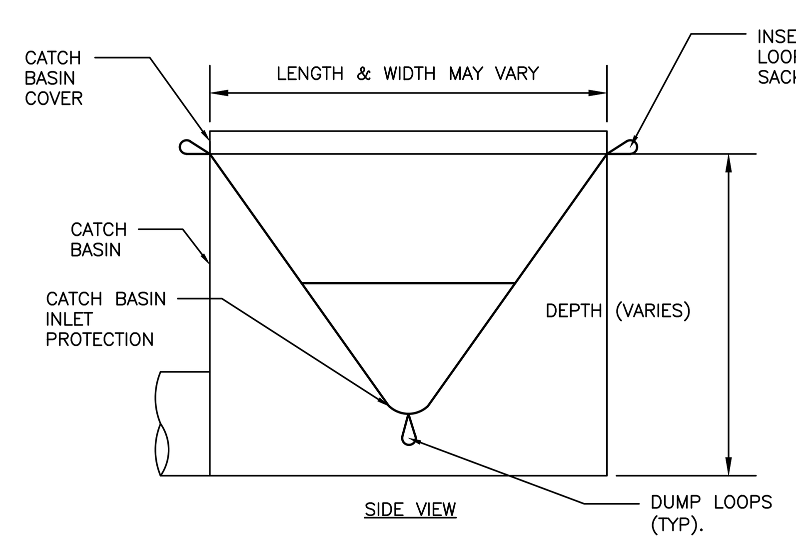




SILT FENCE REINFORCEMENT	MAX. SPACING "A"
NONE	6'
WIRE REINFORCEMENT 14 GAUGE, 6" MESH	10'

SILTATION FENCE DETAIL

NOT TO SCALE

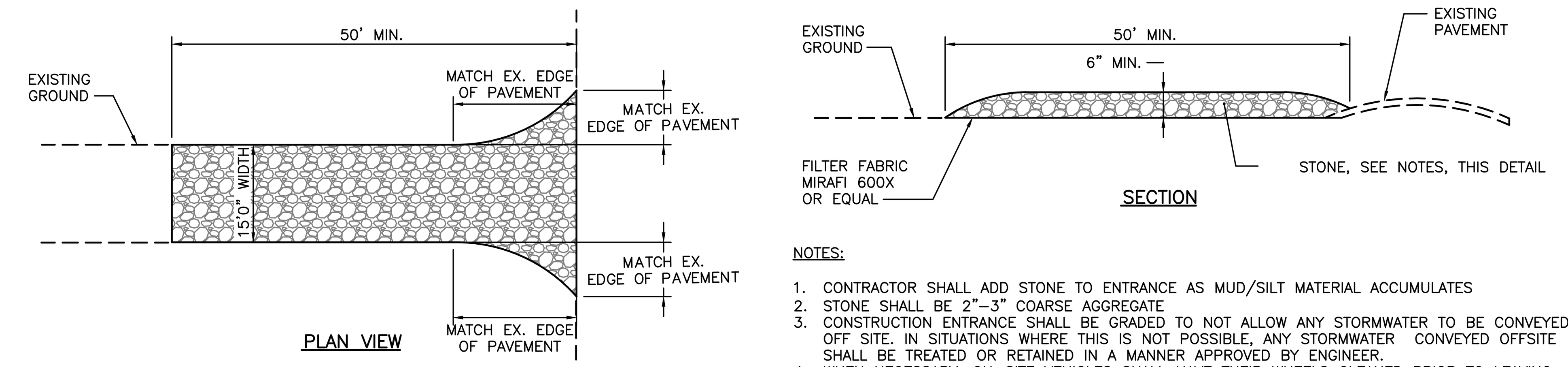


NOTES:

1. CATCH BASIN INLET PROTECTION SHALL BE INSTALLED DOWNGRADIENT OF PROPOSED PROJECT AND ROUTINELY MAINTAINED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS
2. CATCH BASIN SIZE VARIES. CONTRACTOR TO ENSURE CATCH BASIN INLET PROTECTION MATCHES CATCH BASIN DIMENSIONS.
3. SILT SACK SHALL BE ACF ENVIRONMENTAL SILT SACK, TYPE A, OR APPROVED EQUAL.

CATCH BASIN INLET PROTECTION

NOT TO SCALE

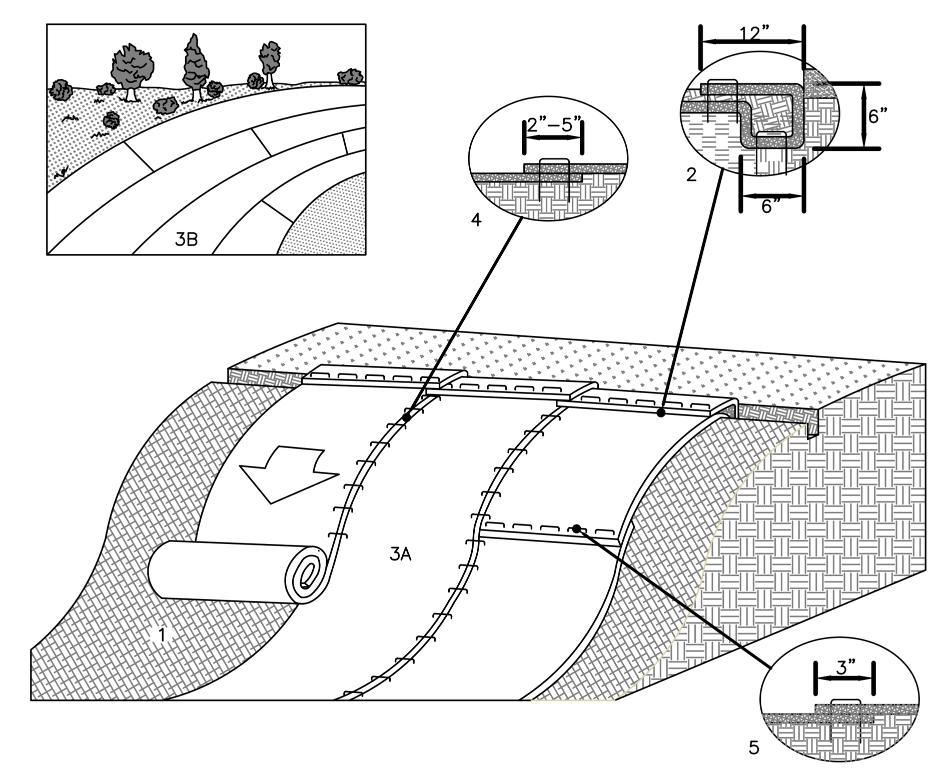


NOTES:

1. CONTRACTOR SHALL ADD STONE TO ENTRANCE AS MUD/SILT MATERIAL ACCUMULATES
2. STONE SHALL BE 2"–3" COARSE AGGREGATE
3. CONSTRUCTION ENTRANCE SHALL BE GRADED TO NOT ALLOW ANY STORMWATER TO BE CONVEYED OFF SITE. IN SITUATIONS WHERE THIS IS NOT POSSIBLE, ANY STORMWATER CONVEYED OFFSITE SHALL BE TREATED OR RETAINED IN A MANNER APPROVED BY ENGINEER.
4. WHEN NECESSARY, ON–SITE VEHICLES SHALL HAVE THEIR WHEELS CLEANED PRIOR TO LEAVING SITE.
5. CONSTRUCTION ENTRANCE SHALL BE GRADED IN A MANNER THAT PREVENTS TRACKING OF SEDIMENTS ONTO PUBLIC RIGHT–OF–WAY

STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE



SLOPE
INSTALLATION DETAIL

1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (ECB), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE ECB IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF ECB EXTENDED BEYOND THE UP–SLOPE PORTION OF THE TRENCH. ANCHOR THE ECB WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO THE COMPACTED SOIL AND FOLD THE REMAINING 12" PORTION OF ECB BACK OVER THE SEED AND COMPACTED SOIL. SECURE ECB OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE ECB.
3. ROLL THE ECB (A) DOWN OR (B) HORIZONTALLY ACROSS THE SLOPE. ECB WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL ECB MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE.
4. THE EDGES OF PARALLEL ECB MUST BE STAPLED WITH APPROXIMATELY 2" – 5" OVERLAP DEPENDING ON THE ECB TYPE.
5. CONSECUTIVE ECB SPLICED DOWN THE SLOPE MUST BE END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART ACROSS ENTIRE ECB WIDTH.

NOTE:
IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY SECURE THE ECB.

EROSION CONTROL BLANKET SLOPE INSTALLATION

NOT TO SCALE

PERMIT LEVEL
NOT ISSUED FOR
CONSTRUCTION

ISSUED FOR	BY DATE
TOWN SUBMISSION	TAL 10/25/22
COMMENT RESPONSE	TAL 11/28/22
DEP RESPONSE	TAL 01/11/23
SUBDIVISION PLAN	TAL 02/26/23

DRAWING NAME:
EROSION & SEDIMENTATION CONTROL DETAILS

PROJECT NAME/ ADDRESS:
WHITE ROCK TERRACE – SKYVIEW DRIVE

CLIENT/OWNER OF RECORD:
THE SZANTON COMPANY
10 FREE STREET, SECOND FLOOR, PORTLAND ME 04101

A C O R N ENGINEERING, INC.

ACORN ENGINEERING, INC.
PO BOX 3372, PORTLAND MAINE 04101
(207) 775-2655

FILE:	1175.1_CIVIL
JN:	1175.1
SCALE:	AS NOTED
DESIGNED BY:	TAL
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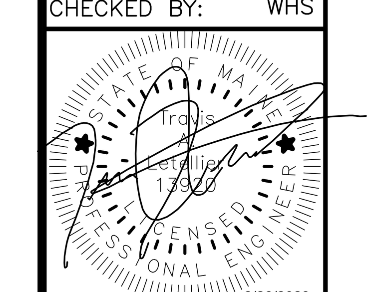
CHECKED BY:	WHS



DRAWING NO.

C-48

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
17 STATE HOUSE STATION AUGUSTA, MAINE 04333-0017

DEPARTMENT ORDER

IN THE MATTER OF

THE SZANTON COMPANY	) SITE LOCATION OF DEVELOPMENT ACT
Cumberland, Cumberland County	)
CUMBERLAND FORESIDE VILLAGE	)
LOT 7 DEVELOPMENT	) MINOR AMENDMENT
L-21578-39-Z-B (approval)	) FINDINGS OF FACT AND ORDER

Pursuant to the provisions of 38 M.R.S. §§ 481–489-E and Chapters 373, 375, 376 and 500 of Department rules, the Department of Environmental Protection (Department) has considered the application of THE SZANTON COMPANY (applicant) with the supportive data, agency review comments, and other related materials on file and FINDS THE FOLLOWING FACTS:

1. PROJECT DESCRIPTION:

A. History of Project: In Department Order #L-21578-39-A-N/L-21578-TB-B-N, dated March 31, 2004, the Department approved the subdivision of a 51.22-acre parcel of land into 38 residential lots, 2 commercial lots, and a common area. Construction of the project was not started within two years and the permit lapsed. In Department Order #L-21578-39-C-N/L-21578-TB-D-N, dated February 17, 2007, the Department approved the subdivision of an approximately 54.08-acre parcel of land into 12 commercial/light industrial lots ranging in size from 1.66 acres to approximately 12.99 acres, with specific maximum buildout areas approved on each of the lots. Several subsequent Department Orders approved other modifications to the development of Cumberland Foreside Village. The development is located on the west side of U.S. Route One in the Town of Cumberland.

B. Summary: The applicant proposes to construct a 12,000-square foot affordable senior housing multiplex development with associated parking, landscaping, and a stormwater management system on a portion of Lot 107 (a 4.47-acre parcel known as Lot 107A) in the Cumberland Foreside Village development, that will create approximately 2.5 acres of developed area, approximately one acre of which will be impervious area. The proposed project is shown on a set of plans, the first of which is titled “White Rock Terrace – The Szanton Company, Cumberland, Maine,” prepared by Acorn Engineering and dated October 25, 2022, with a last revision date on any of the plans of April 10, 2023.

The applicant concurrently submitted a Notice of Intent (NOI) stating that soil disturbance associated with the proposed project will be done in accordance with the Maine Construction General Permit. The Department accepted NOI #76044 on November 10, 2022.

C. Current Use of Site: The project site is currently undeveloped scrub and woodland. The applicant's parcel is identified as Lot 11-7 on Map R01 of the Town of Cumberland's tax maps.

2. <u>FINANCIAL CAPACITY</u>:

The total cost of the project is estimated to be $19,000,000. The applicant intends to finance construction through a combination of a construction loan, low-income housing tax credit equity, a MaineHousing subsidy, and HOME funding through Cumberland County. The applicant stated that it has a long history of successfully developing properties with similar financing structures. An application has been submitted to MaineHousing for Low-Income Housing Tax Credit Equity, which allocates the right to take the tax credits that are spaced out over ten years. These tax credits are sold to investors and the proceeds are used as equity to pay for the construction and other costs of the development.

Prior to the start of construction, the applicant must submit evidence that it has been granted a line of credit or a loan by a financial institution authorized to do business in this State or evidence of any other form of financial assurance consistent with Department Rules, Chapter 373, § 1. to the Bureau of Land Resources (BLR) for review and approval.

The Department finds that the applicant has demonstrated adequate financial capacity to comply with Department standards provided that prior to the start of construction the applicant submits additional financial information as outlined above.

3. <u>TECHNICAL ABILITY</u>:

The applicant has successfully developed numerous buildings located in Maine and New Hampshire, with two under construction and three in pre-development. The applicant owns a sister company, Saco Falls Management, that manages all the properties it develops. The applicant also retained the services of Acorn Engineering, Inc., a professional engineering firm, to assist in the design and engineering of the project.

The Department finds that the applicant has demonstrated adequate technical ability to comply with Department standards.

4. <u>NOISE</u>:

The applicant stated that the proposed project will have no significant noise impact associated with the completed development, and that typical noise will be consistent with surrounding uses. The parcel is within the Cumberland Foreside Village, which is located in Cumberland's Commercial-South Zoning District, abuts other commercial lots, and is adjacent to U.S. Route One.

The applicant proposes to limit construction on the site to the hours between 7:00 A.M. and 7:00 P.M. Construction noise during these hours is exempt pursuant to 38 M.R.S. § 484(3)(A). After construction, noise from the site will be limited to vehicular and other activities that are also exempt pursuant to Chapter 375, § 10(C)(5).

The Department finds that the applicant has made adequate provision for the control of excessive environmental noise from the proposed project.

5. STORMWATER MANAGEMENT:

The proposed project includes approximately 2.5 acres of developed area, of which approximately one acre is impervious area. It lies within the watershed of Norton Brook. The applicant submitted a stormwater management plan based on the Basic, General and Flooding Standards contained in Chapter 500 Stormwater Management rules (06-096 C.M.R. Ch. 500, effective August 12, 2015). The proposed stormwater management system consists of a lined, grassed underdrained soil filter, two roof drip line filters, and a rain garden.

A. Basic Standards:

(1) Erosion and Sedimentation Control: The applicant submitted an Erosion and Sedimentation Control Plan (Section 12 of the application) that is based on the performance standards contained in Appendix A of Chapter 500 and the Best Management Practices outlined in the Maine Erosion and Sediment Control BMPs, which were developed by the Department. This plan and plan sheets containing erosion control details were reviewed by, and revised in response to the comments of, the Bureau of Land Resources (BLR).

Erosion control details will be included on the final construction plans and the erosion control narrative will be included in the project specifications to be provided to the construction contractor.

(2) Inspection and Maintenance: The applicant submitted a maintenance plan that addresses both short and long-term maintenance requirements. The maintenance plan is based on the standards contained in Appendix B of Chapter 500. This plan was reviewed by, and revised in response to the comments of, the BLR. The applicant will be responsible for the maintenance of all common facilities including the stormwater management system.

Storm sewer grit and sediment materials removed from stormwater control structures during maintenance activities must be disposed of in compliance with the Maine Solid Waste Management Rules.

(3) Housekeeping: The proposed project will comply with the performance standards outlined in Appendix C of Chapter 500.

Based on the BLR's review of the erosion and sedimentation control plan and the maintenance plan, the Department finds that the proposed project meets the Basic Standards contained in Chapter 500, § 4(B), provided storm sewer grit and sediment materials are removed from stormwater control structures as described above.

B. General Standards:

The applicant's stormwater management plan includes general treatment measures that will mitigate for the increased frequency and duration of channel erosive flows due to runoff from smaller storms, provide for effective treatment of pollutants in stormwater, and mitigate potential temperature impacts. This mitigation is being achieved by using Best Management Practices (BMPs) that will control runoff from no less than 95% of the impervious area and no less than 80% of the developed area.

The stormwater management system proposed by the applicant was reviewed by, and revised in response to comments from BLR. After a final review, BLR commented that that the proposed stormwater management system is designed in accordance with the General Standards contained in Chapter 500, § 4(B), and recommended the applicant retain its design engineer or other qualified professional engineer to oversee the construction of the stormwater management structures according to the details and notes specified on the approved plans. Within 30 days of completion of each of the stormwater structures, the applicant must submit as-built drawings and a log of inspection reports detailing the items inspected, photographs taken, and the date of each inspection to the BLR for review.

Based on the stormwater system's design and BLR's review, the Department finds that the applicant has made adequate provision to ensure that the proposed project will meet the General Standards contained in Chapter 500, § 4(C) provided that oversight and inspections are performed and as-built drawings are submitted as described above.

C. Flooding Standard:

The applicant is proposing to utilize a stormwater management system based on estimates of pre- and post-development stormwater runoff flows obtained by using Hydrocad, a stormwater modeling software that utilizes the methodologies outlined in Technical Releases #55 and #20, U.S.D.A., Soil Conservation Service and detains stormwater from 24-hour storms of 2-, 10-, and 25-year frequency. The post-development peak flow from the site will not exceed the pre-development peak flow from the site and the peak flow of the receiving water will not be increased as a result of stormwater runoff from the development site.

BLR commented that the proposed system is designed in accordance with the Flooding Standard contained in Chapter 500, § 4(F).

Based on the system's design and BLR's review, the Department finds that the applicant has made adequate provision to ensure that the proposed project will meet the Flooding

Standard contained in Chapter 500, § 4(F) for peak flow from the project site, and channel limits and runoff areas.

6. SOLID WASTE:

When completed, the proposed project is anticipated to generate 32 cubic yards of general solid waste per month. All solid waste generated from the proposed project will be transported to the Cumberland transfer station and ultimately to the Mid-Maine Waste Action facility in Auburn, which is currently in substantial compliance with the Maine Solid Waste Management Rules.

The proposed project will generate approximately 600 cubic yards of stumps and grubbings. Marketable timber will be cut to tree length and sold. All stumps and grubbings generated will be processed on site and used for erosion control during construction.

The proposed project will generate approximately 250 cubic yards of construction and demolition debris. All construction and demolition debris generated will be taken to Riverside Recycling Facility in Portland or Resource Waste Services in Lewiston, with the ultimate destination being either Crossroads Landfill in Norridgewock, which is currently in substantial compliance with the Maine Solid Waste Management Rules, or Turnkey Landfill in Rochester, New Hampshire, which is an acceptable method of disposal.

Based on the above information, the Department finds that the applicant has made adequate provision for solid waste disposal.

7. SOILS:

The applicant submitted a soil survey map based on the soils found at the project site. This information was reviewed by BLR staff, who commented that generally the soils on the site appear suitable for the proposed development.

Prior to the start of construction, the applicant must submit geotechnical information to the BLR for review and approval.

The applicant submitted a Blasting Plan for the proposed project, which was reviewed by BLR. Prior to any blasting on site, the applicant must submit an updated Blasting Plan, including pre-blast survey criteria, prepared by a qualified blaster that meets the blasting standards contained in 38 M.R.S. § 490-Z (14) to the BLR for review and approval.

The applicant stated that heat pumps will be used and that no emergency generator or on-site liquid petroleum storage is proposed.

8. WATER SUPPLY:

When completed, the proposed project is anticipated to use 7,080 gallons of water per day. Water will be supplied by the Portland Water District. The applicant submitted a letter from the District, dated November 2, 2022 indicating that it will be able to serve the proposed project.

9. WASTEWATER DISPOSAL:

When completed, the proposed project is anticipated to discharge 7,080 gallons of wastewater per day to the Falmouth Wastewater Treatment Plant under an inter-local agreement. The applicant submitted a letter from the Town of Cumberland, dated December 8, 2022, stating that it will accept these flows. The application was reviewed by the Division of Water Quality Management (DWQM) of the Bureau of Water Quality, which commented that the Falmouth Wastewater Treatment Plant has the capacity to treat these flows and is operating in compliance with the water quality laws of the State of Maine.

Based on DWQM's comments, the Department finds that the applicant has made adequate provision for wastewater disposal at a facility that has the capacity to ensure satisfactory treatment.

10. ALL OTHER:

All other Findings of Fact, Conclusions and Conditions remain as approved in Department Order #L-21578-39-C-N/L-21578-TB-D-N, and subsequent Orders.

BASED on the above findings of fact, and subject to the conditions listed below, the Department makes the following conclusions pursuant to 38 M.R.S. §§ 481–489-E:

A. The applicant has provided adequate evidence of financial capacity and technical ability to develop the project in a manner consistent with state environmental standards provided that the applicant submits evidence of financial capacity in accordance with Finding 2.

B. The applicant has made adequate provision for fitting the development harmoniously into the existing natural environment and the development will not adversely affect existing uses, scenic character, air quality, water quality or other natural resources in the municipality or in neighboring municipalities.

C. The proposed development will be built on soil types which are suitable to the nature of the undertaking and will not cause unreasonable erosion of soil or sediment nor inhibit the natural transfer of soil provided geotechnical information and a site specific Blasting Plan are submitted for review and approval prior to the start of construction as described in Finding 8.

D. The proposed development meets the standards for storm water management in 38 M.R.S. § 420-D and the standard for erosion and sedimentation control in 38 M.R.S. § 420-C provided oversight, inspections and as-built drawings are submitted and storm sewer grit and sediment materials are removed from stormwater control structures as described in Finding 5.

E. The proposed development will not pose an unreasonable risk that a discharge to a significant groundwater aquifer will occur.

F. The applicant has made adequate provision of utilities, including water supplies, sewerage facilities and solid waste disposal required for the development and the development will not have an unreasonable adverse effect on the existing or proposed utilities in the municipality or area served by those services.

G. The activity will not unreasonably cause or increase the flooding of the alteration area or adjacent properties nor create an unreasonable flood hazard to any structure.

THEREFORE, the Department APPROVES the application of THE SZANTON COMPANY to develop Lot 107-A of Cumberland Foreside Village as described in Finding 1, SUBJECT TO THE FOLLOWING CONDITIONS and all applicable standards and regulations:

1. The Standard Conditions of Approval, a copy attached.

2. In addition to any specific erosion control measures described in this or previous orders, the applicant shall take all necessary actions to ensure that its activities or those of its agents do not result in noticeable erosion of soils or fugitive dust emissions on the site during the construction and operation of the project covered by this approval.

3. Severability. The invalidity or unenforceability of any provision, or part thereof, of this License shall not affect the remainder of the provision or any other provisions. This License shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

4. Prior to the start of construction, the applicant shall submit evidence that it has been granted a line of credit or a loan by a financial institution authorized to do business in this State or evidence of any other form of financial assurance determined by Department Rules, Chapter 373(1), to be adequate to the BLR for review and approval.

5. The applicant shall dispose of storm sewer grit and sediment materials from stormwater control structures during maintenance activities in compliance with the Maine Solid Waste Management Rules.

6. The applicant shall retain the services of either the design engineer or another qualified professional engineer to oversee the construction of the stormwater management system in accordance with the details and notes specified on the approved plans.

7. Within 30 days of the completion of the stormwater management structures, the applicant shall submit as-built drawings, a log of inspection reports detailing the items inspected, photographs taken, and the date of each inspection to the BLR for review.

8. Prior to the start of construction, the applicant shall submit geotechnical information to the BLR for review and approval.

9. Prior to any blasting on site, the applicant shall submit an updated Blasting Plan, including pre-blast survey criteria, prepared by a qualified blaster that meets the blasting standards contained in 38 M.R.S. § 490-Z (14) to the BLR for review and approval.

10. All other Findings of Fact, Conclusions and Conditions remain as approved in Department Order #-21578-39-C-N/L-21578-TB-D-N, and subsequent Orders, and are incorporated herein.

THIS APPROVAL DOES NOT CONSTITUTE OR SUBSTITUTE FOR ANY OTHER REQUIRED STATE, FEDERAL OR LOCAL APPROVALS NOR DOES IT VERIFY COMPLIANCE WITH ANY APPLICABLE SHORELAND ZONING ORDINANCES.

DONE AND DATED IN AUGUSTA, MAINE, THIS 11th DAY OF APRIL 2023.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Dawn Hallowell

For: Melanie Loyzim, Commissioner

PLEASE NOTE THE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES.

MR/L21578ZB/ATS#90273

FILED
April 11th, 2023
State of Maine
Board of Environmental Protection

Department of Environmental Protection

SITE LOCATION OF DEVELOPMENT (SITE) STANDARD CONDITIONS

A. Approval of Variations from Plans. The granting of this approval is dependent upon and limited to the proposals and plans contained in the application and supporting documents submitted and affirmed to by the applicant. Any variation from these plans, proposals, and supporting documents is subject to review and approval prior to implementation. Further subdivision of proposed lots by the applicant or future owners is specifically prohibited without prior approval of the Board, and the applicant shall include deed restrictions to that effect.

B. Compliance with All Applicable Laws. The applicant shall secure and comply with all applicable federal, state, and local licenses, permits, authorizations, conditions, agreements, and orders prior to or during construction and operation, as appropriate.

C. Compliance with All Terms and Conditions of Approval. The applicant shall submit all reports and information requested by the Board or the Department demonstrating that the applicant has complied or will comply with all preconstruction terms and conditions of this approval. All preconstruction terms and conditions must be met before construction begins.

D. Advertising. Advertising relating to matters included in this application shall refer to this approval only if it notes that the approval has been granted WITH CONDITIONS, and indicates where copies of those conditions may be obtained.

E. Transfer of Development. Unless otherwise provided in this approval, the applicant shall not sell, lease, assign or otherwise transfer the development or any portion thereof without prior written approval of the Board where the purpose or consequence of the transfer is to transfer any of the obligations of the developer as incorporated in this approval. Such approval shall be granted only if the applicant or transferee demonstrates to the Board that the transferee has the technical capacity and financial ability to comply with conditions of this approval and the proposals and plans contained in the application and supporting documents submitted by the applicant.

F. Time frame for approvals. If the construction or operation of the activity is not begun within four years, this approval shall lapse and the applicant shall reapply to the Board for a new approval. The applicant may not begin construction or operation of the development until a new approval is granted. A reapplication for approval may include information submitted in the initial application by reference. This approval, if construction is begun within the four-year time frame, is valid for seven years. If construction is not completed within the seven-year time frame, the applicant must reapply for, and receive, approval prior to continuing construction.

G. Approval Included in Contract Bids. A copy of this approval must be included in or attached to all contract bid specifications for the development.

H. Approval Shown to Contractors. Work done by a contractor pursuant to this approval shall not begin before the contractor has been shown by the developer a copy of this approval.

STORMWATER STANDARD CONDITIONS

STRICT CONFORMANCE WITH THE STANDARD AND SPECIAL CONDITIONS OF THIS APPROVAL IS NECESSARY FOR THE PROJECT TO MEET THE STATUTORY CRITERIA FOR APPROVAL

Standard conditions of approval. Unless otherwise specifically stated in the approval, a department approval is subject to the following standard conditions pursuant to Chapter 500 Stormwater Management Law.

(1) Approval of variations from plans. The granting of this approval is dependent upon and limited to the proposals and plans contained in the application and supporting documents submitted and affirmed to by the permittee. Any variation from these plans, proposals, and supporting documents must be reviewed and approved by the department prior to implementation. Any variation undertaken without approval of the department is in violation of 38 M.R.S. §420-D(8) and is subject to penalties under 38 M.R.S. §349.

(2) Compliance with all terms and conditions of approval. The applicant shall submit all reports and information requested by the department demonstrating that the applicant has complied or will comply with all terms and conditions of this approval. All preconstruction terms and conditions must be met before construction begins.

(3) Advertising. Advertising relating to matters included in this application may not refer to this approval unless it notes that the approval has been granted WITH CONDITIONS, and indicates where copies of those conditions may be obtained.

(4) Transfer of project. Unless otherwise provided in this approval, the applicant may not sell, lease, assign, or otherwise transfer the project or any portion thereof without written approval by the department where the purpose or consequence of the transfer is to transfer any of the obligations of the developer as incorporated in this approval. Such approval may only be granted if the applicant or transferee demonstrates to the department that the transferee agrees to comply with conditions of this approval and the proposals and plans contained in the application and supporting documents submitted by the applicant. Approval of a transfer of the permit must be applied for no later than two weeks after any transfer of property subject to the license.

(5) Time frame for approvals. If the construction or operation of the activity is not begun within four years, this approval shall lapse and the applicant shall reapply to the department for a new approval. The applicant may not begin construction or operation of the project until a new approval is granted. A reapplication for approval may include information submitted in the initial application by reference. This approval, if construction is begun within the four-year time frame, is valid for seven years. If construction is not completed within the seven-year time frame, the applicant must reapply for, and receive, approval prior to continuing construction.

(6) Certification. Contracts must specify that “all work is to comply with the conditions of the Stormwater Permit.” Work done by a contractor or subcontractor pursuant to this approval may not begin before the contractor and any subcontractors have been shown a copy of this approval with the conditions by the permittee, and the permittee and each contractor and sub-contractor has certified, on a form provided by the department, that the approval and conditions have been received and read, and that the work will be carried out in accordance with the approval and conditions. Completed certification forms must be forwarded to the department.

(7) Maintenance. The components of the stormwater management system must be adequately maintained to ensure that the system operates as designed, and as approved by the Department. If maintenance responsibility is to be transferred from the permittee to another entity, a transfer request must be filed with the Department which includes the name and contact information for the person or entity responsible for this maintenance. The form must be signed by the responsible person or agent of the responsible entity.

(8) Recertification requirement. Within three months of the expiration of each five-year interval from the date of issuance of the permit, the permittee shall certify the following to the department.

(a) All areas of the project site have been inspected for areas of erosion, and appropriate steps have been taken to permanently stabilize these areas.

(b) All aspects of the stormwater control system are operating as approved, have been inspected for damage, wear, and malfunction, and appropriate steps have been taken to repair or replace the system, or portions of the system, as necessary.

(c) The stormwater maintenance plan for the site is being implemented as approved by the Department, and the maintenance log is being maintained.

(d) All proprietary systems have been maintained according to the manufacturer's recommendations. Where required by the Department, the permittee shall execute a 5-year maintenance contract with a qualified professional for the coming 5-year interval. The maintenance contract must include provisions for routine inspections, cleaning, and general maintenance.

(e) The Department may waive some or all of these recertification requirements on a case-by-case basis for permittees subject to the Department's Multi-Sector General Permit ("MSGP") and/or Maine Pollutant Discharge Elimination System ("MEPDES") programs where it is demonstrated that these programs are providing stormwater control that is at least as effective as required pursuant to this Chapter.

(9) Transfer of property subject to the license. If any portion of the property subject to the license containing areas of flow or areas that are flooded are transferred to a new property owner, restrictive covenants protecting these areas must be included in any deeds or leases, and recorded at the appropriate county registry of deeds. Also, in all transfers of such areas and areas containing parts of the stormwater management system, deed restrictions must be included making the property transfer subject to all applicable terms and conditions of the permit. These terms and conditions must be incorporated by specific and prominent reference to the permit in the deed. All transfers must include in the restrictions the requirement that any subsequent transfer must specifically include the same restrictions unless their removal or modification is approved by the Department. These restrictions must be written to be enforceable by the Department, and must reference the permit number.

(10) Severability. The invalidity or unenforceability of any provision, or part thereof, of this permit shall not affect the remainder of the provision or any other provisions. This permit shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

DEP INFORMATION SHEET

Appealing a Department Licensing Decision

Dated: August 2021 **Contact: (207) 314-1458**

SUMMARY

This document provides information regarding a person's rights and obligations in filing an administrative or judicial appeal of a licensing decision made by the Department of Environmental Protection's (DEP) Commissioner.

Except as provided below, there are two methods available to an aggrieved person seeking to appeal a licensing decision made by the DEP Commissioner: (1) an administrative process before the Board of Environmental Protection (Board); or (2) a judicial process before Maine's Superior Court. An aggrieved person seeking review of a licensing decision over which the Board had original jurisdiction may seek judicial review in Maine's Superior Court.

A judicial appeal of final action by the Commissioner or the Board regarding an application for an expedited wind energy development (35-A M.R.S. § 3451(4)) or a general permit for an offshore wind energy demonstration project (38 M.R.S. § 480-HH(1)) or a general permit for a tidal energy demonstration project (38 M.R.S. § 636-A) must be taken to the Supreme Judicial Court sitting as the Law Court.

I. ADMINISTRATIVE APPEALS TO THE BOARD

LEGAL REFERENCES

A person filing an appeal with the Board should review Organization and Powers, 38 M.R.S. §§ 341-D(4) and 346; the Maine Administrative Procedure Act, 5 M.R.S. § 11001; and the DEP's *Rule Concerning the Processing of Applications and Other Administrative Matters* (Chapter 2), 06-096 C.M.R. Ch. 2.

DEADLINE TO SUBMIT AN APPEAL TO THE BOARD

Not more than 30 days following the filing of a license decision by the Commissioner with the Board, an aggrieved person may appeal to the Board for review of the Commissioner's decision. The filing of an appeal with the Board, in care of the Board Clerk, is complete when the Board receives the submission by the close of business on the due date (5:00 p.m. on the 30th calendar day from which the Commissioner's decision was filed with the Board, as determined by the received time stamp on the document or electronic mail). Appeals filed after 5:00 p.m. on the 30th calendar day from which the Commissioner's decision was filed with the Board will be dismissed as untimely, absent a showing of good cause.

HOW TO SUBMIT AN APPEAL TO THE BOARD

An appeal to the Board may be submitted via postal mail or electronic mail and must contain all signatures and required appeal contents. An electronic filing must contain the scanned original signature of the appellant(s). The appeal documents must be sent to the following address.

Chair, Board of Environmental Protection
c/o Board Clerk
17 State House Station
Augusta, ME 04333-0017
ruth.a.burke@maine.gov

The DEP may also request the submittal of the original signed paper appeal documents when the appeal is filed electronically. The risk of material not being received in a timely manner is on the sender, regardless of the method used.

At the time an appeal is filed with the Board, the appellant must send a copy of the appeal to: (1) the Commissioner of the DEP (Maine Department of Environmental Protection, 17 State House Station, Augusta, Maine 04333-0017); (2) the licensee; and if a hearing was held on the application, (3) any intervenors in that hearing proceeding. **Please contact the DEP at 207-287-7688 with questions or for contact information regarding a specific licensing decision.**

REQUIRED APPEAL CONTENTS

A complete appeal must contain the following information at the time the appeal is submitted.

1. *Aggrieved status*. The appeal must explain how the appellant has standing to bring the appeal. This requires an explanation of how the appellant may suffer a particularized injury as a result of the Commissioner's decision.
2. *The findings, conclusions, or conditions objected to or believed to be in error.* The appeal must identify the specific findings of fact, conclusions of law, license conditions, or other aspects of the written license decision or of the license review process that the appellant objects to or believes to be in error.
3. *The basis of the objections or challenge.* For the objections identified in Item #2, the appeal must state why the appellant believes that the license decision is incorrect and should be modified or reversed. If possible, the appeal should cite specific evidence in the record or specific licensing criteria that the appellant believes were not properly considered or fully addressed.
4. *The remedy sought.* This can range from reversal of the Commissioner's decision on the license to changes in specific license conditions.
5. *All the matters to be contested*. The Board will limit its consideration to those matters specifically raised in the written notice of appeal.
6. *Request for hearing.* If the appellant wishes the Board to hold a public hearing on the appeal, a request for hearing must be filed as part of the notice of appeal, and it must include an offer of proof regarding the testimony and other evidence that would be presented at the hearing. The offer of proof must consist of a statement of the substance of the evidence, its relevance to the issues on appeal, and whether any witnesses would testify. The Board will hear the arguments in favor of and in opposition to a hearing on the appeal and the presentations on the merits of an appeal at a regularly scheduled meeting. If the Board decides to hold a public hearing on an appeal, that hearing will then be scheduled for a later date.
7. *New or additional evidence to be offered.* If an appellant wants to provide evidence not previously provided to DEP staff during the DEP's review of the application, the request and the proposed supplemental evidence must be submitted with the appeal. The Board may allow new or additional evidence to be considered in an appeal only under limited circumstances. The proposed supplemental evidence must be relevant and material, and (a) the person seeking to add information to the record must show due diligence in bringing the evidence to the DEP's attention at the earliest possible time in the licensing process; or (b) the evidence itself must be newly discovered and therefore unable to have been presented earlier in the process. Requirements for supplemental evidence are set forth in Chapter 2 § 24.

OTHER CONSIDERATIONS IN APPEALING A DECISION TO THE BOARD

1. *Be familiar with all relevant material in the DEP record.* A license application file is public information, subject to any applicable statutory exceptions, and is made accessible by the DEP. Upon request, the DEP will make application materials available to review and photocopy during normal working hours. There may be a charge for copies or copying services.

2. *Be familiar with the regulations and laws under which the application was processed, and the procedural rules governing the appeal.* DEP staff will provide this information upon request and answer general questions regarding the appeal process.
3. *The filing of an appeal does not operate as a stay to any decision.* If a license has been granted and it has been appealed, the license normally remains in effect pending the processing of the appeal. Unless a stay of the decision is requested and granted, a licensee may proceed with a project pending the outcome of an appeal, but the licensee runs the risk of the decision being reversed or modified as a result of the appeal.

WHAT TO EXPECT ONCE YOU FILE A TIMELY APPEAL WITH THE BOARD

The Board will acknowledge receipt of an appeal, and it will provide the name of the DEP project manager assigned to the specific appeal. The notice of appeal, any materials admitted by the Board as supplementary evidence, any materials admitted in response to the appeal, relevant excerpts from the DEP's administrative record for the application, and the DEP staff's recommendation, in the form of a proposed Board Order, will be provided to Board members. The appellant, the licensee, and parties of record are notified in advance of the date set for the Board's consideration of an appeal or request for a hearing. The appellant and the licensee will have an opportunity to address the Board at the Board meeting. The Board will decide whether to hold a hearing on appeal when one is requested before deciding the merits of the appeal. The Board's decision on appeal may be to affirm all or part, affirm with conditions, order a hearing to be held as expeditiously as possible, reverse all or part of the decision of the Commissioner, or remand the matter to the Commissioner for further proceedings. The Board will notify the appellant, the licensee, and parties of record of its decision on appeal.

II. JUDICIAL APPEALS

Maine law generally allows aggrieved persons to appeal final Commissioner or Board licensing decisions to Maine's Superior Court (see 38 M.R.S. § 346(1); 06-096 C.M.R. Ch. 2; 5 M.R.S. § 11001; and M.R. Civ. P. 80C). A party's appeal must be filed with the Superior Court within 30 days of receipt of notice of the Board's or the Commissioner's decision. For any other person, an appeal must be filed within 40 days of the date the decision was rendered. An appeal to court of a license decision regarding an expedited wind energy development, a general permit for an offshore wind energy demonstration project, or a general permit for a tidal energy demonstration project may only be taken directly to the Maine Supreme Judicial Court. See 38 M.R.S. § 346(4).

Maine's Administrative Procedure Act, DEP statutes governing a particular matter, and the Maine Rules of Civil Procedure must be consulted for the substantive and procedural details applicable to judicial appeals.

ADDITIONAL INFORMATION

If you have questions or need additional information on the appeal process, for administrative appeals contact the Board Clerk at 207-287-2811 or the Board Executive Analyst at 207-314-1458 bill.hinkel@maine.gov, or for judicial appeals contact the court clerk's office in which the appeal will be filed.

Note: This information sheet, in conjunction with a review of the statutory and regulatory provisions referred to herein, is provided to help a person to understand their rights and obligations in filing an administrative or judicial appeal. The DEP provides this information sheet for general guidance only; it is not intended for use as a legal reference. Maine law governs an appellant's rights.

Cumberland Planning Board Notice of Decision

Date: December 22, 2022
To: Travis Letellier, P.E.
Acorn Engineering, Inc.
P. O. Box 3372
Portland, ME 04104
From: Carla Nixon, Town Planner
Re: Final Major Subdivision Review for White Rock Terrace, a four story, 55 unit, senior, affordable apartment building with a 13,500 square foot building footprint to be located off Sky View Drive, on a 4.5 acre portion of the lot shown on Tax Assessor Map R01, Lot 11-7 in the Cumberland Foreside Village Subdivision. **Applicant:** Kristin Martin - The Szanton Company. **Owner:** Peter Kennedy, Heritage Village Development Group, LLC. **Representative:** Travis Letellier, P.E., Acorn Engineering, Inc.

This is to advise you that on Tuesday, December 20, 2022, the Cumberland Planning Board conducted a Public Hearing to receive comments regarding Final Major Subdivision Review for White Rock Terrace, a four story, 55 unit, senior, affordable apartment building to be located off Sky View Drive, on a portion of the lot shown on Tax Assessor Map R01, Lot 11-7 and voted unanimously to approve final major subdivision review subject to the expiration of approval, the standard condition of approval and thirteen conditions of approval.

Findings of Fact: As follows.

Waivers Granted Previously:
1. Waiver from a hydrogeologic study.
2. Waiver from a high intensity soil survey.
3. Partial waiver of the parking requirement to reduce the number of required spaces from 2 spaces per unit to 1.4 spaces per unit.
4. Waiver from the noting the location of trees greater than 10” in diameter on the plan.

Waivers Denied: None.

EXPIRATION OF APPROVAL: Construction of the improvements covered by any site plan approval must be substantially commenced with 12 months of the date upon which the approval was granted. If construction has not been substantially commenced within 12 months of the date upon which approval was granted, the approval shall be null and void. If construction has not been substantially completed within 24 months of the date upon which approval was granted or within a time period as specified by the Planning Board, the approval shall be null and void. The applicant may request an extension of the period. Such request must be made in writing and must be made to the Planning Board. The Planning Board may grant up to two one-year extensions to the period if the approved plan conforms to the ordinances in effect at the time the extension is granted and any and all federal and state approvals and permits are current.

STANDARD CONDITION OF APPROVAL: This approval is dependent upon and limited to the proposals and plans contained in the application and supporting documents submitted by the applicant. Any variation from the plans, proposals and supporting documents, except de minimis changes as so determined by the Town Planner which do not affect approval standards, is subject to review and approval of the Planning Board prior to implementation.

Conditions of Approval:

1. A preconstruction conference is required prior to the start of construction.
2. The amended SLODA permit shall be submitted to the Town Planner prior to the preconstruction conference.
3. A performance guarantee in an amount and form acceptable to the Town Manager will be required prior to the preconstruction conference.
4. All clearing limits shall be flagged and approved by the Town Engineer prior to the preconstruction conference.
5. A blasting permit, if required, shall be obtained from the Code Enforcement Officer.
6. All legal and technical review fees shall be paid to the Town prior to the preconstruction conference.
7. An electronic copy of the as-built plans shall be submitted to the Town Planner prior to the release of any remaining inspection fees.
8. The owner will be responsible for the removal of solid waste via a private waste hauler.
9. A sign permit for any proposed signs is required.
10. All storage for fuel, chemicals, chemical or industrial wastes, biodegradable raw materials, or liquid, gaseous or solid materials shall meet the standards of the Maine Department of Environmental Protection and the State Fire Marshal's office.
11. The building shall comply with the requirements of the State Fire Marshal's Office and the Town Fire Chief.
12. A parking study after one year of occupancy shall be conducted to determine if the area reserved for additional parking should be utilized.
13. A final landscaping plan with additional tree plantings between the building and Skyview Drive and between the building and Nautical Way be reviewed and approved by the Town Planner prior to the pre-construction conference.

Cumberland Planning Board

____

Jason Record, Chair

Findings of Fact - Chapter 250 Subdivision of Land

The purpose of these standards shall be to assure the comfort, convenience, safety, health and welfare of the people, to protect the environment and to promote the development of an economically sound and stable community. To this end, in approving subdivisions within the Town of Cumberland, Maine, the Board shall consider the following criteria and before granting approval shall determine that the proposed subdivision:

1. **Pollution.** The proposed subdivision will not result in undue water or air pollution. In making this determination, it shall at least consider:
A. The elevation of the land above sea level and its relation to the flood plains;
B. The nature of soils and subsoil and their ability to adequately support waste disposal;
C. The slope of the land and its effect on effluents;
D. The availability of streams for disposal of effluents; and
E. The applicable state and local health and water resource rules and regulations;
There are no flood plains on site. The project will be served by public sewer. There are no streams on the site. Based on the information provided, the Board finds that the standards of this section have been met.
2. **Sufficient Water.** The proposed subdivision has sufficient water available for the reasonable foreseeable needs of the subdivision; **The project will be served by public water; a capacity to serve letter is on file from the Portland Water District. Based on the information provided, The Board finds that the standards of this section have been met.**
3. **Municipal Water Supply.** The proposed subdivision will not cause an unreasonable burden on an existing water supply, if one is to be used; **The 55 apartment units will not create a burden on the existing municipal water supply as indicated in the capacity to serve letter from Portland Water District. Based on the information provided, the Board finds the standards of this section have been met.**
4. **Erosion.** The proposed subdivision will not cause unreasonable soil erosion or a reduction in the land's capacity to hold water so that a dangerous or unhealthy condition results; **An erosion and sedimentation control plan that includes housekeeping procedures for maintenance has been submitted and the plan has been reviewed by the Town Engineer. Based on the information provided, the Board finds that the standards of this section have been met..**
5. **Traffic**. The proposed subdivision will not cause unreasonable highway or public road congestion or unsafe conditions with respect to the use of the highways or public roads existing or proposed; **A traffic impact assessment dated 10/24/22 was submitted that shows estimated trip counts. The repost states that the project will be a low trip generator and will not require a traffic movement permit from MDTO. Based on the information provided, the Board finds that the standards of this section have been met.**
6. Sewage disposal. The proposed subdivision will provide for adequate sewage waste disposal and will not cause an unreasonable burden on municipal services, if they are utilized;
The project will not cause an unreasonable burden on the municipal sewer system as indicated in the capacity to serve letters from the Portland Water District and the Town Manager. Based on the information provided, the Board finds that the standards of this section have been met.
7. **Municipal solid waste disposal.** The proposed subdivision will not cause an unreasonable burden on the municipality's ability to dispose of solid waste, if municipal services are to be utilized; **The property management company or owner will be responsible for locating the solid waste and recyclable material to the space allocated for solid waste storage as noted on Site Plan Sheet C-10. A commercial waste hauler will dispose of the trash that is placed in the dumpster. Based on the information provided, the Board finds that the standards of this section have been met.**

8. **Aesthetic, cultural and natural values.** The proposed subdivision will not have an undue adverse effect on the scenic or natural beauty of the area, aesthetics, historic sites, significant wildlife habitat identified by the Department of Inland Fisheries and Wildlife or the municipality, or rare and irreplaceable natural areas or any public rights for physical or visual access to the shoreline;
Letters are on file from State agencies indicating that the proposed subdivision will have no adverse impact on any of the above features. The Board finds that the standards of this section have been met.
9. Conformity with local ordinances and plans. The proposed subdivision conforms to a duly adopted subdivision regulation or ordinance, comprehensive plan, development plan or land use plan, if any. In making this determination, the municipal reviewing authority may interpret these ordinances and plans; **The plans have been reviewed and approved by the Town Planner, the Town Engineer and Town department heads. The Board finds that the standards of this section have been met.**
10. Financial and technical capacity. The subdivider has adequate financial and technical capacity to meet the standards of this section;
Financial Capacity: The total project budget is approximately $19,000,000. A statement of Financial Capacity, including funding sources, was submitted in the application packet.
Technical capacity is evidenced by the use of professional technical consultants as outlined in the application packet. In addition, a statement from the developer was provided that gave an overview of past projects completed in Maine and New Hampshire.
The Board finds that the standards of this section have been met.
11. Surface waters; outstanding river segments. Whenever situated entirely or partially within the watershed of any pond or lake or within 250 feet of any wetland, great pond or river as defined in Title 38 chapter 3, subchapter I, article 2-B, the proposed subdivision will not adversely affect the quality of that body of water or unreasonably affect the shoreline of the body of water; **The project is not situated in any of the areas listed above. Based on the information provided, the Board finds that the standards of this section have been met.**
12. Ground water. The proposed subdivision will not alone, or in conjunction with, existing activities, adversely affect the quality or quantity of ground water; **The residential apartments, which will be served by public water and sewer, will not adversely affect the quantity or quality of groundwater. Based on the information provided, the Board finds that the standards of this section have been met.**
13. Flood areas. Based on the Federal Emergency Management Agency's Flood Boundary and Floodway Maps and Flood Insurance Rate Maps, and information presented by the applicant whether the subdivision is in a flood-prone area. If the subdivision, or any part of it, is in such an area, the subdivider shall determine the 100-year flood elevation and flood hazard boundaries within the subdivision. The proposed subdivision plan must include a condition of plan approval requiring that principal structures in the subdivision will be constructed with their lowest floor, including the basement, at least one foot above the 100-year flood elevation; **The development is not located within a 100 year flood plain as shown on the applicable FEMA Flood Insurance Rate Map. Based on the information provided, the Board finds that the standards of this section have been met.**

<u>14. Storm water.</u> The proposed subdivision will provide for adequate storm water management; **A stormwater Management Report dated October, 2022 was included in the application. The proposed development has been designed to manage stormwater runoff through Best Management Practices approved by MDEP. The plan has been reviewed and approved by the Town Engineer. Based on the information provided, the Board finds that the standards of this section have been met.**

<u>15. Freshwater wetlands.</u> All potential freshwater wetlands, as defined in 30-A M.R.S.A. §4401 (2-A), within the proposed subdivision have been identified on any maps submitted as part of the application, regardless of the size of these wetlands. Any mapping of freshwater wetlands may be done with the help of the local soil and water conservation district. **Wetland areas have been identified on the plans. Based on the information provided, the Board finds that the standards of this section have been met.**

<u>16. River, stream or brook.</u> Any river, stream, or brook within or abutting the proposed subdivision has been identified on any map submitted as a part of the application. For purposes of this section, "river, stream or brook" has the same meaning as in Title 38, Section 480-B, Subsection 9. [Amended; Effective. 11/27/89] **There were no streams identified on the site. Based on the information provided, the Board finds that the standards of this section have been met.**