FUSS & O'NEILL

May 22, 2023

Ms. Diane Williamson, AICP, CFM
Director of Community Development
Town of Bristol
10 Court Street
Bristol, RI 02809

RE: Response to Comments
Preliminary Plan Application Major Development
Bristol Yarn Mill
Assessor's Plat 10, Lots 41, 42, 43, 44, 49, 50, 60, 61, 62, 68, 71, 73,74 & 76
Bristol, Rhode Island

Dear Ms. Williamson:

Fuss & O'Neill has prepared this letter on behalf of the Applicant, Brady Sullivan Properties, LLC, in response to comments of the Planning Board's Technical Review Committee at a meeting on May 16, 2023, and comments issued by the Board's consultant, Pare Corporation, in a letter dated April 28, 2023. Comments and questions from the letter are listed below in italics and followed by our responses.

Engineering Review Comments

General

1. *Rhode Island Coastal Resource Management Council (RI CRMC) – The project proposes a subdivision, cooperative, other multi-ownership facility, or creation of 40,000 square feet or more of parking, where a portion of which extends onto the most inland shoreline feature or 200-foot contiguous area requiring submission to RI CRMC for Council Assent.*

   Response: A request for CRMC Assent was submitted on February 10, 2023. CRMC has not yet issued comments.

2. *Submission of a Stormwater Construction Permit will be required.*

   i. The project disturbs greater than one (1) acre, requiring submission for authorization under the RIPDES Construction General Permit to be reviewed by RI CRMC.

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Rhode Island
Vermont

Response: The project received authorization from the RIDEM on March 7, 2023 (RI STW/WQC File 23-021). A copy of the authorization was provided to the Planning Board with the Preliminary Plan application. The authorization will be in effect only upon CRMC's issuance of an Assent. There is no proposed filling or dredging of the harbor. As a result, the WQC application and permitting requirements are satisfied under the RIPDES Program for this project.

ii. *The project proposes flow alterations and possible fill in waters of the U.S requiring submission of a Water Quality Certification (WQC) to be reviewed by the Rhode Island Department of Environmental Management (RIDEM).*

Response: Fuss & O'Neill submitted a copy of the CRMC Assent application to USACE on May 5, 2023.

iii. *US Army Corps of Engineers (USACE): The project proposes construction of a utility line outfall, including associated excavation, backfill and bedding requiring submission for authorization to the USACE.*

Response: The work at the outfall on Constitution Street is subject to USACE General Permit GP 2 (Programmatic General Permit because review is being conducted by CRMC) for the seawall replacement and GP 2 for the pipe replacement (Regional General Permit).

3. *Federal Emergency Management Agency (FEMA)- The project proposes construction within FEMA Zone VE. Review and implement the applicable FEMA technical bulletins, planning tools, and design guidelines for construction.*

Response: The project will comply with State Building code and Town of Bristol ordinances pertaining to flood zone construction except as authorized for historic structures.

Site Plan

1. *A trench is proposed along Thames Street for approximately 330 feet to install a new 30-inch drainage pipe. The pipe is proposed between the eastern curb line and an existing water main. The restoration limits for pavement and curbing are not defined on the plans and should be confirmed with the Town. Installation of the pipe will likely disturb the existing curb.*

Response: The plans depict typical curbing installation. Any curbs or sidewalks that are disturbed by the proposed storm drain and other utilities will be reconstructed.

2. *Sec 28-251. – General Requirements (4) "All driveways shall be a minimum of 12 feet in width for each lane of traffic using such driveway." Review dimensions of the southern entrance into the off-site parking area.*

   Response: The driveway is a pre-existing condition and was approved on the Master Plan.

3. *Location of dumpster enclosures should be reviewed to ensure truck access.*

   Response: The plans were labeled on sheet CS-101 with a stockade fence enclosure. The detail is on sheet CD-510. The enclosure will be subject to Bristol Historic District Commission (HDC). We request that the final approval of the aesthetics be conditionally approved and deferred to the Bristol HDC.

4. *Review number of accessible parking spaces for conformance with ADA requirements.*

   Response: Section 208.2 of the ADA standards requires seven (7) ADA parking spaces and at least two of these spaces must be van accessible. As depicted on the approved Master Plan and the proposed Preliminary Plan, all ADA parking spaces for the residential use are within the mill building. Parking spaces provided in accordance with Section 208.2.3.2 "shall not be required to be dispersed throughout all types of parking if substantially equivalent or greater accessibility is provided in terms of distance from an accessible entrance, parking fee, and user convenience." The commercial parking area also complies with Section 208.2, which requires one space for parking lots with 1 to 25 total spaces. The ADA parking space in the commercial parking lot is van accessible. Sheets A1-0 and CS-101 have been updated to include ADA parking spaces.

5. *Confirm loading space location.*

   Response: A loading space was depicted on sheet CS-101 with the Preliminary Plans submitted with the application. Additional space has been added at the request of the TRC. Three short-term loading spaces, which can be utilized for one large vehicle, has been added on Thames Street near the northeast corner of the building. This space conforms to the minimum length required in Sec. 28-251 of the Bristol Zoning Ordinance (63 feet provided vs. 60 required). The loading zone does not comply with the width requirement (8 feet provided vs. 15 feet required). As described in the original Preliminary Plan application, the loading dock and lift have been removed along with the associated loading space on Thames Street.

Site Circulation Plan

1. *Ensure larger vehicles can reach the designated loading area, dumpster locations, and other areas in which larger vehicles than the vehicle type on the plan would need to access.*

   Response: A turning movement analysis was included on sheet CS-102 with the Preliminary Plan application.

Drainage Plan

1. *It is recommended that drainpipes have a minimum slope of 0.005 FT/FT.*

   Response: This comment is acknowledged. Fuss & O'Neill maximized the slope to achieve self-cleaning velocities in the pipes within the constraints of the site (i.e., high seasonal groundwater elevation), water quality treatment standards, low elevation relief across the site, and high tide elevation at the point of discharge.

2. *Minimum pipe cover for constructability and pipe material should be reviewed. For shallow pipe, frame depth and alternate top slab depths should be accounted for during review of minimum cover at structures.*

   Response: Fuss & O'Neill reviewed the depth of cover, constructability and pipe materials. The design satisfies these criteria. The drainage structures will require the alternate flat top slab included in the details shown on sheet CD-504.

Grading Plan

1. *Transformer Pad is located approximately 7 feet above the adjacent grade. Confirm whether this is to be a cast-in-place slab, and aesthetically how this will be look in the final condition. Stairs along with a landing pad will be required for access.*

   Response: The transformer must be elevated above the base flood elevation. The final structural design that incorporates access detail and architectural screening will require review and approval by the Bristol HDC. We request that the final approval of the structure and aesthetics be conditionally approved and deferred to the Bristol Building Official and HDC.

Basement Parking Plan

1. *Review number of accessible parking spaces for conformance with ADA requirements.*

   Response: Refer to response to Site Plan Comment 4.

2. *Compact Space dimensions show 8 feet between striping. Column width will reduce effective width of space below 8 feet. Confirm column widths.*

   Response: Brady Sullivan has revised the parking plan depicted on sheet A1-0 to address concerns with parking space functional accessibility.

3. *Group of tandem compact spaces within Building 5 basement shows columns in conflict with parking spaces not identified for removal.*

   Response: Brady Sullivan has revised the parking plan depicted on sheet A1-0 to address concerns with parking space functional accessibility.

4. *Traffic circulation within the basement parking area appears to be obstructed by the existing column orientation. Confirm drive aisles widths and parking vehicle turning radii are not obstructed.*

   Response: Brady Sullivan has revised the parking plan depicted on sheet A1-0 to address concerns with parking space functional accessibility. Additional dimensional labels have also been added.

Stormwater Management Report

1. *Section 3.2 Stormwater Management System: The Water Quality Volume required is 6,348 cubic feet and the design provides 4,381 cubic feet.*

   Response: The project is a Redevelopment Project as defined by the Rhode Island Stormwater Rules and satisfies the maximum extent practicable criteria. The historic context, scale, and developed condition of the site, built condition of properties and underground utilities adjacent to the site, urban fill soils, poor substratum permeability, high seasonal groundwater table, and proximity to the tidal elevations all present constraints to achieving compliance with the water quality volume standard.

   The water quality treatment practices for the commercial parking lot were not included as credits due to the non-standard construction. However, these features will reduce pollutants from stormwater runoff where none exists in the pre-development condition. In addition, RIDEM issued its conditional authorization under the RIPDES Program.

2. *HYDROCAD Reports*
   a. *Pre-Development and Post-Development Watersheds should be equivalent. The*
   b. *Pre-Development Watershed is 222,316 square feet. The Post-Development*

c. *Watershed is 219,398 square feet. Review and revise accordingly.*
d. *Summary for Pond DMH1: DMH-1 on Drainage Plan does not have a 12.0" culvert as part of its system. Revise HydroCAD or Plans to reflect intended design.*
e. *Summary for Pond DMH10: DMH-10 on Drainage Plan does not have an 18.0" culvert as its outlet device. Revise HydroCAD or Plans to reflect intended design.*
f. *Summary for Pond DMH3: DMH-3 on Drainage Plan does not have an 18.0" culvert as its outlet device and does not have an invert of 5.09'. Revise HydroCAD or Plans to reflect intended design.*
g. *Summary for Pond DMH4: DMH-4 on Drainage Plan does not have an 8.0" culvert as part of its outlet device. Revise HydroCAD or Plans to reflect intended design.*
h. *Summary for Pond DMH6: DMH-6 on Drainage Plan does not have an 8.0" culvert as part of its outlet device. Revise HydroCAD or Plans to reflect intended design.*
i. *Summary for Pond DMH9 Diversion Structure: DMH-9 on Drainage Plan has different slopes for its outlet devices. Revise HydroCAD or Plans to reflect intended design.*
j. *Summary for Pond OWS2: OWS2 on Drainage Plan has a different slope for its outlet device. Revise HydroCAD or Plans to reflect intended design.*

Response: Watershed areas have been revised to match. DMH-1 secondary outlet in the model is 12" and the pipe diameter on plan has been changed to match. The pipe at DMH-1 has 1.3 feet of cover material. The DMH-10 outlet in the model has been changed to 12" to match plan. The DMH-3 outlet in the model changed to match plan (lowered invert and adjusted pipe length). The DMH-4 outlet in the model has been changed from 8" to 18" to match the plan. The DMH-6 outlet in the model has been changed from 8" to 12" to match the plan. The DMH-9 primary outlet matches plan. The secondary outlet in the model had a slope of 10% slope, which has been reduced to 3%. The OWS2 outlet in the model is 3 feet of 18" pipe with 0.0067 slope (changed 8.30 invert elevation to 8.28). This already matches the plan.

The peak rates of discharge reduced slightly for both pre-development and post-development while the differences were proportionally reduced when compared to the prior report. The conclusions of the report have not changed. The revised HydroCAD calculations are enclosed with this letter.

3. *Groundwater elevations should be reviewed for buoyancy of the lined underground systems. Groundwater is likely tidal due to the proximity to the coast and should be monitored.*

Response: Buoyancy calculations (enclosed) show that the subsurface systems provide a factor of safety of 1.45 without ballast.

TRC Comments

1. *Full width paving and reconstruction of Thames and lower Constitution Streets.*

   Response: Mill and overlay bituminous concrete pavement has been added to the plans on sheets CP-101 and CS-101 for Thames Street along the frontage of the building and portions of Constitution Street.

2. *Sidewalks – full repair of Thames Street and Constitution Street sidewalks.*

   Response: Sidewalk reconstruction along Constitution Street was proposed to be replaced along the mill building on the prior plan set. Sidewalk reconstruction along the mill building on Thames Street has been added to sheet CS-101 of the plans.

3. *Revised Loading area plan and revised vehicle circulation plan for same.*

   Response: As noted in the response to Pare Corp.'s Site Plan Comment 5, an additional loading area has been added on Thames Street at the northeast corner of the mill building.

4. *Parking plan for interior basement area with least amount of future deviation required.*

   Response: As noted in the response to Pare Corp.'s Basement Parking Plan comments, sheet A1-0 has been revised to address this comment. In most locations, the aisle widths do not comply with the 24-foot aisle width required for perpendicular parking in the Bristol Zoning Ordinance Sec. 28-251. In areas where the aisles are narrowest (16'-7"), parking is reserved for compact vehicles and arranged in a single row of parking. The majority of the parking spaces are served by aisles that are at least 22 feet wide.

5. *Show detail for dumpster screening.*

   Response: As noted in the response to Pare Corp.'s Site Plan Comment 3, the plans were labeled on sheet CS-101 with a stockade fence enclosure. The detail is on sheet CD-510. The enclosure will be subject to Bristol Historic District Commission (HDC). We request that the final approval of the aesthetics be conditionally approved and deferred to the Bristol HDC.

6. *Review of easement documents and legal documents prior to final plan. Draft easements and draft deed for affordable housing should be submitted prior to Preliminary Plan review at June 8th Planning Board meeting. North side driveway access easement will also be needed as well as harbor walkway and pedestrian access from Hope Street.*

Response: The Applicant's attorney will provide these requested documents prior to the Planning Board's June 8, 2023 public hearing.

7. *Written response to Pare Corp. engineering peer review comments.*

   Response: Refer to the previous sections of this letter for responses to Pare Corp. comments.

8. *Street trees to be added along Thames Street within sidewalk.*

   Response: Street trees have been added to the landscaping plan sheets LP-series and CD-513.

9. *Landscaping modifications waivers for parking lot – list them out in detail around parking lot, modify report.*

   Response: In the letter accompanying the Preliminary Plan application, Fuss & O'Neill provided a summary of the proposed landscaping design for the off-street parking lot, which included technical for adjustments to Bristol's landscaping requirements Zoning Ordinance Section 28-251(11)(b), which requires a shade tree every 50 feet of interior perimeter, and (c), which reads, *"The interior of such parking areas shall have a minimum of ten square feet of landscaping for each parking space, and shall be shaded by deciduous trees. At maturity, each tree shall be presumed to shade a circular area having a radius of 15 feet with the trunk as the center. There shall be sufficient trees so that, using this standard, 20 percent of the parking area will be shaded. Trees shall be surrounded by a minimum of 180 square feet of unpaved area, which may be counted towards calculating the required landscaping."*

   The enclosed Landscaping Zoning Figures have been revised to align with the revised landscaping plans previously submitted with the Preliminary Plan application. The adjustments to the applicable zoning ordinance sections were included previously in the application.

10. *Modification of harbor walkway design to show connection to the Elks property. Developer to do any permitting necessary for walkway through Elks and striping/ signage of walkway. The walkway will be within the existing fire access easement, so applicant will need to amend existing pedestrian easement on title.*

    Response: The walkway has been modified to show the connection and corridor through the Elks property. Brady Sullivan is willing to act in good faith to provide permitting assistance and modify the easement for this connection. However, the Elks club must be the applicant and must consent to easement modifications. Brady Sullivan cannot compel the Elks to undertake either action. We request that this consideration be removed as a condition of approval.

11. Applicant to submit new landscaping renderings to reflect revised landscape plan.

Response: The building renderings will be modified and submitted to the Director of Community Development prior to the Planning Board's June 8, 2023 public hearing.

If you have any questions or require additional information, please contact me at (401) 533-5961 or smartin@fando.com.

Sincerely,

Shawn M. Martin, PE
Sr. Vice President | Regional Manager

Enclosures:

Bristol Yarn Mill Permitting Plan, Fuss & O'Neill, revised May 19, 2023, 28 sheets
Architectural Plan Sheet A1-0, Brady Sullivan, May 19, 2023
Landscaping Figures 1 through 5, Fuss & O'Neill, May 19, 2023
Buoyancy Calculations, Fuss & O'Neill, May 18, 2023
HydroCAD Pre- and Post-Development Calculations

BRISTOL YARN MILL

THAMES STREET & HOPE STREET · BRISTOL · RHODE ISLAND

ASSESSOR'S PLAT 10 LOTS 41, 42, 43, 44, 49, 50, 60, 61, 62, 68, 71, 73, 74, 76

PERMITTING PLAN

DECEMBER 6, 2022

REVISED: MAY 19, 2023

PREPARED FOR

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SHEET INDEX

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CN-001	GENERAL NOTES AND LEGEND
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3 OF 3	BOUNDARY & TOPOGRAPHIC SURVEY
CP-101	SITE DEMOLITION PLAN
CE-101	SOIL EROSION & SEDIMENTATION CONTROL PLAN
CS-101	SITE PLAN
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CG-101	GRADING PLAN
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CU-101	WATER & SEWER PLAN
LP-101 - LP-103	PLANTING PLANS
CD-501 - CD-502	PLANTING DETAILS
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CD-512	LANDSCAPING DETAILS

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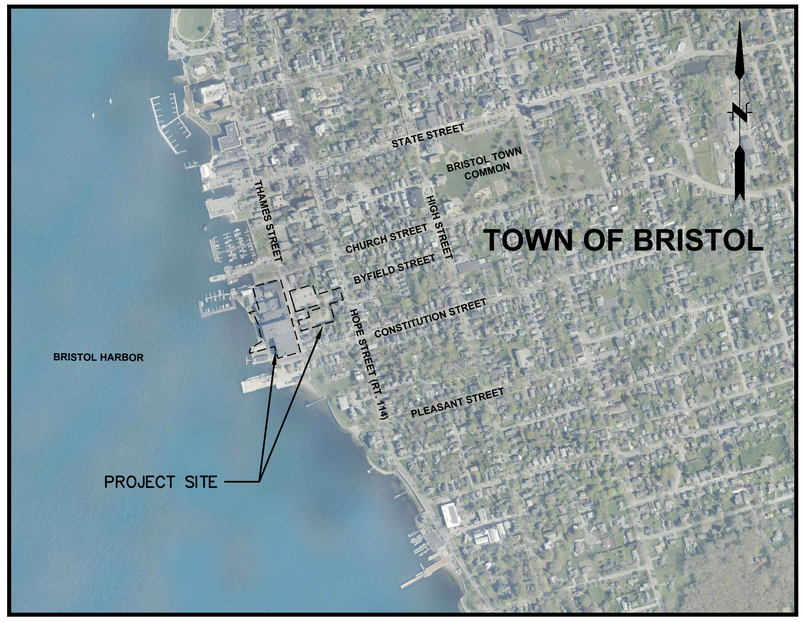


LOCATION MAP
SCALE: 1" = 500'

PLANNING BOARD APPROVAL

PLANNING BOARD CHAIR OR DESIGNEE DATE

PROJ. No.: 20061150.A22
DATE: DECEMBER 6, 2022

GI-001

SHEET 1 OF 27

File Path: \\private\DFS\CadProj\DWG\P20061150\A22\Civil\Plan\Permitting Plans\20061150A22_COV01.dwg, Layout: GI-001, Plotted: Friday, May 19, 2023, User: ajohnson Plotter: AUTOCAD PDF (GENERAL DOCUMENTATION).PC3 CTB File: FO.STB

LEGEND

EXIST	PROP	
		PROPERTY LINE/RIGHT-OF-WAY
		CENTERLINE
	LOD	LIMIT OF DISTURBANCE
		EASEMENT
		BUILDING SETBACK
		STATE HIGHWAY BASELINE
10+00	10+00	BASELINE
		ZONING LINE
		EDGE OF WATER
WF1 WF2		WETLAND LINE
		BUFFER ZONE
		WETLAND SYMBOL
		GRAVEL ROAD
		EDGE OF PAVEMENT
		BITUMINOUS CURB
		CONCRETE CURB
		PRECAST CONC. CURB
		VERT. GRAN. CURB
		LIMIT OF CURB TYPE
		SAW CUT
MATCH LINE SEE SHEET 2 OF 2		MATCH LINE
SWL	SWL	SOLID WHITE LINE
SYL	SYL	SOLID YELLOW LINE
BWL	BWL	BROKEN WHITE LINE
BYL	BYL	BROKEN YELLOW LINE
SWCHL	SWCHL	SOLID WHITE CHANNELIZING LINE
SYCHL	SYCHL	SOLID YELLOW CHANNELIZING LINE
DYL	DYL	DOUBLE YELLOW LINE
STOP	STOP	STOP LINE
		GUARD RAIL
		STOCKADE FENCE
		WIRE FENCE
		CHAIN LINK FENCE
		TREE LINE
		SHRUB LINE
		STONE WALL
		RETAINING WALL
2	4	MINOR CONTOUR
10	20	MAJOR CONTOUR
TS	TS	TOP of SLOPE
BS	BS	BOTTOM of SLOPE
		BUILDING
		BOLLARD
		SIGN
		DOUBLE SIGN
PM	PM	PARKING METER
10	10	PARKING COUNT
		CROSSWALK
		CONC. PAVEMENT
		NORMAL PAVEMENT
		HEAVY DUTY PAVEMENT
		ADA OR ACCESSIBLE RAMP
		HANDICAP PARKING
VAN	VAN	VAN-ACCESSIBLE HANDICAP PARKING
x 21.25 TC 21.25 BC	x 21.25 TC 21.25 BC	TOP & BOTTOM ELEVATION
21.25	21.25	SPOT ELEVATION w/LEADER
x21.25	x21.25	SPOT ELEVATION
		SOIL BORING
		MONITORING WELL
		TEST PIT LOCATION
		IRON PIPE
		DRILL HOLE
	IP	IRON PIN
		MONUMENT
		MAIL BOX
		CONTROL POINT

EXIST	PROP	
12" D	D	DRAINAGE LINE
12" S	S	SEWER LINE
OHE	OHE	OVERHEAD ELECTRIC, TELEPHONE & FIRE ALARM
W	W	WATER LINE
FP	FP	FIRE PROTECTION LINE
G	G	GAS LINE
E	E	UNDERGROUND ELECTRIC
T	T	TELEPHONE LINE
C	C	CABLE TV
E/T/C	E/T/C	ELECTRIC, TELEPHONE & CABLE TV LINES
CB		CATCH BASIN
DCB		DOUBLE CATCH BASIN
DI		DRAIN INLET
DMH	D	DRAIN MANHOLE
		TRENCH DRAIN
		PLUG/STUB
		FLARED END SECTION
		HEADWALL
GT	GT	GREASE TRAP
CS	CS	CONTROL STRUCTURE
SMH	S	SEWER MANHOLE
CO		CLEAN OUT
	W	WATER MANHOLE
WG	WG	WATER GATE
GV		GATE VALVE
SHT		WATER SHUTOFF
		THRUST BLOCK
		REDUCER
		TEE
TSV	TSV	TAPPING SLEEVE, VALVE, & BOX RISER
		PRESSURE REDUCER
		SIAMESE CONNECTION (FIRE DEPARTMENT CONNECTION)
		FIRE HYDRANT
WM	WM	WATER METER
PIV	PIV	POST INDICATOR VALVE
W	W	WELL
GG	GG	GAS GATE
GM	GM	GAS METER
E	E	ELECTRIC MANHOLE
EB	EB	ELECTRIC BOX
EM	EM	ELECTRIC METER
T	T	TRANSFORMER
		LIGHT BOLLARD
		FLOOD LIGHT
		LIGHT POLE (1 LUMINARIES)
		LIGHT POLE (2 LUMINARIES)
		LIGHT POLE (3 LUMINARIES)
		LIGHT POLE (4 LUMINARIES)
		WALL PACK
T	T	TELEPHONE MANHOLE
TS	TS	TRAFFIC SIGNAL
S	S	SIGNAL BOX
FACP	FACP	FIRE ALARM CONTROL PANEL
FB	FB	FIRE ALARM BOX
		UTILITY POLE
		GUY POLE
HH	HH	HAND HOLE
PB	PB	PULL BOX
	SF	SILT FENCE
		HAYBALES
		HAYBALE CHECK DAMS

LEGEND NOTE

SYMBOLS AND LEGENDS OF PROJECT FEATURES ARE GRAPHIC REPRESENTATIONS AND ARE NOT NECESSARILY SHOWN ON THE DRAWINGS TO SCALE OR TO THEIR ACTUAL DIMENSION OR LOCATION. COORDINATE DETAIL SHEET DIMENSIONS, MANUFACTURERS' LITERATURE, SHOP DRAWINGS, AND FIELD MEASUREMENTS OF SUPPLIED PRODUCTS FOR LAYOUT OF THE PROJECT FEATURES.

GENERAL NOTES

1. REFERENCES:
   - A. THE STATE OF RHODE ISLAND STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2018 EDITION, REVISIONS AND ALL CURRENT ADDENDA, ARE MADE A PART HEREOF, AS IF ATTACHED HERETO. ALL REFERENCES TO "STATE STANDARD SPECIFICATIONS" SHALL REFER TO THE LATEST EDITION OF THE STATE OF RHODE ISLAND STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
   - B. THE STATE OF RHODE ISLAND STANDARD DETAILS, 2015 EDITION, AND ALL CURRENT REVISIONS, ARE MADE A PART HEREOF, AS IF ATTACHED HERETO. ALL REFERENCES TO "STATE STANDARD DETAILS" OR "R.I. STD. ###" SHALL REFER TO THE LATEST EDITION OF THE STATE OF RHODE ISLANDS STANDARD DETAILS.
   - C. THE STATE OF RHODE ISLAND SOIL EROSION AND SEDIMENT CONTROL HANDBOOK, 2016 EDITION, REVISIONS AND ALL CURRENT ADDENDA, ARE MADE A PART HEREOF, AS IF ATTACHED HERETO. ALL REFERENCES TO "SOIL EROSION AND SEDIMENT CONTROL HANDBOOK" SHALL REFER TO THE LATEST EDITION OF THE STATE OF RHODE ISLAND SOIL EROSION AND SEDIMENT CONTROL HANDBOOK.
   - D. THE STATE OF RHODE ISLAND COASTAL RESOURCES MANAGEMENT COUNCIL, COASTAL MANAGEMENT PROGRAM "RED BOOK" (650-RICP-20-00-01), 2022 EDITION, REVISIONS AND ALL CURRENT ADDENDA, ARE MADE A PART HEREOF, AS IF ATTACHED HERETO.
   - E. THE STATE OF RHODE ISLAND COASTAL RESOURCES MANAGEMENT COUNCIL, COASTAL MANAGEMENT PROGRAM "METRO BAY REGION SPECIAL AREA MANAGEMENT PLAN" (650-RICR-20-00-5),2022 EDITION, REVISIONS AND ALL CURRENT ADDENDA, ARE MADE A PART HEREOF, AS IF ATTACHED HERETO.
   - F. THE SITE-SPECIFIC SOIL EROSION AND SEDIMENT CONTROL PLAN (SESC PLAN) PREPARED BY FUSS & O'NEILL, INC., DATED NOVEMBER 4, 2022, IS MADE A PART HEREOF, AS IF ATTACHED HERETO.
2. EXISTING CONDITIONS:
   - A. SURVEY:
     PROPERTY BOUNDARY AND TOPOGRAPHICAL INFORMATION WERE OBTAINED FROM A PLAN TITLED BOUNDARY AND TOPOGRAPHIC SURVEY, BY CONTROL POINT ASSOCIATES, INC., DATED SEPTEMBER 28, 2021.
   - B. FLOOD ZONE:
     THE SUBJECT SITE LIES WITHIN ZONE "AE", A SPECIAL FLOOD HAZARD AREA SUBJECT TO INUNDATION BY 1% ANNUAL-CHANCE FLOOD EVENT, WITH BASE FLOOD ELEVATION OF 12 FT; & ZONE "VE", A SPECIAL FLOOD ZONE AREA, WITH BASE FLOOD ELEVATION OF 14 FT, & ZONE X, WITH 0.2% ANNUAL CHANCE FLOOD HAZARD, AREA OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTH LESS THAN ONE FOOT OR WITH DRAINAGE AREAS OF LESS THAN ONE SQUARE MILE, PER FLOOD INSURANCE RATE MAP (FIRM) 44001C0014H, EFFECTIVE JULY 7, 2014.
   - C. UTILITIES:
     THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES SHOWN ARE APPROXIMATE ONLY AND HAVE NOT YET BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE.
3. MATERIAL:
   - A. CURBING:
     CURBING SHALL BE GRANITE (R.I. STD. 7.3.0), CONCRETE (R.I. STD. 7.1.0) OR BITUMINOUS BERM (R.I. STD. 7.5.1) AND IN ACCORDANCE WITH SECTION M.09 OF THE STATE STANDARD SPECIFICATIONS.
   - B. BITUMINOUS CONCRETE PAVEMENT:
     BITUMINOUS PAVEMENTS SHALL MEET REQUIREMENTS OF PART 400 OF THE STATE STANDARD SPECIFICATIONS.
   - C. CEMENT CONCRETE SIDEWALKS:
     ALL PORTLAND CEMENT CONCRETE USED IN THE CONSTRUCTION OF THE CEMENT CONCRETE SIDEWALKS SHALL BE CLASS A(AE) AND CONFORM TO THE REQUIREMENTS AS SET FORTH IN SUBSECTIONS 601.01.1 AND 601.03.1 OF THE STATE STANDARD SPECIFICATIONS.
   - D. SIGNAGE:
     ALL SIGNAGE SHALL MEET MUTCD REQUIREMENTS AND COMPLY WITH STANDARDS IN RIDOT SECTIONS T.15. AND M.16.
4. UTILITIES:
   - A. STORM DRAINAGES:
     STORM DRAIN PIPING SHALL BE SMOOTH LINED BE DOUBLE-WALL HIGH DENSITY POLYETHYLENE PIPE, (n=0.012) WITH WATERTIGHT JOINTS. THE SIZES OF ALL PIPES ARE NOTED ON THE PLANS.

     ALL CATCH BASINS SHALL BE PRECAST CONCRETE, AS SPECIFIED ON THE DETAIL SHEETS, WITH BICYCLE SAFE GRATES, R.I. STANDARD 6.3.2, OR APPROVED EQUAL.
   - B. SEWER:
     ALL SEWER PIPE, UNLESS OTHERWISE SPECIFIED, SHALL BE POLYVINYL CHLORIDE (SDR 35).

     CLEAN OUTS SHALL BE INSTALLED WHERE THE DISTANCE FROM THE BUILDING TO THE MAIN SEWER IS GREATER THAN 100 FEET OR WHERE BENDS GREATER THAN 45° ARE PROPOSED. CLEAN OUTS SHALL BE MADE BY INSTALLING "Y" AND ONE-EIGHTH BENDS OF THE SAME DIAMETER AS THE BUILDING SEWER, OR A MAXIMUM OF FOUR INCHES. THE CLEAN OUT SHALL BE BROUGHT UP FROM THE BUILDING SEWER TO FINISH GRADE WITH A ROADWAY BOX.

     SEWER INSTALLATION PRACTICES AND APPURTENANCES SHALL BE IN ACCORDANCE WITH TOWN OF BRISTOL DPW STANDARDS.
   - C. GAS AND ELECTRIC:
     COORDINATE AND INSTALL GAS, ELECTRIC, AND COMMUNICATIONS UTILITIES IN ACCORDANCE WITH THE RULES AND REGULATIONS OF THE APPROPRIATE UTILITY COMPANIES.
   - D. WATER:
     WATER MAINS SHALL BE CEMENT LINED DUCTILE IRON, DUCTILE IRON SHALL BE CLASS 52 AND CONFORM TO AWWA C151. CEMENT LINING SHALL CONFORM TO AWWA C104 AND HAVE DOUBLE THICKNESS. JOINTS AT FITTINGS, VALVES, AND HYDRANT LATERALS SHALL BE MECHANICAL JOINTS, AWWA C111, WITH NEOPRENE GASKETS. JOINTS AT OTHER LOCATIONS SHALL BE PUSH-ON TYPE. AWWA C111, WITH NEOPRENE OR SYNTHETIC RUBBER GASKETS. FITTINGS SHALL BE CEMENT-LINED, DUCTILE IRON, AWWA C110, WITH A 250 PSI MINIMUM.

     WATER SERVICE SHALL BE INSTALLED IN ACCORDANCE WITH BRISTOL COUNTY WATER AUTHORITY STANDARDS. WATER SERVICE, GREATER THAN 2-INCH DIAMETER, SHALL BE CLASS 52 CEMENT LINED DUCTILE IRON AND CONFORM TO AWWA C151. CEMENT LINING SHALL CONFORM TO AWWA C104 AND HAVE DOUBLE THICKNESS. JOINTS AT FITTINGS, VALVES, AND HYDRANT LATERALS SHALL BE MECHANICAL JOINTS, AWWA C111, WITH NEOPRENE GASKETS. JOINTS AT OTHER LOCATIONS SHALL BE PUSH-ON TYPE, AWWA C111, WITH NEOPRENE OR SYNTHETIC RUBBER GASKETS. FITTINGS SHALL BE CEMENT-LINED, DUCTILE IRON, AWWA C110, WITH A 250 PSI MINIMUM.

     CURB STOP BOXES SHALL BE IN CONFORMANCE WITH BRISTOL COUNTY WATER AUTHORITY STANDARDS.

     ALL WATER GATES AND VALVES SHALL BE NRS, MEET AWWA C500 AND C509 STANDARDS, AND OPEN TO THE LEFT. ALL WATER LINES SHALL HAVE A MINIMUM OF 4.5 FEET OF GROUND COVER AND A MINIMUM OF 10 FOOT HORIZONTAL SEPARATION FROM THE SEWER SYSTEM. WHERE THE WATER MAIN CROSSES ANY UTILITY A VERTICAL CLEARANCE OF 18 INCHES MUST BE MAINTAINED. AT CROSSINGS BETWEEN WATER AND SEWER LINES, THE SEWER LINE SHALL BE SLEEVED AND ENCASED IN CONCRETE FOR A DISTANCE OF AT LEAST 10-FEET IN EACH DIRECTION OF THE CROSSING.

ABBREVIATIONS

GENERAL

APPROX	APPROXIMATE
BIT	BITUMINOUS PAVEMENT
BW	BOTTOM OF WALL
CC	CONCRETE CURB
CCB	CAPE CODE BERM
ELEV	ELEVATION
EXIST	EXISTING
GC	GRANITE CURB
MAX	MAXIMUM
MIN	MINIMUM
NTS	NOT TO SCALE
PCC	PRECAST CONCRETE CURB
PROP	PROPOSED
R&D	REMOVE AND DISPOSE
R&R	REMOVE AND RESET
R&S	REMOVE AND STACK
TOS	TOP OF SLOPE
TW	TOP OF WALL
TYP	TYPICAL
VGC	VERTICAL GRANITE CURB

UTILITY

CB	CATCH BASIN
CMP	CORRUGATED METAL PIPE
CPP	CORRUGATED POLYETHYLENE PIPE
DCB	DOUBLE CATCH BASIN
DI	DUCTILE IRON PIPE
F&G	FRAME AND GRATE
F&C	FRAME AND COVER
HDPE	HIGH DENSITY POLYETHYLENE
HYD	HYDRANT
INV	INVERT ELEVATION
PVC	POLYVINYL CHLORIDE PIPE
RCP	REINFORCED CONCRETE PIPE
RD	ROOF DRAIN
SMH	SEWER MANHOLE
TSV	TAPPING SLEEVE, VALVE AND BOX
UP	UTILITY POLE

GENERAL CONSTRUCTION REQUIREMENTS

1. THE SITE IS A REGULATED SITE UNDER THE RIDEM "RULES AND REGULATIONS FOR THE INVESTIGATION AND REMEDIATION OF HAZARDOUS MATERIALS RELEASES" ("REMEDIATION REGULATIONS"), AND A SITE-SPECIFIC REMEDIAL ACTION WORK PLAN (RAWP). COMPLY WITH THE RAWP AND RIDEM OFFICE OF WASTE MANAGEMENT REQUIREMENTS FOR ALL LAND DISTURBANCE ACTIVITIES AND CONSTRUCTION. ALL EXCESS EXCAVATED MATERIALS, EXCESS FILL, EXCESS CONSTRUCTION MATERIALS, AND DEBRIS SHALL BE REMOVED FROM THE SITE AND SHALL BE DISPOSED OF IN ACCORDANCE WITH APPLICABLE LAWS, AND RAWP.
   - 1.1. ALL EXISTING SOIL AT THE SITE IS CONSIDERED TO BE REGULATED SOIL, FALLS UNDER RIDEM JURISDICTION, AND AT THE END OF THE PROJECT, SHOULD BE COVERED BY A SOIL CAP. ALL EXCAVATED ON-SITE SOIL TO BE REMOVED FROM THE SITE BY THE CONTRACTOR MUST BE MANAGED IN ACCORDANCE WITH THE RAWP AND DISPOSED OF AT A RIDEM-APPROVED FACILITY.
   - 1.2. PRIOR TO IMPORTATION TO THE SITE, ALL EARTHEN MATERIAL, INCLUDING BUT NOT LIMITED TO BACKFILL, BEDDING, BORROW, GRANULAR MATERIAL, FILL, GRAVEL BORROW AND GRAVEL BASE, MUST BE LABORATORY ANALYZED AND APPROVED AS CLEAN FILL BY THE ENGINEER IN ACCORDANCE WITH THE RAWP.
2. THE SITE IS REGULATED UNDER OSHA 29 CFR 1910.120 AND 1926.65. ALL CONTRACTORS AND WORKERS SHALL MAINTAIN COMPLIANCE WITH HAZARDOUS WASTE OPERATIONS AND EMERGENCY RESPONSE (HAZWOPER) TRAINING AND CERTIFICATION REQUIREMENTS.
3. CONTRACTOR IS RESPONSIBLE FOR PREPARING AND FOLLOWING A SITE-SPECIFIC HEALTH AND SAFETY PLAN (HASP) IN ACCORDANCE WITH OSHA 29 CFR 1910.120. A COPY MUST BE MAINTAINED ON-SITE AT ALL TIMES AND BE AVAILABLE FOR EXAMINATION BY THE OWNER AND ENGINEER, IF REQUESTED.THE SITE IS REGULATED UNDER OSHA 29 CFR 1910.120 AND 1926.65. ALL CONTRACTORS AND WORKERS SHALL MAINTAIN COMPLIANCE WITH HAZARDOUS WASTE OPERATIONS AND EMERGENCY RESPONSE (HAZWOPER) TRAINING AND CERTIFICATION REQUIREMENTS.
4. CONTRACTOR IS RESPONSIBLE FOR PREPARING AND FOLLOWING A SITE-SPECIFIC HEALTH AND SAFETY PLAN (HASP) IN ACCORDANCE WITH OSHA 29 CFR 1910.120. A COPY MUST BE MAINTAINED ON-SITE AT ALL TIMES AND BE AVAILABLE FOR EXAMINATION BY THE OWNER AND ENGINEER, IF REQUESTED.
5. DISCHARGES FROM CONSTRUCTION SITE ARE REGULATED BY THE RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT RHODE ISLAND POLLUTANT DISCHARGE SYSTEM ELIMINATION (RIPDES) PROGRAM. THE PROJECT SHALL COMPLY WITH THE CONDITIONS OF THE RIPDES GENERAL PERMIT FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION SITE RUNOFF, AND THE TOWN OF BRISTOL CODE OF ORDINANCES, CHAPTER 29 ARTICLE III "SOIL EROSION, RUNOFF AND SEDIMENT CONTROL".
6. VERIFY THE PROPOSED LAYOUT WITH ITS RELATIONSHIP TO THE EXISTING SITE SURVEY AND CONFIRM ALL DIMENSIONS, SITE CONDITIONS, AND MATERIAL SPECIFICATIONS ARE CONSISTENT. NOTIFY THE OWNER AND ENGINEER IN WRITING OF ANY ERRORS, OMISSIONS OR DISCREPANCIES BEFORE COMMENCING OR PROCEEDING WITH WORK.
7. OBTAIN ALL NECESSARY PERMITS, INSPECTIONS, BONDS, ETC. AND OTHER APPROVAL RELATED ITEMS WITH THE LOCAL AND STATE MUNICIPALITIES. APPLICATION FEES SHALL BE PAID BY OWNER. NO CONSTRUCTION SHALL COMMENCE UNTIL SUCH PERMITS HAVE BEEN SECURED AND THE CONTRACTOR HAS SUPPLIED THE REQUIRED NOTICES.
8. METHODS AND MATERIALS USED IN THE CONSTRUCTION OF IMPROVEMENTS FOR THIS PROJECT SHALL CONFORM TO THE CURRENT CONSTRUCTION STANDARDS AND SPECIFICATIONS OF THE LOCAL MUNICIPALITY AND THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION.
9. DEVIATIONS OR CHANGES FROM THESE PLANS WILL NOT BE ALLOWED UNLESS APPROVED BY THE ENGINEER/OWNER.
10. CONTACT 'DIG SAFE' AT 1-888-344-7233, 72 HOURS PRIOR, EXCLUDING WEEKENDS AND HOLIDAYS, TO ANY EXCAVATION PERFORMED ON SITE.
11. THE EXISTENCE AND/OR LOCATION OF UTILITIES SHOWN ON THESE PLANS MAY BE ONLY APPROXIMATELY CORRECT. MAKE EXPLORATORY EXCAVATIONS AND LOCATE ANY EXISTING UTILITIES AND NOTIFY OWNER/ENGINEER OF ANY DISCREPANCIES FROM CONTRACT DOCUMENTS. THE OWNER SHALL BE NOTIFIED AS TO THE RELOCATIONS REQUIRED PRIOR TO THE START OF CONSTRUCTION. CONTRACTOR IS REQUIRED TO TAKE PRECAUTIONARY MEASURES TO PROTECT THE UTILITIES SHOWN HEREON AND ANY OTHER EXISTING UTILITIES NOT OF RECORD OR NOT SHOWN ON THESE PLANS. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING, AT HIS/HER EXPENSE, ANY EXISTING UTILITIES DAMAGED DURING CONSTRUCTION.
12. AN APPROVED SET OF PLANS, SIGNED SOIL EROSION AND SEDIMENT CONTROL PLAN (AKA STORMWATER POLLUTION PREVENTION PLAN), AND ALL APPLICABLE PERMITS MUST BE AVAILABLE AT THE CONSTRUCTION SITE AT ALL TIMES.
13. THE CONTRACTOR IS RESPONSIBLE FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.
14. IDENTIFY TREES TO BE REMOVED PRIOR TO CONSTRUCTION AND MARK THEM WITH CONSTRUCTION TAPE FOR REVIEW BY THE OWNER/ENGINEER. TREES AND OTHER EXISTING VEGETATION SHALL BE RETAINED WHEREVER FEASIBLE. DO NOT REMOVE TREES UNTIL REVIEWED AND APPROVED BY THE OWNER/ENGINEER.
15. PROVIDE PROPER TRANSITIONS BETWEEN EXISTING AND PROPOSED SITE IMPROVEMENTS.
16. RESTORE HARDSCAPE IMPROVEMENTS WITH MATCHING MATERIALS (I.E. ANY PAVEMENT, WALKS, CURBS, ETC.) THAT MUST BE CUT OR THAT ARE DAMAGED DURING CONSTRUCTION.
17. RESTORE DISTURBED LANDSCAPE AREAS TO ORIGINAL CONDITION (I.E. SEEDED, SODDED, PLANTED) UNLESS OTHERWISE DIRECTED WITHIN CONTRACT DOCUMENTS.
18. ADJUST UTILITY COVERS, GRATES, AND HAND HOLES TO FINISH GRADE.
19. ALL EXCESS EXCAVATED MATERIALS, EXCESS FILL, EXCESS CONSTRUCTION MATERIALS, DEBRIS, AND WASTE SHALL BE REMOVED FROM THE SITE AND SHALL BE DISPOSED OF IN ACCORDANCE WITH APPLICABLE LAWS.
20. DO NOT CLOSE OR OBSTRUCT ROADWAYS, SIDEWALKS, FIRE HYDRANTS, AND UTILITIES WITHOUT APPROPRIATE PERMITS.
21. WORK IS RESTRICTED TO THE HOURS OF 7 AM TO 5 PM ON MONDAY THROUGH FRIDAY, EXCLUDING HOLIDAYS, UNLESS OTHERWISE APPROVED BY THE OWNER.

MASTER PLAN APPROVAL CONDITIONS

1. CHANGE OF CONDITIONS OF THE 2008 TOWN COUNCIL ZONING MAP APPROVAL AND ORDINANCE TEXT INCLUDING RESIDENTIAL AND COMMERCIAL DENSITY USES AS WELL AS MODIFICATION TO THE WIDTH OF THE PARKING SPACES AND THE DOUBLE STRIPING ON THE INTERIOR PARKING SPACES.
2. DEDICATION BY DEED OF THE PARKING LOT ON THE NORTHEAST CORNER OF CHURCH AND THAMES STREET, PLAT 10, LOT 32 TO THE TOWN OF BRISTOL FOR PUBLIC PARKING AS REQUIRED BY THE ZONING THAT THERE BE 10% OF THE LAND AREA TO BE SET ASIDE FOR PUBLIC INSTITUTIONAL USES AS REQUIRED BY SECTION 28-284(g).
3. CONNECTION OF THE PUBLIC WALKWAY TO THE MARITIME CENTER.
4. A TRAFFIC STUDY TO INCLUDE COUNTS TO BE TAKEN IN THE SUMMER MONTHS (JUNE, JULY, AUGUST, OR SEPTEMBER), AND TO BE SUBJECT TO PEER REVIEW OF THE PLANNING BOARD'S CONSULTANT ENGINEER, WITH THE REVIEW FEE TO BE REIMBURSED BY THE APPLICANT IN ACCORDANCE WITH THE REGULATIONS.
5. A REVISED FISCAL IMPACT STUDY SUBJECT TO THE PEER REVIEW OF A CONSULTANT SELECTED BY THE PLANNING BOARD WITH REVIEW FEE TO BE REIMBURSED BY THE APPLICANT IN ACCORDANCE WITH THE REGULATIONS.
6. DEED RESTRICTIONS ON BOTH THE MILL BUILDING PROPERTY AND THE SURFACE PARKING LOT ACROSS FROM THE MILL SO THAT PARKING IS CONNECTED TO THE MILL AND CANNOT BE SEPARATELY CONVEYED.
7. DEED RESTRICTIONS, RUNNING TO THE TOWN OF BRISTOL, ON THE SURFACE PARKING LOT THAT NO STRUCTURES BE BUILT ON THIS PROPERTY.
8. PARKING SPACES ON THE SURFACE PARKING LOT TO BE DOUBLE STRIPED.
9. ALL SERVICES TO THE RESIDENTIAL UNITS WILL BE PRIVATE INCLUDING RECYCLING AND GARBAGE PICK-UP, SNOW PLOWING, DRIVEWAY AND DRAINAGE MAINTENANCE. THIS SHALL BE A DEED CONVENANT IN LAND EVIDENCE RECORDS.

SOIL EROSION AND SEDIMENT CONTROL

1. A SITE-SPECIFIC SOIL EROSION AND SEDIMENT CONTROL PLAN (SESC PLAN) HAS BEEN PREPARED. THE SESC PLAN MUST BE REVIEWED AND SIGNED BY THE OWNER, OPERATOR (I.E CONTRACTOR), AND CONTRACTOR'S DESIGNATED SESC INSPECTOR. A HARD-COPY OF THE SIGNED SESC PLAN, INCLUDING ALL INSPECTION REPORTS, CORRECTIVE ACTION LOGS, AND ADDENDA, MUST BE KEPT ON SITE AT ALL TIMES THROUGHOUT CONSTRUCTION.
2. FOLLOW THE SITE-SPECIFIC SESC PLAN, SITE PREPARATION PLAN, EROSION AND SEDIMENT CONTROL SPECIFICATION, AS WELL AS RHODE ISLAND SOIL EROSION AND SEDIMENT CONTROL HANDBOOK AND THE THE TOWN OF BRISTOL CODE OF ORDINANCES, CHAPTER 29 ARTICLE III "SOIL EROSION, RUNOFF AND SEDIMENT CONTROL", IN CONSTRUCTING THE EROSION AND SEDIMENT CONTROLS INDICATED ON THE PLANS. ALL EROSION AND SEDIMENT CONTROL MEASURES OR WORKS AND REHABILITATION MEASURES MUST CONFORM TO OR EXCEED THESE REQUIREMENTS.
3. THE TIMELY INSTALLATION, INSPECTION, AND MAINTENANCE/REPLACEMENT OF SEDIMENT AND EROSION CONTROL DEVICES TO ENSURE PROPER OPERATION AND PERMIT COMPLIANCE IS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL CONSTRUCTION OF THE PROJECT IS COMPLETE AND ACCEPTED BY THE OWNER. THE OWNER IS RESPONSIBLE THEREAFTER. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL CONTINUE TO BE MAINTAINED IN EFFECTIVE CONDITION UNTIL SITE STABILIZATION.
4. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES, INSTALL ALL EROSION AND SEDIMENT CONTROL DEVICES AS SHOWN ON THE PLAN, OR AS DIRECTED BY THE RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT AND LOCAL MUNICIPALITY, OR AS MAY BE REQUIRED TO PREVENT SEDIMENT FLOW TO STORM DRAINS OR SURFACE WATERS.
5. AN INSPECTION OF STORMWATER CONTROL MEASURES MUST BE CONDUCTED BY THE CONTRACTOR AT LEAST ONCE EVERY SEVEN (7) CALENDAR DAYS, AND WITHIN TWENTY-FOUR (24) HOURS AFTER ANY STORM EVENT WHICH GENERATES AT LEAST 0.25 INCHES OF RAINFALL PER TWENTY-FOUR (24) HOUR PERIOD.
6. PREPARE AN INSPECTION REPORT SUMMARIZING THE SCOPE OF THE INSPECTION, NAME(S) AND TITLES OF PERSONNEL MAKING THE INSPECTION, THE DATE(S) OF THE INSPECTION, MAJOR OBSERVATIONS RELATING TO THE IMPLEMENTATION OF THE SESC PLAN, AND CORRECTIVE ACTIONS WHICH MUST BE MADE. SUCH REPORTS MUST IDENTIFY ANY INCIDENTS OF NONCOMPLIANCE. WHERE AN INSPECTION DOES NOT IDENTIFY ANY INCIDENTS OF NONCOMPLIANCE, A INSPECTION REPORT MUST STILL BE PREPARED TO CERTIFY THAT THE SITE IS IN COMPLIANCE WITH THE SESC PLAN AND RIPDES PERMIT. THE INSPECTION REPORT MUST BE SIGNED BY THE INSPECTOR AND OPERATOR AND KEPT WITH THE ON-SITE SESC PLAN.
7. FOLLOWING AN INSPECTION, ALL CORRECTIVE ACTIONS MUST BE COMPLETED WITHIN SEVEN (7) CALENDAR DAYS. A CORRECTIVE ACTION LOG MUST BE SIGNED BY THE OPERATOR AND KEPT WITH THE ON-SITE SESC PLAN.
8. BASED ON THE RESULTS OF THE INSPECTIONS, THE SESC PLAN MUST BE REVISED AS APPROPRIATE, BUT IN NO CASE LATER THAN SEVEN (7) CALENDAR DAYS FOLLOWING THE INSPECTION. SUCH MODIFICATIONS MUST PROVIDE FOR IMPLEMENTATION OF ANY CHANGES TO THE SESC PLAN WITHIN SEVEN (7) CALENDAR DAYS FOLLOWING THE INSPECTION.
9. IF AN INSPECTION REVEALS A DISCHARGE OF SEDIMENTS TO THE WATERS OF THE STATE OR A SEPARATE STORM SEWER SYSTEM, THE PERMITTEE MUST NOTIFY THIS OFFICE OF THE NATURE OF THE DISCHARGE, THE MEASURES TAKEN TO CLEAN UP THE DISCHARGE, AND THE MEASURES TAKEN TO PREVENT FUTURE RELEASES.
10. A HARD COPY OF THE COMPLETE SESC PLAN, INCLUDING ALL INSPECTION REPORTS, CORRECTIVE ACTION LOGS, AND ADDENDA, MUST BE RETAINED BY THE OWNER FOR AT LEAST FIVE (5) YEARS FROM THE DATE THAT THE SITE HAS UNDERGONE FINAL STABILIZATION.

SPILL PREVENTION AND RESPONSE PROCEDURE

1. ANY INADVERTENT OR DELIBERATE DISCHARGE OF WASTE OIL OR ANY OTHER POLLUTANT TO THE STORMWATER MANAGEMENT SYSTEM (I.E. INFILTRATION BEST MANAGEMENT PRACTICES, OR CLOSED-CONDUIT DRAINAGE SYSTEM THAT DISCHARGES TO MUNICIPAL SEPARATE STORM SEWER SYSTEM OR WATER BODY) REQUIRES IMMEDIATE NOTIFICATION TO THE RIDEM OIL POLLUTION CONTROL PROGRAM AT (401) 277-2284, AS PER THE OIL POLLUTION CONTROL REGULATIONS. DURING NON-WORKING HOURS, NOTIFICATION OF SPILLS CAN BE MADE TO THE RIDEM DIVISION OF ENFORCEMENT AT (401) 222-3070 (THE 24-HOUR EMERGENCY RESPONSE PHONE NUMBER).
2. ANY INCIDENT OF GROUNDWATER CONTAMINATION RESULTING FROM THE IMPROPER DISCHARGE OF POLLUTANTS TO THE STORMWATER MANAGEMENT SYSTEM SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER AS WELL AS ANY OTHER PARTIES THAT THE RIDEM DETERMINES TO BE RESPONSIBLE FOR THE CONTAMINATION. PURSUANT TO STATE LAWS AND REGULATIONS, THE RIDEM MAY REQUIRE THE PROPERTY OWNER, CONTRACTOR, AND OTHER RESPONSIBLE PARTIES TO REMEDIATE ANY INCIDENTS THAT MAY ADVERSELY IMPACT GROUNDWATER QUALITY.
3. UPON TRANSFER OF THE PROPERTY, THE NEW OWNER SHALL BE INFORMED AS TO THE LEGAL RESPONSIBILITIES ASSOCIATED WITH STORMWATER MANAGEMENT SYSTEM, AS INDICATED ABOVE.

STORMWATER MAINTENANCE PROGRAM

1. OPERATION AND MAINTENANCE OF STORMWATER MANAGEMENT SYSTEM SHALL BE CONDUCTED IN ACCORDANCE WITH SITE-SPECIFIC LONG-TERM OPERATION & MAINTENANCE PLAN.

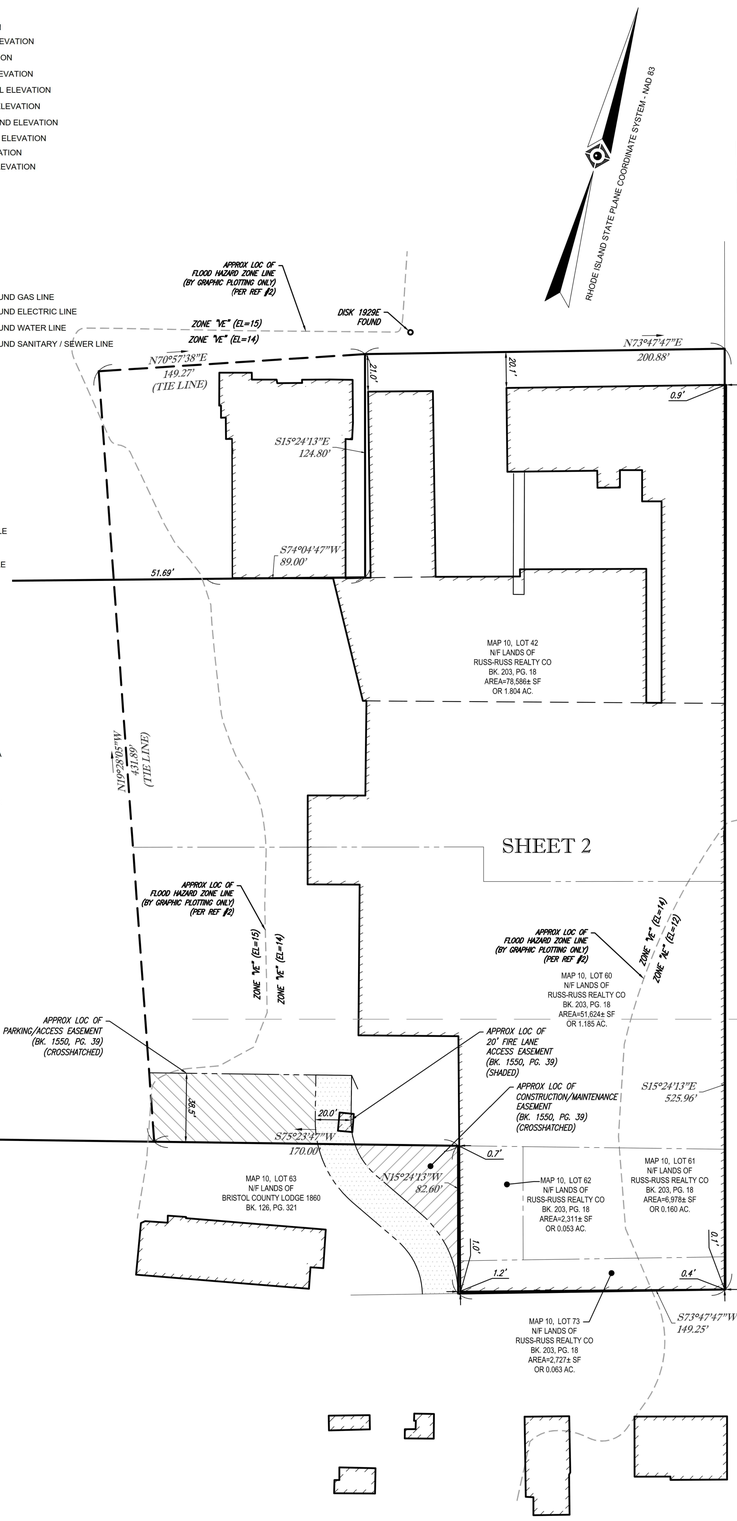
CONSTRUCTION SEQUENCE

CONSTRUCTION ACTIVITIES ASSOCIATED WITH THIS PROJECT ARE EXPECTED TO COMMENCE IN APRIL 2024 AND WILL BE COMPLETED BY APRIL 2026. THE GENERAL SEQUENCE FOR EACH PHASE OF CONSTRUCTION IS AS FOLLOWS:

1. INSTALL PERIMETER SEDIMENT CONTROL BARRIERS, INLET PROTECTION, TREE PROTECTION AND PROPOSED CONSTRUCTION ACCESSES.
2. CLEAR AND GRUB SITE, REMOVE PAVEMENT, REMOVE MATERIALS TO BE DISPOSED OF, AND STOCKPILE ITEMS AS DEPICTED ON PLANS.
3. RAZE CONCRET

LEGEND

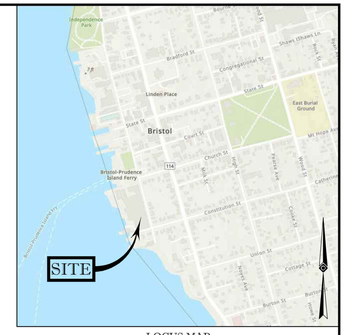
124 / 125	EXISTING CONTOUR
× 123.45	EXISTING SPOT ELEVATION
× TC 123.45	EXISTING TOP OF CURB ELEVATION
× G 122.95	EXISTING GUTTER ELEVATION
× TW 123.45	EXISTING TOP OF WALL ELEVATION
× BW 122.95	EXISTING BOTTOM OF WALL ELEVATION
× TI 123.45	EXISTING TOP OF ISLAND ELEVATION
× BI 122.95	EXISTING BOTTOM OF ISLAND ELEVATION
× FF 123.45	EXISTING FINISHED FLOOR ELEVATION
× DS 123.45	EXISTING DOOR SILL ELEVATION
× [LG 125.45]	EXISTING LEGAL GRADE ELEVATION
	HYDRANT
WV	WATER VALVE
VALVE	UNKNOWN VALVE
GV	GAS VALVE
GM	GAS METER
EM	ELECTRIC METER
OH	OVERHEAD WIRES
G	APPROX. LOC. UNDERGROUND GAS LINE
E	APPROX. LOC. UNDERGROUND ELECTRIC LINE
W	APPROX. LOC. UNDERGROUND WATER LINE
S	APPROX. LOC. UNDERGROUND SANITARY / SEWER LINE
UP	UTILITY POLE
	AREA LIGHT
	SIGN
	BOLLARD
CLF	CHAIN LINK FENCE
DC	DEPRESSED CURB
EOC	EDGE OF CONCRETE
EOP	EDGE OF PAVEMENT
LSA	LANDSCAPED AREA
MC (TYP)	METAL COVER TYPICAL
DMH	DRAINAGE/STORM MANHOLE
EMH	ELECTRIC MANHOLE
SMH	SANITARY/SEWER MANHOLE
MH	UNKNOWN MANHOLE
WMH	WATER MANHOLE
CB	CATCH BASIN OR INLET
	TREE & TRUNK SIZE
10	PARKING SPACE COUNT
	DEPRESSED CURB
SWL	SOLID WHITE LINE
DYL	DOUBLE YELLOW LINE
HT	HEIGHT
BLDG	BUILDING
BFPA	BUILDING FOOTPRINT AREA
NVP	NO VISIBLE PIPE
DHF	DRILL HOLE FOUND
PVC	POLYVINYL CHLORIDE PIPE
CI	CAST IRON PIPE
DI	DUCTILE IRON PIPE
INV	INVERT ELEVATION
GRT	GRATE ELEVATION
MBW	MASONRY BLOCK WALL



SEE SHEET 2 & 3 FOR TOPOGRAPHIC DETAIL

REFERENCES:

1. THE TAX ASSESSOR'S MAP OF BRISTOL, BRISTOL COUNTY, MAP 10.
2. MAP ENTITLED "NATIONAL FLOOD INSURANCE PROGRAM, FIRM, FLOOD INSURANCE RATE MAP, BRISTOL COUNTY, RHODE ISLAND 9ALL JURISDICTIONS), PANEL 14 OF 18", MAP NUMBER 44001C0014H, MAP REVISED: JULY 7, 2014.
3. MAP ENTITLED "BOUNDARY SURVEY PLAN AP 10 - LOTS 60, 61, 62 & 73 THAMES STREET & CONSTITUTION STREET BRISTOL, RHODE ISLAND RUSS - RUSS REALTY CO. C/O ROBIN RUG COMPANY 125 THAMES STREET P.O. BOX 656 BRISTOL, RHODE ISLAND 02809", PREPARED BY: WATERMAN ENGINEERING CO., DATED: FEBRUARY 1, 2005, PROVIDED BY CLIENT.
4. MAP ENTITLED "BOUNDARY SURVEY PLAN A.P. 10, LOTS 43, 71, 74 & 76 HOPE STREET BRISTOL RHODE ISLAND KARIAN REALTY CO. P.O. BOX 656 BRISTOL, RHODE ISLAND", PREPARED BY: WATERMAN ENGINEERING CO., DATED: FEBRUARY 26, 2021, PROVIDED BY CLIENT.
5. MAP ENTITLED "PLAN OF LAND: THEODORE J. & HELEN T. ALIGLET, LOCATION: 12 BUTTERWORTH AVENUE BRISTOL, RHODE ISLAND", PREPARED BY: STEPHEN M. MURGO, DATED: JULY, 1992, PROVIDED BY CLIENT.
6. MAP ENTITLED "EXISTING CONDITIONS PLAN, BRISTOL YARN MILL, PLAT 10 LOTS 42, 60, 61, 62, 68, 73, 41, 43, 44, 49, 74 AND 76, 125 THAMES STREET, BRISTOL RHODE ISLAND", PREPARED BY FUSS & O'NEILL, DATED MAY 7, 2021
7. UNDERGROUND GAS MAPPING OF 125 THAMES STREET, PROVIDED BY NATIONAL GRID.
8. UNDERGROUND ELECTRIC MAPPING IN THE AREA PROVIDED BY NATIONAL GRID.
9. MAP ENTITLED "SURVEY OF LAND KARIAN REALTY, INC.", PREPARED BY: WATERMAN ENGINEERING CO., DATED: AUGUST 1990, ON FILE WITH THE TOWN OF BRISTOL PLANNING DEPARTMENT.
10. MAP ENTITLED "RUSS-RUSS REALTY CO. ROBIN RUG COMPLEX MASTER PLAN A.P. 10 / LOTS 41, 42, 44, 60, 61, 62, 68 & 73 125 THAMES STREET BRISTOL RHODE ISLAND", PREPARED BY: FUSS 7 O'NEILL, DATED: APRIL 18, 2008, PROVIDED BY CLIENT.
11. RECIPROCAL EASEMENT AGREEMENT, DATED MAY 6, 2010, AND RECORDED WITH THE BRISTOL COUNTY LAND RECORDS IN BOOK 1550, PAGE 39.



LOCUS MAP
© 2013 ESRI WORLD STREET MAPS
NOT TO SCALE

NOTES:

1. PROPERTY KNOWN AS LOTS 41, 42, 43, 44, 45, 48, 49, 60, 61, 62, 68, 73, 74 & 76 AS SHOWN ON THE TOWN OF BRISTOL, BRISTOL COUNTY, STATE OF RHODE ISLAND MAP NO. 10.
2. LOT 41 AREA = 12,854 SQUARE FEET OR 0.295 ACRES
   LOT 42 AREA = 78,586 SQUARE FEET OR 1.804 ACRES
   LOT 43 AREA = 8,856 SQUARE FEET OR 0.203 ACRES
   LOT 44 AREA = 7,939 SQUARE FEET OR 0.182 ACRES
   LOT 45 AREA = 4,410 SQUARE FEET OR 0.101 ACRES
   LOT 48 AREA = 3,583 SQUARE FEET OR 0.082 ACRES
   LOT 49 AREA = 13,900 SQUARE FEET OR 0.319 ACRES
   LOT 60 AREA = 51,624 SQUARE FEET OR 1.185 ACRES
   LOT 61 AREA = 6,978 SQUARE FEET OR 0.160 ACRES
   LOT 62 AREA = 2,311 SQUARE FEET OR 0.053 ACRES
   LOT 68 AREA = 4,613 SQUARE FEET OR 0.106 ACRES
   LOT 73 AREA = 2,727 SQUARE FEET OR 0.063 ACRES
   LOT 74 AREA = 5,098 SQUARE FEET OR 0.117 ACRES
   LOT 76 AREA = 7,177 SQUARE FEET OR 0.165 ACRES
   TOTAL AREA = 210,656 SQUARE FEET OR 4.835 ACRES
3. LOCATION OF UNDERGROUND UTILITIES ARE APPROXIMATE. LOCATIONS AND SIZES ARE BASED ON UTILITY MARK-OUTS, ABOVE GROUND STRUCTURES THAT WERE VISIBLE & ACCESSIBLE IN THE FIELD, AND THE MAPS AS LISTED IN THE REFERENCES AVAILABLE AT THE TIME OF THE SURVEY. AVAILABLE ASBUILT PLANS AND UTILITY MARKOUT DOES NOT ENSURE MAPPING OF ALL UNDERGROUND UTILITIES AND STRUCTURES. BEFORE ANY EXCAVATION IS TO BEGIN, ALL UNDERGROUND UTILITIES SHOULD BE VERIFIED AS TO THEIR LOCATION, SIZE AND TYPE BY THE PROPER UTILITY COMPANIES. CONTROL POINT ASSOCIATES, INC. DOES NOT GUARANTEE THE UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA EITHER IN SERVICE OR ABANDONED.

   THE SOURCE OF UNDERGROUND UTILITIES ARE SHOWN UTILIZING A QUALITY LEVEL SYSTEM:

   QUALITY LEVEL D - UTILITIES SHOWN BASED UPON REFERENCE MAPPING OR ORAL HISTORY. NOT FIELD VERIFIED.

   QUALITY LEVEL C - LOCATION OF UTILITY SURFACE FEATURES SUPPLEMENTS REFERENCE MAPPING. INCLUDES MARKOUT BY OTHERS.

   QUALITY LEVEL B - UTILITY LOCATION DATA IS COLLECTED THROUGH GEOPHYSICAL SENSING TECHNOLOGY TO SUPPLEMENT SURFACE FEATURES AND OR REFERENCE MAPPING. INCLUDES MARKOUT BY CONTROL POINT ASSOCIATES, INC.

   QUALITY LEVEL A - HORIZONTAL AND VERTICAL LOCATION OF UTILITIES ARE OBTAINED USING VACUUM EQUIPMENT EXCAVATION OR OTHER METHODS TO EXPOSE THE UTILITY, LOCATION SHOWN AT SINGLE POINT WHERE EXCAVATION OCCURRED UNLESS UTILITY WAS LOCATED PRIOR TO FILLING.
4. THIS PLAN IS BASED ON INFORMATION PROVIDED BY A SURVEY PREPARED IN THE FIELD BY CONTROL POINT ASSOCIATES, INC. AND OTHER REFERENCE MATERIAL AS LISTED HEREON.
5. THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT AND IS SUBJECT TO THE RESTRICTIONS, COVENANTS AND/OR EASEMENTS THAT MAY BE CONTAINED THEREIN.
6. BY GRAPHIC PLOTTING ONLY A PORTION OF THE PROPERTY IS LOCATED IN FLOOD HAZARD ZONE "AE" (SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD, BASE FLOOD ELEVATIONS DETERMINED, EL=12), & ZONE "X SHADED" (AREAS OF 0.2% ANNUAL CHANCE FLOOD; AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM %1 ANNUAL CHANCE FLOOD), & ZONE "X-UNSHADED" (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN), & ZONE "VE" (COSTAL FLOOD ZONE WITH VELOCITY HAZARD (WAVE ACTION); BASE FLOOD ELEVATIONS DETERMINED, EL.=14 & EL.=15) PER REF #2.
7. ELEVATIONS REFER TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), BASED ON GPS CBSERVATIONS UTILIZING THE KEYSTONE VRS NETWORK (KEYNETGPS) TAKEN AT THE TIME OF THE FIELD SURVEY.

   TEMPORARY BENCH MARKS SET:

   TBM-A: X-CUT ON BONNET BOLT OF FIRE HYDRANT ALONG EASTERLY LINE OF THAMES STREET AT ELEVATION = 9.38'

   TBM-B: X-CUT ON BONNET BOLT OF FIRE HYDRANT ALONG NORTHERLY LINE OF CONSTITUTION STREET AT ELEVATION = 14.46'

   PRIOR TO CONSTRUCTION IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THAT THE BENCHMARKS ILLUSTRATED ON THIS SKETCH HAVE NOT BEEN DISTURBED AND THEIR ELEVATIONS HAVE BEEN CONFIRMED. ANY CONFLICTS MUST BE REPORTED PRIOR TO CONSTRUCTION.
8. THE OFFSETS SHOWN ARE NOT TO BE USED FOR THE CONSTRUCTION OF ANY STRUCTURE, FENCE, PERMANENT ADDITION, ETC.

No.	DESCRIPTION OF REVISION	FIELD CREW	DRAWN:	APPROVED:	DATE
1	UPDATED PER RECEIPT OF CLIENT COMMENTS	--	A.L.S.	C.E.L.	10-01-2021

THIS SURVEY HAS BEEN CONDUCTED AND THE PLAN HAS BEEN PREPARED PURSUANT TO 435-RICR-00-00-1.9 OF THE RULES AND REGULATIONS ADOPTED BY THE RHODE ISLAND STATE BOARD OF REGISTRATION FOR PROFESSIONAL LAND SURVEYORS ON DECEMBER 30, 2020 AS FOLLOWS:

1. TYPE OF BOUNDARY SURVEY: COMPREHENSIVE BOUNDARY SURVEY — MEASUREMENT SPECIFICATION: I
2. OTHER TYPE OF SURVEY: DATA ACCUMULATION SURVEY (TOPOGRAPHIC SURVEY) — MEASUREMENT SPECIFICATION: III
   VERTICAL CONTROL STANDARD — V-3
   TOPOGRAPHIC SURVEY ACCURACY — T-2
3. THE PURPOSE FOR THE CONDUCT OF THE SURVEY AND FOR THE PREPARATION OF THIS PLAN IS AS FOLLOWS: PREPARE BOUNDARY SURVEY AND OBTAIN TOPOGRAPHIC INFORMATION FOR USE AS A BACKGROUND DOCUMENT FOR SITE PLAN PREPARATION.

NOT A VALID ORIGINAL DOCUMENT UNLESS EMBOSSED WITH RAISED IMPRESSION OR STAMPED WITH A BLUE INK SEAL.

CHARLES E. LENT
RHODE ISLAND No. 1947
PROFESSIONAL LAND SURVEYOR

10-01-2021
DATE

CHARLES E. LENT
RHODE ISLAND PROFESSIONAL LAND SURVEYOR #1947
CERTIFICATE OF AUTHORIZATION #A350

FIELD DATE: 8-18-2021	BOUNDARY & TOPOGRAPHIC SURVEY				
FIELD BOOK NO.: 21-10 MA	BRISTOL YARN MILL				
FIELD BOOK PG.: 11-14	125 THAMES STREET LOTS 41, 42, 43, 44, 45, 48, 49, 60, 61, 62, 68, 73, 74, 76, MAP 10 TOWN OF BRISTOL , BRISTOL COUNTY STATE OF RHODE ISLAND				
FIELD CREW: B.S.B & J.D.O.	CONTROL POINT ASSOCIATES, INC.	ALBANY, NY 518-217-5010 CHALFONT, PA 215-712-9800 HAUPPAUGE, NY 631-580-2645 MANHATTAN, NY 646-780-0411 MT LAUREL, NJ 609-857-2099 WARREN, NJ 908-668-0099			
DRAWN: N.I.G.	352 TURNPIKE ROAD SOUTHBOROUGH, MA 01772 508.948.3000 - 508.948.3003 FAX WWW.CPASURVEY.COM				
REVIEWED: B.A.V.	APPROVED: C.E.L.	DATE: 9-28-2021	SCALE: 1" = 40'	FILE NO.: 03-210289-00	DWG. NO.: 1 OF 3

SHEET 3 OF 27

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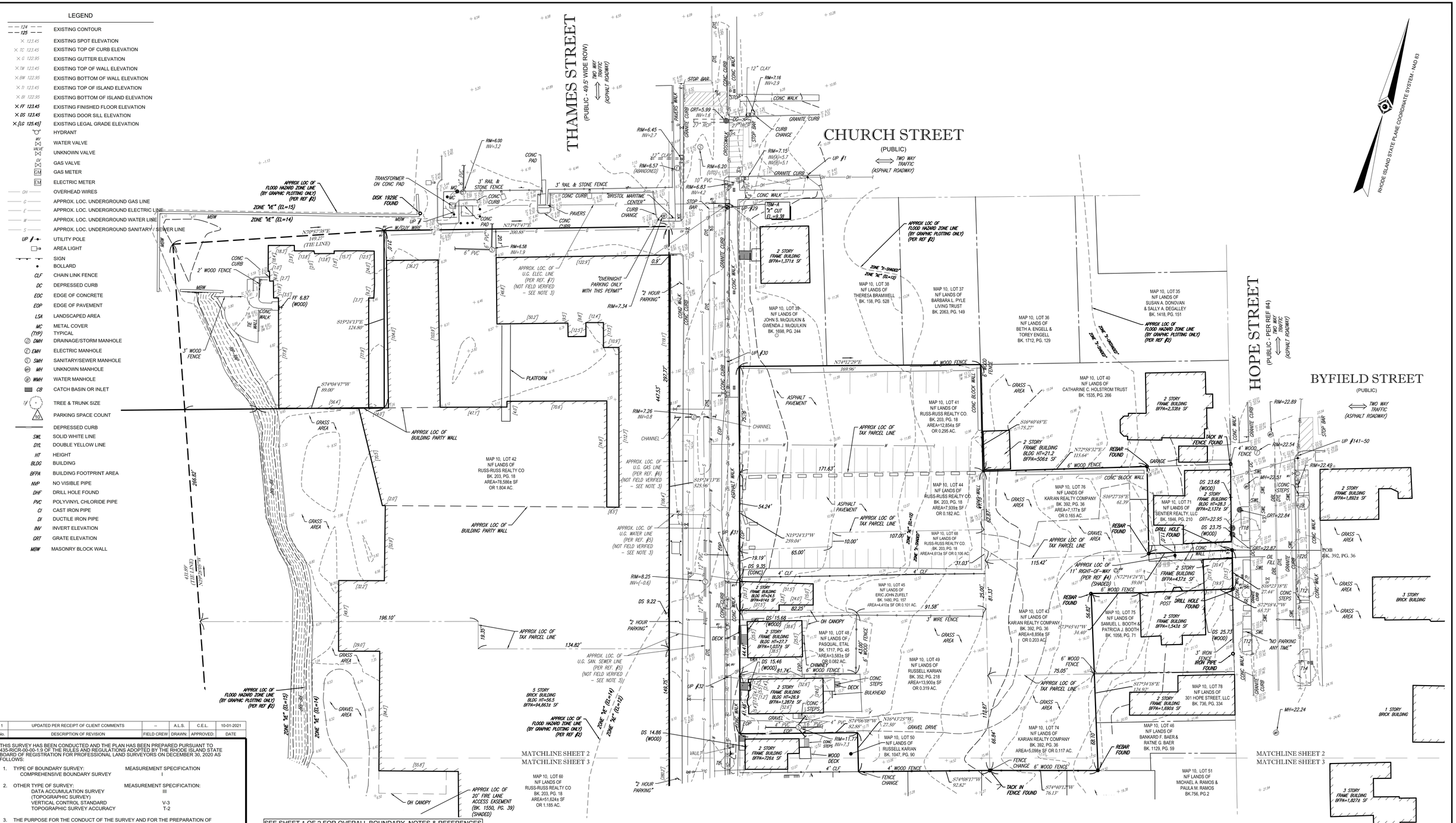
LEGEND

- 124 / 125 — EXISTING CONTOUR
- 123.45 — EXISTING SPOT ELEVATION
- TC 123.45 — EXISTING TOP OF CURB ELEVATION
- G 122.95 — EXISTING GUTTER ELEVATION
- TW 123.45 — EXISTING TOP OF WALL ELEVATION
- BW 122.95 — EXISTING BOTTOM OF WALL ELEVATION
- TI 123.45 — EXISTING TOP OF ISLAND ELEVATION
- BI 122.95 — EXISTING BOTTOM OF ISLAND ELEVATION
- FF 123.45 — EXISTING FINISHED FLOOR ELEVATION
- DS 123.45 — EXISTING DOOR SILL ELEVATION
- [LG 125.45] — EXISTING LEGAL GRADE ELEVATION
- HYDRANT
- WV — WATER VALVE
- VALVE — UNKNOWN VALVE
- GV — GAS VALVE
- GM — GAS METER
- EM — ELECTRIC METER
- OH — OVERHEAD WIRES
- G — APPROX. LOC. UNDERGROUND GAS LINE
- E — APPROX. LOC. UNDERGROUND ELECTRIC LINE
- W — APPROX. LOC. UNDERGROUND WATER LINE
- S — APPROX. LOC. UNDERGROUND SANITARY / SEWER LINE
- UP — UTILITY POLE
- AREA LIGHT
- SIGN
- BOLLARD
- CLF — CHAIN LINK FENCE
- DC — DEPRESSED CURB
- EOC — EDGE OF CONCRETE
- EOP — EDGE OF PAVEMENT
- LSA — LANDSCAPED AREA
- MC — METAL COVER
- (TYP) — TYPICAL
- DMH — DRAINAGE/STORM MANHOLE
- EMH — ELECTRIC MANHOLE
- SMH — SANITARY/SEWER MANHOLE
- MH — UNKNOWN MANHOLE
- WMH — WATER MANHOLE
- CB — CATCH BASIN OR INLET
- TREE & TRUNK SIZE
- 10 — PARKING SPACE COUNT
- DEPRESSED CURB
- SWL — SOLID WHITE LINE
- DYL — DOUBLE YELLOW LINE
- HT — HEIGHT
- BLDG — BUILDING
- BFPA — BUILDING FOOTPRINT AREA
- NVP — NO VISIBLE PIPE
- DHF — DRILL HOLE FOUND
- PVC — POLYVINYL CHLORIDE PIPE
- CI — CAST IRON PIPE
- DI — DUCTILE IRON PIPE
- INV — INVERT ELEVATION
- GRT — GRATE ELEVATION
- MBW — MASONRY BLOCK WALL



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1	UPDATED PER RECEIPT OF CLIENT COMMENTS	--	A.L.S.	C.E.L.	10-01-2021

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CHARLES E. LENT — No. 1947 — PROFESSIONAL LAND SURVEYOR

10-01-2021

CHARLES E. LENT

RHODE ISLAND PROFESSIONAL LAND SURVEYOR #1947
CERTIFICATE OF AUTHORIZATION #A350

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FIELD DATE	8-18-2021
FIELD BOOK NO.	21-10 MA
FIELD BOOK PG.	11-14
FIELD CREW	B.S.B & J.D.O.
DRAWN:	N.I.G.
REVIEWED:	B.A.V.

BOUNDARY & TOPOGRAPHIC SURVEY

BRISTOL YARN MILL

125 THAMES STREET
LOTS 41, 42, 43, 44, 45, 48, 49, 60, 61, 62, 68, 73, 74, 76, MAP 10
TOWN OF BRISTOL , BRISTOL COUNTY
STATE OF RHODE ISLAND

CONTROL POINT ASSOCIATES, INC.
352 TURNPIKE ROAD
SOUTHBOROUGH, MA 01772
508.948.3000 - 508.948.3003 FAX
WWW.CPASURVEY.COM

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MANHATTAN, NY 646-780-0411
MT LAUREL, NJ 609-857-2099
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APPROVED:	DATE	SCALE	FILE NO.	DWG. NO.
C.E.L.	9-28-2021	1" = 30'	03-210289-00	2 OF 3

GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)
1 inch = 30 ft.

811 DIG SAFE (1-888-344-7233) STOP CALL BEFORE YOU DIG

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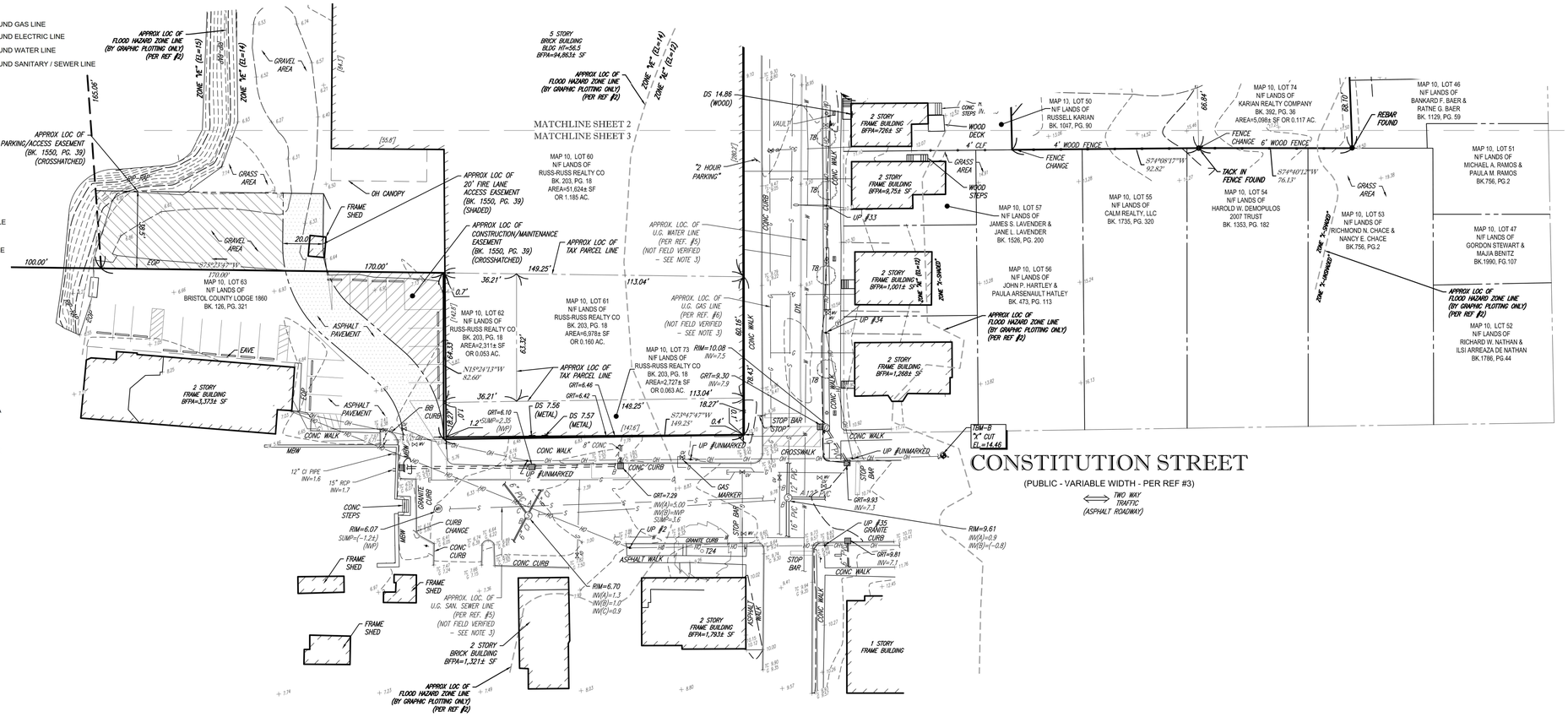

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   TOPOGRAPHIC SURVEY ACCURACY T-2
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BOUNDARY & TOPOGRAPHIC SURVEY

BRISTOL YARN MILL

125 THAMES STREET
LOTS 41, 42, 43, 44, 45, 48, 49, 60, 61, 62, 68, 73, 74, 76, MAP 10
TOWN OF BRISTOL, BRISTOL COUNTY
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FIELD DATE	FIELD BOOK NO.	FIELD BOOK PG.	FIELD CREW	DRAWN:
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B.A.V.	C.E.L.	9-28-2021	1" = 30'	03-210289-00	3 OF 3

SHEET 5 OF 27

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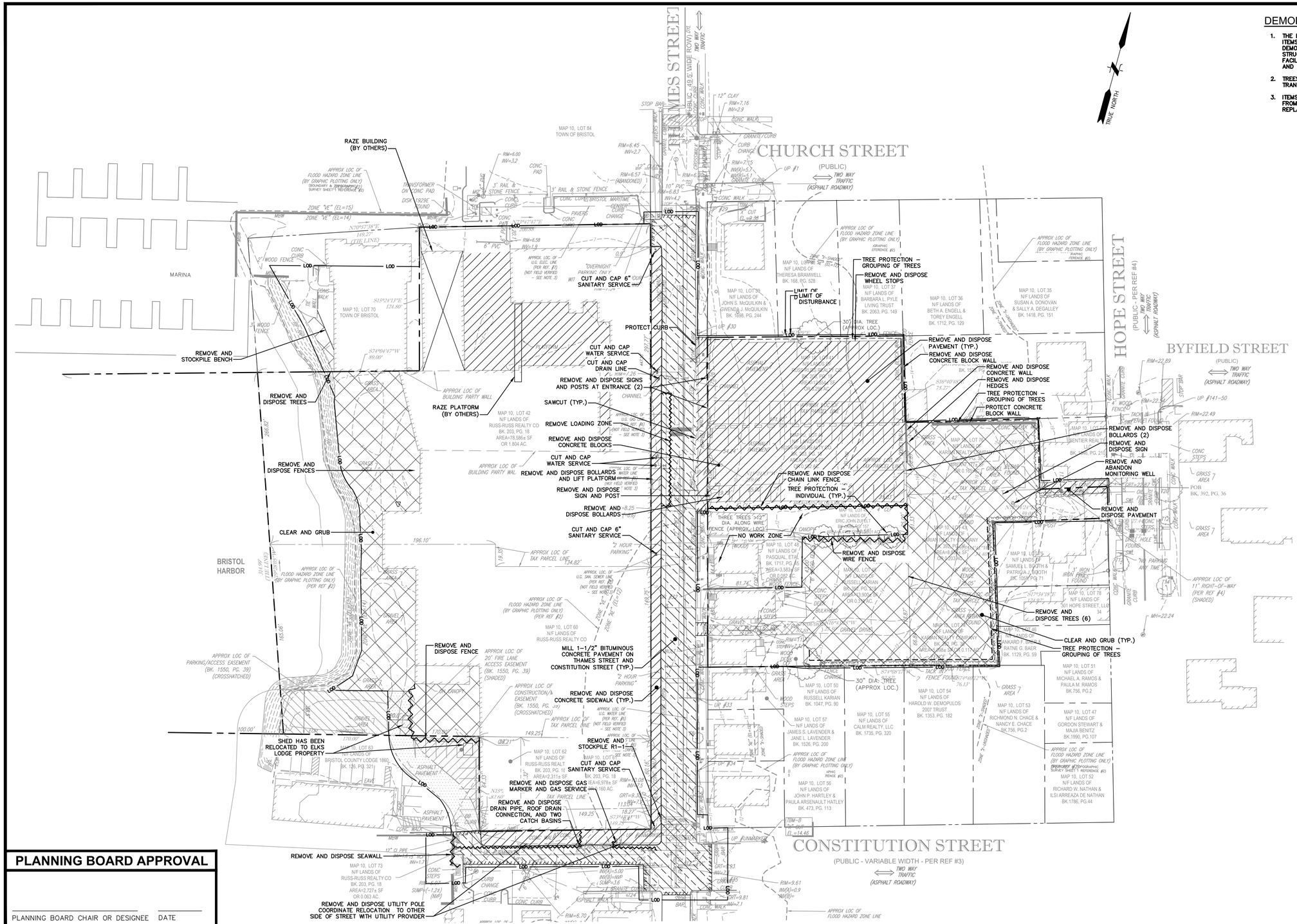
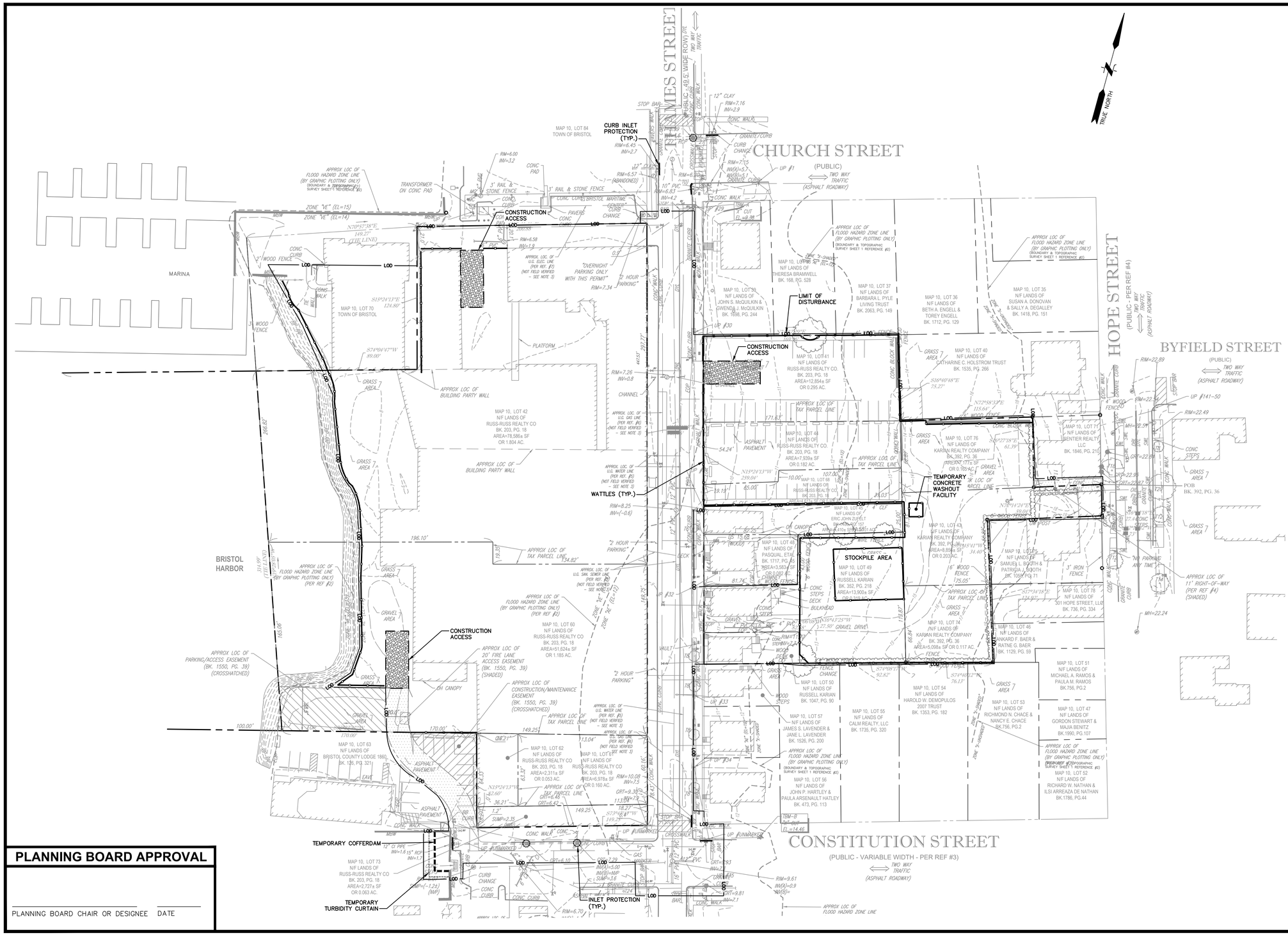
DEMOLITION NOTES

1. THE DEMOLITION PLAN IS PROVIDED FOR INFORMATION ONLY AND MAY NOT INDICATE ALL ITEMS REQUIRED TO BE DEMOLISHED. PERFORM A PRE-BID SITE INSPECTION. COORDINATE DEMOLITION OF UNIDENTIFIED UTILITIES OR STRUCTURES WITH OWNER. DEMOLISH STRUCTURES, SITE IMPROVEMENTS, UTILITIES, ETC. AS REQUIRED TO CONSTRUCT PROPOSED FACILITY AND UTILITY SERVICES. PROTECT ALL PUBLIC AND PRIVATE UTILITIES, SERVICES, AND STRUCTURES THAT ARE NOT DESIGNATED FOR REMOVAL.
2. TREES, BRUSH AND STUMPS REMOVED BY CLEARING & GRUBBING OPERATIONS SHALL BE TRANSPORTED OFF THE PROJECT SITE TO AN APPROVED DISPOSAL LOCATION.
3. ITEMS TO BE STOCKPILED ON-SITE FOR REUSE OR TO BE RELOCATED SHALL BE PROTECTED FROM CONSTRUCTION OPERATIONS. IF DAMAGED DURING CONSTRUCTION THEY SHALL BE REPLACED IN-KIND AT NO ADDITIONAL COST TO THE OWNER.


THAMES STREET
(PUBLIC - 49.5' WIDE ROW) (TYP.)
TWO WAY TRAFFIC
CHURCH STREET
(PUBLIC)
TWO WAY TRAFFIC
(ASPHALT ROADWAY)
HOPE STREET
(PUBLIC - PER REF #4)
BYFIELD STREET
CONSTITUTION STREET
(PUBLIC - VARIABLE WIDTH - PER REF #3)
TRUE NORTH
RAZE BUILDING (BY OTHERS)
REMOVE AND STOCKPILE BENCH
REMOVE AND DISPOSE TREES
REMOVE AND DISPOSE FENCES
CLEAR AND GRUB
REMOVE AND DISPOSE FENCE
SHED HAS BEEN RELOCATED TO ELKS LODGE PROPERTY
REMOVE AND DISPOSE SEAWALL
REMOVE AND DISPOSE UTILITY POLE COORDINATE RELOCATION TO OTHER SIDE OF STREET WITH UTILITY PROVIDER
PROTECT CURB
CUT AND CAP WATER SERVICE
CUT AND CAP DRAIN LINE
REMOVE AND DISPOSE SIGNS AND POSTS AT ENTRANCE (2)
SAWCUT (TYP.)
RAZE PLATFORM (BY OTHERS)
REMOVE LOADING ZONE
REMOVE AND DISPOSE CONCRETE BLOCKS
CUT AND CAP WATER SERVICE
REMOVE AND DISPOSE BOLLARDS AND LIFT PLATFORM
REMOVE AND DISPOSE SIGN AND POST
REMOVE AND DISPOSE BOLLARDS
CUT AND CAP 6" SANITARY SERVICE
"2 HOUR PARKING"
NO WORK ZONE
REMOVE AND DISPOSE WIRE FENCE
MILL 1-1/2" BITUMINOUS CONCRETE PAVEMENT ON THAMES STREET AND CONSTITUTION STREET (TYP.)
REMOVE AND DISPOSE CONCRETE SIDEWALK (TYP.)
REMOVE AND STOCKPILE R1-1
CUT AND CAP SANITARY SERVICE
REMOVE AND DISPOSE GAS MARKER AND GAS SERVICE
REMOVE AND DISPOSE DRAIN PIPE, ROOF DRAIN CONNECTION, AND TWO CATCH BASINS
TREE PROTECTION - GROUPING OF TREES
REMOVE AND DISPOSE WHEEL STOPS
LIMIT OF DISTURBANCE
REMOVE AND DISPOSE PAVEMENT (TYP.)
REMOVE AND DISPOSE CONCRETE BLOCK WALL
REMOVE AND DISPOSE CONCRETE WALL
REMOVE AND DISPOSE HEDGES
PROTECT CONCRETE BLOCK WALL
REMOVE AND DISPOSE BOLLARDS (2)
REMOVE AND DISPOSE SIGN
REMOVE AND ABANDON MONITORING WELL
REMOVE AND DISPOSE CHAIN LINK FENCE
TREE PROTECTION - INDIVIDUAL (TYP.)
REMOVE AND DISPOSE PAVEMENT
REMOVE AND DISPOSE TREES (6)
CLEAR AND GRUB (TYP.)
TREE PROTECTION - GROUPING OF TREES
MAP 10, LOT 84 TOWN OF BRISTOL
MAP 10, LOT 70 TOWN OF BRISTOL
MAP 10, LOT 63 N/F LANDS OF BRISTOL COUNTY LODGE 1866 BK. 126, PG. 321
MAP 10, LOT 73 N/F LANDS OF RUSS-RUSS REALTY CO BK. 203, PG. 18 AREA=2,727± SF OR 0.063 AC.
MAP 10, LOT 60 N/F LANDS OF RUSS-RUSS REALTY CO
MAP 10, LOT 62 N/F LANDS OF RUSS-RUSS REALT BK. 203, PG. 18 AREA=2,311± SF
MAP 10, LOT 42 N/F LANDS OF RUSS-RUSS REALTY CO BK. 203, PG. 18 AREA=78,586± SF OR 1.804 AC.
MAP 10, LOT 30 N/F LANDS OF JOHN S. McQUILKIN & GWENDLN J. McQUILKIN BK. 1938, PG. 244
MAP 10, LOT 37 N/F LANDS OF BARBARA L. PYLE LIVING TRUST BK. 2063, PG. 149
MAP 10, LOT 36 N/F LANDS OF BETH A. ENGELL & TOREY ENGELL BK. 1712, PG. 129
MAP 10, LOT 35 N/F LANDS OF SUSAN A. DONOVAN & SALLY A. DEGALLEY BK. 1418, PG. 151
MAP 10, LOT 50 N/F LANDS OF RUSSELL KARIAN BK. 1047, PG. 90
MAP 10, LOT 54 N/F LANDS OF HAROLD W. DEMOPULOS 2007 TRUST BK. 1353, PG. 182
MAP 10, LOT 55 N/F LANDS OF CALM REALTY, LLC BK. 1735, PG. 320
MAP 10, LOT 57 N/F LANDS OF JAMES S. LAVENDER & JANE L. LAVENDER BK. 1526, PG. 200
MAP 10, LOT 56 N/F LANDS OF JOHN P. HARTLEY & PAULA ARSENAULT HATLEY BK. 473, PG. 113
MAP 10, LOT 53 N/F LANDS OF RICHMOND N. CHACE & NANCY E. CHACE BK.756, PG.2
MAP 10, LOT 47 N/F LANDS OF GORDON STEWART & MAJIA BENITZ BK.1990, PG.107
MAP 10, LOT 51 N/F LANDS OF MICHAEL A. RAMOS & PAULA M. RAMOS BK.756, PG.2
MAP 10, LOT 52 N/F LANDS OF RICHARD W. NATHAN & ILSI ARREAZA DE NATHAN BK.1786, PG.44
MAP 10, LOT 48 N/F LANDS OF PASQUAL, ETAL BK. 1717, PG. 45 AREA=3,583± SF OR 0.082 AC.
MAP 10, LOT 49 N/F LANDS OF RUSSELL KARIAN BK. 997, PG. 104 AREA=3,900± SF OR 0.090 AC.
MAP 10, LOT 78 N/F LANDS OF 301 HOPE STREET, LLC
MAP 18, LOT 25 N/F LANDS OF SAMUEL L. BOOTH & PATRICIA J. BOOTH BK. 1054, PG.71
MAP 18, LOT 24 N/F LANDS OF ANKARD F. RATNE & RATNE G. BAER BK. 1129, PG. 59
MARINA
BRISTOL HARBOR
APPROX LOC OF FLOOD HAZARD ZONE LINE (BY GRAPHIC PLOTTING ONLY) (BOUNDARY & TOPOGRAPHIC SURVEY SHEET) REFERENCE #2
APPROX LOC OF FLOOD HAZARD ZONE LINE (BY GRAPHIC PLOTTING ONLY) (PER REF #2)
APPROX LOC OF BUILDING PARTY WALL
APPROX LOC OF TAX PARCEL LINE
APPROX LOC OF U.G. SAN. SEWER LINE (PER REF. #2) (NOT FIELD VERIFIED - SEE NOTE 3)
APPROX LOC OF U.G. ELEC. LINE (PER REF. #7) (NOT FIELD VERIFIED - SEE NOTE 3)
APPROX LOC OF U.G. WATER LINE (PER REF. #3) (NOT FIELD VERIFIED - SEE NOTE 3)
APPROX LOC OF 20' FIRE LANE ACCESS EASEMENT (BK. 1550, PG. 39) (SHADED)
APPROX LOC OF CONSTRUCTION/ACCESS EASEMENT (BK. 1550, PG. 39) (CROSSHATCHED)
APPROX LOC OF PARKING/ACCESS EASEMENT (BK. 1550, PG. 39) (CROSSHATCHED)
APPROX LOC OF 11' RIGHT-OF-WAY (PER REF. #4) (SHADED)
"OVERNIGHT PARKING ONLY"
"NO PARKING ANY TIME"
30" DIA. TREE (APPROX LOC.)
307" DIA. TREE (APPROX LOC.)
TBM-A Elev.=10 EL=9.36
TBM-B Elev.=10 EL=14.46
ZONE "VE" (EL=15)
ZONE "VE" (EL=14)
ZONE "AE" (EL=12)
ZONE X-SHADED
ZONE "AE" (EL=7)
ZONE "AE" (EL=8)
N70°57'38"E 149.27' (TITLE LINE)
S15°24'13"E 124.80'
S74°04'47"W 89.00'
N70°57'38"E 170.00'
S74°04'47"W 100.00'
S74°04'47"W 292.77'
S16°40'08"E 75.25'
S17°34'18"E 124.92'
S74°04'47"W 196.10'
S74°04'47"W 134.82'
S74°04'47"W 149.25'
S74°04'47"W 81.74'
S74°04'47"W 76.13'
S74°04'47"W 170.00'
S74°04'47"W 149.25'
S74°04'47"W 18.27'
S74°04'47"W 19.25'
S74°04'47"W 19.35'
N13°57'00"W 113.00'
N74°04'47"E 149.75'
N74°04'47"E 165.06'
N74°04'47"E 266.82'
N74°04'47"E 170.00'
N74°04'47"E 100.00'
N74°04'47"E 68.21'
N74°04'47"E 292.77'
N74°04'47"E 75.25'
N74°04'47"E 76.13'
N74°04'47"E 124.92'
N74°04'47"E 124.80'
N74°04'47"E 89.00'
N74°04'47"E 149.25'
N74°04'47"E 81.74'
N74°04'47"E 19.25'
N74°04'47"E 19.35'
N74°04'47"E 134.82'
N74°04'47"E 196.10'
N74°04'47"E 18.27'
N74°04'47"E



PLANNING BOARD APPROVAL

PLANNING BOARD CHAIR OR DESIGNEE DATE

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
4.	5/19/23	RESPONSE TO TRC AND PARE COMMENTS	KLM/MH	SMM
3.	3/27/23	PRELIMINARY PLAN RESPONSE TO TOWN COMMENTS	KLM	SMM
2.	2/2/23	RIDEM AND CRMC PERMITTING APPLICATION	KLM	SMM
1.	1/25/23	PRELIMINARY PLAN RESPONSE TO TOWN COMMENTS	KLM	SMM

SEAL

SEAL

SCALE:
HORZ.: 1"= 40'
VERT.:
DATUM:
HORZ.:NAD 1983
VERT.: NAD 1988
40 20 0 40
GRAPHIC SCALE

FUSS & O'NEILL
317 IRON HORSE WAY, SUITE 204
PROVIDENCE, RI 02908
401.861.3070
www.fando.com

BRADY SULLIVAN PROPERTIES, LLC

SOIL EROSION AND SEDIMENTATION CONTROL PLAN

BRISTOL YARN MILL

125 THAMES STREET BRISTOL, RHODE ISLAND

PROJ. No.: 20061150.A22
DATE: DECEMBER 6, 2023

CE-101

SHEET 7 OF 28

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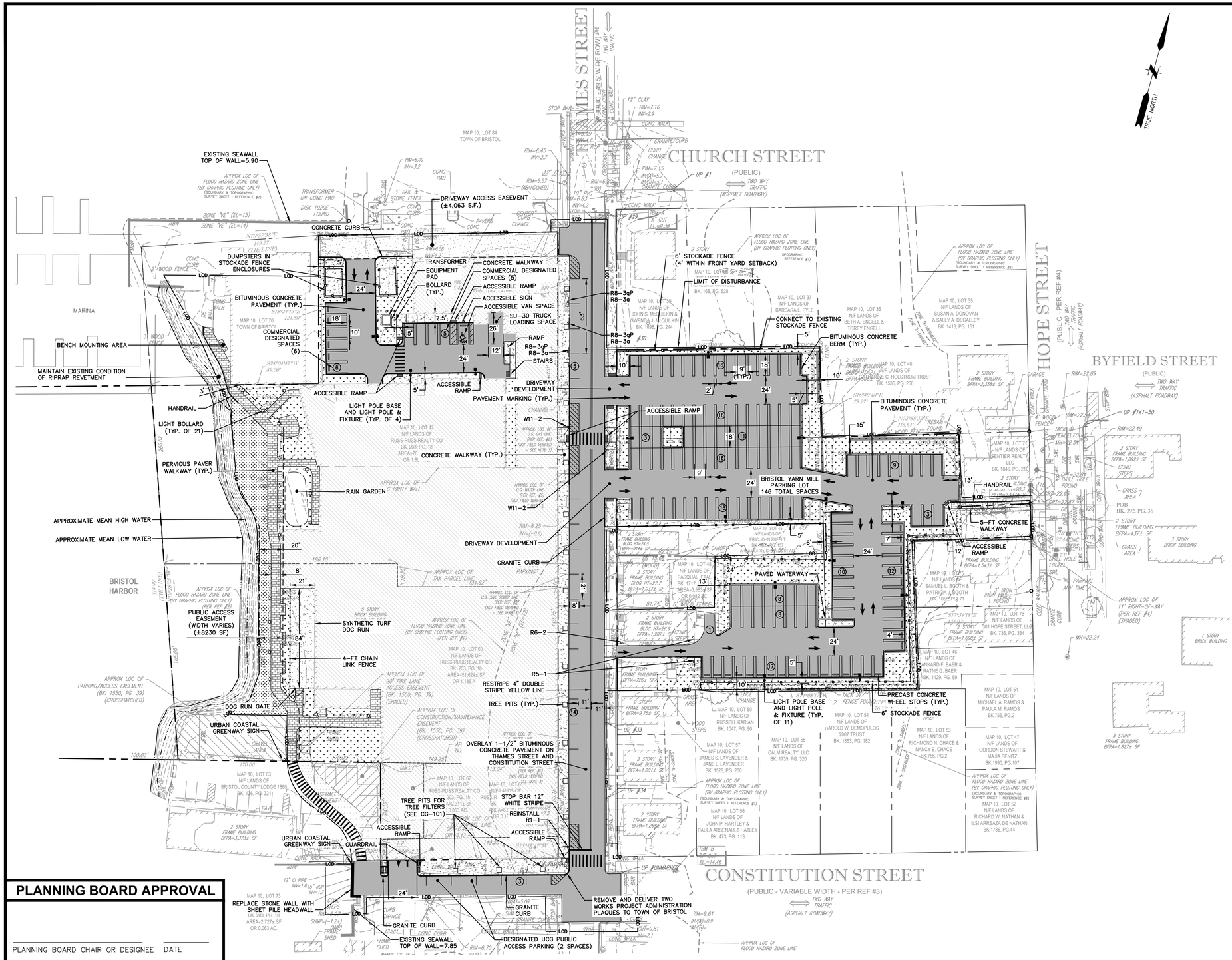

ZONING DIMENSION TABLE

CRITERIA	REQUIRED PER ZONING DISTRICT W	D	WPUD	PROPOSED (BUILDING SITE – LOTS 42,60,61,62,73)
MINIMUM LOT AREA	5,000 SF			142,226± SF (3.265 AC)
MINIMUM LOT AREA PER DWELLING UNIT	4,000 SF	2,500 SF	N/A	N/A
MINIMUM FRONTAGE	50'			149.25' CONSTITUTION STREET (MIN.)
MIMIMUM LOT WIDTH	50'			149.25' CONSTITUTION STREET (MIN.)
FRONT SETBACK	0'			–0.90'
SIDE SETBACK	0'			0.0'
REAR SETBACK	10'			30±' (TO APPROX. MEAN HIGH WATER)
MAX. BUILDING HEIGHT	35' (3 STORIES)			55' MAX.–4 STORIES (EXISTING)
MAX. LOT COVERAGE BY STRUCTURES	70%			83,153 S.F./142,226 S.F. = 58.5% (PROP.) 87,296 S.F./142,226 S.F. = 61.4% (EXIST.)
MAX. TOTAL COVERAGE	85%	95%	N/A	97,606 S.F./142,226 S.F. = 68.6%
MAX. FLOOR AREA RATIO	1.5	1.4	N/A	227,286 S.F./142,226 S.F. = 1.6±
IMPERVIOUS COVER	PARKING LOT SITE			51,237 S.F./66,327 S.F. = 77.2%

NOTES:
1. MILL BUILDING PROPERTIES COMBINED AREA IS APPROXIMATELY 142,226 SQUARE FEET.
2. TOTAL LAND AREA INCLUDED IN REDEVELOPMENT IS APPROXIMATELY 227,286 SQUARE FEET.
3. ALL PROJECT PARCELS ARE LOCATED WITHIN TOWN OF BRISTOL HISTORIC DISTRICT.

PARKING SUMMARY

	USE	REQUIRED	PROPOSED
RESIDENTIAL PARKING SPACES (ON–SITE)		127	125
RESIDENTIAL PARKING SPACES (OFF–SITE)		0	143
COMMERCIAL PARKING SPACES (ON–SITE)		11	11
317 HOPE STREET (LOT 71) – ZONE D	RES/COMM	0	0
325 HOPE STREET (LOT 43) – ZONE D	COMM	0	0
60 THAMES STREET (LOT 50) – ZONE W	SF RES	1	1
70 THAMES STREET (LOT 49) – ZONE W	MF RES	2	2
TOTAL PARKING SPACES:		141	282

RESIDENTIAL PARKING REQUIREMENT: 1 SPACE/D.U. (127 RESIDENTIAL W AND REHAB LDP ZONES)
COMMERCIAL PARKING REQUIREMENT: 1 SPACE/600 S.F. GFA (0 SPACES REQ'D FOR RESIDENTIAL, OFFICE, SERVICE, RETAIL, OR INSTITUTIONS WITHIN D ZONE) (6,479 S.F. / 600 S.F. = 11 SPACES
LOADING SPACE REQUIREMENT: 1 SPACE/3,000–19,999 S.F. OF GFA (6,479 S.F. = 1 SPACE

NOTES:
1. PARKING AND LOADING REQUIREMENTS SHALL COMPLY WITH ARTICLE VIII SEC. 28–251.
2. ON–STREET PARKING IS NOT INCLUDED IN THE CALCULATIONS.
3. THERE ARE 30 TOTAL COMPACT VEHICLE PARKING SPACES, 9 DESIGNATED MOTORCYCLE SPACES AND 24 BICYCLE SPACES WITHIN THE BASEMENT LEVEL OF 125 THAMES STREET. COMPACT PARKING SPACES ACCOUNTS FOR 10.6% OF TOTAL PARKING COUNT. MOTORCYCLE AND BICYCLE PARKING IS NOT INCLUDED IN THE CALCULATIONS.
4. 5 ADA SPACES AND 2 ADA VAN SPACES ARE PROVIDED FOR RESIDENTIAL UNITS WITHIN THE BASEMENT LEVEL OF 125 THAMES STREET.

NOTE:
MEAN HIGH WATER AND MEAN LOW WATER LINES SHOWN ARE APPROXIMATE BASED ON TIDAL DATUMS FROM THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION TIDE STATION NUMBER 8452154 LOCATED IN BRISTOL, RI.

PLANNING BOARD APPROVAL

PLANNING BOARD CHAIR OR DESIGNEE DATE

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
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2.	2/2/23	RIDEM AND CRMC PERMITTING APPLICATION	KLM	SMM
1.	1/25/23	PRELIMINARY PLAN RESPONSE TO TOWN COMMENTS	KLM	SMM

SEAL

SEAL

SCALE: HORZ.: 1"= 40' VERT.:
DATUM: HORZ.:NAD 1983 VERT.: NAD 1988
40 20 0 40
GRAPHIC SCALE

FUSS & O'NEILL
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BRADY SULLIVAN PROPERTIES, LLC

SITE PLAN

BRISTOL YARN MILL

125 THAMES STREET BRISTOL, RHODE ISLAND

PROJ. No.: 20061150.A22
DATE: DECEMBER 6, 2023

CS-101

SHEET 8 OF 28

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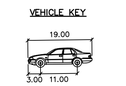

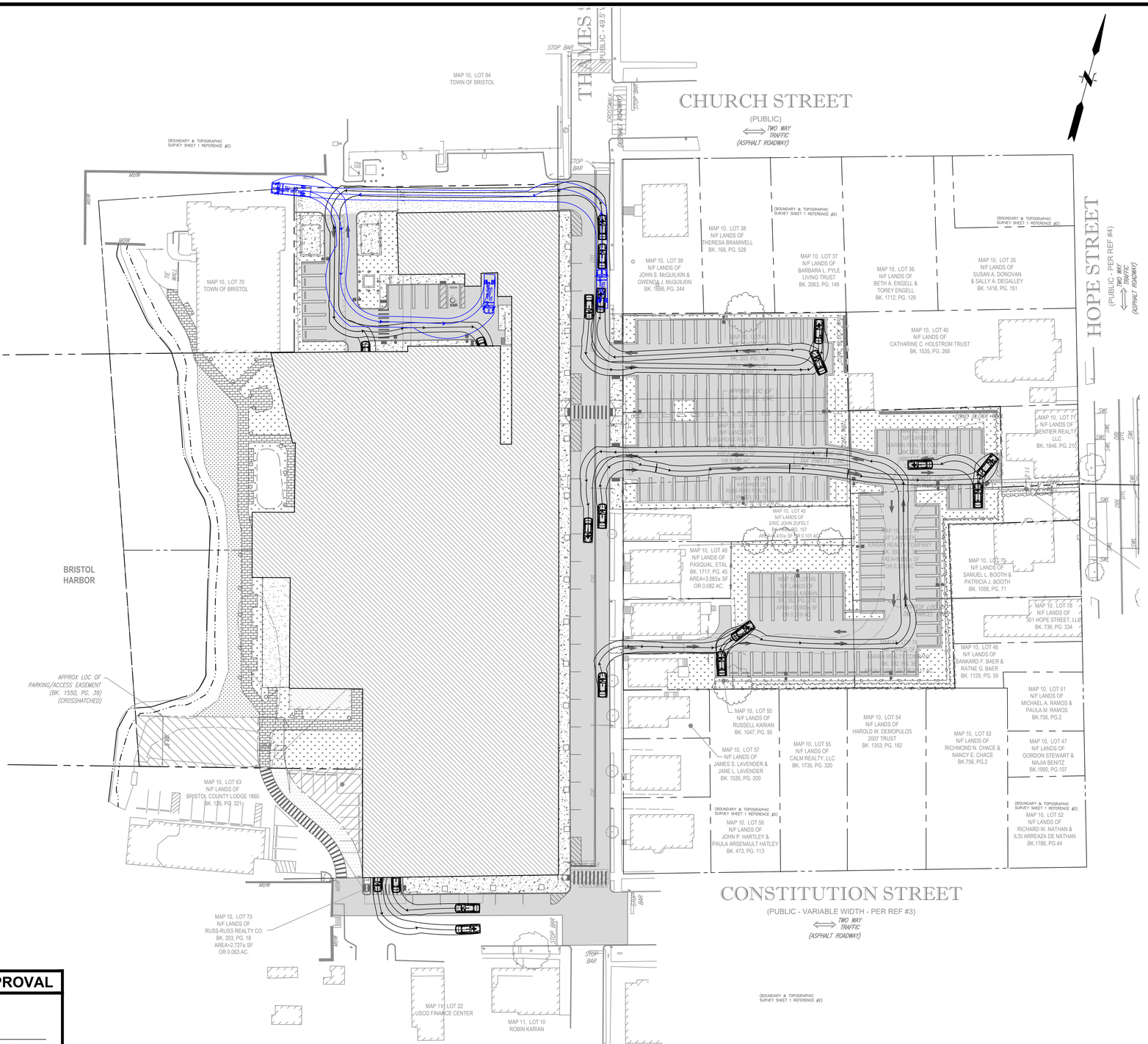

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1.	1/25/23	PRELIMINARY PLAN RESPONSE TO TOWN COMMENTS	KLM	SMM

SEAL

SEAL

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40 20 0 40
GRAPHIC SCALE

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317 IRON HORSE WAY, SUITE 204
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BRADY SULLIVAN PROPERTIES, LLC

SITE CIRCULATION PLAN

BRISTOL YARN MILL

125 THAMES STREET BRISTOL, RHODE ISLAND

PROJ. No.: 20061150.A22
DATE: DECEMBER 6, 2023

CS-102

SHEET 9 OF 28

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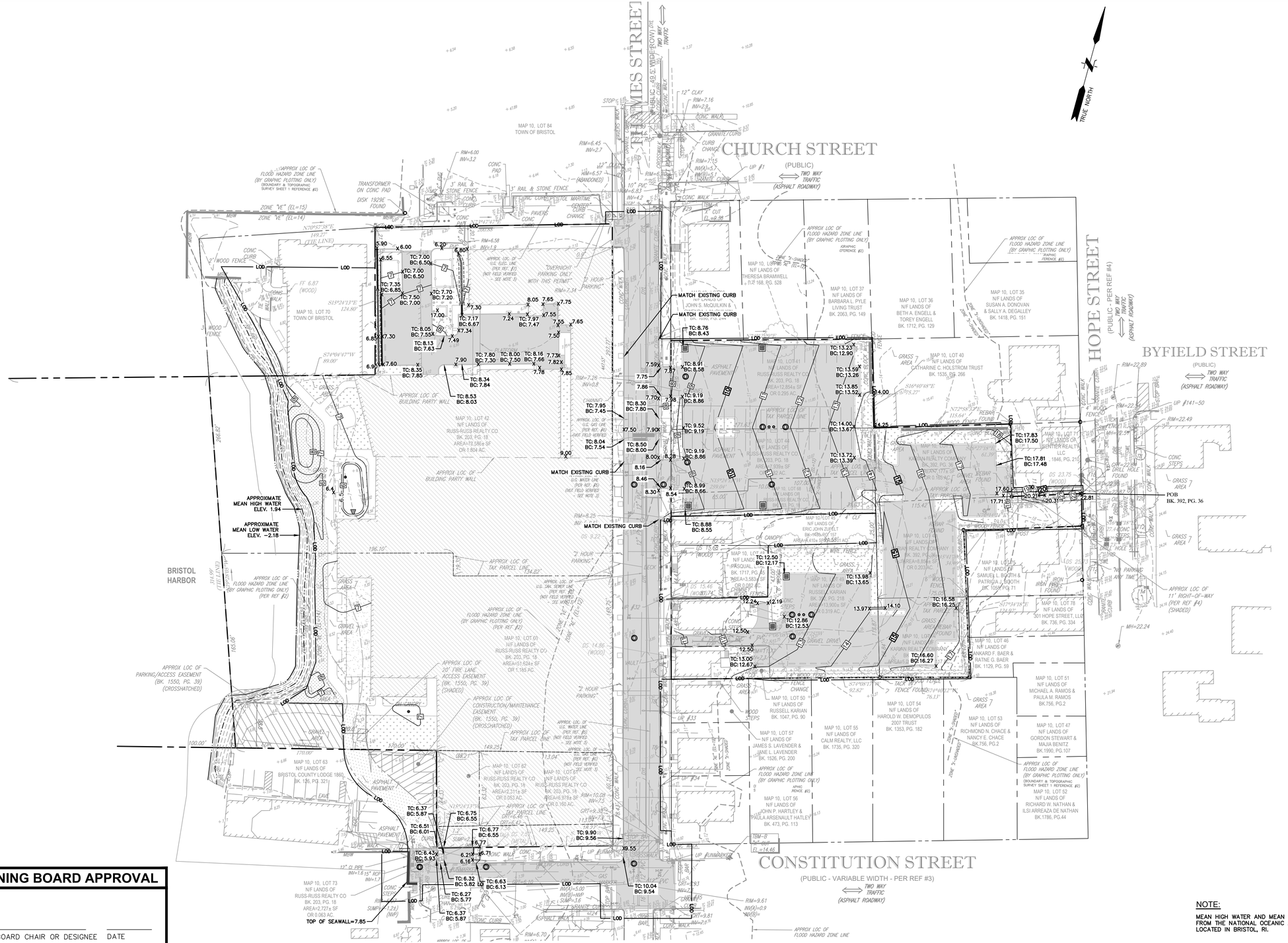

PLANNING BOARD APPROVAL

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1.	1/25/23	PRELIMINARY PLAN RESPONSE TO TOWN COMMENTS	KLM	SMM

SEAL

SEAL

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BRADY SULLIVAN PROPERTIES, LLC

GRADING PLAN

BRISTOL YARN MILL

125 THAMES STREET BRISTOL, RHODE ISLAND

PROJ. No.: 20061150.A22
DATE: DECEMBER 6, 2023

CG-101

SHEET 10 OF 28

File Path: \\private\DFS\CadProj\DWG\P2006\61150\A22\Civil\Plan\Permitting Plans\20061150A22_GRA01.dwg Layout: CG-101 Plotted: Fri, May 19, 2023 - 3:34 PM User: ajohnson
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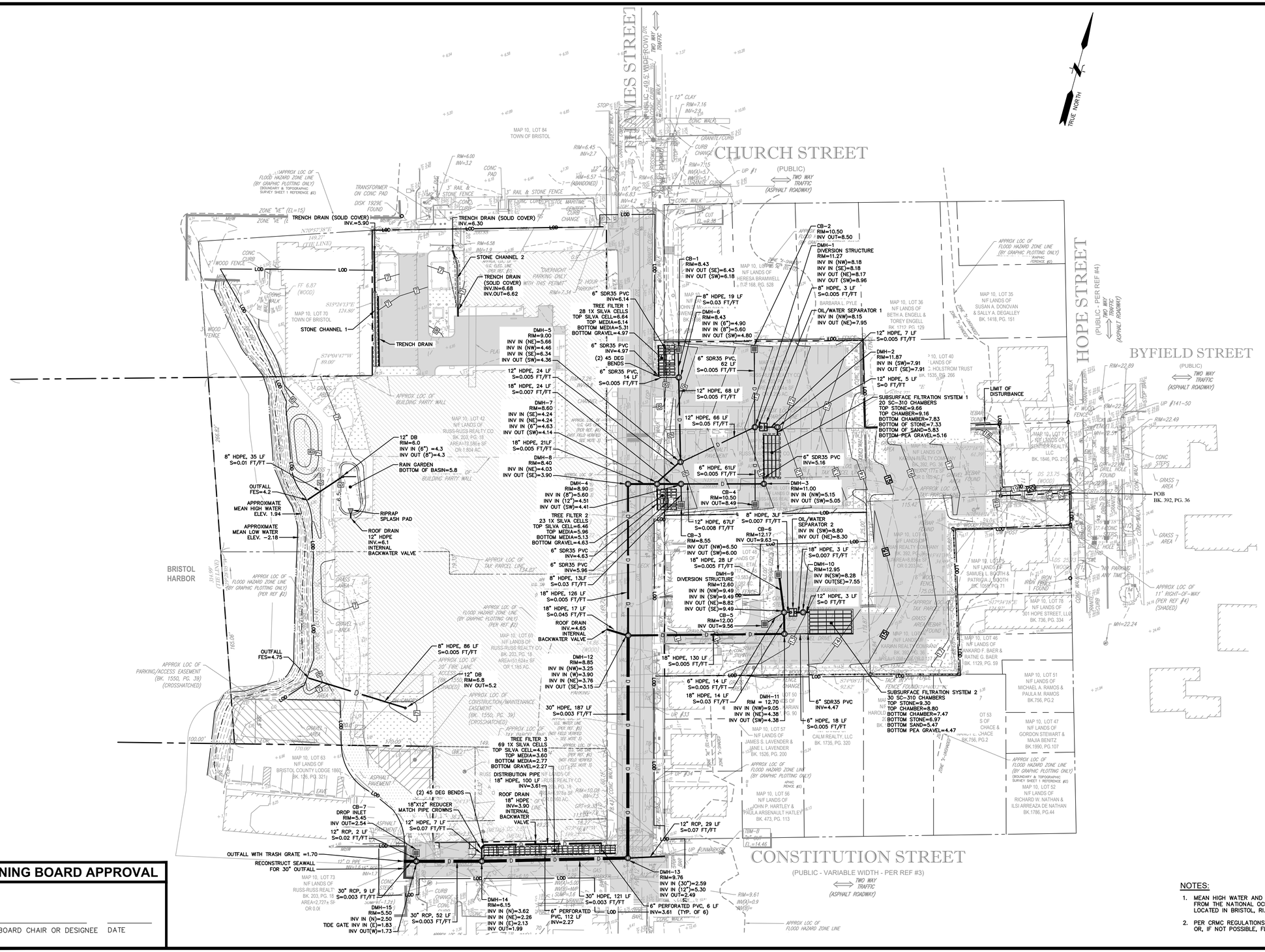
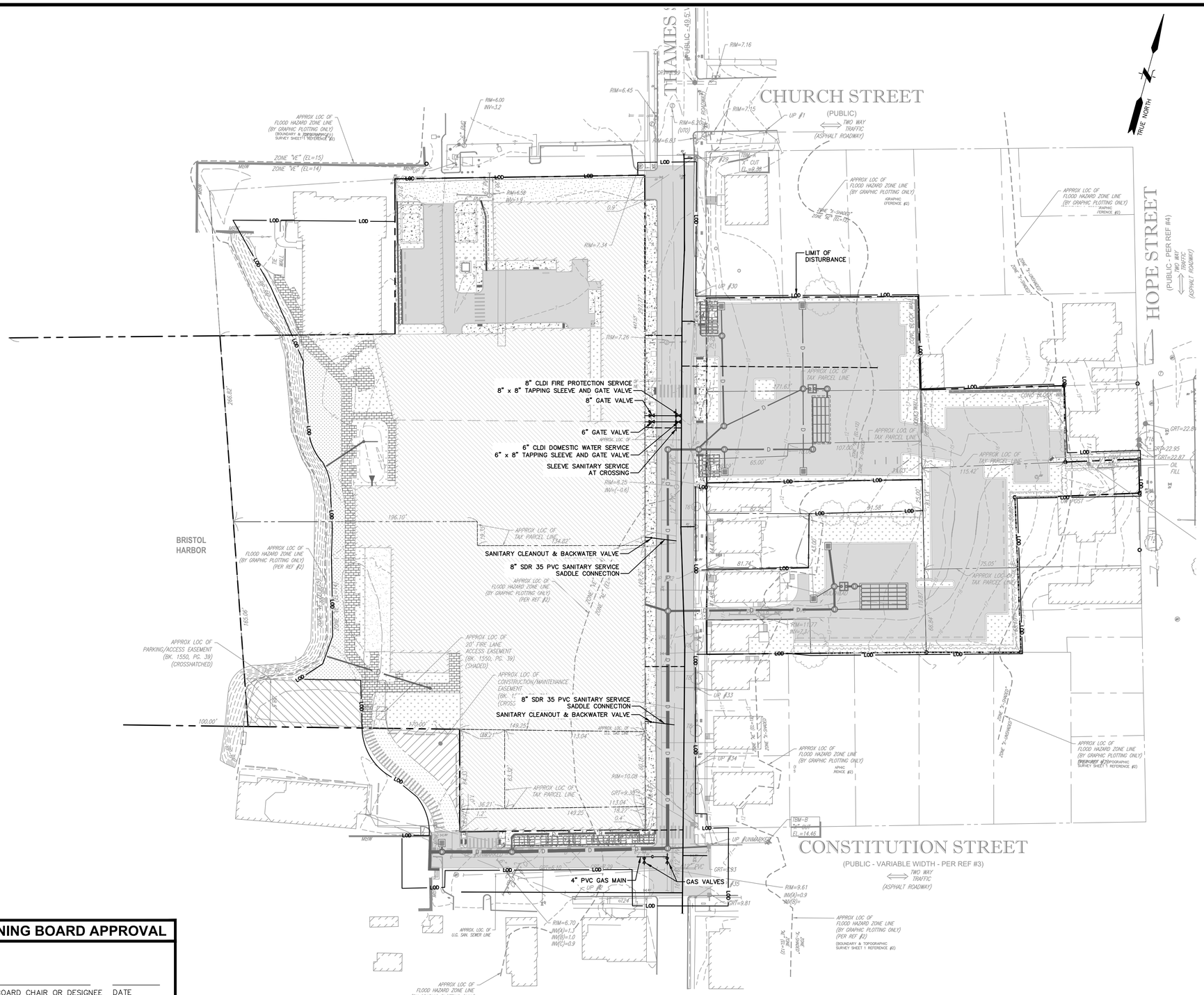

THAMES STREET
PUBLIC - 49.5' WIDE ROW
TWO WAY TRAFFIC
CHURCH STREET
(PUBLIC)
TWO WAY TRAFFIC
(ASPHALT ROADWAY)
HOPE STREET
(PUBLIC)
TWO WAY TRAFFIC
(ASPHALT ROADWAY)
BYFIELD STREET
(PUBLIC)
TWO WAY TRAFFIC
(ASPHALT ROADWAY)
CONSTITUTION STREET
(PUBLIC - VARIABLE WIDTH - PER REF #3)
TWO WAY TRAFFIC
(ASPHALT ROADWAY)
TRUE NORTH
BRISTOL HARBOR
MAP 10, LOT 84 TOWN OF BRISTOL
MAP 10, LOT 70 TOWN OF BRISTOL
MAP 10, LOT 63 N/F LANDS OF BRISTOL COUNTY LODGE 1866 BK. 1165, PG. 321
MAP 10, LOT 42 N/F LANDS OF RUSS-RUSS REALTY CO BK. 203, PG. 18 AREA=12,586± SF OR-1.804 AC.
MAP 10, LOT 73 N/F LANDS OF RUSS-RUSS REALTY BK. 203, PG. 18 AREA=2,727± SF OR 0.0(
MAP 10, LOT 60 N/F LANDS OF RUSS-RUSS REALTY CO BK. 203, PG. 18 AREA=51,624± SF OR-1.185 AC.
MAP 10, LOT 48 N/F LANDS OF BRISTOL ETAL
MAP 10, LOT 57 N/F LANDS OF JAMES S. LAVENDER & JANE L. LAVENDER BK. 1526, PG. 200
MAP 10, LOT 56 N/F LANDS OF JOHN P. HARTLEY & PAULA ARSENAULT HATLEY BK. 473, PG. 113
MAP 10, LOT 50 N/F LANDS OF VARIAN REALTY COMPANY BK. 392, PG. 36 AREA=8,884± SF OR 0.203AC.
MAP 10, LOT 49 N/F LANDS OF VARIAN REALTY COMPANY BK. 392, PG. 36
MAP 10, LOT 40 N/F LANDS OF HOLSTROM TRUST BK. 1535, PG. 266
MAP 10, LOT 36 N/F LANDS OF BETH A. ENGELL & TOREY ENGELL BK. 1713, PG. 129
MAP 10, LOT 35 N/F LANDS OF SUSAN A. DONOVAN & SALLY A. DEGALLEY BK. 1418, PG. 151
MAP 10, LOT 1 N/F LANDS OF BENTIER REALTY LLC BK. 1846, PG. 210
MAP 19, LOT 1 N/F LANDS OF SAMUEL L. BOOTH & PATRICIA J. BOOTH BK. 1054, PG 71
MAP 10, LOT 78 N/F LANDS OF 301 HOPE STREET, LLC BK. 736, PG. 334
MAP 10, LOT 46 N/F LANDS OF EDWARD F. BAER & KATHE G. BAER BK. 1129, PG. 59
MAP 10, LOT 51 N/F LANDS OF MICHAEL A. RAMOS & PAULA M. RAMOS BK.756, PG.2
MAP 10, LOT 47 N/F LANDS OF GORDON STEWART & MAJIA BENITZ BK.1990, PG.107
MAP 10, LOT 52 N/F LANDS OF RICHARD W. NATHAN & ILSI ARREAZA DE NATHAN BK.1786, PG.44
APPROX LOC OF FLOOD HAZARD ZONE LINE (BY GRAPHIC PLOTTING ONLY) (BOUNDARY & TOPOGRAPHIC SURVEY SHEET 1 REFERENCE #2)
ZONE "VE" (EL=15)
ZONE "VE" (EL
TRENCH DRAIN (SOLID COVER) INV.=5.90
TRENCH DRAIN (SOLID COVER) INV.=6.30
TRANSFORMER ON CONC PAD
DISK 1929 FOUND
3' RAIL & STONE FENCE
CONC PAD
CONC CURB
CONC WALK
GRANITE CURB
CURB CHANGE
UP #1
UP #141-50
UP #22
UP #23
UP #24
UP #25
UP #26
UP #27
UP #28
UP #29
UP #30
UP #31
UP #32
UP #33
UP #34
UP #35
UP #36
UP #37
UP #38
UP #39
UP #40
UP #41
UP


THAMES STREET
(PUBLIC - 49.5')
CHURCH STREET
(PUBLIC)
TWO WAY TRAFFIC
(ASPHALT ROADWAY)
HOPE STREET
(PUBLIC - PER REF #4)
TWO WAY TRAFFIC
(ASPHALT ROADWAY)
CONSTITUTION STREET
(PUBLIC - VARIABLE WIDTH - PER REF #3)
TWO WAY TRAFFIC
(ASPHALT ROADWAY)
BRISTOL HARBOR
TRUE NORTH
LIMIT OF DISTURBANCE
8" CLDI FIRE PROTECTION SERVICE
8" x 8" TAPPING SLEEVE AND GATE VALVE
8" GATE VALVE
6" GATE VALVE
6" CLDI DOMESTIC WATER SERVICE
6" x 8" TAPPING SLEEVE AND GATE VALVE
SLEEVE SANITARY SERVICE AT CROSSING
SANITARY CLEANOUT & BACKWATER VALVE
8" SDR 35 PVC SANITARY SERVICE SADDLE CONNECTION
8" SDR 35 PVC SANITARY SERVICE SADDLE CONNECTION
SANITARY CLEANOUT & BACKWATER VALVE
4" PVC GAS MAIN
GAS VALVES
APPROX LOC OF FLOOD HAZARD ZONE LINE (BY GRAPHIC PLOTTING ONLY) (BOUNDARY & TOPOGRAPHIC SURVEY SHEET 1 REFERENCE #2)
APPROX LOC OF FLOOD HAZARD ZONE LINE (BY GRAPHIC PLOTTING ONLY) (PER REF #2)
APPROX LOC OF FLOOD HAZARD ZONE LINE (BY GRAPHIC PLOTTING ONLY) (PER REF #3)
APPROX LOC OF PARKING/ACCESS EASEMENT (BK. 1550, PG. 39) (CROSSHATCHED)
APPROX LOC OF 20' FIRE LANE ACCESS EASEMENT (BK. 1550, PG. 39) (SHADED)
APPROX LOC OF CONSTRUCTION/MAINTENANCE EASEMENT (BK. 1550, PG. 39) (CROSSHATCHED)
APPROX LOC OF TAX PARCEL LINE
APPROX LOC OF U.G. SAN. SEWER LINE
ZONE "VE" (EL=15)
ZONE "VE" (EL=14)
ZONE "AE" (EL=12)
ZONE "X" (SHADED)
ZONE "X" (UNSHADED)
LOD
MBW
UP #1
UP #29
UP #30
UP #33
UP #34
UP #35
UP #UNNUMBERED
TBM-A
TBM-B
RIM=7.16
RIM=6.45
RIM=6.00
INV=3.2
RIM=6.30 (UTIL)
RIM=6.83
RIM=6.58
INV=1.8
RIM=7.34
RIM=7.26
RIM=8.25
INV=(-0.6)
RIM=7.15
RIM=11.77
INV=7.3
RIM=10.08
RIM=9.61
INV(A)=0.9
INV(B)=
RIM=9.81
RIM=6.70
INV(A)=1.3
INV(B)=1.0
INV(C)=0.9
GRT=22.87
GRT=22.95
GRT=22.87
GRT=9.93
GRT=9.81
GRT=9.34
OIL FILL
CONC BLOCK WALL
CONC "X-WARNING"
APPROX LOC OF FLOOD HAZARD ZONE LINE (BY GRAPHIC PLOTTING ONLY) (BOUNDARY & TOPOGRAPHIC SURVEY SHEET 1 REFERENCE #2)
APPROX LOC OF FLOOD HAZARD ZONE LINE (BY GRAPHIC PLOTTING ONLY) (GRAPHIC REFERENCE #2)
APPROX LOC OF FLOOD HAZARD ZONE LINE (BY GRAPHIC PLOTTING ONLY) (GRAPHIC REFERENCE #2)
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APPROX LOC OF FLOOD HAZARD ZONE LINE (BY GRAPHIC PLOTTING ONLY) (PER REF #2)
APPROX LOC OF FLOOD HAZARD ZONE LINE (BY GRAPHIC PLOTTING ONLY

PLANTING NOTES

1. CONTRACTOR SHALL SURVEY, LOCATE, AND PROTECT ALL TREES WITHIN AREAS SHOWN AS "EXISTING VEGETATION TO REMAIN" WITHIN THE DEVELOPMENT ENVELOPE FOR REVIEW BY L.A. PRIOR TO CLEARING OPERATIONS.
2. ALL PLANTING MATERIAL TO BE NURSERY GROWN STOCK SUBJECT TO A.A.N. STANDARDS. TREES SHALL BE TAGGED AND SUBMITTED TO L.A. THROUGH PHOTO SUBMISSION OR FIELD VISIT FOR SELECTION APPROVAL. TREES SHALL BE FIELD DUG.
3. THE CONTRACTOR SHALL SUPPLY ALL PLANTS IN QUANTITIES SUFFICIENT TO COMPLETE THE WORK SHOWN ON THE DRAWINGS AND LISTED IN THE PLANT LIST. IN THE EVENT OF A DISCREPANCY BETWEEN QUANTITIES SHOWN IN THE PLANT LIST AND THOSE REQUIRED BY THE DRAWINGS, THE LARGER NUMBER SHALL APPLY.
4. PRECISE LOCATION OF ITEMS NOT DIMENSIONED ON THE PLAN ARE TO BE FIELD STAKED BY THE CONTRACTOR AND SHALL BE SUBJECT TO THE REQUIREMENTS SPECIFIED IN THE PREVOUS NOTE.
5. ALL SHRUB MASSINGS AND TREE PITS SHALL BE MULCHED TO A DEPTH OF 3" WITH SHREDDED PINE BARK MULCH.
6. TREES SHALL NOT BE STAKED UNLESS OTHERWISE NOTED.
7. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGED VEGETATION AND SHALL REPLACE OR REPAIR ANY DAMAGED MATERIAL, AT HIS OWN EXPENSE.
8. ALL SHRUB AND GROUNDCOVER PLANTING AREAS SHALL HAVE CONTINUOUS BEDS OF TOPSOIL 12" DEEP. ALL SOD AND HYDROSEED AREAS SHALL HAVE A MINIMUM TOPSOIL BED OF 6".
9. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UTILITIES IN THE FIELD. WHERE PLANT MATERIAL MAY INTERFERE WITH UTILITIES, THE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT TO COORDINATE THEIR INSTALLATION.
10. A SOIL CAP IS REQUIRED FOR ANY LANDSCAPED AREAS ON THE MILL LOT SITE INCLUDING PLAT 10, LOTS 42, 60, 61, 62, AND 73.
11. FOR PLANTING SOIL MIX, SEE SPECIFICATIONS OR PLANTING DETAILS.
12. ALL EXISTING RILL, GULLY OR CHANNEL EROSION SHALL BE FILLED WITH APPROPRIATE BACKFILL MATERIAL, FINE RAKED, SCARIFIED AND STABILIZED WITH APPROPRIATE VEGETATIVE MATERIAL AND/OR APPROPRIATE SEDIMENTATION AND EROSION CONTROL MEASURES.
13. ADJUSTMENTS IN THE LOCATION OF THE PROPOSED PLANT MATERIAL AS A RESULT OF EXISTING VEGETATION TO REMAIN SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
14. THE CONTRACTOR IS RESPONSIBLE FOR ALL MAINTENANCE REPAIR AND REPLACEMENT OF PLANT MATERIAL, AS REQUIRED, FOR THE DURATION OF THE PROJECT AND SUBSEQUENT WARRANTY PERIOD.
15. PLANTINGS INSTALLED IN THE DRY SUMMER MONTHS AND/OR LAWN SEEDED OUT OF SPRING OR FALL PERIODS, IF ALLOWED BY OWNER, WILL REQUIRE AGGRESSIVE IRRIGATION PROGRAMS AT THE CONTRACTOR'S EXPENSE, UNLESS OTHERWISE DIRECTED BY THE OWNER.
16. UPON COMPLETION OF PLANTING, REMOVE FROM SITE ALL EXCESS SOIL, MULCH, AND MATERIALS AND DEBRIS RESULTING FROM WORK OPERATIONS. CLEAN UP SHOULD BE COMPLETED AT THE END OF EACH WORKING DAY. RESTORE TO ORIGINAL CONDITIONS ALL DAMAGED PAVEMENTS, PLANTING AREAS, STRUCTURES AND LAWN AREAS RESULTING FROM LANDSCAPING OPERATIONS.
17. CONTRACTOR TO RESEED ALL DISTURBED AREAS.

LEGEND

- LAWN SEED MIX
- BUFFER RESTORATION SEED MIX
- BUILDING

PLANNING BOARD APPROVAL

PLANNING BOARD CHAIR OR DESIGNEE DATE

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
4.	5/19/23	RESPONSE TO TRC AND PARE COMMENTS	KLM/MH	SMM
3.	3/27/23	PRELIMINARY PLAN RESPONSE TO TOWN COMMENTS	KLM	SMM
2.	2/2/23	RIDEM AND CRMC PERMITTING APPLICATION	KLM	SMM
1.	1/25/23	PRELIMINARY PLAN RESPONSE TO TOWN COMMENTS	KLM	SMM

SEAL

SEAL

SCALE:
HORZ.: 1"= 40'
VERT.:
DATUM:
HORZ.:NAD 1983
VERT.: NAD 1988
40 20 0 40
GRAPHIC SCALE

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317 IRON HORSE WAY, SUITE 204
PROVIDENCE, RI 02908
401.861.3070
www.fando.com

BRADY SULLIVAN PROPERTIES, LLC

PLANTING PLAN

BRISTOL YARN MILL

125 THAMES STREET BRISTOL, RHODE ISLAND

PROJ. No.: 20061150.A22
DATE: DECEMBER 6, 2023

LP-101

SHEET 13 OF 28

File Path: J:\DWG\P2006\1150\A22\Civil\Plan\Permitting Plans\20061150A22_LND01.dwg Layout: LP-101 Plotted: Mon, May 22, 2023 - 8:53 AM User: mhuang
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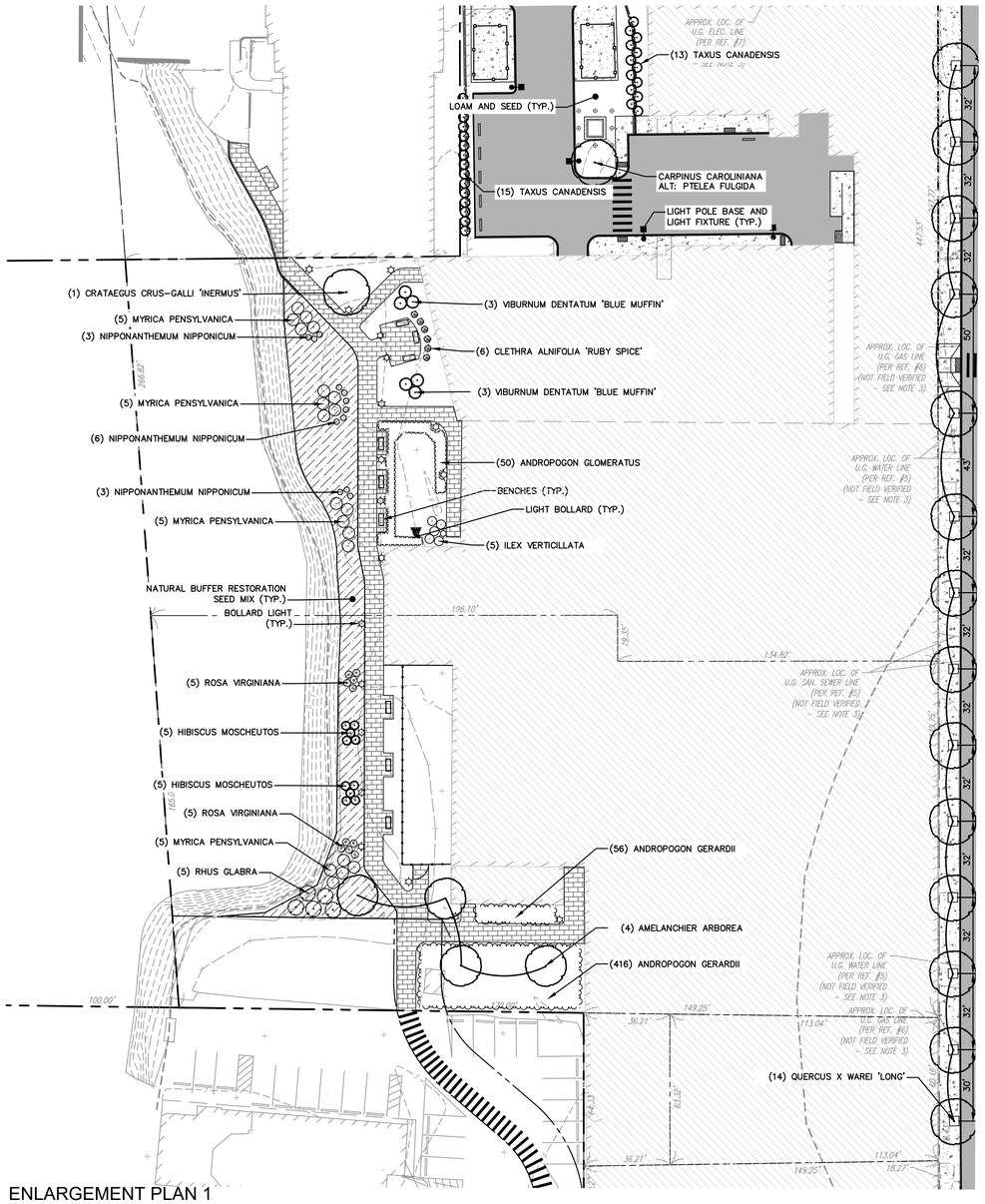
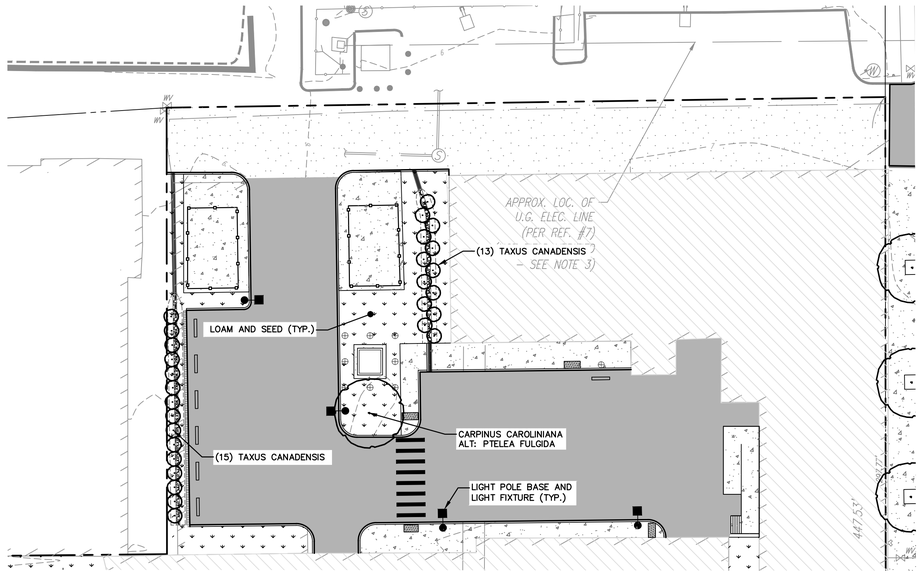


ENLARGEMENT PLAN 1

SCALE: 1" = 30'



ENLARGEMENT PLAN 2

SCALE: 1" = 20'

PLANT LIST

BOTANICAL NAME	COMMON NAME	QTY.	SIZE
ENLARGEMENT 1			
TREE			
CRATAEGUS CRUS–GALLI 'INERMUS'	THORNLESS COCKSPUR HAWTHORN	1	3.5" CALIPER
QUERCUS X WAREI 'LONG'	FASTIGIATE OAK	14	1.5–2" CALIPER
SHRUBS			
AMELANCHIER ARBOREA	DOWNY SERVICEBERRY	4	6–8' B&B
CLETHRA ALNIFOLIA 'RUBY SPICE'	SWEET PEPPERBUSH	6	3 GAL.
ILEX VERTICILLATA	WINTERBERRY	5	3 GAL.
MYRICA PENSYLVANICA	BAYBERRY	20	MIXED
NIPPONANTHEMUM NIPPONICUM	NIPPON DAISY	12	2 GAL.
RHUS GLABRA	SMOOTH SUMAC	5	3 GAL.
ROSA VIRGINIANA	VIRGINIA ROSE	10	2 GAL.
VIBURNUM DENTATUM 'BLUE MUFFIN'	ARROWWOOD VIBURNUM	6	3'–4' B&B
PERENNIALS/GRASSES			
ANDROPOGON GERARDII	BIG BLUESTEM	472	2 GAL.
ANDROPOGON GLOMERATUS	BUSH BLUESTEM	50	2 GAL.
HIBISCUS MOSCHEUTOS VAR.	SWAMP ROSA MALLOW	10	3 GAL.
ENLARGEMENT 2			
TREES			
CARPINUS CAROLINIANA	AMERICAN HORNBEAM	1	3.5" CALIPER
SHRUBS			
TAXUS CANADENSIS	AMERICAN YEW	28	1 GAL.

NOTES:
1. ALL PLANTS TO BE LAID OUT IN FIELD AND PLACEMENT TO BE APPROVED PRIOR TO FINAL INSTALLATION BY L.A. AND OWNER.
2. INFILL ALL THE AREAS BETWEEN THE PLANTS ON THE WEST SIDE OF THE PUBLIC ACCESS WALKWAY WITH NATURAL BUFFER RESTORATION SEED MIX OR APPROVED EQUAL.
   2.1. SEEDING RATE: 35 POUNDS PER ACRE
   2.2. MOW ONCE ANNUALLY AFTER OCTOBER 1 OR PRIOR TO APRIL 15
   2.3. SEED MIX INCLUDES: COMMON EASTERN WILD–RYE (ELYMUS VIRGINICUS), CREEPING RED FESCUE (FESTUCA RUBRA), BIG BLUE–STEM (ANDROPROGON GERORDII), LITTLE BLUESTEM (SCHIZACHYRIUM SCOPARIUM), INDIAN GRASS (SORGHASTRUM NUTANS), SWITCH GRASS (PANICUM VIRGATUM), SAND DROPSEED (SPOROBOLUS CRYPTANDRUS), SMOOTH CORDGRASS (SPARTINA ALTERNIFLORA)

PLANNING BOARD APPROVAL

PLANNING BOARD CHAIR OR DESIGNEE DATE

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
4.	5/19/23	RESPONSE TO TRC AND PARE COMMENTS	KLM/MH	SMM
3.	3/27/23	PRELIMINARY PLAN RESPONSE TO TOWN COMMENTS	KLM	SMM
2.	2/2/23	RIDEM AND CRMC PERMITTING APPLICATION	KLM	SMM
1.	1/25/23	PRELIMINARY PLAN RESPONSE TO TOWN COMMENTS	KLM	SMM

SEAL

SEAL

SCALE:
HORZ.: 1"= 40'
VERT.:
DATUM:
HORZ.:NAD 1983
VERT.: NAD 1988
40 20 0 40
GRAPHIC SCALE

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317 IRON HORSE WAY, SUITE 204
PROVIDENCE, RI 02908
401.861.3070
www.fando.com

BRADY SULLIVAN PROPERTIES, LLC

ENLARGEMENT PLANTING PLAN

BRISTOL YARN MILL

125 THAMES STREET BRISTOL, RHODE ISLAND

PROJ. No.: 20061150.A22
DATE: DECEMBER 6, 2023

LP-102

SHEET 14 OF 28

File Path: J:\DWG\P20061150A22\Civil\Plan\Permitting Plans\20061150A22_LND01.dwg Layout: LP-102 Plotted: Mon, May 22, 2023 - 8:53 AM User: mhuang
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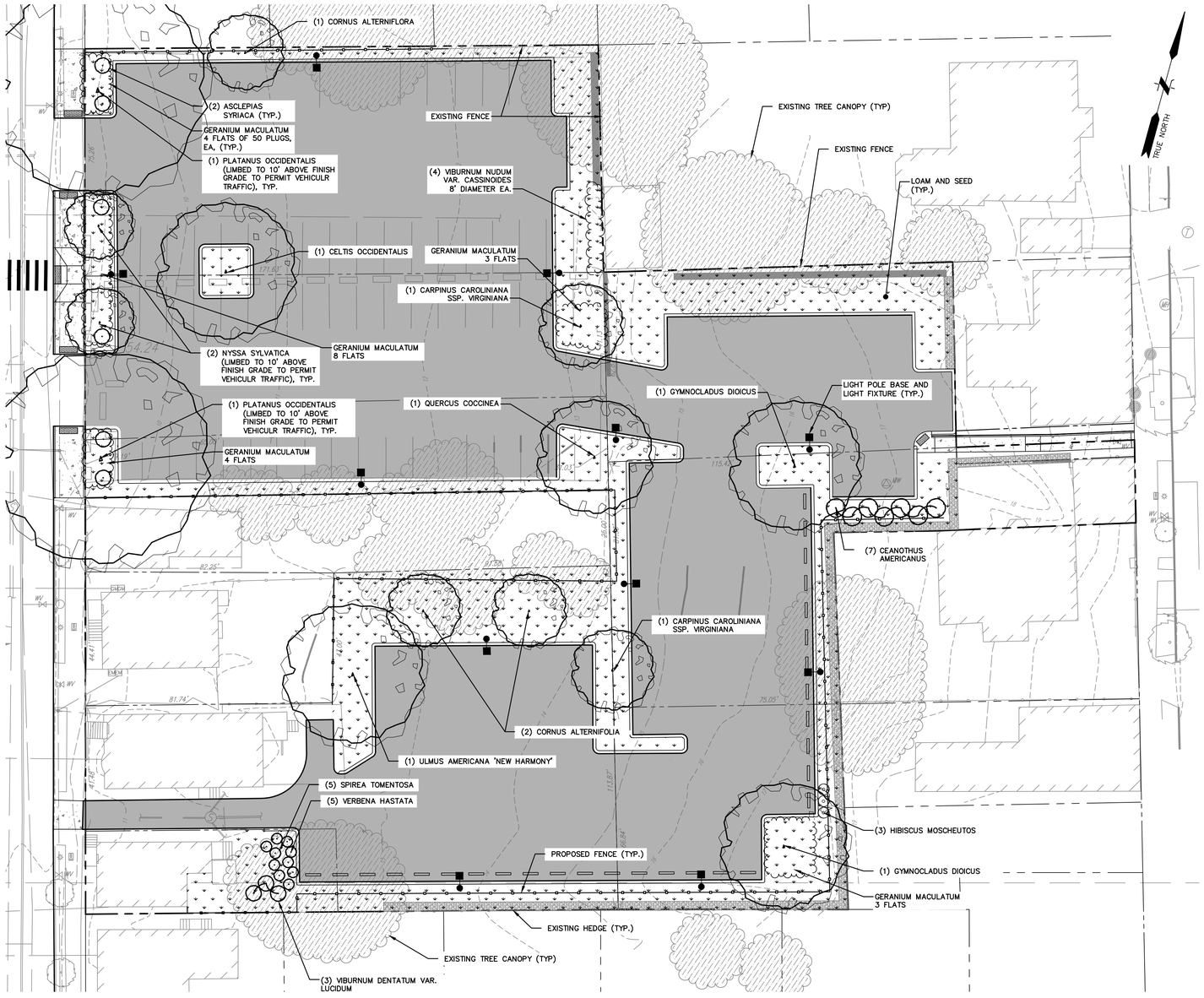
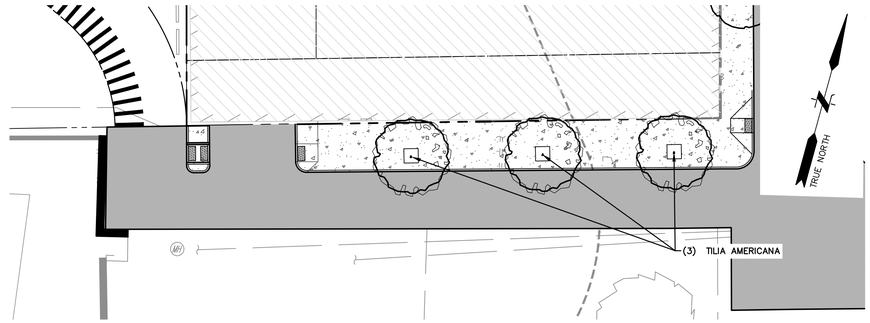


ENLARGEMENT PLAN 3

SCALE: 1" = 20'



ENLARGEMENT PLAN 4

SCALE: 1" = 20'

PLANT LIST

BOTANICAL NAME	COMMON NAME	QTY.	SIZE
ENLARGEMENT 3			
TREES			
CARPINUS CAROLINIANA SSP. VIRGINIANA	AMERICAN HORNBEAM	2	3.5" CALIPER
CELTIS OCCIDENTALIS	COMMON HACKBERRY	1	3.5" CALIPER
CORNUS ALTERNIFOLIA	PAGODA DOGWOOD	3	3.5" CALIPER
GYMNOCLADUS DIOICUS	KENTUCKY COFFEE TREE	2	3.5" CALIPER
NYSSA SYLVATICA	BLACK GUM	2	3.5" CALIPER
PLATANUS OCCIDENTALIS	COMMON SYCAMORE	2	3.5" CALIPER
QUERCUS COCCINEA	SCARLET OAK	1	3.5" CALIPER
ULMUS AMERICANA 'NEW HARMONY'	NEW HARMONY AMERICAN ELM	1	3.5" CALIPER
SHRUBS			
ASCLEPIAS SYRIACA	COMMON MILKWEED	12	2 GAL.
CEANOTHUS AMERICANUS	NEW JERSEY TEA	7	2 GAL.
VIBURNUM DENTATUM VAR. LUCIDUM	SMOOTH ARROWWOOD VIBURNUM	3	3'–4' B&B
VREBENA HASTATA	BLUE VERVAIN	5	3 GAL.
VIBURNUM NUDUM VAR. CASSINOIDES	WITHE ROD VIBURNUM	4	3'–4' B&B
PERENNIALS/GRASSES			
GERANIUM MACULATUM	SPOTTED CRANE'S BILL	1100	22 FLATS
HIBISCUS MOSCHEUTOS	SWAMP ROSE MALLOW	3	2 GAL.
SPIREA TOMENTOSA	STEEPLEBUSH	5	2 GAL.
ENLARGEMENT 4			
TREES			
SILVER LINDEN	TILIA TOMENTOSA	3	3.5" CALIPER

NOTE:
ALL PLANTS TO BE LAID OUT IN FIELD AND PLACEMENT TO BE APPROVED PRIOR TO FINAL INSTALLATION BY L.A. AND OWNER.

PLANNING BOARD APPROVAL

PLANNING BOARD CHAIR OR DESIGNEE DATE

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
4.	5/19/23	RESPONSE TO TRC AND PARE COMMENTS	KLM/MH	SMM
3.	3/27/23	PRELIMINARY PLAN RESPONSE TO TOWN COMMENTS	KLM	SMM
2.	2/2/23	RIDEM AND CRMC PERMITTING APPLICATION	KLM	SMM
1.	1/25/23	PRELIMINARY PLAN RESPONSE TO TOWN COMMENTS	KLM	SMM

SEAL

SEAL

SCALE:
HORZ.: 1"= 40'
VERT.:
DATUM:
HORZ.:NAD 1983
VERT.: NAD 1988
40 20 0 40
GRAPHIC SCALE

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317 IRON HORSE WAY, SUITE 204
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BRADY SULLIVAN PROPERTIES, LLC

ENLARGEMENT PLANTING PLAN

BRISTOL YARN MILL

125 THAMES STREET BRISTOL, RHODE ISLAND

PROJ. No.: 20061150.A22
DATE: DECEMBER 6, 2023

LP-103

SHEET 15 OF 28

File Path: J:\DWG\P2006\1150\A22\Civil\Plan\Permitting Plans\20061150A22_LND01.dwg Layout: LP-103 Plotted: Mon, May 22, 2023 - 8:53 AM User: mhuang
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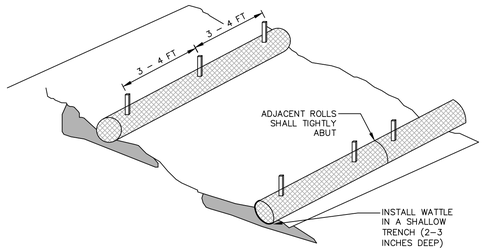
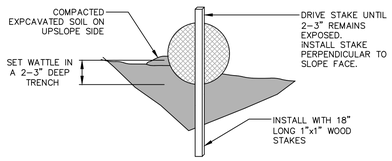


TYPICAL WATTLE INSTALLATION GUIDE

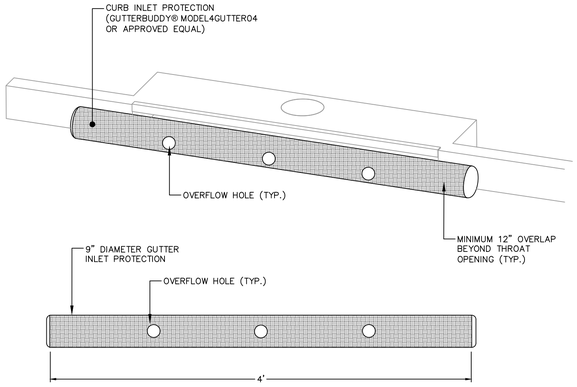


ENTRENCHMENT

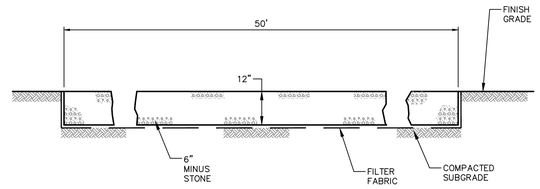
NOTES:

1. WATTLES SHALL BE TRENCHED APPROXIMATE 2–3 INCHES AND STAKED SUCH THAT WATTLES DIRECTLY CONTACT SOIL AND PRECLUDE UNDERMINING OR BLOWOUTS. THE TRENCH SHALL BE APPROXIMATELY 9 INCHES WIDE. STAKES SHALL BE DRIVEN THROUGH THE CENTER OF THE WATTLE AT A SPACING OF 3–4 FEET ON CENTER AND NO GREATER THAN 6"FROM THE EACH END OF THE WATTLE. STAKES SHALL BE 1–INCH BY 1–INCH WOODEN STAKES WITH A LENGTH OF 18 INCHES. COMPACT SOIL EXCAVATED TO CREATE TRENCH ON UPHILL SIDE SIDE.
2. ENDS OF ADJACENT WATTLES SHALL BE TIGHTLY BUTTED OR OVERLAPPED SO THAT NO OPENING EXISTS FOR WATER TO PASS THROUGH. WATTLES SHALL BE FREE OF DAMAGE OR DEFECTS WHEN DELIVERED TO THE SHIPPER. NO VEHICLES SHALL BE DRIVEN OVER WATTLES.
3. WATTLES SHALL BE 12–INCH SEDIMAX–FR™ FILTRATION ROLL MANUFACTURED BY NORTH AMERICAN GREEN, OR APPROVED EQUAL.

WATTLES
NOT TO SCALE



CURB INLET PROTECTION
NOT TO SCALE



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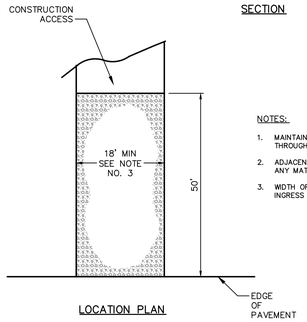
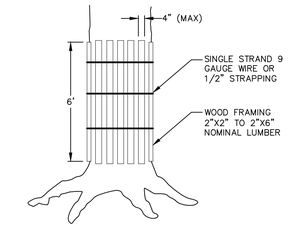


LOCATION PLAN

NOTES:

1. MAINTAIN ANTI–TRACKING APRON IN GOOD CONDITION THROUGHOUT CONSTRUCTION PERIOD.
2. ADJACENT ROADWAY SHALL BE SWEPT DAILY TO REMOVE ANY MATERIAL THAT MAY BE TRACKED ONTO PAVEMENT.
3. WIDTH OF APRON SHALL NOT BE LESS THAN WIDTH OF INGRESS OR EGRESS.

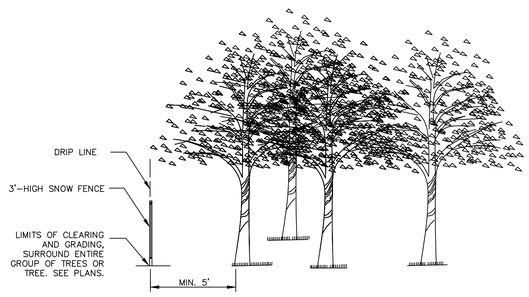
CONSTRUCTION ACCESS
NOT TO SCALE



NOTE:

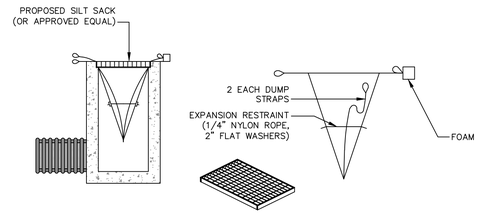
SHALL BE IN ACCORDANCE WITH SECTION L.11 OF THE STANDARD SPECIFICATIONS.

INDIVIDUAL TREE

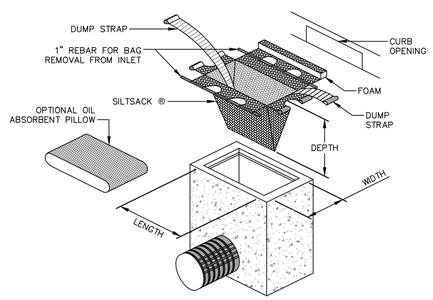


GROUPING OF TREES

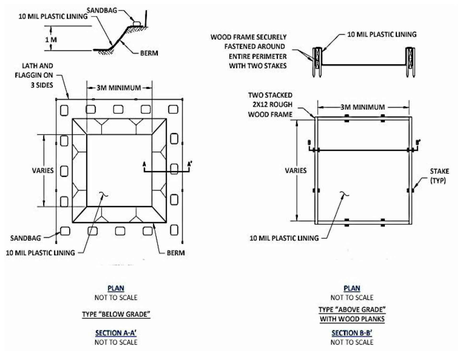
TREE PROTECTION
NOT TO SCALE



INSTALLATION DETAIL BAG DETAIL



CATCH BASIN INLET PROTECTION
NOT TO SCALE



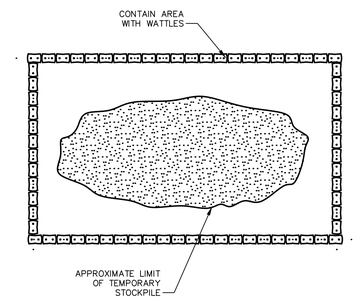
NOTES:

1. ACTUAL LAYOUT DETERMINED IN THE FIELD.
2. FOR REFERENCE PURPOSES ONLY. NOT FOR CONSTRUCTION PURPOSES.

REFERENCE:

RHODE ISLAND SOIL EROSION AND SEDIMENT CONTROL HANDBOOK, ISSUED 1989 (REVISED 2014)

TEMPORARY CONCRETE WASHOUT FACILITY
NOT TO SCALE



TEMPORARY SOIL STOCKPILE
NOT TO SCALE

PLANNING BOARD APPROVAL

PLANNING BOARD CHAIR OR DESIGNEE DATE

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
4.	5/19/23	RESPONSE TO TRC AND PARE COMMENTS	KLM/MH	SMM
3.	3/27/23	PRELIMINARY PLAN RESPONSE TO TOWN COMMENTS	KLM	SMM
2.	2/2/23	RIDEM AND CRMC PERMITTING APPLICATION	KLM	SMM
1.	1/25/23	PRELIMINARY PLAN RESPONSE TO TOWN COMMENTS	KLM	SMM

SEAL

SEAL

SCALE: HORZ.: AS NOTED VERT.:
DATUM: HORZ.: VERT.:
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BRADY SULLIVAN PROPERTIES, LLC

DETAILS

BRISTOL YARN MILL

125 THAMES STREET BRISTOL, RHODE ISLAND

PROJ. No.: 20061150.A22
DATE: DECEMBER 6, 2023

CD-501

SHEET 16 OF 28

File Path: \\private\DFS\CadProj\DWG\P20061150A22\Civil\Plan\Permitting Plans\20061150A22_DET01.dwg Layout: CD-501 Plotted: Fri, May 19, 2023 - 3:36 PM User: ajohnson
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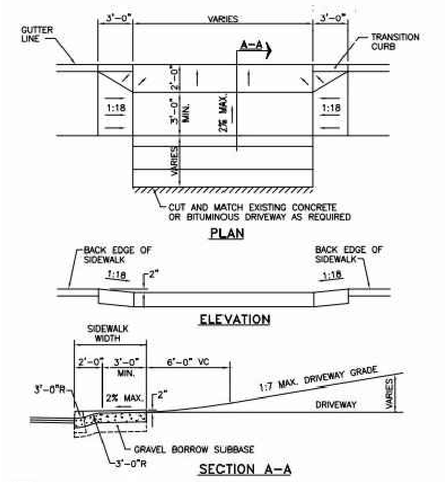
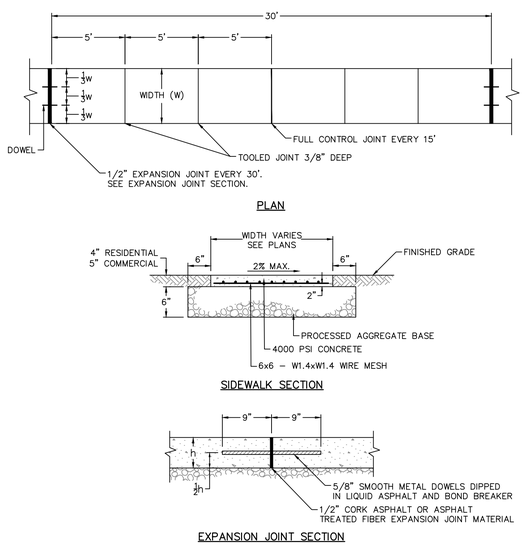
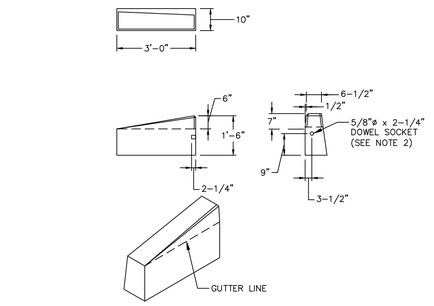


NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 905 OF THE R.I. STANDARD SPECIFICATIONS.
2. WHEN DRIVEWAY IS BELOW BACK EDGE OF SIDEWALK PROFILE, STD. 43.4.1 MUST BE USED.

DRIVEWAY DEVELOPMENT
NOT TO SCALE

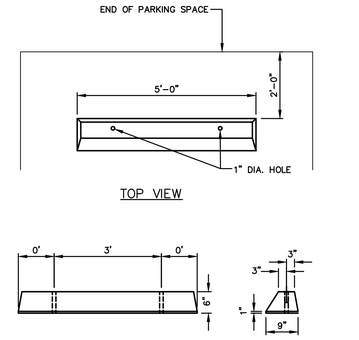


CONCRETE SIDEWALK
NOT TO SCALE



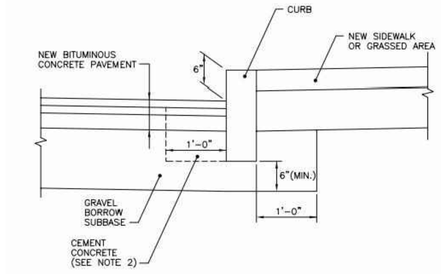
NOTE:
1. SHALL BE IN ACCORDANCE WITH SECTION 906 OF R.I. STANDARD SPECIFICATIONS.
2. DRAWING SHOWS TRANSITION CURB FOR ONE DIRECTION, FOR OTHER DIRECTION USE OPPOSITE HAND AND INCLUDE A 1/2"ø x 4" EPOXY COATED DOWEL.
3. EXPOSED SURFACES TO HAVE A SPONGE FLOAT FINISH.
4. EXPOSED EDGES TO HAVE A 3/4" CHAMFER.
5. LEFT AND RIGHT SECTIONS SHALL BE INSTALLED AS REQUIRED.

GRANITE TRANSITION CURB
NOT TO SCALE



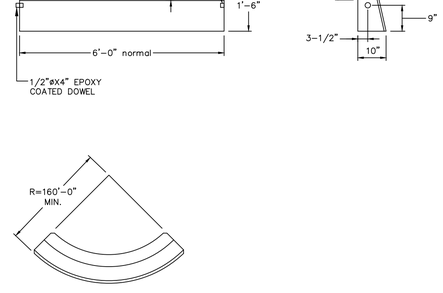
NOTES:
1. ALL SURFACES TO HAVE A SPONGE FLOAT FINISH.
2. EACH PRECAST CONCRETE CAR STOP SHALL BE FURNISHED WITH TWO 3/4"X 18" STEEL RODS.
3. ALL EXPOSED EDGES TO HAVE A 3/4" CHAMFER.

PRECAST CONCRETE WHEEL STOPS
NOT TO SCALE



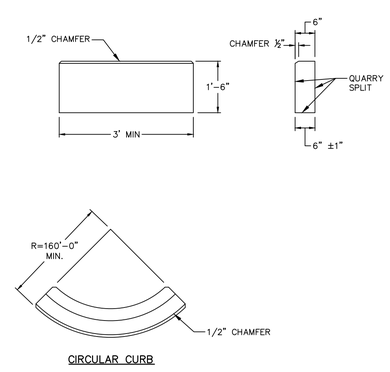
NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 906 OF THE R.I. STANDARD SPECIFICATIONS.
2. CEMENT CONCRETE SHALL BE USED ONLY WHEN THE CURB IS SET AFTER THE BASE AND/OR BINDER COURSES ARE IN PLACE, OTHERWISE THE CEMENT CONCRETE WILL BE ELIMINATED AND THE GRAVEL BROUGHT UP TO BOTTOM OF THE BASE COURSE.

CURB SETTING
NOT TO SCALE



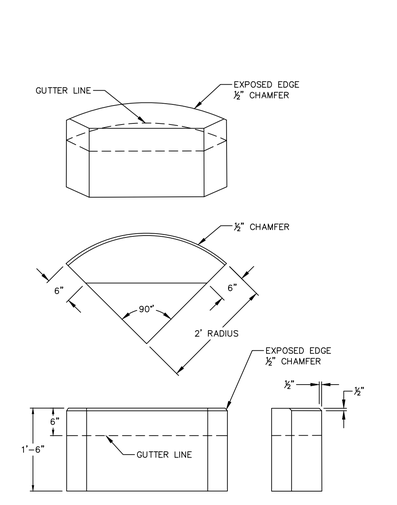
NOTE:
1. SHALL BE IN ACCORDANCE WITH SECTION 906 OF R.I. STANDARD SPECIFICATIONS.
2. MINIMUM LENGTH OF STRAIGHT OR CIRCULAR FILLER PIECES TO BE 3'-0".
3. EXPOSED SURFACES TO HAVE A SPONGE FLOAT FINISH.
4. CIRCULAR CURB IS REQUIRED ON CURVES WITH RADII OF 160'-0" OR LESS. STRAIGHT CURB TO BE USED ON CURVES OF MORE THAN 160'-0" RADIUS.
5. EXPOSED EDGES TO HAVE A 3/4" CHAMFER.

CONCRETE CURB
NOT TO SCALE



NOTE:
1. SHALL BE IN ACCORDANCE WITH SECTION 906 OF R.I. STANDARD SPECIFICATIONS.
2. TOP SURFACE TO BE DRESSED BY SAW. REMAINDER MAY BE QUARRY SPLIT.
3. MINIMUM LENGTH OF STRAIGHT OR CIRCULAR PIECES TO BE 3'-0".
4. CIRCULAR CURB IS REQUIRED ON CURVES WITH RADII OF 160'-0" OR LESS. STRAIGHT CURB TO BE USED ON CURVES OF MORE THAN 160'-0" RADIUS.

GRANITE CURB
NOT TO SCALE



NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 906 OF THE R.I. STANDARD SPECIFICATIONS.
2. TOP SURFACE TO BE DRESSED BY SAW. REMAINDER MAY BE QUARRY SPLIT.

GRANITE RADIUS CURB
NOT TO SCALE

PLANNING BOARD APPROVAL

PLANNING BOARD CHAIR OR DESIGNEE DATE

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
4.	5/19/23	RESPONSE TO TRC AND PARE COMMENTS	KLM/MH	SMM
3.	3/27/23	PRELIMINARY PLAN RESPONSE TO TOWN COMMENTS	KLM	SMM
2.	2/2/23	RIDEM AND CRMC PERMITTING APPLICATION	KLM	SMM
1.	1/25/23	PRELIMINARY PLAN RESPONSE TO TOWN COMMENTS	KLM	SMM

SEAL

SEAL

SCALE:
HORZ.: AS NOTED
VERT.:
DATUM:
HORZ.:
VERT.:
0
GRAPHIC SCALE

FUSS & O'NEILL
317 IRON HORSE WAY, SUITE 204
PROVIDENCE, RI 02908
401.861.3070
www.fando.com

BRADY SULLIVAN PROPERTIES, LLC

DETAILS

BRISTOL YARN MILL

125 THAMES STREET BRISTOL, RHODE ISLAND

PROJ. No.: 20061150.A22
DATE: DECEMBER 6, 2023

CD-502

SHEET 17 OF 28

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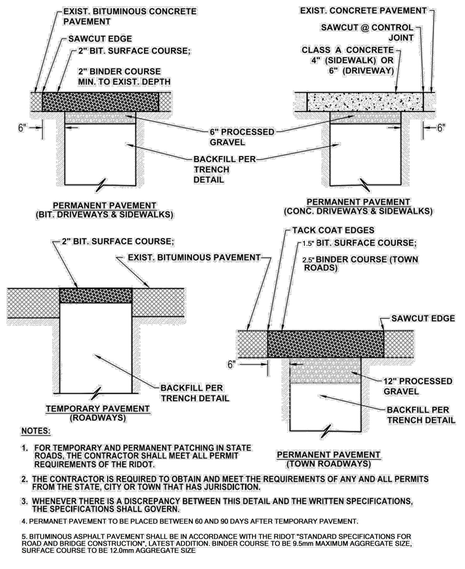
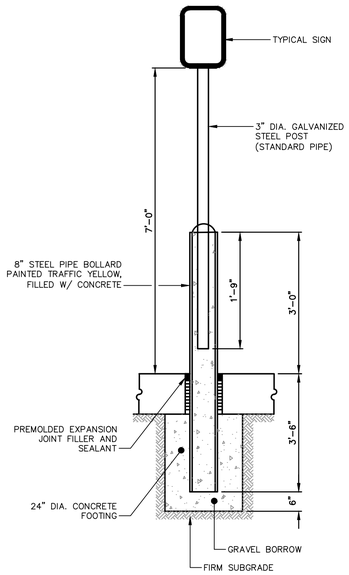


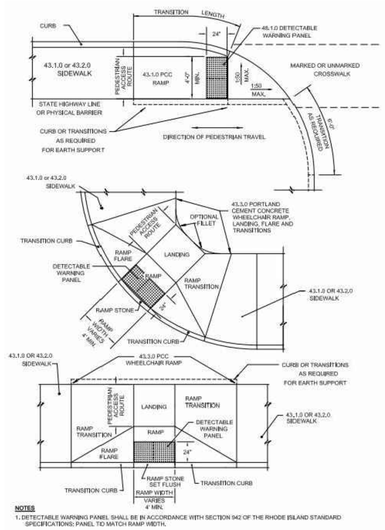
NOTES:

1. FOR TEMPORARY AND PERMANENT PATCHING IN STATE ROADS, THE CONTRACTOR SHALL MEET ALL PERMIT REQUIREMENTS OF THE RIDOT.
2. THE CONTRACTOR IS REQUIRED TO OBTAIN AND MEET THE REQUIREMENTS OF ANY AND ALL PERMITS FROM THE STATE, CITY OR TOWN THAT HAS JURISDICTION.
3. WHENEVER THERE IS A DISCREPANCY BETWEEN THIS DETAIL AND THE WRITTEN SPECIFICATIONS, THE SPECIFICATIONS SHALL GOVERN.
4. PERMANET PAVEMENT TO BE PLACED BETWEEN 60 AND 90 DAYS AFTER TEMPORARY PAVEMENT.
5. BITUMINOUS ASPHALT PAVEMENT SHALL BE IN ACCORDANCE WITH THE RIDOT "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", LATEST ADDITION. BINDER COURSE TO BE 9.5mm MAXIMUM AGGREGATE SIZE; SURFACE COURSE TO BE 12.0mm AGGREGATE SIZE.

PAVEMENT REPLACEMENT (BWCA DETAIL 11A)
NOT TO SCALE



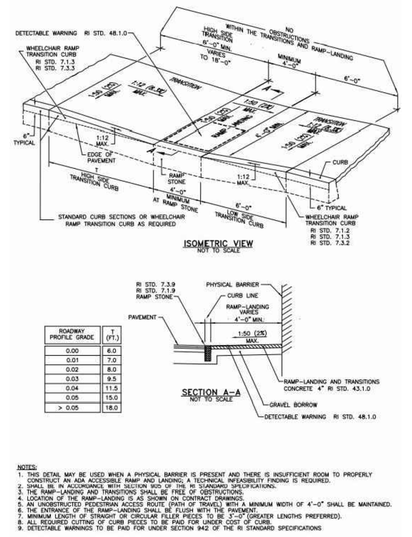
ACCESSIBLE PARKING SIGN BASE
NOT TO SCALE



NOTES

1. DETECTABLE WARNING PANEL SHALL BE IN ACCORDANCE WITH SECTION 942 OF THE RHODE ISLAND STANDARD SPECIFICATIONS; PANEL TO MATCH RAMP WIDTH.

DETECTABLE WARNING PANEL
NOT TO SCALE

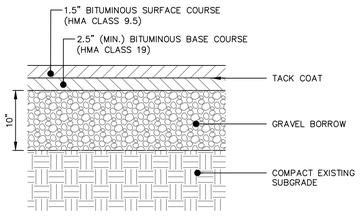


ROADWAY PROFILE GRADE	T (FT.)
0.00	6.0
0.01	7.0
0.02	8.0
0.03	9.5
0.04	11.5
0.05	15.0
> 0.05	18.0

NOTES:

1. THIS DETAIL MAY BE USED WHEN A PHYSICAL BARRIER IS PRESENT AND THERE IS INSUFFICIENT ROOM TO PROPERLY CONSTRUCT AN ADA ACCESSIBLE RAMP AND LANDING. A TECHNICAL INFEASIBILITY FINDING IS REQUIRED.
2. SHALL BE IN ACCORDANCE WITH SECTION 905 OF THE RI STANDARD SPECIFICATIONS.
3. THE RAMP-LANDING AND TRANSITIONS SHALL BE FREE OF OBSTRUCTIONS.
4. LOCATION OF THE RAMP-LANDING IS AS SHOWN ON CONTRACT DRAWINGS.
5. AN UNOBSTRUCTED PEDESTRIAN ACCESS ROUTE (PATH OF TRAVEL) WITH A MINIMUM WIDTH OF 4'-0" SHALL BE MAINTAINED.
6. THE ENTRANCE TO THE RAMP-LANDING SHALL BE FLUSH WITH THE PAVEMENT.
7. THE LENGTH OF THE RAMP-LANDING FILLER PIECES TO BE 1'-0" (GREATER LENGTHS PREFERRED).
8. ALL REQUIRED CUTTING OF CURB PIECES TO BE PAID FOR UNDER COST OF CURB.
9. DETECTABLE WARNINGS TO BE PAID FOR UNDER SECTION 942 OF THE RI STANDARD SPECIFICATIONS.

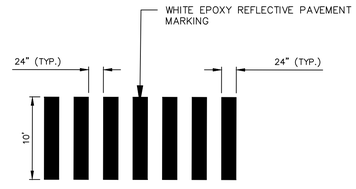
ACCESSIBLE RAMP
NOT TO SCALE



NOTES:

1. UNSUITABLE MATERIAL WITHIN SUBGRADE SHALL BE REMOVED AND REPLACED WITH GRAVEL BORROW.
2. GRAVEL BORROW SHALL MEET 95% MODIFIED PROCTOR FOR COMPACTION.
3. HOT MIX ASPHALT SHALL BE IN ACCORDANCE WITH SECTION 401 OF THE RI STANDARD SPECIFICATIONS.

BITUMINOUS CONCRETE PAVEMENT
NOT TO SCALE



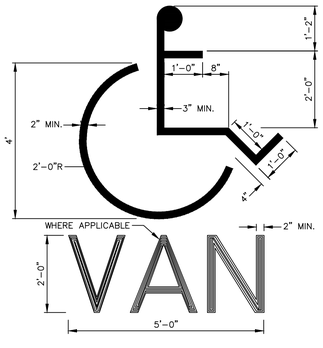
NOTE:
STOP LINES SHALL BE NO LESS THAN 4 FEET BEHIND ADJACENT CROSSWALK LINES.

CROSSWALK
NOT TO SCALE

NOTES:

1. INTERNATIONAL SYMBOL ACCESSIBILITY SIGN WITH LETTERING NO LESS THAN 1-INCH HIGH BOLTED TO GALVANIZED STEEL TUBE.
2. REFLECTORIZED 16 GAUGE GALVANIZED STEEL SIGN PANEL WITH PORCELAIN ENAMEL FINISH.
3. WHITE IMAGE ON BLUE FIELD BEADED REFLECTORIZED TEXTURE. COLOR #15090 FED. STANDARD 595a.

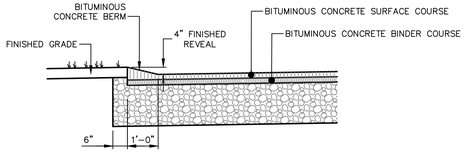
ACCESSIBLE PARKING SIGN
NOT TO SCALE



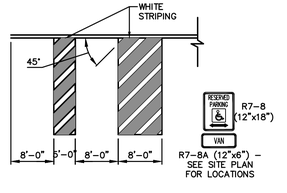
NOTES:

1. SYMBOL SHALL BE CENTERED IN THE PARKING STALL.
2. SYMBOL SHALL BE SOLID WHITE FAST-DRYING WATERBORNE PAINT AND BE CENTERED IN THE PARKING STALL. FOR VAN ACCESSIBLE SPACES, THE WORD "VAN" SHALL BE PAINTED ADJACENT TO HANDICAPPED SYMBOL.

ACCESSIBLE PARKING STALL SYMBOL
NOT TO SCALE



BITUMINOUS CONCRETE BERM
NOT TO SCALE



ACCESSIBLE PARKING STALL LAYOUT
NOT TO SCALE

PLANNING BOARD APPROVAL

PLANNING BOARD CHAIR OR DESIGNEE DATE

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
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BRADY SULLIVAN PROPERTIES, LLC

DETAILS

BRISTOL YARN MILL

125 THAMES STREET BRISTOL, RHODE ISLAND

PROJ. No.: 20061150.A22
DATE: DECEMBER 6, 2023

CD-503

SHEET 18 OF 28

File Path: \\private\DFS\CadProj\DWG\P2006\1150\A22\Civil\Plan\Permitting Plans\20061150A22_DET01.dwg Layout: CD-503 Plotted: Fri, May 19, 2023 - 3:37 PM User: ajohnson
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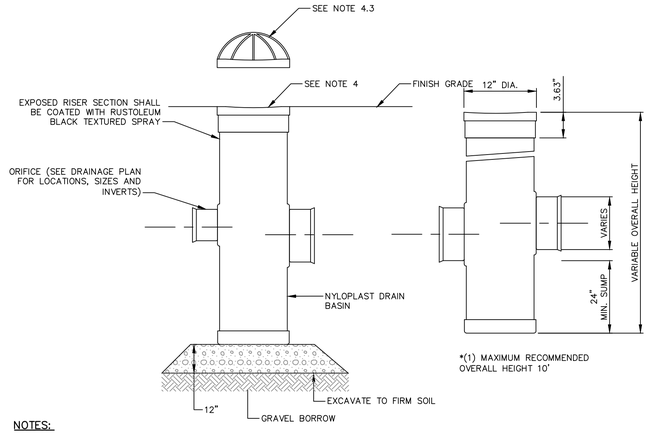
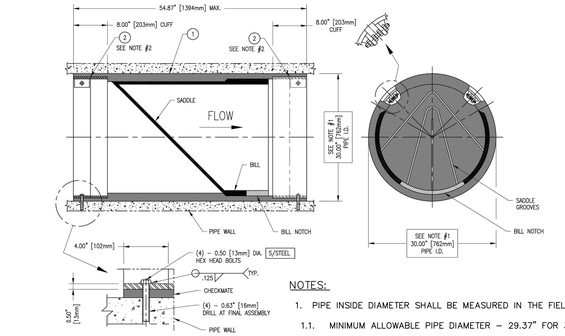


NOTES:

1. SEE DRAINAGE FOR PIPE SIZE, PIPE, MATERIAL, AND INVERTS.
2. GRAVEL BORROW SHALL BE COMPACTED TO 95-PERCENT MODIFIED PROCTOR.
3. GRAVEL BORROW SHALL CONFORM TO M.01.09, TABLE 1, COLUMN IA OF THE STANDARD SPECIFICATIONS.

DRAIN BASIN

NOT TO SCALE



PIN PER NOTE #4
RECOMMENDED PINNING CONFIGURATION
(SUPPLIED BY CUSTOMER) (SEE I.O.M.)
NOT TO SCALE

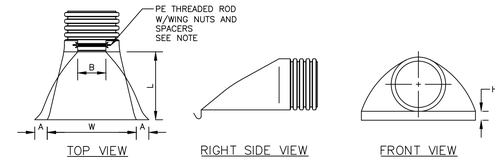
NOTES:

1. PIPE INSIDE DIAMETER SHALL BE MEASURED IN THE FIELD.
   1.1. MINIMUM ALLOWABLE PIPE DIAMETER – 29.37" FOR 30" NOMINAL
2. CLAMP SHALL BE INSTALLED ON THE OUTLET PIPE OF THE PROPOSED DRAIN MANHOLE.
3. MAXIMUM ALLOWABLE BACK PRESSURE – 38' FOR 30" NOMINAL
4. IT IS RECOMMEND TO BOLT OR PIN CHECKMATE TO PIPE AS SHOWN, 4 PLACES 90° APART.
5. TIDE GATE VALVE SHALL BE CHECKMATE ULTRAFLEX SLIP-IN INLINE CHECK VALVE MANUFACTURED BY TIDEFLEX TECHNOLOGIES OR APPROVED EQUAL.

TIDE VALVE

NOT TO SCALE

DIA.	15"
A	6.5"
B	10"
H	6.5"
L	25"
W	29"



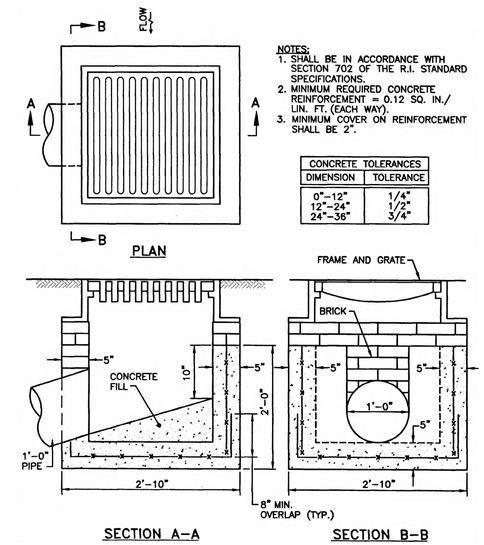
TOP VIEW RIGHT SIDE VIEW FRONT VIEW

NOTES:

1. SHALL BE MANUFACTURED WITH POLYETHYLENE RESINS AS DESCRIBED AND DEFINED IN ASTM D3350.
2. WHEN PROVIDED, THE METAL THREADED FASTENING ROD SHALL BE STAINLESS STEEL

HDPE FLARED END SECTION

NOT TO SCALE



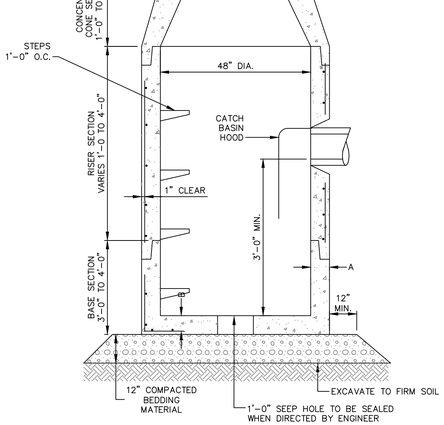
NOTES:

1. SHALL BE IN ACCORDANCE WITH SECTION 702 OF THE R.I. STANDARD SPECIFICATIONS.
2. MINIMUM REQUIRED CONCRETE REINFORCEMENT = 0.12 SQ. IN./LIN. FT. (EACH WAY).
3. MINIMUM COVER ON REINFORCEMENT SHALL BE 2".

CONCRETE TOLERANCES	
DIMENSION	TOLERANCE
0"–12"	1/4"
12"–24"	1/2"
24"–36"	3/4"

PRECAST CONCRETE DROP INLET (R.I. STD. 4.5.0)

NOT TO SCALE



ALTERNATE TOP SLAB
(STEEL REINFORCED FOR HS-25 LOADING)

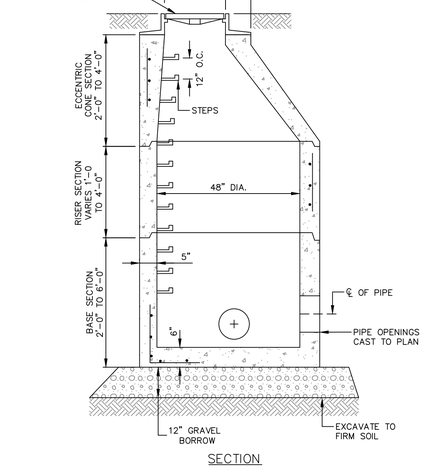
SECTION

NOTES:

1. FRAME AND GRATE SHALL BE R.I. STD. 6.3.0 OR APPROVED EQUAL.
2. INLET CATCH BASIN SHALL INCLUDE GRANITE APRON STONE PER PROVIDENCE STANDARD 7.3.7P, AND BE INSTALLED IN ACCORDANCE WITH INLET/APRON STONE REVEAL PER PROVIDENCE STANDARD 60.4.0P.
3. INLET CATCH BASIN SHALL HAVE 4' SUMP.
4. FRAMES SHALL BE SET IN FULL BED OF MORTAR. ADJUST TO GRADE WITH RED CLAY BRICKS AND MORTAR.
5. REINFORCING STEEL SHALL CONFORM TO ASTM A-185:
   - 0.12 SQ. IN./LIN. FT. CIRCUMFERENTIAL
   - 0.18 SQ. IN./FT. (BOTH WAYS) BASE BOTTOM
6. CONCRETE SHALL BE COMPRESSIVE STRENGTH 4,000 PSI TYPE II CEMENT.
7. ONE POUR MONOLITHIC BASE SECTION.
8. PROVIDE ASTM C923 RESILIENT CONNECTORS CAST OR FITTED INTO MANHOLE WALLS FOR EACH PIPE CONNECTION.
9. JOINT SEALANT SHALL BE PREFORMED BUTYL RUBBER MASTIC TYPE SEAL THAT COMPLIES WITH AASHTO M198 OR SYNTHETIC RUBBER GASKET THAT COMPLIES WITH ASTM C-443 OR C-361.
10. CATCH BASIN DESIGN SHALL CONFORM TO ASTM C-478 FOR "PRECAST REINFORCED CONCRETE MANHOLE SECTION.
11. CATCH BASIN STEPS SHALL BE ASTM A 615/A615M, DEFORMED, 1/2-INCH STEEL REINFORCED RODS ENCASED IN ASTM D 4101, POLYPROPYLENE PLASTIC. THE CENTERLINE OF OPENING MUST BE WITHIN 2'-0" FROM STEPS.
12. ANY NECESSARY ADJUSTMENTS DURING CONSTRUCTION WILL BE DONE BY SAW-CUTTING AND/OR CORING ONLY. NO JACKHAMMERS, HAMMERS AND CHISELS OR PNEUMATIC TOOLS WILL BE ALLOWED.

CATCH BASIN

NOT TO SCALE



ALTERNATE TOP SLAB
(STEEL REINFORCED FOR HS-25 LOADING)

SECTION

NOTES:

1. FRAME AND COVER TO BE R.I. STD. 6.2.1 OR APPROVED EQUAL. LETTERING: "DRAIN"
2. FRAMES SHALL BE SET IN FULL BED OF MORTAR. ADJUST TO GRADE WITH RED CLAY BRICKS AND MORTAR.
3. REINFORCING STEEL SHALL CONFORM TO ASTM A-185:
   - 0.12 SQ. IN./LIN. FT. CIRCUMFERENTIAL
   - 0.18 SQ. IN./FT. (BOTH WAYS) BASE BOTTOM
4. CONCRETE SHALL BE COMPRESSIVE STRENGTH 4,000 PSI TYPE II CEMENT.
5. ONE POUR MONOLITHIC BASE SECTION.
6. PROVIDE ASTM C923 RESILIENT CONNECTORS CAST OR FITTED INTO MANHOLE WALLS FOR EACH PIPE CONNECTION.
7. JOINT SEALANT SHALL BE PREFORMED BUTYL RUBBER MASTIC TYPE SEAL THAT COMPLIES WITH AASHTO M198 OR SYNTHETIC RUBBER GASKET THAT COMPLIES WITH ASTM C-443 OR C-361.
8. MANHOLE DESIGN SHALL CONFORM TO ASTM C-478 FOR "PRECAST REINFORCED CONCRETE MANHOLE SECTIONS."
9. MANHOLE STEPS SHALL BE ASTM A 615/A615M, DEFORMED, 1/2-INCH STEEL REINFORCED RODS ENCASED IN ASTM D 4101, POLYPROPYLENE PLASTIC. THE CENTERLINE OF OPENING MUST BE WITHIN 2'-0" FROM STEPS.
10. ANY NECESSARY ADJUSTMENTS DURING CONSTRUCTION WILL BE DONE BY SAW-CUTTING AND/OR CORING ONLY. NO JACKHAMMERS, HAMMERS AND CHISELS OR PNEUMATIC TOOLS WILL BE ALLOWED.
11. INVERT CONSTRUCTED OF BRICK OR CEMENT CONCRETE, CLASS D.

DRAIN MANHOLE

NOT TO SCALE

PLANNING BOARD APPROVAL

PLANNING BOARD CHAIR OR DESIGNEE DATE

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
4.	5/19/23	RESPONSE TO TRC AND PARE COMMENTS	KLM/MH	SMM
3.	3/27/23	PRELIMINARY PLAN RESPONSE TO TOWN COMMENTS	KLM	SMM
2.	2/2/23	RIDEM AND CRMC PERMITTING APPLICATION	KLM	SMM
1.	1/25/23	PRELIMINARY PLAN RESPONSE TO TOWN COMMENTS	KLM	SMM

SEAL

SEAL

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BRADY SULLIVAN PROPERTIES, LLC

DETAILS

BRISTOL YARN MILL

125 THAMES STREET BRISTOL, RHODE ISLAND

PROJ. No.: 20061150.A22
DATE: DECEMBER 6, 2023

CD-504

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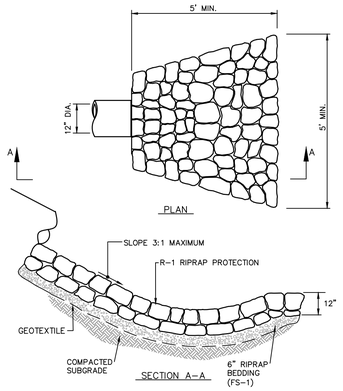
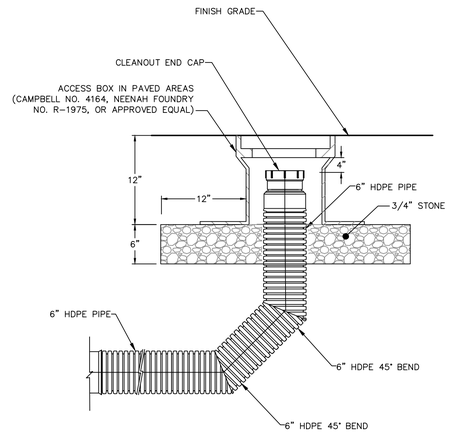


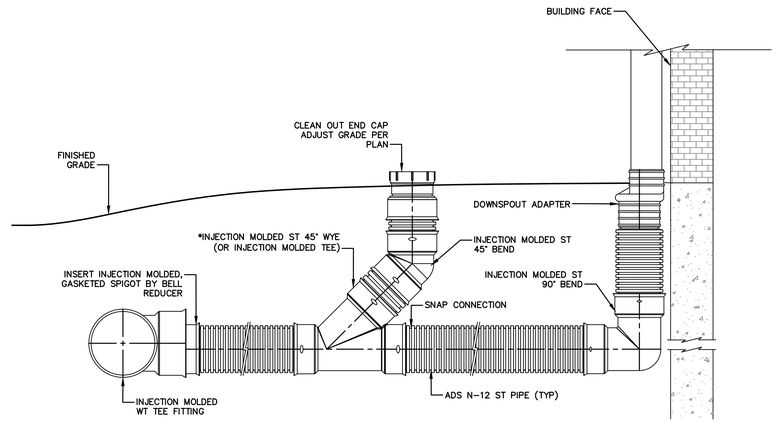
RIPRAP SPLASH PAD
NOT TO SCALE



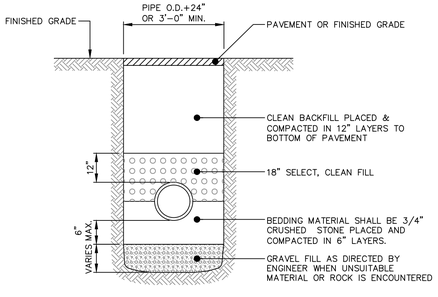
NOTE:

1. IN UNPAVED AREAS, CLEANOUT CAP SHALL BE BURIED 3 INCHES.
2. ACCESS BOX IN PAVED AREAS SHALL HAVE 9.5" SOLID COVER WITH LETTERING "CLEANOUT".
3. IN-LINE CLEANOUTS SHALL HAVE TEE WYE IN LIEU OF TWO 45 DEGREE BENDS.

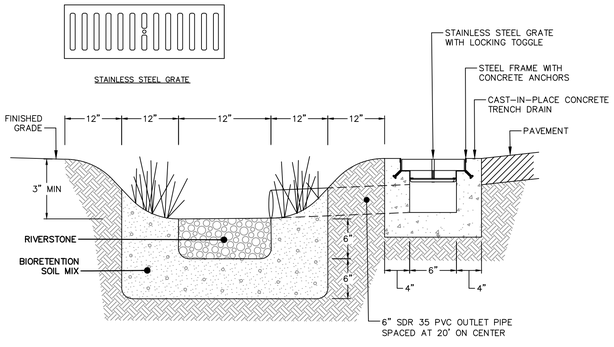
STORM DRAIN CLEANOUT
NOT TO SCALE



DOWNSPOUT CONNECTION
NOT TO SCALE



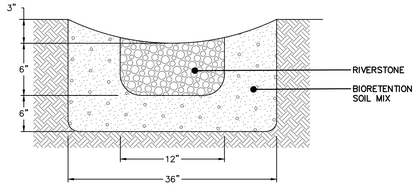
STORM DRAIN TRENCH
NOT TO SCALE



NOTE:

SEASONAL HIGH GROUNDWATER TABLE (SHGWT) ELEVATION IS APPROXIMATELY 5.5'. BOTTOM OF CHANNEL SHALL BE LOCATED AT OR ABOVE SHGWT.

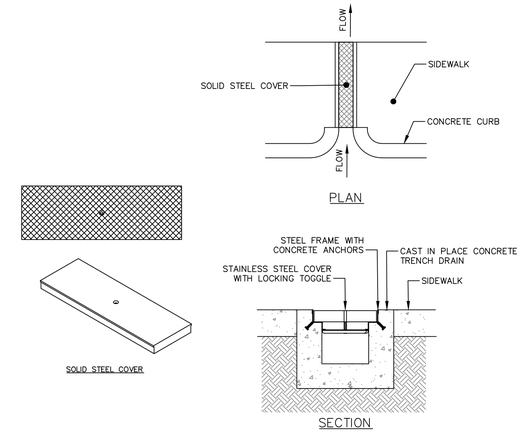
STONE CHANNEL 1
NOT TO SCALE



NOTE:

SEASONAL HIGH GROUNDWATER TABLE (SHGWT) ELEVATION IS APPROXIMATELY 5.5'. BOTTOM OF CHANNEL SHALL BE LOCATED AT OR ABOVE SHGWT.

STONE CHANNEL 2
NOT TO SCALE



TRENCH DRAIN (SOLID COVER)
NOT TO SCALE

PLANNING BOARD APPROVAL

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317 IRON HORSE WAY, SUITE 204
PROVIDENCE, RI 02908
401.861.3070
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BRADY SULLIVAN PROPERTIES, LLC

DETAILS

BRISTOL YARN MILL

125 THAMES STREET BRISTOL, RHODE ISLAND

PROJ. No.: 20061150.A22
DATE: DECEMBER 6, 2023

CD-505

SHEET 20 OF 28

File Path: \\private\DFS\CadProj\DWG\P2006\61150\A22\Civil\Plan\Permitting Plans\20061150A22_DET01.dwg Layout: CD-505 Plotted: Fri, May 19, 2023 - 3:38 PM User: ajohnson
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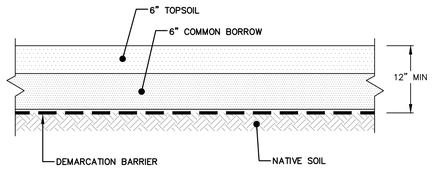


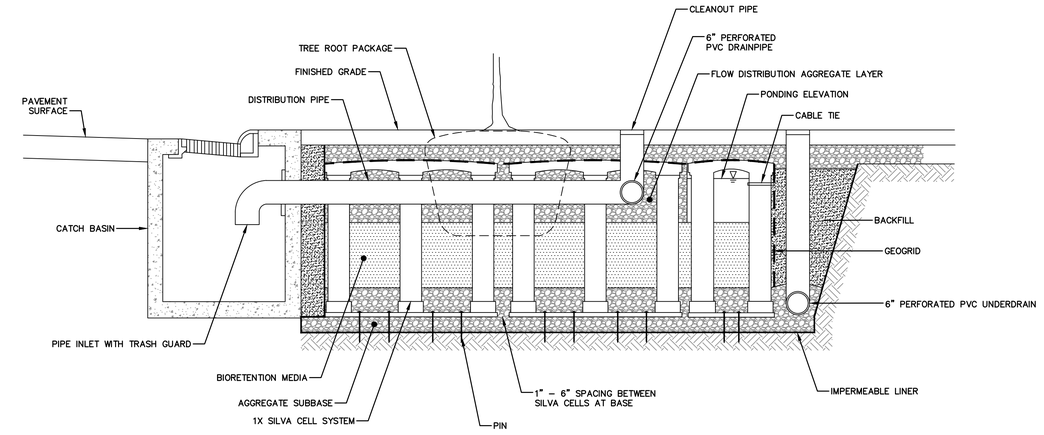
NOTES:

1. IMPORTED CLEAN SOIL MUST BE LABORATORY TESTED TO DEMONSTRATE COMPLIANCE WITH THE REMEDIAL ACTION WORK PLAN.
2. REUSE TOPSOIL ON-SITE. VERIFY SUITABILITY OF STOCKPILED TOPSOIL TO PRODUCE LOAM. CLEAN TOPSOIL OF ROOTS, PLANTS, SOD, STONES, CLAY LUMPS, AND OTHER EXTRANEOUS MATERIALS HARMFUL TO PLANT GROWTH.

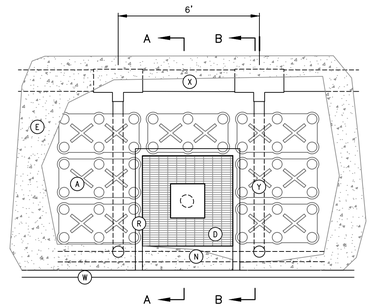
2.1. SUPPLEMENT WITH IMPORTED OR MANUFACTURED LOAM FROM OFF-SITE SOURCES WHEN QUANTITIES ARE INSUFFICIENT, OBTAIN TOPSOIL DISPLACED FROM NATURALLY WELL-DRAINED CONSTRUCTION OR MINING SITES WHERE TOPSOIL OCCURS AT LEAST 4 INCHES DEEP.

3. LOAM OR RESPREAD TOPSOIL SHALL CONFORM TO ASTM D5268, WITH PH BETWEEN 5.5 AND 7, A MINIMUM OF 6 PERCENT ORGANIC MATERIAL CONTENT, FREE OF STONES 1 INCH OR LARGER AND FREE OF OTHER EXTRANEOUS MATERIALS. SHALL NOT BE OBTAINED FROM AGRICULTURAL LAND, BOGS, OR MARSHES.
4. ALL SURFACED AREAS OR DISTURBED AREAS NOT SPECIFIED ON THE PLANS SHALL RECEIVE 4 INCHES OF LOAM OR RESPREAD TOPSOIL, SEED, MULCH, AND BE WATERED UNTIL A HEALTHY STAND OF GRASS IS OBTAINED.
5. CLEAN SOIL SHALL ONLY BE IMPORTED WHERE CURRENT CAP MATERIAL DOES NOT MEET CAP REQUIREMENT OF 24-INCHES.
6. SEE LANDSCAPE PLANS FOR FINISH SURFACE TREATMENTS.
7. SOIL CAP IS REQUIRED FOR ANY LANDSCAPED AREAS ON THE MILL LOT SITE INCLUDING PLAT 10, LOTS 42, 60, 61, 62, AND 73.

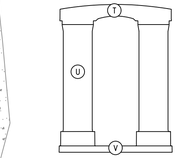
SOIL CAP
NOT TO SCALE



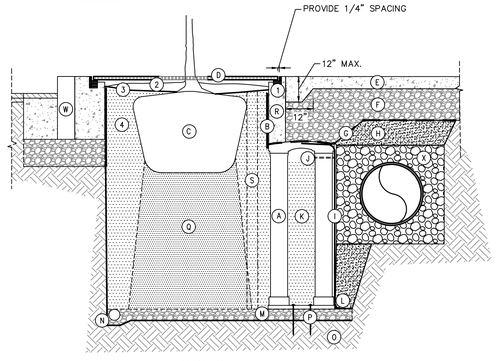
TREE FILTER 1 & 2
NOT TO SCALE



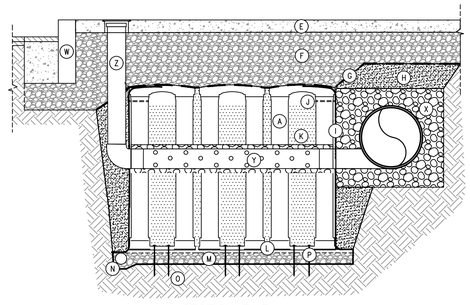
PLAN



SILVA CELL COMPONENTS



SECTION A-A



SECTION B-B

KEY PLAN

- (A) SILVA CELL 2 SYSTEM (DECK, BASE, AND POSTS).
- (B) DEEPROOT ROOT BARRIER DEEPROOT ROOT BARRIER INSTALLED TO A DEPTH 18 INCHES BELOW TOP OF TREE PIT.
- (C) TREE ROOT PACKAGE, SIZE VARIES. REMOVE ALL TWINE & STRAPS. CUT AND REMOVE BURLAP AND WIRE CAGE FROM TOP 1/2 OF BALL. REMOVE ALL SYNTHETIC MATERIALS.
- (D) TREE GRATE ASSEMBLY WITH CONCRETE ANCHOR.
- (E) EXPOSED AGGREGATE CONCRETE SIDEWALK WITH HAUNCHED EDGE
- (F) GRAVEL BORROW COURSE. GRAVEL BORROW. 18-INCH DEPTH ABOVE SILVA CELLS. TRANSITION TO STANDARD GRAVEL BORROW DEPTH PER CONCRETE SIDEWALK DETAIL.
- (G) GEOTEXTILE TO EDGE OF EXCAVATION.
- (H) BACKFILL, TO WITHIN 4-6" BELOW TOP OF SILVA CELL DECKS. INSTALL IN 8" LIFTS, EACH COMPACTED TO 95% MODIFIED PROCTOR.
- (I) IMPERMEABLE LINER.
- (J) CABLE TIE, ATTACHING GEOGRID TO SILVA CELL AT BASE OF UPPER POST FLARE.
- (K) PLANTING SOIL TO 7" BELOW DECK, MANUALLY COMPACTED TO APPROXIMATE 70% MODIFIED PROTOR.
- (L) 1" - 6" SPACING BETWEEN SILVA CELLS AT BASE.
- (M) 4" MIN. GRAVEL BORROW, COMPACTED TO 95% MODIFIER MODIFIED PROCTOR.
- (N) 6" PERFORATED PVC UNDERDRAIN PIPE, 0.0 FT/FT SLOPE.
- (O) SUBGRADE, COMPACTED TO 95% MODIFIED PROCTOR.
- (P) PIN, PER SILVA CELL SPECIFICATIONS, TO KEEP CELLS IN PLACE DURING CONSTRUCTION.
- (Q) PLANTING SOIL BELOW TREE ROOT PACKAGE, COMPACTED TO 85-90% MODIFIED PROCTOR.
- (R) 18-INCH CAST-IN-PLACE CONCRETE CURB TO STABILIZE EDGE AND PREVENT AGGREGATE MIGRATION INTO TREE OPENING.
- (S) 4" PERFORATED PVC INSPECTION RISER TO PROVIDE FOR MONITORING OF SOIL MOISTURE.
- (T) SILVA CELL DECK
- (U) SILVA CELL POST
- (V) SILVA CELL BASE
- (W) 18-INCH GRANITE CURB IN EXISTING PAVEMENT
- (X) 18" X 6" HDPE MANIFOLD, 0.0 FT/FT SLOPE, INSTALL PER STORM DRAIN TRENCH DETAIL.
- (Y) 6" PERFORATED PVC PIPE, 0.0 FT/FT SLOPE, ENCASED IN 3" OF CLEAN, WASHED, 1" DIAMETER CRUSHED STONE. PERFORATIONS MUST FACE DOWN.
- (Z) 6" SOLID PVC CLEANOUT, CAPPED, WITH ROUND, HEAVY-DUTY CAST IRON FRAME AND COVER.
- (1) SQUARE FRAME FRAME SET IN CONTINUOUS 4"X6" CONCRETE RING. INSURE PROPER EQUAL SLOPES ON ALL SIDES TO PROVIDE CONSISTENT SEAT FOR TREE GRATES. VARIATIONS OR WOBBLING GRATES WILL NOT BE PERMITTED
- (2) ORGANIC MULCH
- (3) WEED BARRIER
- (4) BACKFILL WITH PLANTING SOIL MIXTURE IN 9" LAYERS. WATER EACH LAYER UNTIL SETTLED. DO NOT TAMP. (SEE TREE PLANTING DETAILS)

TREE FILTER 3
NOT TO SCALE

PLANNING BOARD APPROVAL

PLANNING BOARD CHAIR OR DESIGNEE DATE

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
4.	5/19/23	RESPONSE TO TRC AND PARE COMMENTS	KLM/MH	SMM
3.	3/27/23	PRELIMINARY PLAN RESPONSE TO TOWN COMMENTS	KLM	SMM
2.	2/2/23	RIDEM AND CRMC PERMITTING APPLICATION	KLM	SMM
1.	1/25/23	PRELIMINARY PLAN RESPONSE TO TOWN COMMENTS	KLM	SMM

SEAL

SEAL

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DATUM:
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GRAPHIC SCALE

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BRADY SULLIVAN PROPERTIES, LLC

DETAILS

BRISTOL YARN MILL

125 THAMES STREET BRISTOL, RHODE ISLAND

PROJ. No.: 20061150.A22
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CD-506

SHEET 21 OF 28

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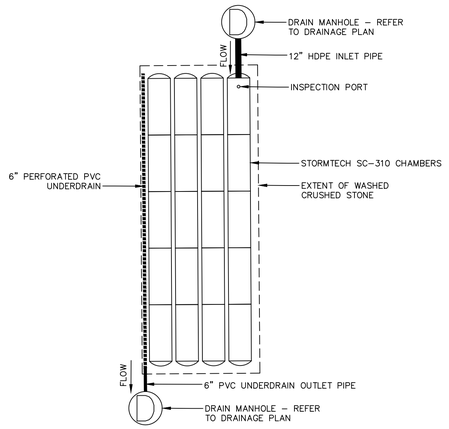
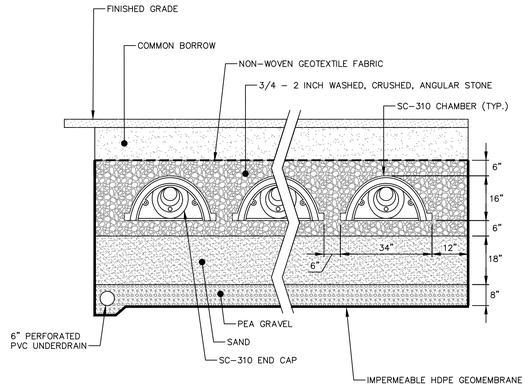


PLAN



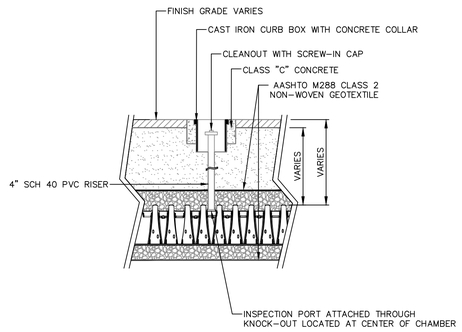
SECTION

NOTE:

INSTALL PER MANUFACTURER'S INSTRUCTIONS.

SUBSURFACE FILTRATION SYSTEM 1

NOT TO SCALE



INSPECTION PORT

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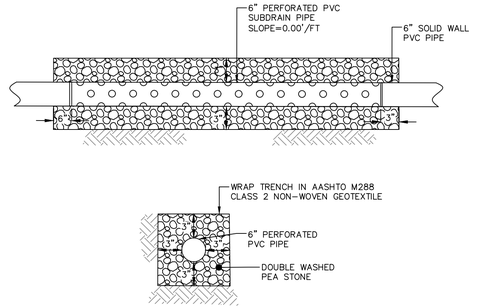
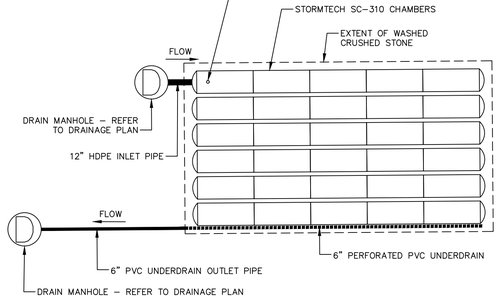


UNDERDRAIN

NOT TO SCALE



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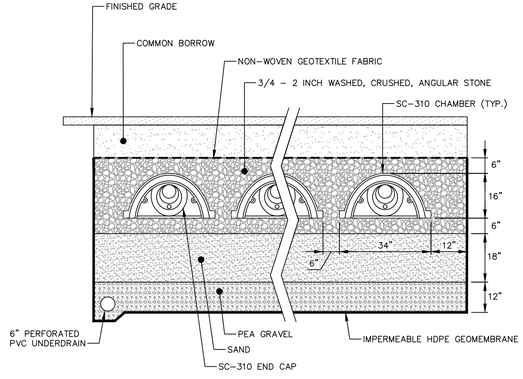


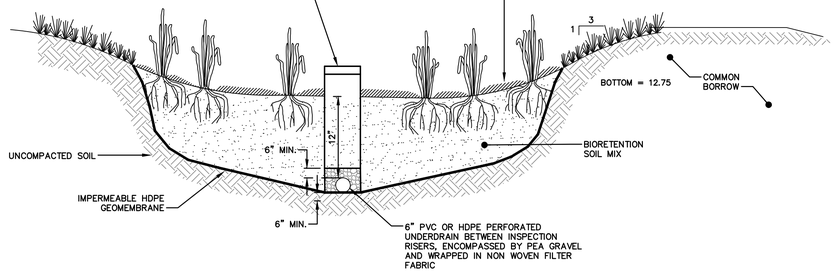
SECTION

NOTE:

INSTALL PER MANUFACTURER'S INSTRUCTIONS.

SUBSURFACE FILTRATION SYSTEM 2

NOT TO SCALE



NOTES:

1. BIORETENTION SOIL MIX SHALL HAVE A LOAMY SAND TEXTURE PER USDA TEXTURAL TRIANGLE WITH A MAXIMUM CLAY CONTENT OF LESS THAN 2%. SOIL MIXTURE SHALL BE 85–88% SAND, 8–12% SOIL FINES, AND 3–5% ORGANIC MATTER.
2. THE SOIL SHALL BE A UNIFORM MIX, FREE OF STONES, STUMPS, ROOTS, OR OTHER SIMILAR OBJECTS LARGER THAN TWO INCHES. SOIL SHALL BE FREE OF BERMUDA GRASS, QUACKGRASS, JOHNSON GRASS, MUGWORT, NUTSEDGE, POISON IVY, CANADIAN THISTLE, TEARTHUB, OR OTHER NOXIOUS WEEDS.
3. PRIOR TO INSTALLATION, SOIL SHALL BE TESTED AND CONFORM TO THE FOLLOWING CRITERIA:
   PH RANGE: 5.7 – 7.0
   MAGNESIUM: 32 PPM MIN.
   PHOSPHORUS P205: NOT TO EXCEED 69 PPM
   POTASSIUM K20: 78 PPM MIN.
   SOLUBLE SALTS: NOT TO EXCEED 500 PPM

RAIN GARDEN

NOT TO SCALE

PLANNING BOARD APPROVAL

PLANNING BOARD CHAIR OR DESIGNEE DATE

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
4.	5/19/23	RESPONSE TO TRC AND PARE COMMENTS	KLM/MH	SMM
3.	3/27/23	PRELIMINARY PLAN RESPONSE TO TOWN COMMENTS	KLM	SMM
2.	2/2/23	RIDEM AND CRMC PERMITTING APPLICATION	KLM	SMM
1.	1/25/23	PRELIMINARY PLAN RESPONSE TO TOWN COMMENTS	KLM	SMM

SEAL

SEAL

SCALE:
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GRAPHIC SCALE

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DETAILS

BRISTOL YARN MILL

125 THAMES STREET BRISTOL, RHODE ISLAND

PROJ. No.: 20061150.A22
DATE: DECEMBER 6, 2023

CD-507

SHEET 22 OF 28

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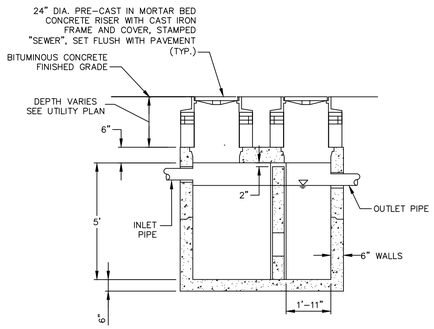
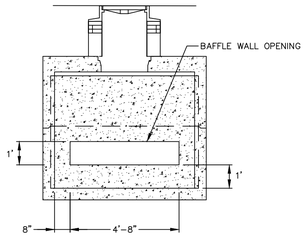
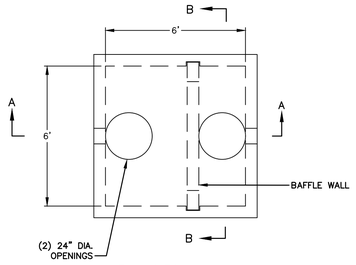


SECTION A–A



SECTION B–B



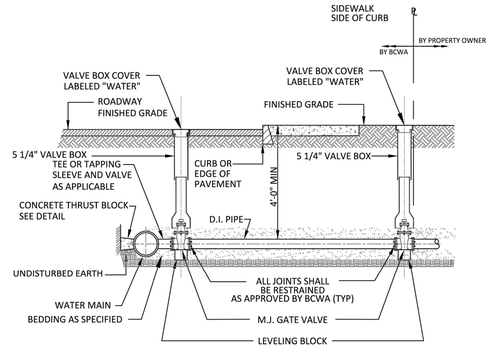
PLAN VIEW

NOTES:

1. VOLUME SHALL BE 1,000 GALLONS.
2. CONCRETE : 5,000 P.S.I MINIMUM STRENGTH @ 28 DAYS
3. STEEL REINFORCING ASTM A-615, GRADE 60
4. COVER TO STEEL 1" MINIMUM
5. TANKS SHALL MEET ASTM C858 AND ACI 318 WITH AASHTO HS-20 LOADING
6. EARTH COVER 0 MIN. TO 5 FEET MAX
7. EARTH COVER 0 MIN. TO 5 FEET MAX

OIL/WATER SEPARATOR

NOT TO SCALE

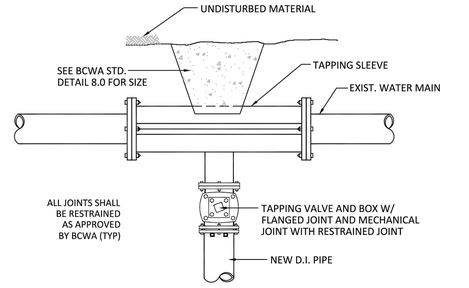


NOTE:

1.) ALL SERVICE MATERIALS, BEDDING AND BACKFILL PER BCWA SPECIFICATIONS.
2.) SERVICE LINE FROM GATE BOX TO BUILDING SHALL BE INSPECTED AND APPROVED BY THE BCWA PRIOR TO BEING BACKFILLED AND/OR ACTIVATED.
3.) TAPPING SLEEVE TO BE PRESSURE TESTED PRIOR TO INSTALLATION.
4.) STREET SIDE OF SERVICE TO BE INSTALLED FIRST, LOCATION TO BE DETERMINED BY BCWA.
5.) WHENEVER THERE IS A DISCREPANCY BETWEEN THIS DETAIL AND THE WRITTEN SPECIFICATIONS, THE SPECIFICATIONS SHALL GOVERN.

SERVICE CONNECTION 4 INCHES & GREATER (BCWA DETAIL 10C)

NOT TO SCALE

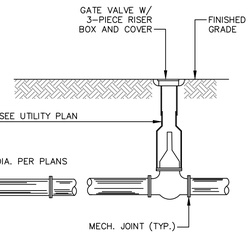


NOTE:

1.) TAPPING SLEEVE, VALVE AND PIPE TO BE DISINFECTED WITH CHLORINE SOLUTION PRIOR TO INSTALL.
2.) TAPPING SLEEVE TO BE PRESSURE TESTED USING AIR PRIOR TO TAPPING PIPE.
3.) ALL MATERIALS, BEDDING AND BACKFILL PER BCWA SPECIFICATIONS.
4.) THRUST BLOCK PER BCWA SPECIFICATIONS. SEE BCWA STD. DETAIL 8.0.
5.) ALL WORK AND MATERIALS SHALL BE INSPECTED AND APPROVED BY THE BCWA PRIOR TO BEING BACKFILLED AND/OR ACTIVATED.
6.) WHENEVER THERE IS A DISCREPANCY BETWEEN THIS DETAIL AND THE WRITTEN SPECIFICATIONS, THE SPECIFICATIONS SHALL GOVERN.

TAPPING SLEEVE AND VALVE (BCWA DETAIL 3)

NOT TO SCALE



FIRE PROTECTION SERVICE CONNECTION

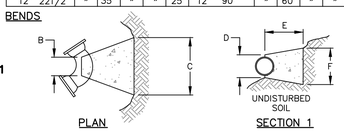
NOT TO SCALE

TABLE OF DIMENSIONS

BENDS	B	C	D	E	F	BENDS	B	C	D	E	
6" 111/4°	8"	15"	12"	24"	12"	6" 45°	8"	30"	12"	24"	14"
6" 221/2°	"	19"	"	"	13"	6" 90°	"	30"	"	"	27"
8" 111/4°	"	20"	"	"	12"	8" 45°	"	30"	"	"	24"
8" 221/2°	"	22"	"	"	17"	8" 90°	"	38"	"	"	36"
12" 111/4°	"	30"	"	"	15"	12" 45°	"	40"	"	"	40"
12" 221/2°	"	35"	"	"	25"	12" 90°	"	60"	"	"	52"

BENDS

1



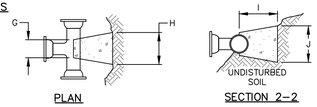
PLAN SECTION 1

TABLE OF DIMENSIONS

TEES	G	H	I	J	TEES	G	H	I	J	
6"x 6"x 6"	12"	24"	24"	18"	12"x 12"x 6"	12"	24"	24"	18"	
8"x 8"x 6"	"	"	"	"	12"x 12"x 8"	"	"	"	24"	
8"x 8"x 8"	"	"	"	24"	12"x 12"x 12"	"	36"	"	36"	

TEES

2



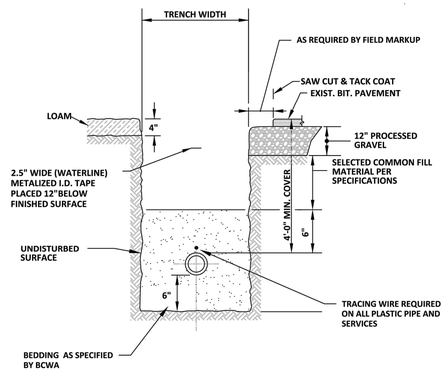
PLAN SECTION 2–2

NOTES:

1. PROVIDE BLOCKS FOR TAPPING SLEEVES, DEAD ENDS, GATE VALVES, AND VERTICAL BENDS (SAME SIZE AS REQUIRED FOR TEES). PROVIDE ANCHOR RODS AT VERTICAL BENDS AND GATE VALVES.
2. CONCRETE SHALL NOT BE PLACED AGAINST PIPE BEYOND FITTING.
3. CONCRETE SHALL HAVE 3,000 PSI MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS.

CONCRETE THRUST BLOCK

NOT TO SCALE

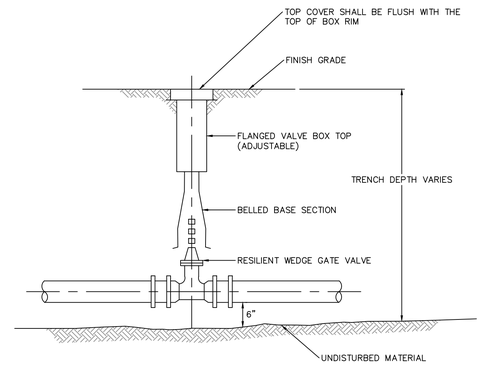


NOTES:

1.) ALL MATERIALS, BEDDING AND BACKFILL PER BCWA SPECIFICATIONS AND SHALL BE INSPECTED AND APPROVED BY THE BCWA PRIOR TO BEING BACKFILLED AND/OR ACTIVATED.
2.) ROADWAY AND SIDEWALK RESTORATION SHALL BE PERFOMED IN ACCORDANCE WITH ALL MUNICIPAL OR RIDOT PERMIT REQUIREMENTS.
3.) WHENEVER THERE IS A DISCREPANCY BETWEEN THIS DETAIL AND THE WRITTEN SPECIFICATIONS, THE SPECIFICATIONS SHALL GOVERN.

WATER TRENCH (BCWA DETAIL 1)

NOT TO SCALE



NOTE: FURNISH TWO OPERATING WRENCHES TO OWNER.

GATE VALVE

NOT TO SCALE

PLANNING BOARD APPROVAL

PLANNING BOARD CHAIR OR DESIGNEE DATE

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
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3.	3/27/23	PRELIMINARY PLAN RESPONSE TO TOWN COMMENTS	KLM	SMM
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1.	1/25/23	PRELIMINARY PLAN RESPONSE TO TOWN COMMENTS	KLM	SMM

SEAL

SEAL

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DETAILS

BRISTOL YARN MILL

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CD-508

SHEET 23 OF 28

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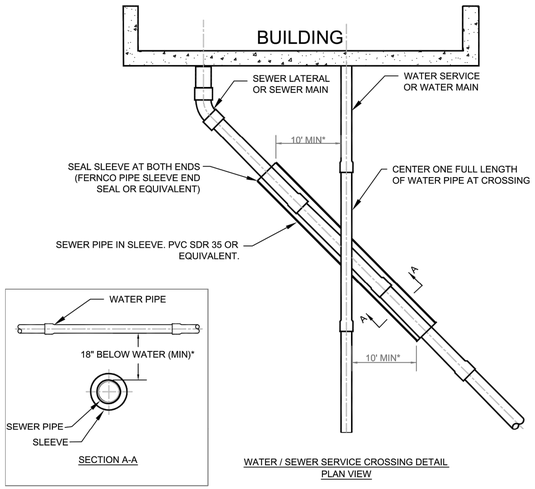
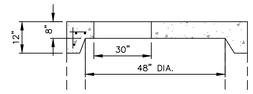


WATER / SEWER SERVICE CROSSING DETAIL
PLAN VIEW

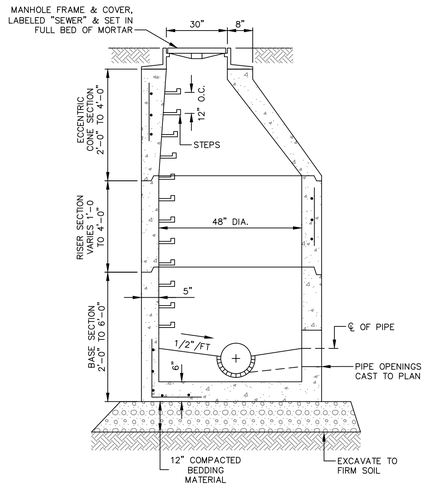
IF THE 18 INCH MINIMUM VERTICAL SEPARATION CANNOT BE MAINTAINED, CONSTRUCT
- SEWER USING AWWA APPROVED WATER MAIN PIPE AND PRESSURE TEST TO 150psi. FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE CROSSING, MEASURED PARALLEL TO THE WATER PIPE, OR ENCASE SEWER PIPE IN PVC SLEEVE.

WATER & SEWER SERVICE CROSSING (BCWA DETAIL 9A)

NOT TO SCALE



ALTERNATE TOP SLAB
(STEEL REINFORCED FOR HS-25 LOADING)

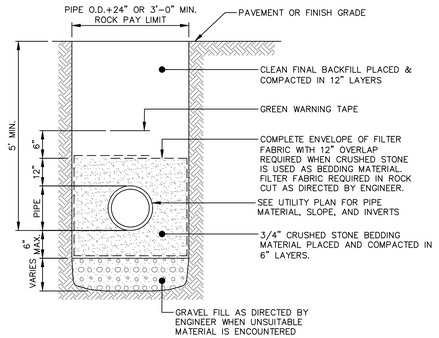


SECTION

NOTES:
1. FRAME AND COVER TO BE R.I. STD. 6.2.1 OR APPROVED EQUAL. LETTERING: "SEWER"
2. FRAMES SHALL BE SET IN FULL BED OF MORTAR. ADJUST TO GRADE WITH RED CLAY BRICKS AND MORTAR.
3. REINFORCING STEEL SHALL CONFORM TO ASTM A-185:
   - 0.12 SQ. IN./LIN. FT. CIRCUMFERENTIAL
   - 0.18 SQ. IN./FT. (BOTH WAYS) BASE BOTTOM
4. CONCRETE SHALL BE COMPRESSIVE STRENGTH 4,000 PSI TYPE II CEMENT.
5. ONE POUR MONOLITHIC BASE SECTION.
6. PROVIDE "V" KNOCKOUTS FOR PIPES WITH 2" MAX. CLEARANCE TO OUTSIDE OF PIPE. MORTAR ALL PIPE CONNECTIONS.
7. JOINT SEALANT SHALL BE PREFORMED BUTYL RUBBER MASTIC TYPE SEAL THAT COMPLIES WITH AASHTO M198 OR SYNTHETIC RUBBER GASKET THAT COMPLIES WITH ASTM C-443 OR C-361.
8. MANHOLE DESIGN SHALL CONFORM TO ASTM C-478 FOR "PRECAST REINFORCED CONCRETE MANHOLE SECTIONS."
9. MANHOLE STEPS SHALL BE ASTM A 615/A615M, DEFORMED, 1/2-INCH STEEL REINFORCED RODS ENCASED IN ASTM D 4101, POLYPROPYLENE PLASTIC. THE CENTERLINE OF OPENING MUST BE WITHIN 2'-0" FROM STEPS.
10. ANY NECESSARY ADJUSTMENTS DURING CONSTRUCTION WILL BE DONE BY SAW-CUTTING AND/OR CORING ONLY. NO JACKHAMMERS, HAMMERS AND CHISELS OR PNEUMATIC TOOLS WILL BE ALLOWED.
11. INVERT CONSTRUCTED OF BRICK OR CEMENT CONCRETE, CLASS D.

SEWER MANHOLE

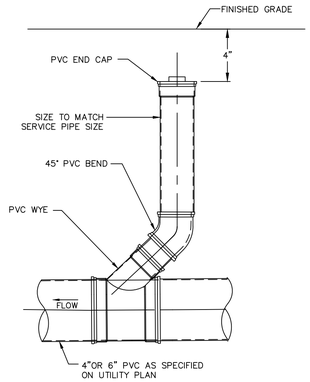
NOT TO SCALE



NOTES:
1. SEWER TO BE INSULATED WITH 2" RIGID FOAM WHEN LESS THAN 4' COVER IS PROVIDED.

SEWER TRENCH

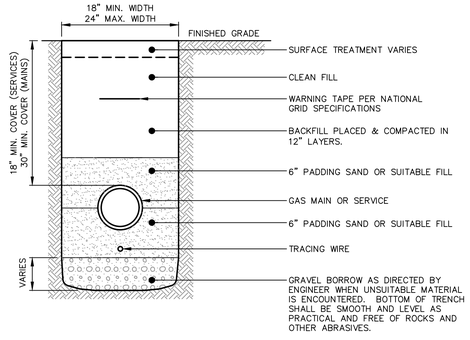
NOT TO SCALE



NOTE:
IN PAVED AREAS, ZURN ADJUSTABLE CLEAN-OUT WITH CAST IRON FRAME AND COVER SHALL BE USED IN LIEU OF PVC END CAP.

SEWER CLEANOUT

NOT TO SCALE



NOTES:
1. BEDDING MATERIAL AND INITIAL BACKFILL SHALL BE CLEAN, FREE OF DEBRIS AND RUBBLE, AND FREE OF MATERIALS WHICH MAY CAUSE POLLUTION OF GROUNDWATER.
2. SPOIL SHOULD BE SET BACK A MINIMUM OF TWO (2) FEET IN ACCORDANCE WITH OSHA REGULATIONS.
3. GAS SERVICE MUST HAVE A MINIMUM HORIZONTAL SEPARATION OF THREE (3) FEET FROM PARALLEL UTILITIES. A ONE FOOT SEPARATION MUST BE MAINTAINED WHEN CROSSING OTHER UTILITIES.
4. THE MAXIMUM TRENCH DEPTH FOR GAS MAINS IS 48-INCHES WHILE THE MAXIMUM TRENCH DEPTH FOR SERVICES IS 36-INCHES.

GAS TRENCH

NOT TO SCALE

PLANNING BOARD APPROVAL

PLANNING BOARD CHAIR OR DESIGNEE DATE

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
4.	5/19/23	RESPONSE TO TRC AND PARE COMMENTS	KLM/MH	SMM
3.	3/27/23	PRELIMINARY PLAN RESPONSE TO TOWN COMMENTS	KLM	SMM
2.	2/2/23	RIDEM AND CRMC PERMITTING APPLICATION	KLM	SMM
1.	1/25/23	PRELIMINARY PLAN RESPONSE TO TOWN COMMENTS	KLM	SMM

SEAL

SEAL

SCALE:
HORZ.: AS NOTED
VERT.:
DATUM:
HORZ.:
VERT.:
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GRAPHIC SCALE

FUSS & O'NEILL
317 IRON HORSE WAY, SUITE 204
PROVIDENCE, RI 02908
401.861.3070
www.fando.com

BRADY SULLIVAN PROPERTIES, LLC

DETAILS

BRISTOL YARN MILL

125 THAMES STREET BRISTOL, RHODE ISLAND

PROJ. No.: 20061150.A22
DATE: DECEMBER 6, 2023

CD-509

SHEET 24 OF 28

File Path: \\private\DFS\CadProj\DWGIP\20061\1150\A22\Civil\Plan\Permitting Plans\20061150A22_DET01.dwg Layout: CD-509 Plotted: Fri, May 19, 2023 - 3:40 PM User: ajohnson
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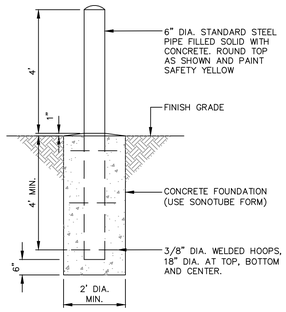
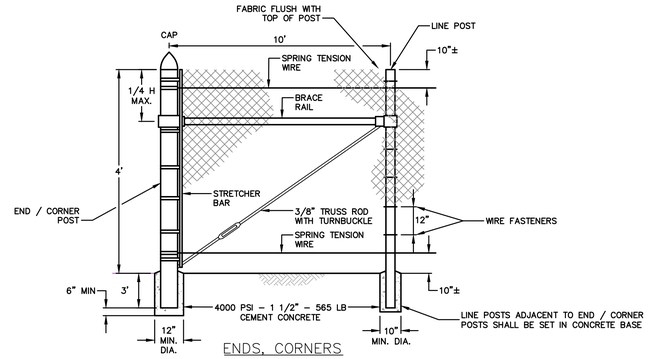
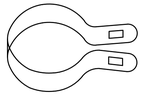


BOLLARD
NOT TO SCALE



ENDS, CORNERS



SPRING TENSION WIRE

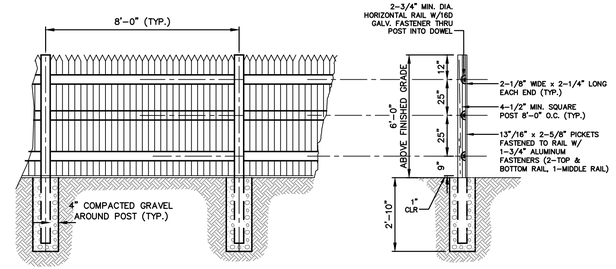
MINIMUM OF (5) TURNS AROUND THE SPRING TENSION WIRE TO END INSTALLATION. ALL BANDS SHALL BE ROUND ON ROUND POSTS.

END BAND

NOTES:

1. FABRIC FOR FENCE: TOP SELVAGE TO HAVE KNUCKLED FINISH, BOTTOM SELVAGE TO HAVE TWISTED AND BARBED FINISH UNLESS OTHERWISE NOTED.
2. GRADE OF FENCE TO BE PARALLEL WITH THE GRADE OF GROUND.
3. FOR DESCRIPTION, MATERIAL AND CONSTRUCTION METHODS, SEE SPECIFICATIONS.
4. SPRING TENSION WIRE TO BE FASTENED TO FABRIC WITH 11 GAUGE HOG RINGS AT 1' INTERVALS.
5. SPRING TENSION WIRE TO BE FASTENED TO LINE POSTS WITH CLIPS.
6. LINE POST TO BE DRIVEN EXCEPT WHERE NOTED ABOVE.

CHAIN LINK FENCE
NOT TO SCALE

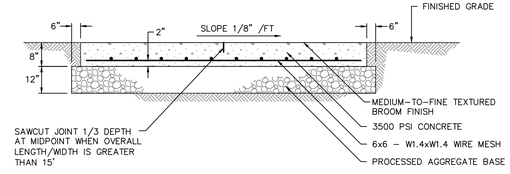


SCREENING FENCE

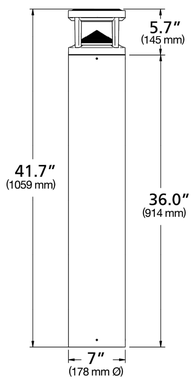
NOTES:

1. ALL FENCING MATERIAL SHALL BE PVC TO THE DIMENSIONS SHOWN ON THE DRAWING.
2. POSTS SHALL MAINTAIN A DEPTH OF 2'–10" IN GROUND AND SHALL BE RACKED TO ACCOMMODATE ANY CHANGES IN GRADE.
3. LINE OF FENCE TOP AND BOTTOM SHALL BE INSTALLED STRAIGHT AND TRUE. ALL POSTS AND FACING BOARDS OR SLATS SHALL BE INSTALLED PARALLEL AND PLUMB. ALL RAILS SHALL BE INSTALLED PARALLEL AND TRUE.
4. ALL GATE HARDWARE SHALL BE DOUBLE DIP HOT GALVANIZED.
5. FENCE SHALL TAPER FROM 6' TO 4' HEIGHT IN SINGLE 8' PANEL WHERE INDICATED ON PLANS.

STOCKADE FENCE
NOT TO SCALE



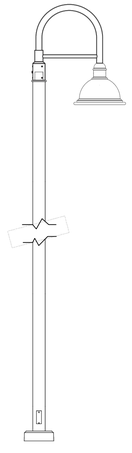
CONCRETE DUMPSTER PAD
NOT TO SCALE



NOTES:

1. LIGHT BOLLARD SHALL BE PAVILION BOLLARD PA7R MANUFACTURED BY KIM LIGHTING.
2. BOLLARD SHALL HAVE A FLAT TOP WITH NO UPLIGHT. A LIGHT ENGINE WITH THE SPECIFICATIONS OF 22W, 4000K, 70CRI, AND A VOLTAGE OF 120–277V.
3. FINISH SHALL BE APPROVED BY OWNER.

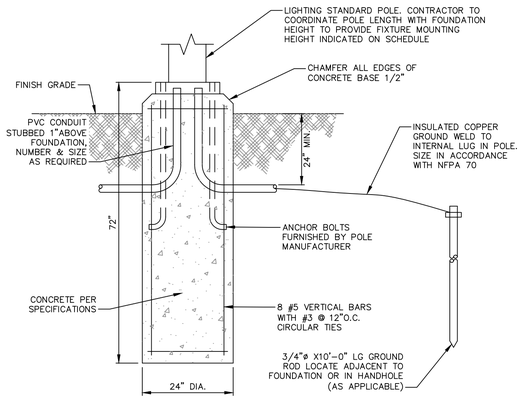
LIGHT BOLLARD
NOT TO SCALE



NOTES:

1. LIGHT FIXTURE SHALL BE 1521LED–R OMEGA MANUFACTURED BY STERNBERG LIGHTING.
2. FIXTURE SHALL HAVE A FLAT LENS, 16L LED RATING, 40K COLOR TEMPERATURE, DISTRIBUTION TYPE T4, A DRIVER MEETING THE SPECIFICATION OF 120–277V,180mA (MOLO18), AND A BACK LIGHT OPTICAL CONTROL.
2. LIGHT POLE SHALL BE 550 CONCORD MANUFACTURED BY STERNBERG LIGHTING.
3. POLE SHALL BE STRAIGHT SMOOTH.
4. LIGHT POLE ARM SHALL BE OES/1–OESPT MANUFACTURED BY STERNBERG LIGHTING.
5. FINISH SHALL BE APPROVED BY OWNER.
6. MOUNTING HEIGHT SHALL BE 12 FEET.

LIGHT POLE & FIXTURE
NOT TO SCALE



LIGHT POLE BASE
NOT TO SCALE

PLANNING BOARD APPROVAL

PLANNING BOARD CHAIR OR DESIGNEE DATE

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
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2.	2/2/23	RIDEM AND CRMC PERMITTING APPLICATION	KLM	SMM
1.	1/25/23	PRELIMINARY PLAN RESPONSE TO TOWN COMMENTS	KLM	SMM

SEAL

SEAL

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VERT.:
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GRAPHIC SCALE

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PROVIDENCE, RI 02908
401.861.3070
www.fando.com

BRADY SULLIVAN PROPERTIES, LLC

DETAILS

BRISTOL YARN MILL

125 THAMES STREET BRISTOL, RHODE ISLAND

PROJ. No.: 20061150.A22
DATE: DECEMBER 6, 2023

CD-510

SHEET 25 OF 28

File Path: \\private\DFS\CadProj\DWG\P2006\1150\A22\Civil\Plan\Permitting Plans\20061150A22_DET01.dwg Layout: CD-510 Plotted: Fri, May 19, 2023 - 3:40 PM User: ajohnson
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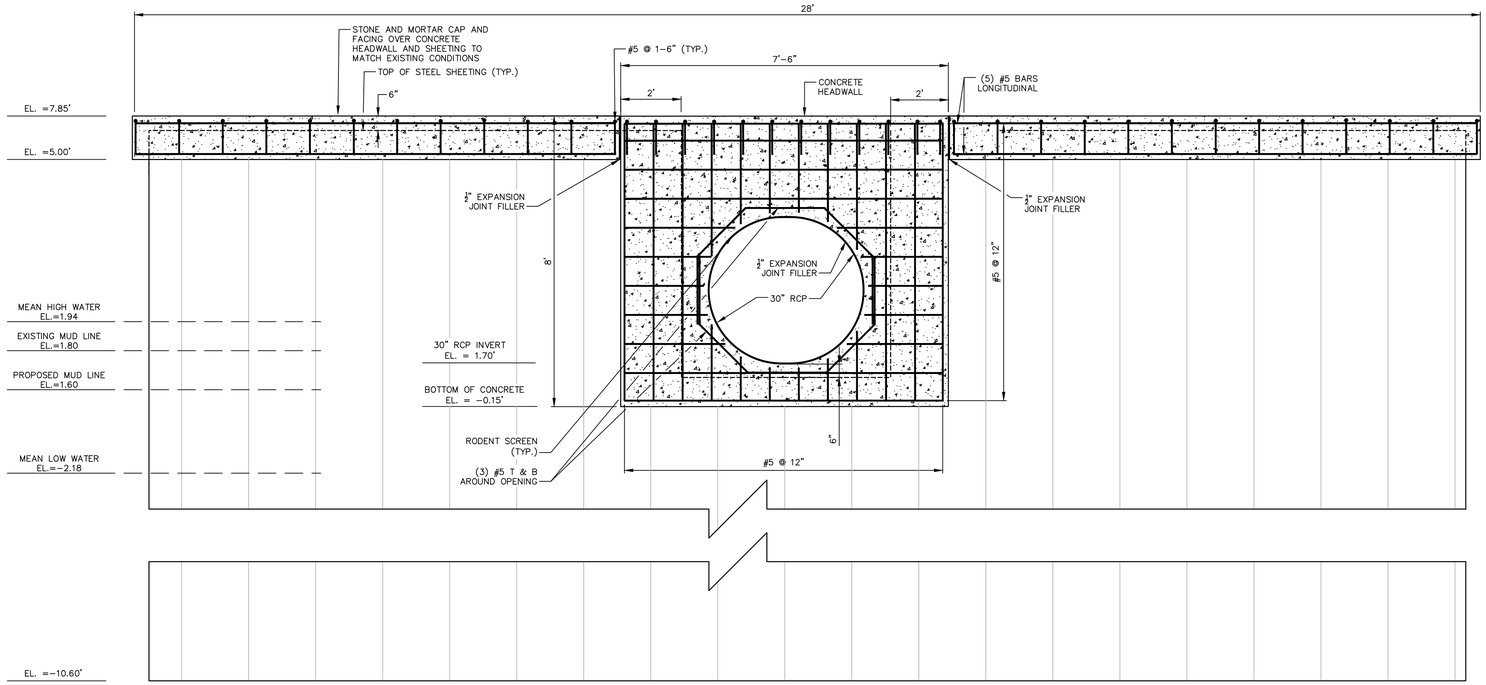
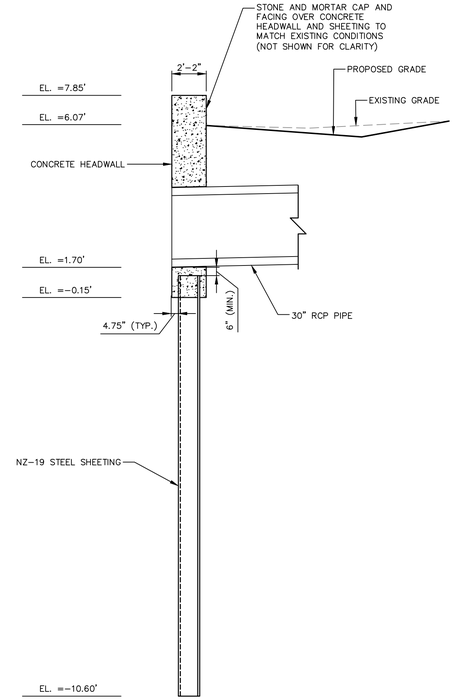


NOTES:

1. BACKFILL SHALL BE LESS 10 PERCENT SILT CONTENT.
2. CEMENT SHALL BE TYPE 2 OR TYPE 5 AIR ENTRAINING PORTLAND CEMENT OR AN EQUIVALENT

HEADWALL PROFILE

NOT TO SCALE



HEADWALL SECTION

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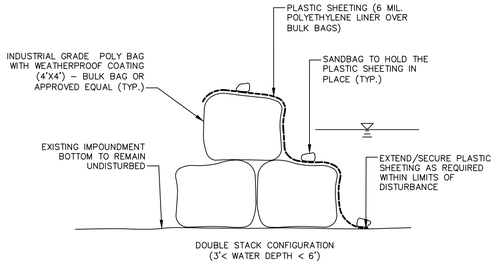
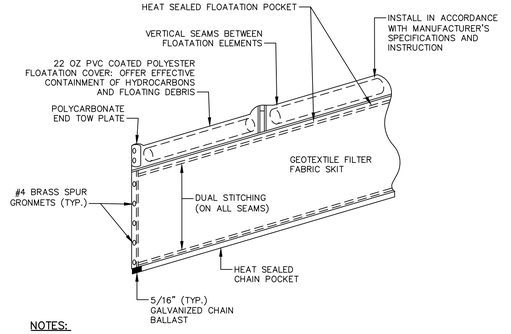


TEMPORARY COFFERDAM

NOT TO SCALE



NOTES:

1. FLOATATION SIZE (6", 8" OR 12" DIA.) DETERMINED BY SKIRT DEPTH/SITE VARIABLES.
2. OTHER END TYPES AVAILABLE SUCH AS ALUMINUM UNIVERSAL SLIDE OR SLOTTED TUBE.
3. OPTIONAL TOP TENSION CABLE (5/16" TYP.) AVAILABLE FOR INCREASED STRENGTH.

TEMPORARY TURBIDITY CURTAIN

NOT TO SCALE

PLANNING BOARD APPROVAL

PLANNING BOARD CHAIR OR DESIGNEE DATE

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4.	5/19/23	RESPONSE TO TRC AND PARE COMMENTS	KLM/MH	SMM
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1.	1/25/23	PRELIMINARY PLAN RESPONSE TO TOWN COMMENTS	KLM	SMM

SEAL

SEAL

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BRADY SULLIVAN PROPERTIES, LLC

DETAILS

BRISTOL YARN MILL

125 THAMES STREET BRISTOL, RHODE ISLAND

PROJ. No.: 20061150.A22
DATE: DECEMBER 6, 2023

CD-511

SHEET 26 OF 28

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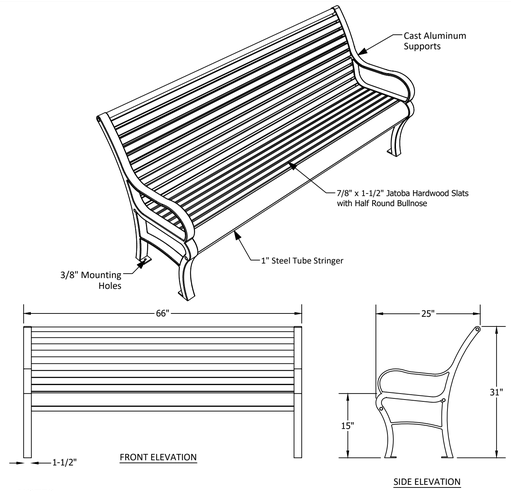
Plotter: NONE CTB File: FO.STB
LAYER STATE:
MS VIEW:

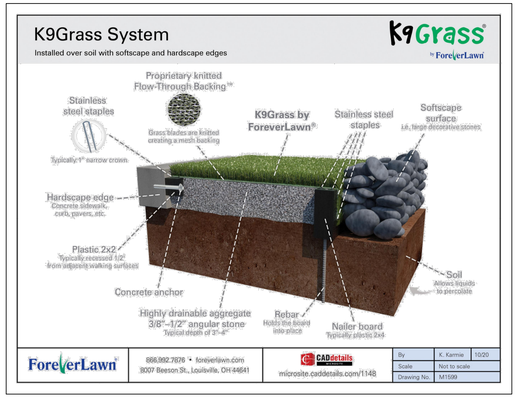
Brentwood Bench
BNBR-6-BR-W

CANTERBURY DESIGNS
5632 W. Washington Blvd. | Los Angeles, CA 90016 | 323.936.7111
Website: www.canterburydesigns.com | E-mail: info@canterburydesigns.com



NOTES:
1. All metal components are sandblasted, cleaned, and finished with zinc epoxy primer and polyester powder coat.
2. Mounting holes are 3/8" diameter; we do not recommend pre-drilling bolt hole locations (anchor bolts not provided).
3. Other lengths and hardwood seating options (e.g., Ipe, Purpleheart) available upon request.
4. Support castings available in aluminum or iron.

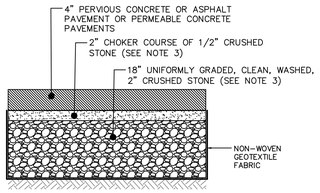
BENCH
NOT TO SCALE



SYNTHETIC TURF
NOT TO SCALE

NOTE:

1. PERVIOUS CONCRETE SHALL COMPLY WITH ACI 522.
2. POROUS ASPHALT PAVEMENT SHALL COMPLY WITH NAPA ASPHALT PAVEMENTS FOR STORMWATER MANAGEMENT: DESIGN, CONSTRUCTION, AND MAINTENANCE GUIDE.
3. PERMEABLE CONCRETE PAVERS SHALL BE INSTALLED ACCORDING TO MANUFACTURER SPECIFICATIONS. AGGREGATE COURSE REQUIREMENTS MAY DIFFER.
4. PROTECT POROUS PAVEMENTS AND AGGREGATES FROM CONSTRUCTION VEHICLE TRAFFIC, RUNOFF FROM ADJACENT AREAS, AND SEDIMENTATION.



PERMEABLE PAVERS
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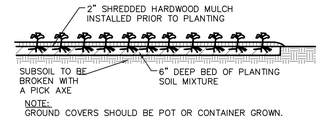
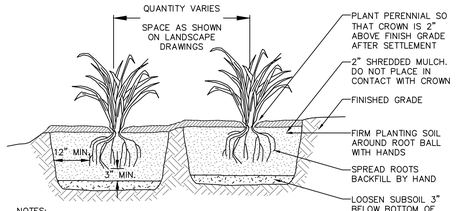


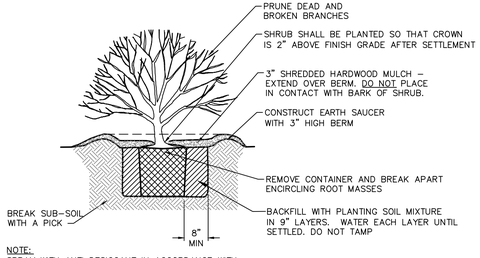
NOTE:
GROUND COVERS SHOULD BE POT OR CONTAINER GROWN.

GROUNDCOVER/ANNUAL PLUG PLANTING
NOT TO SCALE



NOTES:
1. SPADED PLANTING SOIL MIX (3" BELOW ROOT BALL) ADD FERTILIZER WHEN MIXING. DO NOT COMPACT AFTER PLANTING.
2. WATER THOROUGHLY AFTER PLANTING.
3. PROVIDE WELL DRAINING SUBSOIL WHEN SOIL IS HEAVY OR COMPACTED.
4. FOR CONTAINER GROWN PLANTS, USE FINGERS OR SMALL HAND TOOLS TO PULL THE ROOTS OUT OF THE OUTER LAYER OF POTTING SOIL; THEN CUT OR PULL APART ANY ROOTS CIRCLING THE PERIMETER OF THE CONTAINER.

ORNAMENTAL PERENNIALS
NOT TO SCALE

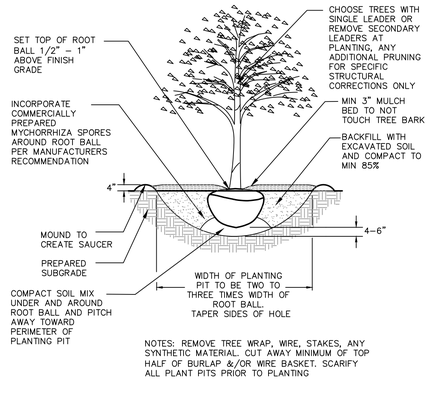


NOTE:
SPRAY WITH ANTI DESICCANT IN ACCORDANCE WITH MFG.'S RECOMMENDATIONS IF FOLIAGE IS PRESENT.

FOR CONTAINER GROWN SHRUBS, USE FINGERS OR SMALL HAND TOOLS TO PULL THE ROOTS OUT OF THE OUTER LAYER OF POTTING SOIL; THEN CUT OR PULL APART ANY ROOTS CIRCLING THE PERIMETER OF THE CONTAINER.

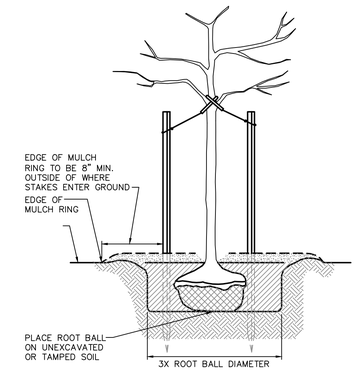
INCORPORATE COMMERCIALLY PREPARED MYCORRHIZA SPORES IN THE SOIL IMMEDIATELY AROUND THE ROOT BALL AT RATES SPECIFIED BY THE MANUFACTURER.

SHRUB PLANTING
NOT TO SCALE



NOTES: REMOVE TREE WRAP, WIRE, STAKES, ANY SYNTHETIC MATERIAL. CUT AWAY MINIMUM OF TOP HALF OF BURLAP &/OR WIRE BASKET. SCARIFY ALL PLANT PITS PRIOR TO PLANTING

TREE PLANTING
NOT TO SCALE



STAKE DETAIL
NOT TO SCALE

PLANNING BOARD APPROVAL

PLANNING BOARD CHAIR OR DESIGNEE DATE

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SEAL

SEAL

SCALE:
HORZ.: AS NOTED
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GRAPHIC SCALE

FUSS & O'NEILL
317 IRON HORSE WAY, SUITE 204
PROVIDENCE, RI 02908
401.861.3070
www.fando.com

BRADY SULLIVAN PROPERTIES, LLC

LANDSCAPING DETAILS

BRISTOL YARN MILL

125 THAMES STREET BRISTOL, RHODE ISLAND

PROJ. No.: 20061150.A22
DATE: DECEMBER 6, 2023

CD-512

SHEET 27 OF 28

File Path: \\private\dfs\CadProj\DWG\P20061150\A22\Civil\Plan\Permitting Plans\20061150A22_DET02.dwg Layout: CD-512 Plotted: Fri, May 19, 2023 - 3:42 PM User: ajohnson
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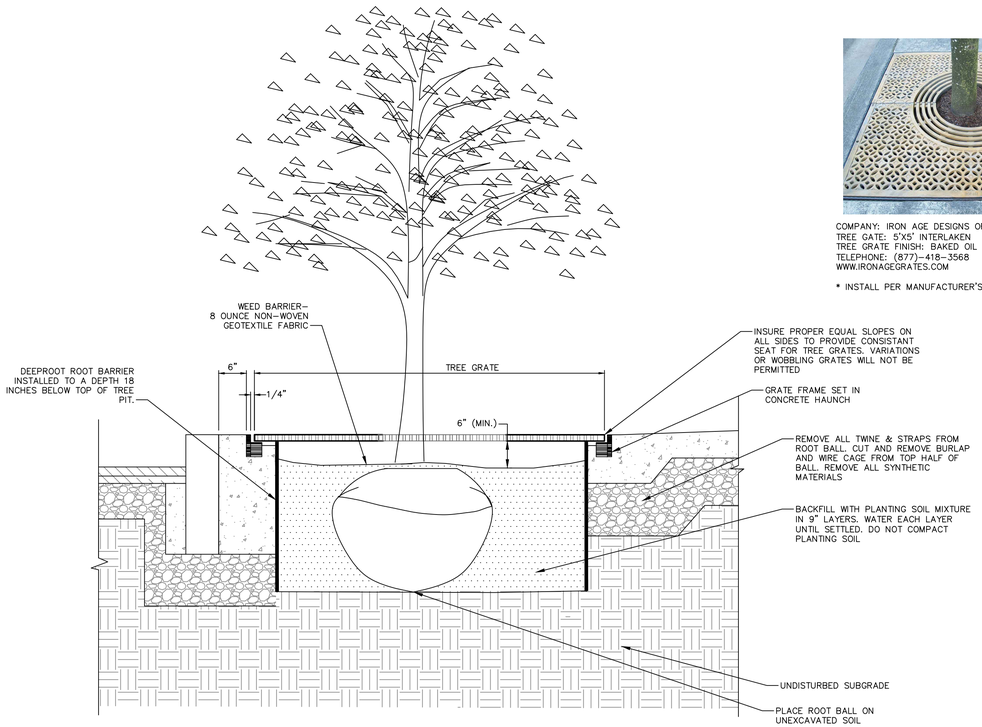

TREE PIT

NOT TO SCALE

COMPANY: IRON AGE DESIGNS OR APPROVED EQUAL.
TREE GATE: 5'X5' INTERLAKEN
TREE GRATE FINISH: BAKED OIL
TELEPHONE: (877)–418–3568
WWW.IRONAGEGRATES.COM

* INSTALL PER MANUFACTURER'S RECOMMENDATIONS.

PLANTING SOIL NOTES

1. SOIL MATERIAL:

1.1. PLANTING SOIL SHALL HAVE A SANDY LOAM, LOAMY SAND, OR LOAM TEXTURE PER USDA TEXTURAL TRIANGLE. MAXIMUM CLAY CONTENT IS <15%. SOIL MIXTURE SHALL BE 50–60% SAND; 20–30% FINE BARK MULCH; AND 20–30% TOPSOIL.

1.2. THE SOIL SHALL BE A UNIFORM MIX, FREE OF STONES, STUMPS, ROOTS, OR OTHER SIMILAR OBJECTS LARGER THAN TWO INCHES. NO OTHER MATERIALS OR SUBSTANCES SHALL BE MIXED OR DUMPED WITHIN THE BIORETENTION THAT MAY BE HARMFUL TO PLANT GROWTH, OR PROVE A HINDRANCE TO THE PLANTING OR MAINTENANCE OPERATIONS. THE PLANTING SOIL SHALL BE FREE OF BERMUDA GRASS, QUACKGRASS, JOHNSON GRASS, MUGWORT, NUTSEDGE, POISON IVY, CANADIAN THISTLE, TEARTHUB, OR OTHER NOXIOUS WEEDS.

1.3. SOIL MIXTURE SHALL HAVE 3–5% ORGANIC MATTER BY VOLUME.

2. LABORATORY TESTING:

2.1. SOIL MUST BE TESTED AND APPROVED AS CLEAN FILL IN ACCORDANCE WITH THE REMEDIAL ACTION WORK PLAN (RAWP) PRIOR TO IMPORTATION TO THE SITE.

2.2. A TEXTURAL ANALYSIS IS REQUIRED TO ENSURE THE SOIL MEETS THE FOLLOWING SPECIFICATIONS.

2.3. THE SOIL SHALL ALSO BE TESTED FOR THE FOLLOWING CRITERIA:

A. PH RANGE 5.2 – 7.0
B. MAGNESIUM NOT TO EXCEED 32 PPM
C. PHOSPHORUS P2O5 NOT TO EXCEED 69 PPM
D. POTASSIUM K2O NOT TO EXCEED 78 PPM
E. SOLUBLE SALTS NOT TO EXCEED 500 PPM

3. SOIL MAY BE MODIFIED TO ADJUST PH (HIGHER) WITH LIME OR (LOWER) WITH IRON SULFATE PLUS SULFUR.

PLANNING BOARD APPROVAL

PLANNING BOARD CHAIR OR DESIGNEE DATE

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
4.	5/19/23	RESPONSE TO TRC AND PARE COMMENTS	KLM/MH	SMM
3.	3/27/23	PRELIMINARY PLAN RESPONSE TO TOWN COMMENTS	KLM	SMM
2.	2/2/23	RIDEM AND CRMC PERMITTING APPLICATION	KLM	SMM
1.	1/25/23	PRELIMINARY PLAN RESPONSE TO TOWN COMMENTS	KLM	SMM

SEAL

SEAL

SCALE:
HORZ.: AS NOTED
VERT.:
DATUM:
HORZ.:
VERT.:
0
GRAPHIC SCALE

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CD-513

SHEET 27 OF 28

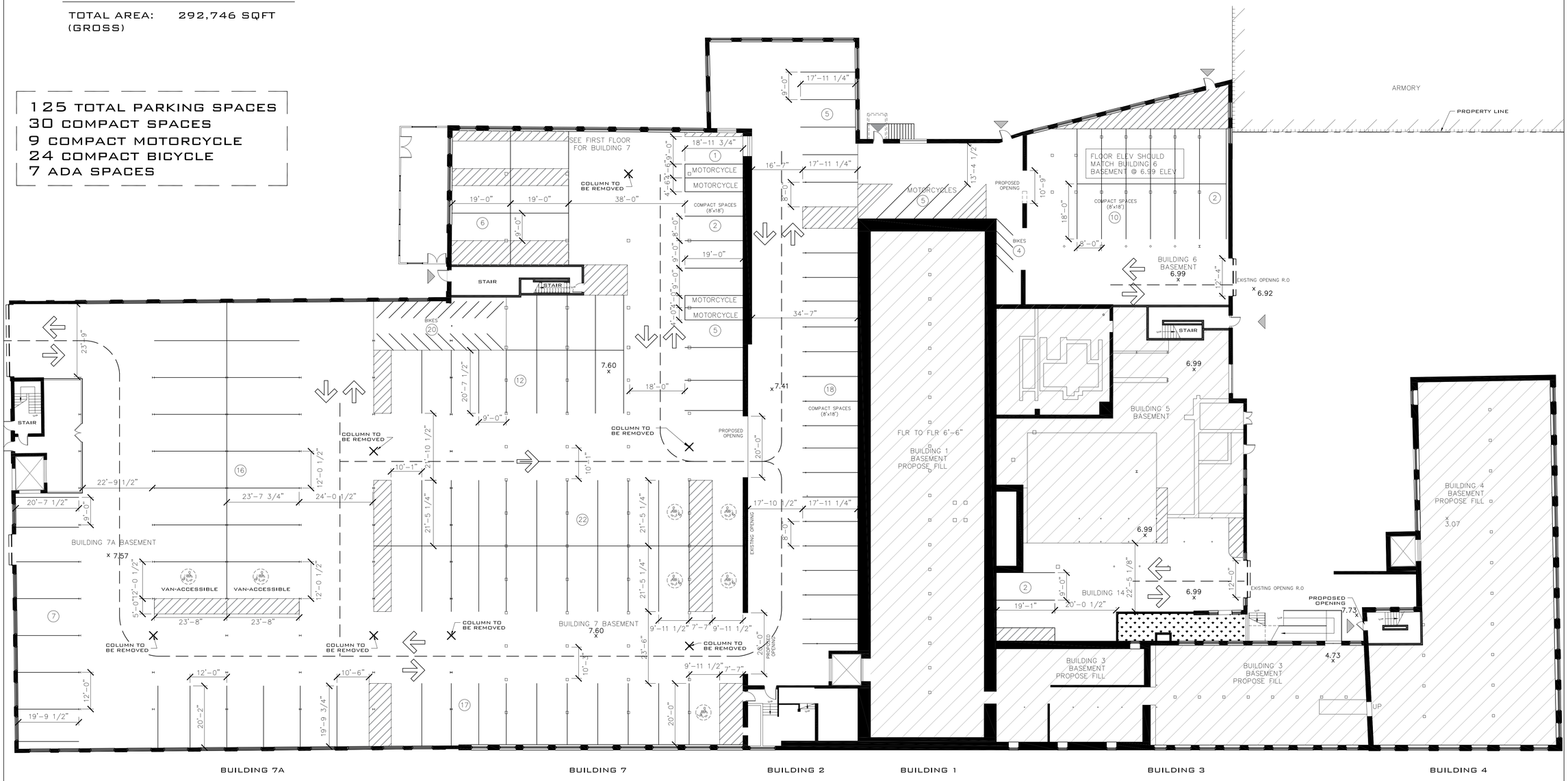
File Path: \\private\DFS\Cad\Proj\DWG\P2006\1150\A22\Civil\Plan\Permitting Plans\20061150A22_DET02.dwg Layout: CD-513 Plotted: Fri, May 19, 2023 - 3:42 PM User: ajohnson
MS VIEW: LAYER STATE: Plotter: AUTOCAD PDF (GENERAL DOCUMENTATION).PC3 CTB File: FO.STB

BUILDING AREAS:

AREA PER FLOOR:

LOWER:	65,460 SQFT
FIRST:	27,054 SQFT
SECOND:	71,365 SQFT
THIRD:	68,054 SQFT
FOURTH:	60,813 SQFT
TOTAL AREA: (GROSS)	292,746 SQFT

125 TOTAL PARKING SPACES
30 COMPACT SPACES
9 COMPACT MOTORCYCLE
24 COMPACT BICYCLE
7 ADA SPACES



1 BASEMENT FLOOR PLAN
1/16" = 1'-0"

BRADY SULLIVAN PROPERTIES
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BRISTOL YARN MILL

125 THAMES ST BRISTOL, RHODE ISLAND

THESE DRAWINGS ARE IN DESIGN DEVELOPMENT. THEY ARE PROGRESS DRAWINGS. THEY ARE NOT INTENDED TO BE CONSTRUCTION DOCUMENTS AND SHOULD NOT BE USED FOR CONSTRUCTION.

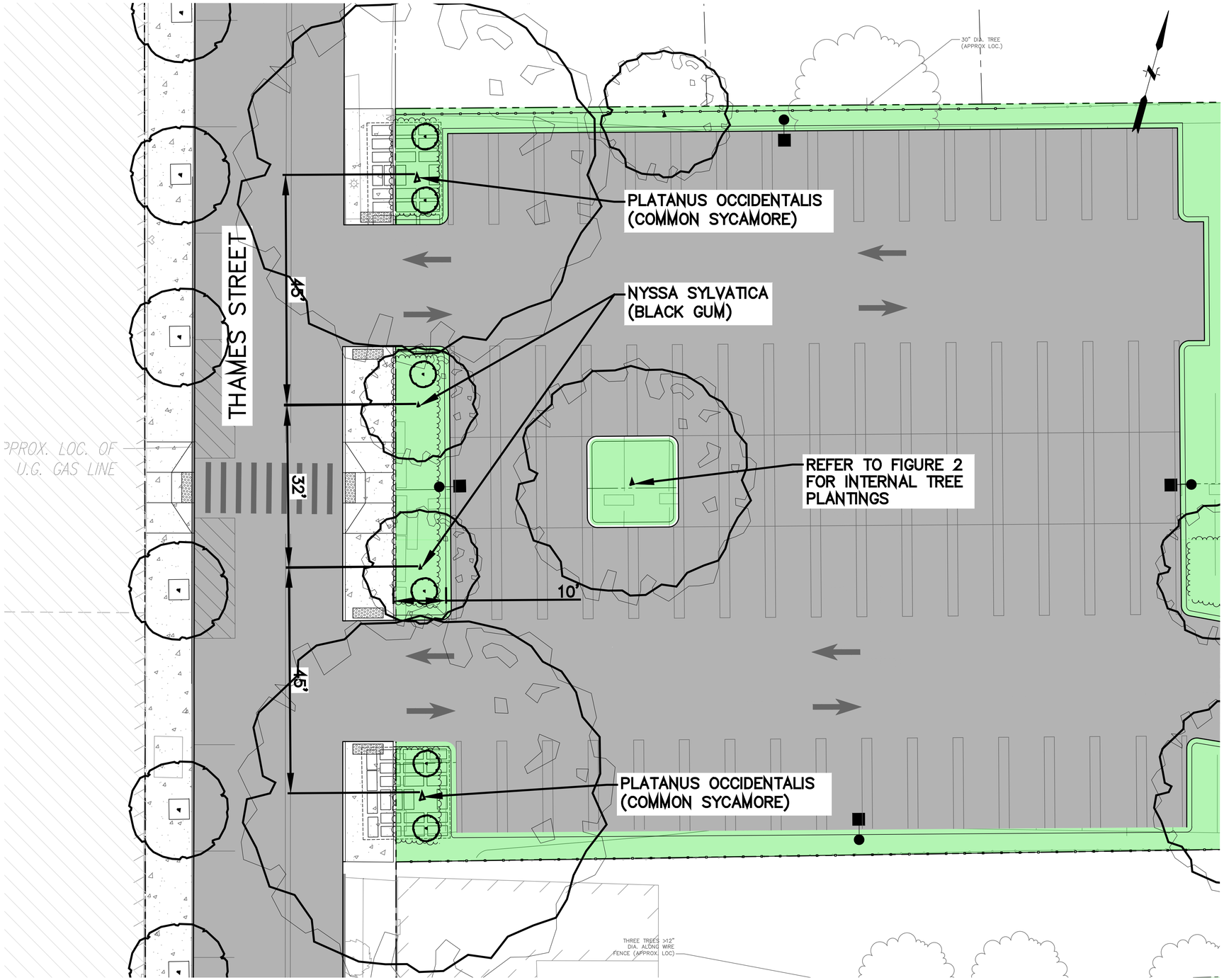
NO.	DESCRIPTION	DATE
2	PRICING DRAWINGS	4/7/23
1		

BASEMENT PARKING PLAN

SHEET ISSUE DATE:	5/19/23
PROJECT NO.:	PROJECT NUMBER
APPROVED BY:	APPROVER
DRAWN BY:	AUTHOR

A1-0

SCALE: AS INDICATED



BRISTOL RHODE ISLAND ZONING REGULATIONS ARTICLE VIII SECTION 28-251(11)A:

ALONG THE STREET FRONTAGE, A THREE-FOOT PLANTED STRIP WITH ONE SHADE TREE FOR EVERY 40 FEET OF FRONTAGE SHALL BE PROVIDED.

BRISTOL RHODE ISLAND ZONING REGULATIONS F ARTICLE F.2(13)(B)

TREES SHALL BE PLANTED AT DISTANCES OF NOT LESS THAN THIRTY (30) FEET NOR MORE THAN FIFTY (50) FEET APAPT ALONG EACH SIDE OF THE STREET PAVEMENT. AT STREET CORNERS, TREE SHALL NOT BE PLANTED WITHIN TWENTY[1] FIVE (25) FEET OF THE INTERSECTING RIGHT-OF-WAY LINES

THE TOWN OF BRISTOL SUBDIVISION AND DEVELOPMENT REVIEW REGULATIONS RECOMMENDED TREE LIST INCLUDES COMMON SYCAMORE AND BLACK GUM.

LEGEND:

PROPERTY LINE

PROPOSED LANDSCAPE AREA

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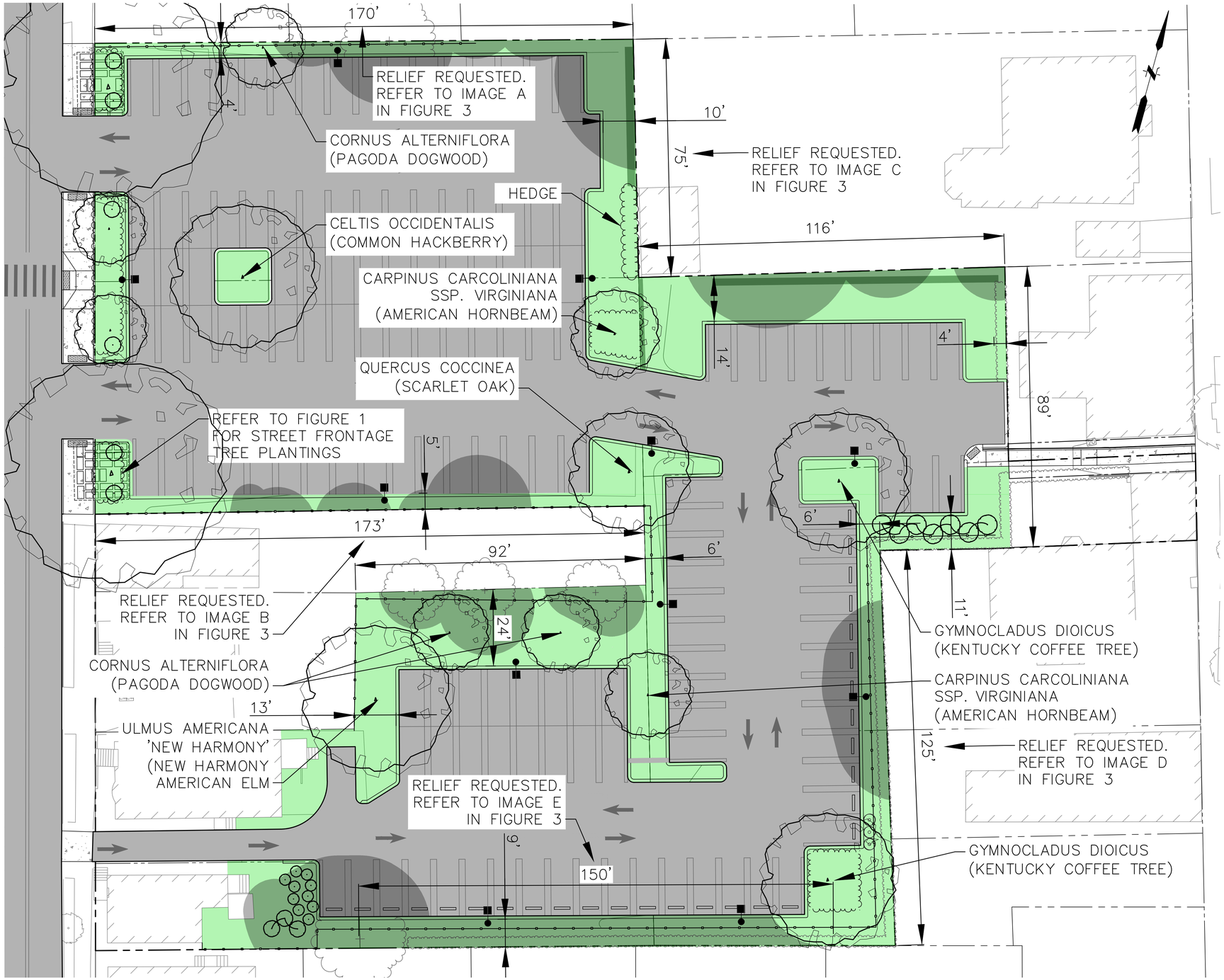
FIGURE 1: STREET FRONTAGE PLANTINGS

MAY 19, 2023

10 5 0 10 FT



BRISTOL RHODE ISLAND ZONING REGULATIONS ARTICLE VIII SECTION 28–251(11)B:

ALONG INTERIOR LOT LINES, A THREE–FOOT PLANTED STRIP WITH ONE SHADE TREE FOR EVERY 50 FEET OF INTERIOR LOT LINES SHALL BE PROVIDED. A HEDGE OF COMPACT EVERGREENS OR OTHER SUITABLE PLANTINGS MAY BE SUBSTITUTED FOR THE PLANTED STRIP.

THE TOWN OF BRISTOL SUBDIVISION AND DEVELOPMENT REVIEW REGULATIONS RECOMMENDED TREE LIST INCLUDES AMERICAN HORNBEAM, COMMON HACKBERRY, KENTUCKY COFFEE TREE, PAGODA DOGWOOD, SCARLET OAK, AND NEW HARMONY AMERICAN ELM.

LEGEND:

- PROPERTY LINE
- EXISTING TREE CANOPY
- PROPOSED LANDSCAPE AREA

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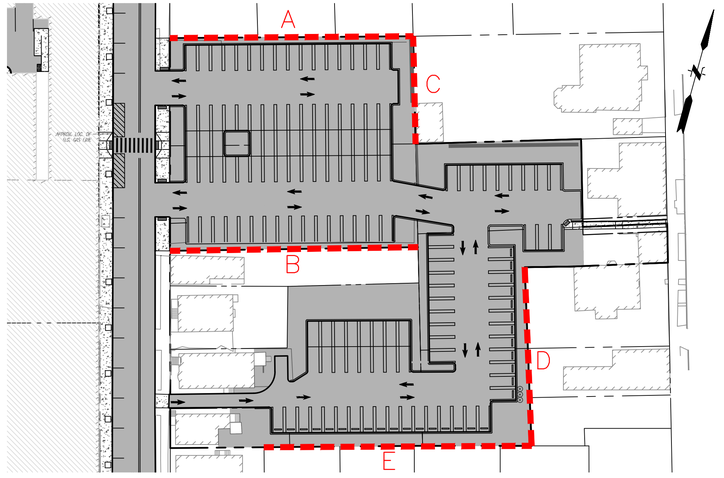
FIGURE 2: INTERIOR LOT LINE PLANTINGS

MAY 19, 2023

20 10 0 20 FT

IMAGE A: PROPERTY LINE NORTH OF EXISTING PAVED AREA (ADJACENT TO LOTS 37–39)

IMAGE B: PROPERTY LINE SOUTH OF EXISTING PAVED AREA (ADJACENT TO LOT 45)



KEY

100 50 0 100 FT

IMAGE C: PROPERTY LINE EAST OF EXISTING PAVED AREA (ADJACENT TO LOT 40)

IMAGE D: EASTERN PROPERTY LINE (ADJACENT TO LOTS 46, 75, AND 78)

IMAGE E: SOUTHERN PROPERTY LINE (ADJACENT TO LOTS 53–56)

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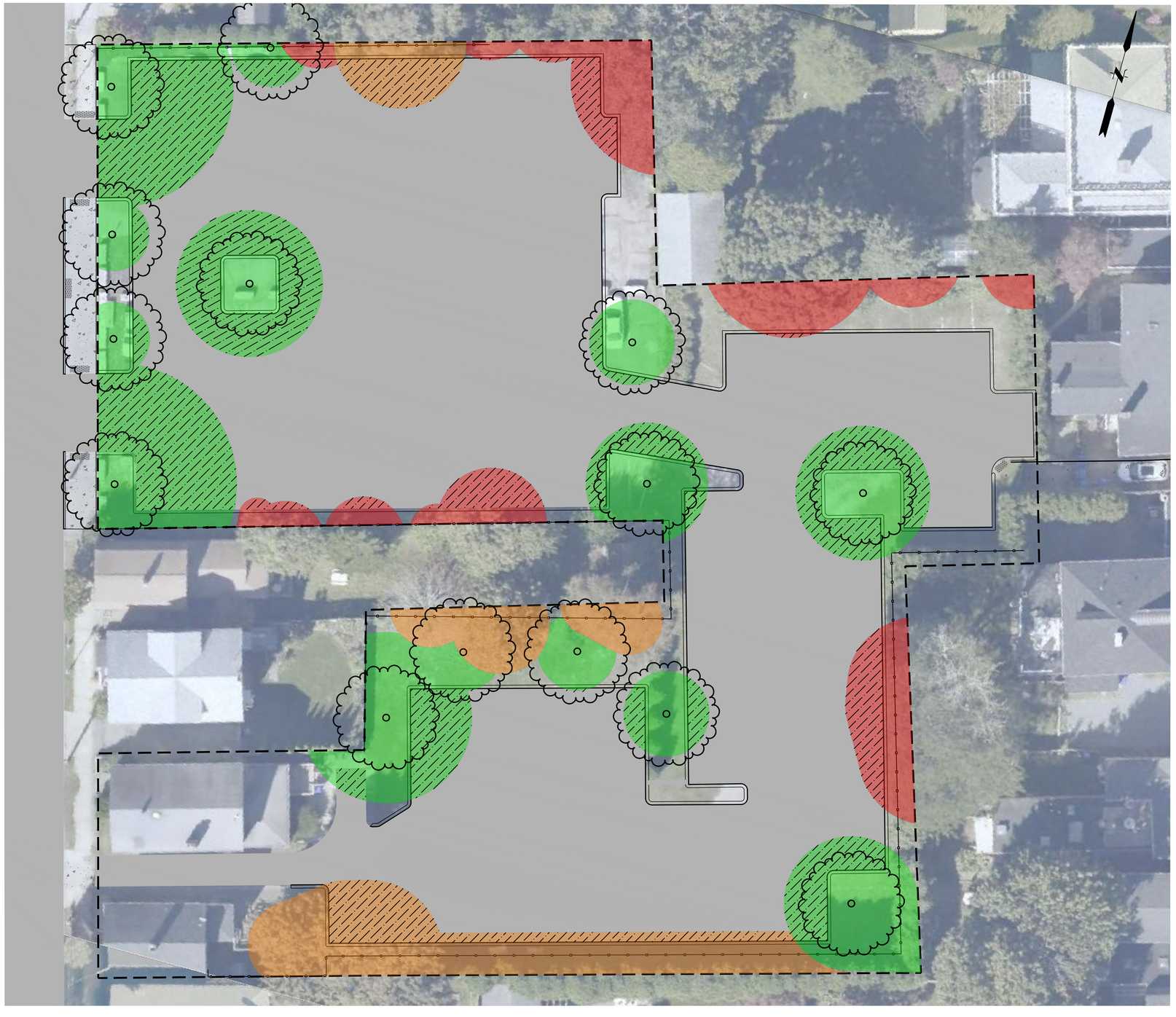
FIGURE 3: INTERIOR LOT LINE IMAGES

MAY 19, 2023



BRISTOL RHODE ISLAND ZONING REGULATIONS ARTICLE VIII SECTION 28–251(11)C:

20% OF THE PARKING AREA SHALL BE SHADED BY DECIDUOUS TREES.

TREE CANOPY SUMMARY:

	LOT COVERAGE (SF)	LOT COVERAGE (%)	PARKING AREA COVERAGE (SF)	PARKING AREA COVERAGE (%)
LOT	61,135	–	–	–
PAVED PARKING AREA	41,360	67.7%	–	–
EXISTING TREE CANOPY (OFF–SITE)	3,870	6.3%	1,170	2.8%
EXISTING TREE CANOPY (ON–SITE)	4,675	7.7%	1,335	3.2%
PROPOSED TREE CANOPY (ASSUMING 75% CANOPY GROWTH)	12,765	20.9%	6955	16.8%
PROPOSED TREE CANOPY (ASSUMING 15–FT CANOPY RADIUS)	8,480	13.9%	2,430	5.9%
TOTAL TREE CANOPY (75% GROWTH)	21,310	34.9%	9,460	22.8%
TOTAL ON–SITE TREE CANOPY (75% GROWTH, NO OFF–SITE)	17,440	28.6%	8,290	20%
TOTAL ON–SITE TREE CANOPY (15–FT RADIUS, NO OFF–SITE)	11,690	19.1%	3,440	8.3%

LEGEND:

- LOT BOUNDARY
- PROPOSED PAVED PARKING AREA
- PROPOSED TREE (15–FOOT RADIUS)
- PROPOSED TREE CANOPY (75% GROWTH)
- EXISTING TREE CANOPY (ON–SITE)
- EXISTING TREE CANOPY (OFF–SITE)
- TREE CANOPY OVER PARKING AREA

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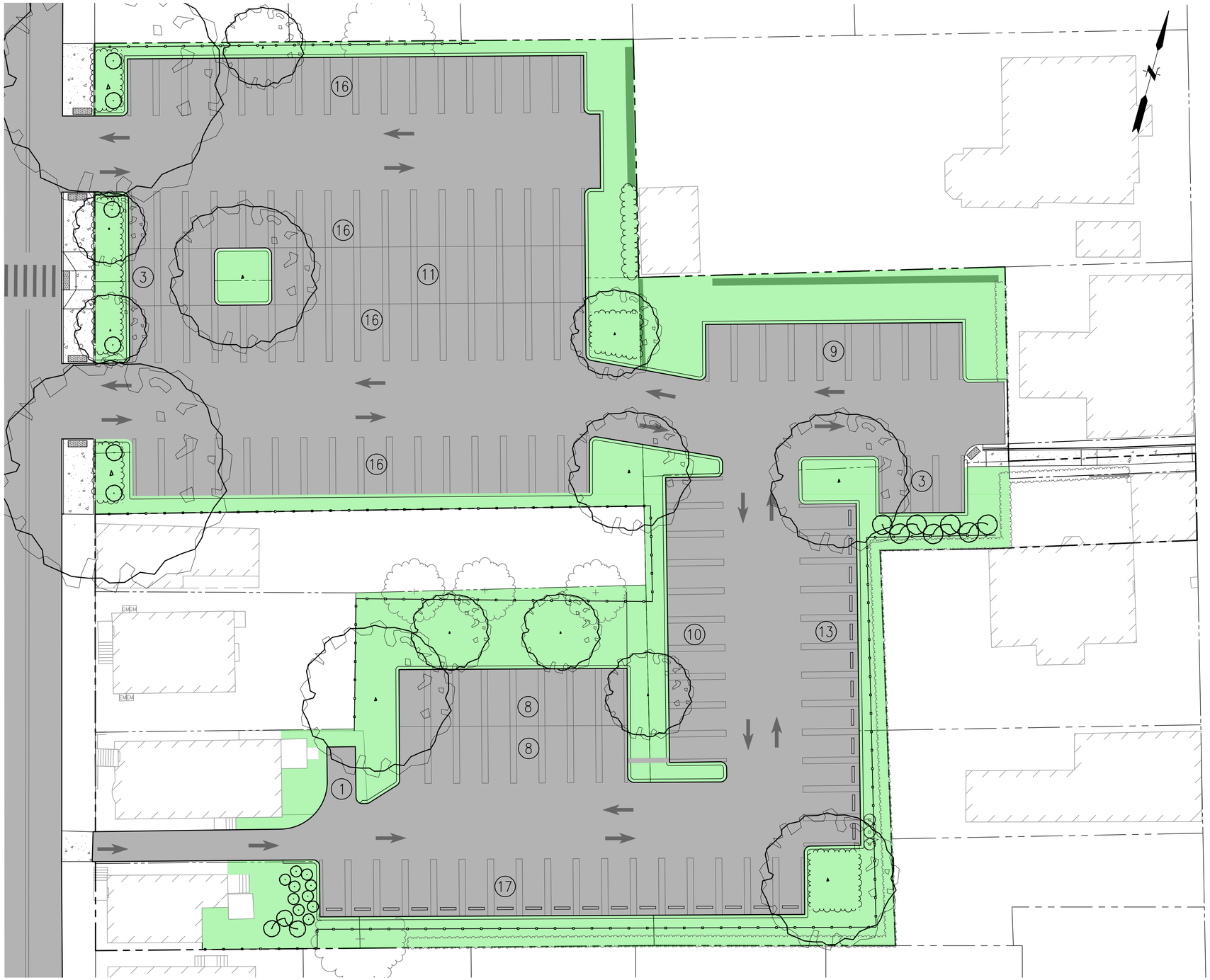
FIGURE 4: PARKING LOT SHADING

MAY 19, 2023

20 10 0 20 FT



BRISTOL RHODE ISLAND ZONING REGULATIONS
ARTICLE VIII SECTION 28–251(11)C:

THE INTERIOR OF PARKING AREAS SHALL HAVE A MINIMUM OF TEN SQUARE FEET OF LANDSCAPING FOR EACH PARKING SPACE.

PARKING AND LANDSCAPING SUMMARY:

PARKING SPACES	147
REQUIRED LANDSCAPE AREA	1,470 SF
PROVIDED LANDSCAPE AREA	16,630 SF
LANDSCAPING PER PARKING SPACE	113 SF

LEGEND:

PROPERTY LINE

PROPOSED LANDSCAPE AREA

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FIGURE 5: PARKING TO LANDSCAPING RATIO

MAY 19, 2023

20 10 0 20 FT

FUSS & O'NEILL	Prepared By	Date	Checked By	Date	Project No
	AFJ	5/10/23	SMM	5/19/23	20061150.A22

Sheet No 1 of 2

Buoyancy Calculations

1) Subsurface Infiltration System 1

System footprint = 38.80' × 14.83' = 575.4SF
Depth of system = 9.66' − 5.16' = 4.5 feet
Ground water elevation = 10.26'
→ System fully lined and submerged

$V_{displaced}$ = 575.4SF × 4.5ft = 2589.3cf

F_B = 62.4lbs/cf × 2589.3cf = **161,572.32lbs** ↑

* Weight of chamber (Stormtech SC-310) = 37lbs
Weight of sand (dry) = 100lbs/cf
Weight of pea gravel = 96 lbs/cf
Weight of stone = 105 lbs/cf

V_{sand} = 18" × 575.4SF = 863.1 cf

V_{peagr} = 8" × 575.4SF = 383.6 cf

V_{stone} = 1,048 cf (from HydroCAD)

F_W = (37lbs × 20 chambers) + (863.1cf × 100lbs/cf) + (383.6cf × 96lbs/cf) + (1,048cf × 105lbs/cf) = **233,915.6lbs** ↓

$F_W \geq F_B$ ✓

FS = Factor of Safety = F_W / F_B = 233,915.6lbs / 161,572.3lbs

FS = 1.45

No ballast needed

2) Subsurface Filtration System 2

System footprint = 38.5' x 21.5' = 834.2 sf
Depth of System = 9.3 - 4.47 = 4.83 ft
Groundwater elevation = 11.15'
→ System fully lined and submerged

$V_{displaced}$ = 834.2 sf * 4.83 ft = 4029.186 cf

F_B = 62.41 lb/cf * 4029.19 cf = **251,421.21 lbs ↑**

* see weight of materials in calc for subsurface filtration system 1

V_{sand} = 18" * 834.2 sf = 1251.3 cf

$V_{pea\ gr}$ = 12" * 834.2 sf = 834.2 cf

V_{stone} = 1,504.2 cf (from Hydro CAD)

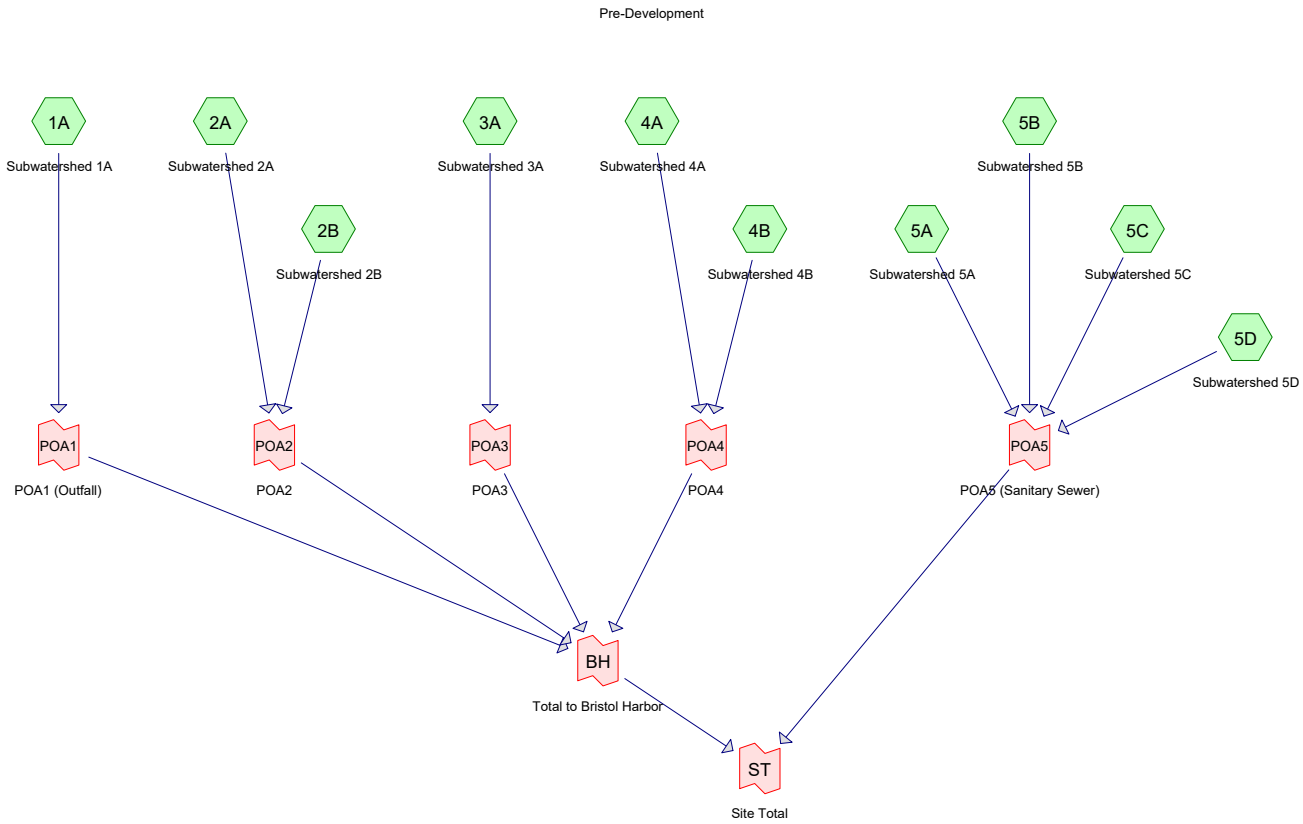
F_W = (37 lbs * 30 chambers) + (1251.3 cf * 100 lbs/cf) + (834.2 cf * 90 lbs/cf) + (1,504.2 cf * 105 lbs/cf) = **364,264.2 lbs ↓**

$$F_W \geq F_B \checkmark$$

FS = Factor of safety = F_W / F_B = 364,264.2 lbs / 251,421.2 lbs

FS = 1.45

No ballast needed



Subcat Reach Pond Link

Routing Diagram for Bristol Yarn Mill-2305
Prepared by Fuss & O'Neill, Printed 5/19/2023
HydroCAD® 10.20-2g s/n 01614 © 2022 HydroCAD Software Solutions LLC

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	1-Yr	Type II 24-hr		Default	24.00	1	2.80	2
2	10-Yr	Type II 24-hr		Default	24.00	1	4.90	2
3	25-Yr	Type II 24-hr		Default	24.00	1	6.10	2
4	100-Yr	Type II 24-hr		Default	24.00	1	8.60	2

Area Listing (selected nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
50,197	79	50-75% Grass cover, Fair, HSG C (4A)
16,327	74	>75% Grass cover, Good, HSG C (2A)
6,923	89	Gravel roads, HSG C (4A)
4,386	96	Gravel surface, HSG C (2A)
44,938	98	Paved parking, HSG C (2A, 3A, 4A)
99,545	98	Roofs, HSG C (1A, 2A, 2B, 3A, 4A, 4B, 5A, 5B, 5C, 5D)
222,316	**92**	**TOTAL AREA**

Soil Listing (selected nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
0	HSG A	
0	HSG B	
222,316	HSG C	1A, 2A, 2B, 3A, 4A, 4B, 5A, 5B, 5C, 5D
0	HSG D	
0	Other	
222,316		**TOTAL AREA**

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment1A: Subwatershed1A Runoff Area=28,011 sf 100.00% Impervious Runoff Depth>0.98"
Tc=5.0 min CN=0/98 Runoff=1.04 cfs 2,299 cf

Subcatchment2A: Subwatershed2A Runoff Area=26,399 sf 21.54% Impervious Runoff Depth>0.32"
Flow Length=120' Slope=0.0080 '/' Tc=23.5 min CN=79/98 Runoff=0.16 cfs 694 cf

Subcatchment2B: Subwatershed2B Runoff Area=21,421 sf 100.00% Impervious Runoff Depth>0.98"
Tc=5.0 min CN=0/98 Runoff=0.80 cfs 1,758 cf

Subcatchment3A: Subwatershed3A Runoff Area=11,778 sf 100.00% Impervious Runoff Depth>0.99"
Flow Length=288' Tc=2.6 min CN=0/98 Runoff=0.46 cfs 967 cf

Subcatchment4A: Subwatershed4A Runoff Area=99,693 sf 42.70% Impervious Runoff Depth>0.51"
Flow Length=882' Tc=10.3 min CN=80/98 Runoff=1.53 cfs 4,216 cf

Subcatchment4B: Subwatershed4B Runoff Area=2,561 sf 100.00% Impervious Runoff Depth>0.99"
Flow Length=366' Tc=3.0 min CN=0/98 Runoff=0.10 cfs 210 cf

Subcatchment5A: Subwatershed5A Runoff Area=3,776 sf 100.00% Impervious Runoff Depth>0.98"
Tc=5.0 min CN=0/98 Runoff=0.14 cfs 310 cf

Subcatchment5B: Subwatershed5B Runoff Area=6,715 sf 100.00% Impervious Runoff Depth>0.98"
Tc=5.0 min CN=0/98 Runoff=0.25 cfs 551 cf

Subcatchment5C: Subwatershed5C Runoff Area=9,956 sf 100.00% Impervious Runoff Depth>0.98"
Tc=5.0 min CN=0/98 Runoff=0.37 cfs 817 cf

Subcatchment5D: Subwatershed5D Runoff Area=12,006 sf 100.00% Impervious Runoff Depth>0.98"
Tc=5.0 min CN=0/98 Runoff=0.45 cfs 985 cf

Link BH: Total to Bristol Harbor Inflow=3.68 cfs 10,145 cf
Primary=3.68 cfs 10,145 cf

Link POA1: POA1 (Outfall) Inflow=1.04 cfs 2,299 cf
Primary=1.04 cfs 2,299 cf

Link POA2: POA2 Inflow=0.86 cfs 2,452 cf
Primary=0.86 cfs 2,452 cf

Link POA3: POA3 Inflow=0.46 cfs 967 cf
Primary=0.46 cfs 967 cf

Link POA4: POA4 Inflow=1.57 cfs 4,427 cf
Primary=1.57 cfs 4,427 cf

Link POA5: POA5 (Sanitary Sewer) Inflow=1.21 cfs 2,664 cf
Primary=1.21 cfs 2,664 cf

Link ST: Site Total Inflow=4.88 cfs 12,809 cf
Primary=4.88 cfs 12,809 cf

Total Runoff Area = 222,316 sf Runoff Volume = 12,809 cf Average Runoff Depth = 0.69"
35.01% Pervious = 77,833 sf 64.99% Impervious = 144,483 sf

Summary for Subcatchment 1A: Subwatershed 1A

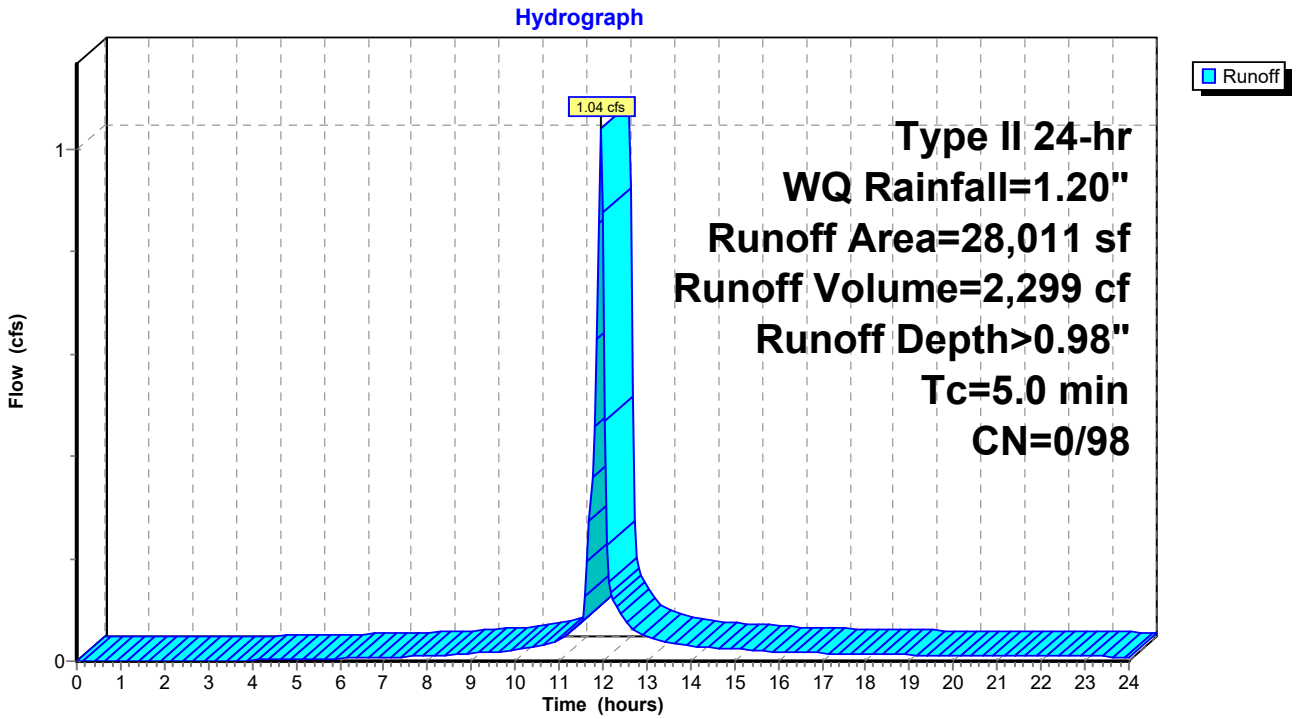
Runoff = 1.04 cfs @ 11.95 hrs, Volume= 2,299 cf, Depth> 0.98"
Routed to Link POA1 : POA1 (Outfall)

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-24.00 hrs, dt= 0.05
Type II 24-hr WQ Rainfall=1.20"

Area (sf)	CN	Description
28,011	98	Roofs, HSG C
28,011	98	100.00% Impervious Area

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

Subcatchment 1A: Subwatershed 1A



Summary for Subcatchment 2A: Subwatershed 2A

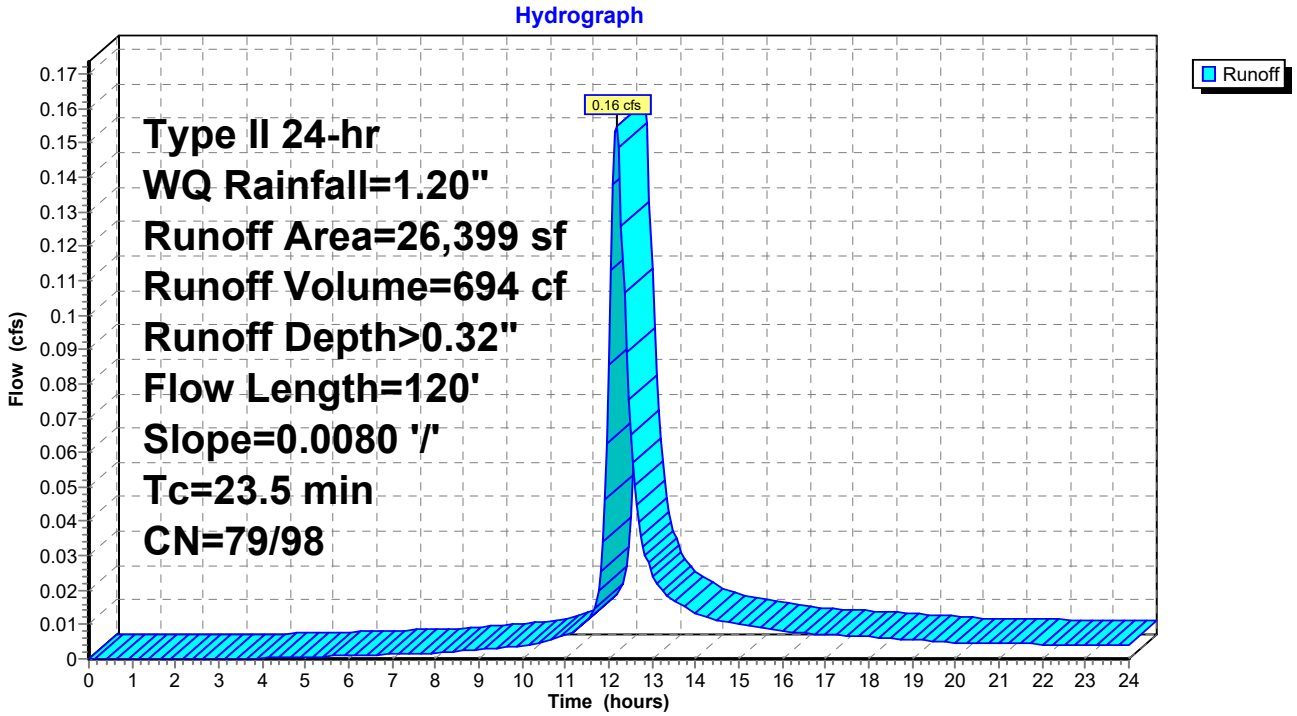
Runoff = 0.16 cfs @ 12.18 hrs, Volume= 694 cf, Depth> 0.32"
Routed to Link POA2 : POA2

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-24.00 hrs, dt= 0.05
Type II 24-hr WQ Rainfall=1.20"

Area (sf)	CN	Description
838	98	Roofs, HSG C
4,848	98	Paved parking, HSG C
4,386	96	Gravel surface, HSG C
16,327	74	>75% Grass cover, Good, HSG C
26,399	83	Weighted Average
20,713	79	78.46% Pervious Area
5,686	98	21.54% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.5	120	0.0080	0.09		**Sheet Flow, Lawn** Grass: Dense n= 0.240 P2= 3.30"

Subcatchment 2A: Subwatershed 2A



Summary for Subcatchment 2B: Subwatershed 2B

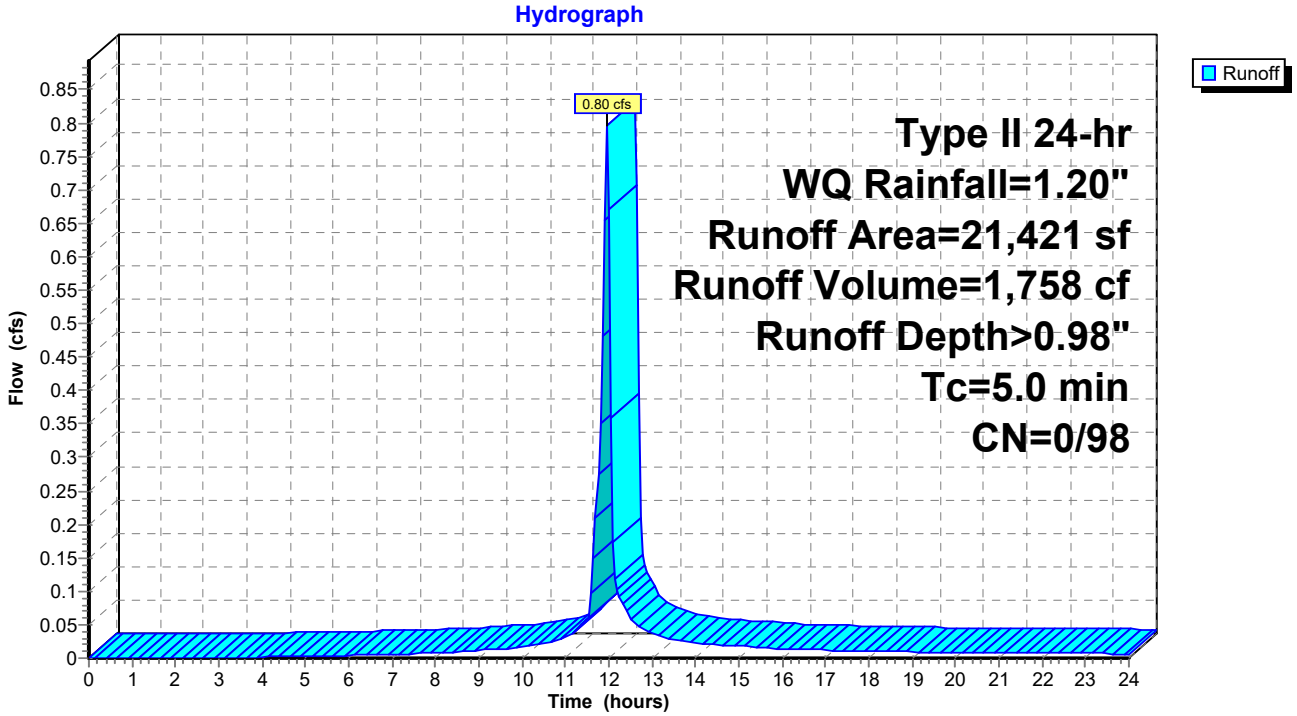
Runoff = 0.80 cfs @ 11.95 hrs, Volume= 1,758 cf, Depth> 0.98"
Routed to Link POA2 : POA2

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-24.00 hrs, dt= 0.05
Type II 24-hr WQ Rainfall=1.20"

Area (sf)	CN	Description
21,421	98	Roofs, HSG C
21,421	98	100.00% Impervious Area

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

Subcatchment 2B: Subwatershed 2B



Summary for Subcatchment 3A: Subwatershed 3A

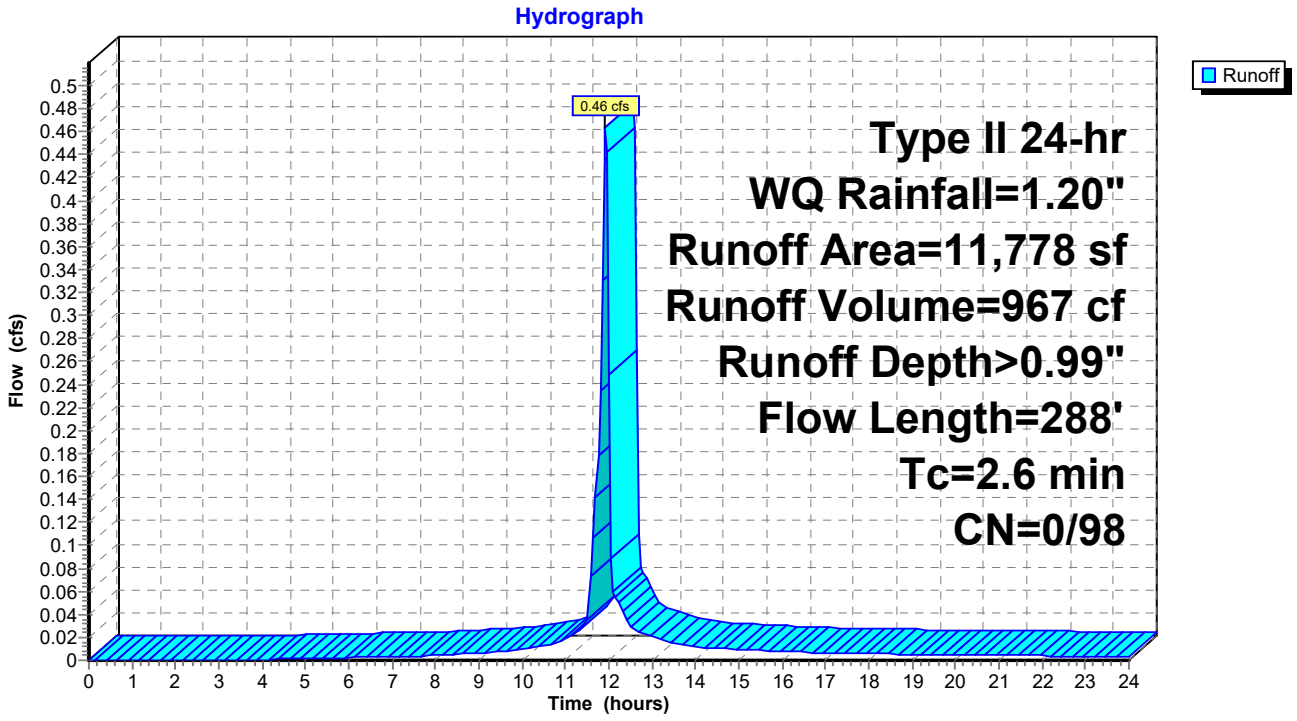
Runoff = 0.46 cfs @ 11.93 hrs, Volume= 967 cf, Depth> 0.99"
Routed to Link POA3 : POA3

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-24.00 hrs, dt= 0.05
Type II 24-hr WQ Rainfall=1.20"

Area (sf)	CN	Description
2,443	98	Roofs, HSG C
9,335	98	Paved parking, HSG C
11,778	98	Weighted Average
11,778	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	18	0.2000	2.49		**Sheet Flow, Sloped Roof** Smooth surfaces n= 0.011 P2= 3.30"
2.5	270	0.0080	1.82		**Shallow Concentrated Flow, Paved Parking Lot** Paved Kv= 20.3 fps
2.6	288	Total			

Subcatchment 3A: Subwatershed 3A



Summary for Subcatchment 4A: Subwatershed 4A

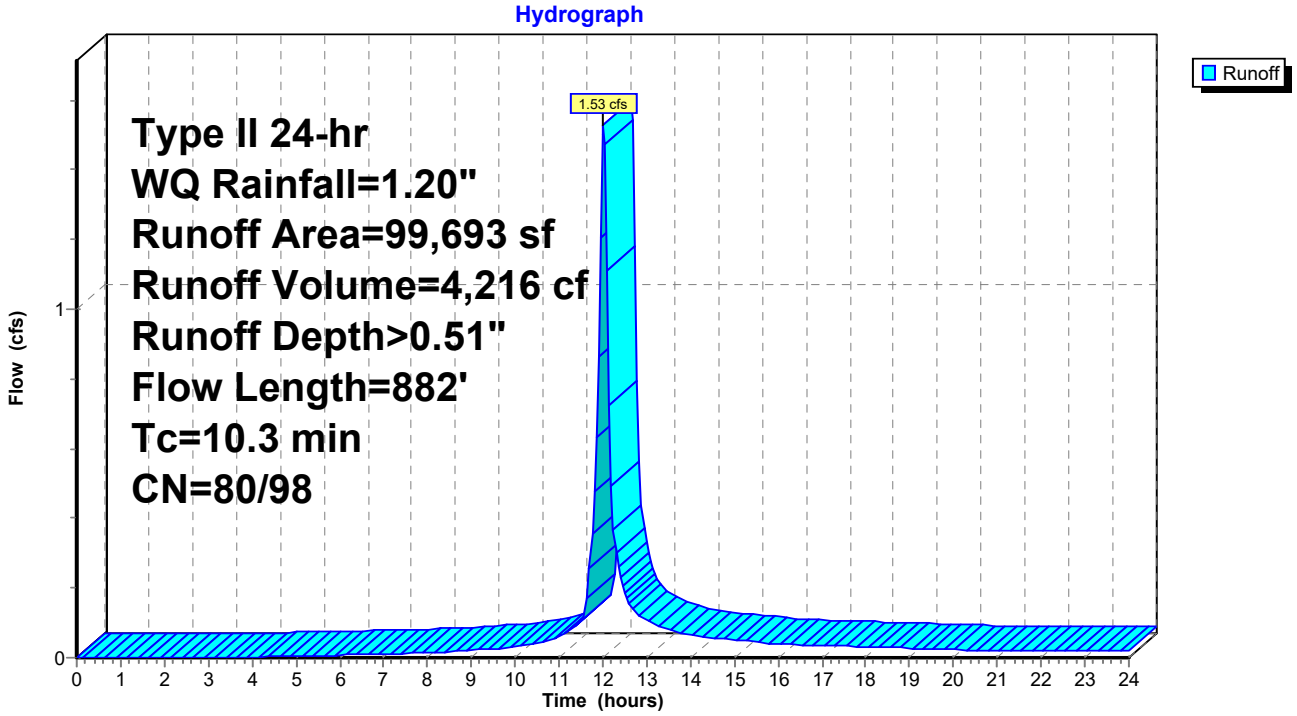
Runoff = 1.53 cfs @ 12.02 hrs, Volume= 4,216 cf, Depth> 0.51"
Routed to Link POA4 : POA4

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-24.00 hrs, dt= 0.05
Type II 24-hr WQ Rainfall=1.20"

Area (sf)	CN	Description
11,818	98	Roofs, HSG C
30,755	98	Paved parking, HSG C
6,923	89	Gravel roads, HSG C
50,197	79	50-75% Grass cover, Fair, HSG C
99,693	88	Weighted Average
57,120	80	57.30% Pervious Area
42,573	98	42.70% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	17	0.2000	2.46		**Sheet Flow, Sloped Roof** Smooth surfaces n= 0.011 P2= 3.30"
4.5	42	0.0600	0.15		**Sheet Flow, Lawn** Grass: Dense n= 0.240 P2= 3.30"
1.0	110	0.0400	1.88		**Sheet Flow, Gravel** Smooth surfaces n= 0.011 P2= 3.30"
1.0	195	0.0250	3.21		**Shallow Concentrated Flow, Paved Parking Lot** Paved Kv= 20.3 fps
2.8	254	0.0054	1.49		**Shallow Concentrated Flow, Thames Street** Paved Kv= 20.3 fps
0.9	264	0.0050	4.77	18.98	**Pipe Channel, Storm Drain** 27.0" Round Area= 4.0 sf Perim= 7.1' r= 0.56' n= 0.015 Concrete sewer w/manholes & inlets
10.3	882	Total			

Subcatchment 4A: Subwatershed 4A



Summary for Subcatchment 4B: Subwatershed 4B

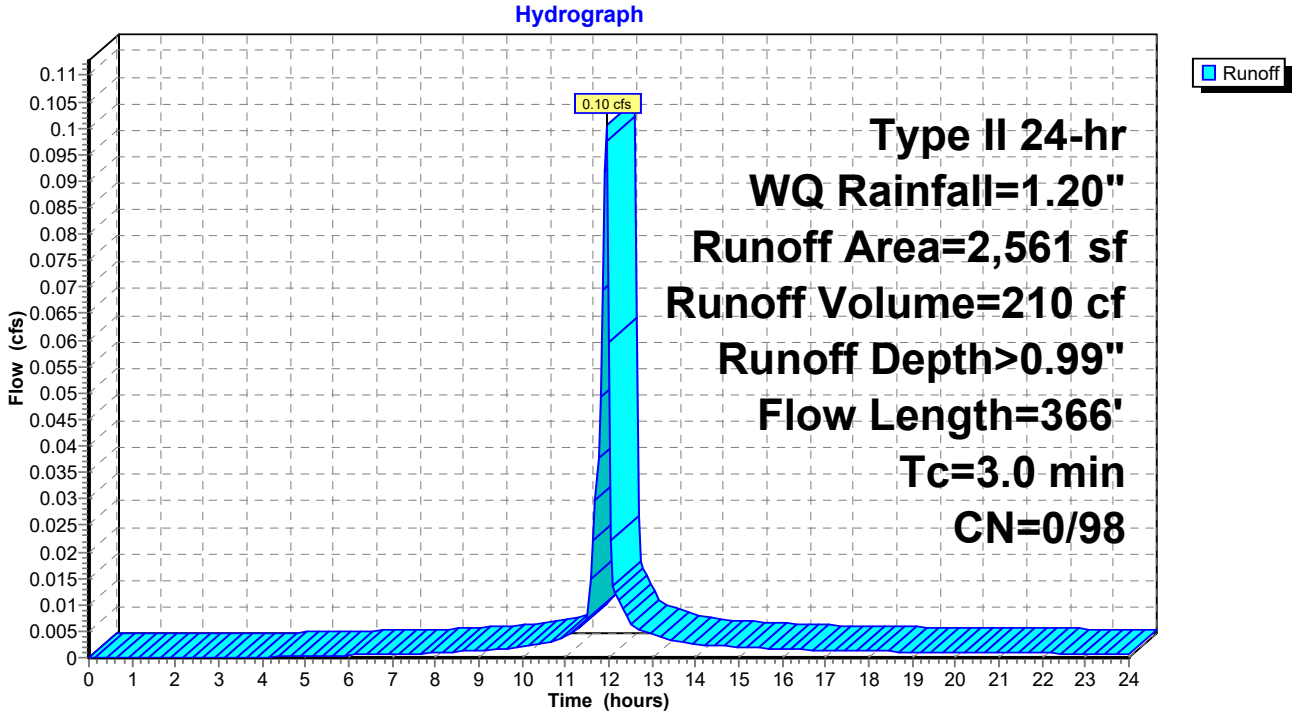
Runoff = 0.10 cfs @ 11.93 hrs, Volume= 210 cf, Depth> 0.99"
Routed to Link POA4 : POA4

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-24.00 hrs, dt= 0.05
Type II 24-hr WQ Rainfall=1.20"

Area (sf)	CN	Description
2,561	98	Roofs, HSG C
2,561	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	18	0.2000	2.49		**Sheet Flow, Sloped Roof** Smooth surfaces n= 0.011 P2= 3.30"
1.8	135	0.0040	1.28		**Shallow Concentrated Flow, Thames Street** Paved Kv= 20.3 fps
1.1	213	0.0050	3.21	2.52	**Pipe Channel, Storm Drain** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Clay tile
3.0	366	Total			

Subcatchment 4B: Subwatershed 4B



Summary for Subcatchment 5A: Subwatershed 5A

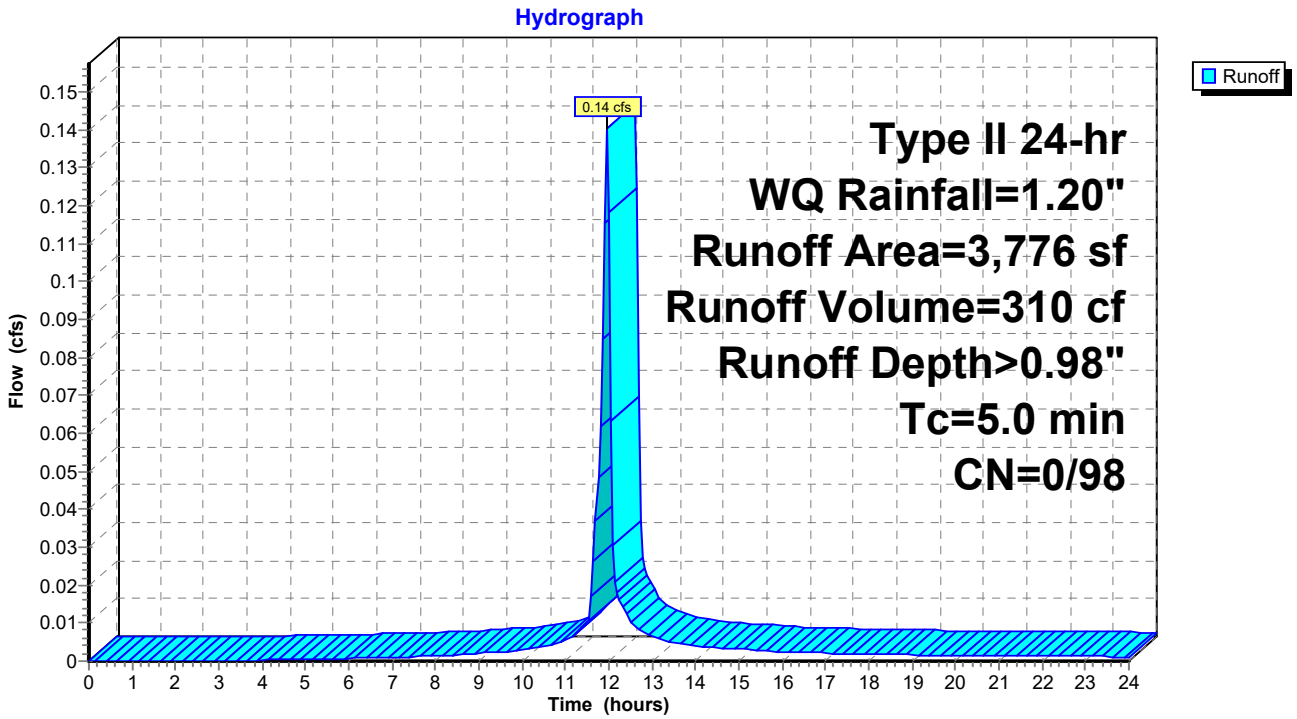
Runoff = 0.14 cfs @ 11.95 hrs, Volume= 310 cf, Depth> 0.98"
Routed to Link POA5 : POA5 (Sanitary Sewer)

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-24.00 hrs, dt= 0.05
Type II 24-hr WQ Rainfall=1.20"

Area (sf)	CN	Description
3,776	98	Roofs, HSG C
3,776	98	100.00% Impervious Area

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

Subcatchment 5A: Subwatershed 5A



Summary for Subcatchment 5B: Subwatershed 5B

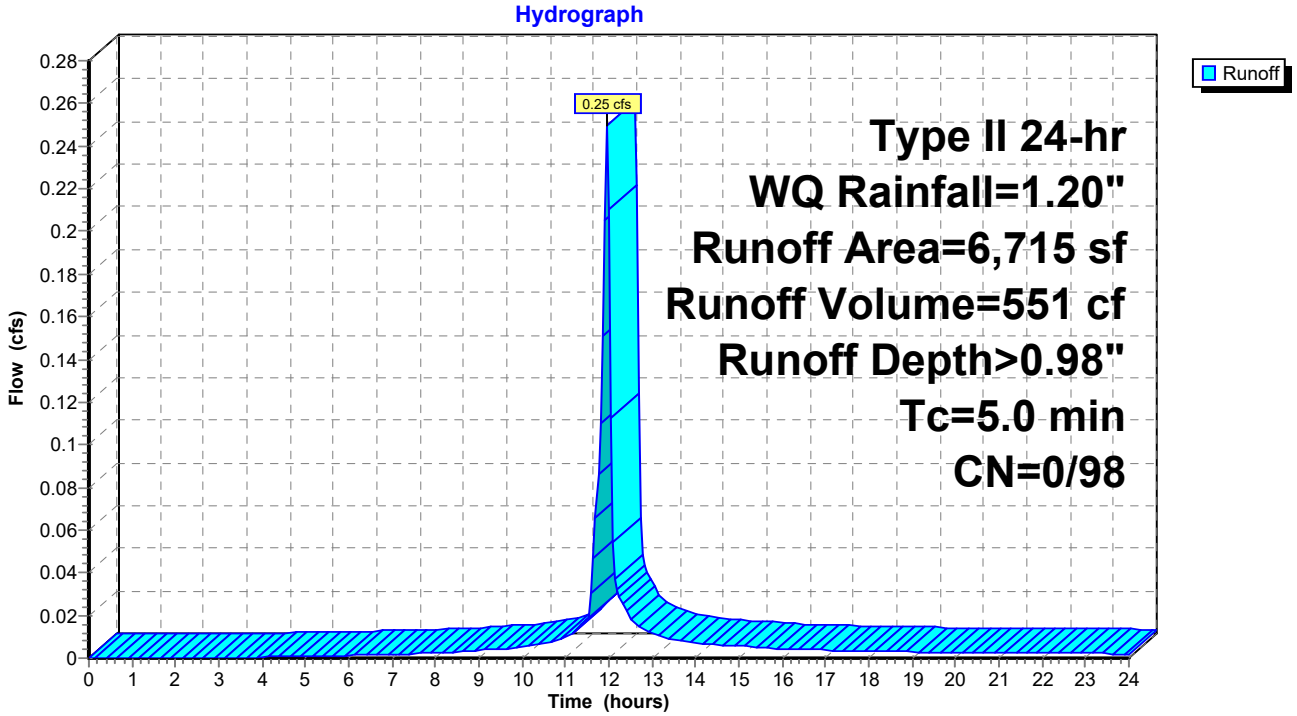
Runoff = 0.25 cfs @ 11.95 hrs, Volume= 551 cf, Depth> 0.98"
Routed to Link POA5 : POA5 (Sanitary Sewer)

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-24.00 hrs, dt= 0.05
Type II 24-hr WQ Rainfall=1.20"

Area (sf)	CN	Description
6,715	98	Roofs, HSG C
6,715	98	100.00% Impervious Area

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

Subcatchment 5B: Subwatershed 5B



Summary for Subcatchment 5C: Subwatershed 5C

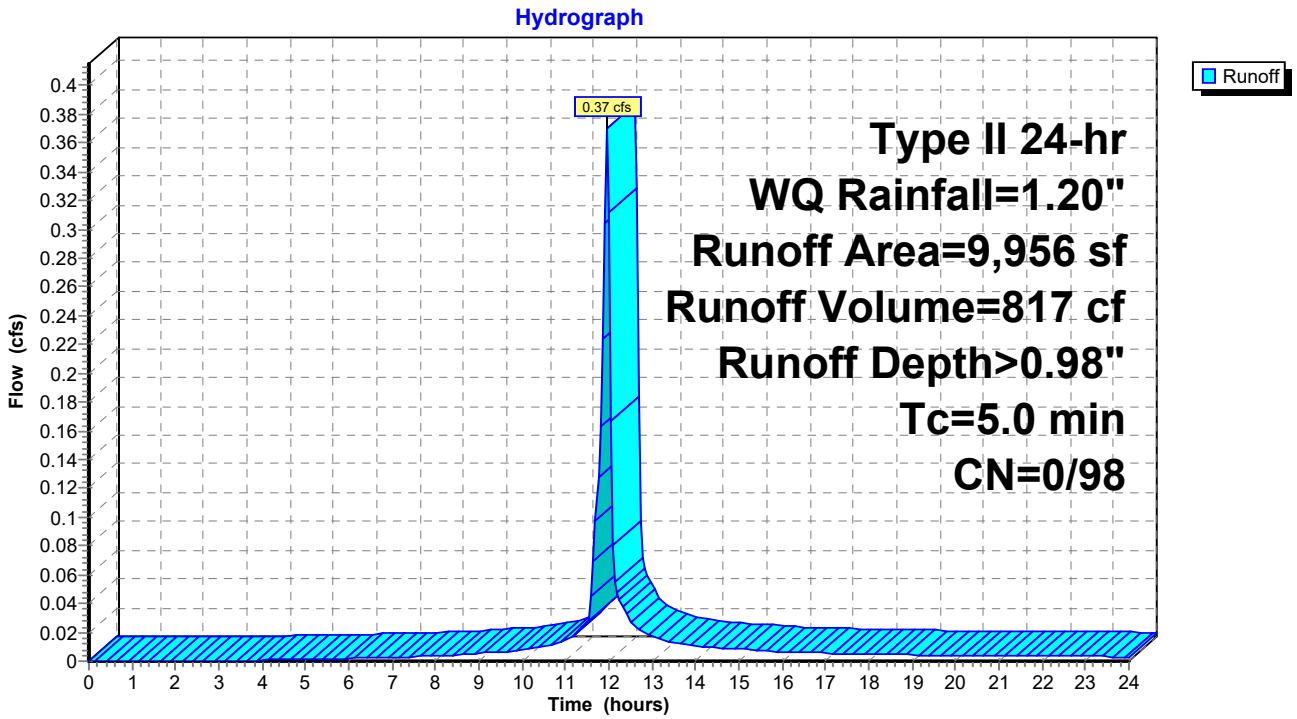
Runoff = 0.37 cfs @ 11.95 hrs, Volume= 817 cf, Depth> 0.98"
Routed to Link POA5 : POA5 (Sanitary Sewer)

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-24.00 hrs, dt= 0.05
Type II 24-hr WQ Rainfall=1.20"

Area (sf)	CN	Description
9,956	98	Roofs, HSG C
9,956	98	100.00% Impervious Area

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

Subcatchment 5C: Subwatershed 5C



Summary for Subcatchment 5D: Subwatershed 5D

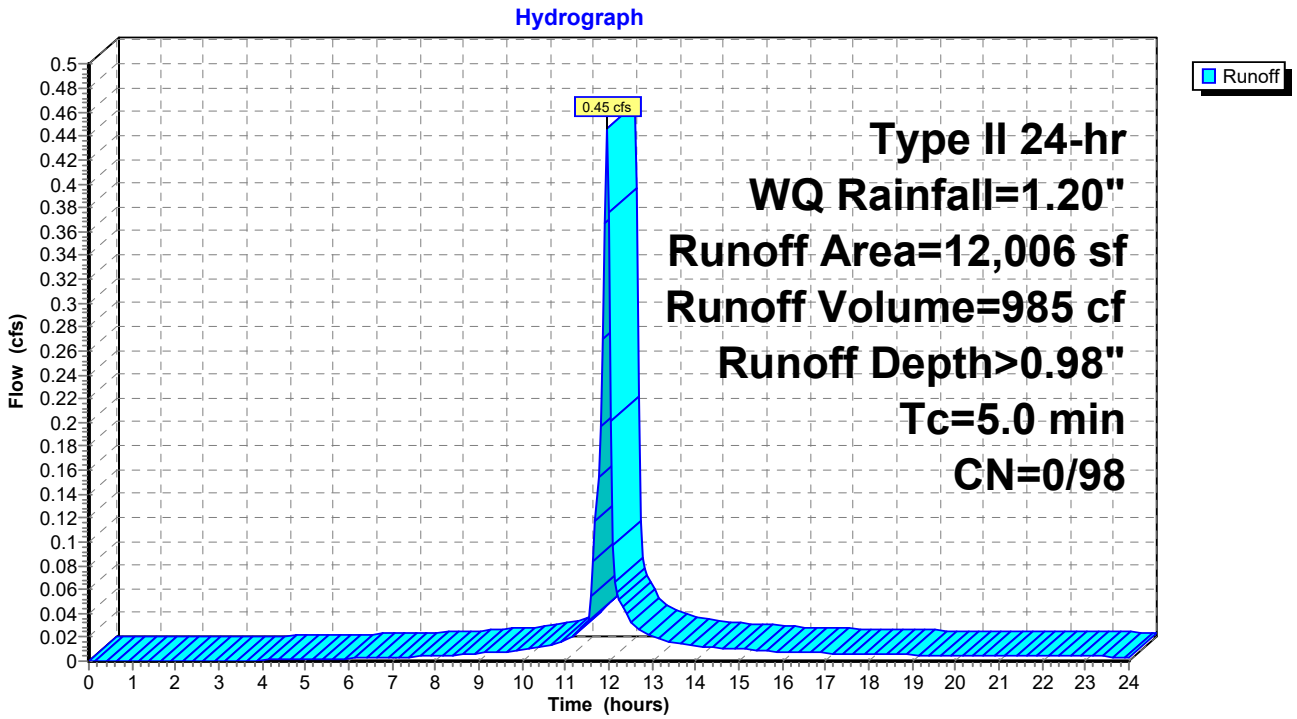
Runoff = 0.45 cfs @ 11.95 hrs, Volume= 985 cf, Depth> 0.98"
Routed to Link POA5 : POA5 (Sanitary Sewer)

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-24.00 hrs, dt= 0.05
Type II 24-hr WQ Rainfall=1.20"

Area (sf)	CN	Description
12,006	98	Roofs, HSG C
12,006	98	100.00% Impervious Area

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

Subcatchment 5D: Subwatershed 5D

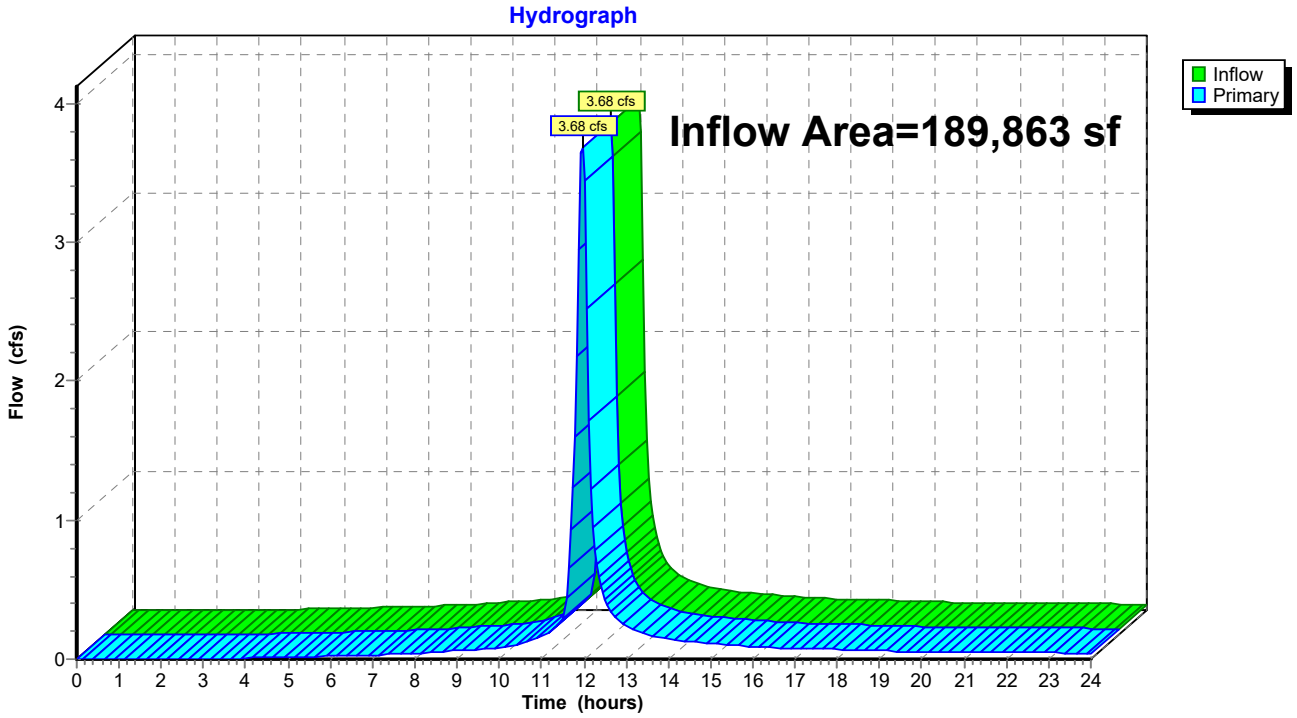


Summary for Link BH: Total to Bristol Harbor

Inflow Area = 189,863 sf, 59.01% Impervious, Inflow Depth > 0.64" for WQ event
Inflow = 3.68 cfs @ 11.96 hrs, Volume= 10,145 cf
Primary = 3.68 cfs @ 11.96 hrs, Volume= 10,145 cf, Atten= 0%, Lag= 0.0 min
Routed to Link ST : Site Total

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link BH: Total to Bristol Harbor

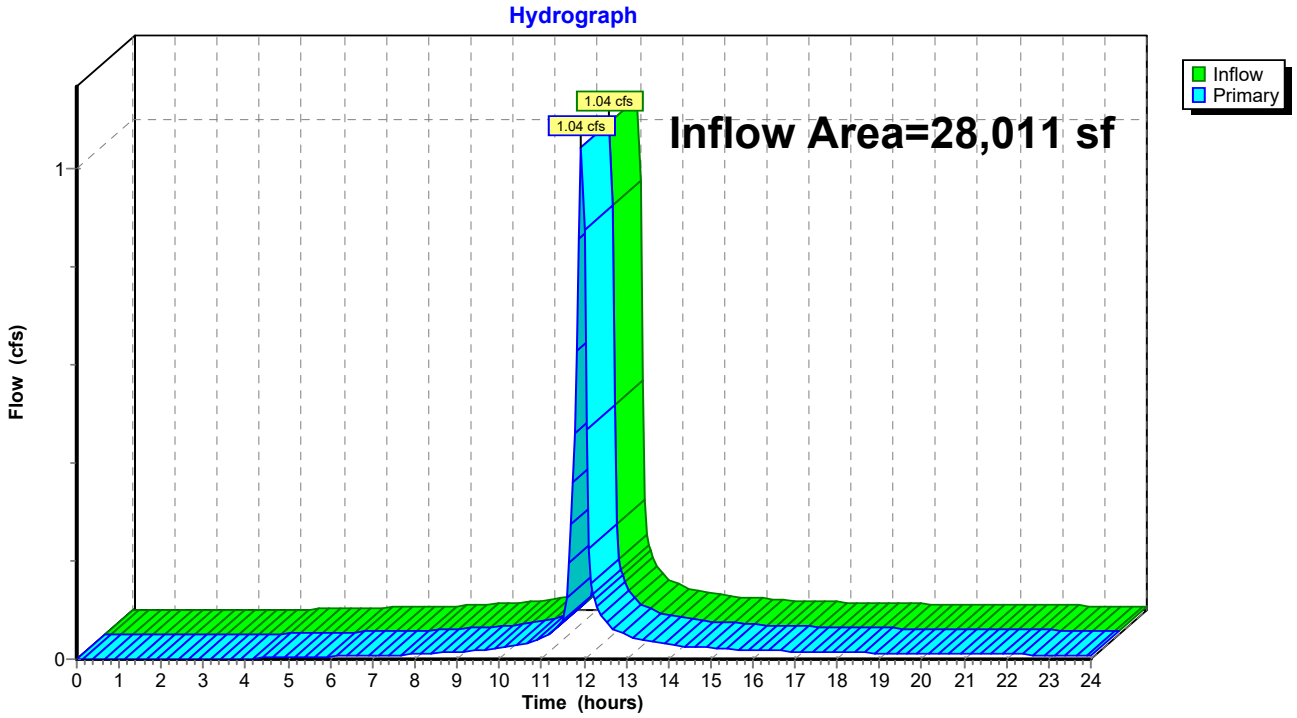


Summary for Link POA1: POA1 (Outfall)

Inflow Area = 28,011 sf,100.00% Impervious, Inflow Depth > 0.98" for WQ event
Inflow = 1.04 cfs @ 11.95 hrs, Volume= 2,299 cf
Primary = 1.04 cfs @ 11.95 hrs, Volume= 2,299 cf, Atten= 0%, Lag= 0.0 min
Routed to Link BH : Total to Bristol Harbor

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link POA1: POA1 (Outfall)

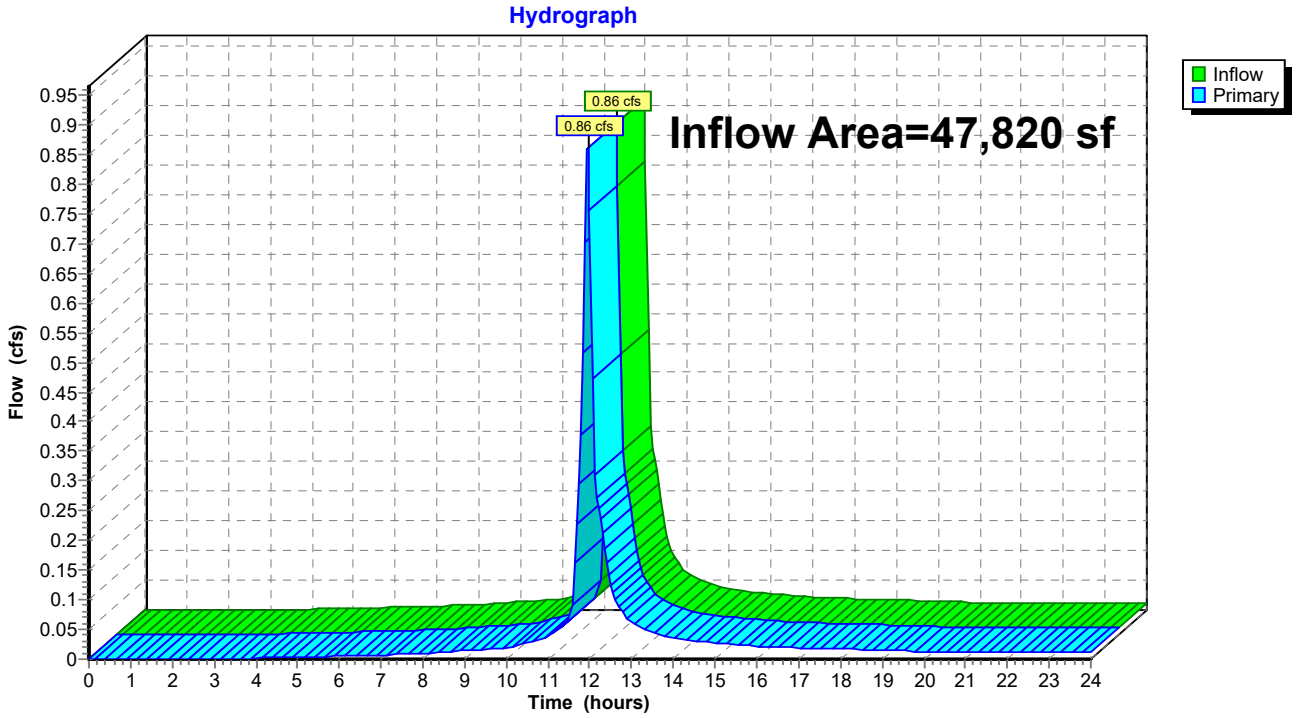


Summary for Link POA2: POA2

Inflow Area = 47,820 sf, 56.69% Impervious, Inflow Depth > 0.62" for WQ event
Inflow = 0.86 cfs @ 11.96 hrs, Volume= 2,452 cf
Primary = 0.86 cfs @ 11.96 hrs, Volume= 2,452 cf, Atten= 0%, Lag= 0.0 min
Routed to Link BH : Total to Bristol Harbor

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link POA2: POA2

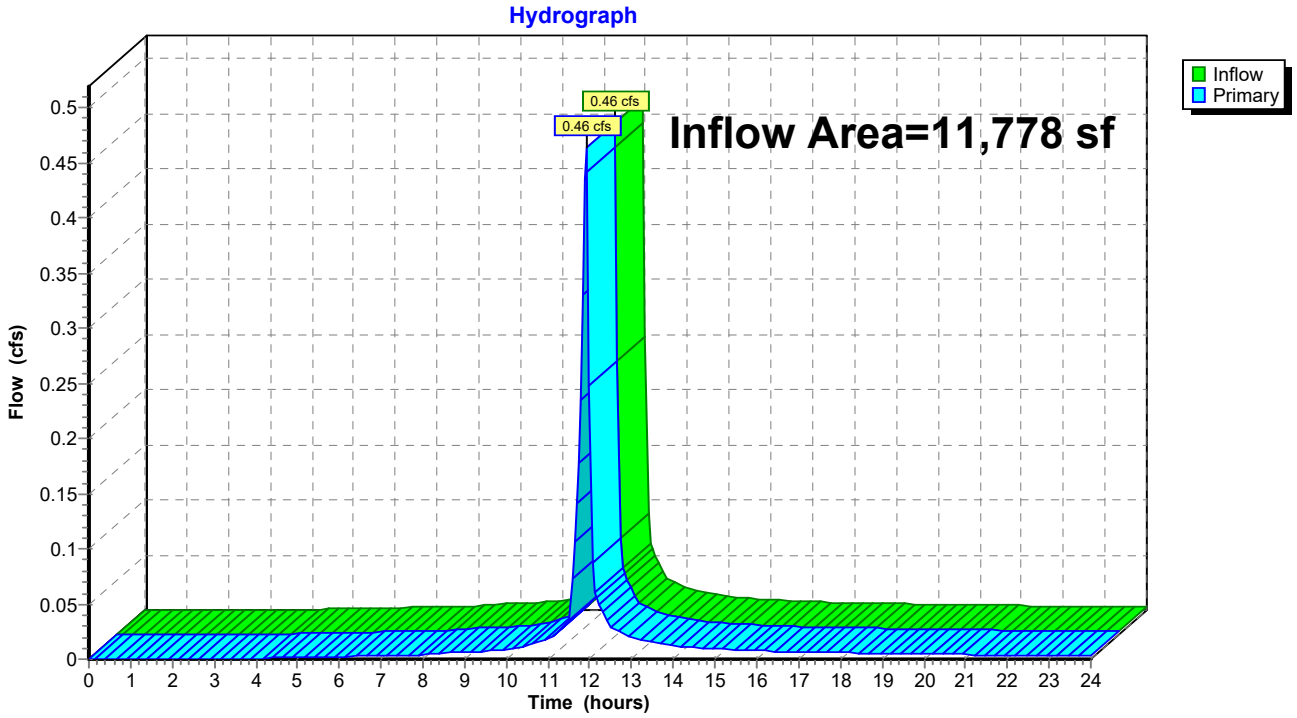


Summary for Link POA3: POA3

Inflow Area = 11,778 sf,100.00% Impervious, Inflow Depth > 0.99" for WQ event
Inflow = 0.46 cfs @ 11.93 hrs, Volume= 967 cf
Primary = 0.46 cfs @ 11.93 hrs, Volume= 967 cf, Atten= 0%, Lag= 0.0 min
Routed to Link BH : Total to Bristol Harbor

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link POA3: POA3

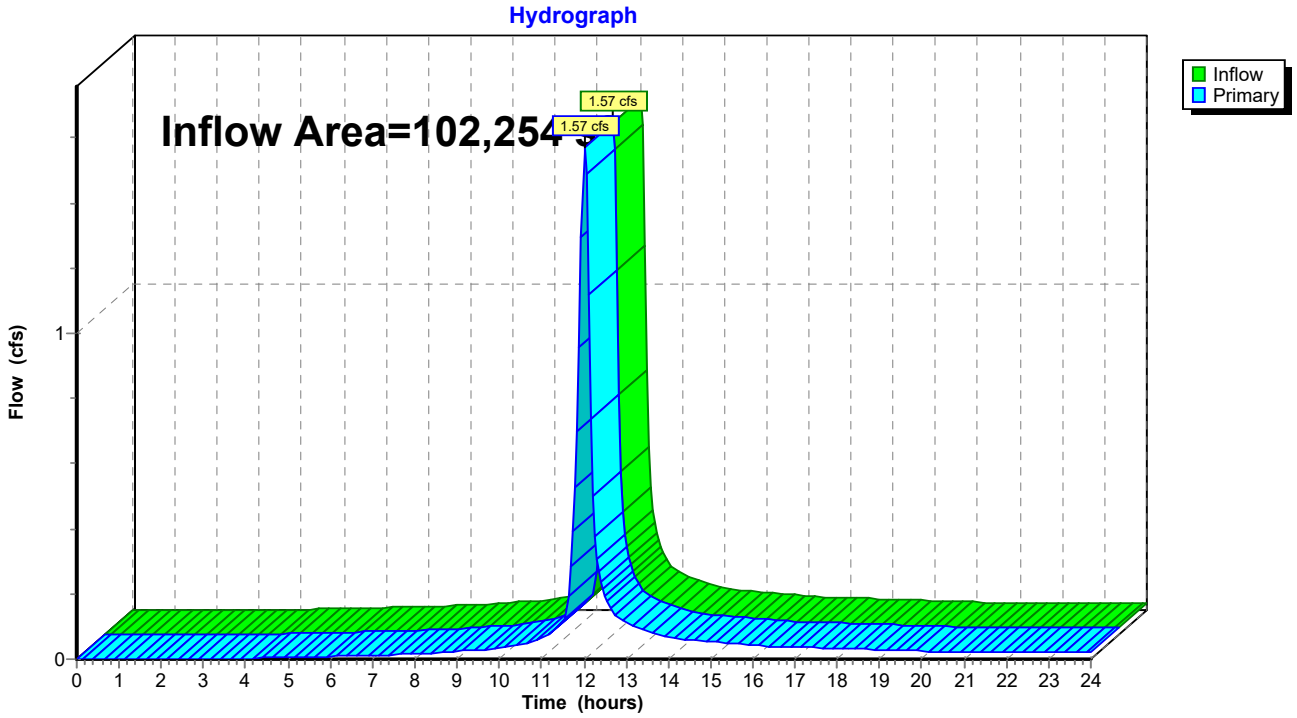


Summary for Link POA4: POA4

Inflow Area = 102,254 sf, 44.14% Impervious, Inflow Depth > 0.52" for WQ event
Inflow = 1.57 cfs @ 12.01 hrs, Volume= 4,427 cf
Primary = 1.57 cfs @ 12.01 hrs, Volume= 4,427 cf, Atten= 0%, Lag= 0.0 min
Routed to Link BH : Total to Bristol Harbor

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link POA4: POA4

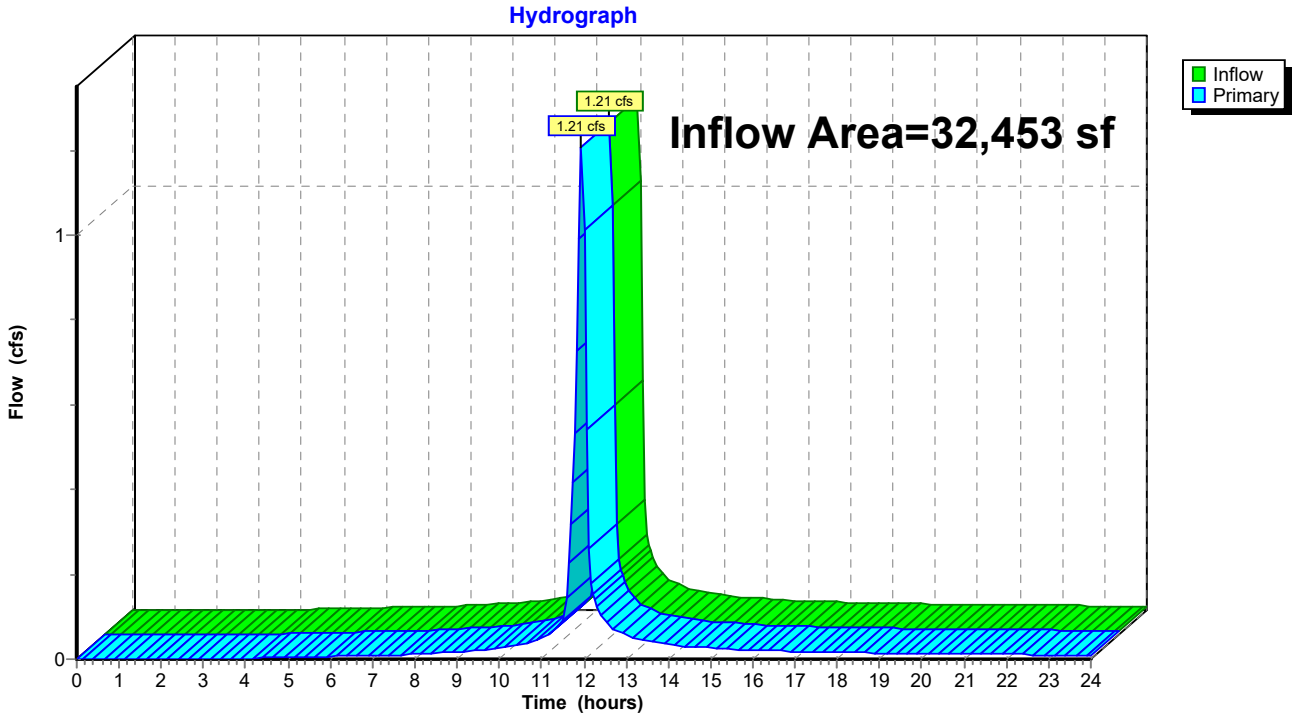


Summary for Link POA5: POA5 (Sanitary Sewer)

Inflow Area = 32,453 sf,100.00% Impervious, Inflow Depth > 0.98" for WQ event
Inflow = 1.21 cfs @ 11.95 hrs, Volume= 2,664 cf
Primary = 1.21 cfs @ 11.95 hrs, Volume= 2,664 cf, Atten= 0%, Lag= 0.0 min
Routed to Link ST : Site Total

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link POA5: POA5 (Sanitary Sewer)

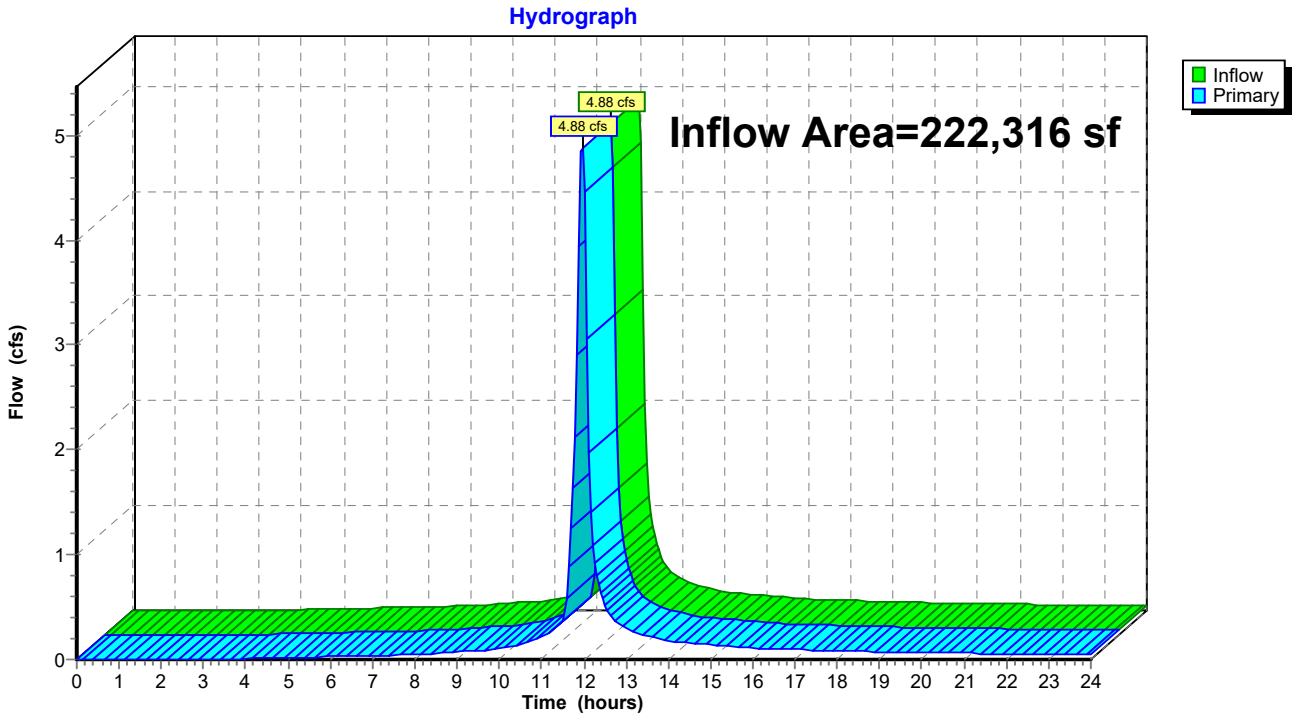


Summary for Link ST: Site Total

Inflow Area = 222,316 sf, 64.99% Impervious, Inflow Depth > 0.69" for WQ event
Inflow = 4.88 cfs @ 11.96 hrs, Volume= 12,809 cf
Primary = 4.88 cfs @ 11.96 hrs, Volume= 12,809 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link ST: Site Total



Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment1A: Subwatershed1A Runoff Area=28,011 sf 100.00% Impervious Runoff Depth>2.57"
Tc=5.0 min CN=98 Runoff=2.56 cfs 5,993 cf

Subcatchment2A: Subwatershed2A Runoff Area=26,399 sf 21.54% Impervious Runoff Depth>1.28"
Flow Length=120' Slope=0.0080 '/' Tc=23.5 min CN=83 Runoff=0.78 cfs 2,814 cf

Subcatchment2B: Subwatershed2B Runoff Area=21,421 sf 100.00% Impervious Runoff Depth>2.57"
Tc=5.0 min CN=98 Runoff=1.96 cfs 4,583 cf

Subcatchment3A: Subwatershed3A Runoff Area=11,778 sf 100.00% Impervious Runoff Depth>2.57"
Flow Length=288' Tc=2.6 min CN=98 Runoff=1.14 cfs 2,521 cf

Subcatchment4A: Subwatershed4A Runoff Area=99,693 sf 42.70% Impervious Runoff Depth>1.64"
Flow Length=882' Tc=10.3 min CN=88 Runoff=5.59 cfs 13,607 cf

Subcatchment4B: Subwatershed4B Runoff Area=2,561 sf 100.00% Impervious Runoff Depth>2.57"
Flow Length=366' Tc=3.0 min CN=98 Runoff=0.25 cfs 548 cf

Subcatchment5A: Subwatershed5A Runoff Area=3,776 sf 100.00% Impervious Runoff Depth>2.57"
Tc=5.0 min CN=98 Runoff=0.35 cfs 808 cf

Subcatchment5B: Subwatershed5B Runoff Area=6,715 sf 100.00% Impervious Runoff Depth>2.57"
Tc=5.0 min CN=98 Runoff=0.61 cfs 1,437 cf

Subcatchment5C: Subwatershed5C Runoff Area=9,956 sf 100.00% Impervious Runoff Depth>2.57"
Tc=5.0 min CN=98 Runoff=0.91 cfs 2,130 cf

Subcatchment5D: Subwatershed5D Runoff Area=12,006 sf 100.00% Impervious Runoff Depth>2.57"
Tc=5.0 min CN=98 Runoff=1.10 cfs 2,569 cf

Link BH: Total to Bristol Harbor Inflow=10.84 cfs 30,067 cf
Primary=10.84 cfs 30,067 cf

Link POA1: POA1 (Outfall) Inflow=2.56 cfs 5,993 cf
Primary=2.56 cfs 5,993 cf

Link POA2: POA2 Inflow=2.28 cfs 7,397 cf
Primary=2.28 cfs 7,397 cf

Link POA3: POA3 Inflow=1.14 cfs 2,521 cf
Primary=1.14 cfs 2,521 cf

Link POA4: POA4 Inflow=5.71 cfs 14,155 cf
Primary=5.71 cfs 14,155 cf

Link POA5: POA5 (Sanitary Sewer) Inflow=2.97 cfs 6,944 cf
Primary=2.97 cfs 6,944 cf

Link ST: Site Total

Inflow=13.74 cfs 37,011 cf
Primary=13.74 cfs 37,011 cf

Total Runoff Area = 222,316 sf Runoff Volume = 37,011 cf Average Runoff Depth = 2.00"
35.01% Pervious = 77,833 sf 64.99% Impervious = 144,483 sf

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment1A: Subwatershed1A Runoff Area=28,011 sf 100.00% Impervious Runoff Depth>4.66"
Tc=5.0 min CN=98 Runoff=4.53 cfs 10,879 cf

Subcatchment2A: Subwatershed2A Runoff Area=26,399 sf 21.54% Impervious Runoff Depth>3.07"
Flow Length=120' Slope=0.0080 '/' Tc=23.5 min CN=83 Runoff=1.88 cfs 6,748 cf

Subcatchment2B: Subwatershed2B Runoff Area=21,421 sf 100.00% Impervious Runoff Depth>4.66"
Tc=5.0 min CN=98 Runoff=3.47 cfs 8,319 cf

Subcatchment3A: Subwatershed3A Runoff Area=11,778 sf 100.00% Impervious Runoff Depth>4.66"
Flow Length=288' Tc=2.6 min CN=98 Runoff=2.01 cfs 4,576 cf

Subcatchment4A: Subwatershed4A Runoff Area=99,693 sf 42.70% Impervious Runoff Depth>3.57"
Flow Length=882' Tc=10.3 min CN=88 Runoff=11.82 cfs 29,635 cf

Subcatchment4B: Subwatershed4B Runoff Area=2,561 sf 100.00% Impervious Runoff Depth>4.66"
Flow Length=366' Tc=3.0 min CN=98 Runoff=0.44 cfs 995 cf

Subcatchment5A: Subwatershed5A Runoff Area=3,776 sf 100.00% Impervious Runoff Depth>4.66"
Tc=5.0 min CN=98 Runoff=0.61 cfs 1,467 cf

Subcatchment5B: Subwatershed5B Runoff Area=6,715 sf 100.00% Impervious Runoff Depth>4.66"
Tc=5.0 min CN=98 Runoff=1.09 cfs 2,608 cf

Subcatchment5C: Subwatershed5C Runoff Area=9,956 sf 100.00% Impervious Runoff Depth>4.66"
Tc=5.0 min CN=98 Runoff=1.61 cfs 3,867 cf

Subcatchment5D: Subwatershed5D Runoff Area=12,006 sf 100.00% Impervious Runoff Depth>4.66"
Tc=5.0 min CN=98 Runoff=1.94 cfs 4,663 cf

Link BH: Total to Bristol Harbor Inflow=21.41 cfs 61,152 cf
Primary=21.41 cfs 61,152 cf

Link POA1: POA1 (Outfall) Inflow=4.53 cfs 10,879 cf
Primary=4.53 cfs 10,879 cf

Link POA2: POA2 Inflow=4.34 cfs 15,067 cf
Primary=4.34 cfs 15,067 cf

Link POA3: POA3 Inflow=2.01 cfs 4,576 cf
Primary=2.01 cfs 4,576 cf

Link POA4: POA4 Inflow=12.03 cfs 30,630 cf
Primary=12.03 cfs 30,630 cf

Link POA5: POA5 (Sanitary Sewer) Inflow=5.25 cfs 12,604 cf
Primary=5.25 cfs 12,604 cf

Link ST: Site Total

Inflow=26.51 cfs 73,756 cf
Primary=26.51 cfs 73,756 cf

Total Runoff Area = 222,316 sf Runoff Volume = 73,756 cf Average Runoff Depth = 3.98"
35.01% Pervious = 77,833 sf 64.99% Impervious = 144,483 sf

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment1A: Subwatershed1A Runoff Area=28,011 sf 100.00% Impervious Runoff Depth>5.86"
Tc=5.0 min CN=98 Runoff=5.65 cfs 13,675 cf

Subcatchment2A: Subwatershed2A Runoff Area=26,399 sf 21.54% Impervious Runoff Depth>4.16"
Flow Length=120' Slope=0.0080 '/' Tc=23.5 min CN=83 Runoff=2.54 cfs 9,158 cf

Subcatchment2B: Subwatershed2B Runoff Area=21,421 sf 100.00% Impervious Runoff Depth>5.86"
Tc=5.0 min CN=98 Runoff=4.32 cfs 10,457 cf

Subcatchment3A: Subwatershed3A Runoff Area=11,778 sf 100.00% Impervious Runoff Depth>5.86"
Flow Length=288' Tc=2.6 min CN=98 Runoff=2.51 cfs 5,752 cf

Subcatchment4A: Subwatershed4A Runoff Area=99,693 sf 42.70% Impervious Runoff Depth>4.71"
Flow Length=882' Tc=10.3 min CN=88 Runoff=15.38 cfs 39,159 cf

Subcatchment4B: Subwatershed4B Runoff Area=2,561 sf 100.00% Impervious Runoff Depth>5.86"
Flow Length=366' Tc=3.0 min CN=98 Runoff=0.54 cfs 1,251 cf

Subcatchment5A: Subwatershed5A Runoff Area=3,776 sf 100.00% Impervious Runoff Depth>5.86"
Tc=5.0 min CN=98 Runoff=0.76 cfs 1,843 cf

Subcatchment5B: Subwatershed5B Runoff Area=6,715 sf 100.00% Impervious Runoff Depth>5.86"
Tc=5.0 min CN=98 Runoff=1.36 cfs 3,278 cf

Subcatchment5C: Subwatershed5C Runoff Area=9,956 sf 100.00% Impervious Runoff Depth>5.86"
Tc=5.0 min CN=98 Runoff=2.01 cfs 4,860 cf

Subcatchment5D: Subwatershed5D Runoff Area=12,006 sf 100.00% Impervious Runoff Depth>5.86"
Tc=5.0 min CN=98 Runoff=2.42 cfs 5,861 cf

Link BH: Total to Bristol Harbor Inflow=27.48 cfs 79,452 cf
Primary=27.48 cfs 79,452 cf

Link POA1: POA1 (Outfall) Inflow=5.65 cfs 13,675 cf
Primary=5.65 cfs 13,675 cf

Link POA2: POA2 Inflow=5.54 cfs 19,616 cf
Primary=5.54 cfs 19,616 cf

Link POA3: POA3 Inflow=2.51 cfs 5,752 cf
Primary=2.51 cfs 5,752 cf

Link POA4: POA4 Inflow=15.65 cfs 40,409 cf
Primary=15.65 cfs 40,409 cf

Link POA5: POA5 (Sanitary Sewer) Inflow=6.55 cfs 15,843 cf
Primary=6.55 cfs 15,843 cf

Link ST: Site Total

Inflow=33.84 cfs 95,295 cf
Primary=33.84 cfs 95,295 cf

Total Runoff Area = 222,316 sf Runoff Volume = 95,295 cf Average Runoff Depth = 5.14"
35.01% Pervious = 77,833 sf 64.99% Impervious = 144,483 sf

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment1A: Subwatershed1A Runoff Area=28,011 sf 100.00% Impervious Runoff Depth>8.35"
Tc=5.0 min CN=98 Runoff=7.98 cfs 19,502 cf

Subcatchment2A: Subwatershed2A Runoff Area=26,399 sf 21.54% Impervious Runoff Depth>6.52"
Flow Length=120' Slope=0.0080 '/' Tc=23.5 min CN=83 Runoff=3.91 cfs 14,345 cf

Subcatchment2B: Subwatershed2B Runoff Area=21,421 sf 100.00% Impervious Runoff Depth>8.35"
Tc=5.0 min CN=98 Runoff=6.11 cfs 14,914 cf

Subcatchment3A: Subwatershed3A Runoff Area=11,778 sf 100.00% Impervious Runoff Depth>8.36"
Flow Length=288' Tc=2.6 min CN=98 Runoff=3.54 cfs 8,204 cf

Subcatchment4A: Subwatershed4A Runoff Area=99,693 sf 42.70% Impervious Runoff Depth>7.14"
Flow Length=882' Tc=10.3 min CN=88 Runoff=22.73 cfs 59,342 cf

Subcatchment4B: Subwatershed4B Runoff Area=2,561 sf 100.00% Impervious Runoff Depth>8.36"
Flow Length=366' Tc=3.0 min CN=98 Runoff=0.77 cfs 1,784 cf

Subcatchment5A: Subwatershed5A Runoff Area=3,776 sf 100.00% Impervious Runoff Depth>8.35"
Tc=5.0 min CN=98 Runoff=1.08 cfs 2,629 cf

Subcatchment5B: Subwatershed5B Runoff Area=6,715 sf 100.00% Impervious Runoff Depth>8.35"
Tc=5.0 min CN=98 Runoff=1.91 cfs 4,675 cf

Subcatchment5C: Subwatershed5C Runoff Area=9,956 sf 100.00% Impervious Runoff Depth>8.35"
Tc=5.0 min CN=98 Runoff=2.84 cfs 6,932 cf

Subcatchment5D: Subwatershed5D Runoff Area=12,006 sf 100.00% Impervious Runoff Depth>8.35"
Tc=5.0 min CN=98 Runoff=3.42 cfs 8,359 cf

Link BH: Total to Bristol Harbor Inflow=40.10 cfs 118,092 cf
Primary=40.10 cfs 118,092 cf

Link POA1: POA1 (Outfall) Inflow=7.98 cfs 19,502 cf
Primary=7.98 cfs 19,502 cf

Link POA2: POA2 Inflow=8.06 cfs 29,260 cf
Primary=8.06 cfs 29,260 cf

Link POA3: POA3 Inflow=3.54 cfs 8,204 cf
Primary=3.54 cfs 8,204 cf

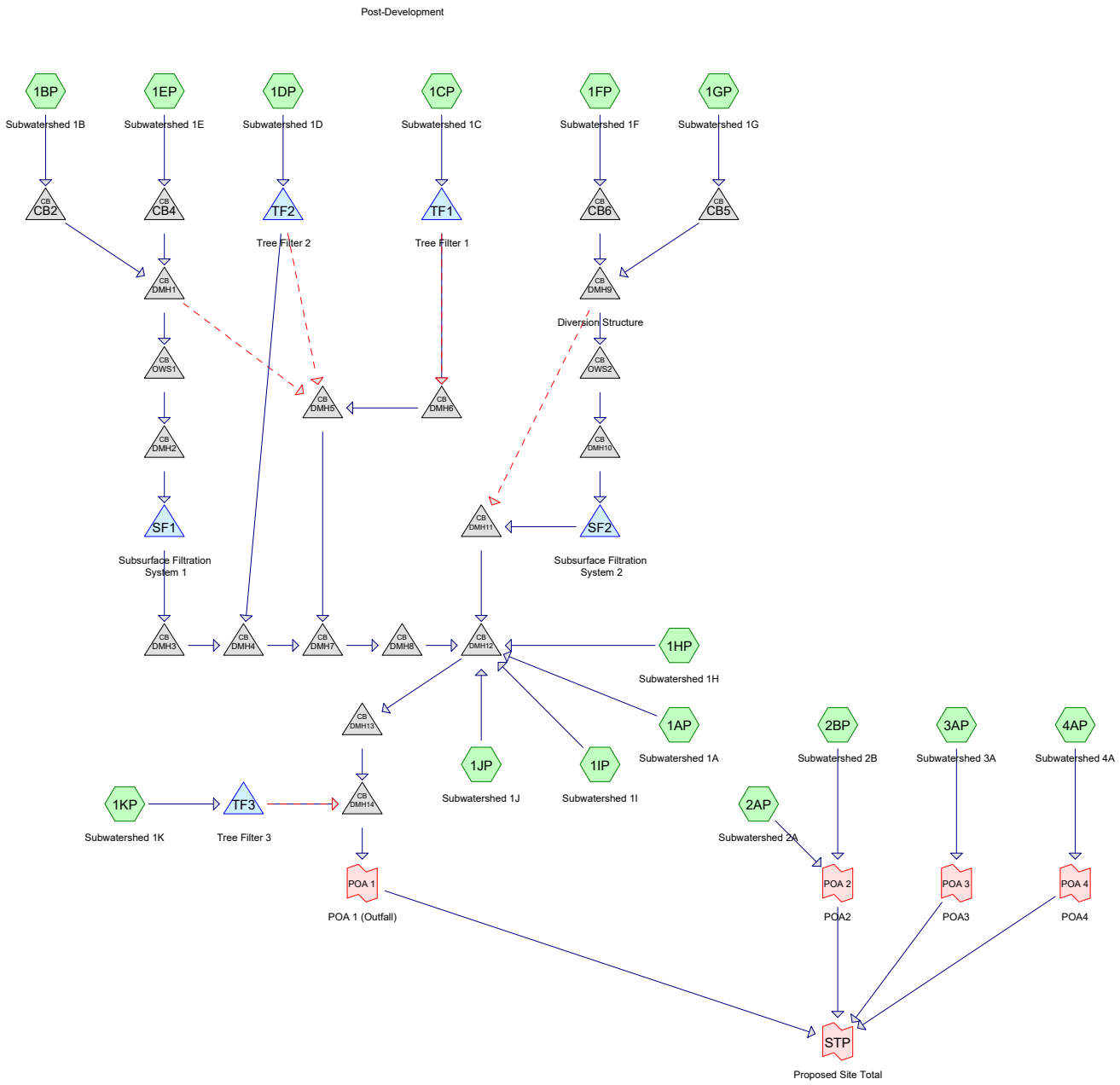
Link POA4: POA4 Inflow=23.13 cfs 61,126 cf
Primary=23.13 cfs 61,126 cf

Link POA5: POA5 (Sanitary Sewer) Inflow=9.25 cfs 22,595 cf
Primary=9.25 cfs 22,595 cf

Link ST: Site Total

Inflow=49.07 cfs 140,687 cf
Primary=49.07 cfs 140,687 cf

Total Runoff Area = 222,316 sf Runoff Volume = 140,687 cf Average Runoff Depth = 7.59"
35.01% Pervious = 77,833 sf 64.99% Impervious = 144,483 sf



Routing Diagram for Bristol Yarn Mill-2305
Prepared by Fuss & O'Neill, Printed 5/19/2023
HydroCAD® 10.20-2g s/n 01614 © 2022 HydroCAD Software Solutions LLC

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	1-Yr	Type II 24-hr		Default	24.00	1	2.80	2
2	10-Yr	Type II 24-hr		Default	24.00	1	4.90	2
3	25-Yr	Type II 24-hr		Default	24.00	1	6.10	2
4	100-Yr	Type II 24-hr		Default	24.00	1	8.60	2

Area Listing (selected nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
38,611	79	50-75% Grass cover, Fair, HSG C (1BP, 1CP, 1DP, 1EP, 1FP, 1GP, 4AP)
20,893	74	>75% Grass cover, Good, HSG C (2AP, 2BP, 3AP)
2,266	96	Gravel surface, HSG C (2AP)
64,782	98	Paved parking, HSG C (1BP, 1CP, 1DP, 1EP, 1FP, 1GP, 2AP, 3AP, 4AP)
95,764	98	Roofs, HSG C (1AP, 1CP, 1EP, 1FP, 1HP, 1IP, 1JP, 1KP, 2AP, 2BP, 3AP, 4AP)
222,316	**92**	**TOTAL AREA**

Soil Listing (selected nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
0	HSG A	
0	HSG B	
222,316	HSG C	1AP, 1BP, 1CP, 1DP, 1EP, 1FP, 1GP, 1HP, 1IP, 1JP, 1KP, 2AP, 2BP, 3AP, 4AP
0	HSG D	
0	Other	
222,316		**TOTAL AREA**

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment1AP: Subwatershed1A Runoff Area=2,561 sf 100.00% Impervious Runoff Depth>0.98"
Tc=5.0 min CN=0/98 Runoff=0.10 cfs 210 cf

Subcatchment1BP: Subwatershed1B Runoff Area=2,966 sf 64.16% Impervious Runoff Depth>0.68"
Flow Length=104' Tc=2.2 min CN=79/98 Runoff=0.08 cfs 168 cf

Subcatchment1CP: Subwatershed1C Runoff Area=5,476 sf 85.87% Impervious Runoff Depth>0.87"
Flow Length=180' Tc=2.7 min CN=79/98 Runoff=0.19 cfs 395 cf

Subcatchment1DP: Subwatershed1D Runoff Area=6,256 sf 74.50% Impervious Runoff Depth>0.77"
Flow Length=200' Tc=4.6 min CN=79/98 Runoff=0.18 cfs 400 cf

Subcatchment1EP: Subwatershed1E Runoff Area=13,382 sf 76.95% Impervious Runoff Depth>0.79"
Flow Length=266' Tc=4.1 min CN=79/98 Runoff=0.41 cfs 880 cf

Subcatchment1FP: Subwatershed1F Runoff Area=29,140 sf 60.39% Impervious Runoff Depth>0.65"
Flow Length=264' Tc=7.5 min CN=79/98 Runoff=0.64 cfs 1,572 cf

Subcatchment1GP: Subwatershed1G Runoff Area=2,703 sf 89.90% Impervious Runoff Depth>0.90"
Flow Length=72' Slope=0.0300 '/' Tc=0.8 min CN=79/98 Runoff=0.10 cfs 203 cf

Subcatchment1HP: Subwatershed1H Runoff Area=6,715 sf 100.00% Impervious Runoff Depth>0.98"
Tc=5.0 min CN=0/98 Runoff=0.25 cfs 551 cf

Subcatchment1IP: Subwatershed1I Runoff Area=11,530 sf 100.00% Impervious Runoff Depth>0.98"
Tc=5.0 min CN=0/98 Runoff=0.43 cfs 946 cf

Subcatchment1JP: Subwatershed1J Runoff Area=28,664 sf 100.00% Impervious Runoff Depth>0.98"
Tc=5.0 min CN=0/98 Runoff=1.07 cfs 2,353 cf

Subcatchment1KP: Subwatershed1K Runoff Area=21,087 sf 100.00% Impervious Runoff Depth>0.98"
Tc=5.0 min CN=0/98 Runoff=0.79 cfs 1,731 cf

Subcatchment2AP: Subwatershed2A Runoff Area=24,334 sf 23.44% Impervious Runoff Depth>0.31"
Flow Length=128' Tc=1.4 min CN=77/98 Runoff=0.26 cfs 626 cf

Subcatchment2BP: Subwatershed2B Runoff Area=14,208 sf 85.47% Impervious Runoff Depth>0.85"
Tc=5.0 min CN=74/98 Runoff=0.45 cfs 1,007 cf

Subcatchment3AP: Subwatershed3A Runoff Area=13,524 sf 81.77% Impervious Runoff Depth>0.82"
Flow Length=229' Tc=11.9 min CN=74/98 Runoff=0.33 cfs 919 cf

Subcatchment4AP: Subwatershed4A Runoff Area=39,770 sf 49.01% Impervious Runoff Depth>0.55"
Flow Length=1,052' Tc=15.9 min CN=79/98 Runoff=0.56 cfs 1,821 cf

Pond CB2: Peak Elev=8.69' Inflow=0.08 cfs 168 cf
6.0" Round Culvert n=0.013 L=62.0' S=0.0050 '/' Outflow=0.08 cfs 168 cf

Pond CB4: Peak Elev=9.04' Inflow=0.41 cfs 880 cf
6.0" Round Culvert n=0.013 L=61.0' S=0.0051 '/' Outflow=0.41 cfs 880 cf

Pond CB5: Peak Elev=9.79' Inflow=0.10 cfs 203 cf
6.0" Round Culvert n=0.013 L=14.0' S=0.0050 '/' Outflow=0.10 cfs 203 cf

Pond CB6: Peak Elev=10.05' Inflow=0.64 cfs 1,572 cf
18.0" Round Culvert n=0.013 L=28.0' S=0.0050 '/' Outflow=0.64 cfs 1,572 cf

Pond DMH1: Peak Elev=8.67' Inflow=0.48 cfs 1,048 cf
Primary=0.48 cfs 1,048 cf Secondary=0.00 cfs 0 cf Outflow=0.48 cfs 1,048 cf

Pond DMH10: Peak Elev=8.09' Inflow=0.68 cfs 1,775 cf
12.0" Round Culvert n=0.012 L=3.0' S=0.0000 '/' Outflow=0.68 cfs 1,775 cf

Pond DMH11: Peak Elev=4.68' Inflow=0.37 cfs 1,761 cf
18.0" Round Culvert n=0.013 L=121.0' S=0.0051 '/' Outflow=0.37 cfs 1,761 cf

Pond DMH12: Peak Elev=3.84' Inflow=2.52 cfs 7,652 cf
30.0" Round Culvert n=0.013 L=187.0' S=0.0030 '/' Outflow=2.52 cfs 7,652 cf

Pond DMH13: Peak Elev=3.18' Inflow=2.52 cfs 7,652 cf
30.0" Round Culvert n=0.013 L=139.0' S=0.0030 '/' Outflow=2.52 cfs 7,652 cf

Pond DMH14: Peak Elev=2.66' Inflow=2.66 cfs 9,365 cf
30.0" Round Culvert n=0.011 L=65.0' S=0.0031 '/' Outflow=2.66 cfs 9,365 cf

Pond DMH2: Peak Elev=8.35' Inflow=0.48 cfs 1,048 cf
12.0" Round Culvert n=0.013 L=1.0' S=0.0000 '/' Outflow=0.48 cfs 1,048 cf

Pond DMH3: Peak Elev=5.39' Inflow=0.42 cfs 1,039 cf
12.0" Round Culvert n=0.013 L=67.0' S=0.0081 '/' Outflow=0.42 cfs 1,039 cf

Pond DMH4: Peak Elev=4.74' Inflow=0.44 cfs 1,438 cf
18.0" Round Culvert n=0.013 L=24.0' S=0.0071 '/' Outflow=0.44 cfs 1,438 cf

Pond DMH5: Peak Elev=4.48' Inflow=0.04 cfs 392 cf
12.0" Round Culvert n=0.013 L=24.0' S=0.0050 '/' Outflow=0.04 cfs 392 cf

Pond DMH6: Peak Elev=4.92' Inflow=0.04 cfs 392 cf
12.0" Round Culvert n=0.013 L=68.0' S=0.0050 '/' Outflow=0.04 cfs 392 cf

Pond DMH7: Peak Elev=4.52' Inflow=0.48 cfs 1,831 cf
18.0" Round Culvert n=0.013 L=5.0' S=0.0080 '/' Outflow=0.48 cfs 1,831 cf

Pond DMH8: Peak Elev=4.15' Inflow=0.48 cfs 1,831 cf
18.0" Round Culvert n=0.013 L=125.0' S=0.0050 '/' Outflow=0.48 cfs 1,831 cf

Pond DMH9: Diversion Structure Peak Elev=9.44' Inflow=0.68 cfs 1,775 cf
Primary=0.68 cfs 1,775 cf Secondary=0.00 cfs 0 cf Outflow=0.68 cfs 1,775 cf

Pond OWS1: Peak Elev=8.37' Inflow=0.48 cfs 1,048 cf
12.0" Round Culvert n=0.013 L=7.0' S=0.0057 '/' Outflow=0.48 cfs 1,048 cf

Pond OWS2: Peak Elev=8.75' Inflow=0.68 cfs 1,775 cf
18.0" Round Culvert n=0.013 L=3.0' S=0.0067 '/' Outflow=0.68 cfs 1,775 cf

Pond SF1: Subsurface Filtration System 1 Peak Elev=5.75' Storage=112 cf Inflow=0.48 cfs 1,048 cf
6.0" Round Culvert n=0.010 L=2.0' S=0.0050 '/' Outflow=0.42 cfs 1,039 cf

Pond SF2: Subsurface Filtration System 2 Peak Elev=5.75' Storage=370 cf Inflow=0.68 cfs 1,775 cf
Outflow=0.37 cfs 1,761 cf

Pond TF1: Tree Filter 1 Peak Elev=6.13' Storage=124 cf Inflow=0.19 cfs 395 cf
Primary=0.04 cfs 392 cf Secondary=0.00 cfs 0 cf Outflow=0.04 cfs 392 cf

Pond TF2: Tree Filter 2 Peak Elev=5.98' Storage=127 cf Inflow=0.18 cfs 400 cf
Primary=0.05 cfs 399 cf Secondary=0.00 cfs 0 cf Outflow=0.05 cfs 399 cf

Pond TF3: Tree Filter 3 Peak Elev=3.88' Storage=617 cf Inflow=0.79 cfs 1,731 cf
Primary=0.14 cfs 1,713 cf Secondary=0.00 cfs 0 cf Outflow=0.14 cfs 1,713 cf

Link POA 1: POA 1 (Outfall) Inflow=2.66 cfs 9,365 cf
Primary=2.66 cfs 9,365 cf

Link POA 2: POA2 Inflow=0.70 cfs 1,633 cf
Primary=0.70 cfs 1,633 cf

Link POA 3: POA3 Inflow=0.33 cfs 919 cf
Primary=0.33 cfs 919 cf

Link POA 4: POA4 Inflow=0.56 cfs 1,821 cf
Primary=0.56 cfs 1,821 cf

Link STP: Proposed Site Total Inflow=3.98 cfs 13,738 cf
Primary=3.98 cfs 13,738 cf

Total Runoff Area = 222,316 sf Runoff Volume = 13,783 cf Average Runoff Depth = 0.74"
27.78% Pervious = 61,770 sf 72.22% Impervious = 160,546 sf

Summary for Subcatchment 1AP: Subwatershed 1A

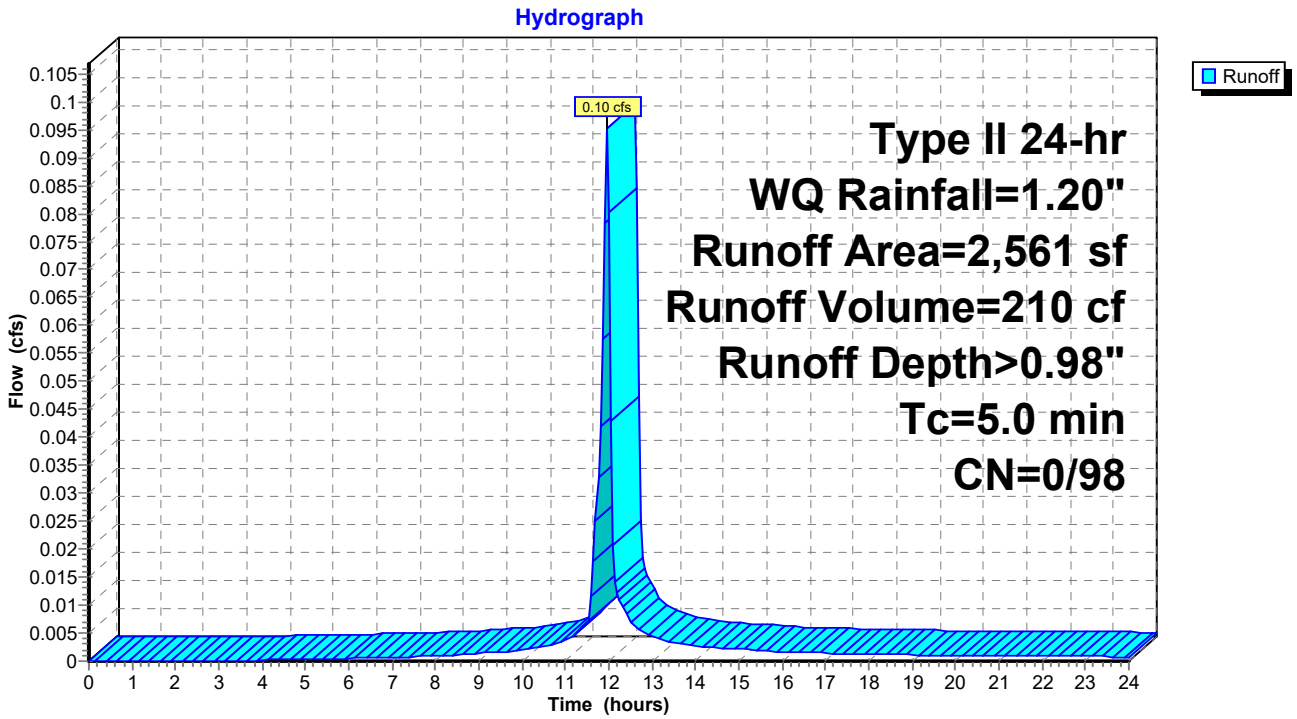
Runoff = 0.10 cfs @ 11.95 hrs, Volume= 210 cf, Depth> 0.98"
Routed to Pond DMH12 :

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-24.00 hrs, dt= 0.05
Type II 24-hr WQ Rainfall=1.20"

Area (sf)	CN	Description
2,561	98	Roofs, HSG C
2,561	98	100.00% Impervious Area

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

Subcatchment 1AP: Subwatershed 1A



Summary for Subcatchment 1BP: Subwatershed 1B

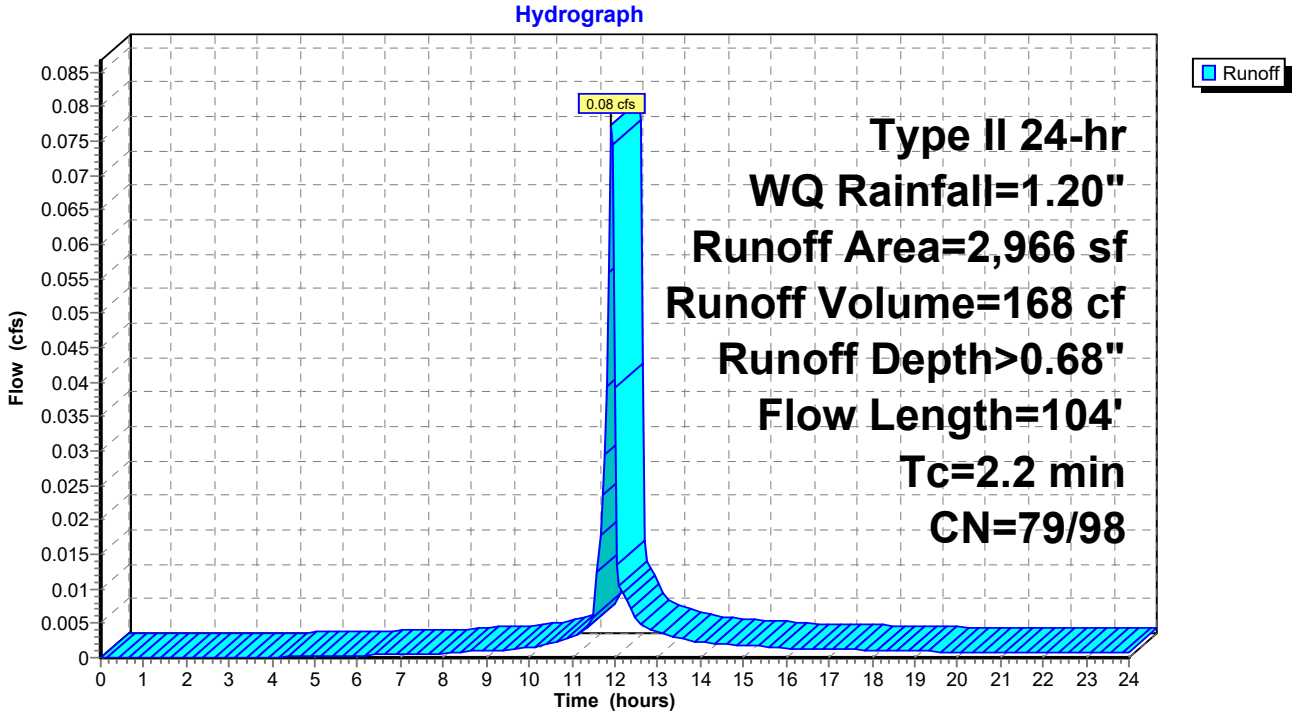
Runoff = 0.08 cfs @ 11.92 hrs, Volume= 168 cf, Depth> 0.68"
Routed to Pond CB2 :

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-24.00 hrs, dt= 0.05
Type II 24-hr WQ Rainfall=1.20"

Area (sf)	CN	Description
1,903	98	Paved parking, HSG C
1,063	79	50-75% Grass cover, Fair, HSG C
2,966	91	Weighted Average
1,063	79	35.84% Pervious Area
1,903	98	64.16% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	14	0.0600	0.18		**Sheet Flow, Grass** Grass: Short n= 0.150 P2= 3.30"
0.9	90	0.0330	1.67		**Sheet Flow, Paved Parking Lot** Smooth surfaces n= 0.011 P2= 3.30"
2.2	104	Total			

Subcatchment 1BP: Subwatershed 1B



Summary for Subcatchment 1CP: Subwatershed 1C

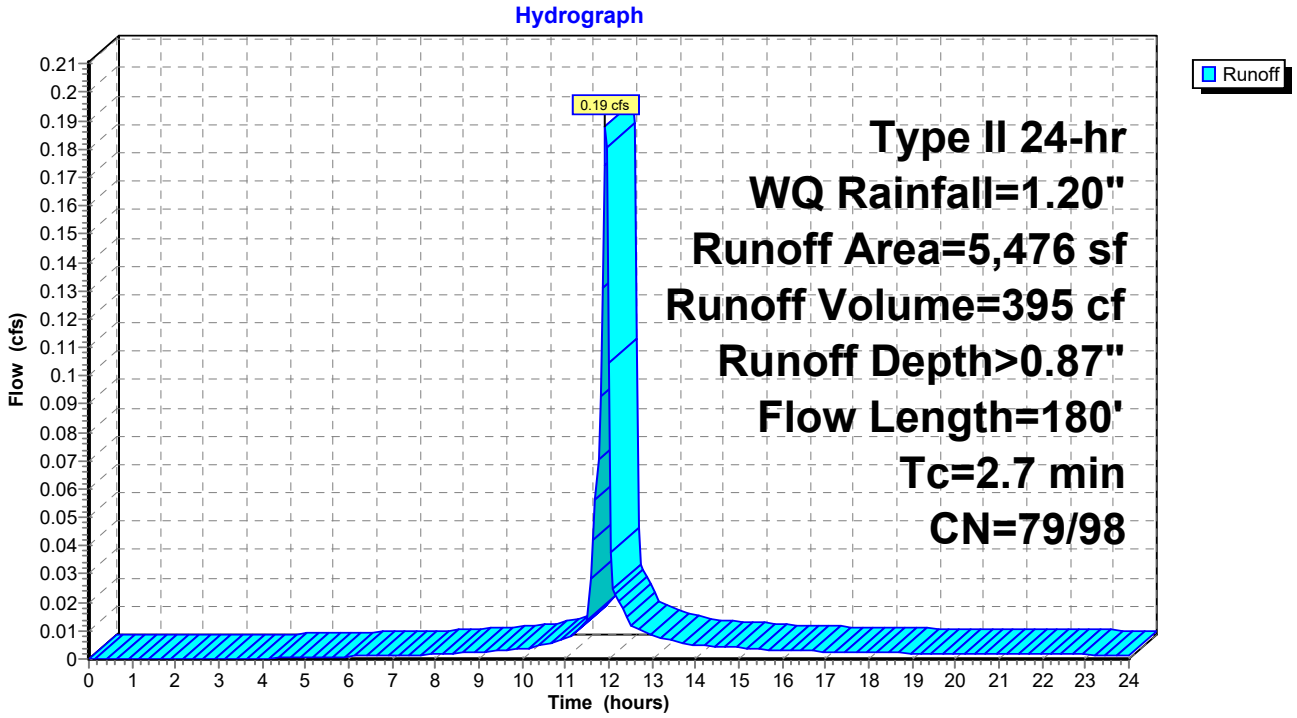
Runoff = 0.19 cfs @ 11.93 hrs, Volume= 395 cf, Depth> 0.87"
Routed to Pond TF1 : Tree Filter 1

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-24.00 hrs, dt= 0.05
Type II 24-hr WQ Rainfall=1.20"

Area (sf)	CN	Description
252	98	Roofs, HSG C
4,450	98	Paved parking, HSG C
774	79	50-75% Grass cover, Fair, HSG C
5,476	95	Weighted Average
774	79	14.13% Pervious Area
4,702	98	85.87% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.5	18	0.0700	0.20		**Sheet Flow, Grass** Grass: Short n= 0.150 P2= 3.30"
0.8	82	0.0330	1.64		**Sheet Flow, Paved Parking Lot** Smooth surfaces n= 0.011 P2= 3.30"
0.4	80	0.0330	3.69		**Shallow Concentrated Flow, Paved Parking Lot** Paved Kv= 20.3 fps
2.7	180	Total			

Subcatchment 1CP: Subwatershed 1C



Summary for Subcatchment 1DP: Subwatershed 1D

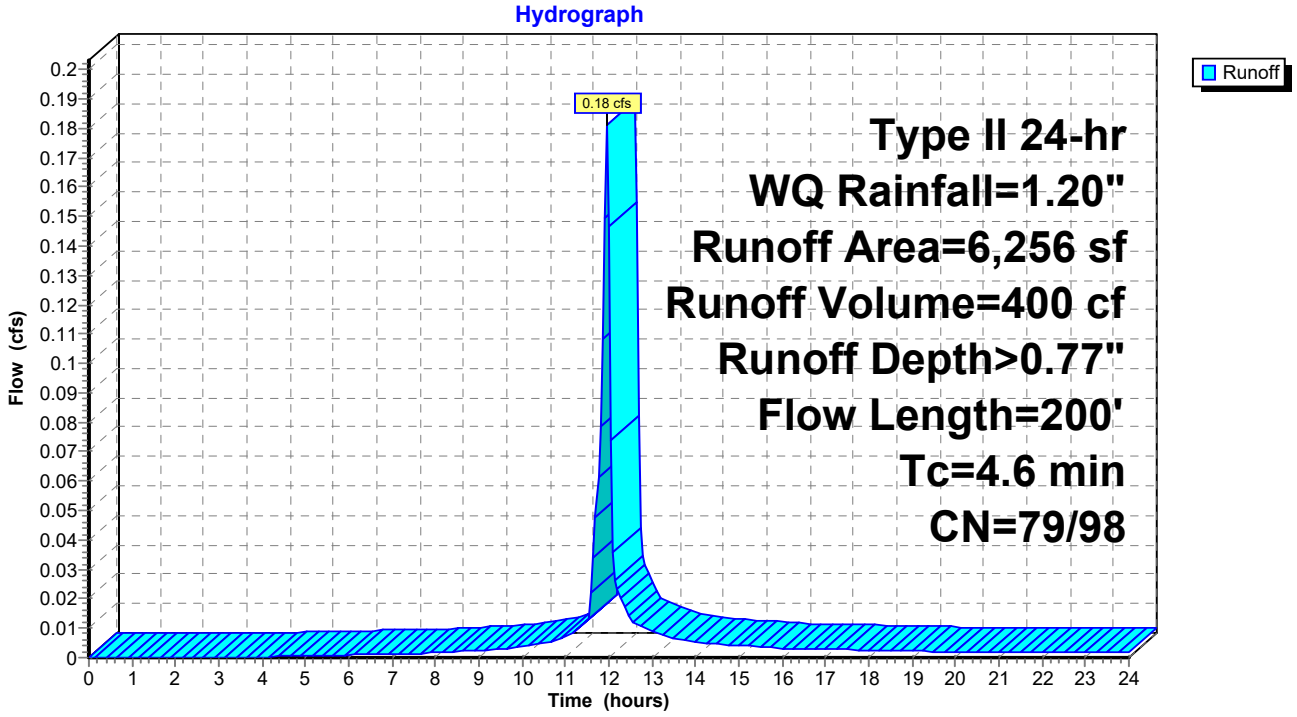
Runoff = 0.18 cfs @ 11.95 hrs, Volume= 400 cf, Depth> 0.77"
Routed to Pond TF2 : Tree Filter 2

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-24.00 hrs, dt= 0.05
Type II 24-hr WQ Rainfall=1.20"

Area (sf)	CN	Description
4,661	98	Paved parking, HSG C
1,595	79	50-75% Grass cover, Fair, HSG C
6,256	93	Weighted Average
1,595	79	25.50% Pervious Area
4,661	98	74.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.5	40	0.0400	0.19		**Sheet Flow, Grass** Grass: Short n= 0.150 P2= 3.30"
0.6	60	0.0330	1.54		**Sheet Flow, Paved Parking Lot** Smooth surfaces n= 0.011 P2= 3.30"
0.5	100	0.0330	3.69		**Shallow Concentrated Flow, Paved Parking Lot** Paved Kv= 20.3 fps
4.6	200	Total			

Subcatchment 1DP: Subwatershed 1D



Summary for Subcatchment 1EP: Subwatershed 1E

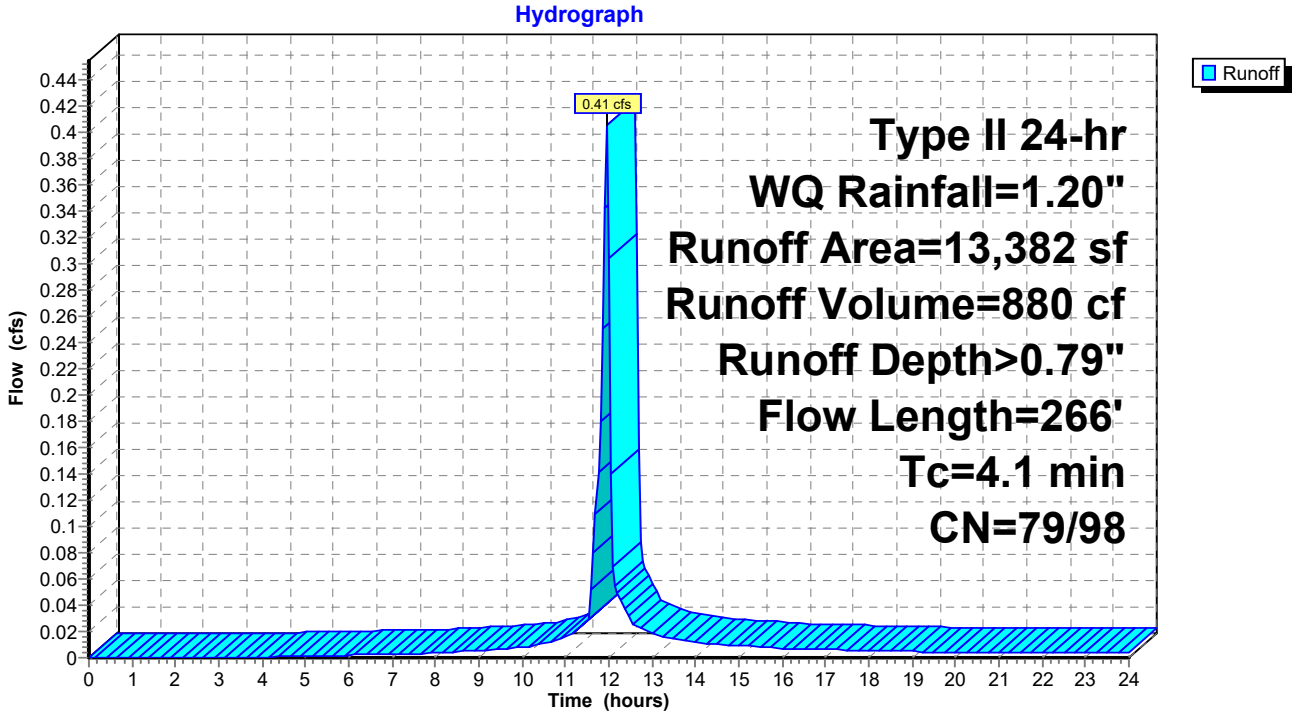
Runoff = 0.41 cfs @ 11.94 hrs, Volume= 880 cf, Depth> 0.79"
Routed to Pond CB4 :

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-24.00 hrs, dt= 0.05
Type II 24-hr WQ Rainfall=1.20"

Area (sf)	CN	Description
2,627	98	Roofs, HSG C
7,670	98	Paved parking, HSG C
3,085	79	50-75% Grass cover, Fair, HSG C
13,382	94	Weighted Average
3,085	79	23.05% Pervious Area
10,297	98	76.95% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	18	0.2000	2.49		**Sheet Flow, Sloped Roof** Smooth surfaces n= 0.011 P2= 3.30"
2.8	33	0.0500	0.20		**Sheet Flow, Grass** Grass: Short n= 0.150 P2= 3.30"
0.6	49	0.0300	1.42		**Sheet Flow, Paved Parking Lot** Smooth surfaces n= 0.011 P2= 3.30"
0.2	51	0.0300	3.52		**Shallow Concentrated Flow, Paved Parking Lot** Paved Kv= 20.3 fps
0.1	40	0.0500	4.54		**Shallow Concentrated Flow, Paved Parking Lot** Paved Kv= 20.3 fps
0.3	75	0.0330	3.69		**Shallow Concentrated Flow, Paved Parking Lot** Paved Kv= 20.3 fps
4.1	266	Total			

Subcatchment 1EP: Subwatershed 1E



Summary for Subcatchment 1FP: Subwatershed 1F

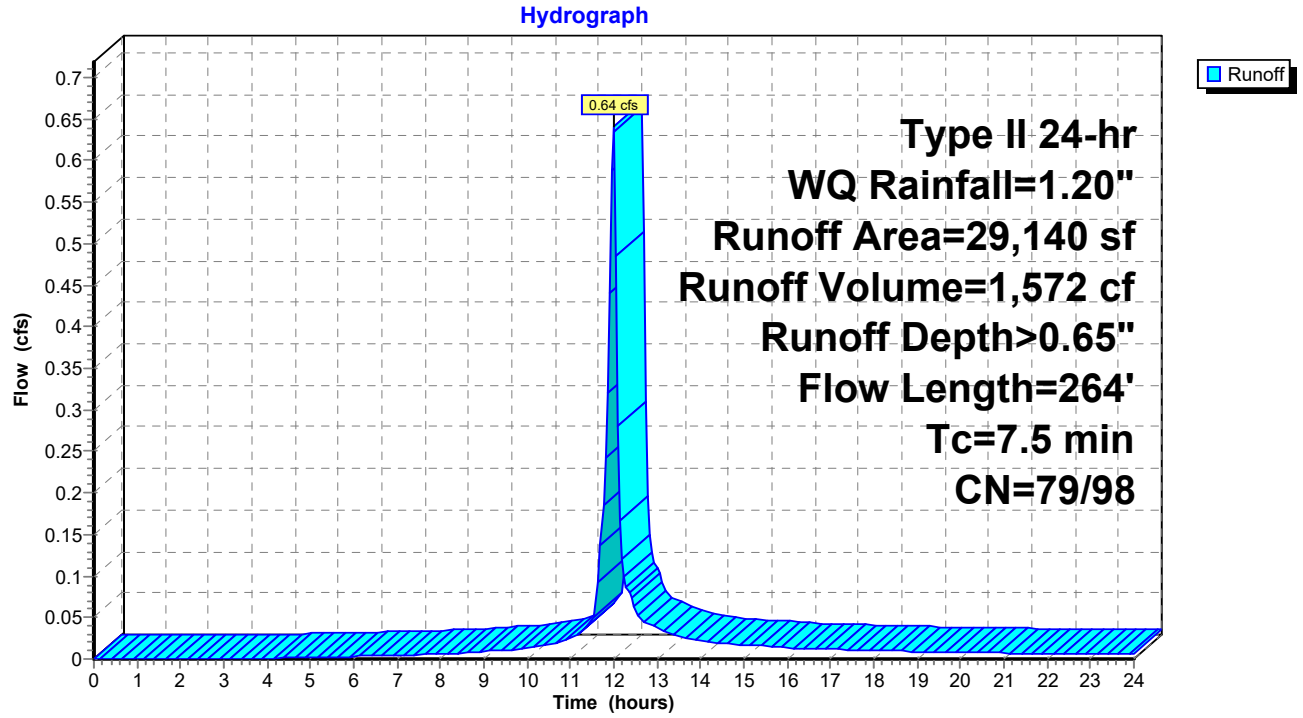
Runoff = 0.64 cfs @ 11.99 hrs, Volume= 1,572 cf, Depth> 0.65"
Routed to Pond CB6 :

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-24.00 hrs, dt= 0.05
Type II 24-hr WQ Rainfall=1.20"

Area (sf)	CN	Description
3,412	98	Roofs, HSG C
14,186	98	Paved parking, HSG C
11,542	79	50-75% Grass cover, Fair, HSG C
29,140	90	Weighted Average
11,542	79	39.61% Pervious Area
17,598	98	60.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.7	100	0.0500	0.25		**Sheet Flow, Grass** Grass: Short n= 0.150 P2= 3.30"
0.1	14	0.0500	1.57		**Shallow Concentrated Flow, Grass** Short Grass Pasture Kv= 7.0 fps
0.7	150	0.0300	3.52		**Shallow Concentrated Flow, Paved Parking Lot** Paved Kv= 20.3 fps
7.5	264	Total			

Subcatchment 1FP: Subwatershed 1F



Summary for Subcatchment 1GP: Subwatershed 1G

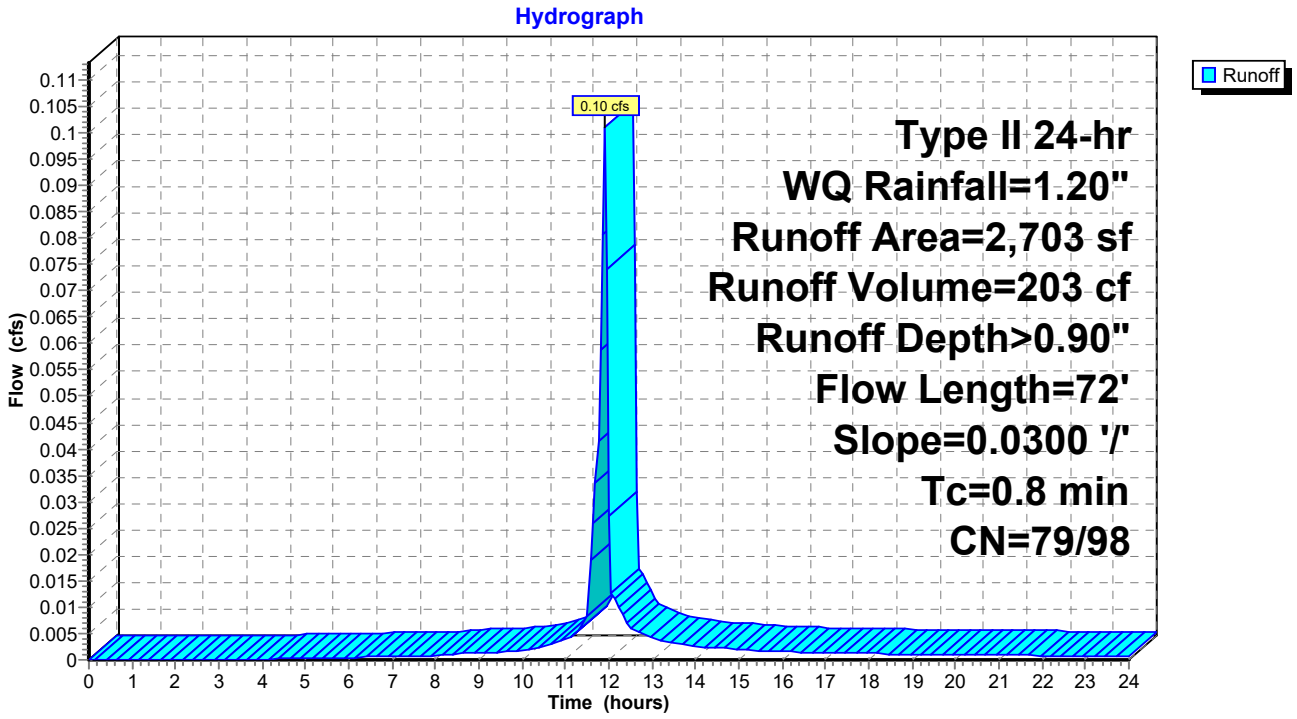
Runoff = 0.10 cfs @ 11.90 hrs, Volume= 203 cf, Depth> 0.90"
Routed to Pond CB5 :

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-24.00 hrs, dt= 0.05
Type II 24-hr WQ Rainfall=1.20"

Area (sf)	CN	Description
2,430	98	Paved parking, HSG C
273	79	50-75% Grass cover, Fair, HSG C
2,703	96	Weighted Average
273	79	10.10% Pervious Area
2,430	98	89.90% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	72	0.0300	1.54		**Sheet Flow, Paved Parking Lot** Smooth surfaces n= 0.011 P2= 3.30"

Subcatchment 1GP: Subwatershed 1G



Summary for Subcatchment 1HP: Subwatershed 1H

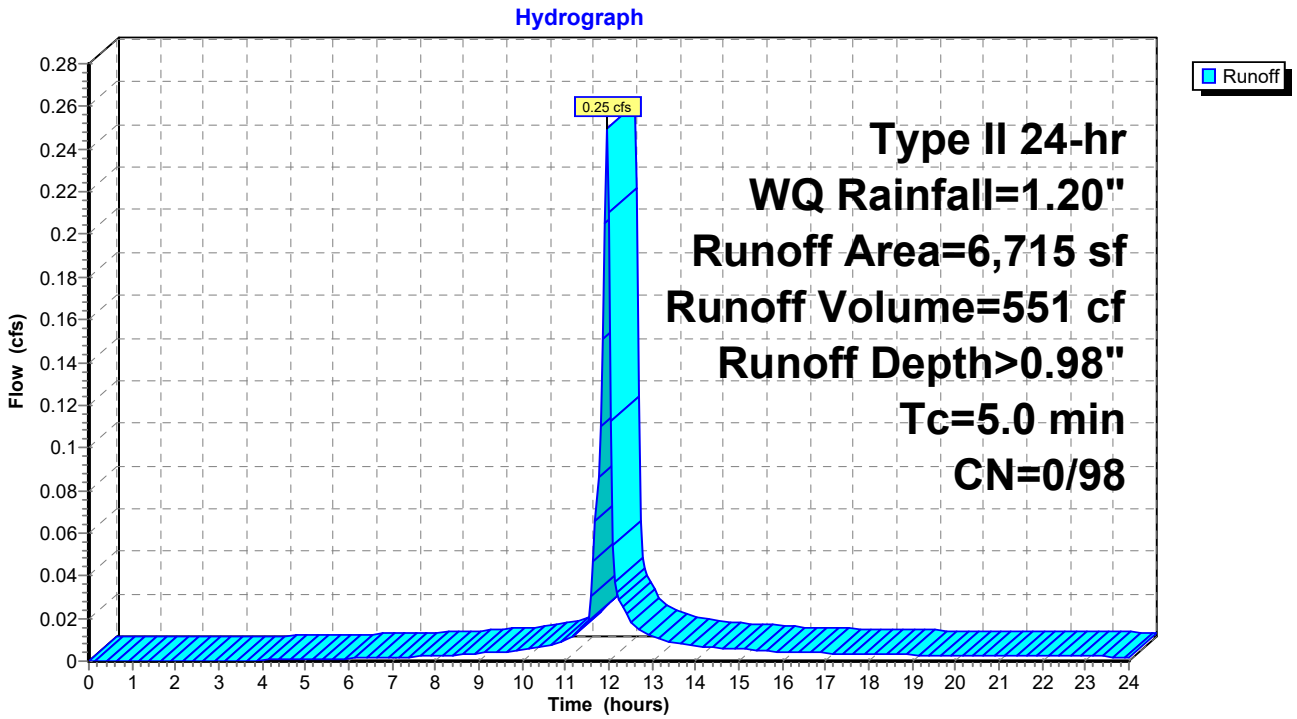
Runoff = 0.25 cfs @ 11.95 hrs, Volume= 551 cf, Depth> 0.98"
Routed to Pond DMH12 :

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-24.00 hrs, dt= 0.05
Type II 24-hr WQ Rainfall=1.20"

Area (sf)	CN	Description
6,715	98	Roofs, HSG C
6,715	98	100.00% Impervious Area

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

Subcatchment 1HP: Subwatershed 1H



Summary for Subcatchment 1IP: Subwatershed 1I

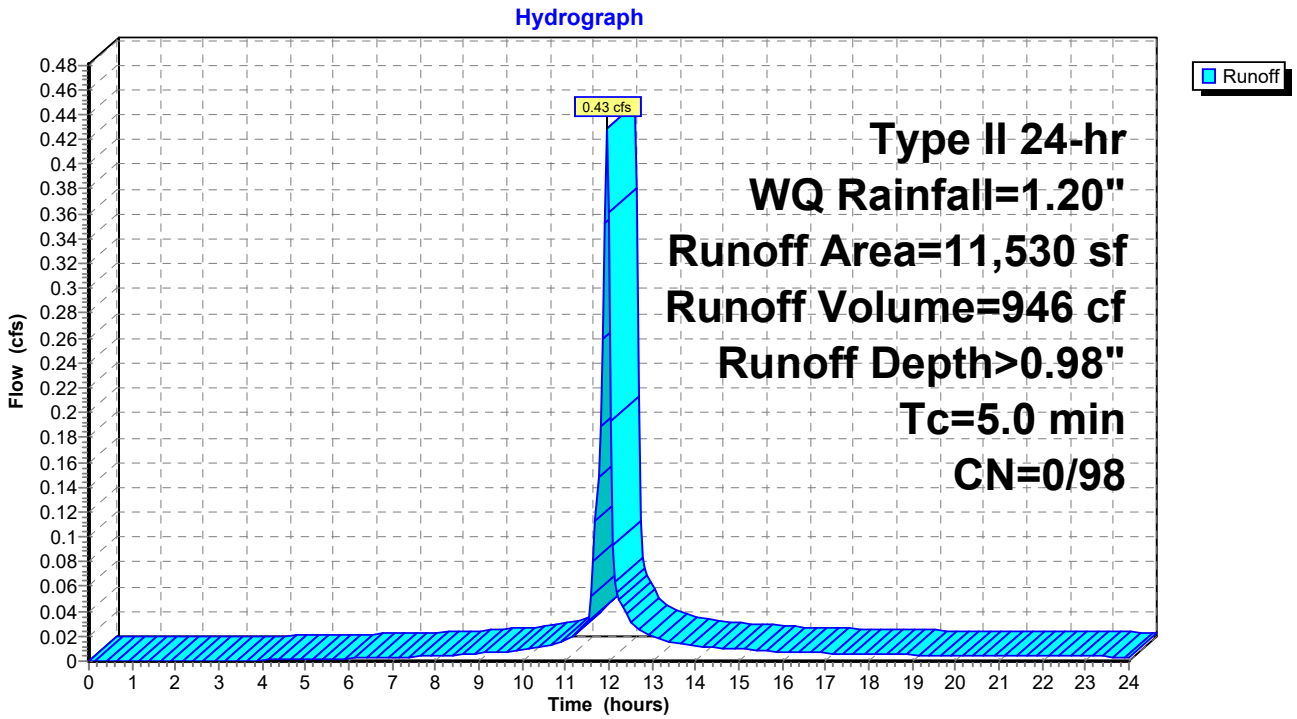
Runoff = 0.43 cfs @ 11.95 hrs, Volume= 946 cf, Depth> 0.98"
Routed to Pond DMH12 :

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-24.00 hrs, dt= 0.05
Type II 24-hr WQ Rainfall=1.20"

Area (sf)	CN	Description
11,530	98	Roofs, HSG C
11,530	98	100.00% Impervious Area

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

Subcatchment 1IP: Subwatershed 1I



Summary for Subcatchment 1JP: Subwatershed 1J

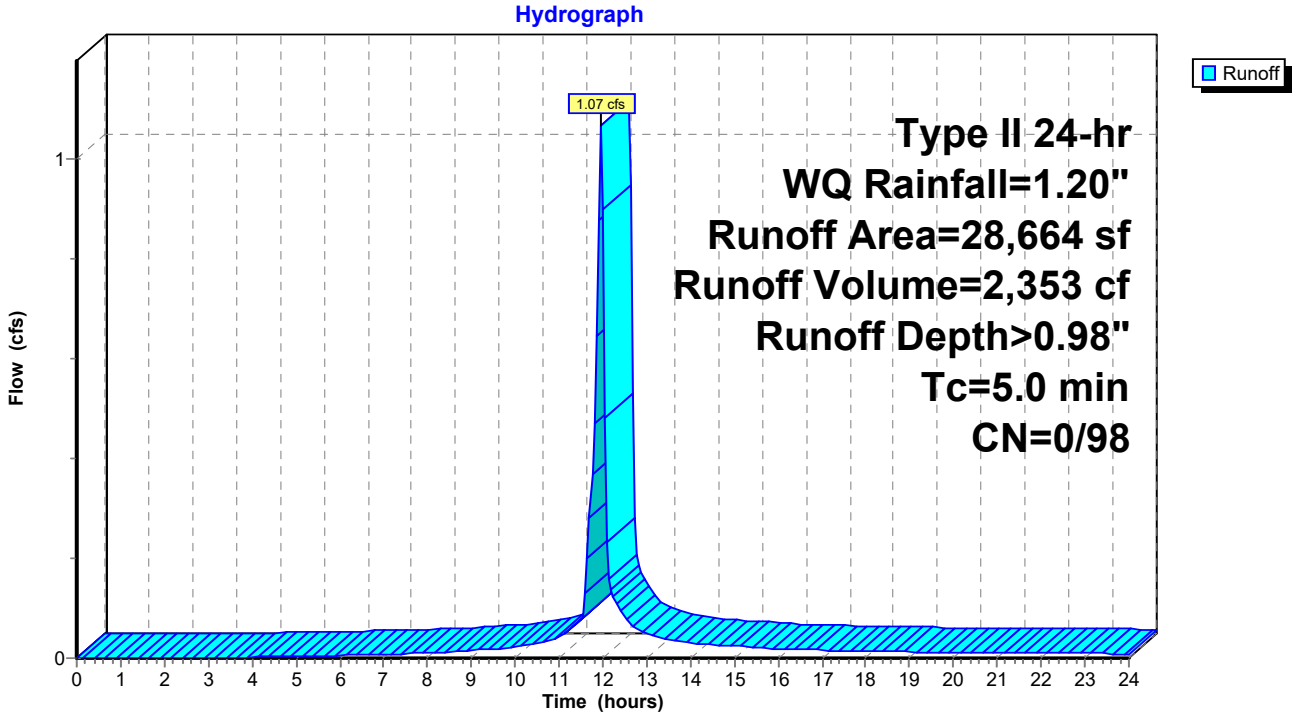
Runoff = 1.07 cfs @ 11.95 hrs, Volume= 2,353 cf, Depth> 0.98"
Routed to Pond DMH12 :

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-24.00 hrs, dt= 0.05
Type II 24-hr WQ Rainfall=1.20"

Area (sf)	CN	Description
28,664	98	Roofs, HSG C
28,664	98	100.00% Impervious Area

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

Subcatchment 1JP: Subwatershed 1J



Summary for Subcatchment 1KP: Subwatershed 1K

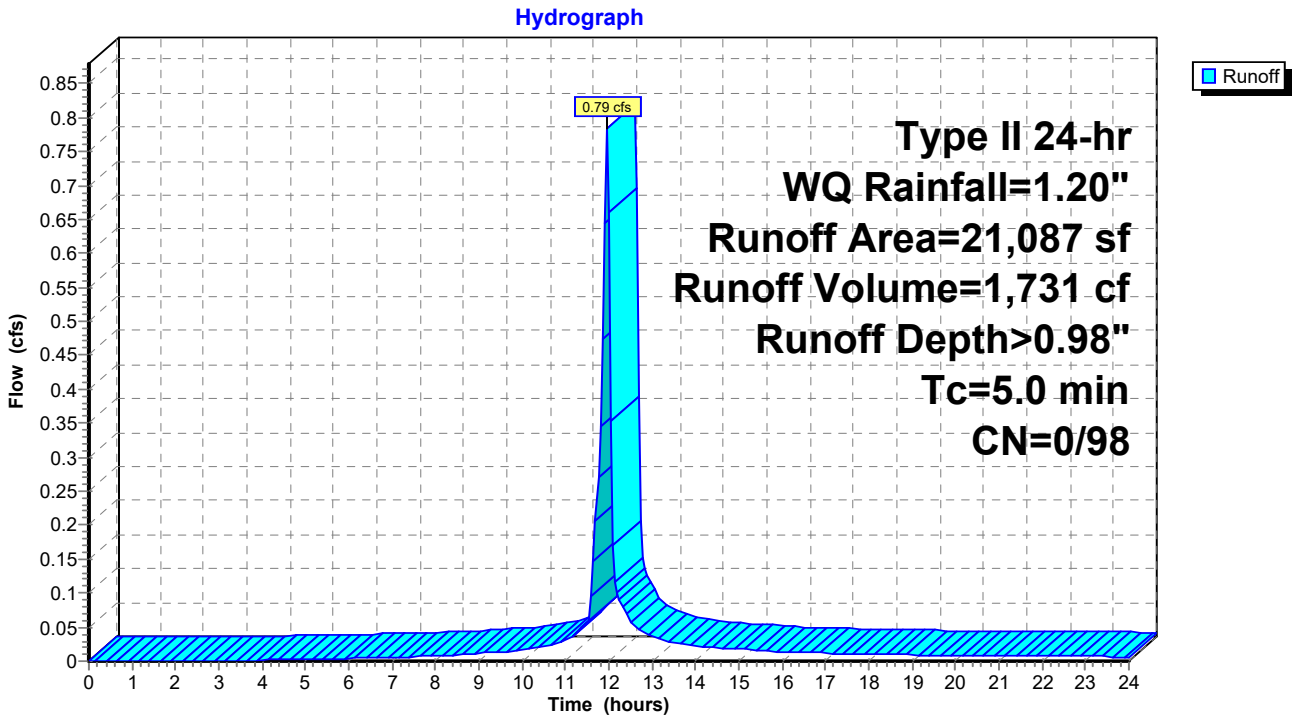
Runoff = 0.79 cfs @ 11.95 hrs, Volume= 1,731 cf, Depth> 0.98"
Routed to Pond TF3 : Tree Filter 3

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-24.00 hrs, dt= 0.05
Type II 24-hr WQ Rainfall=1.20"

Area (sf)	CN	Description
21,087	98	Roofs, HSG C
21,087	98	100.00% Impervious Area

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

Subcatchment 1KP: Subwatershed 1K



Summary for Subcatchment 2AP: Subwatershed 2A

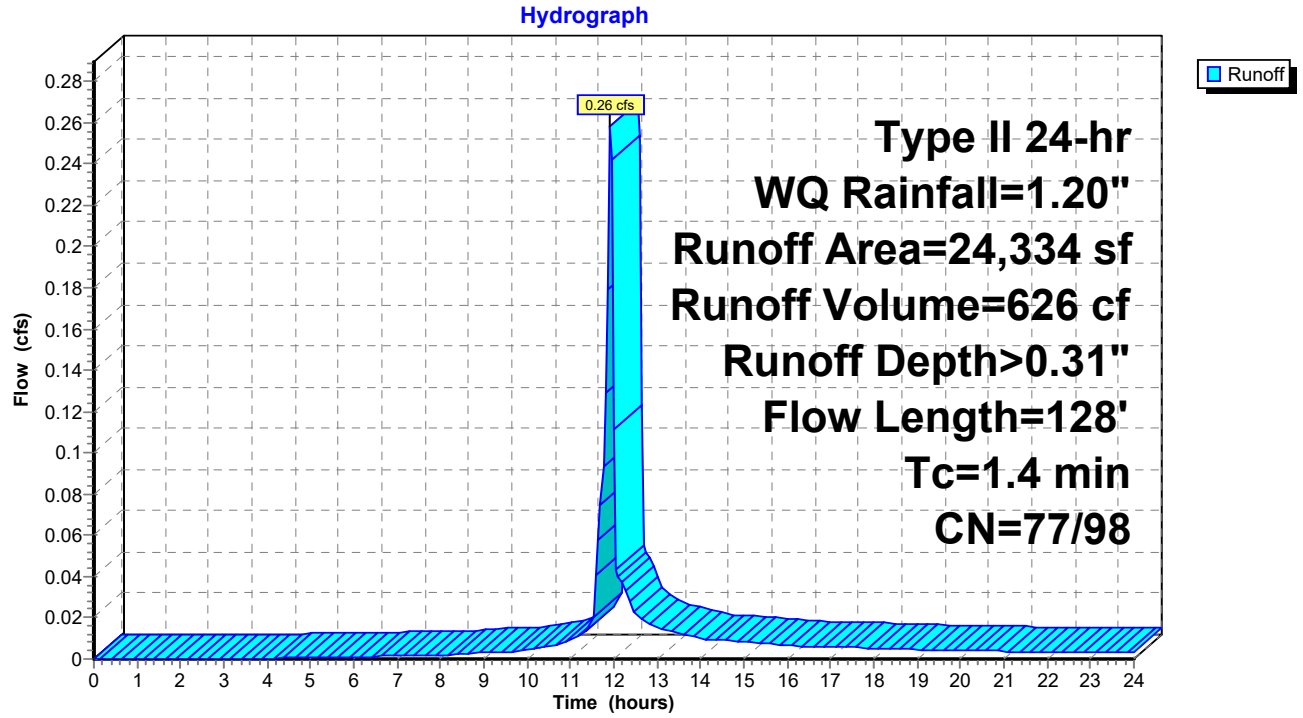
Runoff = 0.26 cfs @ 11.92 hrs, Volume= 626 cf, Depth> 0.31"
Routed to Link POA 2 : POA2

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-24.00 hrs, dt= 0.05
Type II 24-hr WQ Rainfall=1.20"

Area (sf)	CN	Description
16,363	74	>75% Grass cover, Good, HSG C
2,266	96	Gravel surface, HSG C
838	98	Roofs, HSG C
4,867	98	Paved parking, HSG C
24,334	82	Weighted Average
18,629	77	76.56% Pervious Area
5,705	98	23.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	42	0.0100	0.89		**Sheet Flow, Walkway** Smooth surfaces n= 0.011 P2= 3.30"
0.6	86	0.0050	2.45	0.85	**Pipe Channel,** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.013 Corrugated PE, smooth interior
1.4	128	Total			

Subcatchment 2AP: Subwatershed 2A



Summary for Subcatchment 2BP: Subwatershed 2B

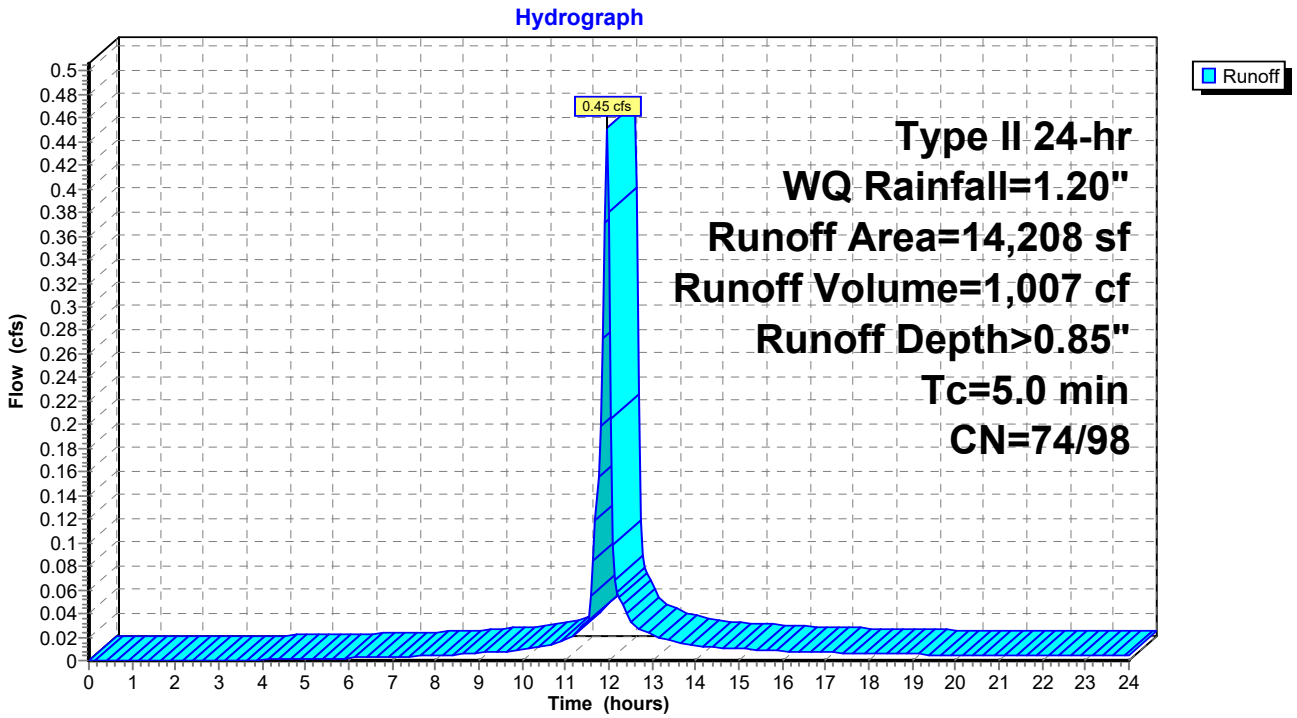
Runoff = 0.45 cfs @ 11.95 hrs, Volume= 1,007 cf, Depth> 0.85"
Routed to Link POA 2 : POA2

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-24.00 hrs, dt= 0.05
Type II 24-hr WQ Rainfall=1.20"

Area (sf)	CN	Description
12,143	98	Roofs, HSG C
2,065	74	>75% Grass cover, Good, HSG C
14,208	95	Weighted Average
2,065	74	14.53% Pervious Area
12,143	98	85.47% Impervious Area

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

Subcatchment 2BP: Subwatershed 2B



Summary for Subcatchment 3AP: Subwatershed 3A

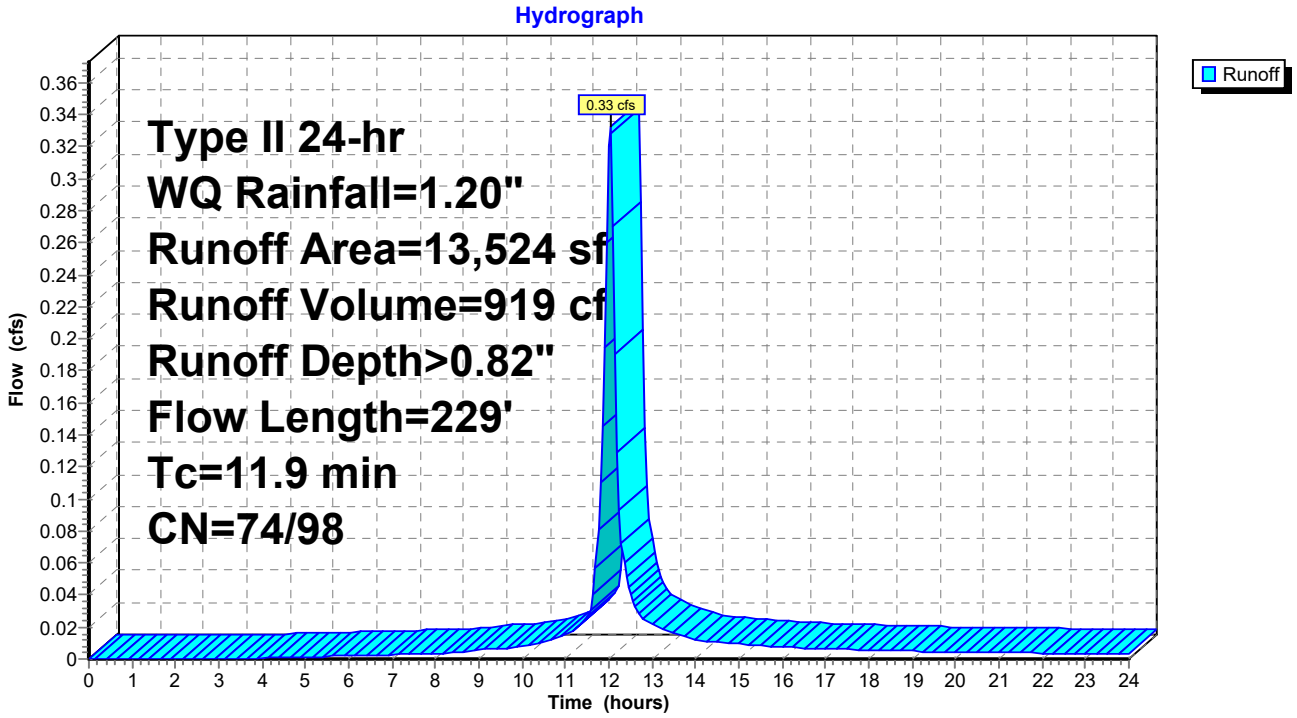
Runoff = 0.33 cfs @ 12.03 hrs, Volume= 919 cf, Depth> 0.82"
Routed to Link POA 3 : POA3

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-24.00 hrs, dt= 0.05
Type II 24-hr WQ Rainfall=1.20"

Area (sf)	CN	Description
10,651	98	Paved parking, HSG C
2,465	74	>75% Grass cover, Good, HSG C
408	98	Roofs, HSG C
13,524	94	Weighted Average
2,465	74	18.23% Pervious Area
11,059	98	81.77% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.2	76	0.0100	0.12		**Sheet Flow, Grass** Grass: Short n= 0.150 P2= 3.30"
0.8	98	0.0100	2.03		**Shallow Concentrated Flow, Paved Parking Lot** Paved Kv= 20.3 fps
0.9	55	0.0050	1.06		**Shallow Concentrated Flow, Dry Swale** Grassed Waterway Kv= 15.0 fps
11.9	229	Total			

Subcatchment 3AP: Subwatershed 3A



Summary for Subcatchment 4AP: Subwatershed 4A

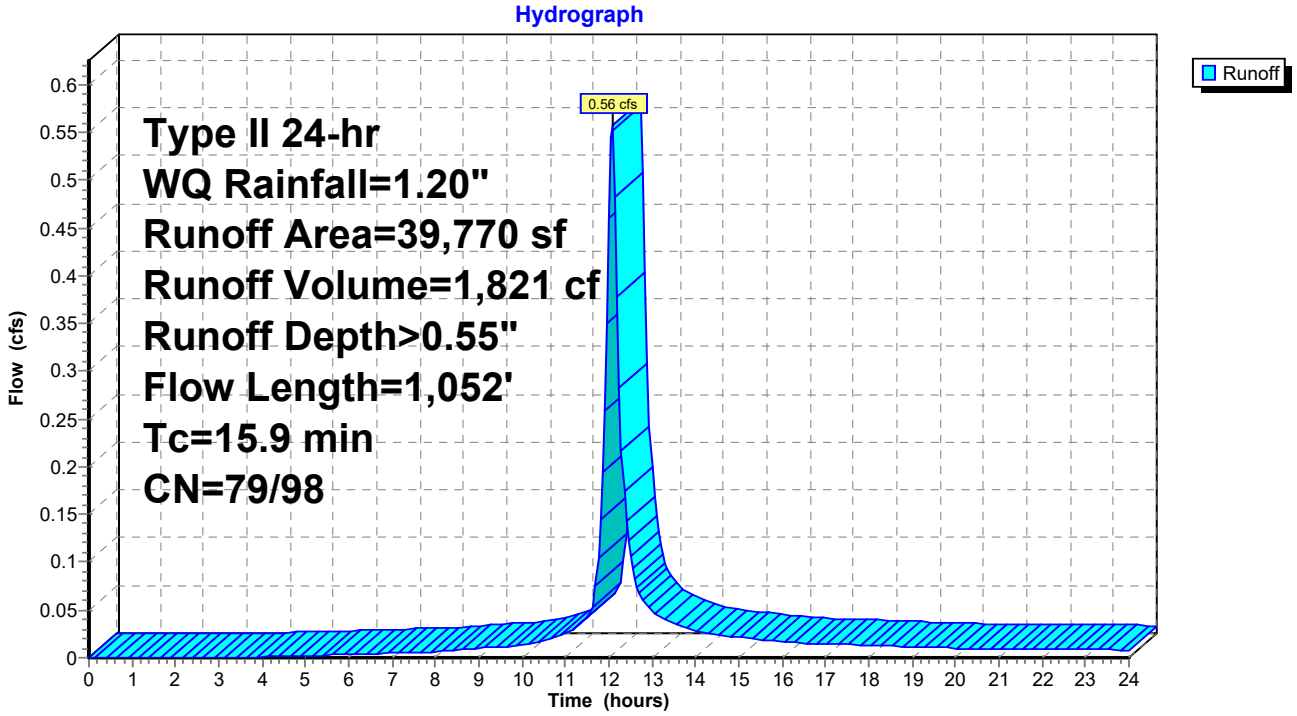
Runoff = 0.56 cfs @ 12.08 hrs, Volume= 1,821 cf, Depth> 0.55"
Routed to Link POA 4 : POA4

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-24.00 hrs, dt= 0.05
Type II 24-hr WQ Rainfall=1.20"

Area (sf)	CN	Description
5,527	98	Roofs, HSG C
13,964	98	Paved parking, HSG C
20,279	79	50-75% Grass cover, Fair, HSG C
39,770	88	Weighted Average
20,279	79	50.99% Pervious Area
19,491	98	49.01% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	50	0.0100	0.92		**Sheet Flow, Driveway** Smooth surfaces n= 0.011 P2= 3.30"
5.5	50	0.0200	0.15		**Sheet Flow, Grass** Grass: Short n= 0.150 P2= 3.30"
3.9	230	0.0200	0.99		**Shallow Concentrated Flow, Grass** Short Grass Pasture Kv= 7.0 fps
0.4	75	0.0300	3.52		**Shallow Concentrated Flow, Paved Driveway** Paved Kv= 20.3 fps
4.3	383	0.0054	1.49		**Shallow Concentrated Flow, Thames Street** Paved Kv= 20.3 fps
0.9	264	0.0050	4.77	18.98	**Pipe Channel, Storm Drain** 27.0" Round Area= 4.0 sf Perim= 7.1' r= 0.56' n= 0.015 Concrete sewer w/manholes & inlets
15.9	1,052	Total			

Subcatchment 4AP: Subwatershed 4A



Summary for Pond CB2:

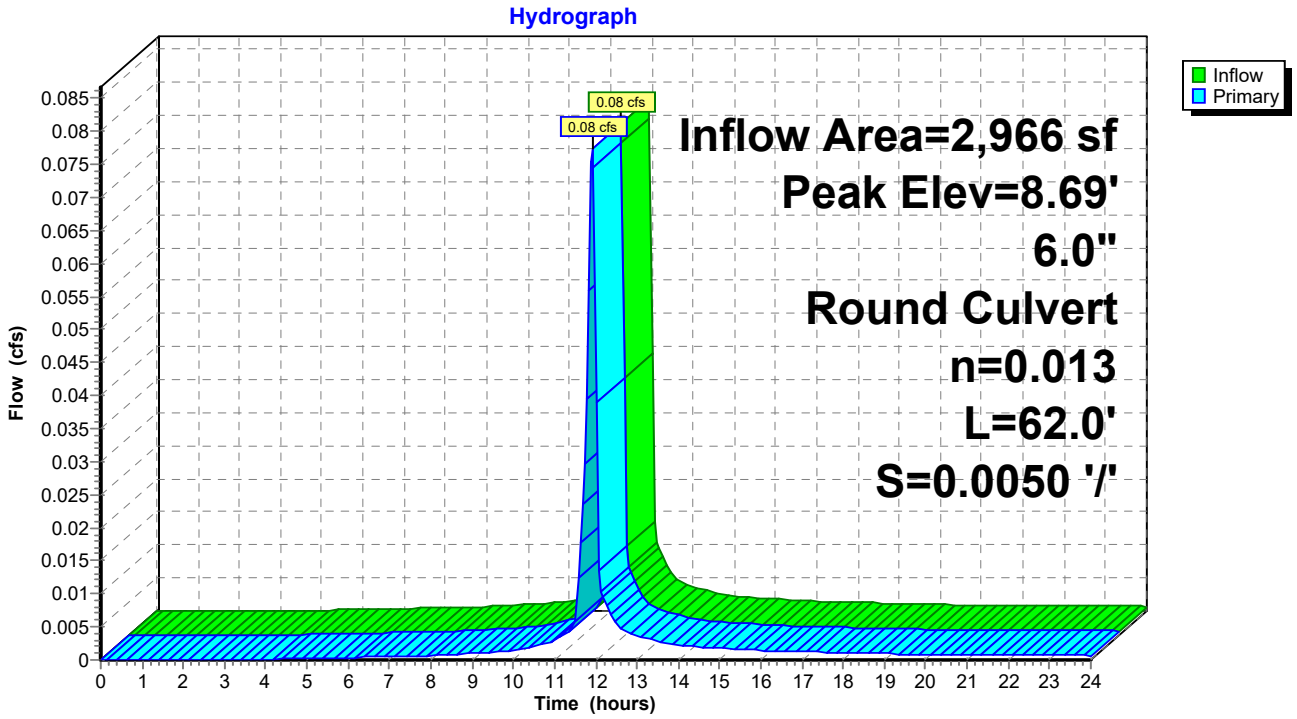
Inflow Area = 2,966 sf, 64.16% Impervious, Inflow Depth > 0.68" for WQ event
Inflow = 0.08 cfs @ 11.92 hrs, Volume= 168 cf
Outflow = 0.08 cfs @ 11.92 hrs, Volume= 168 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.08 cfs @ 11.92 hrs, Volume= 168 cf
Routed to Pond DMH1 :

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 8.69' @ 11.92 hrs
Flood Elev= 10.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	8.49'	**6.0" Round Culvert** L= 62.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 8.49' / 8.18' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.07 cfs @ 11.92 hrs HW=8.69' (Free Discharge)
1=Culvert (Barrel Controls 0.07 cfs @ 1.54 fps)

Pond CB2:



Summary for Pond CB4:

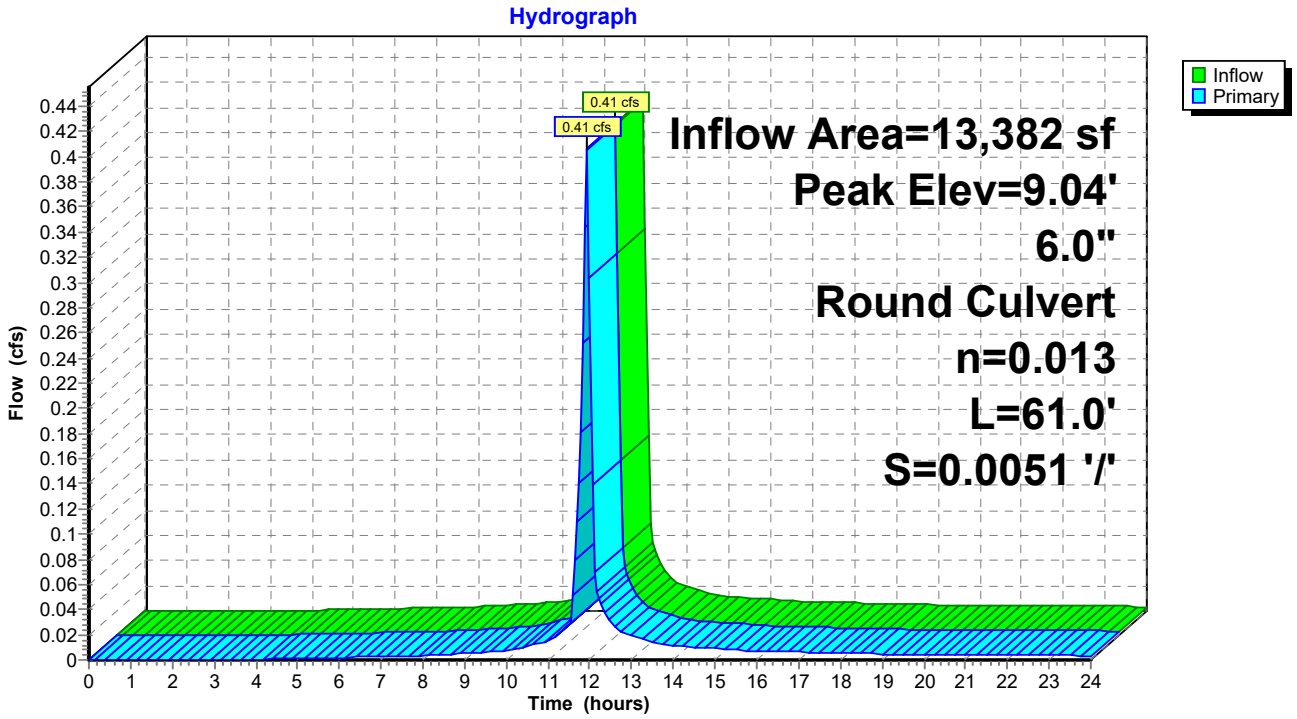
Inflow Area = 13,382 sf, 76.95% Impervious, Inflow Depth > 0.79" for WQ event
Inflow = 0.41 cfs @ 11.94 hrs, Volume= 880 cf
Outflow = 0.41 cfs @ 11.94 hrs, Volume= 880 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.41 cfs @ 11.94 hrs, Volume= 880 cf
Routed to Pond DMH1 :

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 9.04' @ 11.94 hrs
Flood Elev= 12.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	8.49'	**6.0" Round Culvert** L= 61.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 8.49' / 8.18' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.40 cfs @ 11.94 hrs HW=9.03' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 0.40 cfs @ 2.34 fps)

Pond CB4:



Summary for Pond CB5:

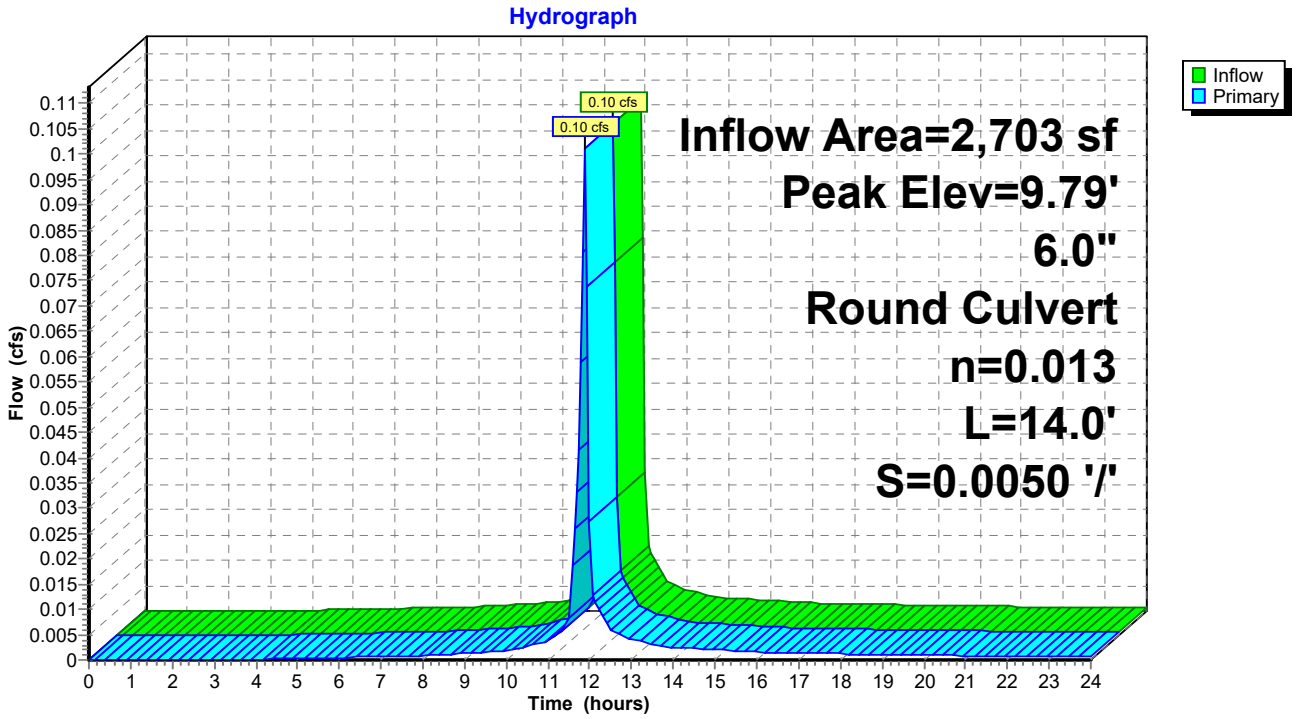
Inflow Area = 2,703 sf, 89.90% Impervious, Inflow Depth > 0.90" for WQ event
Inflow = 0.10 cfs @ 11.90 hrs, Volume= 203 cf
Outflow = 0.10 cfs @ 11.90 hrs, Volume= 203 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.10 cfs @ 11.90 hrs, Volume= 203 cf
Routed to Pond DMH9 : Diversion Structure

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 9.79' @ 11.90 hrs
Flood Elev= 12.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	9.56'	**6.0" Round Culvert** L= 14.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 9.56' / 9.49' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.10 cfs @ 11.90 hrs HW=9.79' (Free Discharge)
1=Culvert (Barrel Controls 0.10 cfs @ 1.64 fps)

Pond CB5:



Summary for Pond CB6:

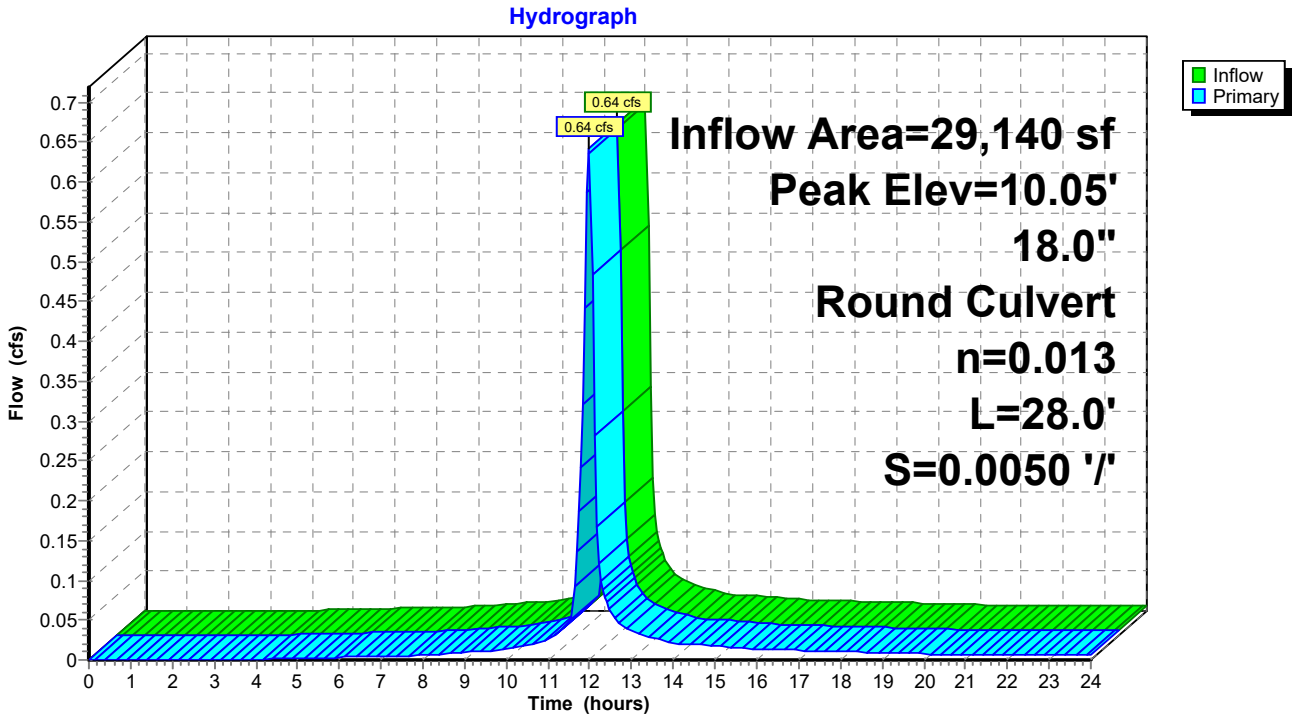
Inflow Area = 29,140 sf, 60.39% Impervious, Inflow Depth > 0.65" for WQ event
Inflow = 0.64 cfs @ 11.99 hrs, Volume= 1,572 cf
Outflow = 0.64 cfs @ 11.99 hrs, Volume= 1,572 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.64 cfs @ 11.99 hrs, Volume= 1,572 cf
Routed to Pond DMH9 : Diversion Structure

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 10.05' @ 11.99 hrs
Flood Elev= 12.17'

Device	Routing	Invert	Outlet Devices
#1	Primary	9.63'	**18.0" Round Culvert** L= 28.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 9.63' / 9.49' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=0.62 cfs @ 11.99 hrs HW=10.04' (Free Discharge)
1=Culvert (Barrel Controls 0.62 cfs @ 2.36 fps)

Pond CB6:



Summary for Pond DMH1:

Inflow Area = 16,348 sf, 74.63% Impervious, Inflow Depth > 0.77" for WQ event
Inflow = 0.48 cfs @ 11.94 hrs, Volume= 1,048 cf
Outflow = 0.48 cfs @ 11.94 hrs, Volume= 1,048 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.48 cfs @ 11.94 hrs, Volume= 1,048 cf
Routed to Pond OWS1 :
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Pond DMH5 :

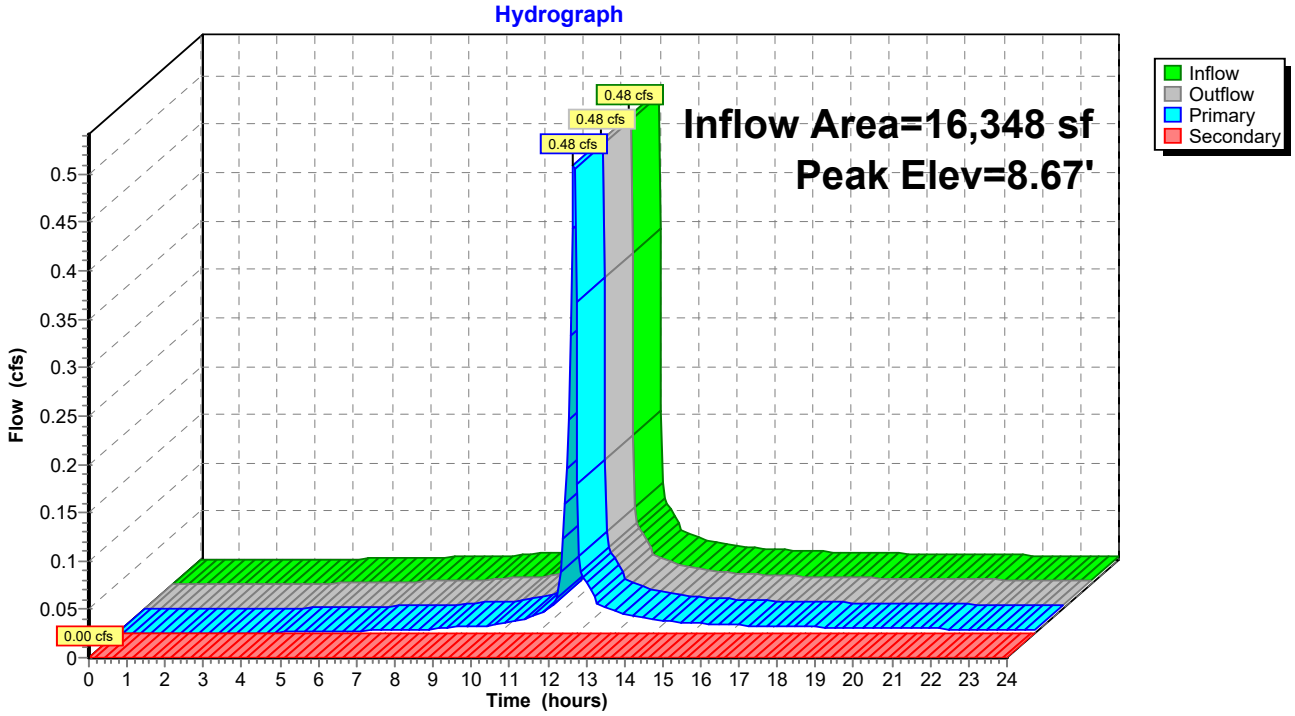
Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 8.67' @ 11.94 hrs
Flood Elev= 8.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	8.17'	**8.0" Round Culvert** L= 3.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 8.17' / 8.15' S= 0.0067 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Secondary	8.96'	**12.0" Round Culvert** L= 66.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 8.96' / 5.66' S= 0.0500 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.47 cfs @ 11.94 hrs HW=8.66' (Free Discharge)
└**1=Culvert** (Barrel Controls 0.47 cfs @ 2.36 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=8.17' (Free Discharge)
└**2=Culvert** (Controls 0.00 cfs)

Pond DMH1:


Hydrograph
Inflow Area=16,348 sf
Peak Elev=8.67'
0.48 cfs
0.48 cfs
0.48 cfs
0.00 cfs
Inflow
Outflow
Primary
Secondary
Flow (cfs)
Time (hours)
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

Summary for Pond DMH10:

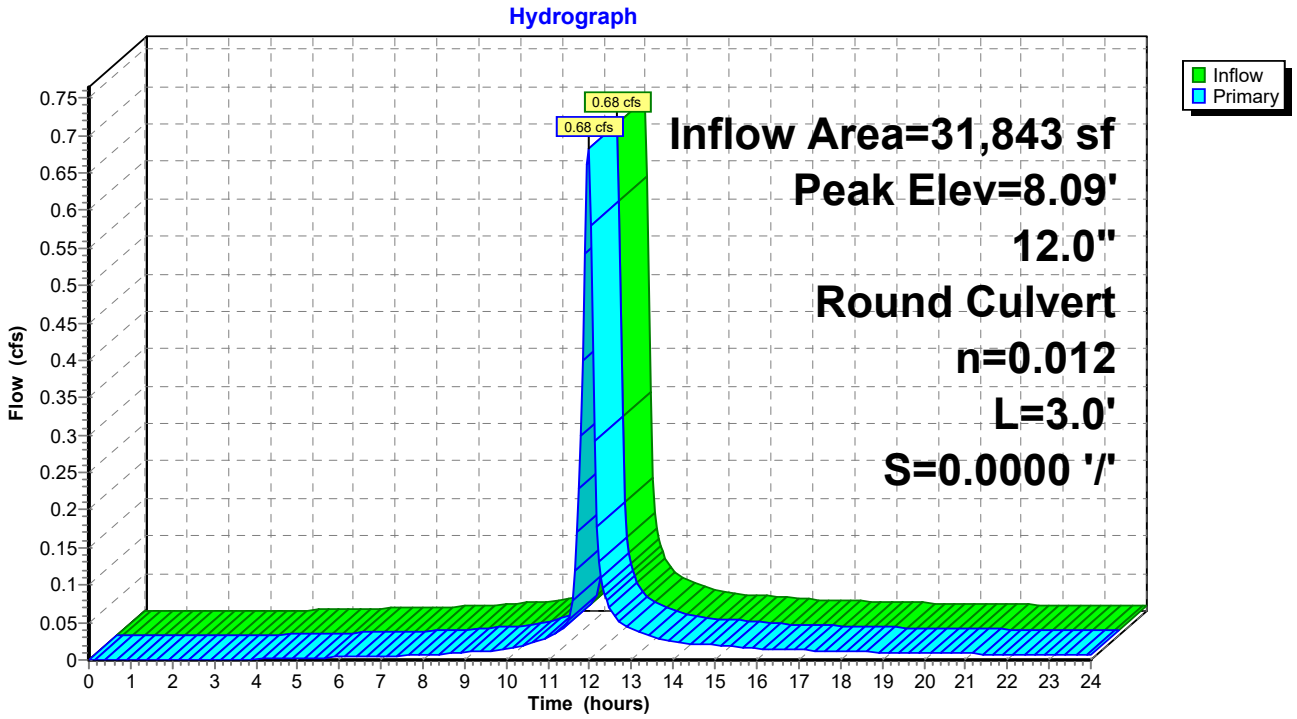
Inflow Area = 31,843 sf, 62.90% Impervious, Inflow Depth > 0.67" for WQ event
Inflow = 0.68 cfs @ 11.98 hrs, Volume= 1,775 cf
Outflow = 0.68 cfs @ 11.98 hrs, Volume= 1,775 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.68 cfs @ 11.98 hrs, Volume= 1,775 cf
Routed to Pond SF2 : Subsurface Filtration System 2

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 8.09' @ 11.98 hrs
Flood Elev= 12.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	7.55'	**12.0" Round Culvert** L= 3.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 7.55' / 7.55' S= 0.0000 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.66 cfs @ 11.98 hrs HW=8.08' (Free Discharge)
1=Culvert (Barrel Controls 0.66 cfs @ 2.30 fps)

Pond DMH10:



Summary for Pond DMH11:

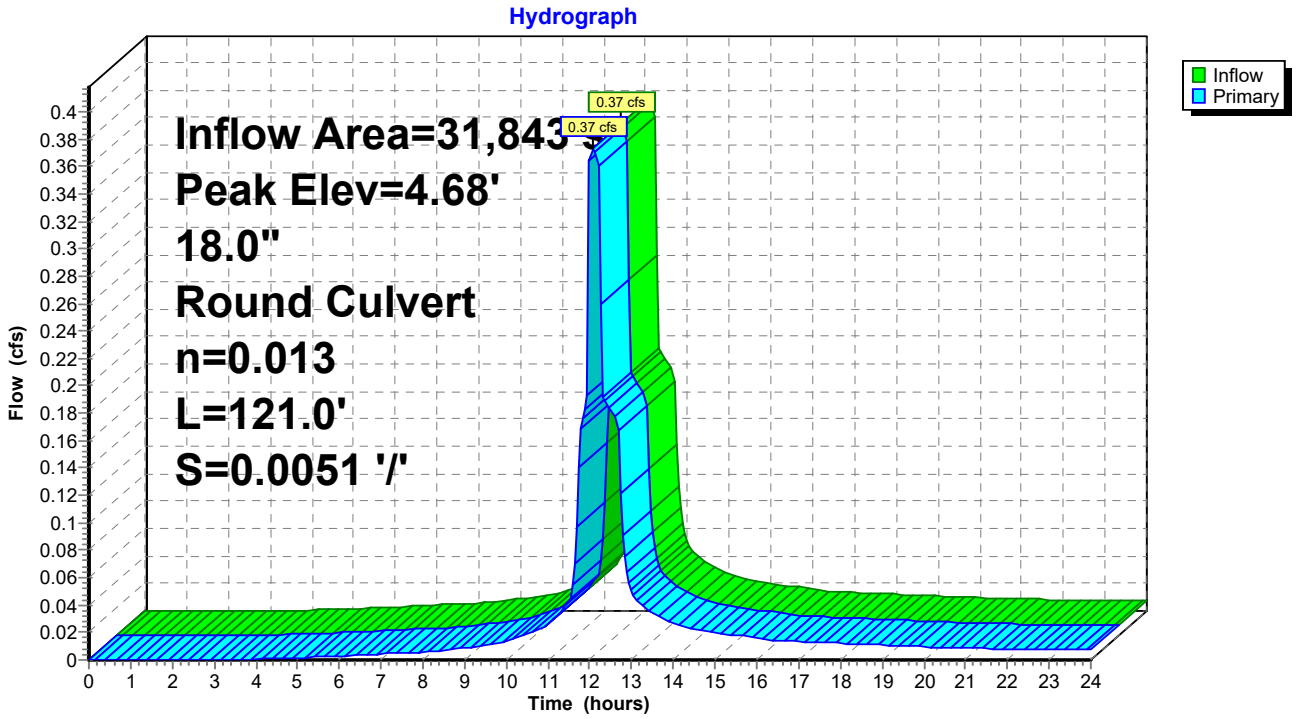
Inflow Area = 31,843 sf, 62.90% Impervious, Inflow Depth > 0.66" for WQ event
Inflow = 0.37 cfs @ 12.08 hrs, Volume= 1,761 cf
Outflow = 0.37 cfs @ 12.08 hrs, Volume= 1,761 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.37 cfs @ 12.08 hrs, Volume= 1,761 cf
Routed to Pond DMH12 :

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 4.68' @ 12.08 hrs
Flood Elev= 12.85'

Device	Routing	Invert	Outlet Devices
#1	Primary	4.38'	**18.0" Round Culvert** L= 121.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 4.38' / 3.76' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=0.37 cfs @ 12.08 hrs HW=4.68' (Free Discharge)
1=Culvert (Barrel Controls 0.37 cfs @ 2.16 fps)

Pond DMH11:



Summary for Pond DMH12:

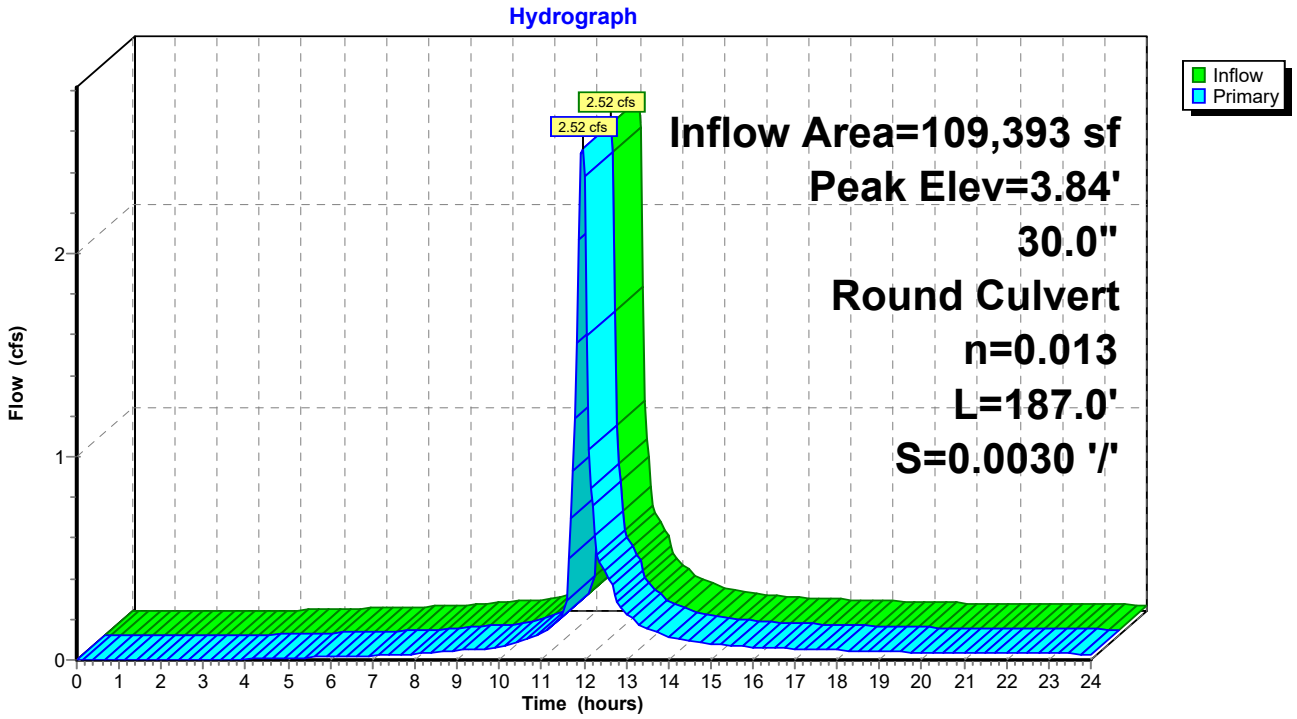
Inflow Area = 109,393 sf, 83.24% Impervious, Inflow Depth > 0.84" for WQ event
Inflow = 2.52 cfs @ 11.96 hrs, Volume= 7,652 cf
Outflow = 2.52 cfs @ 11.96 hrs, Volume= 7,652 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.52 cfs @ 11.96 hrs, Volume= 7,652 cf
Routed to Pond DMH13 :

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 3.84' @ 11.96 hrs
Flood Elev= 8.85'

Device	Routing	Invert	Outlet Devices
#1	Primary	3.08'	**30.0" Round Culvert** L= 187.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 3.08' / 2.52' S= 0.0030 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf

Primary OutFlow Max=2.46 cfs @ 11.96 hrs HW=3.83' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 2.46 cfs @ 2.97 fps)

Pond DMH12:



Summary for Pond DMH13:

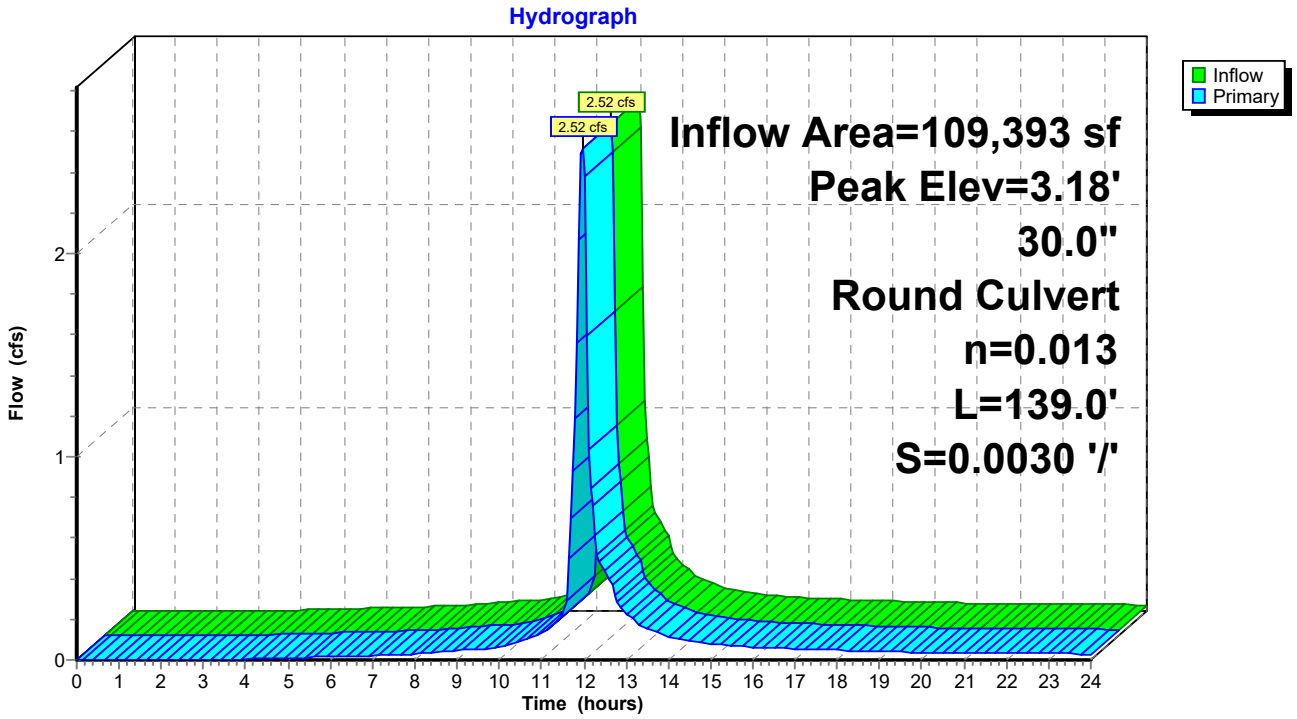
Inflow Area = 109,393 sf, 83.24% Impervious, Inflow Depth > 0.84" for WQ event
Inflow = 2.52 cfs @ 11.96 hrs, Volume= 7,652 cf
Outflow = 2.52 cfs @ 11.96 hrs, Volume= 7,652 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.52 cfs @ 11.96 hrs, Volume= 7,652 cf
Routed to Pond DMH14 :

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 3.18' @ 11.96 hrs
Flood Elev= 9.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	2.42'	**30.0" Round Culvert** L= 139.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2.42' / 2.00' S= 0.0030 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf

Primary OutFlow Max=2.46 cfs @ 11.96 hrs HW=3.17' (Free Discharge)
1=Culvert (Barrel Controls 2.46 cfs @ 2.97 fps)

Pond DMH13:



Summary for Pond DMH14:

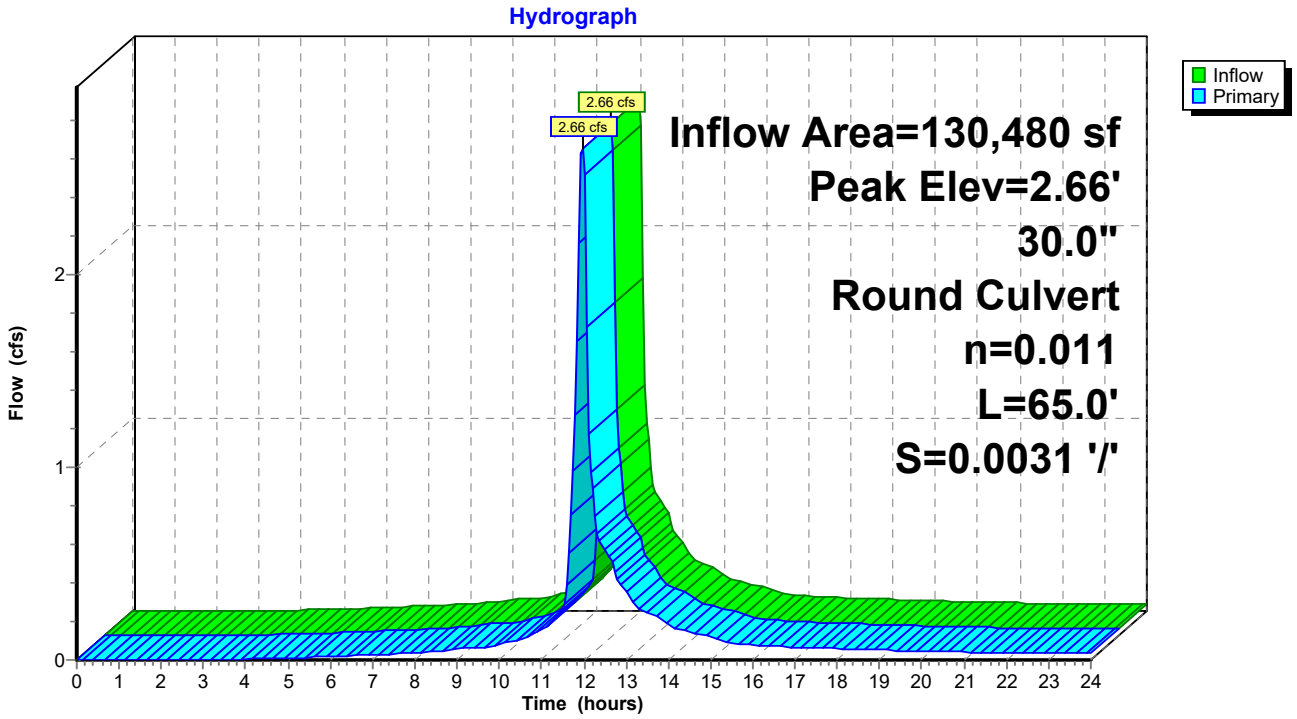
Inflow Area = 130,480 sf, 85.95% Impervious, Inflow Depth > 0.86" for WQ event
Inflow = 2.66 cfs @ 11.97 hrs, Volume= 9,365 cf
Outflow = 2.66 cfs @ 11.97 hrs, Volume= 9,365 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.66 cfs @ 11.97 hrs, Volume= 9,365 cf
Routed to Link POA 1 : POA 1 (Outfall)

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 2.66' @ 11.97 hrs
Flood Elev= 9.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	1.90'	**30.0" Round Culvert** L= 65.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1.90' / 1.70' S= 0.0031 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 4.91 sf

Primary OutFlow Max=2.59 cfs @ 11.97 hrs HW=2.65' (Free Discharge)
1=Culvert (Barrel Controls 2.59 cfs @ 3.16 fps)

Pond DMH14:



Summary for Pond DMH2:

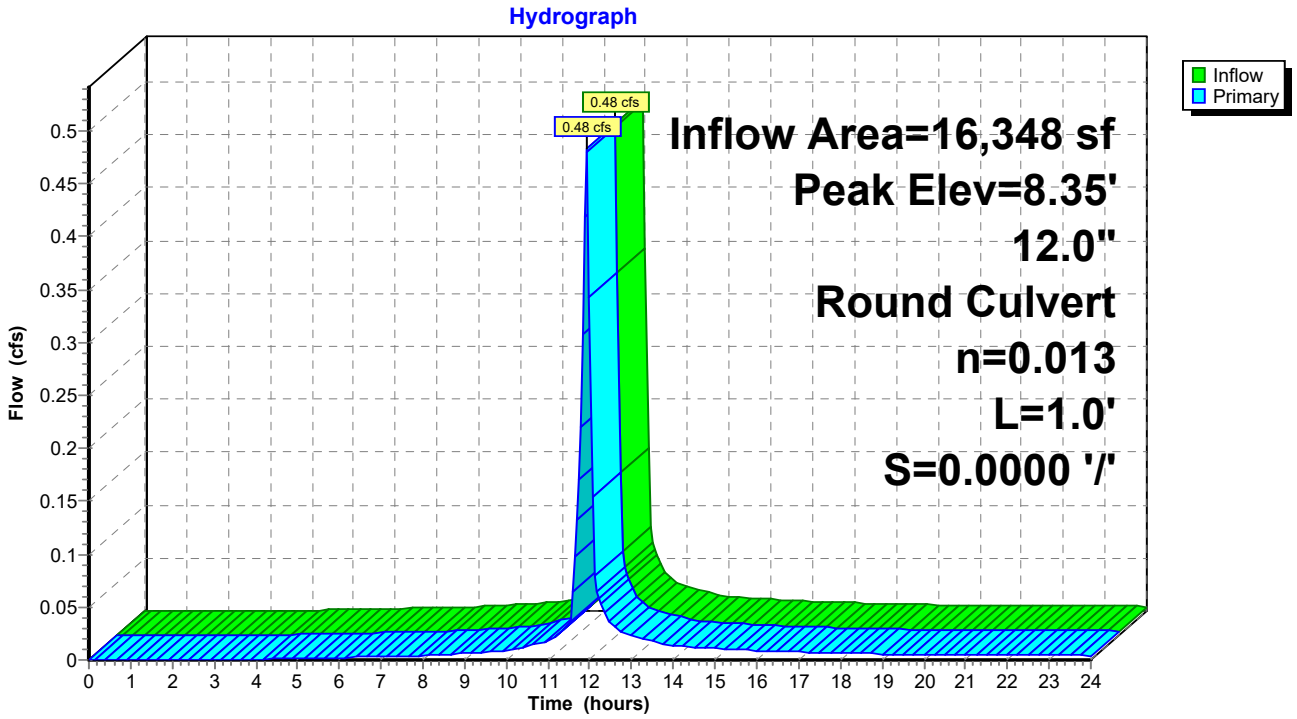
Inflow Area = 16,348 sf, 74.63% Impervious, Inflow Depth > 0.77" for WQ event
Inflow = 0.48 cfs @ 11.94 hrs, Volume= 1,048 cf
Outflow = 0.48 cfs @ 11.94 hrs, Volume= 1,048 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.48 cfs @ 11.94 hrs, Volume= 1,048 cf
Routed to Pond SF1 : Subsurface Filtration System 1

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 8.35' @ 11.94 hrs
Flood Elev= 8.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	7.91'	**12.0" Round Culvert** L= 1.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 7.91' / 7.91' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.47 cfs @ 11.94 hrs HW=8.34' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 0.47 cfs @ 2.12 fps)

Pond DMH2:



Summary for Pond DMH3:

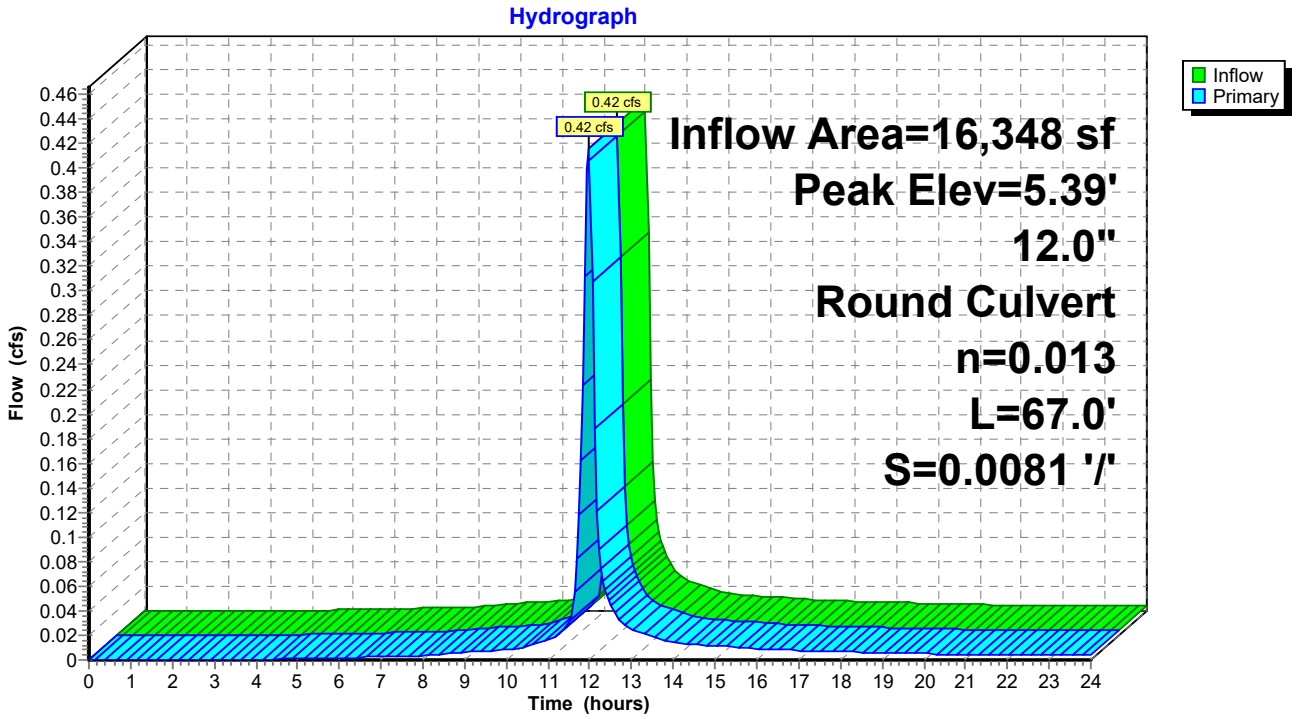
Inflow Area = 16,348 sf, 74.63% Impervious, Inflow Depth > 0.76" for WQ event
Inflow = 0.42 cfs @ 11.98 hrs, Volume= 1,039 cf
Outflow = 0.42 cfs @ 11.98 hrs, Volume= 1,039 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.42 cfs @ 11.98 hrs, Volume= 1,039 cf
Routed to Pond DMH4 :

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 5.39' @ 11.98 hrs
Flood Elev= 10.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	5.05'	**12.0" Round Culvert** L= 67.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 5.05' / 4.51' S= 0.0081 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.40 cfs @ 11.98 hrs HW=5.38' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 0.40 cfs @ 2.63 fps)

Pond DMH3:



Summary for Pond DMH4:

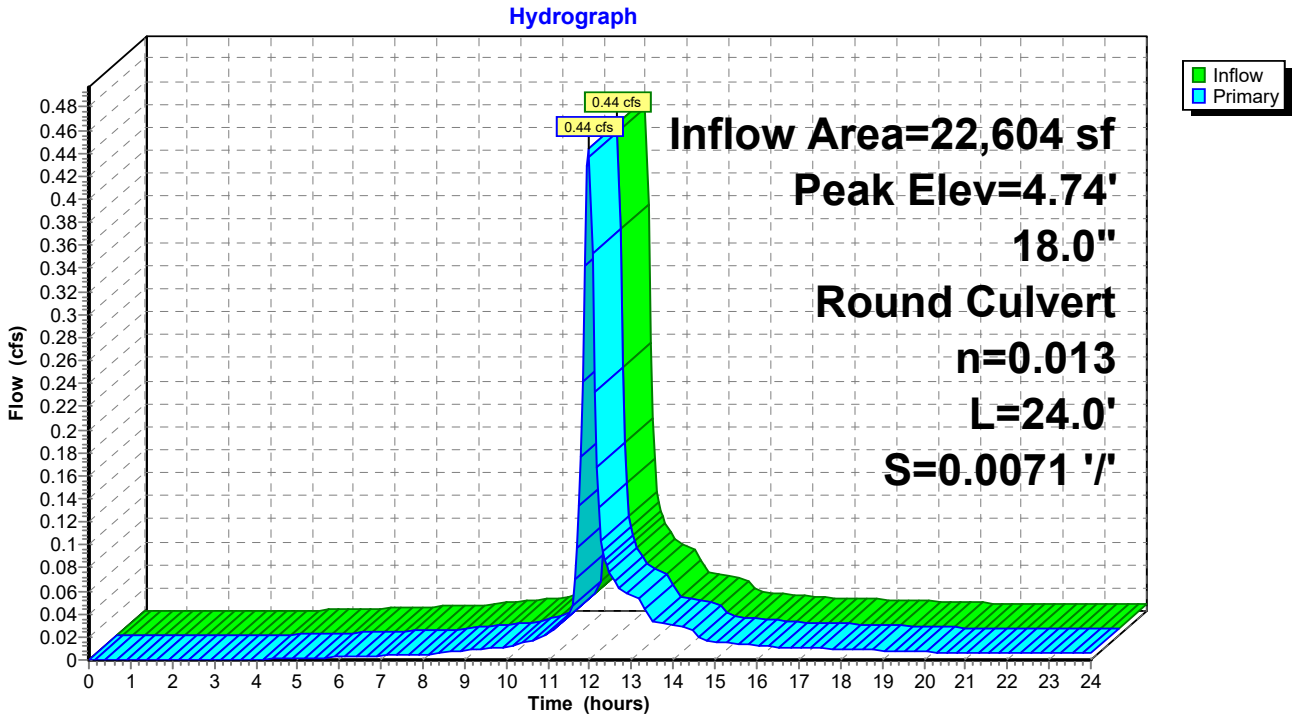
Inflow Area = 22,604 sf, 74.59% Impervious, Inflow Depth > 0.76" for WQ event
Inflow = 0.44 cfs @ 11.98 hrs, Volume= 1,438 cf
Outflow = 0.44 cfs @ 11.98 hrs, Volume= 1,438 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.44 cfs @ 11.98 hrs, Volume= 1,438 cf
Routed to Pond DMH7 :

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 4.74' @ 11.98 hrs
Flood Elev= 8.29'

Device	Routing	Invert	Outlet Devices
#1	Primary	4.41'	**18.0" Round Culvert** L= 24.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 4.41' / 4.24' S= 0.0071 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=0.43 cfs @ 11.98 hrs HW=4.73' (Free Discharge)
1=Culvert (Barrel Controls 0.43 cfs @ 2.32 fps)

Pond DMH4:



Summary for Pond DMH5:

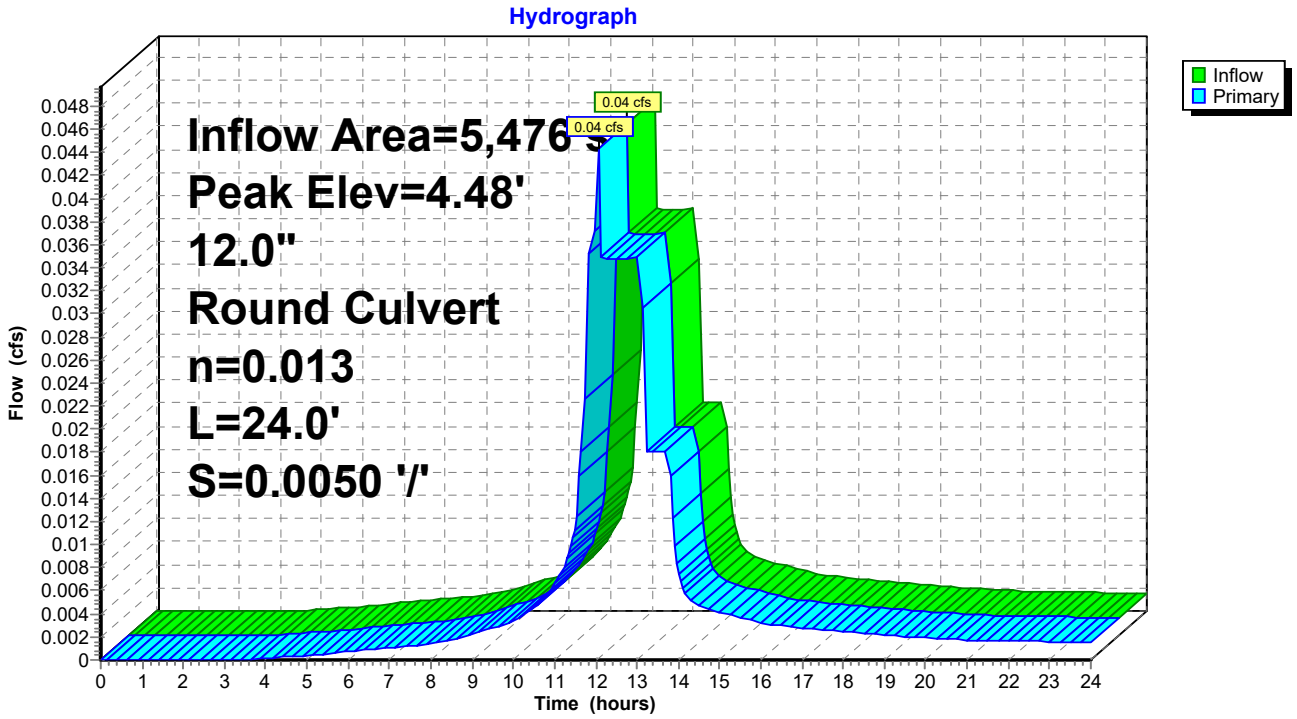
Inflow Area = 5,476 sf, 85.87% Impervious, Inflow Depth > 0.86" for WQ event
Inflow = 0.04 cfs @ 12.05 hrs, Volume= 392 cf
Outflow = 0.04 cfs @ 12.05 hrs, Volume= 392 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.04 cfs @ 12.05 hrs, Volume= 392 cf
Routed to Pond DMH7 :

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 4.48' @ 12.05 hrs
Flood Elev= 9.42'

Device	Routing	Invert	Outlet Devices
#1	Primary	4.36'	**12.0" Round Culvert** L= 24.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 4.36' / 4.24' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.04 cfs @ 12.05 hrs HW=4.48' (Free Discharge)
1=Culvert (Barrel Controls 0.04 cfs @ 1.19 fps)

Pond DMH5:



Summary for Pond DMH6:

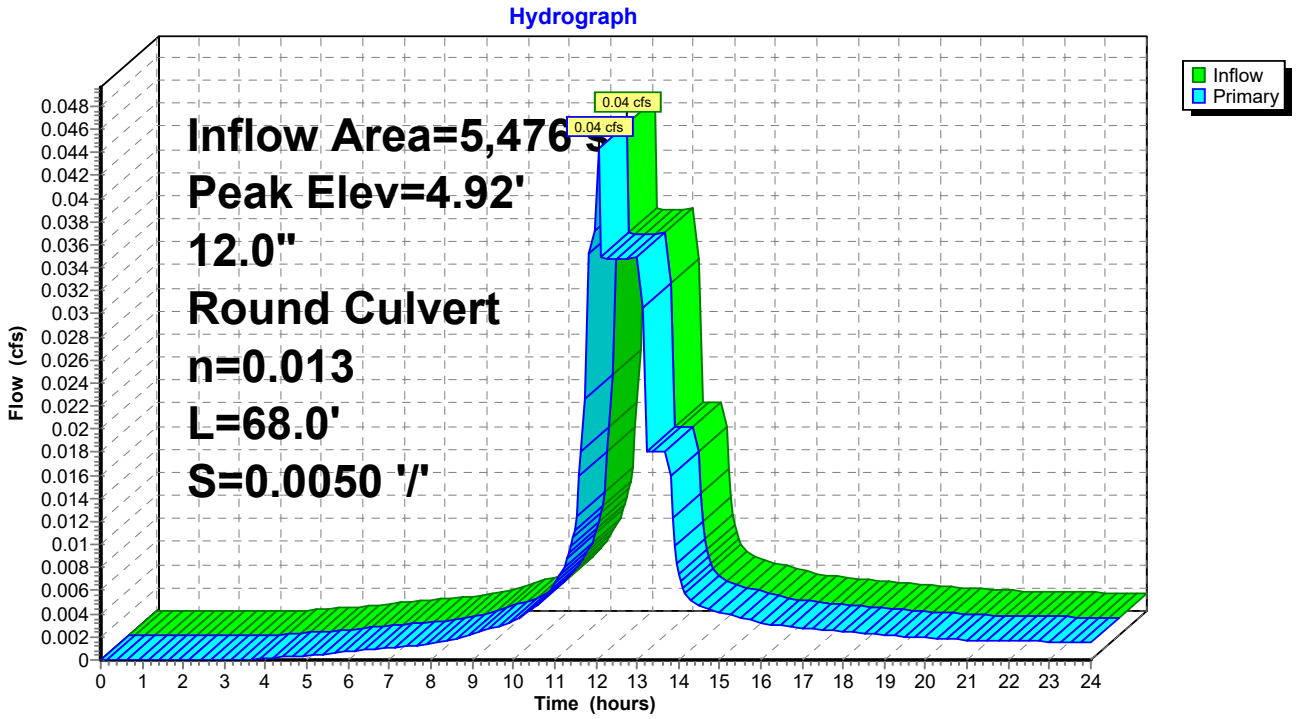
Inflow Area = 5,476 sf, 85.87% Impervious, Inflow Depth > 0.86" for WQ event
Inflow = 0.04 cfs @ 12.05 hrs, Volume= 392 cf
Outflow = 0.04 cfs @ 12.05 hrs, Volume= 392 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.04 cfs @ 12.05 hrs, Volume= 392 cf
Routed to Pond DMH5 :

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 4.92' @ 12.05 hrs
Flood Elev= 9.42'

Device	Routing	Invert	Outlet Devices
#1	Primary	4.80'	**12.0" Round Culvert** L= 68.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 4.80' / 4.46' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.04 cfs @ 12.05 hrs HW=4.92' (Free Discharge)
1=Culvert (Barrel Controls 0.04 cfs @ 1.20 fps)

Pond DMH6:



Summary for Pond DMH7:

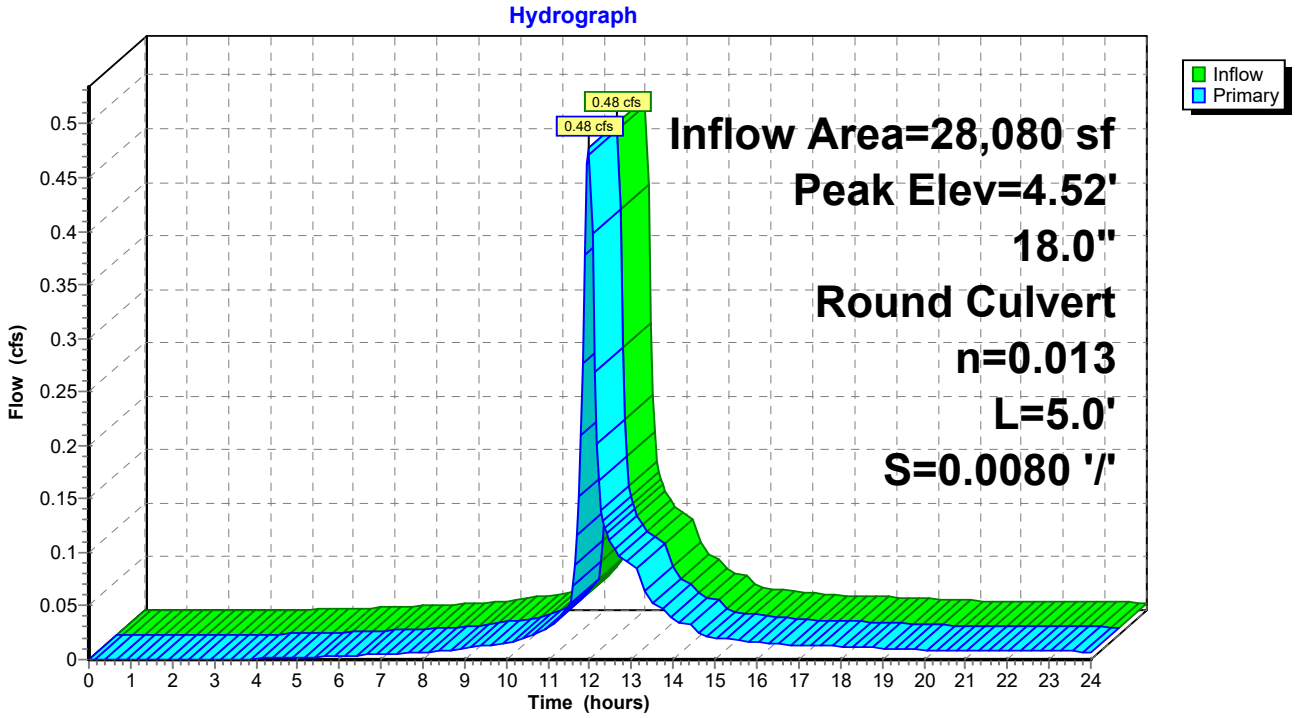
Inflow Area = 28,080 sf, 76.79% Impervious, Inflow Depth > 0.78" for WQ event
Inflow = 0.48 cfs @ 11.98 hrs, Volume= 1,831 cf
Outflow = 0.48 cfs @ 11.98 hrs, Volume= 1,831 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.48 cfs @ 11.98 hrs, Volume= 1,831 cf
Routed to Pond DMH8 :

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 4.52' @ 11.98 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	4.14'	**18.0" Round Culvert** L= 5.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 4.14' / 4.10' S= 0.0080 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=0.47 cfs @ 11.98 hrs HW=4.52' (Free Discharge)
1=Culvert (Barrel Controls 0.47 cfs @ 2.01 fps)

Pond DMH7:



Summary for Pond DMH8:

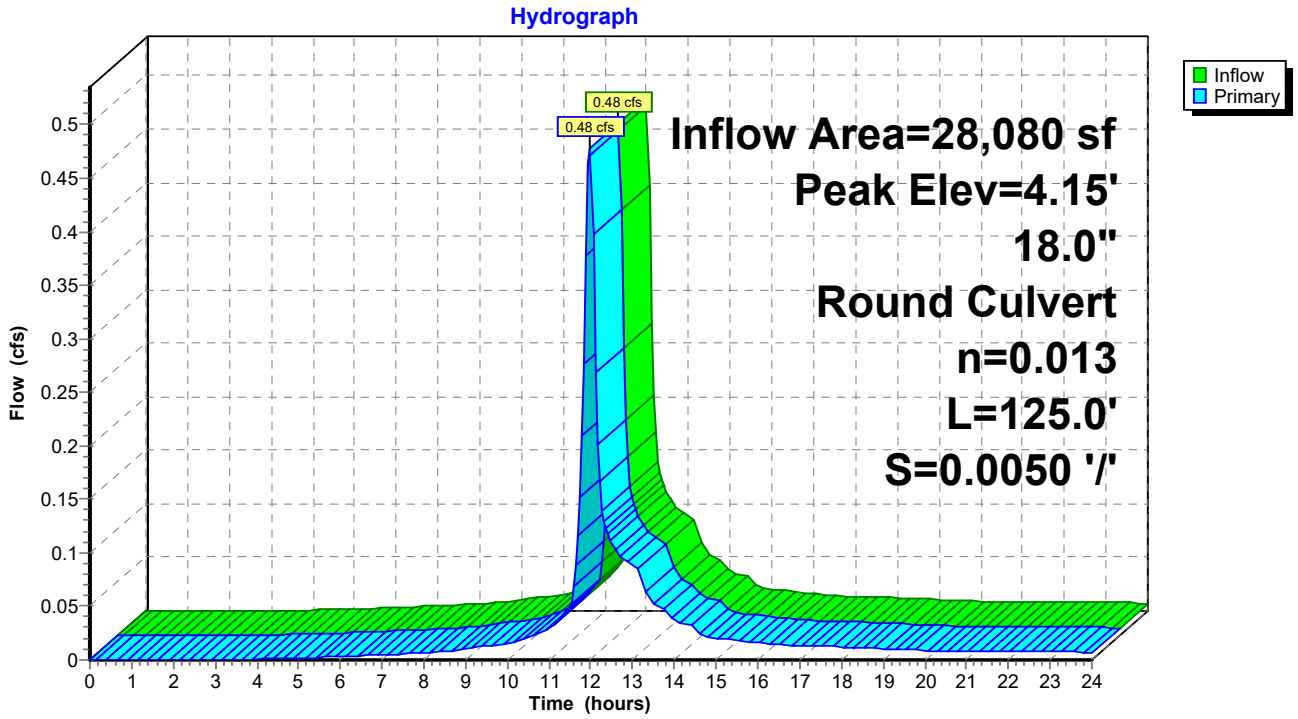
Inflow Area = 28,080 sf, 76.79% Impervious, Inflow Depth > 0.78" for WQ event
Inflow = 0.48 cfs @ 11.98 hrs, Volume= 1,831 cf
Outflow = 0.48 cfs @ 11.98 hrs, Volume= 1,831 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.48 cfs @ 11.98 hrs, Volume= 1,831 cf
Routed to Pond DMH12 :

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 4.15' @ 11.98 hrs
Flood Elev= 8.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	3.80'	**18.0" Round Culvert** L= 125.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 3.80' / 3.18' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=0.47 cfs @ 11.98 hrs HW=4.15' (Free Discharge)
1=Culvert (Barrel Controls 0.47 cfs @ 2.29 fps)

Pond DMH8:



Summary for Pond DMH9: Diversion Structure

Inflow Area = 31,843 sf, 62.90% Impervious, Inflow Depth > 0.67" for WQ event
Inflow = 0.68 cfs @ 11.98 hrs, Volume= 1,775 cf
Outflow = 0.68 cfs @ 11.98 hrs, Volume= 1,775 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.68 cfs @ 11.98 hrs, Volume= 1,775 cf
Routed to Pond OWS2 :
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Pond DMH11 :

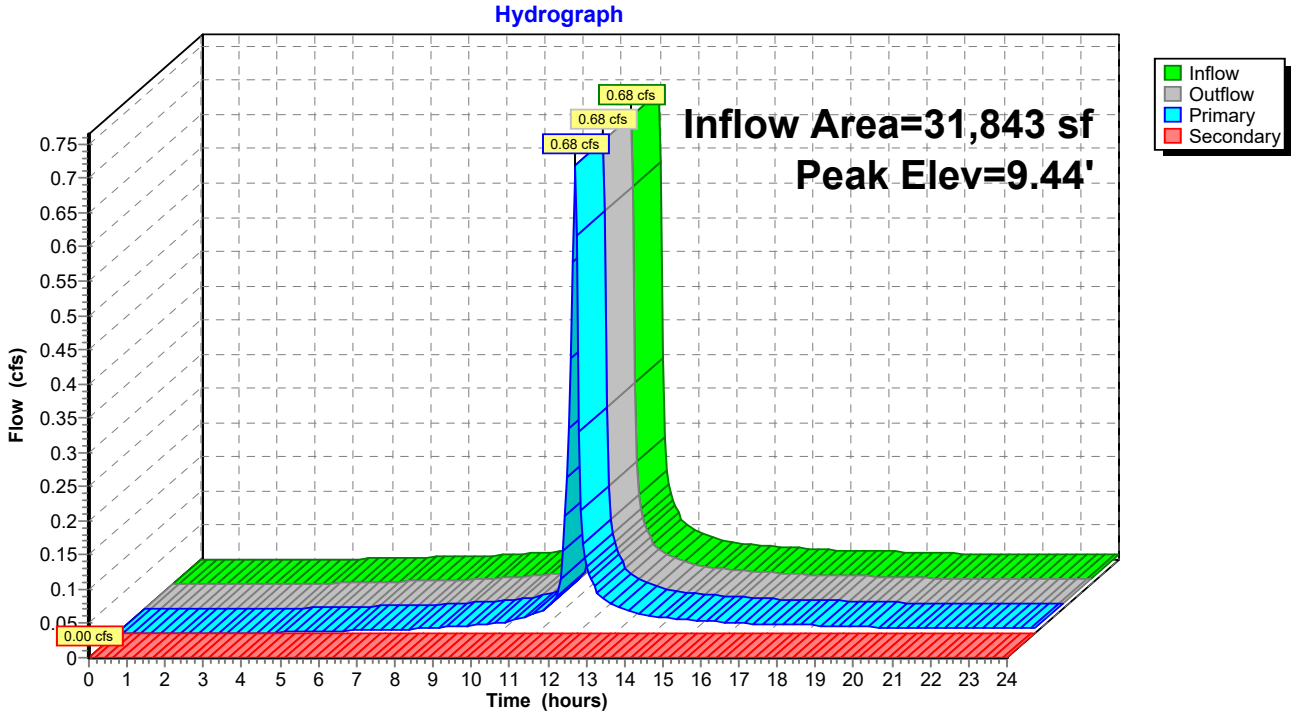
Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 9.44' @ 11.98 hrs
Flood Elev= 13.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	8.82'	**8.0" Round Culvert** L= 3.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 8.82' / 8.80' S= 0.0067 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Secondary	9.49'	**18.0" Round DIVERSION** L= 14.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 9.49' / 9.05' S= 0.0314 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=0.66 cfs @ 11.98 hrs HW=9.43' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 0.66 cfs @ 2.61 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=8.82' (Free Discharge)
↑—**2=DIVERSION** (Controls 0.00 cfs)

Pond DMH9: Diversion Structure



Summary for Pond OWS1:

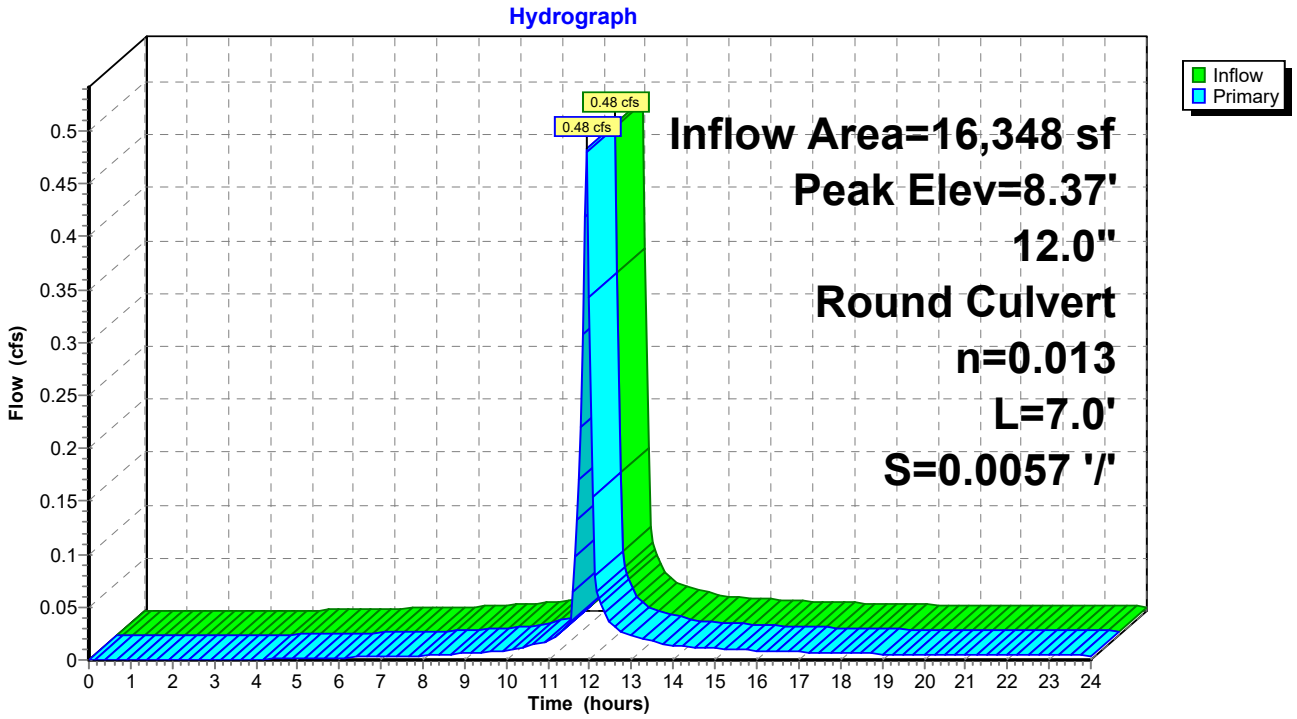
Inflow Area = 16,348 sf, 74.63% Impervious, Inflow Depth > 0.77" for WQ event
Inflow = 0.48 cfs @ 11.94 hrs, Volume= 1,048 cf
Outflow = 0.48 cfs @ 11.94 hrs, Volume= 1,048 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.48 cfs @ 11.94 hrs, Volume= 1,048 cf
Routed to Pond DMH2 :

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 8.37' @ 11.94 hrs
Flood Elev= 11.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	7.95'	**12.0" Round Culvert** L= 7.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 7.95' / 7.91' S= 0.0057 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.47 cfs @ 11.94 hrs HW=8.37' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 0.47 cfs @ 2.24 fps)

Pond OWS1:



Summary for Pond OWS2:

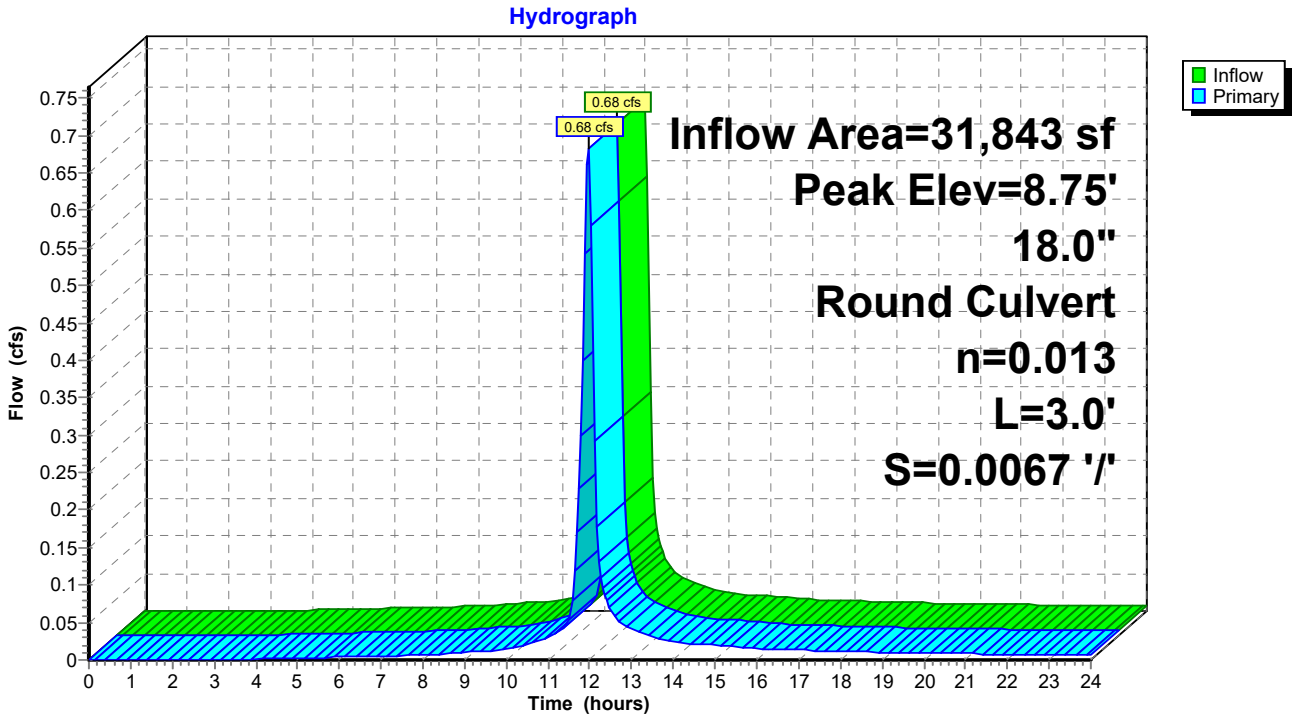
Inflow Area = 31,843 sf, 62.90% Impervious, Inflow Depth > 0.67" for WQ event
Inflow = 0.68 cfs @ 11.98 hrs, Volume= 1,775 cf
Outflow = 0.68 cfs @ 11.98 hrs, Volume= 1,775 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.68 cfs @ 11.98 hrs, Volume= 1,775 cf
Routed to Pond DMH10 :

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 8.75' @ 11.98 hrs
Flood Elev= 12.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	8.30'	**18.0" Round Culvert** L= 3.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 8.30' / 8.28' S= 0.0067 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=0.66 cfs @ 11.98 hrs HW=8.74' (Free Discharge)
1=Culvert (Barrel Controls 0.66 cfs @ 2.27 fps)

Pond OWS2:



Summary for Pond SF1: Subsurface Filtration System 1

Inflow Area = 16,348 sf, 74.63% Impervious, Inflow Depth > 0.77" for WQ event
Inflow = 0.48 cfs @ 11.94 hrs, Volume= 1,048 cf
Outflow = 0.42 cfs @ 11.98 hrs, Volume= 1,039 cf, Atten= 14%, Lag= 2.3 min
Primary = 0.42 cfs @ 11.98 hrs, Volume= 1,039 cf
Routed to Pond DMH3 :

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 5.75' @ 11.98 hrs Surf.Area= 576 sf Storage= 112 cf

Plug-Flow detention time= 14.5 min calculated for 1,039 cf (99% of inflow)
Center-of-Mass det. time= 9.2 min (792.1 - 782.9)

Volume	Invert	Avail.Storage	Storage Description
#1A	7.33'	346 cf	**14.83'W x 38.80'L x 2.33'H Field A** 1,343 cf Overall - 295 cf Embedded = 1,048 cf x 33.0% Voids
#2A	7.83'	295 cf	**ADS_StormTech SC-310 +Cap** x 20 Inside #1 Effective Size= 28.9"W x 16.0"H => 2.07 sf x 7.12'L = 14.7 cf Overall Size= 34.0"W x 16.0"H x 7.56'L with 0.44' Overlap 20 Chambers in 4 Rows
#3	5.83'	346 cf	**SAND (Prismatic)** Listed below (Recalc) 864 cf Overall x 40.0% Voids
#4	5.16'	127 cf	**PEA GRAVEL (Prismatic)** Listed below (Recalc) 386 cf Overall x 33.0% Voids
		1,114 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
5.83	576	0	0
7.33	576	864	864

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
5.16	576	0	0
5.83	576	386	386

Device	Routing	Invert	Outlet Devices
#1	Primary	5.16'	**6.0" Round Culvert** L= 2.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 5.16' / 5.15' S= 0.0050 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.40 cfs @ 11.98 hrs HW=5.73' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 0.40 cfs @ 2.24 fps)

Pond SF1: Subsurface Filtration System 1 - Chamber Wizard Field A

Chamber Model = ADS_StormTechSC-310 +Cap (ADS StormTech®SC-310 with cap length)
Effective Size= 28.9"W x 16.0"H => 2.07 sf x 7.12'L = 14.7 cf
Overall Size= 34.0"W x 16.0"H x 7.56'L with 0.44' Overlap

34.0" Wide + 6.0" Spacing = 40.0" C-C Row Spacing

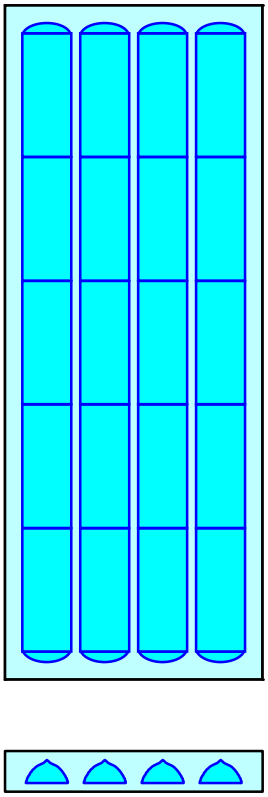
5 Chambers/Row x 7.12' Long +0.60' Cap Length x 2 = 36.80' Row Length +12.0" End Stone x 2 = 38.80' Base Length
4 Rows x 34.0" Wide + 6.0" Spacing x 3 + 12.0" Side Stone x 2 = 14.83' Base Width
6.0" Stone Base + 16.0" Chamber Height + 6.0" Stone Cover = 2.33' Field Height

20 Chambers x 14.7 cf = 294.8 cf Chamber Storage

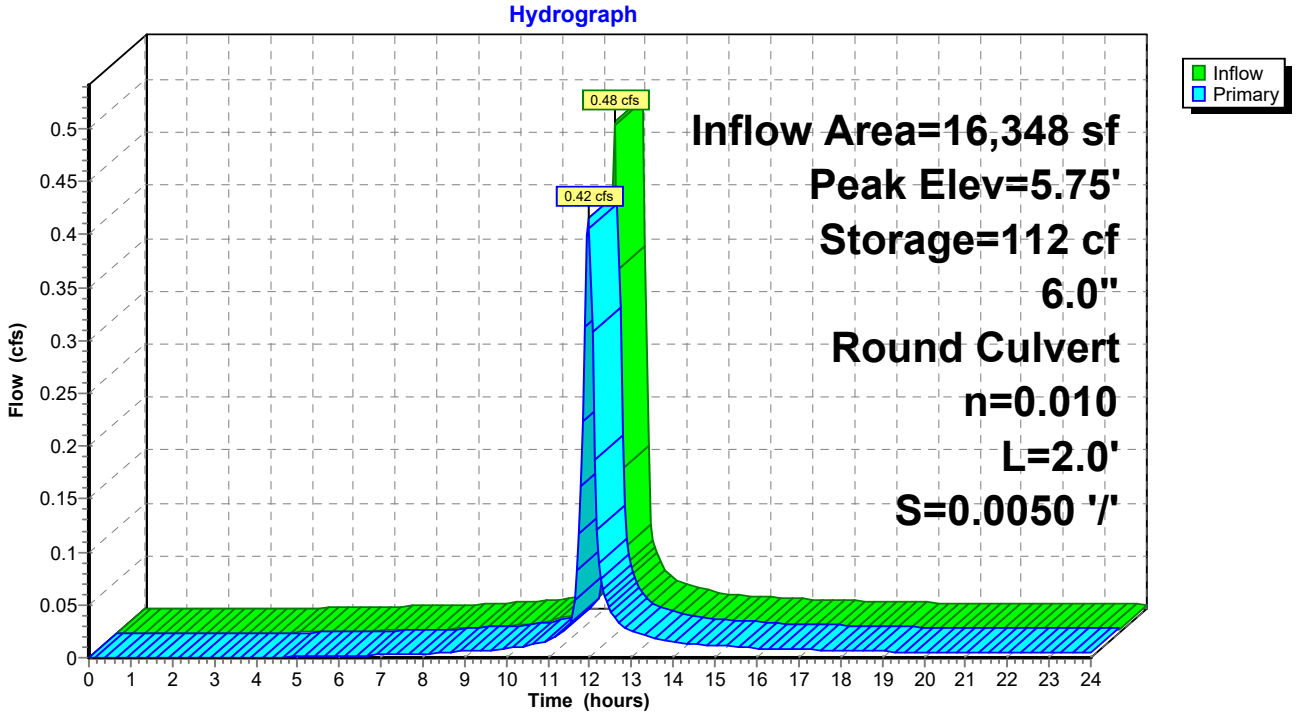
1,342.9 cf Field - 294.8 cf Chambers = 1,048.1 cf Stone x 33.0% Voids = 345.9 cf Stone Storage

Chamber Storage + Stone Storage = 640.7 cf = 0.015 af
Overall Storage Efficiency = 47.7%
Overall System Size = 38.80' x 14.83' x 2.33'

20 Chambers
49.7 cy Field
38.8 cy Stone



Pond SF1: Subsurface Filtration System 1



Summary for Pond SF2: Subsurface Filtration System 2

Inflow Area = 31,843 sf, 62.90% Impervious, Inflow Depth > 0.67" for WQ event
Inflow = 0.68 cfs @ 11.98 hrs, Volume= 1,775 cf
Outflow = 0.37 cfs @ 12.08 hrs, Volume= 1,761 cf, Atten= 45%, Lag= 6.4 min
Primary = 0.37 cfs @ 12.08 hrs, Volume= 1,761 cf
Routed to Pond DMH11 :

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 5.75' @ 12.08 hrs Surf.Area= 1,668 sf Storage= 370 cf
Flood Elev= 12.00' Surf.Area= 2,502 sf Storage= 1,820 cf

Plug-Flow detention time= 19.3 min calculated for 1,761 cf (99% of inflow)
Center-of-Mass det. time= 14.4 min (804.1 - 789.7)

Volume	Invert	Avail.Storage	Storage Description
#1A	6.97'	602 cf	**21.50'W x 38.80'L x 2.33'H Field A** 1,946 cf Overall - 442 cf Embedded = 1,504 cf x 40.0% Voids
#2A	7.47'	442 cf	**ADS_StormTech SC-310 +Cap** x 30 Inside #1 Effective Size= 28.9"W x 16.0"H => 2.07 sf x 7.12'L = 14.7 cf Overall Size= 34.0"W x 16.0"H x 7.56'L with 0.44' Overlap 30 Chambers in 6 Rows
#3	5.47'	500 cf	**SAND (Prismatic)** Listed below (Recalc) 1,251 cf Overall x 40.0% Voids
#4	4.47'	275 cf	**PEA GRAVEL (Prismatic)** Listed below (Recalc) 834 cf Overall x 33.0% Voids
		1,820 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
5.47	834	0	0
6.97	834	1,251	1,251

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
4.47	834	0	0
5.47	834	834	834

Device	Routing	Invert	Outlet Devices
#1	Primary	4.47'	**6.0" Round UNDERDRAIN** L= 18.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 4.47' / 4.38' S= 0.0050 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.20 sf
#2	Device 1	4.47'	**8.270 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 0.01'

Primary OutFlow Max=0.37 cfs @ 12.08 hrs HW=5.74' (Free Discharge)
↑—**1=UNDERDRAIN** (Passes 0.37 cfs of 0.76 cfs potential flow)
↑—**2=Exfiltration** (Controls 0.37 cfs)

Pond SF2: Subsurface Filtration System 2 - Chamber Wizard Field A

Chamber Model = ADS_StormTechSC-310 +Cap (ADS StormTech®SC-310 with cap length)
Effective Size= 28.9"W x 16.0"H => 2.07 sf x 7.12'L = 14.7 cf
Overall Size= 34.0"W x 16.0"H x 7.56'L with 0.44' Overlap

34.0" Wide + 6.0" Spacing = 40.0" C-C Row Spacing

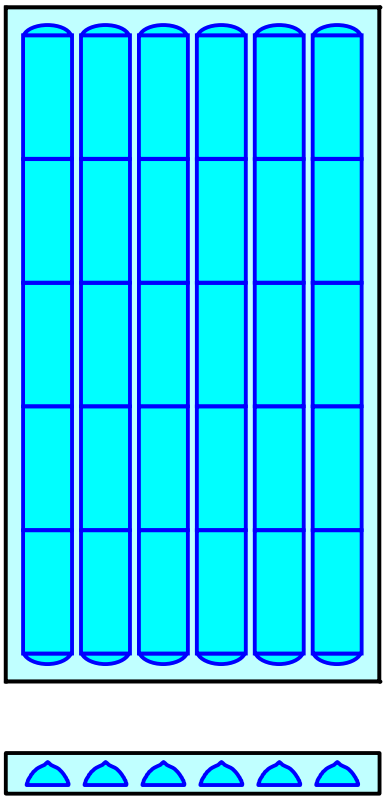
5 Chambers/Row x 7.12' Long +0.60' Cap Length x 2 = 36.80' Row Length +12.0" End Stone x 2 = 38.80' Base Length
6 Rows x 34.0" Wide + 6.0" Spacing x 5 + 12.0" Side Stone x 2 = 21.50' Base Width
6.0" Stone Base + 16.0" Chamber Height + 6.0" Stone Cover = 2.33' Field Height

30 Chambers x 14.7 cf = 442.3 cf Chamber Storage

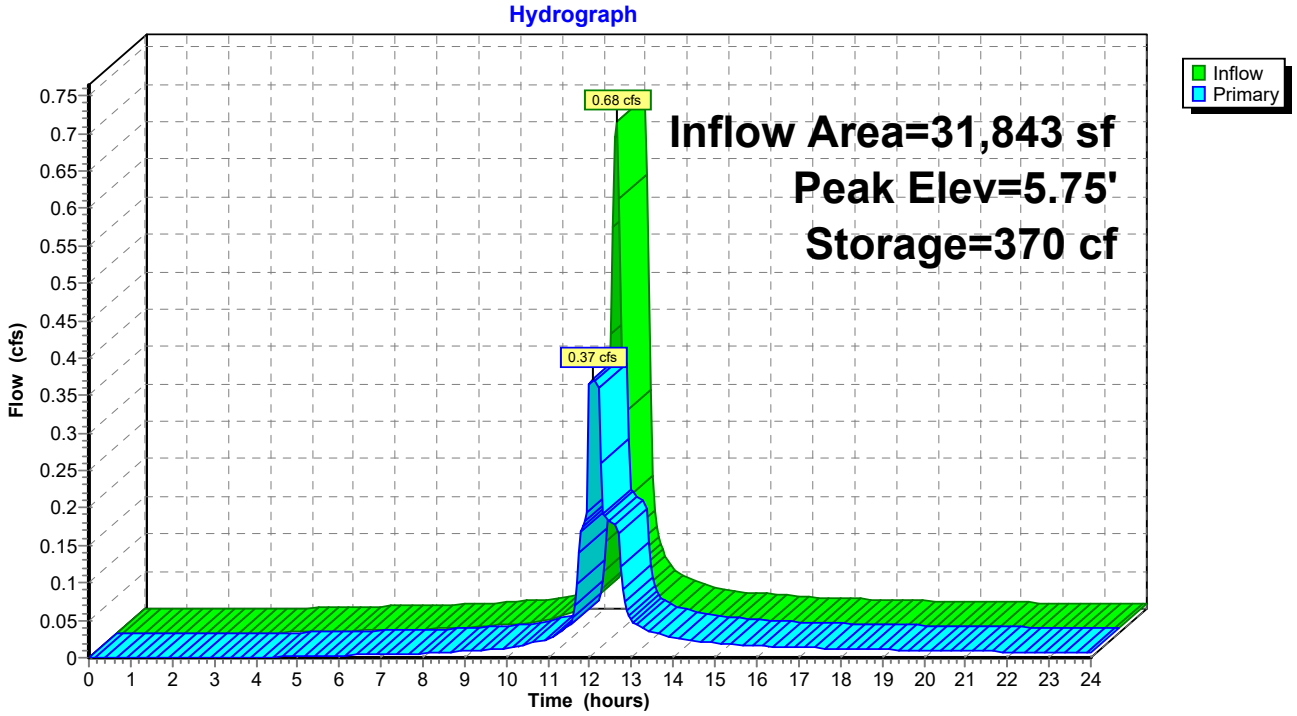
1,946.5 cf Field - 442.3 cf Chambers = 1,504.2 cf Stone x 40.0% Voids = 601.7 cf Stone Storage

Chamber Storage + Stone Storage = 1,043.9 cf = 0.024 af
Overall Storage Efficiency = 53.6%
Overall System Size = 38.80' x 21.50' x 2.33'

30 Chambers
72.1 cy Field
55.7 cy Stone



Pond SF2: Subsurface Filtration System 2



Summary for Pond TF1: Tree Filter 1

Inflow Area = 5,476 sf, 85.87% Impervious, Inflow Depth > 0.87" for WQ event
Inflow = 0.19 cfs @ 11.93 hrs, Volume= 395 cf
Outflow = 0.04 cfs @ 12.05 hrs, Volume= 392 cf, Atten= 76%, Lag= 7.3 min
Primary = 0.04 cfs @ 12.05 hrs, Volume= 392 cf
Routed to Pond DMH6 :
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Pond DMH6 :

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 6.13' @ 12.06 hrs Surf.Area= 624 sf Storage= 124 cf

Plug-Flow detention time= 30.4 min calculated for 391 cf (99% of inflow)
Center-of-Mass det. time= 25.9 min (804.7 - 778.7)

Volume	Invert	Avail.Storage	Storage Description
#1	6.14'	156 cf	**Ponding Storage (Prismatic)** Listed below (Recalc)
#2	5.31'	85 cf	**Soil Media (Prismatic)** Listed below (Recalc) 259 cf Overall x 33.0% Voids
#3	4.97'	35 cf	**Gravel Subbase (Prismatic)** Listed below (Recalc) 106 cf Overall x 33.0% Voids
#4	4.97'	5 cf	**6.0" Round Underdrain** L= 25.0'
#5	6.14'	27 cf	**Catch Basin (Prismatic)** Listed below (Recalc)
		309 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
6.14	312	0	0
6.64	312	156	156

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
5.31	312	0	0
6.14	312	259	259

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
4.97	312	0	0
5.31	312	106	106

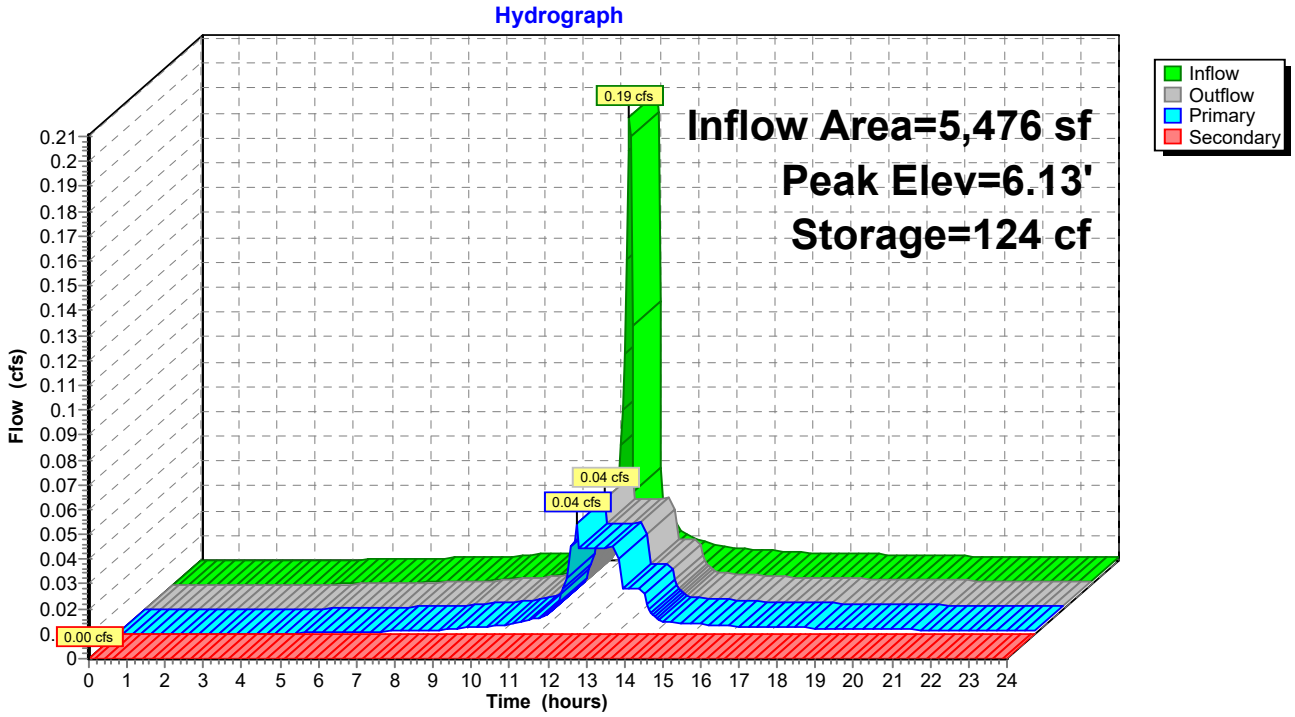
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
6.14	12	0	0
8.43	12	27	27

Device	Routing	Invert	Outlet Devices
#1	Primary	4.97'	**6.0" Round Culvert** L= 14.0' Ke= 0.600 Inlet / Outlet Invert= 4.97' / 4.90' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#2	Device 1	4.97'	**2.410 in/hr Exfiltration over Surface area**
#3	Secondary	6.43'	**8.0" Round Culvert** L= 18.7' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 6.43' / 5.60' S= 0.0444 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.35 sf

Primary OutFlow Max=0.03 cfs @ 12.05 hrs HW=6.13' (Free Discharge)
└─**1=Culvert** (Passes 0.03 cfs of 0.82 cfs potential flow)
└─**2=Exfiltration** (Exfiltration Controls 0.03 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=4.97' (Free Discharge)
└─**3=Culvert** (Controls 0.00 cfs)

Pond TF1: Tree Filter 1



Summary for Pond TF2: Tree Filter 2

Inflow Area = 6,256 sf, 74.50% Impervious, Inflow Depth > 0.77" for WQ event
Inflow = 0.18 cfs @ 11.95 hrs, Volume= 400 cf
Outflow = 0.05 cfs @ 12.05 hrs, Volume= 399 cf, Atten= 75%, Lag= 6.1 min
Primary = 0.05 cfs @ 12.05 hrs, Volume= 399 cf
Routed to Pond DMH4 :
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Pond DMH5 :

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 5.98' @ 12.09 hrs Surf.Area= 825 sf Storage= 127 cf

Plug-Flow detention time= 30.3 min calculated for 398 cf (99% of inflow)
Center-of-Mass det. time= 28.2 min (811.8 - 783.6)

Volume	Invert	Avail.Storage	Storage Description
#1	5.96'	136 cf	**Ponding Storage (Prismatic)** Listed below (Recalc)
#2	5.13'	74 cf	**Soil Media (Prismatic)** Listed below (Recalc) 225 cf Overall x 33.0% Voids
#3	4.63'	44 cf	**Gravel Subbase (Prismatic)** Listed below (Recalc) 136 cf Overall - 3 cf Embedded = 132 cf x 33.0% Voids
#4	4.63'	3 cf	**6.0" Round Underdrain** Inside #3 L= 17.0'
#5	5.96'	31 cf	**Catch Basin (Prismatic)** Listed below (Recalc)
		288 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
5.96	271	0	0
6.46	271	136	136

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
5.13	271	0	0
5.96	271	225	225

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
4.63	271	0	0
5.13	271	136	136

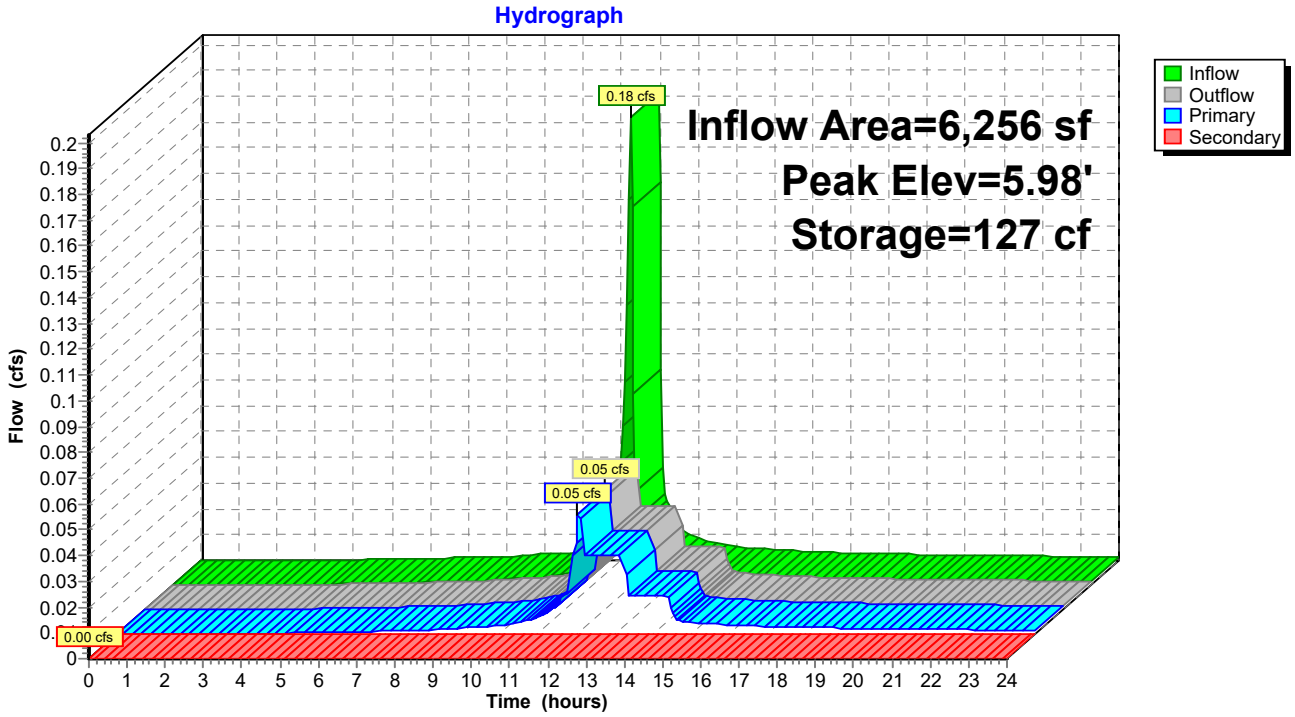
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
5.96	12	0	0
8.55	12	31	31

Device	Routing	Invert	Outlet Devices
#1	Primary	4.63'	**6.0" Round Culvert** L= 3.0' Ke= 0.600 Inlet / Outlet Invert= 4.63' / 4.44' S= 0.0633 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#2	Device 1	4.63'	**2.410 in/hr Exfiltration over Surface area**
#3	Secondary	6.50'	**6.0" Round Culvert** L= 32.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 6.50' / 6.34' S= 0.0050 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.05 cfs @ 12.05 hrs HW=5.97' (Free Discharge)
└─**1=Culvert** (Passes 0.05 cfs of 0.93 cfs potential flow)
└─**2=Exfiltration** (Exfiltration Controls 0.05 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=4.63' (Free Discharge)
└─**3=Culvert** (Controls 0.00 cfs)

Pond TF2: Tree Filter 2



Summary for Pond TF3: Tree Filter 3

Inflow Area = 21,087 sf,100.00% Impervious, Inflow Depth > 0.98" for WQ event
Inflow = 0.79 cfs @ 11.95 hrs, Volume= 1,731 cf
Outflow = 0.14 cfs @ 11.95 hrs, Volume= 1,713 cf, Atten= 83%, Lag= 0.0 min
Primary = 0.14 cfs @ 11.95 hrs, Volume= 1,713 cf
Routed to Pond DMH14 :
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Pond DMH14 :

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 3.88' @ 12.14 hrs Surf.Area= 2,421 sf Storage= 617 cf

Plug-Flow detention time= 46.7 min calculated for 1,709 cf (99% of inflow)
Center-of-Mass det. time= 39.9 min (817.2 - 777.3)

Volume	Invert	Avail.Storage	Storage Description
#1	3.61'	177 cf	**18.0" Round Distribution Pipe** Impervious L= 100.0'
#2	3.60'	448 cf	**Ponding Storage (Prismatic)** Listed below (Recalc)
#3	2.77'	211 cf	**Soil Media (Prismatic)** Listed below (Recalc) 641 cf Overall x 33.0% Voids
#4	2.27'	145 cf	**Gravel Subbase (Prismatic)** Listed below (Recalc) 439 cf Overall x 33.0% Voids
#5	2.27'	22 cf	**6.0" Round Underdrain** L= 112.0'
		1,003 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
3.60	772	0	0
4.18	772	448	448

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2.77	772	0	0
3.60	772	641	641

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2.27	877	0	0
2.77	877	439	439

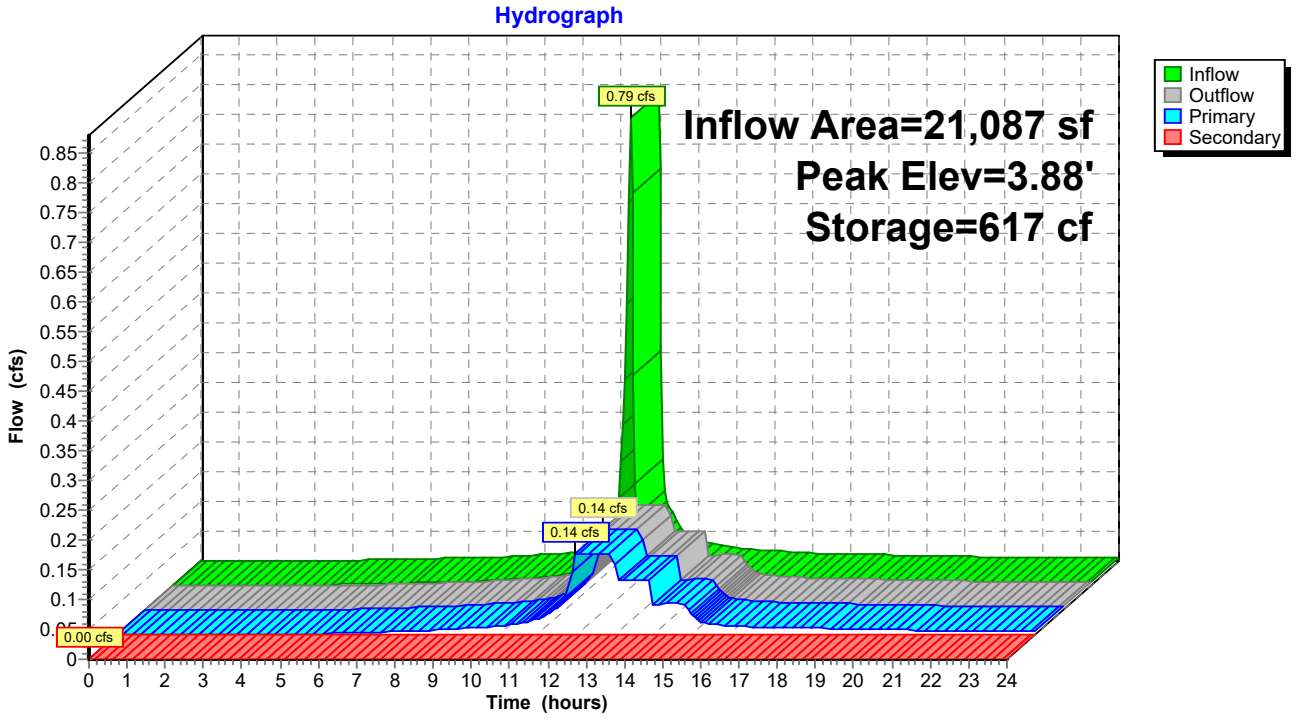
Device	Routing	Invert	Outlet Devices
#1	Primary	2.27'	**6.0" Round Underdrain** L= 2.0' Ke= 0.600 Inlet / Outlet Invert= 2.27' / 2.26' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#2	Device 1	2.27'	**2.410 in/hr Exfiltration over Surface area**
#3	Secondary	4.11'	**12.0" Round Overflow from Distribution Pipe** L= 7.0' CPP, projecting, no headwall, Ke= 0.900

Inlet / Outlet Invert= 4.11' / 3.62' S= 0.0700 '/' Cc= 0.900
n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.14 cfs @ 11.95 hrs HW=3.65' (Free Discharge)
└**1=Underdrain** (Passes 0.14 cfs of 0.94 cfs potential flow)
└**2=Exfiltration** (Exfiltration Controls 0.14 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=2.27' (Free Discharge)
└**3=Overflow from Distribution Pipe** (Controls 0.00 cfs)

Pond TF3: Tree Filter 3

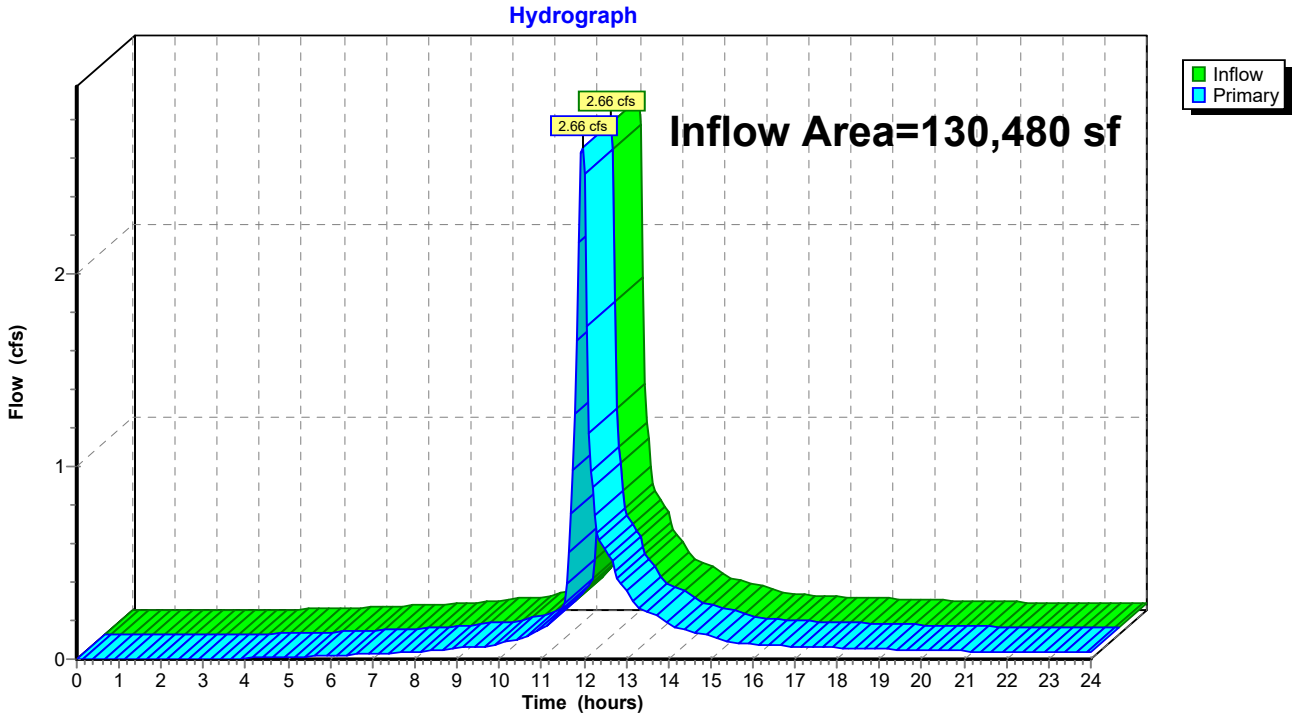


Summary for Link POA 1: POA 1 (Outfall)

Inflow Area = 130,480 sf, 85.95% Impervious, Inflow Depth > 0.86" for WQ event
Inflow = 2.66 cfs @ 11.97 hrs, Volume= 9,365 cf
Primary = 2.66 cfs @ 11.97 hrs, Volume= 9,365 cf, Atten= 0%, Lag= 0.0 min
Routed to Link STP : Proposed Site Total

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link POA 1: POA 1 (Outfall)

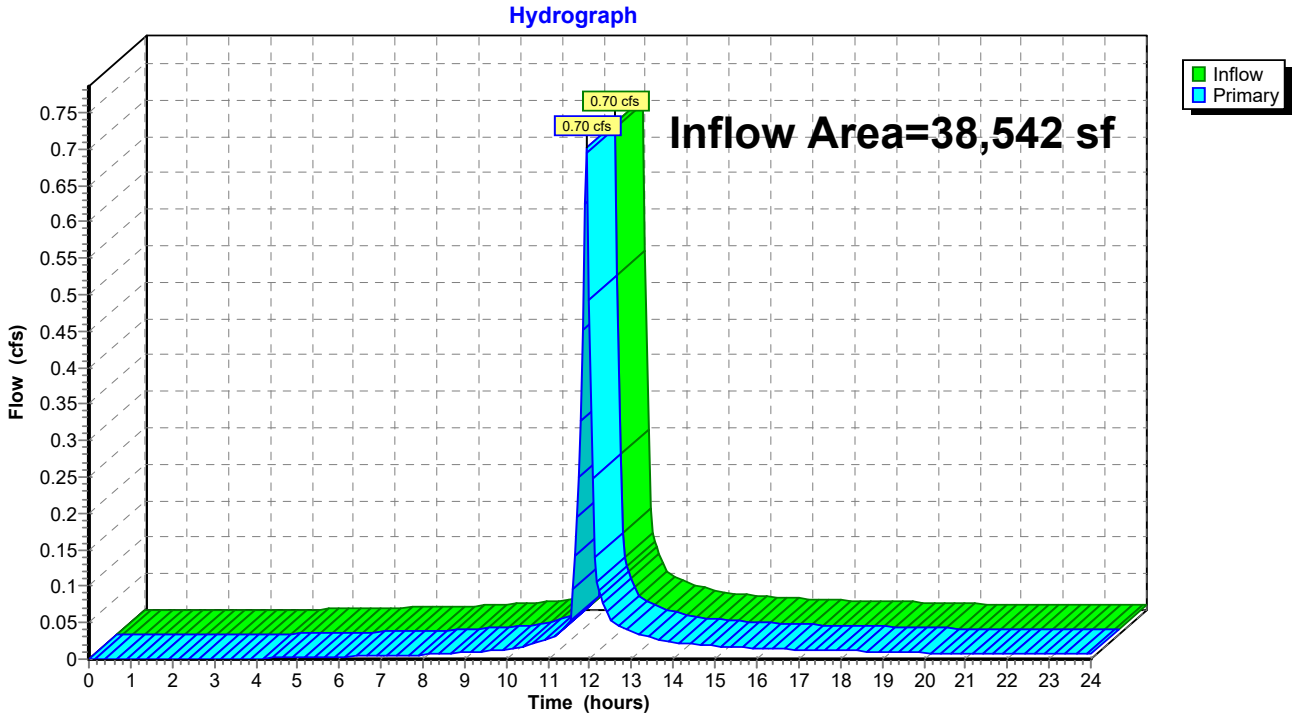


Summary for Link POA 2: POA2

Inflow Area = 38,542 sf, 46.31% Impervious, Inflow Depth > 0.51" for WQ event
Inflow = 0.70 cfs @ 11.94 hrs, Volume= 1,633 cf
Primary = 0.70 cfs @ 11.94 hrs, Volume= 1,633 cf, Atten= 0%, Lag= 0.0 min
Routed to Link STP : Proposed Site Total

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link POA 2: POA2

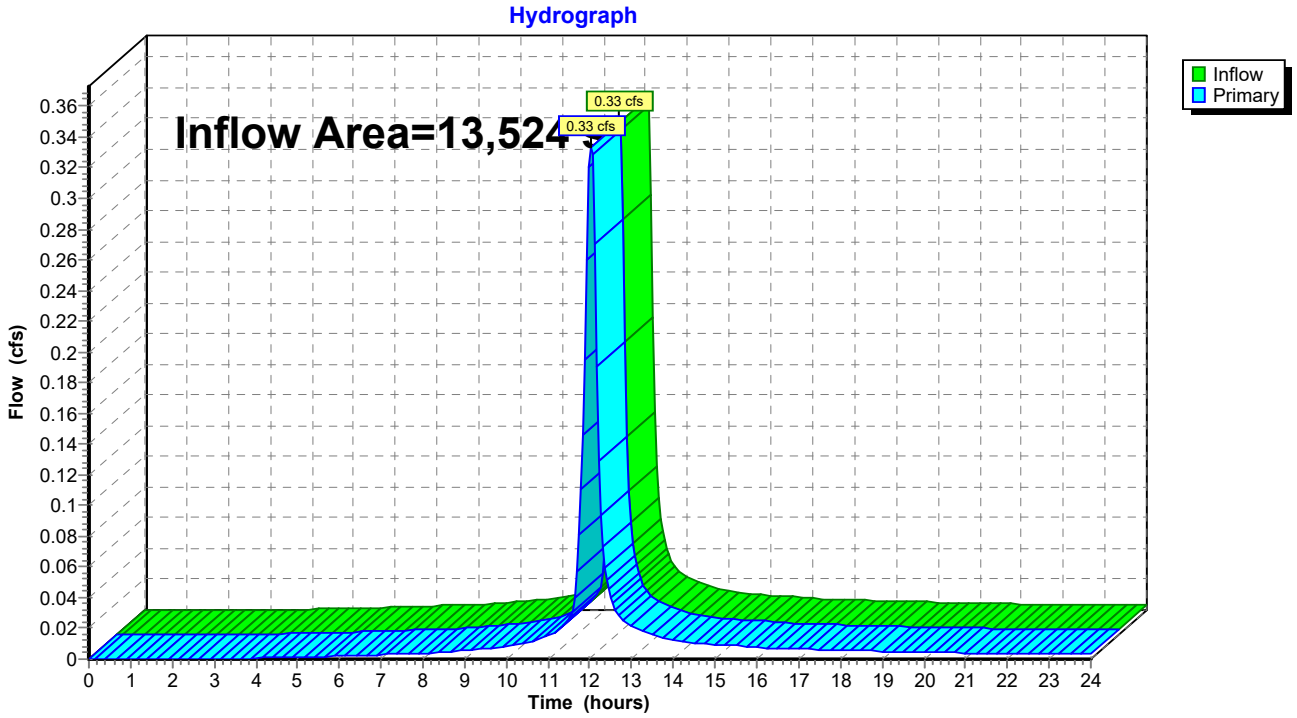


Summary for Link POA 3: POA3

Inflow Area = 13,524 sf, 81.77% Impervious, Inflow Depth > 0.82" for WQ event
Inflow = 0.33 cfs @ 12.03 hrs, Volume= 919 cf
Primary = 0.33 cfs @ 12.03 hrs, Volume= 919 cf, Atten= 0%, Lag= 0.0 min
Routed to Link STP : Proposed Site Total

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link POA 3: POA3

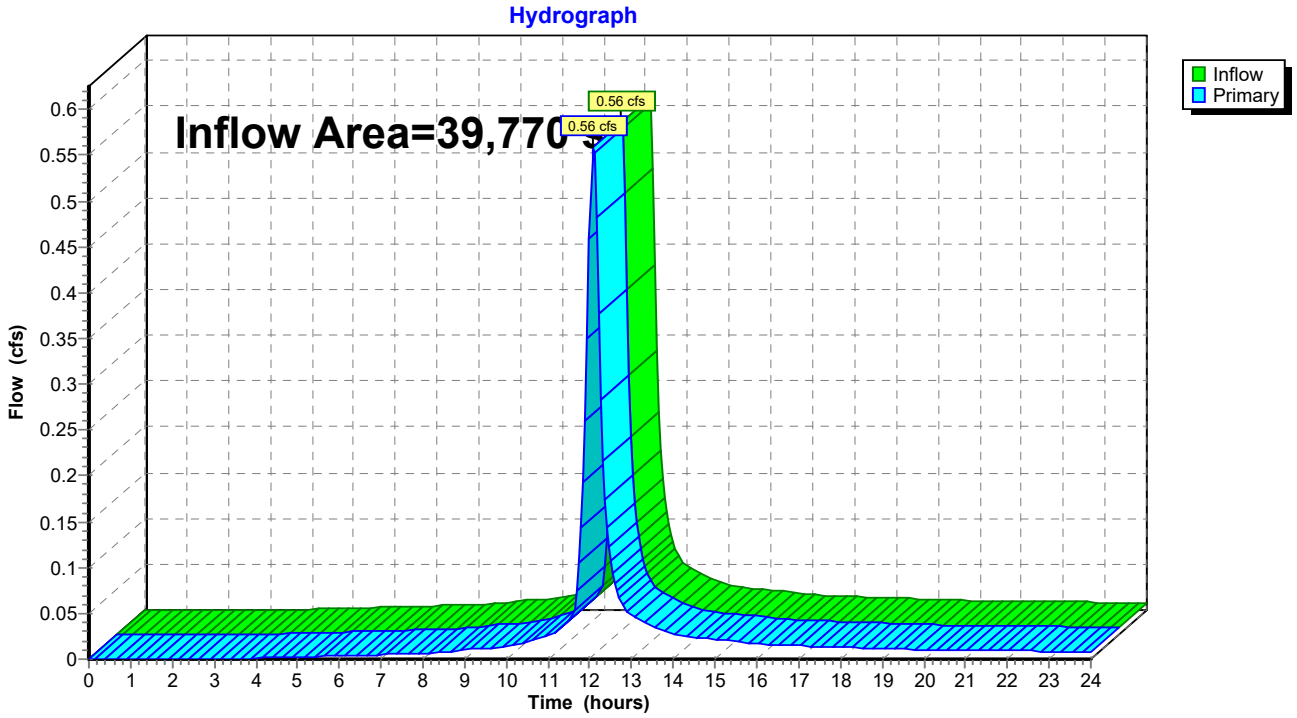


Summary for Link POA 4: POA4

Inflow Area = 39,770 sf, 49.01% Impervious, Inflow Depth > 0.55" for WQ event
Inflow = 0.56 cfs @ 12.08 hrs, Volume= 1,821 cf
Primary = 0.56 cfs @ 12.08 hrs, Volume= 1,821 cf, Atten= 0%, Lag= 0.0 min
Routed to Link STP : Proposed Site Total

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link POA 4: POA4

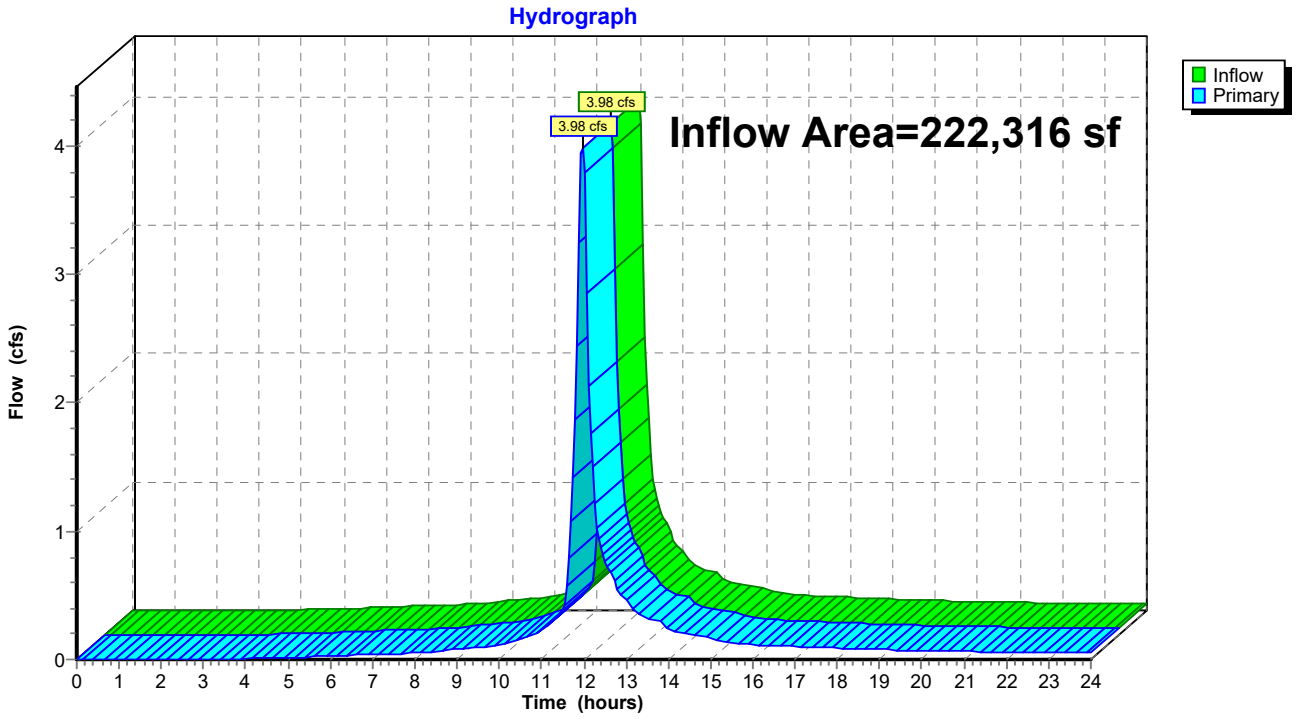


Summary for Link STP: Proposed Site Total

Inflow Area = 222,316 sf, 72.22% Impervious, Inflow Depth > 0.74" for WQ event
Inflow = 3.98 cfs @ 11.97 hrs, Volume= 13,738 cf
Primary = 3.98 cfs @ 11.97 hrs, Volume= 13,738 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link STP: Proposed Site Total



Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment1AP: Subwatershed1A Runoff Area=2,561 sf 100.00% Impervious Runoff Depth>2.57"
Tc=5.0 min CN=98 Runoff=0.23 cfs 548 cf

Subcatchment1BP: Subwatershed1B Runoff Area=2,966 sf 64.16% Impervious Runoff Depth>1.89"
Flow Length=104' Tc=2.2 min CN=91 Runoff=0.23 cfs 466 cf

Subcatchment1CP: Subwatershed1C Runoff Area=5,476 sf 85.87% Impervious Runoff Depth>2.25"
Flow Length=180' Tc=2.7 min CN=95 Runoff=0.50 cfs 1,029 cf

Subcatchment1DP: Subwatershed1D Runoff Area=6,256 sf 74.50% Impervious Runoff Depth>2.06"
Flow Length=200' Tc=4.6 min CN=93 Runoff=0.51 cfs 1,075 cf

Subcatchment1EP: Subwatershed1E Runoff Area=13,382 sf 76.95% Impervious Runoff Depth>2.16"
Flow Length=266' Tc=4.1 min CN=94 Runoff=1.15 cfs 2,404 cf

Subcatchment1FP: Subwatershed1F Runoff Area=29,140 sf 60.39% Impervious Runoff Depth>1.80"
Flow Length=264' Tc=7.5 min CN=90 Runoff=1.96 cfs 4,368 cf

Subcatchment1GP: Subwatershed1G Runoff Area=2,703 sf 89.90% Impervious Runoff Depth>2.36"
Flow Length=72' Slope=0.0300 '/' Tc=0.8 min CN=96 Runoff=0.26 cfs 531 cf

Subcatchment1HP: Subwatershed1H Runoff Area=6,715 sf 100.00% Impervious Runoff Depth>2.57"
Tc=5.0 min CN=98 Runoff=0.61 cfs 1,437 cf

Subcatchment1IP: Subwatershed1I Runoff Area=11,530 sf 100.00% Impervious Runoff Depth>2.57"
Tc=5.0 min CN=98 Runoff=1.06 cfs 2,467 cf

Subcatchment1JP: Subwatershed1J Runoff Area=28,664 sf 100.00% Impervious Runoff Depth>2.57"
Tc=5.0 min CN=98 Runoff=2.62 cfs 6,133 cf

Subcatchment1KP: Subwatershed1K Runoff Area=21,087 sf 100.00% Impervious Runoff Depth>2.57"
Tc=5.0 min CN=98 Runoff=1.93 cfs 4,512 cf

Subcatchment2AP: Subwatershed2A Runoff Area=24,334 sf 23.44% Impervious Runoff Depth>1.22"
Flow Length=128' Tc=1.4 min CN=82 Runoff=1.34 cfs 2,481 cf

Subcatchment2BP: Subwatershed2B Runoff Area=14,208 sf 85.47% Impervious Runoff Depth>2.25"
Tc=5.0 min CN=95 Runoff=1.22 cfs 2,667 cf

Subcatchment3AP: Subwatershed3A Runoff Area=13,524 sf 81.77% Impervious Runoff Depth>2.15"
Flow Length=229' Tc=11.9 min CN=94 Runoff=0.91 cfs 2,426 cf

Subcatchment4AP: Subwatershed4A Runoff Area=39,770 sf 49.01% Impervious Runoff Depth>1.64"
Flow Length=1,052' Tc=15.9 min CN=88 Runoff=1.87 cfs 5,420 cf

Pond CB2: Peak Elev=8.86' Inflow=0.23 cfs 466 cf
6.0" Round Culvert n=0.013 L=62.0' S=0.0050 '/' Outflow=0.23 cfs 466 cf

Pond CB4: Peak Elev=12.06' Inflow=1.15 cfs 2,404 cf
6.0" Round Culvert n=0.013 L=61.0' S=0.0051 '/' Outflow=1.15 cfs 2,404 cf

Pond CB5: Peak Elev=9.96' Inflow=0.26 cfs 531 cf
6.0" Round Culvert n=0.013 L=14.0' S=0.0050 '/' Outflow=0.26 cfs 531 cf

Pond CB6: Peak Elev=10.40' Inflow=1.96 cfs 4,368 cf
18.0" Round Culvert n=0.013 L=28.0' S=0.0050 '/' Outflow=1.96 cfs 4,368 cf

Pond DMH1: Peak Elev=9.16' Inflow=1.39 cfs 2,870 cf
Primary=1.26 cfs 2,837 cf Secondary=0.12 cfs 33 cf Outflow=1.39 cfs 2,870 cf

Pond DMH10: Peak Elev=8.35' Inflow=1.42 cfs 4,529 cf
12.0" Round Culvert n=0.012 L=3.0' S=0.0000 '/' Outflow=1.42 cfs 4,529 cf

Pond DMH11: Peak Elev=4.95' Inflow=1.24 cfs 4,872 cf
18.0" Round Culvert n=0.013 L=121.0' S=0.0051 '/' Outflow=1.24 cfs 4,872 cf

Pond DMH12: Peak Elev=4.40' Inflow=7.21 cfs 20,408 cf
30.0" Round Culvert n=0.013 L=187.0' S=0.0030 '/' Outflow=7.21 cfs 20,408 cf

Pond DMH13: Peak Elev=3.75' Inflow=7.21 cfs 20,408 cf
30.0" Round Culvert n=0.013 L=139.0' S=0.0030 '/' Outflow=7.21 cfs 20,408 cf

Pond DMH14: Peak Elev=3.42' Inflow=9.46 cfs 24,891 cf
30.0" Round Culvert n=0.011 L=65.0' S=0.0031 '/' Outflow=9.46 cfs 24,891 cf

Pond DMH2: Peak Elev=8.65' Inflow=1.26 cfs 2,837 cf
12.0" Round Culvert n=0.013 L=1.0' S=0.0000 '/' Outflow=1.26 cfs 2,837 cf

Pond DMH3: Peak Elev=5.56' Inflow=0.89 cfs 2,823 cf
12.0" Round Culvert n=0.013 L=67.0' S=0.0081 '/' Outflow=0.89 cfs 2,823 cf

Pond DMH4: Peak Elev=4.90' Inflow=0.94 cfs 3,712 cf
18.0" Round Culvert n=0.013 L=24.0' S=0.0071 '/' Outflow=0.94 cfs 3,712 cf

Pond DMH5: Peak Elev=5.01' Inflow=1.06 cfs 1,239 cf
12.0" Round Culvert n=0.013 L=24.0' S=0.0050 '/' Outflow=1.06 cfs 1,239 cf

Pond DMH6: Peak Elev=5.21' Inflow=0.48 cfs 1,024 cf
12.0" Round Culvert n=0.013 L=68.0' S=0.0050 '/' Outflow=0.48 cfs 1,024 cf

Pond DMH7: Peak Elev=4.98' Inflow=1.99 cfs 4,951 cf
18.0" Round Culvert n=0.013 L=5.0' S=0.0080 '/' Outflow=1.99 cfs 4,951 cf

Pond DMH8: Peak Elev=4.54' Inflow=1.99 cfs 4,951 cf
18.0" Round Culvert n=0.013 L=125.0' S=0.0050 '/' Outflow=1.99 cfs 4,951 cf

Pond DMH9: Diversion Structure Peak Elev=9.89' Inflow=2.06 cfs 4,899 cf
Primary=1.42 cfs 4,529 cf Secondary=0.65 cfs 369 cf Outflow=2.06 cfs 4,899 cf

Pond OWS1: Peak Elev=8.68' Inflow=1.26 cfs 2,837 cf
12.0" Round Culvert n=0.013 L=7.0' S=0.0057 '/' Outflow=1.26 cfs 2,837 cf

Pond OWS2: Peak Elev=8.97' Inflow=1.42 cfs 4,529 cf
18.0" Round Culvert n=0.013 L=3.0' S=0.0067 '/' Outflow=1.42 cfs 4,529 cf

Pond SF1: Subsurface Filtration System 1 Peak Elev=6.84' Storage=360 cf Inflow=1.26 cfs 2,837 cf
6.0" Round Culvert n=0.010 L=2.0' S=0.0050 '/' Outflow=0.89 cfs 2,823 cf

Pond SF2: Subsurface Filtration System 2 Peak Elev=7.61' Storage=1,030 cf Inflow=1.42 cfs 4,529 cf
Outflow=0.67 cfs 4,502 cf

Pond TF1: Tree Filter 1 Peak Elev=6.87' Storage=290 cf Inflow=0.50 cfs 1,029 cf
Primary=0.05 cfs 865 cf Secondary=0.43 cfs 159 cf Outflow=0.48 cfs 1,024 cf

Pond TF2: Tree Filter 2 Peak Elev=7.36' Storage=273 cf Inflow=0.51 cfs 1,075 cf
Primary=0.05 cfs 889 cf Secondary=0.57 cfs 183 cf Outflow=0.61 cfs 1,072 cf

Pond TF3: Tree Filter 3 Peak Elev=5.12' Storage=1,003 cf Inflow=1.93 cfs 4,512 cf
Primary=0.14 cfs 3,433 cf Secondary=2.15 cfs 1,050 cf Outflow=2.29 cfs 4,483 cf

Link POA 1: POA 1 (Outfall) Inflow=9.46 cfs 24,891 cf
Primary=9.46 cfs 24,891 cf

Link POA 2: POA2 Inflow=2.48 cfs 5,148 cf
Primary=2.48 cfs 5,148 cf

Link POA 3: POA3 Inflow=0.91 cfs 2,426 cf
Primary=0.91 cfs 2,426 cf

Link POA 4: POA4 Inflow=1.87 cfs 5,420 cf
Primary=1.87 cfs 5,420 cf

Link STP: Proposed Site Total Inflow=13.71 cfs 37,886 cf
Primary=13.71 cfs 37,886 cf

Total Runoff Area = 222,316 sf Runoff Volume = 37,963 cf Average Runoff Depth = 2.05"
27.78% Pervious = 61,770 sf 72.22% Impervious = 160,546 sf

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment1AP: Subwatershed1A Runoff Area=2,561 sf 100.00% Impervious Runoff Depth>4.66"
Tc=5.0 min CN=98 Runoff=0.41 cfs 995 cf

Subcatchment1BP: Subwatershed1B Runoff Area=2,966 sf 64.16% Impervious Runoff Depth>3.88"
Flow Length=104' Tc=2.2 min CN=91 Runoff=0.46 cfs 960 cf

Subcatchment1CP: Subwatershed1C Runoff Area=5,476 sf 85.87% Impervious Runoff Depth>4.32"
Flow Length=180' Tc=2.7 min CN=95 Runoff=0.91 cfs 1,971 cf

Subcatchment1DP: Subwatershed1D Runoff Area=6,256 sf 74.50% Impervious Runoff Depth>4.10"
Flow Length=200' Tc=4.6 min CN=93 Runoff=0.98 cfs 2,136 cf

Subcatchment1EP: Subwatershed1E Runoff Area=13,382 sf 76.95% Impervious Runoff Depth>4.21"
Flow Length=266' Tc=4.1 min CN=94 Runoff=2.15 cfs 4,692 cf

Subcatchment1FP: Subwatershed1F Runoff Area=29,140 sf 60.39% Impervious Runoff Depth>3.78"
Flow Length=264' Tc=7.5 min CN=90 Runoff=3.95 cfs 9,167 cf

Subcatchment1GP: Subwatershed1G Runoff Area=2,703 sf 89.90% Impervious Runoff Depth>4.43"
Flow Length=72' Slope=0.0300 '/' Tc=0.8 min CN=96 Runoff=0.48 cfs 999 cf

Subcatchment1HP: Subwatershed1H Runoff Area=6,715 sf 100.00% Impervious Runoff Depth>4.66"
Tc=5.0 min CN=98 Runoff=1.09 cfs 2,608 cf

Subcatchment1IP: Subwatershed1I Runoff Area=11,530 sf 100.00% Impervious Runoff Depth>4.66"
Tc=5.0 min CN=98 Runoff=1.87 cfs 4,478 cf

Subcatchment1JP: Subwatershed1J Runoff Area=28,664 sf 100.00% Impervious Runoff Depth>4.66"
Tc=5.0 min CN=98 Runoff=4.64 cfs 11,132 cf

Subcatchment1KP: Subwatershed1K Runoff Area=21,087 sf 100.00% Impervious Runoff Depth>4.66"
Tc=5.0 min CN=98 Runoff=3.41 cfs 8,190 cf

Subcatchment2AP: Subwatershed2A Runoff Area=24,334 sf 23.44% Impervious Runoff Depth>2.99"
Flow Length=128' Tc=1.4 min CN=82 Runoff=3.20 cfs 6,063 cf

Subcatchment2BP: Subwatershed2B Runoff Area=14,208 sf 85.47% Impervious Runoff Depth>4.32"
Tc=5.0 min CN=95 Runoff=2.24 cfs 5,112 cf

Subcatchment3AP: Subwatershed3A Runoff Area=13,524 sf 81.77% Impervious Runoff Depth>4.20"
Flow Length=229' Tc=11.9 min CN=94 Runoff=1.71 cfs 4,734 cf

Subcatchment4AP: Subwatershed4A Runoff Area=39,770 sf 49.01% Impervious Runoff Depth>3.56"
Flow Length=1,052' Tc=15.9 min CN=88 Runoff=3.97 cfs 11,807 cf

Pond CB2: Peak Elev=9.21' Inflow=0.46 cfs 960 cf
6.0" Round Culvert n=0.013 L=62.0' S=0.0050 '/' Outflow=0.46 cfs 960 cf

Pond CB4: Peak Elev=20.44' Inflow=2.15 cfs 4,692 cf
6.0" Round Culvert n=0.013 L=61.0' S=0.0051 '/' Outflow=2.15 cfs 4,692 cf

Pond CB5: Peak Elev=10.20' Inflow=0.48 cfs 999 cf
6.0" Round Culvert n=0.013 L=14.0' S=0.0050 '/' Outflow=0.48 cfs 999 cf

Pond CB6: Peak Elev=10.78' Inflow=3.95 cfs 9,167 cf
18.0" Round Culvert n=0.013 L=28.0' S=0.0050 '/' Outflow=3.95 cfs 9,167 cf

Pond DMH1: Peak Elev=9.52' Inflow=2.60 cfs 5,652 cf
Primary=1.70 cfs 5,246 cf Secondary=0.91 cfs 405 cf Outflow=2.60 cfs 5,652 cf

Pond DMH10: Peak Elev=8.48' Inflow=1.80 cfs 8,428 cf
12.0" Round Culvert n=0.012 L=3.0' S=0.0000 '/' Outflow=1.80 cfs 8,428 cf

Pond DMH11: Peak Elev=5.31' Inflow=3.05 cfs 10,128 cf
18.0" Round Culvert n=0.013 L=121.0' S=0.0051 '/' Outflow=3.05 cfs 10,128 cf

Pond DMH12: Peak Elev=5.10' Inflow=14.88 cfs 39,070 cf
30.0" Round Culvert n=0.013 L=187.0' S=0.0030 '/' Outflow=14.88 cfs 39,070 cf

Pond DMH13: Peak Elev=4.44' Inflow=14.88 cfs 39,070 cf
30.0" Round Culvert n=0.013 L=139.0' S=0.0030 '/' Outflow=14.88 cfs 39,070 cf

Pond DMH14: Peak Elev=4.15' Inflow=18.20 cfs 47,221 cf
30.0" Round Culvert n=0.011 L=65.0' S=0.0031 '/' Outflow=18.20 cfs 47,221 cf

Pond DMH2: Peak Elev=8.80' Inflow=1.70 cfs 5,246 cf
12.0" Round Culvert n=0.013 L=1.0' S=0.0000 '/' Outflow=1.70 cfs 5,246 cf

Pond DMH3: Peak Elev=5.66' Inflow=1.20 cfs 5,227 cf
12.0" Round Culvert n=0.013 L=67.0' S=0.0081 '/' Outflow=1.20 cfs 5,227 cf

Pond DMH4: Peak Elev=4.98' Inflow=1.25 cfs 6,596 cf
18.0" Round Culvert n=0.013 L=24.0' S=0.0071 '/' Outflow=1.25 cfs 6,596 cf

Pond DMH5: Peak Elev=5.61' Inflow=2.77 cfs 3,132 cf
12.0" Round Culvert n=0.013 L=24.0' S=0.0050 '/' Outflow=2.77 cfs 3,132 cf

Pond DMH6: Peak Elev=5.39' Inflow=0.94 cfs 1,965 cf
12.0" Round Culvert n=0.013 L=68.0' S=0.0050 '/' Outflow=0.94 cfs 1,965 cf

Pond DMH7: Peak Elev=5.39' Inflow=3.96 cfs 9,729 cf
18.0" Round Culvert n=0.013 L=5.0' S=0.0080 '/' Outflow=3.96 cfs 9,729 cf

Pond DMH8: Peak Elev=4.90' Inflow=3.96 cfs 9,729 cf
18.0" Round Culvert n=0.013 L=125.0' S=0.0050 '/' Outflow=3.96 cfs 9,729 cf

Pond DMH9: Diversion Structure Peak Elev=10.30' Inflow=4.15 cfs 10,166 cf
Primary=1.80 cfs 8,428 cf Secondary=2.35 cfs 1,739 cf Outflow=4.15 cfs 10,166 cf

Pond OWS1: Peak Elev=8.82' Inflow=1.70 cfs 5,246 cf
12.0" Round Culvert n=0.013 L=7.0' S=0.0057 '/' Outflow=1.70 cfs 5,246 cf

Pond OWS2: Peak Elev=9.06' Inflow=1.80 cfs 8,428 cf
18.0" Round Culvert n=0.013 L=3.0' S=0.0067 '/' Outflow=1.80 cfs 8,428 cf

Pond SF1: Subsurface Filtration System 1 Peak Elev=8.00' Storage=639 cf Inflow=1.70 cfs 5,246 cf
6.0" Round Culvert n=0.010 L=2.0' S=0.0050 '/' Outflow=1.20 cfs 5,227 cf

Pond SF2: Subsurface Filtration System 2 Peak Elev=9.09' Storage=1,749 cf Inflow=1.80 cfs 8,428 cf
Outflow=0.80 cfs 8,390 cf

Pond TF1: Tree Filter 1 Peak Elev=7.20' Storage=294 cf Inflow=0.91 cfs 1,971 cf
Primary=0.05 cfs 1,335 cf Secondary=0.88 cfs 629 cf Outflow=0.94 cfs 1,965 cf

Pond TF2: Tree Filter 2 Peak Elev=8.38' Storage=286 cf Inflow=0.98 cfs 2,136 cf
Primary=0.05 cfs 1,369 cf Secondary=0.96 cfs 762 cf Outflow=1.00 cfs 2,131 cf

Pond TF3: Tree Filter 3 Peak Elev=5.75' Storage=1,003 cf Inflow=3.41 cfs 8,190 cf
Primary=0.14 cfs 5,077 cf Secondary=3.18 cfs 3,074 cf Outflow=3.32 cfs 8,151 cf

Link POA 1: POA 1 (Outfall) Inflow=18.20 cfs 47,221 cf
Primary=18.20 cfs 47,221 cf

Link POA 2: POA2 Inflow=5.18 cfs 11,175 cf
Primary=5.18 cfs 11,175 cf

Link POA 3: POA3 Inflow=1.71 cfs 4,734 cf
Primary=1.71 cfs 4,734 cf

Link POA 4: POA4 Inflow=3.97 cfs 11,807 cf
Primary=3.97 cfs 11,807 cf

Link STP: Proposed Site Total Inflow=27.08 cfs 74,937 cf
Primary=27.08 cfs 74,937 cf

Total Runoff Area = 222,316 sf Runoff Volume = 75,044 cf Average Runoff Depth = 4.05"
27.78% Pervious = 61,770 sf 72.22% Impervious = 160,546 sf

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment1AP: Subwatershed1A Runoff Area=2,561 sf 100.00% Impervious Runoff Depth>5.86"
Tc=5.0 min CN=98 Runoff=0.52 cfs 1,250 cf

Subcatchment1BP: Subwatershed1B Runoff Area=2,966 sf 64.16% Impervious Runoff Depth>5.05"
Flow Length=104' Tc=2.2 min CN=91 Runoff=0.59 cfs 1,249 cf

Subcatchment1CP: Subwatershed1C Runoff Area=5,476 sf 85.87% Impervious Runoff Depth>5.51"
Flow Length=180' Tc=2.7 min CN=95 Runoff=1.15 cfs 2,514 cf

Subcatchment1DP: Subwatershed1D Runoff Area=6,256 sf 74.50% Impervious Runoff Depth>5.28"
Flow Length=200' Tc=4.6 min CN=93 Runoff=1.24 cfs 2,752 cf

Subcatchment1EP: Subwatershed1E Runoff Area=13,382 sf 76.95% Impervious Runoff Depth>5.39"
Flow Length=266' Tc=4.1 min CN=94 Runoff=2.71 cfs 6,014 cf

Subcatchment1FP: Subwatershed1F Runoff Area=29,140 sf 60.39% Impervious Runoff Depth>4.94"
Flow Length=264' Tc=7.5 min CN=90 Runoff=5.08 cfs 11,990 cf

Subcatchment1GP: Subwatershed1G Runoff Area=2,703 sf 89.90% Impervious Runoff Depth>5.63"
Flow Length=72' Slope=0.0300 '/' Tc=0.8 min CN=96 Runoff=0.60 cfs 1,267 cf

Subcatchment1HP: Subwatershed1H Runoff Area=6,715 sf 100.00% Impervious Runoff Depth>5.86"
Tc=5.0 min CN=98 Runoff=1.36 cfs 3,278 cf

Subcatchment1IP: Subwatershed1I Runoff Area=11,530 sf 100.00% Impervious Runoff Depth>5.86"
Tc=5.0 min CN=98 Runoff=2.33 cfs 5,629 cf

Subcatchment1JP: Subwatershed1J Runoff Area=28,664 sf 100.00% Impervious Runoff Depth>5.86"
Tc=5.0 min CN=98 Runoff=5.78 cfs 13,993 cf

Subcatchment1KP: Subwatershed1K Runoff Area=21,087 sf 100.00% Impervious Runoff Depth>5.86"
Tc=5.0 min CN=98 Runoff=4.26 cfs 10,294 cf

Subcatchment2AP: Subwatershed2A Runoff Area=24,334 sf 23.44% Impervious Runoff Depth>4.08"
Flow Length=128' Tc=1.4 min CN=82 Runoff=4.30 cfs 8,272 cf

Subcatchment2BP: Subwatershed2B Runoff Area=14,208 sf 85.47% Impervious Runoff Depth>5.51"
Tc=5.0 min CN=95 Runoff=2.82 cfs 6,521 cf

Subcatchment3AP: Subwatershed3A Runoff Area=13,524 sf 81.77% Impervious Runoff Depth>5.39"
Flow Length=229' Tc=11.9 min CN=94 Runoff=2.15 cfs 6,069 cf

Subcatchment4AP: Subwatershed4A Runoff Area=39,770 sf 49.01% Impervious Runoff Depth>4.71"
Flow Length=1,052' Tc=15.9 min CN=88 Runoff=5.18 cfs 15,603 cf

Pond CB2: Peak Elev=9.57' Inflow=0.59 cfs 1,249 cf
6.0" Round Culvert n=0.013 L=62.0' S=0.0050 '/' Outflow=0.59 cfs 1,249 cf

Pond CB4: Peak Elev=27.39' Inflow=2.71 cfs 6,014 cf
6.0" Round Culvert n=0.013 L=61.0' S=0.0051 '/' Outflow=2.71 cfs 6,014 cf

Pond CB5: Peak Elev=10.37' Inflow=0.60 cfs 1,267 cf
6.0" Round Culvert n=0.013 L=14.0' S=0.0050 '/' Outflow=0.60 cfs 1,267 cf

Pond CB6: Peak Elev=10.98' Inflow=5.08 cfs 11,990 cf
18.0" Round Culvert n=0.013 L=28.0' S=0.0050 '/' Outflow=5.08 cfs 11,990 cf

Pond DMH1: Peak Elev=9.70' Inflow=3.29 cfs 7,263 cf
Primary=1.84 cfs 6,521 cf Secondary=1.45 cfs 742 cf Outflow=3.29 cfs 7,263 cf

Pond DMH10: Peak Elev=8.52' Inflow=1.94 cfs 10,542 cf
12.0" Round Culvert n=0.012 L=3.0' S=0.0000 '/' Outflow=1.94 cfs 10,542 cf

Pond DMH11: Peak Elev=5.50' Inflow=4.12 cfs 13,214 cf
18.0" Round Culvert n=0.013 L=121.0' S=0.0051 '/' Outflow=4.12 cfs 13,214 cf

Pond DMH12: Peak Elev=5.44' Inflow=18.87 cfs 49,859 cf
30.0" Round Culvert n=0.013 L=187.0' S=0.0030 '/' Outflow=18.87 cfs 49,859 cf

Pond DMH13: Peak Elev=4.78' Inflow=18.87 cfs 49,859 cf
30.0" Round Culvert n=0.013 L=139.0' S=0.0030 '/' Outflow=18.87 cfs 49,859 cf

Pond DMH14: Peak Elev=4.56' Inflow=23.14 cfs 60,111 cf
30.0" Round Culvert n=0.011 L=65.0' S=0.0031 '/' Outflow=23.14 cfs 60,111 cf

Pond DMH2: Peak Elev=8.84' Inflow=1.84 cfs 6,521 cf
12.0" Round Culvert n=0.013 L=1.0' S=0.0000 '/' Outflow=1.84 cfs 6,521 cf

Pond DMH3: Peak Elev=5.68' Inflow=1.27 cfs 6,499 cf
12.0" Round Culvert n=0.013 L=67.0' S=0.0081 '/' Outflow=1.27 cfs 6,499 cf

Pond DMH4: Peak Elev=5.00' Inflow=1.32 cfs 8,119 cf
18.0" Round Culvert n=0.013 L=24.0' S=0.0071 '/' Outflow=1.32 cfs 8,119 cf

Pond DMH5: Peak Elev=6.03' Inflow=3.73 cfs 4,376 cf
12.0" Round Culvert n=0.013 L=24.0' S=0.0050 '/' Outflow=3.73 cfs 4,376 cf

Pond DMH6: Peak Elev=5.47' Inflow=1.18 cfs 2,507 cf
12.0" Round Culvert n=0.013 L=68.0' S=0.0050 '/' Outflow=1.18 cfs 2,507 cf

Pond DMH7: Peak Elev=5.59' Inflow=4.97 cfs 12,495 cf
18.0" Round Culvert n=0.013 L=5.0' S=0.0080 '/' Outflow=4.97 cfs 12,495 cf

Pond DMH8: Peak Elev=5.07' Inflow=4.97 cfs 12,495 cf
18.0" Round Culvert n=0.013 L=125.0' S=0.0050 '/' Outflow=4.97 cfs 12,495 cf

Pond DMH9: Diversion Structure Peak Elev=10.49' Inflow=5.28 cfs 13,257 cf
Primary=1.94 cfs 10,542 cf Secondary=3.34 cfs 2,715 cf Outflow=5.28 cfs 13,257 cf

Pond OWS1: Peak Elev=8.86' Inflow=1.84 cfs 6,521 cf
12.0" Round Culvert n=0.013 L=7.0' S=0.0057 '/' Outflow=1.84 cfs 6,521 cf

Pond OWS2: Peak Elev=9.09' Inflow=1.94 cfs 10,542 cf
18.0" Round Culvert n=0.013 L=3.0' S=0.0067 '/' Outflow=1.94 cfs 10,542 cf

Pond SF1: Subsurface Filtration System 1 Peak Elev=8.31' Storage=764 cf Inflow=1.84 cfs 6,521 cf
6.0" Round Culvert n=0.010 L=2.0' S=0.0050 '/' Outflow=1.27 cfs 6,499 cf

Pond SF2: Subsurface Filtration System 2 Peak Elev=23.51' Storage=1,820 cf Inflow=1.94 cfs 10,542 cf
Outflow=2.06 cfs 10,499 cf

Pond TF1: Tree Filter 1 Peak Elev=7.47' Storage=297 cf Inflow=1.15 cfs 2,514 cf
Primary=0.05 cfs 1,579 cf Secondary=1.12 cfs 928 cf Outflow=1.18 cfs 2,507 cf

Pond TF2: Tree Filter 2 Peak Elev=9.39' Storage=288 cf Inflow=1.24 cfs 2,752 cf
Primary=0.05 cfs 1,620 cf Secondary=1.21 cfs 1,126 cf Outflow=1.26 cfs 2,746 cf

Pond TF3: Tree Filter 3 Peak Elev=6.52' Storage=1,003 cf Inflow=4.26 cfs 10,294 cf
Primary=0.14 cfs 5,912 cf Secondary=4.13 cfs 4,340 cf Outflow=4.26 cfs 10,251 cf

Link POA 1: POA 1 (Outfall) Inflow=23.14 cfs 60,111 cf
Primary=23.14 cfs 60,111 cf

Link POA 2: POA2 Inflow=6.77 cfs 14,792 cf
Primary=6.77 cfs 14,792 cf

Link POA 3: POA3 Inflow=2.15 cfs 6,069 cf
Primary=2.15 cfs 6,069 cf

Link POA 4: POA4 Inflow=5.18 cfs 15,603 cf
Primary=5.18 cfs 15,603 cf

Link STP: Proposed Site Total Inflow=34.68 cfs 96,574 cf
Primary=34.68 cfs 96,574 cf

Total Runoff Area = 222,316 sf Runoff Volume = 96,695 cf Average Runoff Depth = 5.22"
27.78% Pervious = 61,770 sf 72.22% Impervious = 160,546 sf

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment1AP: Subwatershed1A Runoff Area=2,561 sf 100.00% Impervious Runoff Depth>8.35"
Tc=5.0 min CN=98 Runoff=0.73 cfs 1,783 cf

Subcatchment1BP: Subwatershed1B Runoff Area=2,966 sf 64.16% Impervious Runoff Depth>7.52"
Flow Length=104' Tc=2.2 min CN=91 Runoff=0.85 cfs 1,858 cf

Subcatchment1CP: Subwatershed1C Runoff Area=5,476 sf 85.87% Impervious Runoff Depth>8.00"
Flow Length=180' Tc=2.7 min CN=95 Runoff=1.63 cfs 3,650 cf

Subcatchment1DP: Subwatershed1D Runoff Area=6,256 sf 74.50% Impervious Runoff Depth>7.75"
Flow Length=200' Tc=4.6 min CN=93 Runoff=1.77 cfs 4,042 cf

Subcatchment1EP: Subwatershed1E Runoff Area=13,382 sf 76.95% Impervious Runoff Depth>7.88"
Flow Length=266' Tc=4.1 min CN=94 Runoff=3.88 cfs 8,782 cf

Subcatchment1FP: Subwatershed1F Runoff Area=29,140 sf 60.39% Impervious Runoff Depth>7.39"
Flow Length=264' Tc=7.5 min CN=90 Runoff=7.41 cfs 17,941 cf

Subcatchment1GP: Subwatershed1G Runoff Area=2,703 sf 89.90% Impervious Runoff Depth>8.12"
Flow Length=72' Slope=0.0300 '/' Tc=0.8 min CN=96 Runoff=0.85 cfs 1,829 cf

Subcatchment1HP: Subwatershed1H Runoff Area=6,715 sf 100.00% Impervious Runoff Depth>8.35"
Tc=5.0 min CN=98 Runoff=1.91 cfs 4,675 cf

Subcatchment1IP: Subwatershed1I Runoff Area=11,530 sf 100.00% Impervious Runoff Depth>8.35"
Tc=5.0 min CN=98 Runoff=3.29 cfs 8,028 cf

Subcatchment1JP: Subwatershed1J Runoff Area=28,664 sf 100.00% Impervious Runoff Depth>8.35"
Tc=5.0 min CN=98 Runoff=8.17 cfs 19,957 cf

Subcatchment1KP: Subwatershed1K Runoff Area=21,087 sf 100.00% Impervious Runoff Depth>8.35"
Tc=5.0 min CN=98 Runoff=6.01 cfs 14,682 cf

Subcatchment2AP: Subwatershed2A Runoff Area=24,334 sf 23.44% Impervious Runoff Depth>6.43"
Flow Length=128' Tc=1.4 min CN=82 Runoff=6.59 cfs 13,041 cf

Subcatchment2BP: Subwatershed2B Runoff Area=14,208 sf 85.47% Impervious Runoff Depth>7.99"
Tc=5.0 min CN=95 Runoff=4.01 cfs 9,465 cf

Subcatchment3AP: Subwatershed3A Runoff Area=13,524 sf 81.77% Impervious Runoff Depth>7.86"
Flow Length=229' Tc=11.9 min CN=94 Runoff=3.08 cfs 8,862 cf

Subcatchment4AP: Subwatershed4A Runoff Area=39,770 sf 49.01% Impervious Runoff Depth>7.13"
Flow Length=1,052' Tc=15.9 min CN=88 Runoff=7.67 cfs 23,646 cf

Pond CB2: Peak Elev=10.54' Inflow=0.85 cfs 1,858 cf
6.0" Round Culvert n=0.013 L=62.0' S=0.0050 '/' Outflow=0.85 cfs 1,858 cf

Pond CB4: Peak Elev=46.87' Inflow=3.88 cfs 8,782 cf
6.0" Round Culvert n=0.013 L=61.0' S=0.0051 '/' Outflow=3.88 cfs 8,782 cf

Pond CB5: Peak Elev=10.74' Inflow=0.85 cfs 1,829 cf
6.0" Round Culvert n=0.013 L=14.0' S=0.0050 '/' Outflow=0.85 cfs 1,829 cf

Pond CB6: Peak Elev=11.41' Inflow=7.41 cfs 17,941 cf
18.0" Round Culvert n=0.013 L=28.0' S=0.0050 '/' Outflow=7.41 cfs 17,941 cf

Pond DMH1: Peak Elev=10.17' Inflow=4.71 cfs 10,640 cf
Primary=2.17 cfs 9,073 cf Secondary=2.54 cfs 1,566 cf Outflow=4.71 cfs 10,640 cf

Pond DMH10: Peak Elev=8.61' Inflow=2.22 cfs 14,808 cf
12.0" Round Culvert n=0.012 L=3.0' S=0.0000 '/' Outflow=2.22 cfs 14,808 cf

Pond DMH11: Peak Elev=6.72' Inflow=8.92 cfs 19,733 cf
18.0" Round Culvert n=0.013 L=121.0' S=0.0051 '/' Outflow=8.92 cfs 19,733 cf

Pond DMH12: Peak Elev=6.59' Inflow=27.49 cfs 72,435 cf
30.0" Round Culvert n=0.013 L=187.0' S=0.0030 '/' Outflow=27.49 cfs 72,435 cf

Pond DMH13: Peak Elev=5.85' Inflow=27.49 cfs 72,435 cf
30.0" Round Culvert n=0.013 L=139.0' S=0.0030 '/' Outflow=27.49 cfs 72,435 cf

Pond DMH14: Peak Elev=5.60' Inflow=33.40 cfs 86,983 cf
30.0" Round Culvert n=0.011 L=65.0' S=0.0031 '/' Outflow=33.40 cfs 86,983 cf

Pond DMH2: Peak Elev=8.95' Inflow=2.17 cfs 9,073 cf
12.0" Round Culvert n=0.013 L=1.0' S=0.0000 '/' Outflow=2.17 cfs 9,073 cf

Pond DMH3: Peak Elev=5.73' Inflow=1.43 cfs 9,047 cf
12.0" Round Culvert n=0.013 L=67.0' S=0.0081 '/' Outflow=1.43 cfs 9,047 cf

Pond DMH4: Peak Elev=5.04' Inflow=1.48 cfs 11,106 cf
18.0" Round Culvert n=0.013 L=24.0' S=0.0071 '/' Outflow=1.48 cfs 11,106 cf

Pond DMH5: Peak Elev=7.17' Inflow=5.79 cfs 7,153 cf
12.0" Round Culvert n=0.013 L=24.0' S=0.0050 '/' Outflow=5.79 cfs 7,153 cf

Pond DMH6: Peak Elev=5.61' Inflow=1.60 cfs 3,641 cf
12.0" Round Culvert n=0.013 L=68.0' S=0.0050 '/' Outflow=1.60 cfs 3,641 cf

Pond DMH7: Peak Elev=6.04' Inflow=7.14 cfs 18,258 cf
18.0" Round Culvert n=0.013 L=5.0' S=0.0080 '/' Outflow=7.14 cfs 18,258 cf

Pond DMH8: Peak Elev=5.47' Inflow=7.14 cfs 18,258 cf
18.0" Round Culvert n=0.013 L=125.0' S=0.0050 '/' Outflow=7.14 cfs 18,258 cf

Pond DMH9: Diversion Structure Peak Elev=10.89' Inflow=7.69 cfs 19,770 cf
Primary=2.22 cfs 14,808 cf Secondary=5.48 cfs 4,963 cf Outflow=7.69 cfs 19,770 cf

Pond OWS1: Peak Elev=8.97' Inflow=2.17 cfs 9,073 cf
12.0" Round Culvert n=0.013 L=7.0' S=0.0057 '/' Outflow=2.17 cfs 9,073 cf

Pond OWS2: Peak Elev=9.15' Inflow=2.22 cfs 14,808 cf
18.0" Round Culvert n=0.013 L=3.0' S=0.0067 '/' Outflow=2.22 cfs 14,808 cf

Pond SF1: Subsurface Filtration System 1 Peak Elev=9.08' Storage=1,001 cf Inflow=2.17 cfs 9,073 cf
6.0" Round Culvert n=0.010 L=2.0' S=0.0050 '/' Outflow=1.43 cfs 9,047 cf

Pond SF2: Subsurface Filtration System 2 Peak Elev=40.49' Storage=1,820 cf Inflow=2.22 cfs 14,808 cf
Outflow=3.56 cfs 14,771 cf

Pond TF1: Tree Filter 1 Peak Elev=8.11' Storage=305 cf Inflow=1.63 cfs 3,650 cf
Primary=0.05 cfs 2,048 cf Secondary=1.55 cfs 1,592 cf Outflow=1.60 cfs 3,641 cf

Pond TF2: Tree Filter 2 Peak Elev=11.67' Storage=288 cf Inflow=1.77 cfs 4,042 cf
Primary=0.05 cfs 2,059 cf Secondary=1.66 cfs 1,946 cf Outflow=1.70 cfs 4,005 cf

Pond TF3: Tree Filter 3 Peak Elev=8.41' Storage=1,003 cf Inflow=6.01 cfs 14,682 cf
Primary=0.14 cfs 7,314 cf Secondary=5.82 cfs 7,234 cf Outflow=5.96 cfs 14,548 cf

Link POA 1: POA 1 (Outfall) Inflow=33.40 cfs 86,983 cf
Primary=33.40 cfs 86,983 cf

Link POA 2: POA2 Inflow=10.10 cfs 22,506 cf
Primary=10.10 cfs 22,506 cf

Link POA 3: POA3 Inflow=3.08 cfs 8,862 cf
Primary=3.08 cfs 8,862 cf

Link POA 4: POA4 Inflow=7.67 cfs 23,646 cf
Primary=7.67 cfs 23,646 cf

Link STP: Proposed Site Total Inflow=50.42 cfs 141,997 cf
Primary=50.42 cfs 141,997 cf

Total Runoff Area = 222,316 sf Runoff Volume = 142,241 cf Average Runoff Depth = 7.68"
27.78% Pervious = 61,770 sf 72.22% Impervious = 160,546 sf