

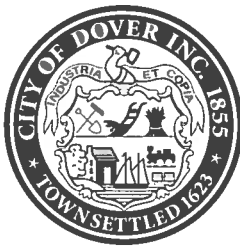
CITY OF DOVER

PLANNING TECHNICAL REVIEW COMMITTEE –AGENDA

Meeting Type: Regular Meeting
Meeting Location: McConnell Center, 61 Locust St., Room 305
Meeting Date: **Thursday, August 25, 2022**
Meeting Time: **10:30 AM**

1. 10:30 AM – 11:15 AM: Site Review for Wooden Ruler Realty, LLC (Owner: Wong, John & Wong, Mo Y Trustees of the Mo Y Wong Living Revocable Trust of 2006), Assessor's Map 6, Lots 32 & 40, zoned CBD-G, located at 42-44 Third. (Proposal is to construct a 103,000 s.f. mixed-use building with commercial on the First Floor and a below grade parking and 58 residential units). A CUP for street trees and benches on Third Street) will also appear before the Planning Board. (P22-60)

CHRISTOPHER G. PARKER, AICP
Assistant City Manager
Planning & Strategic Initiatives
c.parker@dover.nh.gov



288 Central Avenue
Dover, New Hampshire 03820-4169
(603) 516-6008
Fax: (603) 516-6049
www.dover.nh.gov

City of Dover, New Hampshire

DEPARTMENT OF PLANNING AND COMMUNITY DEVELOPMENT

INSTRUCTIONS TO APPLICANTS TO THE DOVER PLANNING BOARD

**IMPORTANT: PLEASE READ ALL INSTRUCTIONS CAREFULLY BEFORE
FILLING OUT ATTACHED APPLICATION.
INCOMPLETE APPLICATIONS WILL NOT BE ACCEPTED FOR REVIEW.**

Dear Applicant:

This will serve to briefly inform you regarding the process to have the Dover Planning Board (the Board) review a land use application. Please refer to the NH Statutes on Land Use and Regulation the Dover Code, and our Developer's Handbook for more specific information.

The Board primarily reviews 5 types of applications:

1. **Site Plans** - A site plan is a professionally rendered drawing which delineates the proposed development of a site. This plan is required for non-residential development, creation of multi-family residential structures, and for extensions of parking lots and alteration of an acre or more of land. These plans require meeting with the Technical Review Committee before Planning Board review.
2. **Subdivisions** - A subdivision is the division of the lot, tract, or parcel of land into two (2) or more lots, plats, sites or other divisions of land for the purpose, whether immediate or future, of sale, rent, lease or building development. It includes re-subdivision and, when appropriate to the context, relates to the process of subdividing or to the land or territory subdivided. Major subdivision plans (4+) require meeting with the Technical Review Committee before Planning Board review.
3. **Lot Line Adjustments** - A lot line adjustment alters the size of two (2) or more lots, but does not create a new buildable lot.
4. **Conditional Use Permits** - A conditional use permit is required for any alteration of wetlands, wetland buffers or work within the City's conservation district. Additionally, a conditional use permit could be issued as to offer relief in the Central Business District, for plans in the Residential Mixed Use Overlay District, or parking relief. Environmental Conditional Use Permits are acted on after Conservation Commission review.
5. **Excavation Permits** - NH RSA Chapter 155-E grants municipalities the authority to regulate earth excavations within their borders. This authority rests with the Planning Board.

The Board cannot and will not review applications that do not meet zoning requirements. **Please review the need to apply to the Zoning Board of Adjustment prior to applying to the Board.**

Professional agents will prepare your application; however, you may represent yourself or authorize, in writing, someone else to represent you before the Planning Board.

In most cases, the first step would be to appear before the Technical Review Committee, to apply, eight (8) folded copies of the site plan with scale of not less than 1"=50' or 1"=100' for larger site plans, and a PDF, need to be provided, along with payment of plan review fees. These meetings occur on Thursday, and materials and payment must be submitted three (3) weeks prior to meeting. Meetings are scheduled, upon receipt of completed applications with the full checklist and payment.

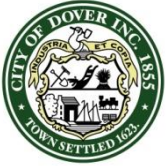
The next step would be to provide, two weeks prior to Planning Board, the final plan sets (three (3) full size and twelve (12) half size (11x 17), folded, copies of the plan), and 15 copies, and a PDF, of all supporting materials, including response to TRC comments. Please print all materials on both sides of paper.

For projects not appearing before the Technical Review Committee, Plan Review Fees are due along with three (3) full size and twelve (12) half size (11x17), folded, copies of the plan set and 15 copies, plus a PDF, of plans and materials, 3 weeks prior to the Planning Board meeting. Please print all materials on both sides of paper.

Staff will generate an abutter list, and Abutter/Notice Fees will be invoiced. They are due 28 hours prior to Planning Board. If they are not paid, the application will not be heard.

Once an item is placed upon an agenda the following process is used:

- The Board will hold a public hearing on your application at a regularly scheduled meeting
 - Typically the second or fourth Tuesday of the Month.
- Public notice of the hearing will be posted at the City Clerk's office and the Planning Department office and printed in the newspaper.
- Certified letters will be mailed to you and to all abutters at least ten days before the date of the hearing.
- 28 hours prior to the meeting, abutter/notice fees must be paid
- At the meeting
 - Staff will introduce your project
 - You and all other parties will be invited to appear in person or by agent or counsel to present your application.
 - Your project will be pre-loaded onto a laptop for review by the Board and public
 - The Board may ask clarifying questions
 - The Board will vote to accept jurisdiction on the application
 - If accepted:
 - The Board will hold a public hearing
 - The Board may ask additional questions
 - The Board will deliberate on your application
 - Typically decisions are made the night of the presentation, but an application may be tabled
 - After deliberation, a decision will be made.
 - You will be sent a notice of the decision.



City of Dover, New Hampshire SITE REVIEW APPLICATION

[Revision Date: July 1, 2021]

Office Use Only

Project #: _____

Date Received: _____

Amount Paid: _____

Time Received: _____

APPLICANT AND OWNER INFORMATION

Name of Applicant: Wooden Ruler Realty, LLC Telephone # 603-742-5300

Address of Applicant: 35 Third Street, Dover, NH 03820

E-Mail Address: Billtgold@aol.com

Wong, John & Wong, Mo Y Trustees of The Mo Y Wong Living Revocable Trust of 2006
Name of Property Owner (if different from applicant): _____ Telephone # _____

Address of Property Owner: 42 Third Street, Dover, NH 03820

PROPERTY INFORMATION

Address of Property: 42-44 Third Street

Assessor's Map # 6 Lot(s) # 32 & 40

Zoning District(s) CBD General Overlay District(s) None
13,364 0.31

Size of Parcel: 9,000 sq. ft. 0.21 ac. Property Deed: Book 4290 Page: 111

Existing Use of Property: Asia Rest. & Parking

SITE PLAN INFORMATION

Describe Proposed Use: 58 Unit Building with Commercial on the First Floor and a Parking Structure below

Area of Parcel to be Developed: 22,364 sq. ft.

If Multi-family Residential: Number of Units 58 & Buildings Proposed 1

If lodging: Number of Units _____ & number of Buildings _____

Number of Parking Spaces: Existing 23 Proposed 40 (see additional on 35 Third Street)

Highway Access (check where applicable): ☒ City Street _____ State Highway _____

Number of Employees Total: 0 In Maximum Shift: _____

Disposition of Parcel:

Building Setbacks:

Building Footprint 18,930 sq. ft.

Front Yard Third Street Build-To = 0'
Second Street Build-To = 6-16'

Total Building Area +/-103,000 sq. ft.

Rear Yard N/A ft.

Paved Area 290 sq. ft.

Side Yard: Right 0-24' ft. Left 0-24' ft.

City Water? ☒ Yes ☐ No How far is city water from the property? _____

City Sewer? ☒ Yes ☐ No How far is city sewer from the property? _____

TRANSFER OF DEVELOPMENT RIGHTS INFORMATION

Type of TRANSFER OF DEVELOPMENT RIGHT REQUEST (Check All That Apply):

☐ Residential ☐ Residential (reduced size) ☐ Industrial | ☐ Purchase ☐ Land Preservation

Relief sought (Check All That Apply):

☐ Lot Size ☐ Frontage ☐ Setback ☐ 30' Buffer ☐ Increase by _____ units

Describe Proposed Use or Activity that requires TDR; describe any impacts and document mitigation:

BUILDING INFORMATION

Parking Structure Below Grade on Third Street, First Floor Commercial on Third Street
4 Floors of Residential Space Above Commercial

Type of Building to be Built: _____

Height of Building: Not Finalized Finished Floor Elevation: Varies

Number of Seats (where applicable) _____

Estimated value of construction: +/- 8.0M Refuse removal: Public/Private (circle one)
Internal Refuse Collection in Larger Containers .

WAIVER REQUESTS

Site Review Regulations section(s) to be waived: 153-14(D)(6)(b) Aisle Width
153-14(A)(3)f(2)(c) Site Specific Soils Map

Justification for waiver request(s) (*attach additional sheets as needed*):

See Waiver Narrative

SURVEYOR INFORMATIONBerry Surveying & Engineering
Kenneth A. Berry LLS 805Name of Surveyor and Company (Licensed in N.H.) Christopher R. Berry Project ManagerAddress 335 Second Crown Point Road Telephone #: 603-332-2863
Barrington, NH 03820Professional License #: LLS 805 E-mail address: Crberry@metrocast.net
K.Berry@berrysurveying.com**ENGINEER INFORMATION**Berry Surveying & Engineering
Kenneth A. Berry PE 14243Name of Engineer and Company (Licensed in N.H.) Christopher R. Berry Project Manager
335 Second Crown Point Road Telephone #: 603-332-2863Address Barrington, NH 03820 Telephone #: 603-781-3403 CProfessional License #: PE 14243 E-mail address: Crberry@metrocast.net
K.Berry@berrysurveying.com**ARCHITECT INFORMATION**

Isaak Design, PLLC

Name of Architect and Company (Licensed in N.H.) Nick IsaakAddress 35 Oyster River Rd. Durham, NH 03824 Telephone #: 603-969-6711Professional License #: _____ E-mail address: nick.isaak@gmail.com**LANDSCAPE ARCHITECT INFORMATION**Terrain Planning & Design LLC
Eric Buck

Name of Landscape Architect and Company (Licensed in N.H.) _____

Address 311 Kast Hill Road, Hopkinton, NH 03229 Telephone #: 603-491-2322Professional License #: 078 E-mail address: Eric@terrainplanning.com**SOIL SCIENTIST INFORMATION**

Deidra L. Benjamin CWS

Name of Soil Scientist and Company (Licensed in N.H.) _____

Address 100 Leavitt Road, Pittsfield, NH 03263 Telephone #: 603-496-3307Professional License #: 295 E-mail address: deidra.benjamin1@gmail.com**CONSERVATION EASEMENT HOLDER**

Name of Easement Holder: _____ Telephone # _____

Address Easement Holder: _____

SIGNATURES

I/We hereby submit this application to the City of Dover Planning Board and attest that to the best of my knowledge all of the information on this application form and in the accompanying application materials and documentation is true and accurate. Furthermore, I/we submit that the existing conditions sheet of the plan represents the lot in question, and that no alteration of the site shall take place during Planning Board review up to and including the pre-construction meeting. As applicant or as agent, I attest that I am duly authorized to act in this capacity.

Signature of Property Owner: _____ Date: _____

Signature of Applicant (*if different from owner*): _____ Date: _____

Signature of Agent: _____ Date: _____

AUTHORIZATION TO ENTER SUBJECT PROPERTY

I, and my successors, hereby authorize members of the Dover Planning Board, Planning Department and other pertinent City Departments and boards to enter my property for the purpose of evaluating this application, including performing inspections during the application phase, post-approval phase, construction phase and occupancy phase. It is understood that these individuals must use all reasonable care, courtesy, and diligence when on the property.

Signature of Property Owner: _____ Date: _____

AUTHORIZATION TO COMPLETE THE PROJECT ON SUBJECT PROPERTY

I, and my successors, hereby the City of Dover or its assigns to enter my property for the purpose of completing the site work as required by the approved plan should the letter or credit or other surety be called. It is understood that these individuals must use all reasonable care, courtesy, and diligence when on the property.

Signature of Property Owner: _____ Date: _____

Signature of Applicant (*if different from owner*): _____ Date: _____

CERTIFICATION OF FEES

I, and my successors, hereby certify that I understand that the City of Dover collects impact fees, utility investment fees and inspection fees for projects developed in Dover. Said fees must be paid before a Certificate of Occupancy can be obtained for a structure, unless a different payment schedule is agreed to by the applicant and the City prior to approvals being issued by the Dover Planning Board. Additionally, should the property be in "Current Use" it will be subject to the Land Use Change Tax.

Signature of Property Owner: _____ Date: _____

Signature of Applicant (*if different from owner*): _____ Date: _____

***CITY OF DOVER SITE REVIEW
LIST OF ABUTTERS***

Pursuant to RSA 676:4, the State Law of New Hampshire, the City of Dover is required to notify the applicant, abutters (including holders of conservation easements), and any professional whose seal is on the plan, of the public hearing by certified mail, return receipt requested. Staff will provide the abutter information, while the applicant must provide accurate contact information for the owner, applicant and professional agents representing the project.

Owner:

TAX MAP	LOT #	PROPERTY OWNER	MAILING ADDRESS

Applicant (if different from owner):

APPLICANT NAME	APPLICANT COMPANY	MAILING ADDRESS

Surveyor and/or Engineer/Professional Agent:

NAME	COMPANY	MAILING ADDRESS

Conservation Easement Holder:

TAX MAP	LOT #	NAME OF EASEMENT HOLDER	MAILING ADDRESS

PLANNING BOARD FEE SCHEDULE/INVOICE

(Revised July 1, 2021)

Below are the fees associated with plan review and are subject to a nonrefundable application fee to cover administrative expenses. Please complete the information below and provide payment with your application submittal. **Plan Review Fees shall be paid prior to technical review committee (TRC) being scheduled.** For plans not requiring TRC review, **fees are due 21 days prior** to the Planning Board meeting. Staff will coordinate abutter/notice fees, which will be invoiced and must be paid 28 hours before the Planning Board meeting for an application to be heard. Fees shall be paid by cash or check made payable to "City of Dover".

A. Plan Review Fees

1. Application fee for the following (SELECT ALL THAT APPLY):

- ☐ SUBDIVISION Application fee \$200.00 + \$150.00 x # _____ new lots created = \$ _____
- ☐ LOT LINE ADJUSTMENT Application fee \$200.00 + \$100.00 X # _____ of lots involved = \$ _____
- ☐ TRANSFER OF DEVELOPMENT RIGHTS Application fee \$200.00 = \$ _____
- ☐ SITE REVIEW – RESIDENTIAL Application fee \$200.00+ \$100.00 x # _____ per dwelling unit = \$ 5,800.00
- ☐ SITE REVIEW – NON-RESIDENTIAL Application fee \$200.00 + (not to exceed \$10,000)
 - ☐ New construction \$.15 sq. ft. x # _____ sq. ft.= \$ _____
 - ☐ Additions (new floor space) \$.10 per sq. ft. x # _____ sq. ft.= \$ _____
- ☐ MOTEL/HOTEL \$35.00 x # _____ per lodging unit= \$ _____
- ☐ CHANGE OF USE Application fee \$200.00 + (not to exceed \$5,000)
 - ☐ Existing floor spaces \$.10 per sq. ft. x # _____ sq. ft. = \$ _____
- ☐ CONDITIONAL USE PERMIT Application fee \$200.00 x # _____ per Application = \$ _____
- ☐ GRAVEL PIT/ EXCAVATIONS
 - ☐ Application fee \$50.00= \$ _____
 - ☐ Permit fee \$75.00= \$ _____
- ☐ EXTENSIONS/AMENDMENTS/WAIVERS FOR AN APPROVED PLAN Application fee \$200.00 = \$ _____
- ☐ REQUEST FOR REZONING Application fee \$200.00 = \$ _____
- ☐ DRIVEWAY WAIVER Application fee \$200.00 = \$ _____

2. TOTAL IMPERVIOUS PAVED AREA (for new development, roadways or additions to

existing parking lots, (not to exceed \$10,000)) Application fee of \$200.00 is N/A if it is part

of a Site Review or Subdivision Plan. \$200.00 + \$.07 per sq. ft. x # 100.00 sq. ft. = \$ 7.0

SUBTOTAL PLAN REVIEW FEE (A) = \$ 5,807.00

AND

B. Abutter Notification/Mailing Labels - this office will create and print the abutter list and provide labels in triplicate for each abutter. The applicant/owner will review the list for accuracy and provide to us the engineer, architect, licensed land surveyor (LLS), licensed landscape architect (LLA) and/or soil scientist whose professional seal appears on the plan with names and addresses for notices.

- ☐ Applicant & Owner, engineer, architect, LLS, LLA and/or soil scientist
 - ☐ Certified letters fee # _____ of x \$8.00= \$ _____
- ☐ Certified letters fee: # of abutters _____ X \$8.00= \$ _____
- ☐ First Class Mail fee (for individual owner of units within a condominium or other collective form of ownership): # of abutters _____ X \$1.00= \$ _____
- ☐ Creating/Printing Abutter Labels in triplicate per sheet _____ x \$10.00= \$ _____

C. Foster's newspaper public notice fee \$100.00 x # _____ applications = \$ _____

SUBTOTAL NOTICE FEE (B & C) = \$ _____

TOTAL INVOICE AMOUNT (A, B & C) = \$ _____

PLAN REVIEW FEE COLLECTED/PAID = \$ _____

BALANCE DUE = \$ _____

The balance due must be paid 28 hours prior to the Planning Board Meeting, to be heard.



City of Dover, New Hampshire SITE PLAN REVIEW SUBMISSION CHECKLIST

[Revision Date: June 4, 2019]

This site plan review checklist, as required by Chapter 153-6-B(2), should be completed by the applicant. It is intended to assist the applicant in the planning process of preparing a Site Plan Review application for Planning Board action. The size of the project will determine the types of information required for review, therefore, a **pre-application conference** with the Planning Department to determine the list of items that must be completed is strongly encouraged.

The first step would be to appear before the Technical Review Committee, to apply, eight (8) folded copies of the site plan with scale of not less than 1"=50' or 1"=100' for larger site plans, need to be provided, along with payment of plan review fees.

Two weeks prior to Planning Board, three (3) full size and twelve (12) half size (11x17), folded, copies of the plan set and materials, including response to TRC comments, will be due. Abutter/Notice Fees will be invoiced and need to be paid 28 hours prior to the Planning Board meeting.

The applicant is cautioned that this checklist is only a guide and is not intended to be a complete list of all site plan review requirements. Please refer to the Site Plan Review Regulations for full details.

APPLICANT: Wooden Ruler Realty LLC File Number: _____

PROJECT TITLE: Residences At 42-44 Third Street

PROPERTY LOCATION: 42-44 Third Street Tax Map: 6 Lot: 32 & 40

	Where/How Provided	Reviewed
1. Completed and signed Application form	X	
2. Plan Review Fees are provided	X	
3. Electronic copy of the engineered/surveyed plan layout	X	
4. Electronic copy of supplementary materials and application	X	
5. Traffic Impact Assessment and Analysis (Standard or Advanced)		
6. Waiver requests to the Site Plan Review Regulations, with written justification	X	
7. Conditional Use Permit applications	x	
8. A colored rendering of the streetscape that will be created along the existing public right-of-way		
9. A colored architectural plan showing all sides of buildings	X	
10. Folded copies of site plan w/scale of not less than 1"=50' or 1"=100' for larger site plans, for TRC. Plans shall contain the following items as appropriate:		
Location map at appropriate scale	X	
Proposed Project name and title and Planning File #	X	
Date, north arrow and scale	X	
Names of all abutting property owners	X	
Name and address of owners and/or applicants	X	
Signature & stamp of NH licensed land surveyor and/or engineer	X	
Zoning District boundaries, including any special or overlay districts	X	
Location of Conservation District areas	X N/A	
Location, names and widths of existing and proposed streets, including pavement widths, grades, curbs and crosswalks	X	
Location and widths of existing & proposed easements & right of ways	N/A	
Location and width of existing and proposed access/egress ways	X	

	Explain How Provided	Reviewed
Depict pedestrian walkways and accessible access	X	
Existing and proposed property lines with dimensions and bearings tied into Dover's Geographic Information System coordinate system	X	
Existing and proposed topographic information at two foot intervals	X	
Existing and proposed buildings and structure locations	X	
Minimum building setbacks or build to lines on all lots	X	
Location and size of existing and proposed electric, telephone, gas cable and other underground utilities	X	
Existing and proposed water lines and fire hydrants, including materials and capacity needed	X	
Location and materials of sanitary sewage facilities within project site and projected additional peak hour sewer load	X	
Existing and proposed stormwater lines and facilities	X	
Lighting plan depicting all existing and proposed exterior light fixtures and a lighting level analysis for parking lots	X	
Location of Flood Hazard Zone	X	
Location of all bodies of water and watercourses	N/A	
Location of wetlands and buffers	N/A	
Neighborhood plan with aerial underlay showing how project relates to abutting uses within the plan set	X	
Existing natural features and/or significant vegetation on property	X	
Depict existing contours up to 100 ft. beyond project limits	X	
Landscape plan depicting existing and proposed landscaping, prepared by a licensed Professional Landscape Architect		
Location of parking layout delineating spaces and arrangement; note addressing maximum required spaces	X	
Location, material and size of existing and proposed pavement area	X	
Location of proposed fire lanes	X	
Specify finished floor elevations of buildings	X	
Location of solid waste disposal facilities (dumpster, pad and screening, etc.), including required screening	X	
Depict all service, storage, loading bays and utility areas	X	
All applicable Dover Common Site Plan notes	X	
11. Additional Information if appropriate		
Stormwater Management Plan depicting the existing & proposed storm drainage system and engineered drainage analysis	X	
Stormwater Management System Operation and Maintenance Plan	X	
Letter to Serve from Public and Private Utilities	Applied for	
Erosion and Sedimentation Control Plan	X	
Landscape Operation and Maintenance Plan	X	
Proposed restrictive covenants or homeowners association documents		
Dates and permit numbers of all required state and federal permits		
If wetland buffer, indicate placards locations, as applicable	N/A	
Depict test boring locations, groundwater elevations and soil profiles and/or soils types call-outs		
Location of proposed drive-in facilities	N/A	
Provide additional exhibits/technical data determined appropriate by the Planning Board or its staff as required		

REVIEWED BY: _____ DATE _____ TRC DATE _____

CITY OF DOVER PLANNING DEPARTMENT
Revised August 10, 2020

APPLICANT: _____ FILE NUMBER: _____

List of Common Site Plan Notes

The following list of commonly required notes is intended to be used as a guide to applicants and should not be construed as a comprehensive note requirement list for all projects. A preapplication conference with the Planning Department is suggested to help determine the actual notes that may be required.

1. The intent of this plan is to *(describe the purpose of the plan)*.
2. Owners of Record are: Name
Street address
Municipality, State, Zip Code

Authorized Signature
3. The parcel(s) is *(are)* shown as Lot No. _____, Map _____ of the City of Dover Tax Assessor's Maps.
4. The subject parcel(s) contains _____ acres or _____ sq. ft. area of land.
5. Title reference for the project parcel(s) is the Strafford County Registry of Deeds, Book No. _____, Page No. _____.
6. Reference Plans: *(List all reference plans and their SCRD #)*
7. All applicable right-of-way, conservation, slope, construction, power line, cross travel, or other easements shall be referenced in a note.
8. Zoning dimensional and density requirements are as follows:

Required:

Provided:

- a. Zoning district _____ sub-district _____
- b. Minimum lot size: _____ acres (sq. ft.)
- c. Minimum lot frontage: _____ ft.
- d. Minimum yard setbacks/build-to-lines:
Front _____ ft.
Side _____ ft.
Rear _____ ft.
Abut-a-street _____ ft.
- e. Maximum/minimum lot coverage _____ %
- f. Minimum/maximum bldg. height _____ ft./stories

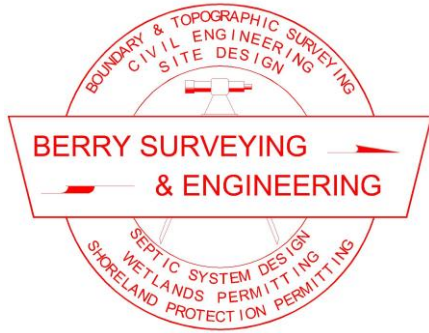
This property falls within the following zoning overlay districts: *(List districts)*

9. List any variances or special exceptions granted by the Zoning Board of Adjustment or Conditional Use Permits granted by the Planning Board for the proposed use or structure, including the case number and date of decision and any conditions.
10. Property line information has been obtained from a survey performed by *(surveyor)* on *(date)* with an error not greater than 1 in 10,000 *(or has been obtained from _____ Plan, prepared by (surveyor))*.
11. Subject parcel is *(is not)* located within a Federally designated flood hazard area (Community panel number 33017C0xxxD, Effective Date: September 30, 2015).
12. Wetlands were delineated by _____, Certified Wetlands Scientist, Certification Number _____, in accordance with Chapter 170-27.1 of the Zoning Ordinance, on _____, 20____.
13. As-built plans of the subdivision shall be submitted on paper and in digital format AutoCAD DWG, AutoCAD DXF or ESRI format to the City of Dover Engineer's Office upon completion of project if a street is proposed for City acceptance. As-built plans shall be prepared and certified correct by a L.L.S. or P.E. Digital files shall be geo-referenced to New Hampshire State Plane Coordinates NAD83 and shall be expressed in feet.
14. The installation of electric power, cable television and telephone lines shall be underground throughout the site for which development is proposed.
15. The subject parcel(s) is (are) served by municipal water and sewer *(or is served by on-site well and septic system)*.
16. All construction shall conform with the State of New Hampshire Department of Transportation (NHDOT) "Standard Specifications for Road and Bridge Construction" and with the City of Dover Community Services Regulations and standard specification for construction. The more stringent specification shall apply.
17. All erosion control notes shall include provisions for construction sequencing, temporary erosion control measures, and permanent standards such as loam spread rate for disturbed areas, rates of lime, type and rates for fertilizer, and seed and mulch mixture with rates of application.
18. The limits of construction disturbance that are located in or within the 50 ft. of Conservation and Wetland Districts shall be staked, flagged and clearly identified prior any earth disturbing activity occurs.
19. All treatment swales to be constructed shall have sod bottoms.
20. A letter of credit for the cost of revegetating all disturbed areas on the site shall be submitted, and the approved construction sign installed prior to any earth disturbing activity occurs.
21. A pre-construction conference with the developer, the design engineer, the earthwork contractor and the City Engineer shall occur prior to any earth disturbing activity.
22. Site Construction hours shall be limited to Monday-Friday 7 AM-6 PM, Saturday and Sunday 9 AM-4 PM. Hours of construction must be documented on a site construction sign along with the contact information for the general contractor. Said signage must be located and approved by the City Engineer or Assistant City Manager.

23. Building addresses (including apt/unit numbers if applicable) shall be assigned by the Building Official at the time of issuance of a building permit.
24. The proposed use for the site (structure) is _____. (More specific uses are encouraged, such as single family, duplex, multi-family, restaurant, hotel, doctor's office, etc. Should more than one use be proposed, an indication of the percentage of each use is suggested.)
25. The following federal and state permits have been issued for the subject property: (*List permit type, number and date of issuance.*)
26. Commercial vehicle route during construction shall conform to Dover City Code or be coordinated with the Community Services Director.
27. Any retaining wall taller than four feet (4') requires issuance of a building permit from Inspection Services.
28. Any fence taller than seven feet (7') requires the issuance of a building permit from Inspection Services.
29. Applicant shall complete Land Use Development Tracking Form, most recently revised version, utilizing the online Pollution Tracking and Accounting Pilot Project (PTAPP) portal.
<https://www.unh.edu/unhsc/ptapp>
30. The owner of record shall record at the Registry of Deeds documentation sufficient to provide notice to all persons/entities that may acquire any property subject to the requirements and responsibilities described in the approved STORMWATER Management Plan. The notice shall comply with the applicable requirements for recording contained in RSA 477 and 478. The notice need not set forth the requirements at length, so long as it is sufficient to provide notice to prospective purchasers to the requirements for maintenance and reporting.
31. Fire department access road(s) shall be installed and maintained to support the imposed loads of fire apparatus in all weather conditions at all times.
32. The maximum parking space calculation is _____ (broken down) and _____ spaces are provided.
33. Exterior lighting shall be cut-off type fixtures per Chapter 153-14-E and shall provide lighting directed on-site only.
34. Topographic survey performed by _____ on (*dates*).
35. Elevations are based on U.S.G.S. NVD 1988 datum. (**or** Elevations depicted are based on information obtained from the City Engineer's Office and was derived from coordinates for control stations _____ and _____. These coordinates have not been adjusted to 1983 datum).
36. A security system shall be installed as required by Chapter 45, Article I, section 45-2 of the Code of the City of Dover. (*If a business establishment or multi-family dwelling contained in a new, altered or repaired structure*)
37. Approved backflow preventers shall be provided for both fire and domestic water lines.

- 38. The (*existing or proposed*) structure shall be served by a sprinkler system as required by Chapter 81- 30 of the Code of the City of Dover and the adopted State of NH Building and Fire Codes.
- 39. Sprinkler connections must be flushed in accordance with NFPA 24 and a Contractor’s Material and Test Certificate for Underground Piping form must be completed and approved by Inspection Services prior to connection of the backflow device.
- 40. Fire department connection(s) shall be located on the street side of the building per NFPA 13. Access to the FDC shall maintain a clear and unobstructed path at all times.
- 41. The site layout is designed in compliance with applicable accessibility regulations. The proposed structure will be also be designed in accordance with applicable accessibility regulations. (i.e. IBC, ANSI-117.1) and NH RSA 155-A:5.

REMARKS:



BERRY SURVEYING & ENGINEERING

335 Second Crown Point Road

Barrington, NH 03825

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Fax: (603) 335-4623

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City of Dover Planning and Community Development
Attention: Donna Benton Director of Planning and Community Development
288 Central Ave.
Dover, NH 03820

August 12, 2022

RE: 42-44 Third Street TRC #1 Submission
Applicant: Wooden Ruler Realty LLC
Mixed Use Development
CBD-General Subdistrict

Mrs. Benton,

Berry Surveying & Engineering (BS&E) on behalf of the applicant Wooden Ruler Realty LLC and the owners John and Mo Y. Wong, Trustees of The Mo Y. Wong Living Revocable Trust of 2006, are submitting for a full TRC #1 for a project located at 42-44 Third Street. Prior to this submission, we have supplied the planning and engineering staff with site plans and schematic building designs at a site walk on the project site. Since the site walk a second meeting was held where revised site plans and building schematic plans were presented and discussed.

Existing Condition:

The project is located at 42-44 Third Street and is the location of the Asia Restaurant. What is not surfaced by a building is surfaced by a parking lot and travel aisle. The property is made of two parcels of land which front on both Third and Second Street. Tax Map 6, Lots 32 and 40. The property to the east is operated by Ross Furniture. The property to the west on Third Street is Cleary Cleaners, and to the west on Second Street is a residential duplex. The project site is directly across the street from the redeveloped municipal parking lot which included mixed use design and streetscape enhancements to Third Street.

BS&E has surveyed the project sites boundaries and topography. There are minor encroachments on and off the project site. Many of which will be removed during construction. The site, though visually flat, has 9 feet of topographic relief from Third Street to Second Street. There are no wetlands on site or within 50' of the project limits as determined by Deidra Benjamin, CWS. The site is currently serviced by water, sewer and gas, presumed to be provided from Third Street. These connections need further investigation. Power is provided to the northwest corner of the structure overhead from a pole across Third Street. The majority of the project site's stormwater flows towards Second Street. Much of the building's roof runoff is

collected with roof drains and sent out the back of the structure where it ties into a basin in Second Street.

Proposal:

The proposal is to construct a 58 Unit 5 Story structure with parking in the basement level. From the Third Street perspective, the structure will have commercial space at the street elevation, and a subsurface parking structure below that level. Above the commercial space will be 4 stories of residential space which will consist of 1-bedroom, 2-bedroom, and 3-bedroom rental apartments. Due to the elevation change the parking structure will be accessible from Second Street. The perspective from Second Street will be the garage level, the commercial level and three stories of residential use. The 4th story of residential which is visible from Third Street is only partially built out on the building footprint and is setback from Second Street to reduce the visible mass on Second Street. The area setback on the roof deck will be used for mechanical space, as well as green roof and passive recreation space.

Compliance with the CBD-Subdistrict:**Third Street Build-To:**

30 Third Street: +/- 0.0'

18 Third Street: +/- 0.0'

52 Third Street: +/- 34.71'

The average within 250' is 11.57'. 4 Third Street is not included in the above calculations whereas it is technically not within 250', however it is clearly an influential building on the street that helps create the fundamental streetscape theme created by all the other buildings. The existing structure onsite contains a 0' setback. Additionally, 52 Third Street is an outlier for the area. After consultation with the Planning Director, it is determined that despite the calculated build-to setback, the general average and theme of the street is to provide structures that are adjacent to the sidewalk. The project design includes this in the placement of the proposed building.

Second Street Build-To:

35 Second Street: +/-8.6'

29-31 Second Street: +/- 12'

23 Second Street: +/-9.2'

17-19 Second Street: +/-0.0'

11-13 Second Street: +/- 14.4'

The average within 250' is 11.05'. The Build-To requirement is between 6'-16'. The submitted design provides 11.2'. This provides 13.4' from the building face to the back of walk where street scape enhancements are proposed.

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The CBD General Sub-District requires a sideline setback of 0-24'. All other boundaries on the parcel are considered sides. A 4-5' setback to the foundation wall is proposed for constructability of the site as well as separation from abutting buildings.

Third Street Streetscape:

At the site walk with city staff it was determined that pulling the proposed building to the front boundary line increased its conformance in the zone, however it limited the streetscape potential of the site. The current proposal is to extend the curb line out from the existing slightly to increase the sidewalk space at the front of the project site to 7.7' and re-construct the walk with brick. When considering sidewalk plowing and maintenance, this distance is not sufficient to provide street trees or typical furniture without interference. To accomplish this, the centerline of the street would need to be shifted to the north and the street reduced to 20' wide. If this were done the sidewalk could be enhanced another 2.4', which would allow for traditional streetscape enhancements. The issue recognized at the site walk centers around the fact that this re-development has a very small frontage footprint, and to shift the walk and centerline at the front of one site without the consideration for the remaining generates other operational issues for the City of Dover. If the City of Dover has projects in the masterplan or other planning mechanism that would complete the re-development / re-establishment of Third Street, then it would be best if this project conducted the additional re-location along the frontage now and add the streetscape enhancements. Additional shifting of the curb line will result in drainage structures to be re-located and other utility involvement. The current frontage provides for 2 parking spaces while the proposed project design affords 5.

As noted above the existing building is serviced by an overhead utility line across Third Street. In keeping with the City of Dover policy and in keeping with streetscape enhancements the project proposes to place the electrical service under Third Street to a proposed 3-Phase transformer in the north west corner of the building. This area was removed from the building design to place the transformer and required electrical meters. A masonry wall is proposed to carry across the front of the area in line with the structure, and contain a gate with black slats for access by the owner and utility company. Ornamental grass is proposed along the common boundary line to the west to further shield the transformer and mechanical area. Architectural sconce lighting is proposed on the buildings face at the proposed entrances and in the area of the proposed transformer. The street is currently lit by a large cobra head lamp on the north side.

Second Street Streetscape:

Second Street has historically been more residential with some commercial uses / parking and loading areas fronting on the street. The project proposes to re-locate the driveway to the lower (western) side of the property, and re-set / stripe the three parking spaces along the roadway. It should be noted that the parking along Second Street is between 18' and 19' in length and is 8' wide. The proposed striping mimics this design. If larger spaces are preferred there will be a loss of 1 space, which would also increase the distance from the last space and the entrance lane



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of the proposed driveway. The existing sidewalk along Second Street is concrete and is proposed to be re-built along the project's frontage. A bench and barrel are proposed on a concrete pad, and situated on private property. A dedicated pedestrian walk is proposed from Second Street to the garage structure which will tie to an internal walk. Both internal and external walks are accessible. The remaining area is proposed to be planted with varying heights of vegetation. The project frontage along Second Street has historically contained the largest amount of vegetation on the street, though there are other frontages that contain mature overstory and understory. The landscaping design includes 4 street trees to meet the standard of 1 for every 25-30' of frontage. The area is planted with ornamental grasses, as well as larger Inkberry bushes to breakup the building face, and the remaining area. Flower beds are proposed with perennial flowers and wild blue Phlox is proposed as ground cover to fill remaining areas. Building sconces are proposed in three locations for low building lighting and 2 bollard lights are proposed at the driveway entrance. The lighting design is intended to provide adequate light however intends to keep the residential feel of the area. In general, the project proposes a large reduction in lighting onsite. The south side of the street contains a cobra head lamp on a utility pole that provides ample light for the area.

Parking and Garage Design:

The structure proposes a parking facility which will contain 40 spaces. 2 spaces are dedicated for ADA use and 2 spaces provide EV charging capabilities. The garage is designed with 20' aisles (see waiver request) and is proposed to operate in a one-way fashion. The garage provides space for 4 motorcycle / moped spaces and a bike rack for 7 bikes. An elevator and two stairwells are provided to the upper floors. A mail cluster box is proposed with an area for larger box deliveries. Refuse is proposed in the north west corner of the garage and a riser room in the north east corner.

A parking garage is being proposed in-conjunction with this application to be located at 35 Third Street. The balance of the required parking is to be placed in that garage. This is to be filed as a separate application, however is fundamentally tied to the development of this site as well as others in the area.

Utilities:

As noted above underground utilities are to be provided from across Third Street to a proposed transformer. Water is proposed to be re-installed to the site from Third Street and brought into the sub-surface riser room. This room will be required to be conditioned space and is noted on the site plans. Natural gas is currently provided to the north east corner of the structure and is proposed to remain in that location. To obtain gravity sewer out of the floor of the structure, a sewer service is proposed on the Second Street side of the building and will require a new sewer manhole to be placed online. Due to the multiple cuts in Second and Third Street the project is proposing to mill and fill both roads and re-stripe as needed.



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Stormwater:

The overall site contains less impervious surface in the proposed condition due to the implementation of the green roof and other reductions in the project foot print. Roof drains are proposed to tie into Second Street as they do in the existing condition through a series of conveyance structures onsite. Floor drains are proposed in the garage structure and are routed to a drain manhole onsite to be equipped with a deep sump and hood to eliminate solids and floatable material prior to entrance into the MS4 system. With the reduction in impervious surface, the reduction of surface pavements and the implementation of pre-treatment devices the MS4 will see a benefit from improved flow.

Waivers and Conditional Use Permits:

The project proposes a waiver to drive aisle widths and the need for a Site Specific Soils Map. Enclosed herewith are those waiver requests. In addition, the project is requesting Conditional Use Permits for street trees and benches on Third Street. See the above discussion.

We look forward to working with the staff and Planning Board to make this a successful project.

BERRY SURVEYING & ENGINEERING

Christopher R. Berry
Principal, President

**BERRY SURVEYING & ENGINEERING**

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City of Dover, New Hampshire CONDITIONAL USE PERMIT APPLICATION

[Revision Date: October 19, 2020]

Office Use Only	Project #:	_____	Date Received:	_____
	Amount Paid:	_____	Time Received:	_____

APPLICANT AND OWNER INFORMATION

Name of Applicant: Wooden Ruler Realty LLC Telephone # 603-742-5300

Address of Applicant: 35 Third Street, Dover, NH 03820

E-Mail Address: Billtgolds@aol.com

Wong, John & Wong, Mo Y Trustees of The Mo Y. Wong Living Revocable Trust of 2006
Name of Property Owner (if different from applicant): _____ Telephone # _____

Address of Property Owner: 42 Third Street, Dover, NH 03820

PROPERTY INFORMATION

Assessor's Map # 6 Lot(s) # 32 and 40

Address of Property: 42-44 Third Street

Zoning District(s) CBD General Overlay District(s) None

Existing Use of Property: The Asia with 2 Apartments & Parking Lot

CONDITIONAL USE PERMIT INFORMATION

Type of Conditional Use Permit (Check All That Apply):

- | | | |
|--|---|--|
| ☐ Conservation District | ☐ RCM Use Overlay District | ☐ Gateway District |
| ☐ Groundwater Protection | ☐ Off-Street Parking and Loading | ☐ Alternative Treatment Center |
| ☐ Wetland Protection District | ☒ Central Business District | ☐ Heritage Residential District |

Describe Proposed Use or Activity That Requires Conditional Use Permit and Describe Any Impacts:

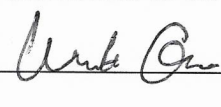
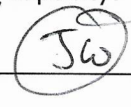
Re-Develop the sidewalk at the front of the project site but not provide street trees or benches

List Any Associated State or Federal Permits That Have Been or Will Be Applied For and Indicate Their Status: None Required

Kenneth A. Berry PE, LLS
Berry Surveying & Engineering
Name of Professional That Prepared Plans: Christopher R. Berry Project Manager
Address 335 Second Crown Point Road Telephone #: 603-332-2863
Barrington, NH 03825
Professional License #: 805 & 14243 E-mail address: Crberry@metrocast.net

SIGNATURES

I/We hereby submit this application to the City of Dover Planning Board and attest that to the best of my knowledge all of the information on this application form and in the accompanying application materials and documentation is true and accurate. As applicant or as agent, I attest that I am duly authorized to act in this capacity.

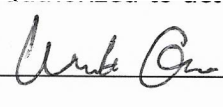
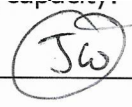
Signature of Property Owner:  /  Date: 8-12-22

Signature of Applicant (if different from owner): _____ Date: _____

Signature of Agent:  Date: 8-12-22

AUTHORIZATION TO ENTER SUBJECT PROPERTY

I, and my successors, hereby authorize members of the Dover Planning Board, Planning Department and other pertinent City Departments and boards to enter my property for the purpose of evaluating this application, including performing inspections during the application phase, post-approval phase, construction phase and occupancy phase. It is understood that these individuals must use all reasonable care, courtesy, and diligence when on the property.

Signature of Property Owner:  /  Date: 8-12-22

CITY OF DOVER CONDITIONAL USE LIST OF ABUTTERS

Pursuant to RSA 676:4, the State Law of New Hampshire, the City of Dover is required to notify the applicant, abutters (including holders of conservation easements), and any professional whose seal is on the plan, of the public hearing by certified mail, return receipt requested. Staff will provide the abutter information, while the applicant must provide accurate contact information for the owner, applicant and professional agents representing the project.

Owner:

TAX MAP	LOT #	PROPERTY OWNER	MAILING ADDRESS

Applicant (if different from owner):

APPLICANT NAME	APPLICANT COMPANY	MAILING ADDRESS

Surveyor and/or Engineer/Professional Agent:

NAME	COMPANY	MAILING ADDRESS

Conservation Easement Holder:

TAX MAP	LOT #	NAME OF EASEMENT HOLDER	MAILING ADDRESS

PLANNING BOARD FEE SCHEDULE/INVOICE

(Revised July 1, 2021)

Below are the fees associated with plan review and are subject to a nonrefundable application fee to cover administrative expenses. Please complete the information below and provide payment with your application submittal. **Plan Review Fees shall be paid prior to technical review committee (TRC) being scheduled.** For plans not requiring TRC review, **fees are due 21 days prior** to the Planning Board meeting. Staff will coordinate abutter/notice fees, which will be invoiced and must be paid 28 hours before the Planning Board meeting for an application to be heard. Fees shall be paid by cash or check made payable to "City of Dover".

A. Plan Review Fees

1. Application fee for the following (SELECT ALL THAT APPLY):

- ☐ SUBDIVISION Application fee \$200.00 + \$150.00 x # _____ new lots created = \$ _____
- ☐ LOT LINE ADJUSTMENT Application fee \$200.00 + \$100.00 X # _____ of lots involved = \$ _____
- ☐ TRANSFER OF DEVELOPMENT RIGHTS Application fee \$200.00 = \$ _____
- ☐ SITE REVIEW – RESIDENTIAL Application fee \$200.00+ \$100.00 x # _____ per dwelling unit = \$ _____
- ☐ SITE REVIEW – NON-RESIDENTIAL Application fee \$200.00 + (not to exceed \$10,000)
 - ☐ New construction \$.15 sq. ft. x # _____ sq. ft.= \$ _____
 - ☐ Additions (new floor space) \$.10 per sq. ft. x # _____ sq. ft.= \$ _____
- ☐ MOTEL/HOTEL \$35.00 x # _____ per lodging unit= \$ _____
- ☐ CHANGE OF USE Application fee \$200.00 + (not to exceed \$5,000)
 - ☐ Existing floor spaces \$.10 per sq. ft. x # _____ sq. ft. = \$ _____
- ☐ CONDITIONAL USE PERMIT Application fee \$200.00 x # _____ per Application = \$ _____
- ☐ GRAVEL PIT/ EXCAVATIONS
 - ☐ Application fee \$50.00= \$ _____
 - ☐ Permit fee \$75.00= \$ _____
- ☐ EXTENSIONS/AMENDMENTS/WAIVERS FOR AN APPROVED PLAN Application fee \$200.00 = \$ _____
- ☐ REQUEST FOR REZONING Application fee \$200.00 = \$ _____
- ☐ DRIVEWAY WAIVER Application fee \$200.00 = \$ _____

- 2. TOTAL IMPERVIOUS PAVED AREA** (for new development, roadways or additions to existing parking lots, (not to exceed \$10,000)) Application fee of \$200.00 is N/A if it is part of a Site Review or Subdivision Plan. \$200.00 + \$.07 per sq. ft. x # _____ sq. ft. = \$ _____

SUBTOTAL PLAN REVIEW FEE (A) = \$ _____

AND

- B. Abutter Notification/Mailing Labels** - this office will create and print the abutter list and provide labels in triplicate for each abutter. The applicant/owner will review the list for accuracy and provide to us the engineer, architect, licensed land surveyor (LLS), licensed landscape architect (LLA) and/or soil scientist whose professional seal appears on the plan with names and addresses for notices.

- ☐ Applicant & Owner, engineer, architect, LLS, LLA and/or soil scientist
 - ☐ Certified letters fee # _____ of x \$8.00= \$ _____
- ☐ Certified letters fee: # of abutters _____ X \$8.00= \$ _____
- ☐ First Class Mail fee (for individual owner of units within a condominium or other collective form of ownership): # of abutters _____ X \$1.00= \$ _____
- ☐ Creating/Printing Abutter Labels in triplicate per sheet _____ x \$10.00= \$ _____

- C. Foster's newspaper public notice fee \$100.00 x # _____ applications = \$ _____**

SUBTOTAL NOTICE FEE (B & C) = \$ _____

TOTAL INVOICE AMOUNT (A, B & C) = \$ _____

PLAN REVIEW FEE COLLECTED/PAID = \$ _____

BALANCE DUE = \$ _____

The balance due must be paid 28 hours prior to the Planning Board Meeting, to be heard.



BERRY SURVEYING & ENGINEERING

335 Second Crown Point Road
Barrington, NH 03825
Phone: (603) 332-2863
Fax: (603) 335-4623
www.BerrySurveying.Com

August 12, 2022

City of Dover Planning Board
Attention: Donna Benton, Director of Planning and Community Development
288 Central Ave
Dover, NH 03820

Re: Mixed Use Site Plan CBD-General District
Wooden Ruler Realty, LLC
42-44 Third Street
Tax Map 6, Lots 32 & 40

Chairperson & Members of the Dover Planning Board:

Pursuant to Zoning Regulations (Chapter 170-20 B,) Berry Surveying & Engineering (BS&E), on behalf of Wooden Ruler Realty, respectfully requests the City of Dover Planning Board approve the following Revised Conditional Use Permits:

- Streetscape Standards, removal of street trees and bench on Third Street.

Background:

Wooden Ruler Realty LLC, is proposing a mixed-use building in the CBD – General Subdistrict, which requires a street tree to be placed every 25-30' and a bench to be placed along the frontage.

1. Identification of Conditional Use Permits

A CUP requesting the reduction of the streetscape requirements on the Third Street side of the proposed project. As noted in the Project Narrative, the re-aligned sidewalk does not provide enough space for winter maintenance to provide street trees and a bench along the frontage of Third Street. To achieve this, a larger municipal project would be needed to aid in the re-alignment of the remainder of Third Street to the east.

Below we show the project's compliance with the standards required to grant a Conditional Use Permit, and we provide justification for its approval.

2. Compliance with the following standards

- a) That both public and private buildings and landscaping shall contribute to the physical definition of rights of way as civic spaces.

- **The proposed building design is in keeping with the requirements of the CBD and creates the visual public space. The sidewalk is enhanced to a brick standard as is required to define the space at the front of the site.**
- b) That development shall adequately accommodate automobiles, while respecting the pedestrian and the spatial form of public areas.
- **The site is designed to increase the traffic safety of Third Street, increase parking and increase the pedestrian safety with the increased width of the walk. The project better defines the walk and civic space through the removal of a driveway and parking lot resulting in the creation of one consistent building façade.**
- c) That the design of streets and buildings shall reinforce safe environments.
- **The site is designed so that the front building is inline with the newly built buildings adjacent to the project site. The new building architecture and lighting design along with wider more inviting sidewalks increases the warmth and safety of the area which was previously lacking on this end of Third Street.**
- d) That architecture and landscape design shall grow from local climate, topography, history, and building practice.
- **The buildings are designed around the topographic constraints on the site while still considering the need for streetscape designs.**
- e) That buildings shall provide their inhabitants with a clear sense of geography and climate through energy efficient methods.
- **The building will have new modern architecture with central entrances for the residents and commercial spaces. Modern building codes along with urban window design provide for additional light not recognized in older buildings and design.**
- f) That civic buildings and public gathering places shall be provided as locations that reinforce community identity and activity.
- **The project accomplishes this through the widening of the walks on Third Street and the pocket park created on Second Street.**
- g) That civic buildings shall be distinctive and appropriate to a role more important than the other buildings that constitute the fabric of the city.
- **The redevelopment of this project site will re-establish the street to be in kind with the other buildings in the area. The existing structure, though brick, does not have the same appeal or invitation as the urbanized area around it. The proposal takes an antiquated site design and re-**



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develops it in kind with the abutting sites on Third Street and Central Ave.

- h) That the preservation and renewal of historic buildings shall be facilitated.
 - **The architectural features applied to the building were taken from abutting structures that pre-date the existing site.**
- i) That the harmonious and orderly evolution of urban areas shall be secured through the adoption of these regulations.
 - **The harmonious and orderly evolution of the urban area is secured in the redevelopment of the project site in the manner in which it is presented. It creates urban enhancements along the corridor as well as internal to the project on a site that in its existing condition has more suburban attributes and is antiquated in its use, design and layout.**

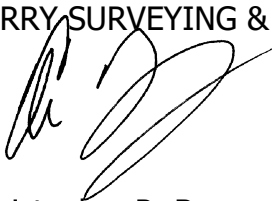
3. Justification for approval of Conditional Use Permits

The existing site as it is used, is not the highest and best use of the property. It contains nearly none of the attributes the remaining CBD zone has or aims to create, with minor exceptions. The project design incorporates all of the required elements of urban design with the exception of the streetscape enhancements of street trees and benches. To achieve this goal, the center of the street would need to be relocated 2.4' north. The remainder of Third Street to the east would require the same treatment so as not create a disjointed traffic and parking pattern which would cause municipal issues within the corridor. It is also important to note that the southern side of the street does not contain any other street trees or bench placement. A re-alignment would be required from Central to at least the project site and possible beyond to Chestnut Street. The project currently proposes an increase in walk area to best comply with the requirements and vision of the zone.

Thank you for your time and attention to this matter, and we hope you look favorably upon the request.

Respectfully Submitted,

BERRY SURVEYING & ENGINEERING



Christopher R. Berry
Principal, President



BERRY SURVEYING & ENGINEERING

335 Second Crown Pt. Rd., Barrington, NH 03825

(603) 332-2863 / (603) 335-4623 FAX

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August 12, 2022

City of Dover Planning Board

Attention: Donna Benton, Director of Planning and Community Development

288 Central Ave

Dover, NH 03820

Re: Mixed Use Site Plan CBD-General District

Wooden Ruler Realty, LLC

42-44 Third Street

Tax Map 6, Lots 32 & 40

Chairperson & Members of the Dover Planning Board:

In accordance with the Site Review Regulations, the following waiver is hereby requested:

1. Identification of Waiver Request: Submission of a Site Specific Soils Map as part of a site plan application. Chapter 153-14(A)(3)(f)(2)(C)

- Site Plan application without a Site Specific Soils Map (SSSM).

2. Explanation:

The site is small and currently completely either developed or disturbed in some way. The use of the SSSM is for the purposes of analyzing peak rates of runoff from larger project sites. In this instance the Natural Resources Conservation Service (NRCS) soils were used. With the project size being small any potential variance would not appreciably change the results of the analysis.

3. Waiver Justification:

a. Granting the waiver will properly carry out the purpose and intent of the regulations.

The intent of this regulation is to ensure that proper data is collected in relation to soils so that the project drainage can be designed accordingly. Given the use of the NRCS Web Soil Survey, and the fact that the site is small, the variation from pre-development and post-development curve numbers is minor. This regulation is more relevant to

42-44 Third Street

Wooden Ruler Realty LLC

August 12, 2022

projects that will utilize septic systems or that contain existing natural areas larger in proportion to the project size. Additionally the project proposes a decrease in impervious surface which reduces the need for the underlying calculation.

b. Strict conformity to the regulations would pose an unnecessary hardship to the applicant.

Strict conformity to this regulation will require the applicant to involve a NH certified soils scientist, who will have to go on site and delineate the soils type on a site with uniform soils. Additionally, the site is mostly disturbed, so any soil survey conducted would be similar to the NRCS Soils Map.

2: Identification of Waiver Request: 153:14 (D)(6)(b)

- Parking Aisle Width

3. Explanation:

The project proposes a one-way access aisle that is 20' in width in the parking garage structure. In one location in the garage this aisle has two rows of parking adjacent to it, which preferably would contain 24'

3. Waiver Justification:

a. Granting the waiver will properly carry out the purpose and intent of the regulations.

The intent of this regulation is to ensure that proper turning movements can take place without hazard to patrons or pedestrians. In this case the lane is 20 and is adjacent to ADA spaces and is located in a garage structure where operational movements are typically slower. The 20' aisle in this limited area allows the parking structure to operate properly.

b. Strict conformity to the regulations would pose an unnecessary hardship to the applicant.

Strict conformity would cause the removal of 3 parking spaces within the garage structure and create unused spaced.

Thank you for your time and attention to this matter and we hope you look favorably upon the request.

BERRY SURVEYING & ENGINEERING

Christopher R. Berry

Principal, President



BERRY SURVEYING & ENGINEERING

335 Second Crown Point Road

Barrington, NH 03825

Phone: (603) 332-2863

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www.BerrySurveying.Com

August 11, 2022

City of Dover Planning Department

Attn: Director of Department of Planning and Community Development Ms. Donna Benton

288 Central Ave.

Dover, NH 03820

RE: Traffic Impact Analysis & Distribution

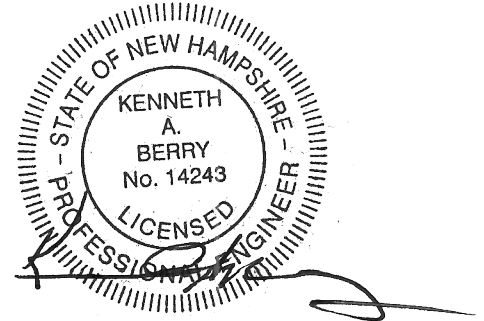
John Wong & Mo Y Wong, Trustee of the

Mo Y. Wong Living Revocable Trust of 2006

Wooden Ruler Realty, LLC

42-44 Third Street (Residences and Shops at 42-44 Third)

Dover, NH 03820



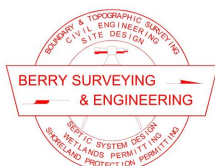
Mrs. Benton,

Pursuant to the City of Dover Site Review Regulations, Berry Surveying & Engineering (BS&E), on behalf of Wooden Ruler Realty, LLC, has prepared a Standard Traffic Impact Analysis for the development of a five-story mixed-use building with two commercial/retail units and fifty-eight (58) residential units proposed at 42-44 Third Street. There are several points of analysis, including: Trips generated at 42-44 Third Street, trips generated at 25-27 Second Street, trips generated at a proposed parking garage located at 35 Third Street, and trips generated to a proposed round-about at the intersection of Chestnut and Third Street from these analysis points. The following conclusions were reached from this Traffic Impact Analysis:

- A total build generation of 386 vehicle trips are predicted to occur on a weekday, 20 vehicle trips (8 enter/12 exit) at the AM peak hour and 31 vehicle trips (16 enter/15 exit) at the PM peak hour for the entire project.
- A total build generation of 159 vehicle trips are predicted to occur on a weekday, 5 vehicle trips (4 enter/1 exit) at the AM peak hour and 13 vehicle trips (5 enter/8 exit) at the PM peak hour at 42-44 Third Street.
- A total build generation of 125 vehicle trips are predicted to occur on a weekday, 8 vehicle trips (2 enter/6 exit) at the AM peak hour and 10 vehicle trips (6 enter/4 exit) at the PM peak hour at 25-27 Second Street.
- An additional 65 vehicle trips are predicted to occur on a weekday, 10 vehicle trips at the AM peak hour and 3 vehicle trips at the PM peak hour contributing to the proposed Round-About at the intersection of Chestnut and Third Street from no-build condition.
- This is a total project increase in trip generation of 161 weekday trips, 20 AM peak hour trips and an increase of 10 PM peak hour trips from the no-build condition. It is recommended that the existing and proposed infrastructure, will be sufficient to handle the projected increase in vehicle trips at the peak hour and all other hours.

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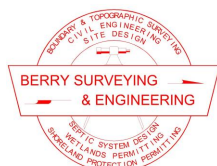


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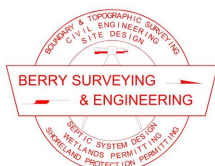


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Proposed Development & Introduction

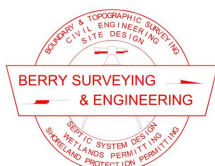
The proposal is to redevelop Tax Map 6, Lot 32 and Lot 40 to contain a five-story mixed-use building containing two commercial/retail units and resident storage on the first floor and fifty-eight (58) residential units on the second-fifth floors. This building will be referred to as the Residents and Shops at 42-44 Third. The building is stepped one level lower from Third to Second Street so that it remains five stories from Second and Third Street. The proposed commercial/retail use will generate traffic to 42-44 Third Street/on street parking. The residential trip generation will be created at two locations. Approximately 55% of the residential parking required is serviced in basement level parking, accessed from 25-27 Second Street. The other approximately 45% of trips generated will occur off-site at a proposed parking garage located at 35 Third Street. Traffic impact analyses have been submitted separately for all proposed trips generated by the different residential uses for this proposed parking garage. This off-site parking garage located at 35 Third Street is approximately 1,000 feet from the proposed mixed-use building and will service other residential projects in the area. The Dover Transportation Center, providing rail and bus service, is located on the walk between the garage and proposed mixed-use building.

There are several points of analysis: Trips generated by 42-44 Third Street, trips generated by 25-27 Second Street, trips generated by a proposed parking garage located at 35 Third Street (supplies partial residential parking for proposed apartments), and trips generated to a proposed round-about at the intersection of Chestnut and Third Street from these analysis points. The purpose of this analysis is to determine the maximum number of trips coming to and leaving these points of analysis during certain peak periods of the day. This information is then used in determining the impact on safety as it relates to the existing roadway infrastructure. This information is also used to determine the difference in trips generated to the proposed round-about from a no-build and build situation. The following components of the analysis are typical for a project of this size pursuant to the Institute of Traffic Engineers (ITE) manual.

Existing Conditions

Existing Site Description

The existing site for the proposed mixed-use building consists of two lots, Tax Map 6, Lots 32 and 40. These parcels contain 13,964 Sq. Ft. (0.31 Ac.) and 9,000 Sq. Ft. (0.21 Ac.) of land, respectively. Tax Map 6, Lot 32 has frontage on Third Street (42-44 Third Street) and is primarily occupied by the “Asia” Restaurant with two apartments above and parking spaces, all proposed to be removed. Tax Map 6, Lot 40 is almost entirely a paved parking lot, proposed to be removed. Tax Map 6, Lot 40 has frontage on Second Street (25-27 Second Street). Both lots are in the CBD General Sub-district and are surrounded by commercial and residential lots. The site is close to (300-400’) from Chestnut Street to the West and Central Avenue to the east.



The existing site for the proposed parking garage is, Tax Map 31, Lot 22, containing 14,233 Sq. Ft. (0.33 Ac.) of land. Tax Map 31, Lot 22 has frontage on Third Street (35 Third Street) and Grove Street (7-9 Grove Street) and is primarily occupied by a mixed-use structure with an office, apartments, and parking spaces, all proposed to be removed. This parking garage will partially support the residential parking needs for projects located at 42-44 Third Street and 1 Grove Street, and entirely for 5 Grove Street. Traffic Analyses for these locations are under separate Site Plan applications. This site is located at the intersection of Third Street and Grove Street.

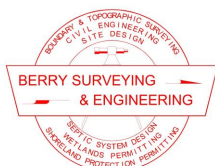
Third Street, Second Street, Chestnut Street, and Central Avenue Descriptions

In the area of the project, Third Street is a two-way local road that runs east to west. The intersection of Third St and Chestnut St has two legs to the east for left/straight movements and right turn movements. Third Street to the east is marked as a single lane. A railroad line to the Dover Transportation Center traverses the center of this intersection and is active multiple times per day. Rail-road signals and crossing bars are present at all legs of this intersection. The intersection is stop controlled at both legs of Third Street with no control treatment besides railroad crossing treatment for Chestnut Street. This intersection is important in the analysis, as this intersection is proposed to be upgraded to a round-about as part of City of Dover improvements. An objective of this analysis is to determine the increase in trips generated to the intersection from the no-build situation. A schematic of this intersection is shown in Appendix C.

The intersection of Third Street and Central Ave is stop controlled at Third Street and is adjacent to the signalized intersection of Central Ave/Main Street/Broadway. Third Street is composed of a thirty-four foot wide paved surface with on street parking and a sidewalk with vertical granite curbing on the north and south sides of the road. There is centerline delineation provided. There is no posted speed limit, so the non-posted speed limit in residential areas is 30 miles per hour (MPH). The geometry of Third Street is relatively flat and straight in the project location. There are sidewalks, crosswalks, and pedestrian crossing signs around the project.

In the area of the project, Second Street is a one-way local road that runs west to east. Trips enter from Central Avenue and exit to Chestnut Street. The intersection of Second St/Chestnut St/Dover Transportation Center is stop controlled at Second Street with a right and left turn lane and stop controlled at the Dover Transportation Center with no control treatment for Chestnut Street. Vehicles at the intersection of Central Ave and Second Street can freely make turns onto Second Street, depending on the queue length of Central Ave.

Second Street is composed of a thirty-six foot wide paved surface with on street parking and a sidewalk with vertical granite curbing on the north and south side of the road. There is no centerline delineation or fog / edge lines provided. There is no posted speed limit, so the non-posted speed limit in residential areas is 30 miles per hour (MPH). The geometry of Second



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Street is relatively flat and straight in the project location. There are sidewalks, crosswalks, and pedestrian crossing signs around the project.

Chestnut Street is a two-lane major collector road, according to the NHDOT MS2 Transportation Management System (NHDOT). At the intersection of Chestnut Street and Second Street, there is a left turn lane for both northbound traffic to the Dover Transportation Center in addition to north and southbound lanes. The intersection of Chestnut and Third Street is previously discussed. This road provides access to Sixth Street/Washington Street to the north and Washington Street/Central Ave. to the south. It has an Average Annual Daily Traffic (AADT) of approximately 12,647 (2021) divided between north and south, also as shown by the NHDOT. There are sidewalks, crosswalks, and pedestrian crossing signs around the project. Full traffic counts of the summarized volumes in the following section can be found online on the NHDOT MS2 system, location ID 82125029.

At the intersection of Third Street and Central Ave, Central Ave is a one-way minor arterial road, according to the NHDOT MS2 Transportation Management System. Central Avenue in the area of the project contains two lanes for southbound traffic. Central Ave provides access to NH Route 16 and Somersworth to the north and access to NH Route 16 and Durham to the south. It has an Average Annual Daily Traffic (AADT) of approximately 12,875 (2021) southbound, also as shown by the NHDOT. There are sidewalks, crosswalks, and pedestrian crossing signs around the project. Full traffic counts of the summarized volumes in the following section can be found online on the NHDOT MS2 system, location ID 82125066.

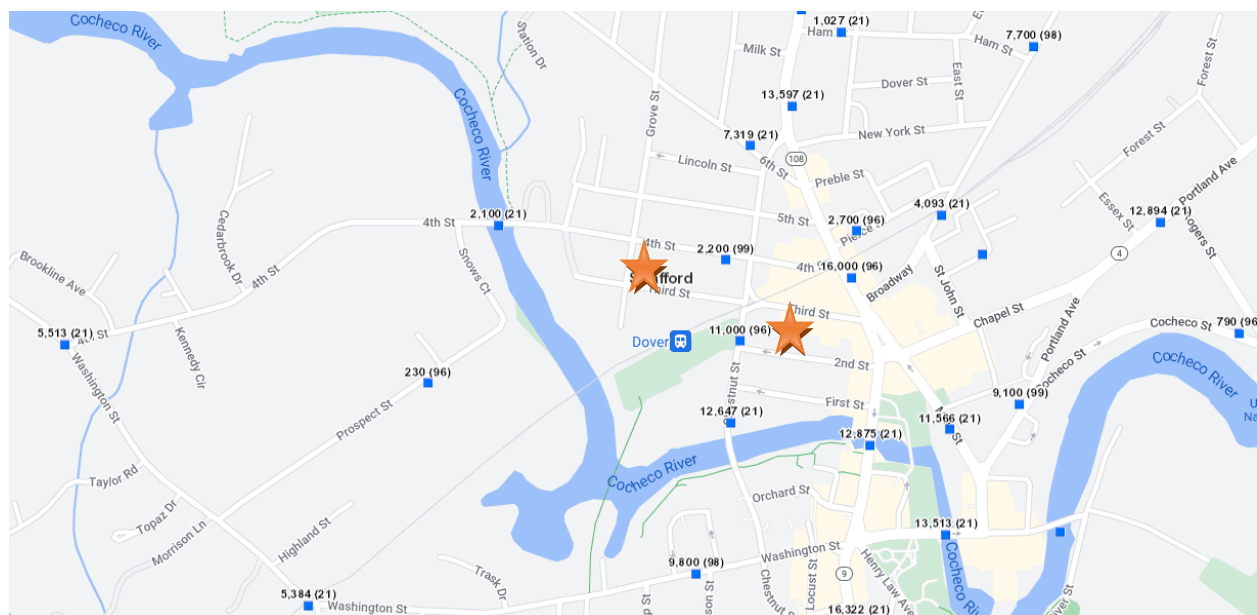


Figure 1: Third Street, Second Street, Chestnut Street, and Central Avenue and surrounding roadways showing public transportation (NHDOT) (35 Third St & 42-44 Third St highlighted)



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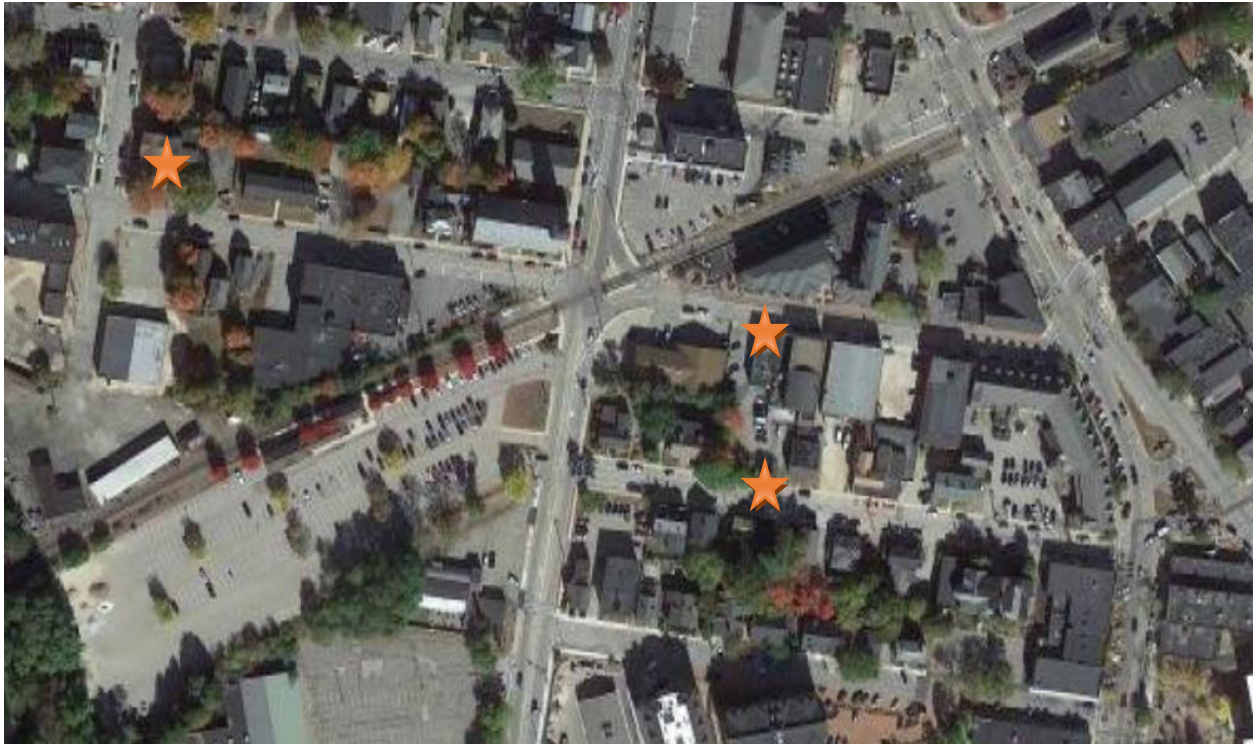
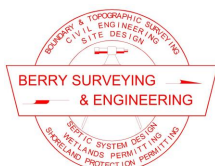


Figure 2: 42-44 Third Street (top right), 25-27 Second Street (bottom right), 35 Third Street (top left)

Existing Traffic Volumes

According to traffic counts recorded by the NHDOT for June 11 - October 13, 2019, the Chestnut Street AM and PM two-way peaks were 1,092 trips and 1,508 trips, respectively. It was found that Chestnut Street has an AADT of 12,647 vehicles (2021).

The highest peak hour traffic volume on this section of Chestnut Street northbound occurred from 8-9 AM with 563 vehicles and from 5-6 PM with 785 vehicles. Southbound highest peak hour traffic volume occurred from 7-8 AM with 578 vehicles and from 5-6 PM with 813 vehicles. Table #1 shows the traffic direction breakdown of Chestnut Street and Figures #3-5 are graphical representations of the traffic variations occurring throughout the day.



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Traffic Distribution Chestnut Street						
Date	Northbound		Southbound		Two-Way	
Tuesday 6/11/2019	AM Peak	511	AM Peak	548	AM Peak	1025
	PM Peak	785	PM Peak	765	PM Peak	1477
Wednesday 6/12/2019	AM Peak	514	AM Peak	578	AM Peak	1092
	PM Peak	695	PM Peak	813	PM Peak	1508
Thursday 6/13/2019	AM Peak	563	AM Peak	536	AM Peak	1009
	PM Peak	672	PM Peak	683	PM Peak	1355
Average Peak Hour Traffic	AM Peak	529	AM Peak	554	AM Peak	1042
	PM Peak	717	PM Peak	754	PM Peak	1447
% Distribution	AM Peak	48.9	AM Peak	51.1		
	PM Peak	48.8	PM Peak	51.2		
	Weekday	50.9	Weekday	49.1		

Table 1: Directional breakdown of trips occurring on Chestnut Street

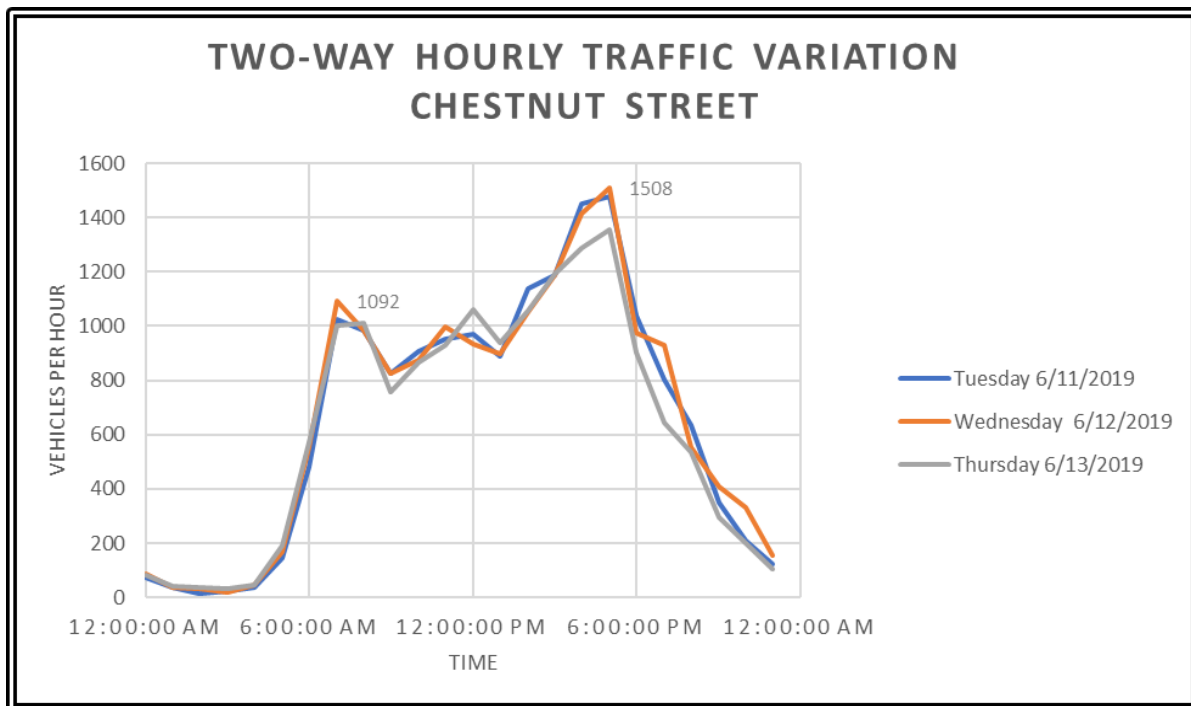


Figure 3: Graph of Chestnut Street two-way hourly variation with peak hour values

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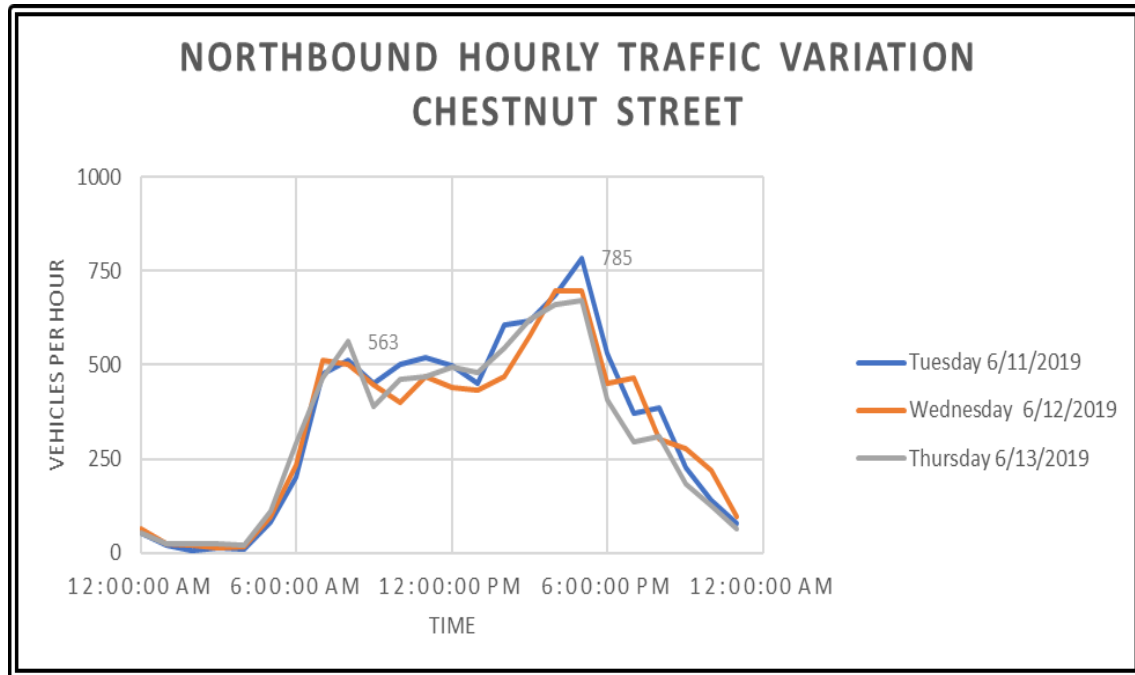


Figure 4: Graph of Chestnut Street northbound hourly variation with peak hour values

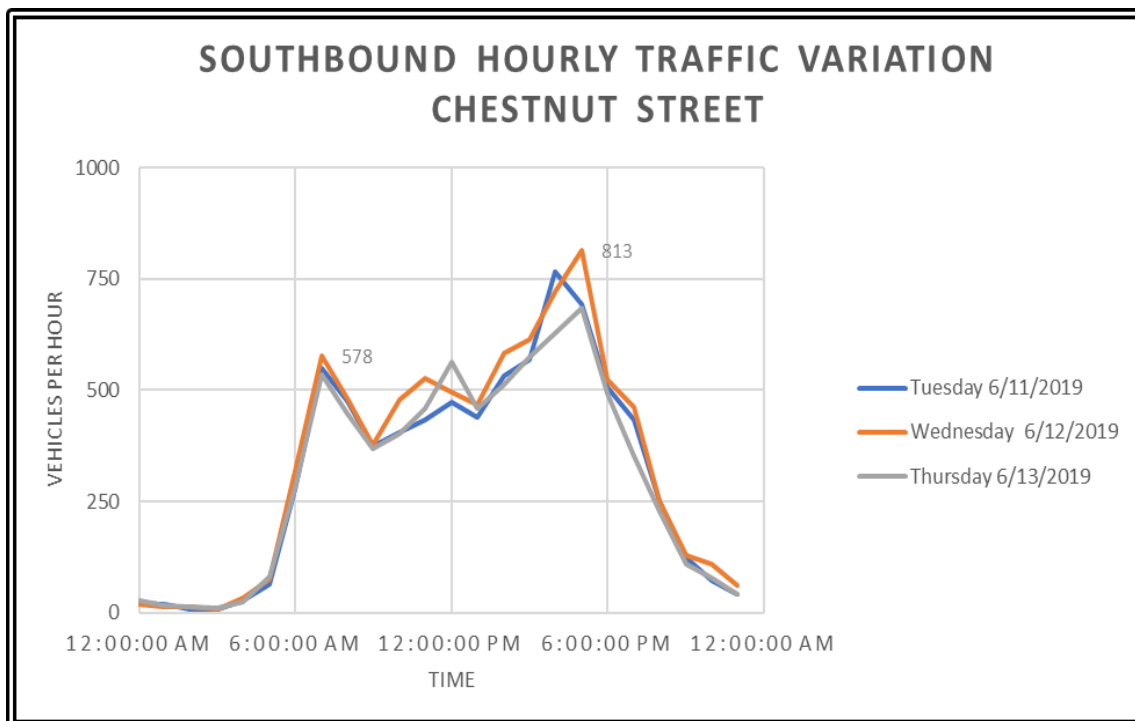
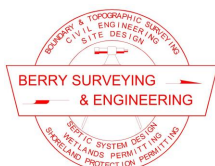


Figure 5: Graph of Chestnut Street southbound hourly variation with peak hour values



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According to traffic counts recorded by the NHDOT for July 14 – July 16, 2020, the highest Central Avenue peak hour traffic volume occurred from 8-9 AM with 425 vehicles and from 5-6 PM with 985 vehicles. It was found that Central Avenue has an AADT of 12,777 vehicles. Table #2 shows the traffic direction breakdown of Central Avenue and Figure #6 is a graphical representation of the traffic variations occurring throughout the day.

Traffic Distribution Central Avenue		
Date	Southbound	
Tuesday 7/14/2020	AM Peak	842
	PM Peak	934
Wednesday 7/15/2020	AM Peak	804
	PM Peak	985
Thursday 7/16/2020	AM Peak	809
	PM Peak	957
Average Peak Hour Traffic	AM Peak	818
	PM Peak	959

Table 2: Directional breakdown of trips occurring on Central Avenue

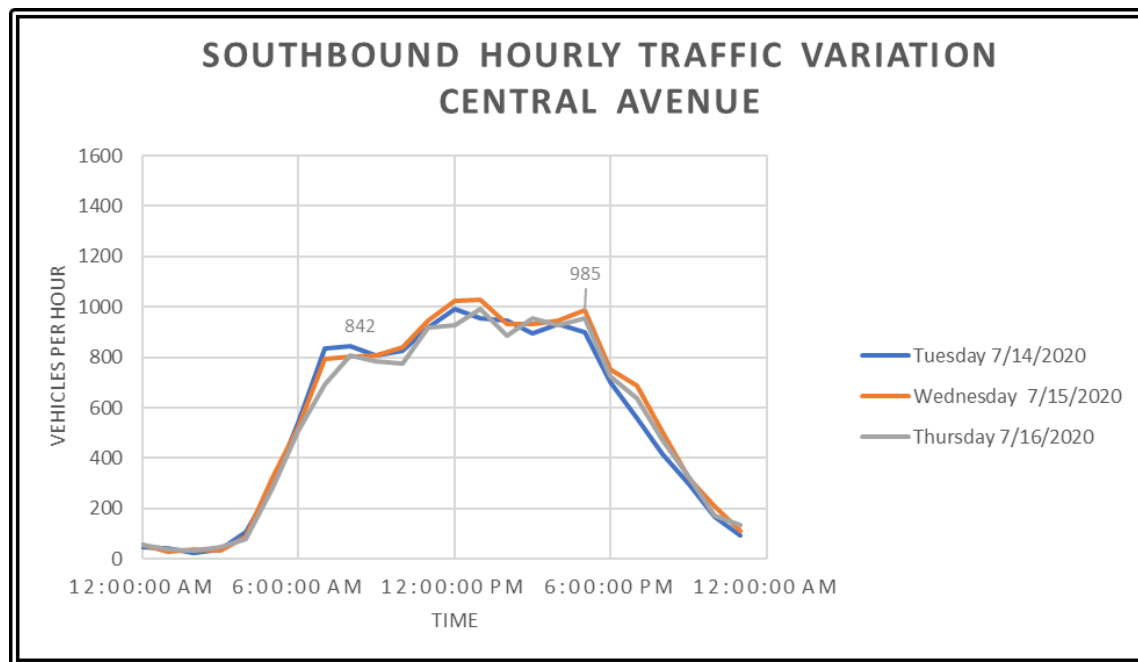


Figure 6: Graph of Central Avenue two-way hourly variation with peak hour values

By examining the traffic patterns of Chestnut Street and Central Avenue, it is seen that the roadways experience similar volumes of traffic, but occur at different times of the day. Chestnut Street appears to be subjected to proportionally larger peak hour increases in traffic volumes, while Central Avenue appears to have more consistent volumes of traffic throughout the day.



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Both roads show an increase in traffic volumes from the AM peak hour to the PM peak hour. For Chestnut Street, volumes of traffic decrease by approximately 25% from the AM peak hour to the mid-day hours, before increasing by approximately 45% of the PM peak hour. For Central Avenue, the AM and PM peak hour traffic volumes are fairly close in relation. There is a steady increase in trip volume from the AM peak hour to the PM peak hour. Central Avenue does not experience the type of fluctuations in traffic volume that Chestnut experiences throughout the day. For the purposes of the directional distribution of Third Street traffic volumes the ratio of the total AADTs of Chestnut Street and Central Ave is used. The directional distribution for utilized for Third Street is shown in the following table. Trips generated to 42-44 Third Street from Central Ave and Chestnut Street will be nearly identical using this method.

Traffic Directional Distribution Third Street				
Eastbound (To Central Ave)			Westbound (To Chestnut St)	
% Distribution	AM Peak	50.5	AM Peak	49.5
	PM Peak	50.5	PM Peak	49.5
AADT	Central Ave: 12,875		Chestnut Street: 12,647	

Figure 7: Directional Distribution Third Street

Existing Vehicle Speeds

As previously mentioned, Third Street, Second Street, Chestnut Street, and Central Ave are all governed by the city-wide speed limit of 30 MPH. It has been observed by Berry Surveying & Engineering that speeds in the area of the project site are not excessive. The exception is vehicle traffic heading southbound on Chestnut Street, while excessive speeds were rare, and most operators obeyed the posted speed limits within a deviation of 5 MPH. This is consistent with speeds found on urban roads. The 85th percentile for the purposes of this study it is assumed that the majority of operators obey the 30 MPH Dover speed limits for Third Street and Second Street.

Proximity to Public Transportation

The proposed build out presents an excellent opportunity for the utilization of public transportation for residents and guests alike. Approximately 400 feet to the west is the Dover Transportation Center. The Dover Transportation Center provides park and ride access as well as access to Coast busses, UNH busses, and rail access with Amtrak service. There are sidewalks and crosswalks that allow for safe access from the site. In addition, approximately 300 feet to the east at the corner of Third Street and Central Ave is a Coast bus stop, Route 2, Third Street/Central Ave. There are sidewalks and crosswalks that allow for safe bus stop access from the site as well. Utilization of these routes also presents an opportunity for a reduction of trips generated by the site and will be discussed later in the analysis. Figure 1, (page 7), shows the locations of bus stops surrounding the site. There is crosswalk and sidewalk access from 42-44 Third Street to the parking garage at 35 Third Street.



Existing Trip Generation

The 10th Edition ITE Trip Generation Manual was used to determine the existing volume of trips. Along with the percentage of entrance-to-exit traffic experienced during the AM & PM peak hours between 7 and 9 AM and 4 and 6 PM. Land Use Codes Multi-Family Housing (Mid-Rise) (221) and Quality Restaurant (931) were used in deriving the trip generation for the existing site. Trip generations were then modified based on the Transportation Research Board's Transit Cooperative Research Program Report 128 entitled *Effects of TOD on Housing, Parking, and Travel*, which states that for a community with access to a small transit system, 72% of commuters are commuters by automobile. Therefore, 72% of the calculated ITE trip generation was used in each. Tables 3 and 4 provide average trip rate, total trips generated, enter to exit ratio, and the enter to exit distribution. Table 5 shows the total existing trip generation during the AM and PM peak hours. Tables 6 and 7 break down the trips by location. All trips enter the subject parcel from 42-44 Third Street (one way parking lot) and exit to 25-27 Second Street.

Multi-Family Housing (Mid Rise) No-build Trip Generation:

Time Method	Weekday Total Dwelling Units			Time Method	AM Peak Adj. Street Traffic Dwelling Units			Time Method	PM Peak Adj. Street Traffic Dwelling Units		
# Units	2			# Units	2			# Units	2		
Avg. Rate	5.44			Avg. Rate	0.36			Avg. Rate	0.39		
Total Trips	10.9			Total Trips	0.7			Total Trips	0.8		
Reduced Trips	7.8			Reduced Trips	0.5			Reduced Trips	0.6		
% Enter	50.0	Total Enter	3.9	% Enter	26.0	Total Enter	0.1	% Enter	61.0	Total Enter	0.3
% Exit	50.0	Total Exit	3.9	% Exit	74.0	Total Exit	0.4	% Exit	39.0	Total Exit	0.2

Table 3: (Apartments) No-Build trip generation

Quality Restaurant (Asia Restaurant) No-Build Trip Generation:

Time Method	Weekday Total 1,000 SF GFA			Time Method	AM Peak Adj. Street Traffic 1,000 SF GFA			Time Method	PM Peak Adj. Street Traffic 1,000 SF GFA		
GFA (Ft. Sq.)	3.6			GFA (Ft. Sq.)				GFA (Ft. Sq.)	3.6		
Avg. Rate	83.84			Avg. Rate				Avg. Rate	7.8		
Total Trips	301.8			Total Trips	No AM Peak Hour Generation Opens at 11:30 AM			Total Trips	28.1		
Reduced Trips	217.3			Reduced Trips				Reduced Trips	20.2		
% Enter	50.0	Total Enter	108.7	% Enter				% Enter	67.0	Total Enter	13.5
% Exit	50.0	Total Exit	108.7	% Exit				% Exit	33.0	Total Exit	6.7

Table 4: (Asia Restaurant) No-Build trip generation

No-Build Trip Generation:

Total Generation No-Build Situation											
Time	Weekday Total			Time	AM Peak Hour			Time	PM Peak Hour		
Total Trips	225.1			Total Trips	0.5			Total Trips	20.8		
% Enter	50.0	Total Enter	112.6	% Enter	26.0	Total Enter	0.1	% Enter	66.8	Total Enter	13.9
% Exit	50.0	Total Exit	112.6	% Exit	74.0	Total Exit	0.4	% Exit	33.2	Total Exit	6.9

Table 5: No-Build trip generation



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No-Build Trip Generation by 42-44 Third Street:

No-Build Trips Generated at 42-44 Third Street											
Weekday Total				AM Peak Hour				PM Peak Hour			
Time				Time				Time			
Total Trips	112.6			Total Trips	0.1			Total Trips	13.9		
% Enter	100.0	Total Enter	112.6	% Enter	100.0	Total Enter	0.1	% Enter	100.0	Total Enter	13.9
% Exit	0.0	Total Exit	0.0	% Exit	0.0	Total Exit	0.0	% Exit	0.0	Total Exit	0.0

Table 6: No-Build trip generation by 42-44 Third Street**No-Build Trip Generation by 25-27 Second Street:**

No-Build Trips Generated at 25-27 Second Street											
Weekday Total				AM Peak Hour				PM Peak Hour			
Time				Time				Time			
Total Trips	112.6			Total Trips	0.4			Total Trips	6.9		
% Enter	0.0	Total Enter	0.0	% Enter	0.0	Total Enter	0.0	% Enter	0.0	Total Enter	0.0
% Exit	100.0	Total Exit	112.6	% Exit	100.0	Total Exit	0.4	% Exit	100.0	Total Exit	6.9

Table 7: No-Build trip generation by 25-27 Second Street***Proposed Trip Generation***

The 10th Edition ITE Trip Generation Manual was used to determine the proposed volume of trips, as well as the percentage of entrance-to-exit traffic experienced at the AM & PM peak hours between 7 and 9 AM and 4 and 6 PM. Land Use Codes Multi-Family Housing (Mid-Rise) (221), Medical-Dental Office Building (720), and Apparel Store (876) were used in deriving the trip generation for the proposed site. The retail/commercial spaces are not determined at this time. BS&E has selected land use codes based on higher generation uses for a conservative generation. As with the existing generation, 72% of the calculated trip generation was used on all uses.

The parking in the basement level of the Residences and Shops at 42-44 Third (located at 25-27 Second Street) supports approximately 55% of the residential parking required for the project. The remaining 45% is supported at the proposed parking garage at 35 Third Street. Trip generation is separated out for the residential uses by parking location. Further trips will be generated at 35 Third Street by parking requirements for other projects. This analysis focuses on trips generated at the 35 Third Street parking garage by the residential parking requirements of the Residences and Shops at 42-44 Third. This is for the purpose of determining the number of trips generated, and for the trips generated to the proposed round-about at the intersection of Third and Chestnut Street.

Commercial/retail trips are generated to 42-44 Third Street. Residential Trips are generated to the driveway at 25-27 Second Street. Tables 8-11 provide average trip rate, total trips generated, enter to exit ratio, and the enter to exit distribution. Table 12-15 shows the total proposed trip

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generation by each location. Table 16 shows the change in trip generation from no-build to build scenario.

Multi-Family Housing (Mid Rise) Trip Generation 25-27 Second Street:

Time Method	Weekday Total Dwelling Units			Time Method	AM Peak Adj. Street Traffic Dwelling Units			Time Method	PM Peak Adj. Street Traffic Dwelling Units		
# Units	32			# Units	32			# Units	32		
Avg. Rate	5.44			Avg. Rate	0.36			Avg. Rate	0.44		
Total Trips	173.5			Total Trips	11.5			Total Trips	14.0		
Reduced Trips	124.9			Reduced Trips	8.3			Reduced Trips	10.1		
% Enter	50.0	Total Enter	62.5	% Enter	26.0	Total Enter	2.1	% Enter	61.0	Total Enter	6.2
% Exit	50.0	Total Exit	62.5	% Exit	74.0	Total Exit	6.1	% Exit	39.0	Total Exit	3.9

Table 8: (Apartments) Build trip generation by 25-27 Second Street

Multi-Family Housing (Mid Rise) Trip Generation 35 Third Street:

Time Method		Weekday Total Dwelling Units		Time Method		AM Peak Adj. Street Traffic Dwelling Units		Time Method		PM Peak Adj. Street Traffic Dwelling Units	
# Units	26			# Units	26			# Units	26		
Avg. Rate	5.44			Avg. Rate	0.36			Avg. Rate	0.44		
Total Trips	142.0			Total Trips	9.4			Total Trips	11.5		
Reduced Trips	102.2			Reduced Trips	6.8			Reduced Trips	8.3		
% Enter	50.0	Total Enter	51.1	% Enter	26.0	Total Enter	1.8	% Enter	61.0	Total Enter	5.0
% Exit	50.0	Total Exit	51.1	% Exit	74.0	Total Exit	5.0	% Exit	39.0	Total Exit	3.2

Table 9: (Apartments) Build trip generation by 35 Third Street

Medical Dental Office Building Trip Generation 42-44 Third Street:

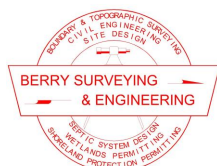
Time Method	Weekday Total 1000 Sq. Ft Gross Floor Area			Time Method	AM Peak Hour (Page 1260) 1000 Sq. Ft Gross Floor Area			Time Method	PM Peak Hour (Page 1261) 1000 Sq. Ft Gross Floor Area		
GFA (Ft. Sq.)	2.7			GFA (Ft. Sq.)	2.7			GFA (Ft. Sq.)	2.7		
Avg. Rate	34.8			Avg. Rate	2.78			Avg. Rate	3.46		
Total Trips	94.0			Total Trips	7.5			Total Trips	9.3		
Reduced Trips	67.7			Reduced Trips	5.4			Reduced Trips	6.7		
% Enter	50.0	Total Enter	33.8	% Enter	78.0	Total Enter	4.2	% Enter	28.0	Total Enter	1.9
% Exit	50.0	Total Exit	33.8	% Exit	22.0	Total Exit	1.2	% Exit	72.0	Total Exit	4.8

Table 10: (Medical-Dental Office Building) Build trip generation by 42-44 Third Street

Apparel Store Building Trip Generation:

Time Method	Weekday Total 1000 Sq. Ft Gross Floor Area			Time Method	AM Peak Hour (Page 1260) 1000 Sq. Ft Gross Floor Area			Time Method	PM Peak Hour (Page 1261) 1000 Sq. Ft Gross Floor Area		
GFA (Ft. Sq.)	1.9			GFA (Ft. Sq.)	1.9			GFA (Ft. Sq.)	1.9		
Avg. Rate	66.4			Avg. Rate	1.00			Avg. Rate	4.12		
Total Trips	126.2			Total Trips	1.9			Total Trips	7.8		
Reduced Trips	90.8			Reduced Trips	0.0			Reduced Trips	5.6		
% Enter	50.0	Total Enter	45.4	% Enter	80.0	Total Enter	0.0	% Enter	51.0	Total Enter	2.9
% Exit	50.0	Total Exit	45.4	% Exit	20.0	Total Exit	0.0	% Exit	49.0	Total Exit	2.8

Table 11: (Apparel Store) Build trip generation by 42-44 Third Street



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Total Build Trip Generation:

Total Generation Build Situation											
Time				Time				Time			
Weekday Total				AM Peak Hour				PM Peak Hour			
Total Trips	385.7			Total Trips	20.4			Total Trips	30.7		
% Enter	50.0	Total Enter	192.8	% Enter	39.8	Total Enter	8.1	% Enter	51.9	Total Enter	16.0
% Exit	50.0	Total Exit	192.8	% Exit	60.2	Total Exit	12.3	% Exit	48.1	Total Exit	14.8

Table 12: Total build trip generation

Build Trip Generation by 25-27 Second Street:

Build Trips Generated by 25-27 Second Street											
Time				Time				Time			
Weekday Total				AM Peak Hour				PM Peak Hour			
Total Trips	124.9			Total Trips	8.3			Total Trips	10.1		
% Enter	50.0	Total Enter	62.5	% Enter	26.0	Total Enter	2.1	% Enter	61.0	Total Enter	6.2
% Exit	50.0	Total Exit	62.5	% Exit	74.0	Total Exit	6.1	% Exit	39.0	Total Exit	3.9

Table 13: Build trip generation by 25-27 Second Street

Build Trip Generation by 35 Third Street:

Build Trips Generated by Residential from 42-44 Third Street at 35 Street Parking Garage											
Time				Time				Time			
Weekday Total				AM Peak Hour				PM Peak Hour			
Total Trips	102.2			Total Trips	6.8			Total Trips	8.3		
% Enter	50.0	Total Enter	51.1	% Enter	26.0	Total Enter	1.8	% Enter	61.0	Total Enter	5.0
% Exit	50.0	Total Exit	51.1	% Exit	74.0	Total Exit	5.0	% Exit	39.0	Total Exit	3.2

Table 14: Build trip generation by 35 Third Street

Build Trip Generation by 42-44 Third Street:

Build Trips Generated by 42-44 Third Street											
Time				Time				Time			
Weekday Total				AM Peak Hour				PM Peak Hour			
Total Trips	158.5			Total Trips	5.4			Total Trips	12.4		
% Enter	50.0	Total Enter	79.2	% Enter	78.0	Total Enter	4.2	% Enter	38.5	Total Enter	4.8
% Exit	50.0	Total Exit	79.2	% Exit	22.0	Total Exit	1.2	% Exit	61.5	Total Exit	7.6

Table 15: Build trip generation by 42-44 Third Street

Changes in Trip Generation Entire Project	
Time	# Build Trip Change
Weekday Total	160.5
AM Peak	19.9
PM Peak	10.0

Table 16: Change in weekday total trip generation

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No-Build Turning Movements

The directional breakdown of trips entering and exiting the site has taken into account the traffic volumes of Chestnut Street and Central Avenue. Chestnut Street and Central Ave both have AADTs of over 12,000 vehicles per day. In the no-build condition trips enter only from 42-44 Third Street and exit to 25-27 Second Street. The parking lot for the Asia Restaurant is one-way only. This means that trips are able to enter the site from Central Ave or Chestnut Street and exit the site only to Chestnut Street. This distribution is used to determine the direction of trips generated by the site in the no-build condition. Figures 8-9 provide a visualization of the potential turn movements on Central Ave and Chestnut Street in the no-build situation. In Tables 17-22, the total trips that are calculated to occur to and from the subject parcel lot are shown for the weekday total and AM and PM peak hours. These are further broken down to entrance and exit into the site as well as percentage of left and right turns for 42-44 Third Street and 25-27 Second Street.

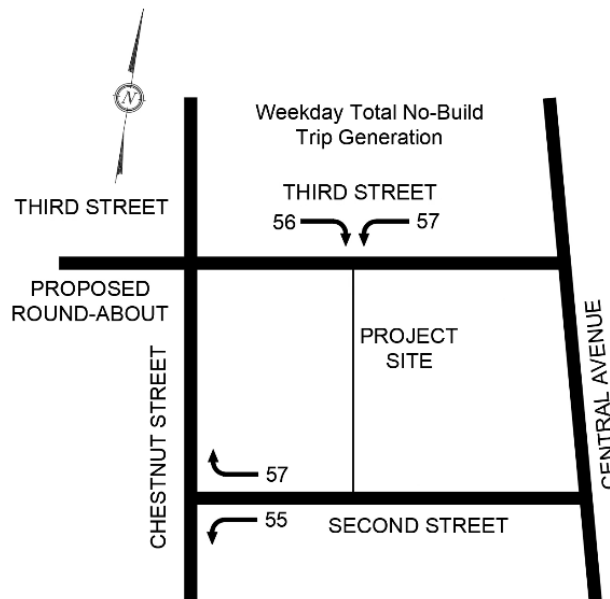
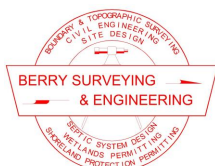


Figure 8: No-build traffic volumes and turning movements Weekday Total



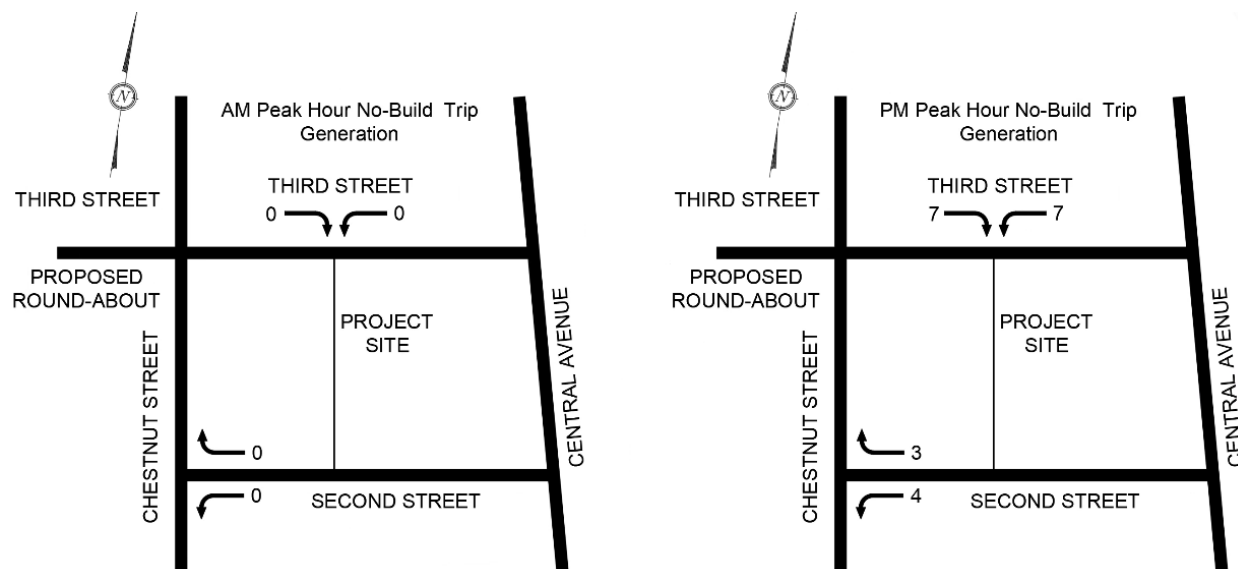


Figure 9: No-build traffic volumes and turning movements AM & PM Peak hour

Time	Weekday Total	# Trips	Turn Type	% Distribution
Total Trips	112.6			
Trips Enter from Third St Eastbound (From Chestnut St)		55.7	Right	49.5
Trips Enter from Third St Westbound (From Central Ave)		56.8	Left	50.5
Trips Exit to Third St Eastbound (To Central Ave)		0.0	Right	0.0
Trips Exit to Third St Westbound (To Chestnut St)		0.0	Left	0.0

Table 17: No-build Weekday total turn movements 42-44 Third Street

Time	AM Peak Hour	# Trips	Turn Type	% Distribution
Total Trips	0.1			
Trips Enter from Third St Eastbound (From Chestnut St)		0.0	Right	0.0
Trips Enter from Third St Westbound (From Central Ave)		0.0	Left	0.0
Trips Exit to Third St Eastbound (To Central Ave)		0.0	Right	0.0
Trips Exit to Third St Westbound (To Chestnut St)		0.0	Left	0.0

Table 18: No-build Weekday AM peak hour turn movements 42-44 Third Street



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Time	PM Peak Hour	# Trips	Turn Type	% Distribution
Total Trips	13.9			
Trips Enter from Third St Eastbound (From Chestnut St)		6.9	Right	49.5
Trips Enter from Third St Westbound (From Central Ave)		7.0	Left	50.5
Trips Exit to Third St Eastbound (To Central Ave)		0.0	Right	0.0
Trips Exit to Third St Westbound (To Chestnut St)		0.0	Left	0.0

Table 19: No-build Weekday PM peak hour turn movements 42-44 Third Street

Time	Weekday Total	# Trips	Turn Type	% Distribution
Total Trips	112.6			
Trips Enter from Second St Westbound (From Central Ave)		0.0	Right	0.0
Trips Exit to Chestnut Street Northbound		57.3	Right	50.9
Trips Exit to Chestnut Street Southbound		55.3	Left	49.1

Table 20: No-build Weekday total turn movements 25-27 Second Street

Time	AM Peak Hour	# Trips	Turn Type	% Distribution
Total Trips	0.4			
Trips Enter from Second St Westbound (From Central Ave)		0.0	Right	0.0
Trips Exit to Chestnut Street Northbound		0.0	Right	0.0
Trips Exit to Chestnut Street Southbound		0.0	Left	0.0

Table 21: No-build Weekday AM peak hour turn movements 25-27 Second Street

Time	PM Peak Hour	# Trips	Turn Type	% Distribution
Total Trips	6.9			
Trips Enter from Second St Westbound (From Central Ave)		0.0	Right	0.0
Trips Exit to Chestnut Street Northbound		3.4	Right	48.8
Trips Exit to Chestnut Street Southbound		3.5	Left	51.2

Table 22: No-build Weekday PM peak hour turn movements 25-27 Second Street

Build Projection Turning Movements

In the build condition, only commercial/retail trips will be generated by 42-44 Third Street (on-street parking) and only residential trips generated by 25-27 Second Street basement level parking. Residential trips will be generated at 35 Third Street parking garage, which supports the parking requirement for the project. Commercial/retail trips at 42-44 Third Street will enter from Chestnut Street or Central Ave and exit to either direction. Residential trips at 25-27 Second Street will enter from Central Ave and exit to either Chestnut Street northbound or southbound.



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Residential trips at 35 Third Street will enter from the Central Ave/Chestnut Street side or Washington/Sixth Street side.

In determining the directional distribution of trips from the 35 Third Street parking garage, a series of AADT ratios were used. The sum of Washington and Sixth Street (north and west) and the sum of Chestnut Street and Central Ave (south and east) are used to determine the distribution. The following table demonstrates this calculation.

Chestnut Street AADT (2021)
12,647
Central Avenue AADT (2021)
12,875
Washington Street AADT (2021)
5,513
Sixth Street AADT (2021)
7,319

Table 23: AADTs used in determining 35 Third Street distribution

Traffic Distribution 35 Third Street Parking Garage				
% Distribution	Northbound (Sixth/Washington St)		Southbound Chestnut St/Central Ave)	
	AM Peak	33.5	AM Peak	66.5
	PM Peak	33.5	PM Peak	66.5

Table 24: 35 Third Street directional distribution

Figures 10-11 provide a visualization of the potential turn movements on Central Ave and Chestnut Street in the build situation. In Tables 25-33, the total trips that are calculated to occur to and from the subject parcel lot are shown for the weekday total and AM and PM peak hours. These are further broken down to entrance and exit into the site as well as percentage of left and right turns for 42-44 Third Street, 25-27 Second Street, and 35 Third Street parking garage generation from 42-44 Third Street project.



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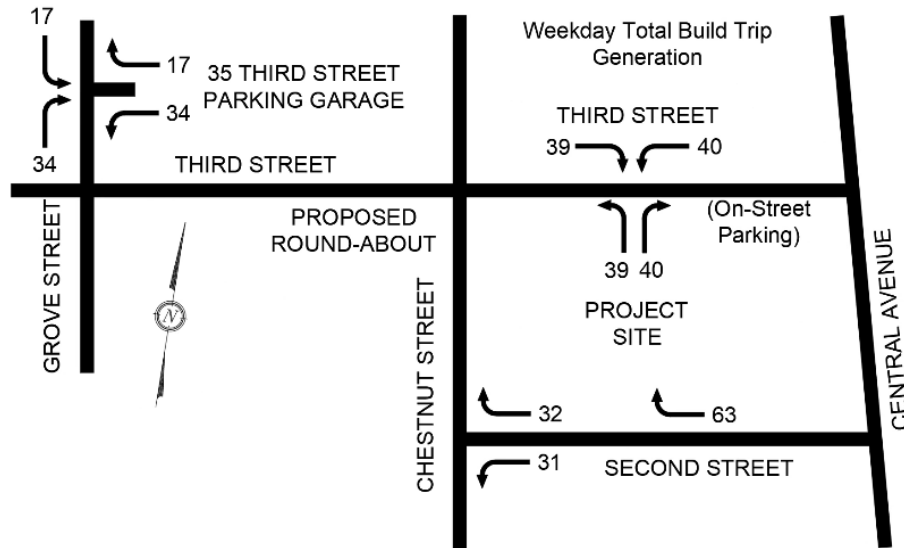


Figure 10: Build traffic volumes and turning movements Weekday Total

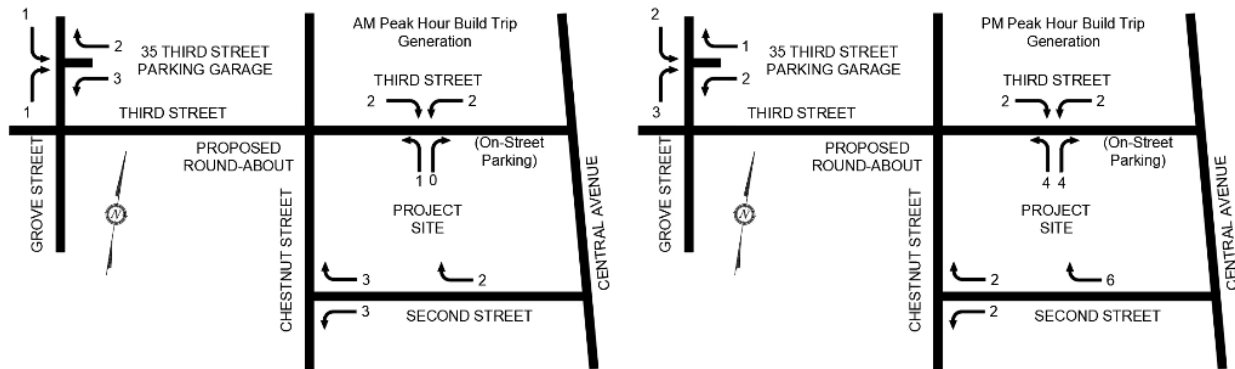


Figure 11: Build traffic volumes and turning movements AM & PM Peak hour

Time	Weekday Total	# Trips	Turn Type	% Distribution
Total Trips	158.5			
Trips Enter from Third St Eastbound (From Chestnut St)		39.2	Right	24.8
Trips Enter from Third St Westbound (From Central Ave)		40.0	Left	25.3
Trips Exit to Third St Eastbound (To Central Ave)		40.0	Right	25.3
Trips Exit to Third St Westbound (To Chestnut St)		39.2	Left	24.8

Table 25: Build Weekday total turn movements 42-44 Third Street



Time	AM Peak Hour	# Trips	Turn Type	% Distribution
Total Trips	5.4			
Trips Enter from Third St Eastbound (From Chestnut St)		2.1	Right	38.6
Trips Enter from Third St Westbound (From Central Ave)		2.1	Left	39.4
Trips Exit to Third St Eastbound (To Central Ave)		0.6	Right	11.1
Trips Exit to Third St Westbound (To Chestnut St)		0.6	Left	10.9

Table 26: Build Weekday AM peak hour turn movements 42-44 Third Street

Time	PM Peak Hour	# Trips	Turn Type	% Distribution
Total Trips	12.4			
Trips Enter from Third St Eastbound (From Chestnut St)		2.4	Right	19.1
Trips Enter from Third St Westbound (From Central Ave)		2.4	Left	19.4
Trips Exit to Third St Eastbound (To Central Ave)		3.8	Right	31.1
Trips Exit to Third St Westbound (To Chestnut St)		3.8	Left	30.4

Table 27: Build Weekday PM peak hour turn movements 42-44 Third Street

Time	Weekday Total	# Trips	Turn Type	% Distribution
Total Trips	124.9			
Trips Enter from Second St Westbound (From Central Ave)		62.5	Right	50.0
Trips Exit to Chestnut Street Northbound		31.8	Right	25.4
Trips Exit to Chestnut Street Southbound		30.7	Left	24.6

Table 28: Build Weekday total turn movements 25-27 Second Street

Time	AM Peak Hour	# Trips	Turn Type	% Distribution
Total Trips	8.3			
Trips Enter from Second St Westbound (From Central Ave)		2.1	Right	26.0
Trips Exit to Chestnut Street Northbound		3.0	Right	36.2
Trips Exit to Chestnut Street Southbound		3.1	Left	37.8

Table 29: Build Weekday AM peak hour turn movements 25-27 Second Street

Time	PM Peak Hour	# Trips	Turn Type	% Distribution
Total Trips	10.1			
Trips Enter from Second St Westbound (From Central Ave)		6.2	Right	61.0
Trips Exit to Chestnut Street Northbound		1.9	Right	19.0
Trips Exit to Chestnut Street Southbound		2.0	Left	20.0

Table 30: Build Weekday PM peak hour turn movements 25-27 Second Street



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Time	Weekday Total	# Trips	Turn Type	% Distribution
Total Trips	102.2			
Trips Enter from Grove Street Northbound (Third Street)		34.0	Right	33.3
Trips Enter from Grove Street Southbound		17.1	Left	16.7
Trips Exit to Grove Street Northbound (To Sixth Street)		17.1	Right	16.7
Trips Exit to Grove Street Southbound (To Third Street)		34.0	Left	33.3

Table 31: Build Weekday total turn movements 35 Third Street (partial)

Time	AM Peak Hour	# Trips	Turn Type	% Distribution
Total Trips	6.8			
Trips Enter from Grove Street Northbound (Third Street)		1.2	Right	17.3
Trips Enter from Grove Street Southbound		0.6	Left	8.7
Trips Exit to Grove Street Northbound (To Sixth Street)		1.7	Right	24.8
Trips Exit to Grove Street Southbound (To Third Street)		3.3	Left	49.2

Table 32: Build Weekday AM peak hour turn movements 35 Third Street (partial)

Time	PM Peak Hour	# Trips	Turn Type	% Distribution
Total Trips	8.3			
Trips Enter from Grove Street Northbound (Third Street)		3.4	Right	40.6
Trips Enter from Grove Street Southbound		1.7	Left	20.4
Trips Exit to Grove Street Northbound (To Sixth Street)		1.1	Right	13.0
Trips Exit to Grove Street Southbound (To Third Street)		2.1	Left	26.0

Table 33: Build Weekday PM peak hour turn movements 35 Third Street (partial)

Proposed Round-About Trip Generation

An objective of this analysis is to determine the number of no-build and build situation trips would be generated to the proposed round-about at the intersection of Chestnut and Third Street. In the no-build situation, trips generated by 42-44 Third Street would either enter from Central Ave or the round-about from Chestnut Street. Trips generated by 25-27 Second Street would exit and be distributed to either Chestnut Street southbound or northbound towards the round-about. The following tables show the total no-build trip-generation to the proposed round-about.



No-Build Round-About Trip Generation:

No-Build Trips Generated to Proposed Round-About					
Time	Weekday Total	Time	AM Peak Hour	Time	PM Peak Hour
Total Trips Generated	113.0	Total Trips Generated	0.0	Total Trips Generated	10.2
By 25-27 Second Street	55.7	By 25-27 Second Street	0.0	By 25-27 Second Street	3.4
By 42-44 Third Street	57.3	By 42-44 Third Street	0.0	By 42-44 Third Street	6.9

Table 34: No-Build trip generation to proposed round-about

In the build situation, commercial/retail trips at 42-44 Third Street will enter from Chestnut Street or Central Ave and exit to either direction. Residential trips at 25-27 Second Street will enter from Central Ave and exit to either Chestnut Street northbound or southbound. Residential trips at 35 Third Street will enter from the Central Ave/Chestnut Street side or Washington/Sixth Street side. The following tables show the total build trip-generation to the proposed round-about and the change in trips generated to this round-about by the build condition.

Build Round-About Trip Generation:

Build Trips Generated to Proposed Round-About					
Time	Weekday Total	Time	AM Peak Hour	Time	PM Peak Hour
Total Trips Generated	178.3	Total Trips Generated	10.2	Total Trips Generated	13.5
By 25-27 Second Street	31.8	By 25-27 Second Street	3.0	By 25-27 Second Street	1.9
By 42-44 Third Street	78.5	By 42-44 Third Street	2.7	By 42-44 Third Street	6.1
By 35 Third Street	68.0	By 35 Third Street	4.5	By 35 Third Street	5.5

Table 35: Build trip generation to proposed round-about

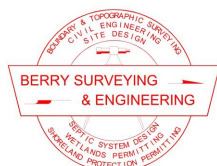
Change in Round-About Trip Generation:

Change in Trips Generated to Proposed Round-About					
Time	Weekday Total	Time	AM Peak Hour	Time	PM Peak Hour
Total Trips Generated	65.3	Total Trips Generated	10.2	Total Trips Generated	3.3

Table 36: Change in trip generation to proposed round-about

Sight Distance and Safety Analysis

Sight distance on Second Street to the east, as well as roadway alignment are the two determining factors of safety. Sight distance to the west is not required, as Second Street is one-way going towards Chestnut Street. Sight distance to the west is available beyond 250 feet (measured). Using Exhibit 3-1 (Stopping Sight Distance) (Figure 29) in the Geometric Design

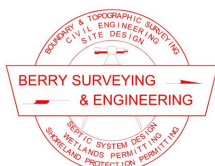


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Manual, and a 30 MPH 85th percentile speed, requires a stopping sight distance of 200 feet. In this instance, the easterly sight distances meet the design required warrant. There are no improvements required to maintain this site distance.

With respect to general safety of Second Street in relation to the peak hour trip generation and AADT, it is our assessment that the cross section of pavement and shoulder widths are appropriate.

*AASHTO Geometric Design of Highways and Streets (2011)

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Conclusions and Recommendations

- 1) A total build generation of 386 vehicle trips are predicted to occur on a weekday, 20 vehicle trips (8 enter/12 exit) at the AM peak hour and 31 vehicle trips (16 enter/15 exit) at the PM peak hour for the entire project.
- 2) A total build generation of 159 vehicle trips are predicted to occur on a weekday, 5 vehicle trips (4 enter/1 exit) at the AM peak hour and 13 vehicle trips (5 enter/8 exit) at the PM peak hour at 42-44 Third Street.
- 3) A total build generation of 125 vehicle trips are predicted to occur on a weekday, 8 vehicle trips (2 enter/6 exit) at the AM peak hour and 10 vehicle trips (6 enter/4 exit) at the PM peak hour at 25-27 Second Street.
- 4) An additional 65 vehicle trips are predicted to occur on a weekday, 10 vehicle trips at the AM peak hour and 3 vehicle trips at the PM peak hour contributing to the proposed Round-About at the intersection of Chestnut and Third Street from no-build condition.
- 5) This is a total project increase in trip generation of 161 weekday trips, 20 AM peak hour trips and an increase of 10 PM peak hour trips from the no-build condition. It is recommended that the existing and proposed infrastructure, will be sufficient to handle the projected increase in vehicle trips at the peak hour and all other hours.
- 6) There is a public bus stop and a train station within a quarter mile that present a further opportunity for reduction of trips generated.

Respectfully Submitted,

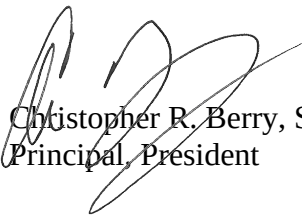
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Kevin R. Poulin, EIT
Design Engineer



Kenneth A. Berry, PE, LLS,
CPSWQ, CPESC, CESSWI
Principal, VP-Technical Operations



Christopher R. Berry, SIT
Principal, President



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Appendix A

Traffic Counts

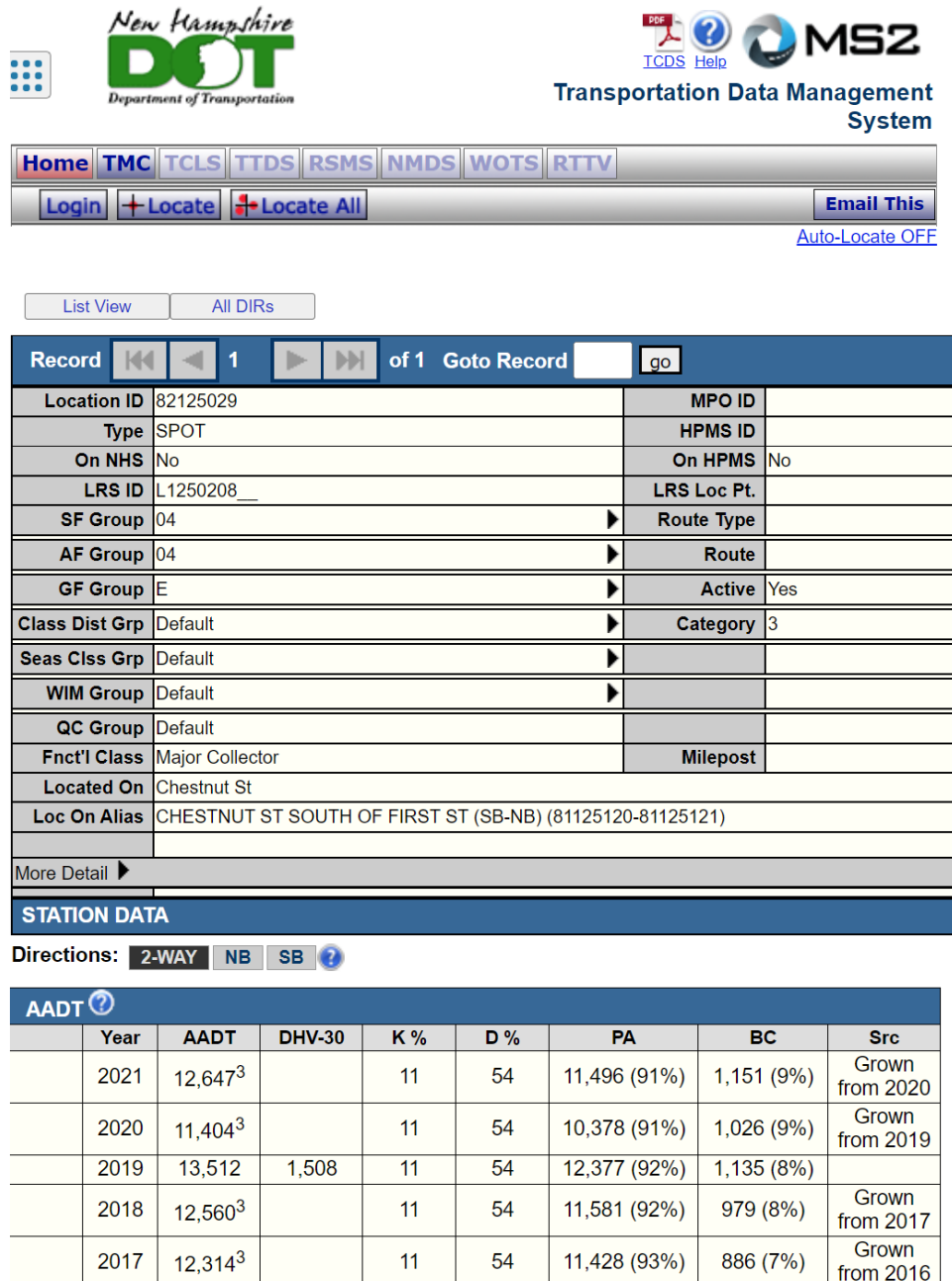
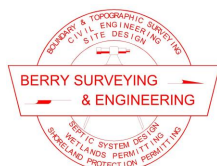


Figure 12: History of AADT values and classification for Chestnut Street





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Record 1 of 1 Goto Record go	
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Type SPOT	HPMS ID
On NHS No	On HPMS No
LRS ID S0000009_W	LRS Loc Pt.
SF Group 04	Route Type
AF Group 04	Route NH 9 WB
GF Group E	Active Yes
Class Dist Grp Default	Category 3
Seas Clss Grp Default	
WIM Group Default	
QC Group Default	
Funct'l Class Minor Arterial	Milepost
Located On Central Ave	
Loc On Alias NH 9/NH 108 (CENTRAL AVE) SB AT COCHECO RIVER BRIDGE	
More Detail	
STATION DATA	

Directions: 1-WAY [?](#)

AADT ?								
	Year	AADT	DHV-30	K %	D %	PA	BC	Src
	2021	12,875 ³		9		11,703 (91%)	1,172 (9%)	Grown from 2020
	2020	11,610	1,030	9		10,565 (91%)	1,045 (9%)	
	2019	12,762 ³		9		11,688 (92%)	1,074 (8%)	Grown from 2018
	2018	12,611 ³		9		11,627 (92%)	984 (8%)	Grown from 2017
	2017	12,364	1,056	9		11,474 (93%)	890 (7%)	

Figure 13: History of AADT values and classification for Central Avenue





New Hampshire
DOT
Department of Transportation



MS2
Transportation Data Management
System

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Auto-Locate OFF

[List View](#) [All DIRs](#)

Record

1

of 1

Goto Record

go

Location ID	82125085	MPO ID	
Type	SPOT	HPMS ID	
On NHS	No	On HPMS	Yes
LRS ID	L1251059	LRS Loc Pt.	
SF Group	04	Route Type	
AF Group	04	Route	
GF Group	E	Active	Yes
Class Dist Grp	Default	Category	3
Seas Clls Grp	Default		
WIM Group	Default		
QC Group	Default		
Funct'l Class	Major Collector	Milepost	
Located On	Washington St		
Loc On Alias	TOLEND RD WEST OF WASHINGTON ST		
More Detail ▶			

STATION DATA

Directions: 2-WAY EB WB ?

AADT ?								
	Year	AADT	DHV-30	K %	D %	PA	BC	Src
	2021	5,513 ³		11	53	5,011 (91%)	502 (9%)	Grown from 2020
	2020	4,971	537	11	53	4,523 (91%)	448 (9%)	
	2019	4,490 ³		10	53	4,113 (92%)	377 (8%)	Grown from 2018
	2018	4,437 ³		10	53	4,091 (92%)	346 (8%)	Grown from 2017
	2017	4,350 ²	426	10	53	4,038 (93%)	312 (7%)	

Figure 14: History of AADT values and classification for Washington Street

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Department of Transportation



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[Auto-Locate OFF](#)

List View
All DIRs

Record

◀ 1 ▶

of 1

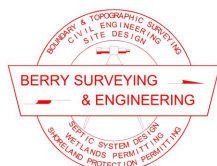
Goto Record go

Location ID	82125084	MPO ID	
Type	SPOT	HPMS ID	
On NHS	No	On HPMS	No
LRS ID	L1250050__	LRS Loc Pt.	
SF Group	04	Route Type	
AF Group	04	Route	
GF Group	E	Active	Yes
Class Dist Grp	Default	Category	3
Seas Clss Grp	Default		
WIM Group	Default		
QC Group	Default		
Funct'l Class	Major Collector	Milepost	
Located On	Sixth St		
Loc On Alias	SIXTH ST WEST OF CHESTNUT ST		

More Detail ▶

STATION DATA								
Directions: 2-WAY NB SB ?								
AADT ?								
	Year	AADT	DHV-30	K %	D %	PA	BC	Src
	2021	7,319 ³		13	54	6,653 (91%)	666 (9%)	Grown from 2020
	2020	6,600 ³		13	54	6,006 (91%)	594 (9%)	Grown from 2019
	2019	7,820	1,052	13	54	7,162 (92%)	658 (8%)	
	2018	6,935 ³		11	54	6,393 (92%)	542 (8%)	Grown from 2017
	2017	6,799 ³		11	54	6,309 (93%)	490 (7%)	Grown from 2016

Figure 15: History of AADT values and classification for Sixth Street



Appendix B

Trip Generation Derivation

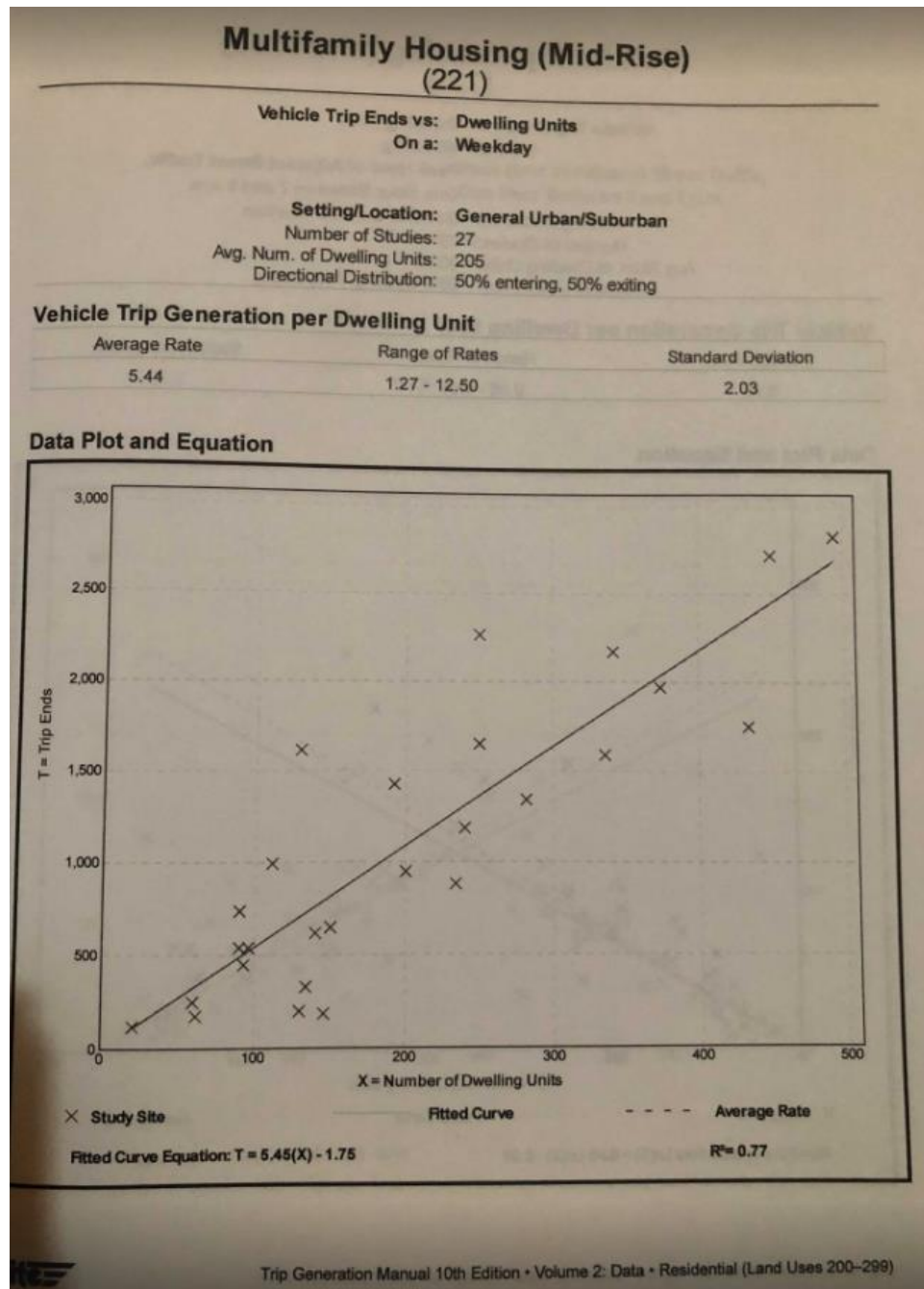


Figure 16: ITE Trip Generation, 10th Edition



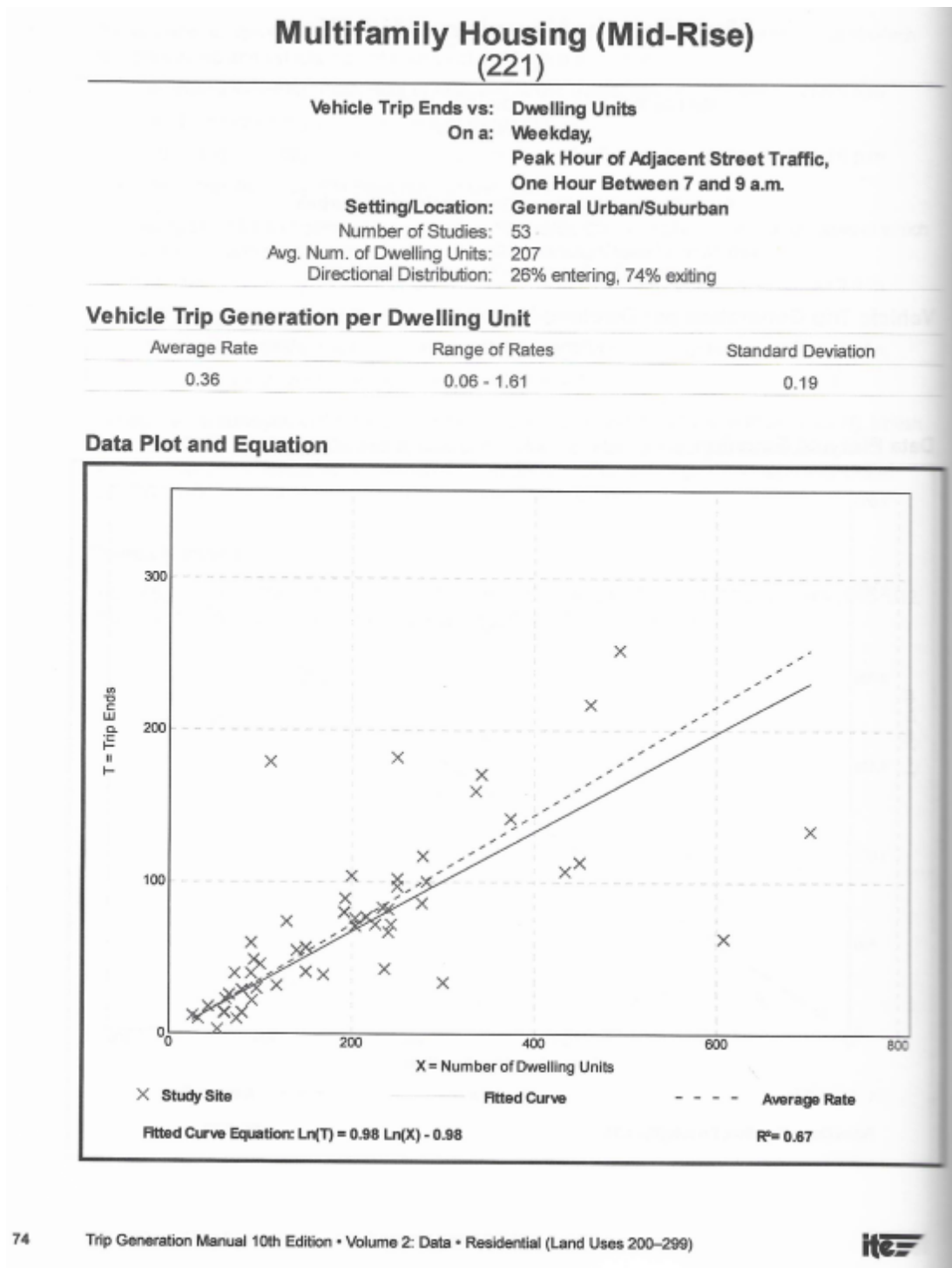


Figure 17: ITE Trip Generation, 10th Edition



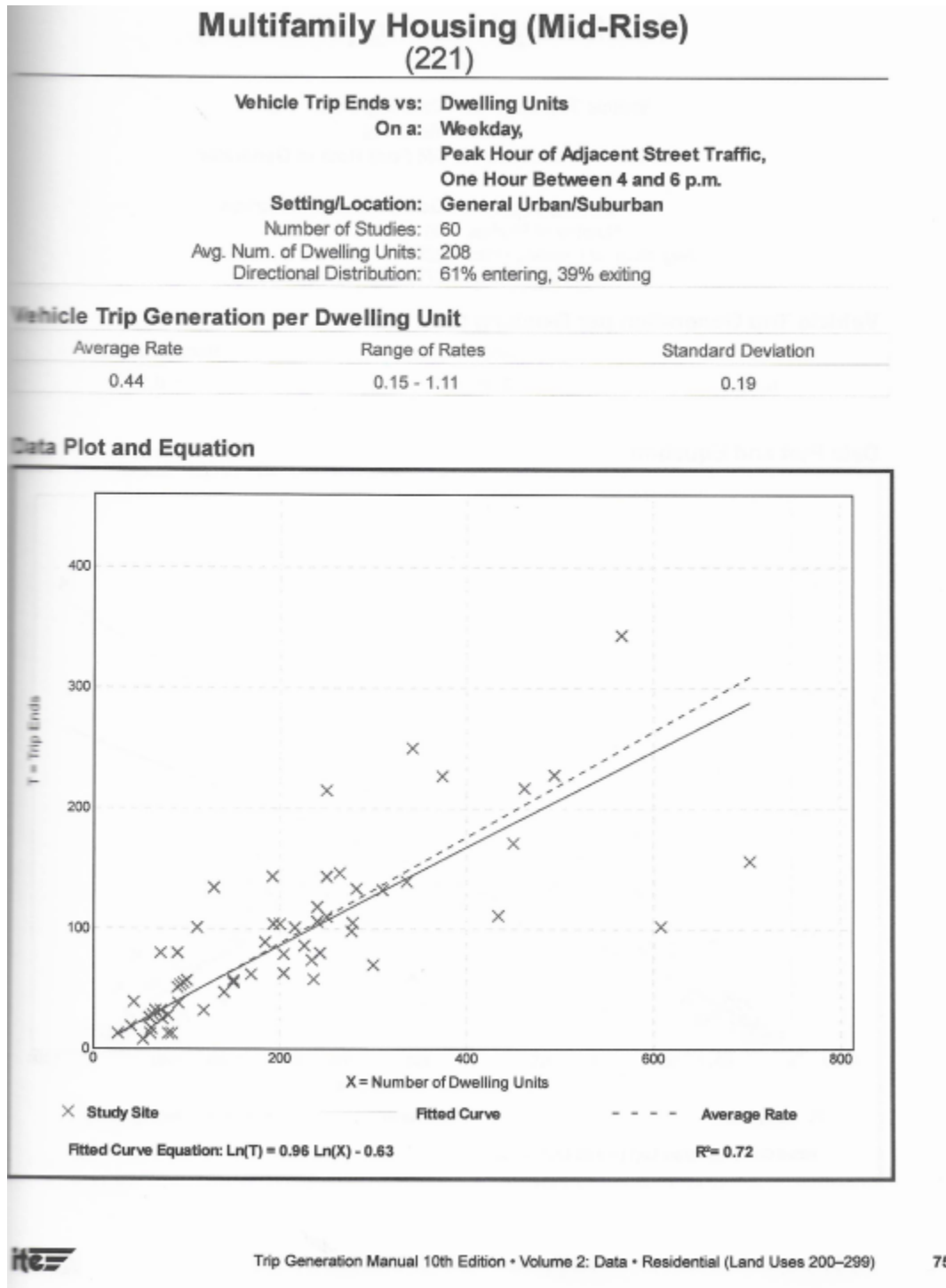
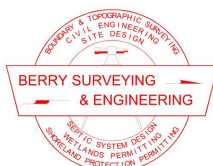


Figure 18: ITE Trip Generation, 10th Edition



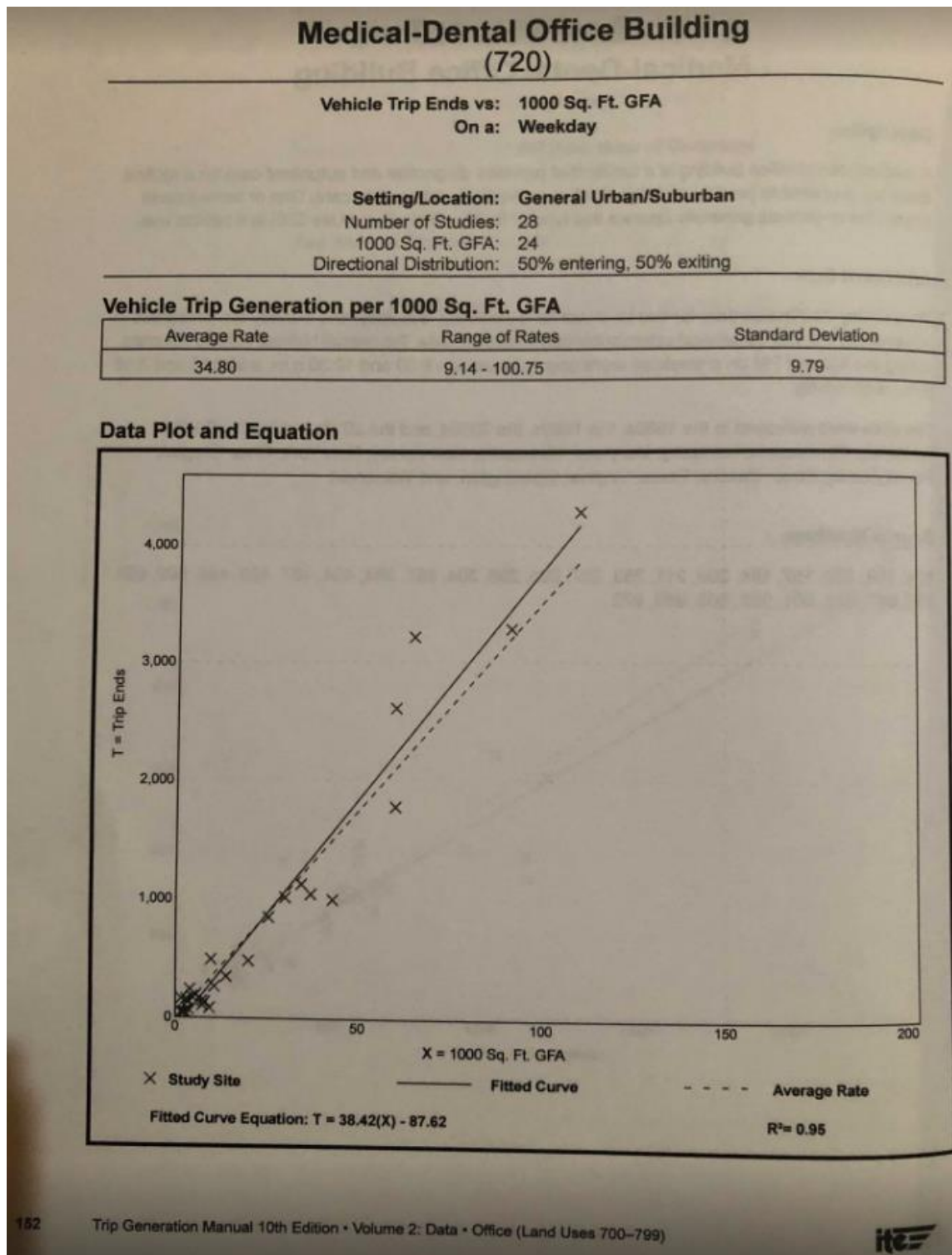


Figure 19: ITE Trip Generation, 10th Edition



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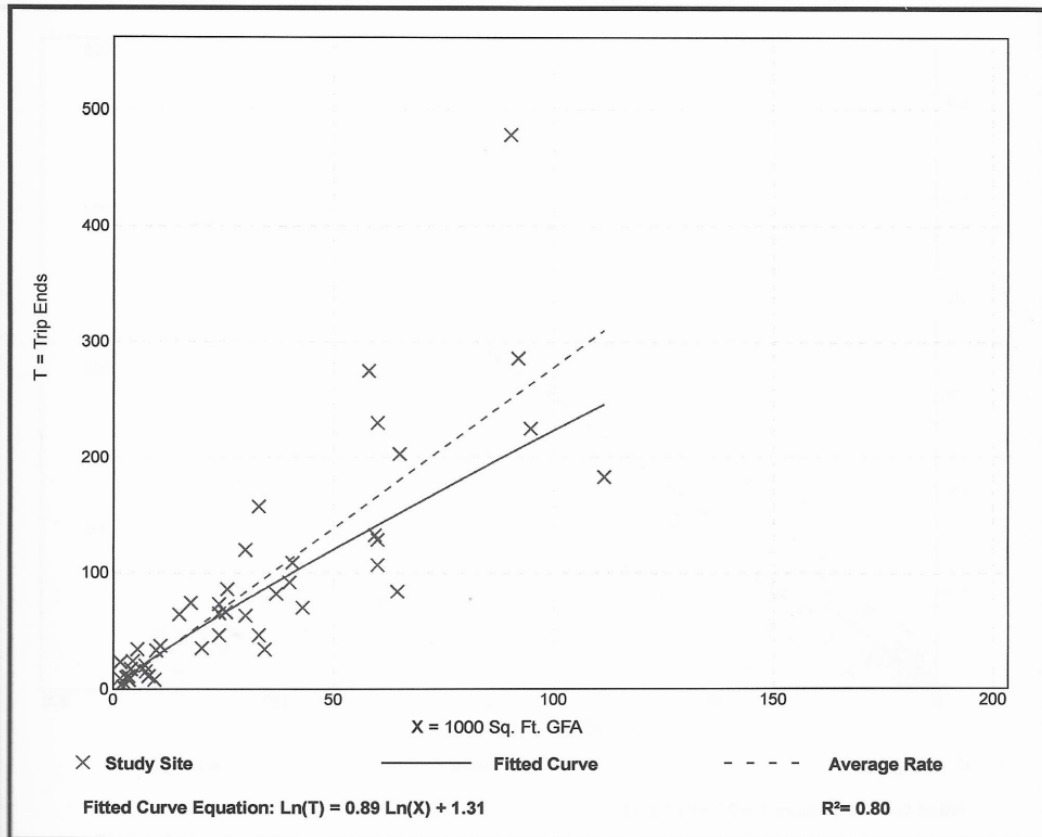
Medical-Dental Office Building (720)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: General Urban/Suburban
Number of Studies: 44
1000 Sq. Ft. GFA: 32
Directional Distribution: 78% entering, 22% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
2.78	0.85 - 14.30	1.28

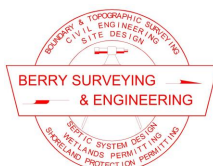
Data Plot and Equation



Trip Generation Manual 10th Edition • Volume 2: Data • Office (Land Uses 700–799)

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Figure 20: ITE Trip Generation, 10th Edition



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Medical-Dental Office Building (720)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban
Number of Studies: 65
1000 Sq. Ft. GFA: 28
Directional Distribution: 28% entering, 72% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
3.46	0.25 - 8.86	1.58

Data Plot and Equation

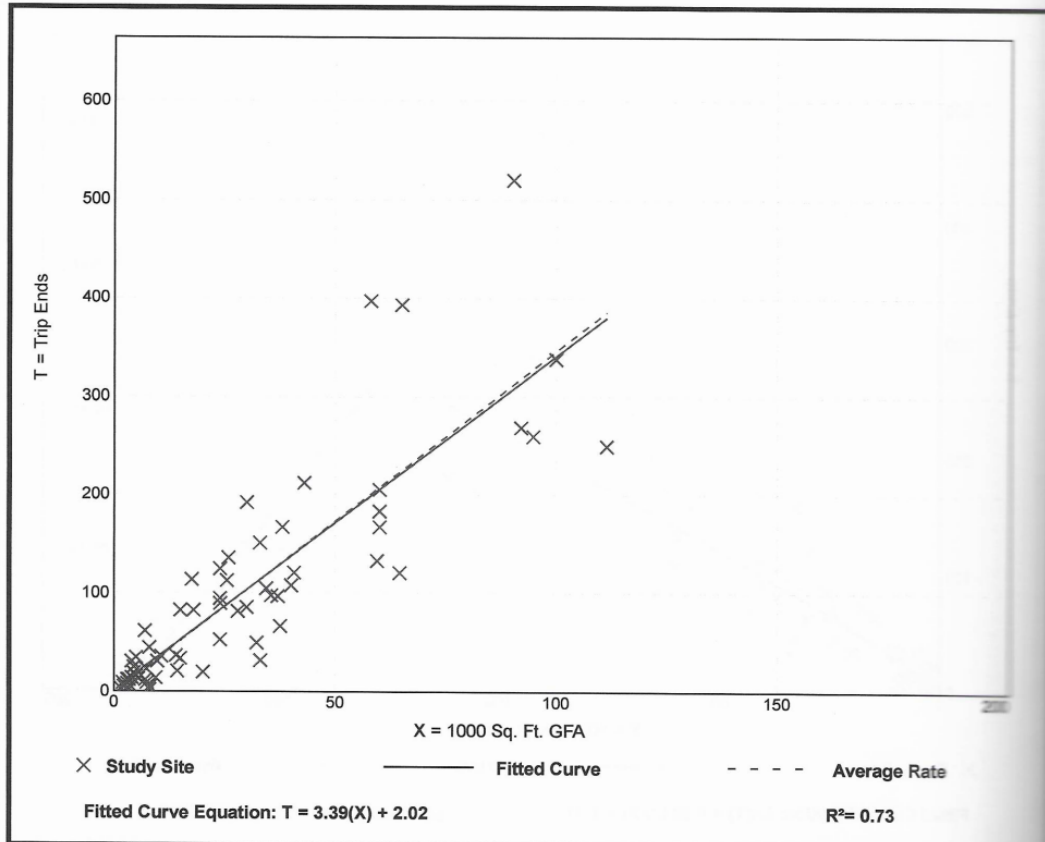


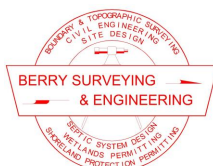
Figure 21: ITE Trip Generation, 10th Edition

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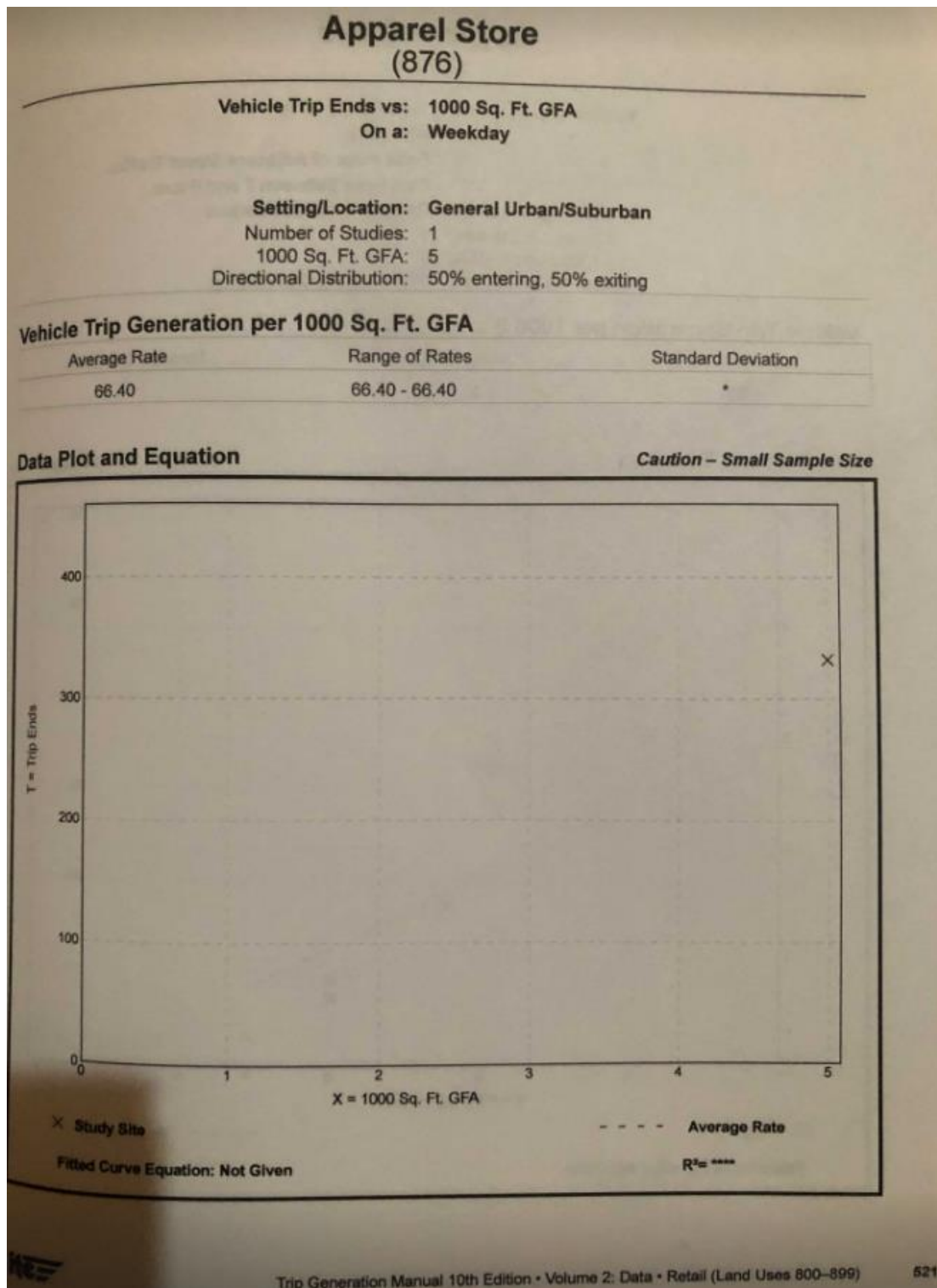
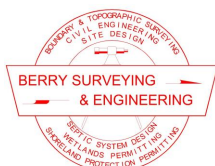


Figure 22: ITE Trip Generation, 10th Edition



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Apparel Store (876)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
 Peak Hour of Adjacent Street Traffic,
 One Hour Between 7 and 9 a.m.
Setting/Location: General Urban/Suburban
 Number of Studies: 1
 1000 Sq. Ft. GFA: 5
 Directional Distribution: 80% entering, 20% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.00	1.00 - 1.00	*

Data Plot and Equation

Caution – Small Sample Size

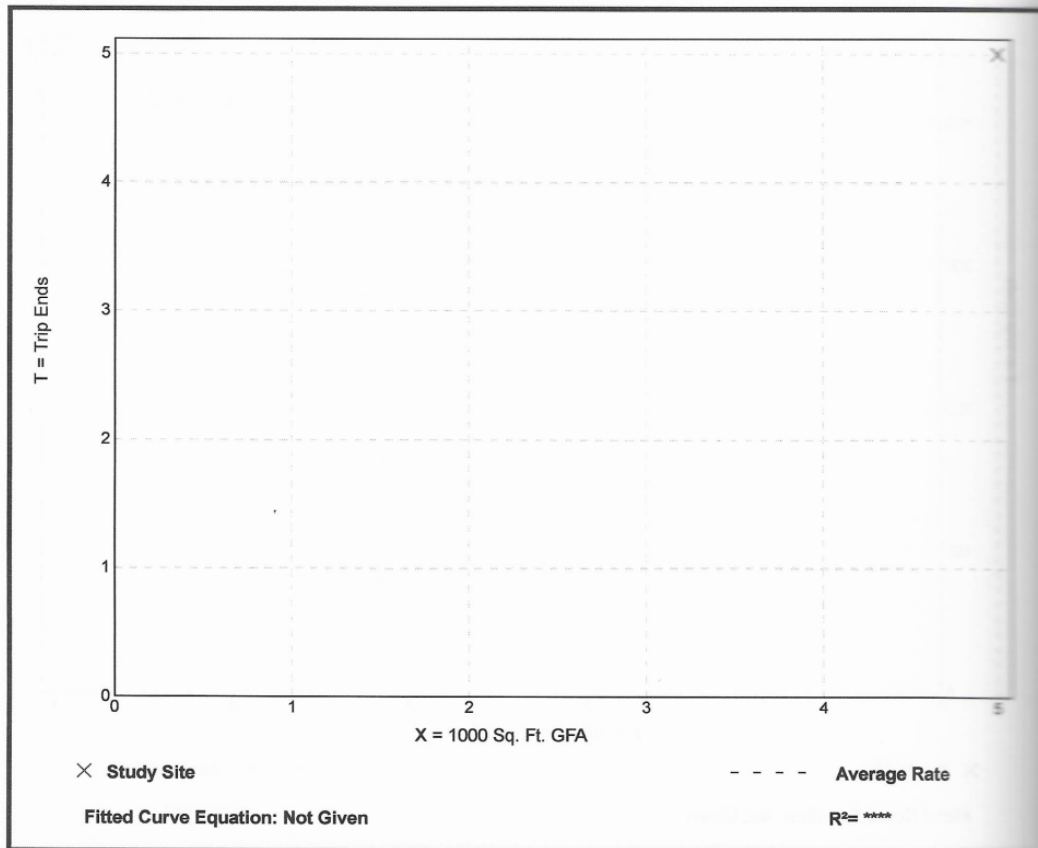


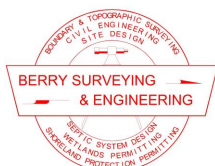
Figure 23: ITE Trip Generation, 10th Edition

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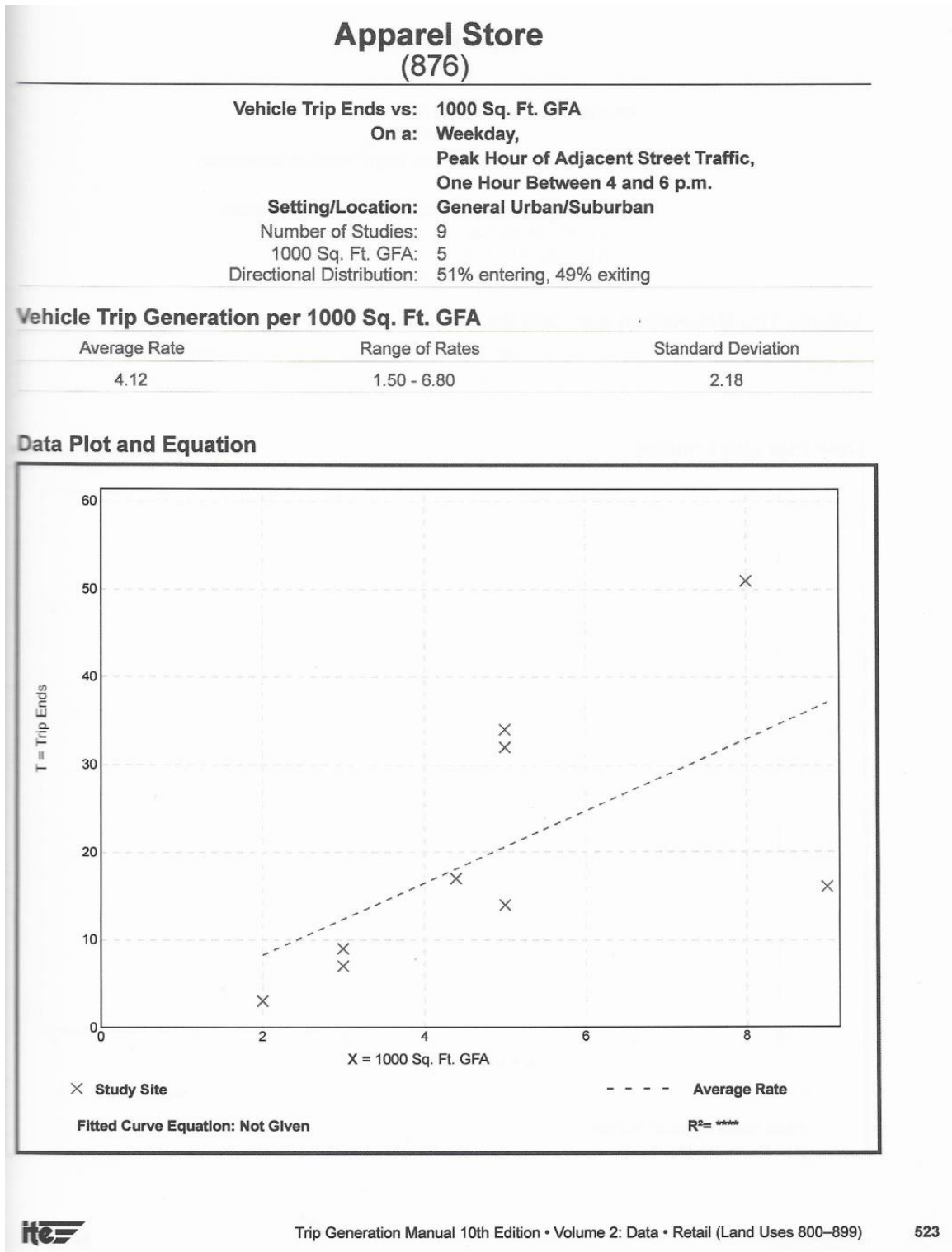
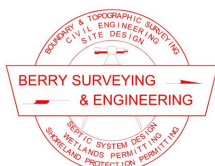


Figure 24: ITE Trip Generation, 10th Edition

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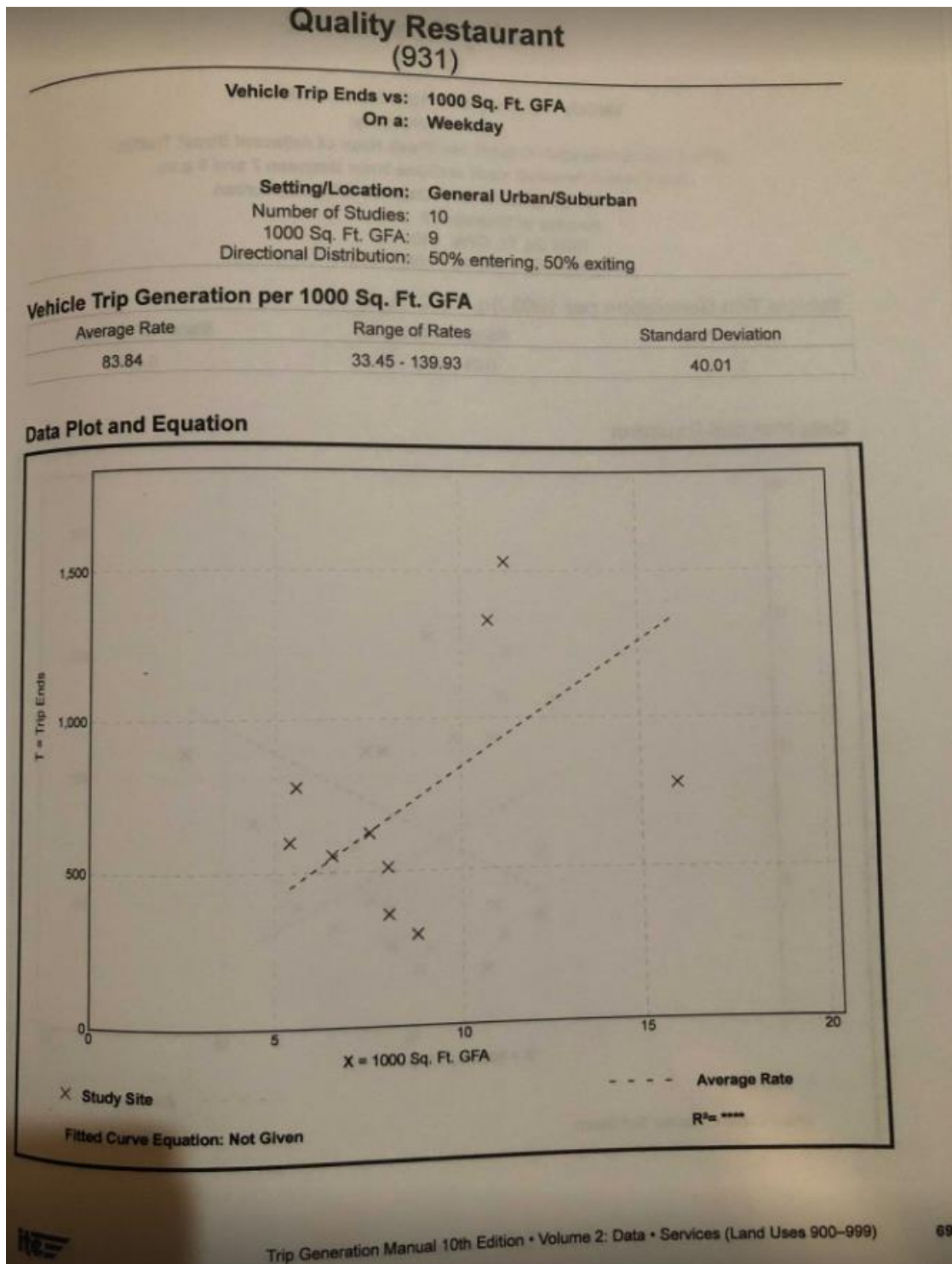
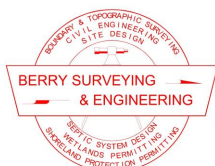


Figure 25: ITE Trip Generation, 10th Edition



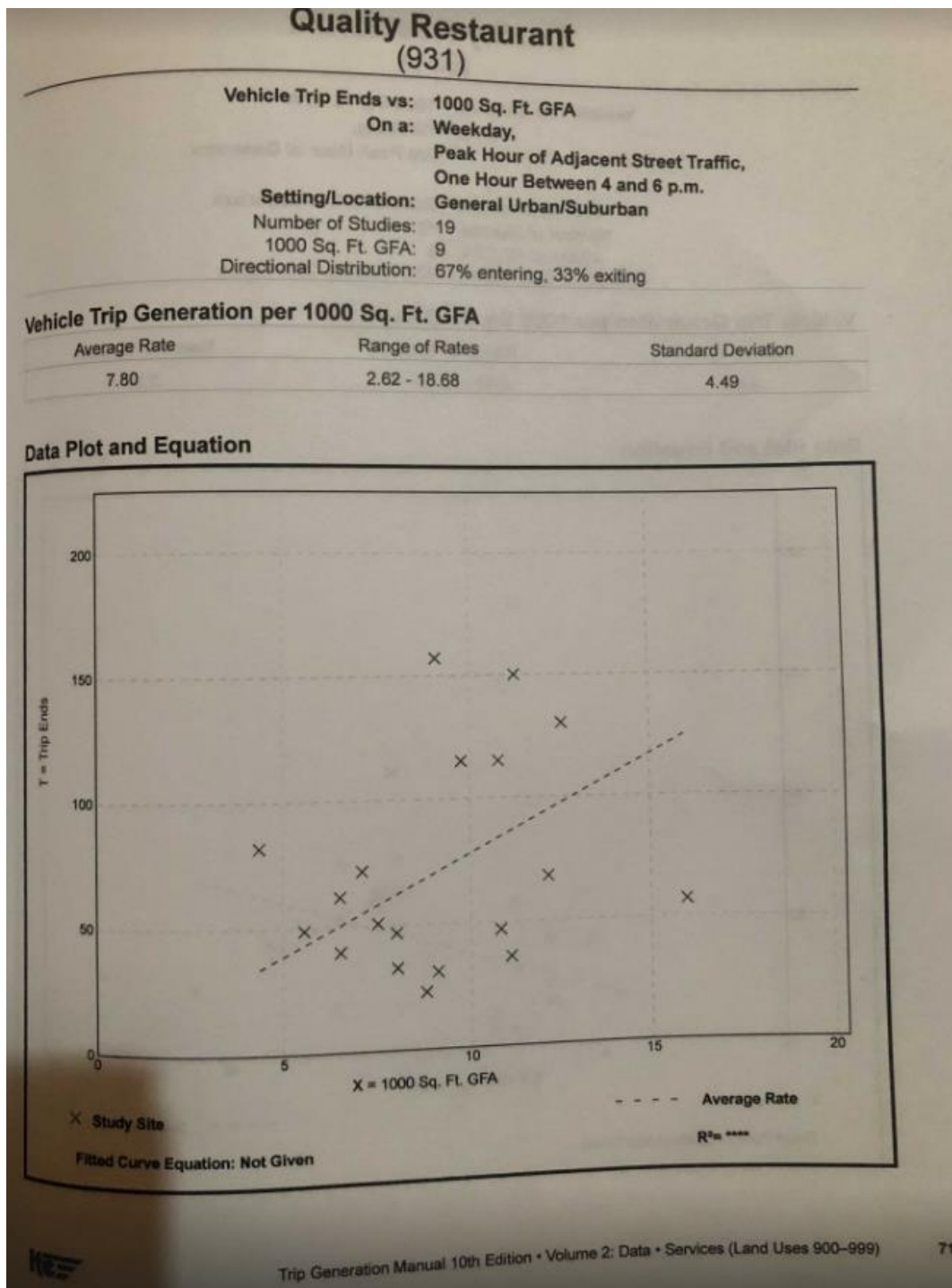


Figure 26: ITE Trip Generation, 10th Edition



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Appendix C

Miscellaneous

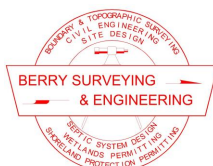
AASHTO—Geometric Design of Highways and Streets

Metric				US Customary			
Design speed (km/h)	Brake reaction distance (m)	Braking distance on level (m)	Stopping sight distance		Design speed (mph)	Brake reaction distance (ft)	Braking distance on level (ft)
			Calculated (m)	Design (m)			
20	13.9	4.6	18.5	20	15	55.1	21.6
30	20.9	10.3	31.2	35	20	73.5	38.4
40	27.8	18.4	46.2	50	25	91.9	60.0
50	34.8	28.7	63.5	65	30	110.3	86.4
60	41.7	41.3	83.0	85	35	128.6	117.6
70	48.7	56.2	104.9	105	40	147.0	153.6
80	55.6	73.4	129.0	130	45	165.4	194.4
90	62.6	92.9	155.5	160	50	183.8	240.0
100	69.5	114.7	184.2	185	55	202.1	290.3
110	76.5	138.8	215.3	220	60	220.5	345.5
120	83.4	165.2	248.6	250	65	238.9	405.5
130	90.4	193.8	284.2	285	70	257.3	470.3
					75	275.6	539.9
					80	294.0	614.3

Note: Brake reaction distance predicated on a time of 2.5 s; deceleration rate of 3.4 m/s^2 [11.2 ft/s^2] used to determine calculated sight distance.

Exhibit 3-1. Stopping Sight Distance

Figure 27: Derivation of stopping sight distance requirements



2022-037 – Wooden Ruler Realty, Dover, NH
Traffic Impact Analysis

August 11, 2022

Existing Property Record Card

Property Location: 44 Third St
Parcel ID: 06040-000000
Map Block No. 6-40-0-0
Class: C
Use: 303
Card 1 of 1

Commercial Property Record Card - Dover, New Hampshire

Exterior/Interior Information																
Sec	Levels	Size	Perimeter	Use Type	Height	Exterior Walls	Construction Type	Finish	Partitions	Heating	A/C	Plumbing	Physical Condition	Functional Utility	%Good Override	Unadjusted RCNLD
1	B1-B1	1x4200	284	Multi-Use Storage	8	Brick/Stucco	Fire Resist	100	Normal			Normal	Normal	Normal	0%	147,090
1	01-01	1x6880	300	Restaurant	12	Conc. Block	Fire Resist	100	Normal	Hot Air	Central	Normal	Normal	Normal	0%	593,830
1	01-01	1x687	130	Multi-Use Storage	10	Brick/Stucco	Fire Resist	100	Normal	Hot Air		Normal	Normal	Normal	0%	39,750
1	01-01	1x1500	113	Restaurant	12	Conc. Block	Fire Resist	100	Normal	Hot Air		Normal	Normal	Normal	0%	118,270
1	02-02	1x5250	284	Apartment	10	Brick/Stucco	Fire Resist	100	Normal	Hot Air	Unit	Normal	Normal	Normal	0%	281,080
1	03-03	1x5250	284	Apartment	10	Brick/Stucco	Fire Resist	100	Normal	Hot Air	Unit	Normal	Normal	Normal	0%	281,080
0	-	0x0	0		0			0							0%	0
0	-	0x0	0		0			0							0%	0

Building Information		Building Summary		Out Building Information	
Building No:	1	Total Unadjusted RCN:	2,435,160	StructureCode	+/- Width
Year Built:	1920	Average Percent Good:	.60		0 0 0
No of Units:	1	Total Unadj. RCNLD:	1,461,100		0 0 0
Structure Type:	Mixed Res/Comm	Grade Factor:	1.08		0 0 0
Grade:	C+	No of Identical Units:	1		0 0 0
Identical Units:	1	Economic Cond Factor:	0.90		0 0 0
Efficiencies:	0	RCNLD:	1,420,200		0 0 0
1 Bedroom Apts:	0				
2 Bedroom Apts:	0				
3 Bedroom Apts:	0				
Covered Park:	0				
Uncovered Park:	0				
Notes:	19,367 Sf Gla + Bsmt Stg				

Other Improvements		Income Approach Summary	
Description	+/- RCNLD	Net Rentable Area:	23,567
	0		
	1,024,300		

Building Other Information				
Line	StructureCode	+/- Measure 1	Measure 2	IdenticalUnits
2	Sprinkler - Wet	23567	1	1
2	Cooler Chiller	19	1	9
2	Cooler Freeze	10	1	9
2	Loading Dock - Steel/Conc	12	1	3
2	Canopy - Only	90	1	1
2	Porch - Open	14	1	5
0		0	0	0
0		0	0	0
Total Other Features				68,480

Descriptor/Area

- A: ASIA REST 3600 sqft
- B: CP5 48 sqft
- C: 3S BRCK/B 3080 sqft
- D: 2S BRCK/RP 70 sqft
- E: CP5 42 sqft
- F: STORAGE 127 sqft
- G: 2S/REST/B 1050 sqft
- H: RESTANT 450 sqft
- I: STORAGE 560 sqft
- J: LD1 36 sqft

Figure 28: Existing property record card



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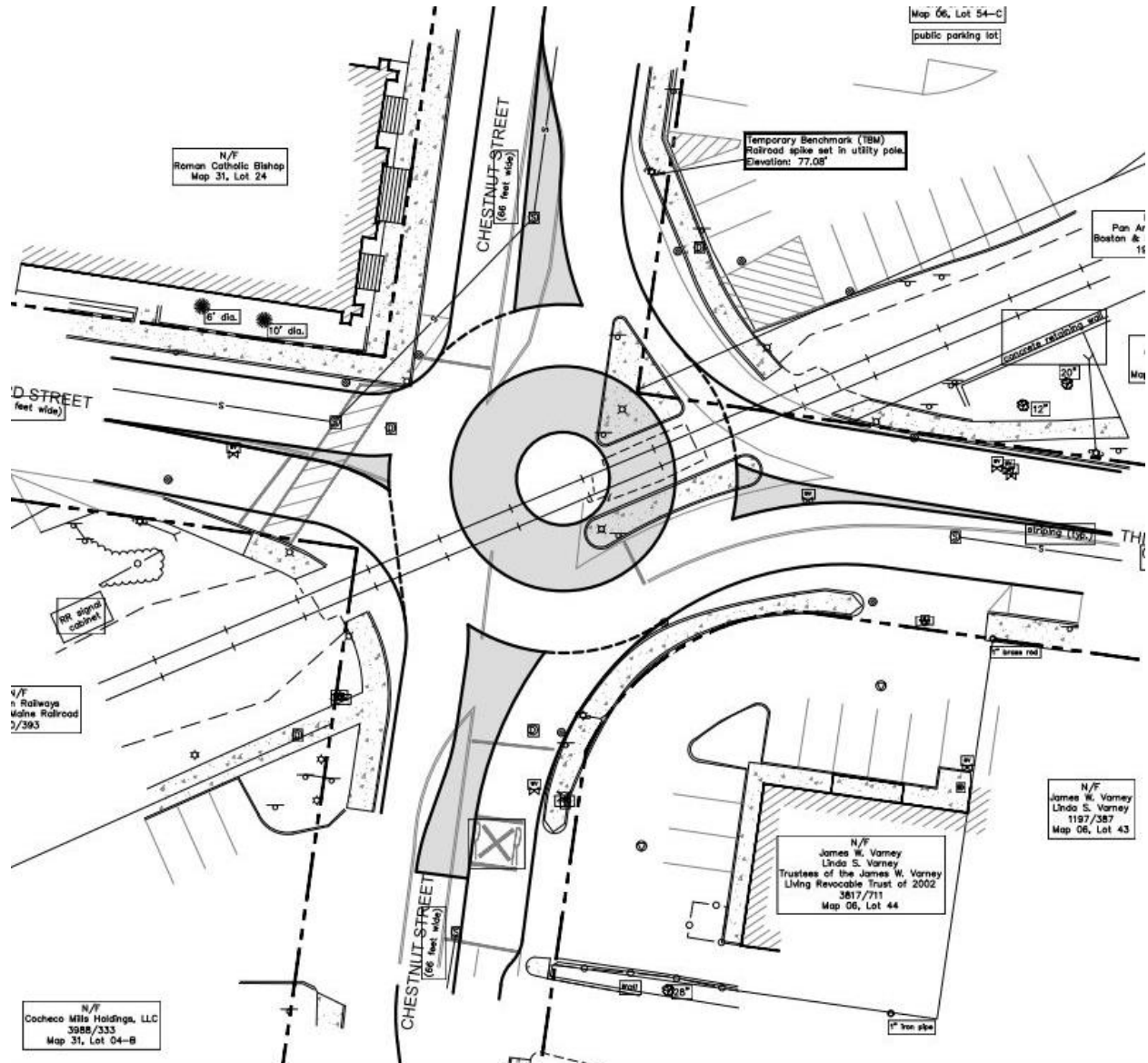
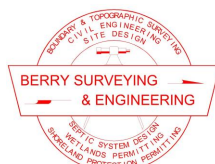
Chestnut Street/Third Street Proposed Round-About

Figure 29: Proposed Round-About at the intersection of Chestnut and Third Street (north up)

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TABLE OF CONTENTS:

SHEET 1	~ NEIGHBORHOOD PLAN
SHEET 2	~ BOUNDARY PLAN*
SHEET 3	~ EXISTING CONDITIONS PLAN
SHEET 4	~ DEMOLITION PLAN
SHEET 5	~ SITE PLAN
SHEET 6	~ GRADING PLAN & PROFILE
SHEET 7	~ EROSION & SEDIMENT CONTROL PLAN
SHEET 8	~ UTILITY PLAN & PROFILE
SHEET 9	~ LANDSCAPING PLAN
SHEET 10	~ LIGHTING PLAN
SHEET 11	~ SIGHT DISTANCE SECOND STREET
SHEET 12	~ E101-EROSION & SEDIMENT CONTROL DETAILS
SHEET 13	~ C101-CONSTRUCTION DETAILS
SHEET 14	~ C102-CONSTRUCTION DETAILS
SHEET 15	~ D101-DRAINAGE DETAILS
SHEET 16	~ D102-DRAINAGE DETAILS
SHEET 17	~ U101-UTILITY DETAILS
SHEET 18	~ U102-UTILITY DETAILS
SHEET 19	~ L101-LANDSCAPING DETAILS

* INDICATES A PLAN IS TO BE RECORDED

OWNER: JOHN WONG & MO Y WONG, TRUSTEE OF THE
MO Y. WONG LIVING REVOCABLE TRUST OF 2006
42 THIRD STREET
DOVER, NH 03820

APPLICANT: WOODEN RULER REALTY, LLC
35 THIRD STREET
DOVER, NH 03820

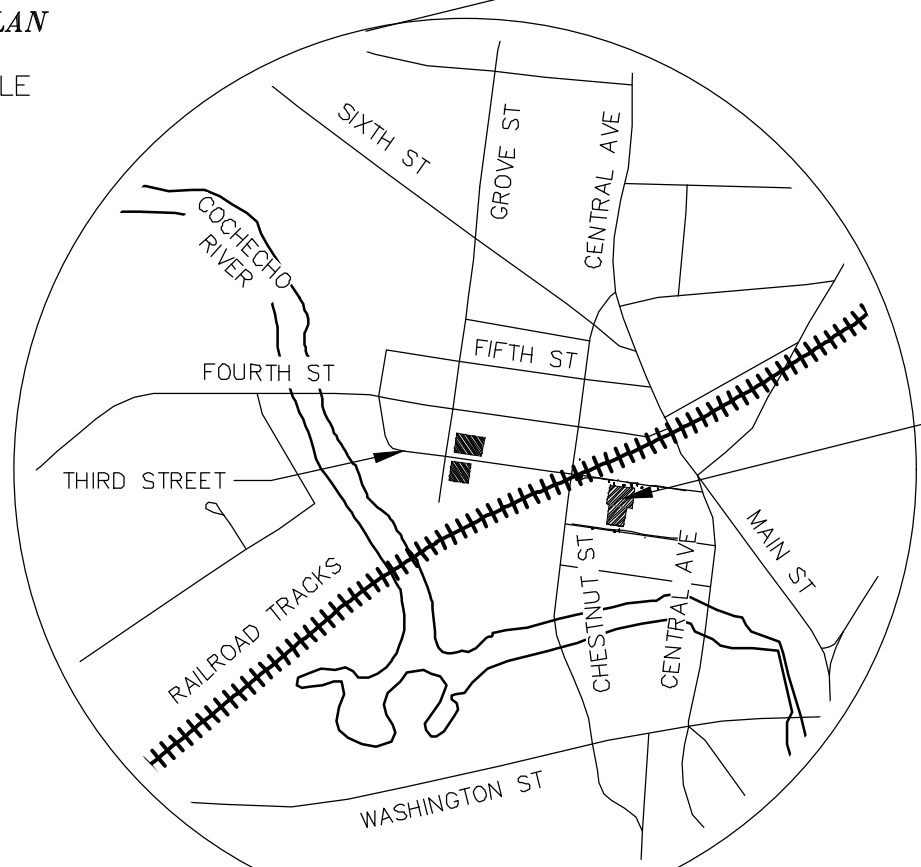
OWNER SIGNATURE: _____

SURVEYOR OF RECORD: KENNETH A. BERRY, PE, LLS
CPSWQ, CPESC, CESSWI
BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825
(603) 332-2863

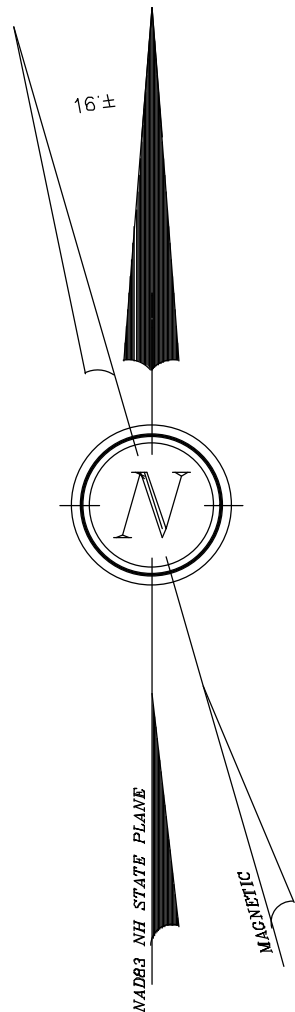
ENGINEER OF RECORD: KENNETH A. BERRY, PE, LLS
CPSWQ, CPESC, CESSWI
BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825
(603) 332-2863

WETLAND SCIENTIST: DEIDRA BENJAMIN, CWS
100 LEAVITT ROAD
PITTSFIELD, NH 03263
(603)-496-3307

LOCATION PLAN
DOVER, NH
NOT TO SCALE



PROJECT
SITE



REQUIRED PERMITS & APPROVALS:

- 1.) CITY OF DOVER PLANNING BOARD APPROVAL: PENDING
- 2.) EVERSOURCE WORK ORDER NUMBER: 10032810
- 3.) NHDES SEWER DISCHARGE PERMIT: PENDING

WHETHER OR NOT OTHERWISE EXPRESSLY RECITED ON THIS SITE PLAN, THE SITE PLAN APPROVAL GRANTED IS CONDITIONED ON FAITHFUL AND DILIGENT ADHERENCE BY THE OWNER/SUBDIVIDER/DEVELOPER OF ALL TERMS, CONDITIONS, PROVISIONS AND SPECIFICATIONS OF THE CITY OF DOVER LAND SITE PLAN REGULATIONS AS AMENDED OR AS MAY LATER BE AMENDED, IN EFFECT ON THE DATE OF APPROVAL, UNLESS OR EXCEPT INsofar AS EXPRESSLY WAIVED, IN ANY PARTICULAR, BELOW. NON - ADHERENCE MAY RESULT IN A REVOCATION OF APPROVAL. ANY VARIATION FROM THE APPROVED PLAN WILL REQUIRE A RESUBMISSION FOR SITE PLAN APPROVAL.

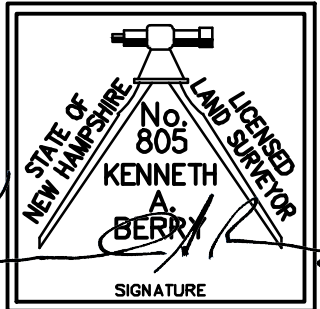
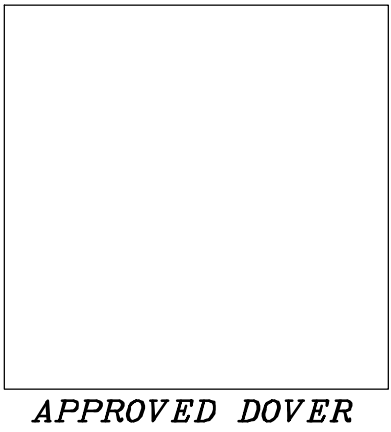
GENERAL PLAN SET NOTES:

- 1.) 11x17" PLANS ARE TWICE THE PUBLISHED SCALE.
- 2.) ALL PLANS ARE CONSIDERED TO BE NOT FOR CONSTRUCTION UNLESS THEY CONTAIN THE APPROVAL STAMP OF THE CITY OF DOVER.

MAJOR RESIDENTIAL SITE PLAN
FOR
WOODEN RULER REALTY, LLC
42 & 44 THIRD STREET
DOVER, N.H.
TAX MAP 6, LOT 32 & 40

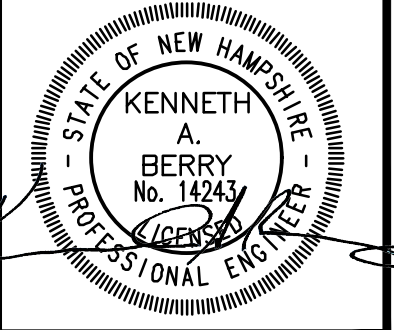


VICINITY SKETCH
DOVER, NH
SCALE: 1" = 100' ±



RESIDENTIAL SITE PLAN
FOR: WOODEN RULER REALTY, LLC
LAND OF: JOHN WONG & MO Y WONG, TRUSTEE OF THE
MO Y. WONG LIVING REVOCABLE TRUST OF 2006
42 & 44 THIRD STREET
DOVER, N.H.
TAX MAP 6, LOTS 32 & 40

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863
SCALE : AS SHOWN
DATE : AUGUST 11, 2022
FILE NO. : DB 2022 - 037



REVISION	DATE	DESCRIPTION

ABBREVIATION LEGEND:

E.O.P.	EDGE OF PAVEMENT
V.G.C.	VERTICAL GRANITE CURB
BITUM.	BITUMINOUS
E.S.H.W.T	ESTIMATE SEASONAL HIGH WATER TABLE
TYP.	TYPICAL
U.G.E	UNDER GROUND ELECTRIC / UTILITY
CLDI	CONCRETE LINED DUCTILE IRON
DI	DUCTILE IRON
F.P.	FIRE PROTECTION
U.D.	UNDER DRAIN
C.O.	CLEAN OUT
CI	CAST IRON
INV.	INVERT
ELEV.	ELEVATION
HDPE	HIGH DENSITY POLYETHYLENE
RCP	REINFORCED CONCRETE PIPE
RECB	ROLLED EROSION CONTROL BLANKET
F.G.	FINISHED GRADE
E.G.	EXISTING GRADE
E.T.W.	EDGE OF TRAVELED WAY
T.B.R.	TO BE REMOVED
PL	PROPERTY LINE
EL	EASEMENT LINE
CL	CENTER LINE
CF	CUBIC FEET
P.C.	POINT OF CURVATURE
P.T.	POINT OF TANGENCY
P.V.C.	POINT OF VERTICAL CURVE
P.V.I.	POINT OF VERTICAL INTERSECTION
P.V.T.	POINT OF VERTICAL TANGENCY
EX.	EXISTING
PROP.	PROPOSED
STA.	STATION
BMP	BEST MANAGEMENT PRACTICE
'/.	FEET / FEET
TP	TEST PIT

SSL () ~ [SIZE] SINGLE SOLID LINE (COLOR W=WHITE, Y=YELLOW)
DSL () ~ [SIZE] DOUBLE SOLID LINE (COLOR W=WHITE, Y=YELLOW)
SSB () ~ [SIZE] SINGLE SOLID W/ BROKEN LINE (COLOR W=WHITE, Y=YELLOW)
SBL () ~ [SIZE] SINGLE BROKEN LINE (COLOR W=WHITE, Y=YELLOW)
DBL () ~ [SIZE] DOUBLE BROKEN LINE (COLOR W=WHITE, Y=YELLOW)

EXISTING LEGEND:

	IRON PIPE ~FND~
	IRON BOUND ~FND~
	UTILITY POLE
	SIGNAGE
	DRAINAGE CULVERT
	DRAIN MANHOLE W/ STRUCTURE
	SEWER MANHOLE W/ STRUCTURE
	CATCH BASIN W/ STRUCTURE
	WATER GATE VALVE
	WATER SHUT OFF
	FIRE HYDRANT
	GAS VALVE
	SEWER LINE
	WATER LINE
	OVERHEAD UTILITIES
	UNDERGROUND UTILITIES
	GAS LINE
	BUILDING SETBACK LINE
	CONTOUR LINE, MINOR
	CONTOUR LINE, MAJOR
	ZONING DISTRICT LINE

PROPOSED LEGEND:

	3/4" REBAR W/ ID CAP ~TBS~
	LIGHT TYPE "A" MOUNTED ON BUILDING
	LIGHT TYPE "B" 3' TALL BOLLARD LAMP
	SEWER MANHOLE W/ STRUCTURE
	DRAIN MANHOLE W/ STRUCTURE
	CATCH BASIN W/ STRUCTURE
	SIGNAGE
	TEMPORARY BENCHMARK (T.B.M.)
	DETAIL SHEET / DETAIL
	MATCH POINT
	MATCH LINE
	CONTOUR MINOR, PROPOSED
	CONTOUR MAJOR, PROPOSED
	DRAIN CULVERT
	SHOULDER
	CENTER LINE
	BUILDING SETBACK LINE
	TRANSFORMER / J.BOX
	UNDERGROUND UTILITY
	SILT FENCE / EROSION MIX BERM
	FILTREXX 8" - 12" SILT SOXX AS SPECIFIED
	ORANGE CONSTRUCTION PERIMETER FENCE
	PERIMETER CONTROL
	NRCS SOIL DELINEATION
	SOIL TYPE
	GATE VALVE
	CURB STOP
	FIRE HYDRANT
	THRUST BLOCKS
	PROPOSED SPOT ELEVATION
	PROPOSED WATER LINE
	PROPOSED SEWER LINE
	PROPOSED GAS LINE
	PAVEMENT INLAY/SAWOUT

CBD TRANSIT
ORIENTED
DEVELOPMENT
SUB-DISTRICT

CBD GENERAL
SUB- DISTRICT

GIS SKETCH
DOVER, NH
SCALE: 1" = 50' ±

200' RADIUS AROUND
SUBJECT PARCEL

SIGN ID NUMBER	SIGN SIZE (WIDTH x HEIGHT)	SIGN	TEXT DIMENSIONS	NO. OF SIGNS	BACKGROUND	LEGEND	BORDER	POST SIZE & QUANTITY
R1-1	30"x30"		SEE STANDARD HIGHWAY SIGNS 2004 EDITION PUBLISHED BY USDOT - FHWA	1	RED	WHITE	WHITE	SQUARE (1)
R7-8	12"x18"		SEE STANDARD HIGHWAY SIGNS 2004 EDITION PUBLISHED BY USDOT - FHWA	2	WHITE	GREEN W/ WHITE SYMBOL ON BLUE	RED	SQUARE (2)
R7-8a	12"x6"		SEE STANDARD HIGHWAY SIGNS 2004 EDITION PUBLISHED BY USDOT - FHWA	1	WHITE	GREEN	GREEN	SQUARE (0)
R6-1R	36"x12"		SEE STANDARD HIGHWAY SIGNS 2004 EDITION PUBLISHED BY USDOT - FHWA	3	BLACK W/ WHITE ARROW	BLACK	WHITE	SQUARE (0)
D9-11b	24"x24"		SEE STANDARD HIGHWAY SIGNS 2004 EDITION PUBLISHED BY USDOT - FHWA	2	BLUE	WHITE	WHITE	U-CHANNEL (2)
	8"x12"		SEE STANDARD HIGHWAY SIGNS 2004 EDITION PUBLISHED BY USDOT - FHWA	1	WHITE	GREEN	GREEN	SQUARE (1)

OWNERS & ABUTTERS:

N/F BAMFORD INVESTMENT CO., LLC
466 CENTRAL AVENUE, SUITE 12
DOVER, NH 03820
S.C.R.D. BOOK 2841, PAGE 686
TAX MAP 6, LOT 36A

N/F ANSELWOLD, LLC
101 MILL ROAD
DURHAM, NH 03824-2910
S.C.R.D. BOOK 3805, PAGE 924
TAX MAP 6, LOT 37

N/F ROSS FURNITURE COMPANY, LLC
38 THIRD STREET
DOVER, NH 03820
S.C.R.D. BOOK 1870, PAGE 142
TAX MAP 6, LOT 38

N/F ROSS FURNITURE COMPANY, LLC
38 THIRD STREET
DOVER, NH 03820
S.C.R.D. BOOK 1870, PAGE 142
TAX MAP 6, LOT 38

N/F WONG, JOHN & MO Y TRUSTEES
42 THIRD STREET
DOVER, NH 03820
S.C.R.D. BOOK 4290, PAGE 111
TAX MAP 6, LOT 40

N/F VARNEY, LINDA S. & JAMES W.
88 COUNTY FARM ROAD
DOVER, NH 03820
S.C.R.D. BOOK 1197, PAGE 387
TAX MAP 6, LOT 43

N/F VARNEY, LINDA S. & JAMES W.
88 COUNTY FARM ROAD
DOVER, NH 03820
S.C.R.D. BOOK 1197, PAGE 387
TAX MAP 6, LOT 44

ABUTTERS CONT:

N/F HOLGATE LIMITED PARTNERSHIP
130 CENTRAL AVENUE
DOVER, NH 03820
S.C.R.D. BOOK 1689, PAGE 031
TAX MAP 6, LOT 29

N/F SCOTT MICHAEL BROCKELBANK JR.
49 MUDDY POND ROAD
KENSINGTON, NH 03833
S.C.R.D. BOOK 4906, PAGE 490
TAX MAP 6, LOT 30

N/F SECOND STREET DOVER LLC
2 NUTE ROAD
DOVER, NH 03820
S.C.R.D. BOOK 3513, PAGE 275
TAX MAP 6, LOT 31

N/F ROSS FURNITURE COMPANY, LLC
38 THIRD STREET
DOVER, NH 03820
S.C.R.D. BOOK 1870, PAGE 142
TAX MAP 6, LOT 38

N/F WONG, JOHN & MO Y TRUSTEES
42 THIRD STREET
DOVER, NH 03820
S.C.R.D. BOOK 4290, PAGE 111
TAX MAP 6, LOT 40

N/F VARNEY, LINDA S. & JAMES W.
88 COUNTY FARM ROAD
DOVER, NH 03820
S.C.R.D. BOOK 1197, PAGE 387
TAX MAP 6, LOT 43

N/F VARNEY, LINDA S. & JAMES W.
88 COUNTY FARM ROAD
DOVER, NH 03820
S.C.R.D. BOOK 1197, PAGE 387
TAX MAP 6, LOT 44

ABUTTERS CONT:

N/F WEST CONCORD INVESTMENTS, LLC
222 CASS STREET
PORTSMOUTH, NH 03801-4945
S.C.R.D. BOOK 3593, PAGE 516
TAX MAP 6, LOT 22

N/F DAVID R. & STACEY LEE CAMRE
49 MUDDY POND ROAD
KENSINGTON, NH 03833
S.C.R.D. BOOK 4906, PAGE 490
TAX MAP 6, LOT 30

N/F DAVID R. & STACEY LEE CAMRE
49 MUDDY POND ROAD
KENSINGTON, NH 03833
S.C.R.D. BOOK 4906, PAGE 490
TAX MAP 6, LOT 30

N/F FREEBOARD PROPERTIES, LLC
PO BOX 1818
DOVER, NH 03820-1818
S.C.R.D. BOOK 4692, PAGE 699
TAX MAP 6, LOT 36

N/F REDDY INFOSYS INC
ATTN: OFFICE BERLIN PROPERTIES
295 PRINCETON HEIGHTS TWIN #11354
PRINCETON, NJ 08550
S.C.R.D. BOOK 4274, PAGE 787
TAX MAP 6, LOT 16

N/F KNTM CAPITAL, LLC
43 NELSON STREET
DOVER, NH 03820
S.C.R.D. BOOK 4656, PAGE 742
TAX MAP 6, LOT 28

N/F HOLGATE LIMITED PARTNERSHIP
130 CENTRAL AVENUE
DOVER, NH 03820
S.C.R.D. BOOK 1689, PAGE 031
TAX MAP 6, LOT 10 & 10A

ABUTTERS CONT:

N/F STEPHANIE N. LONG
35 FIRST STREET
DOVER, NH 03820
S.C.R.D. BOOK 3683, PAGE 177
TAX MAP 6, LOT 11

N/F BRIAN J. MURPHY
486 WALLIS ROAD
RYE, NH 03870
S.C.R.D. BOOK 3541, PAGE 547
TAX MAP 6, LOT 12

N/F FIRST STREET, LLC
43 NELSON STREET
DOVER, NH 03820
S.C.R.D. BOOK 4587, PAGE 499
TAX MAP 6, LOT 14

N/F KAB REALTY MANAGEMENT, LLC
35 THIRD STREET
DOVER, NH 03820
S.C.R.D. BOOK 2125, PAGE 125
TAX MAP 6, LOT 15

N/F KIMBERLEY E. ANDERSON, TRUSTEE
FIRST DOVER REALTY TRUST
84 SHORE DRIVE
NORTHWOOD, NH 03261
S.C.R.D. BOOK 4871, PAGE 733
TAX MAP 6, LOT 16

N/F HOLGATE LIMITED PARTNERSHIP
130 CENTRAL AVENUE
DOVER, NH 03820
S.C.R.D. BOOK 1689, PAGE 032
TAX MAP 6, LOT 17

N/F SQUADKIM LLC
750 LAFAYETTE ROAD, SUITE 201
PORTSMOUTH, NH 03801
S.C.R.D. BOOK 4411, PAGE 485
TAX MAP 6, LOT 18

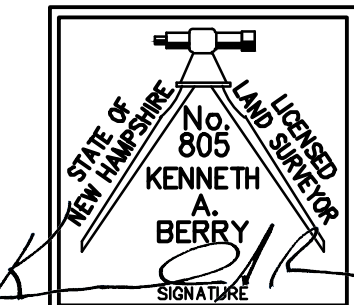
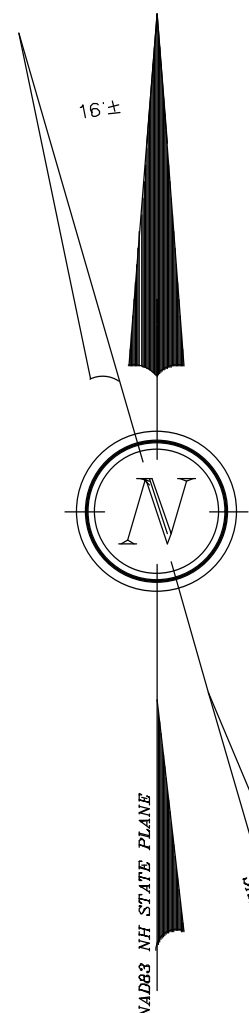
ABUTTERS CONT:

N/F BAMFORD, DAVID K. & DEBORAH
CO-TRUSTEES, THE DAVID K. BAMFORD REV. TRST.
466 CENTRAL AVENUE, SUITE 12
DOVER, NH 03820
S.C.R.D. BOOK 5002, PAGE 503
TAX MAP 6, LOT 46

N/F BOSTON & MAINE RR
IRON HORSE PARK
HIGH STREET
BILLERICA, MA 01862
TAX MAP 6, LOT 64

N/F CITY OF DOVER
280 CENTRAL AVENUE
DOVER, NH 03820
S.C.R.D. BOOK 4711, PAGE 947
TAX MAP 6, LOT 64A

N/F IRENE R. CARRIER, TRUSTEE
IRENE R. CARRIER REV TRUST OF 1998
50 FW HARTFORD DRIVE
PORTSMOUTH, NH 03801
S.C.R.D. BOOK 3508, PAGE 024
TAX MAP 6, LOT 64B



REVISION	DATE	DESCRIPTION

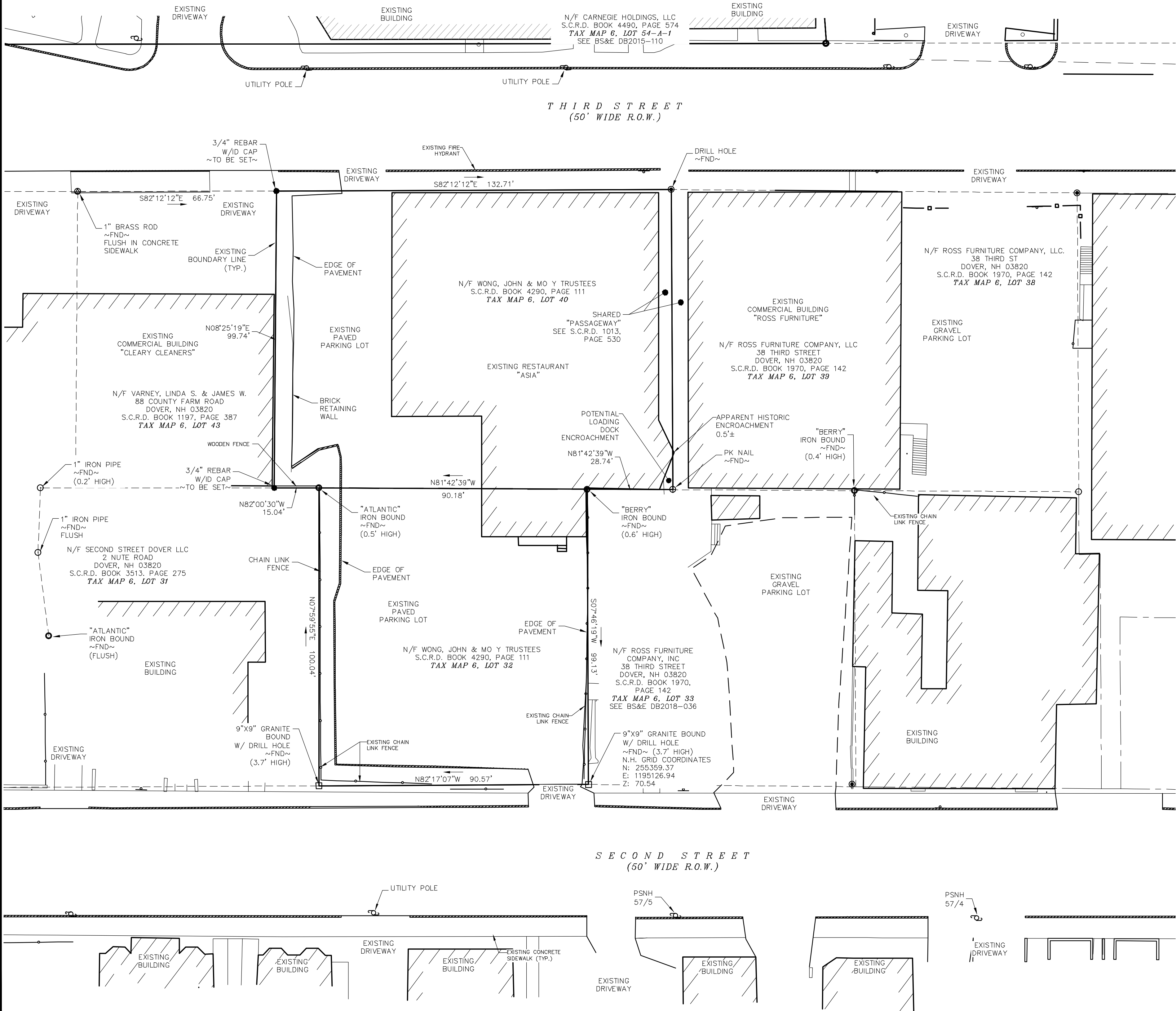
NEIGHBORHOOD PLAN
FOR: WOODEN RULER REALTY, LLC
LAND OF: JOHN WONG & MO Y WONG, TRUSTEE OF THE
MO Y. WONG LIVING REVOCABLE TRUST OF 2006
42 & 44 THIRD STREET
DOVER, N.H.
TAX MAP 6, LOTS 32 & 40

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863
SCALE : AS SHOWN
DATE : AUGUST 11, 2022
FILE NO. : DB 2022 - 037

STATE OF NEW HAMPSHIRE
KENNETH A. BERRY
LICENSED PROFESSIONAL ENGINEER
No. 805

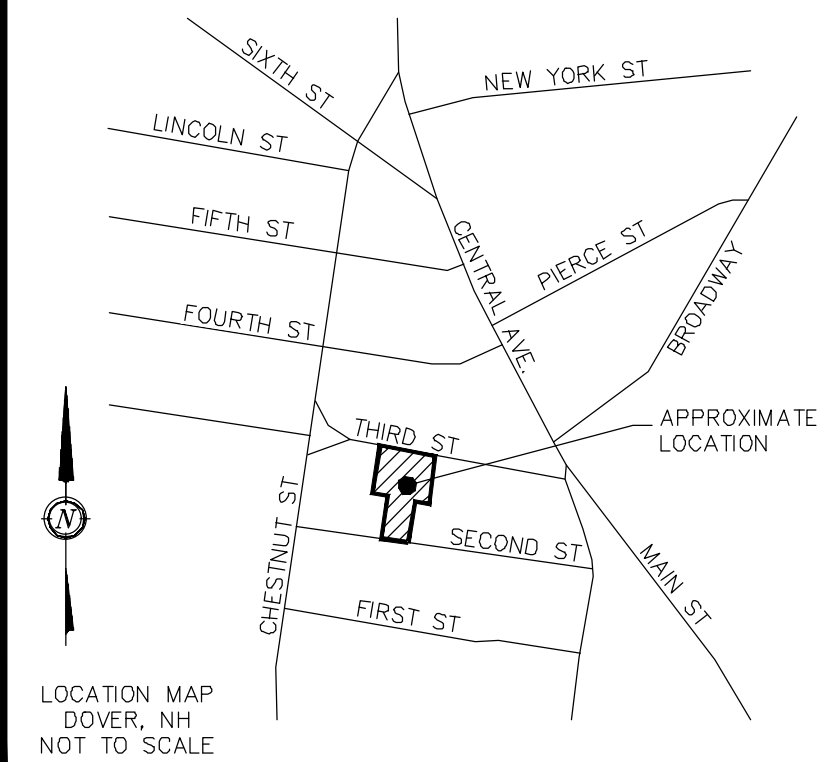
ROAD NOTES:

- 1.) SECOND STREET RIGHT OF WAY IS 50' WIDE PER CITY OF DOVER ROAD RECORDS NUMBER 0127.
- 2.) THIRD STREET RIGHT OF WAY IS 50' WIDE PER CITY OF DOVER ROAD RECORDS NUMBER 0381.



PLAN REFERENCES:

- 1.) "PLAN OF LAND FOR FISCHER BLOCK, DOVER NEW HAMPSHIRE"
BY: G.L. DAVIS
DATED: JUNE 1963
S.C.R.D. POCKET #4, FOLDER #5, PLAN #16
- 2.) "PLAN OF HEMON PROPERTY, THIRD STREET DOVER N.H."
BY: G.L. DAVIS
DATED: SEPTEMBER, 1955
S.C.R.D. POCKET #1, FOLDER #5, PLAN #10
- 3.) "PLAN OF LAND OF ANNIE D MORRILL ESTATE ETALS,
E.D. WALLACE TRUSTEE"
BY: HERSHEY AND SPAULDING INC.
DATED: APRIL 30, 1952
S.C.R.D. POCKET #7, FOLDER #3, PLAN #5
- 4.) "NEW ENGLAND THEATRES INC., STRAND AMUSEMENT CO. DOVER N.H."
BY: G.L. DAVIS
DATED: JANUARY, 1950
S.C.R.D. POCKET #1, FOLDER #2, PLAN #7
- 5.) "PLAN OF LOT, YVONNE M. BUTTERFIELD, DOVER, N.H."
BY: G.L. DAVIS
DATED: OCTOBER, 1949
S.C.R.D. POCKET #1, FOLDER #2, PLAN #20
- 6.) "PLAN SHOWING LAND OWNED BY ALCIDE TURGEON,
SECOND STREET, DOVER, N.H."
BY: HAROLD G. HERSEY
RECORDED: AUGUST, 1949
S.C.R.D. POCKET #3, FOLDER #1, PLAN #22
- 7.) "ANDERTON LOT, SECOND STREET DOVER"
BY W.M. AMES
DATED: DECEMBER 1945
S.C.R.D. POCKET #1, FOLDER #2, PLAN #26
- 8.) "LARGE PLAN"
BY: ALEX WADSWORTH
DATED: MARCH 19, 1842
A PORTION FOUND IN S.C.R.D. BOOK 191, PAGE 88
- 9.) "PLAN OF LAND PREPARED FOR SECOND STREET DOVER, LLC,
LOCATED AT 29-31 SECOND STREET, DOVER, NH"
BY: ATLANTIC SURVEY CO, LLC
DATED: JUNE 2007
NOT RECORDED
- 10.) "BOUNDARY SURVEY PLAN, LAND OF ROSS FURNITURE CO. INC."
BY: BERRY SURVEYING & ENGINEERING
DATED: JUNE 28, 2018
NOT RECORDED
BS&E DB2018-036



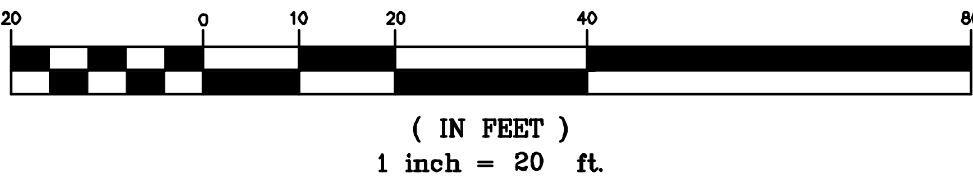
NOTES:

- 1.) OWNER: JOHN WONG & MO Y WONG, TRUSTEE OF THE MO Y. WONG LIVING REVOCABLE TRUST OF 2006
42 THIRD STREET
DOVER, NH 03820
- APPLICANT: WOODEN RULER REALTY, LLC
35 THIRD STREET
DOVER, NH 03820
- 2.) A.) TAX MAP 6, LOT 32
B.) TAX MAP 6, LOT 40
- 3.) A.) S.C.R.D. BOOK 4290, PAGE 111
B.) S.C.R.D. BOOK 4290, PAGE 111
- 4.) A.) LOT AREA: 9,000 Sq. Ft., 0.21 Ac.
B.) LOT AREA: 13,364 Sq. Ft., 0.31 Ac.
- 5.) THE INTENT OF THIS PLAN IS TO SHOW THE LOCATION OF BOUNDARIES OF TAX MAP 31, LOT 22 IN ACCORDANCE WITH AND IN RELATION TO THE CURRENT AND ORIGINAL LEGAL DESCRIPTIONS, AND IS NOT AN ATTEMPT TO DEFINE UNWRITTEN RIGHTS, DETERMINE THE EXTENT OF OWNERSHIP, OR DEFINE THE LIMITS OF TITLE.
- 6.) VERTICAL DATUM BASED ON NAVD88 ELEVATIONS. HORIZONTAL DATUM BASED ON NAD83 STATE PLANE. COORDINATES GATHERED USING TOPCON HIPER SR SURVEY GRADE GPS RECEIVERS.
- 7.) THE BOUNDARY LINES SHOWN ON THIS PLAN ARE THE RESULT OF A CLOSED TRAVERSE PERFORMED BY THIS OFFICE IN SPRING 2018 WITH AN ERROR OF CLOSURE BETTER THAN 1 PART IN 10,000.

LEGEND:

- 3/4" REBAR W/D CAP (TO BE SET)
○ IRON BOUND/IRON ROD (FND)
○ IRON PIPE (FND)
□ STONE BOUND (FND)
○ DRILL HOLE (FND)
○ PK NAIL (FND)
○ BRASS ROD (FND)
○ UTILITY POLE / GUY WIRE
- APPROX. ABUTTING PROPERTY LINE
FND FOUND
TYP TYPICAL
S.C.R.D. STRAFFORD COUNTY REGISTRY OF DEEDS

GRAPHIC SCALE



REVISION	DATE	DESCRIPTION
BOUNDARY PLAN LAND OF WONG, JOHN & WONG, MO T TRUSTEE 42 & 44 THIRD STREET DOVER, N.H. TAX MAP 6, LOTS 32 & 40		
BERRY SURVEYING & ENGINEERING 335 SECOND CROWN POINT RD. BARRINGTON, N.H. (603)332-2863		
SCALE : 1 IN. EQUALS 20 FT.		
DATE : JULY 12, 2022		
FILE NO. : DB 2022 - 037		

I CERTIFY THAT THIS SURVEY PLAT IS NOT A SUBDIVISION PURSUANT TO THIS TITLE AND THAT THE LINES OF STREETS AND WAYS SHOWN ARE THOSE OF PUBLIC OR PRIVATE STREETS OR WAYS ALREADY ESTABLISHED AND THAT NO NEW WAYS ARE SHOWN.

KENNETH A. BERRY L.L.S. 805 DATE 08/15/2022

UTILITY NOTE:

THE UNDERGROUND UTILITIES SHOWN ON THIS PLAN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR NOR THE ENGINEER MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE.

ROAD NOTES:

- SECOND STREET RIGHT OF WAY IS 50' WIDE PER CITY OF DOVER ROAD RECORDS NUMBER 0127.
 - THIRD STREET RIGHT OF WAY IS 50' WIDE PER CITY OF DOVER ROAD RECORDS NUMBER 0381.
- SOILS:**
SFC - SUFFIED SILT LOAM, 8 TO 15 PERCENT SLOPES
SEE WEBSOL USDA-NRCS

WETLAND NOTES:

- WETLANDS WERE DELINEATED BY DEIDRA BENJAMIN, IN JUNE 2022 UTILIZING THE FOLLOWING STANDARDS:
- REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTH-CENTRAL AND NORTHEAST REGION, (VERSION 2.0) JANUARY 2012, U.S. ARMY CORPS OF ENGINEERS.
 - FIELD INDICATORS OF HYDRIC SOILS IN THE UNITED STATES, A GUIDE FOR IDENTIFYING AND DELINEATING HYDRIC SOILS, VERSION 8.0, UNITED STATES DEPARTMENT OF AGRICULTURE (2016).
 - NATIONAL WETLAND PLANT LIST (CURRENT VERSION).
 - NO WETLANDS WERE FOUND ON SITE.

DEIDRA BENJAMIN, CWS #295



PLAN REFERENCES:

- "PLAN OF LAND FOR FISCHER BLOCK, DOVER NEW HAMPSHIRE"
BY: G.L. DAVIS
DATED: JUNE 1963
S.C.R.D. POCKET #4, FOLDER #5, PLAN #16
- "PLAN OF HEMON PROPERTY, THIRD STREET DOVER N.H."
BY: G.L. DAVIS
DATED: SEPTEMBER, 1955
S.C.R.D. POCKET #1, FOLDER #5, PLAN #10
- "PLAN OF LAND OF ANNIE D MORRILL ESTATE ETALS. E.D. WALLACE TRUSTEE"
BY: HERSEY AND SPAULDING INC.
DATED: APRIL 30, 1952
S.C.R.D. POCKET #1, FOLDER #5, PLAN #5
- "NEW ENGLAND THEATRES INC., STRAND AMUSEMENT CO. DOVER N.H."
BY: G.L. DAVIS
DATED: JANUARY, 1950
S.C.R.D. POCKET #1, FOLDER #2, PLAN #7
- "PLAN OF LOT, YVONNE M. BUTTERFIELD, DOVER, N.H."
BY: G.L. DAVIS
DATED: OCTOBER, 1949
S.C.R.D. POCKET #1, FOLDER #2, PLAN #20
- "PLAN SHOWING LAND OWNED BY ALCIDIE TURGEON, SECOND STREET, DOVER, N.H."
BY: HAROLD G. HERSEY
RECORDED: AUGUST, 1949
S.C.R.D. POCKET #3, FOLDER #1, PLAN #22
- "ANDERTON LOT, SECOND STREET DOVER"
BY W.M. AMES
DATED: DECEMBER 1945
S.C.R.D. POCKET #1, FOLDER #2, PLAN #26
- "LARGE PLAN"
BY: ALEX WADSWORTH
DATED: MARCH 19, 1842
A PORTION FOUND IN S.C.R.D. BOOK 191, PAGE 88
- "PLAN OF LAND PREPARED FOR SECOND STREET DOVER, LLC, LOCATED AT 29-31 SECOND STREET, DOVER, NH"
BY: ATLANTIC SURVEY CO, LLC
DATED: JUNE 2007
NOT RECORDED
- "BOUNDARY SURVEY PLAN"
BY: BERRY SURVEYING & ENGINEERING
DATED: JUNE 28, 2018
NOT RECORDED

NOTES:

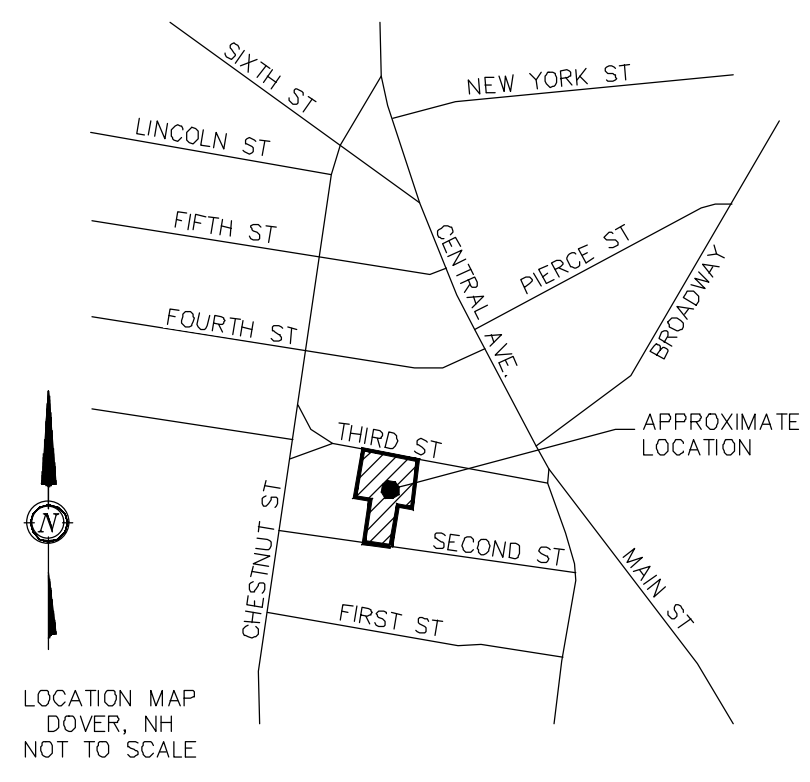
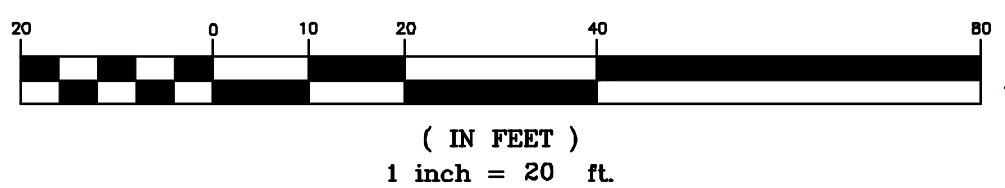
- OWNER: JOHN WONG & MO Y WONG, TRUSTEE OF THE MO Y. WONG LIVING REVOCABLE TRUST OF 2006
42 THIRD STREET DOVER, NH 03820
APPLICANT: WOODEN RULER REALTY, LLC
35 THIRD STREET DOVER, NH 03820
- A) TAX MAP 6, LOT 32
B) TAX MAP 6, LOT 40
- A) S.C.R.D. BOOK 4290, PAGE 111
B) S.C.R.D. BOOK 4290, PAGE 111
- A) LOT AREA: 9,000 Sq. Ft., 0.21 Ac.
B) LOT AREA: 13,364 Sq. Ft., 0.31 Ac.
- ZONING: CBD - CENTRAL BUSINESS DISTRICT (GENERAL SUB-DISTRICT)
SETBACKS
FRONT BUILD TO (SECOND ST) ~ 6-16'
FRONT BUILD TO (THIRD ST) ~ 5-10'
SIDE ~ 0'-24' MAX
REAR ~ 10'
MIN. LOT SIZE: N/A
MIN. FRONTAGE BUILD-OUT: 70%
MIN. LOT COVERAGE: 75%
MAX. BUILDING HEIGHT: 5 STORIES
MIN. BUILDING HEIGHT: 2 STORIES
- THE INTENT OF THIS PLAN IS TO SHOW THE EXISTING BOUNDARIES AND CONDITIONS OF TAX MAP 6, LOTS 32 & 40 LOCATED IN DOVER, N.H., AS OF THE FIELD SURVEY IN SPRING OF 2018 AND JUNE OF 2022.
- I HEREBY CERTIFY THAT, TO THE BEST OF MY KNOWLEDGE AND BELIEF, THIS PROPERTY DOES NOT FALL WITHIN THE FLOOD PLAIN FLOOD HAZARD REF. FEMA COMMUNITY #330145, MAP 33017C0310E, DATED: SEPTEMBER 30, 2015.
- VERTICAL DATUM BASED ON NAVD88 ELEVATIONS. HORIZONTAL DATUM BASED ON NAD83 STATE PLANE. COORDINATES GATHERED USING TOPCON HIPER SR SURVEY GRADE GPS RECEIVERS.
- THE BOUNDARY LINES SHOWN ON THIS PLAN ARE THE RESULT OF A CLOSED TRAVERSE PERFORMED BY THIS OFFICE IN SPRING 2018 WITH AN ERROR OF CLOSURE BETTER THAN 1 PART IN 10,000.
- TOPOGRAPHY PROVIDED IS DEMARCATED AT 1' INTERVALS, AND IS THE RESULT OF A FIELD SURVEY PERFORMED IN JUNE 2022.
- THIS SITE IS SERVICED BY MUNICIPAL SEWER AND WATER.
- WETLANDS WERE DELINEATED BY DEIDRA BENJAMIN, CWS, CERTIFIED WETLANDS SCIENTIST, IN ACCORDANCE WITH CHAPTER 170-27.1 OF THE ZONING ORDINANCE, IN JUNE OF 2022. NO WETLANDS WERE FOUND ON SITE.
- EXISTING LOT COVERAGE:
A) LOT 32: 609 Sq. Ft. (6.8%)
B) LOT 40: 8,245 Sq. Ft. (61.7%)
- EXISTING IMPERVIOUS COVERAGE:
A) LOT 32: 7,325 Sq. Ft. (88.2%)
B) LOT 40: 12,524 Sq. Ft. (93.7%)

EXISTING LEGEND:

- IRON BOUND/IRON ROD (FND)
- IRON PIPE (FND)
- STONE BOUND (FND)
- DRILL HOLE (FND)
- PK NAIL (FND)
- BRASS ROD (FND)
- SINGLE POST SIGN
- TEMPORARY BENCHMARK
- CURB STOP
- GATE VALVE
- FIRE HYDRANT
- GAS VALVE
- CATCH BASIN W/ STRUCTURE
- DRAIN MANHOLE W/ STRUCTURE
- SEWER MANHOLE W/ STRUCTURE

- ABUTTING PROPERTY LINE
- COMMON PROPERTY LINE
- BUILDING SETBACK LINE
- EXISTING GAS LINE
- EXISTING WATER LINE
- EXISTING SEWER LINE
- EXISTING DRAIN LINE
- OVERHEAD UTILITIES
- EXISTING CONTOUR MINOR
- EXISTING CONTOUR MAJOR
- FOUND
- TYPICAL
- STRAFFORD COUNTY
- REGISTRY OF DEEDS

GRAPHIC SCALE



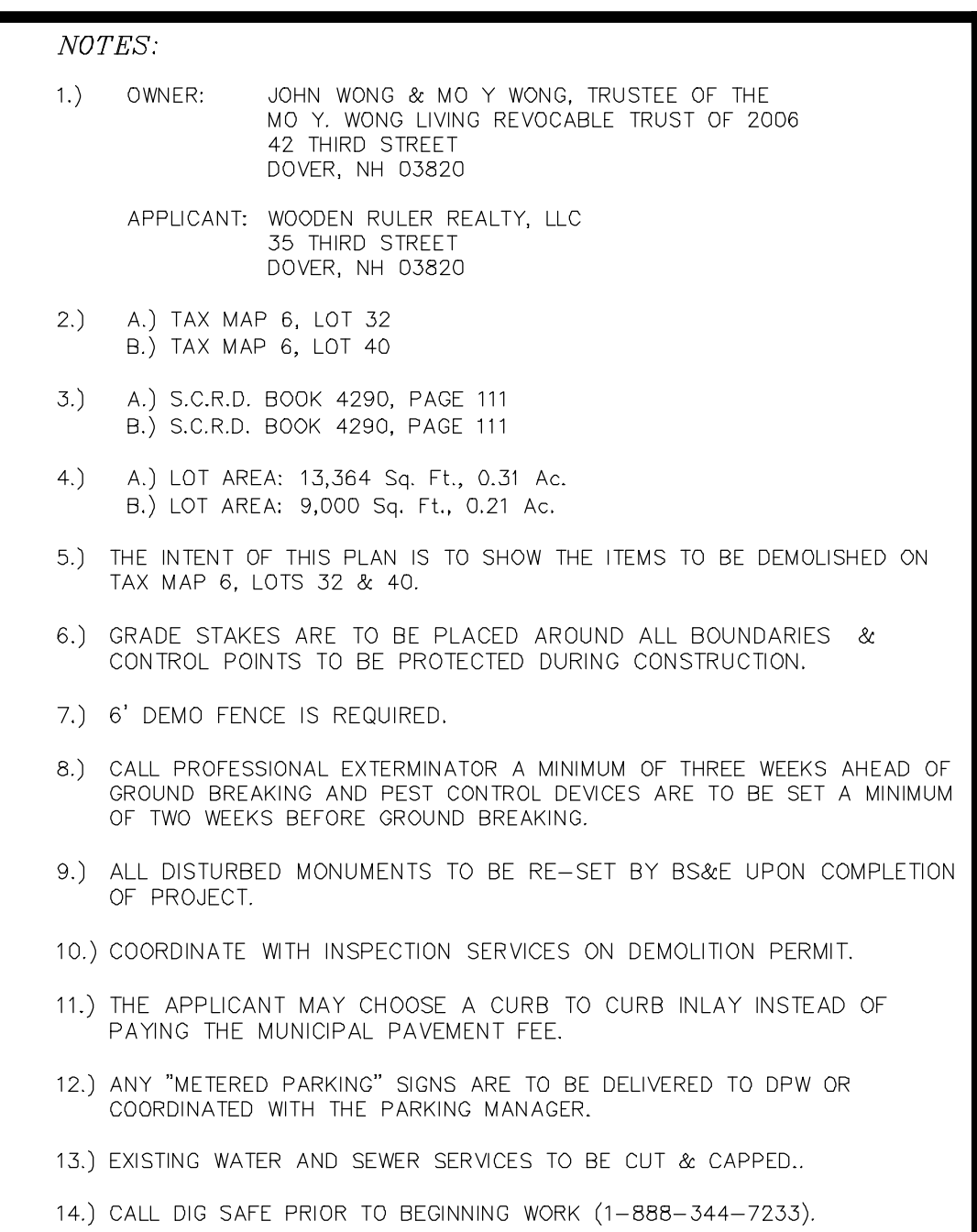
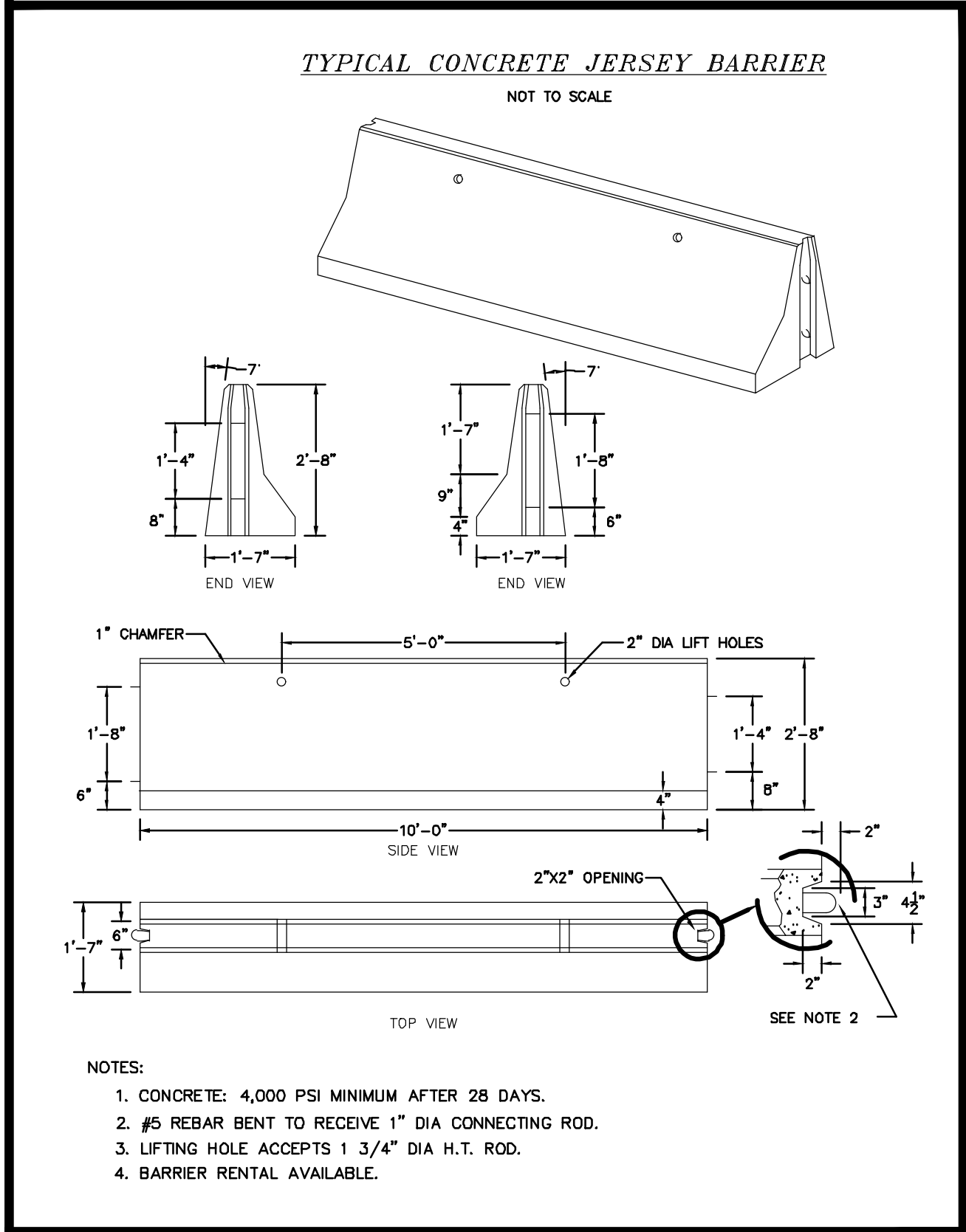
REVISION	DATE	DESCRIPTION

EXISTING CONDITIONS PLAN
FOR: WOODEN RULER REALTY, LLC
LAND OF: JOHN WONG & MO Y WONG, TRUSTEE OF THE
MO Y. WONG LIVING REVOCABLE TRUST OF 2006
42 & 44 THIRD STREET DOVER, N.H.
TAX MAP 6, LOTS 32 & 40

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863
SCALE : 1 IN. EQUALS 20 FT.
DATE : AUGUST 11, 2022
FILE NO. : DB 2022 - 037

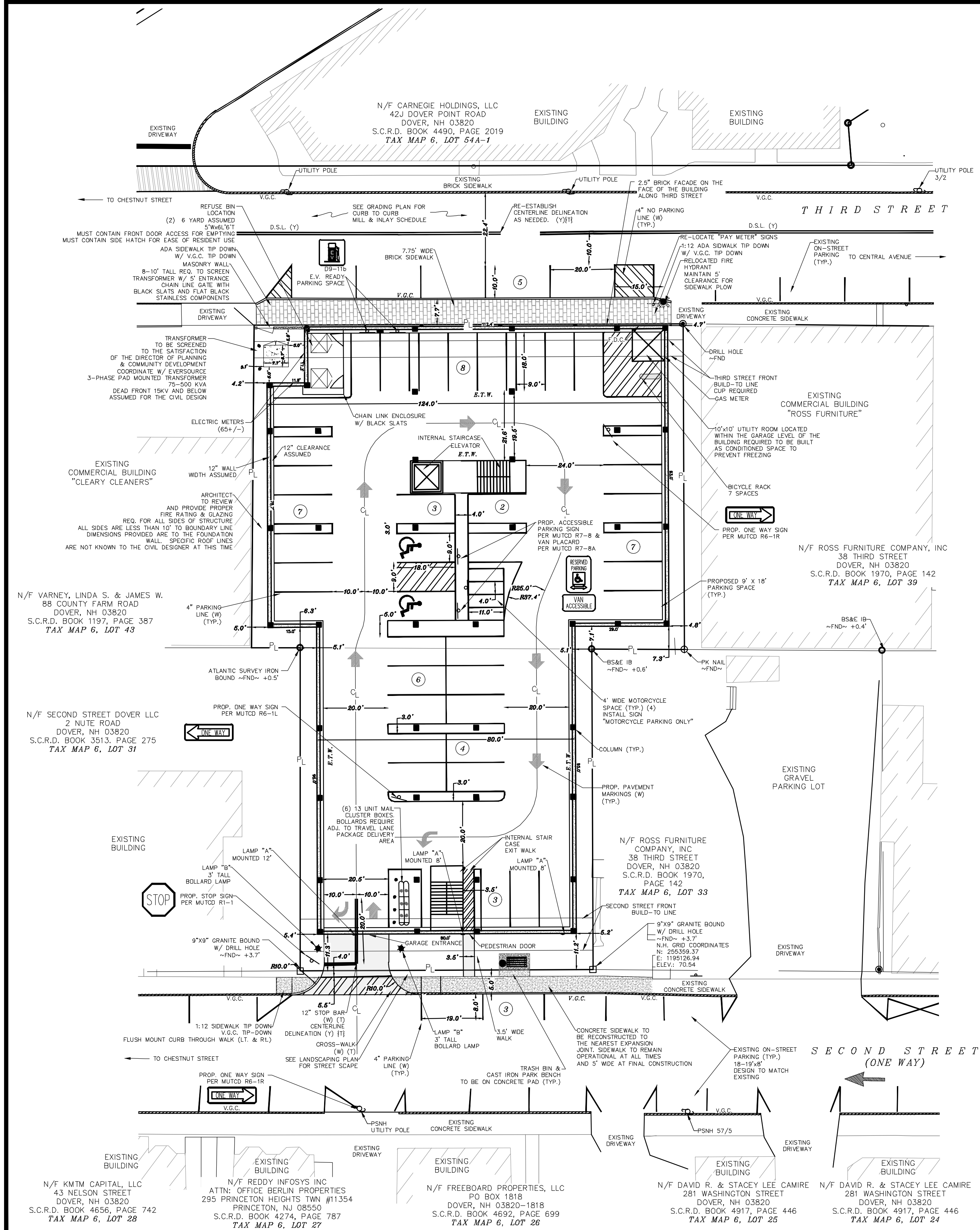
STATE OF NEW HAMPSHIRE
No. 805
KENNETH A. BERRY
SURVEYOR

SHEET 3 OF 19



		BERRY SURVEYING & ENGINEERING 335 SECOND CROWN POINT ROAD BARRINGTON, NH 03825 (603) 332-2863	
SCALE : 1 IN. EQUALS 20 FT.		DATE : AUGUST 11, 2022	
FILE NO. : DB 2022 - 037			

GRADING & DRAINAGE PLAN FOR: WOODEN RULER REALTY, LLC LAND OF: JOHN WONG & MO Y WONG, TRUSTEE OF THE MO Y. WONG LIVING REVOCABLE TRUST OF 2006 42 & 44 THIRD STREET DOVER, N.H. TAX MAP 6, LOTS 32 & 40			
REVISION	DATE	DESCRIPTION	

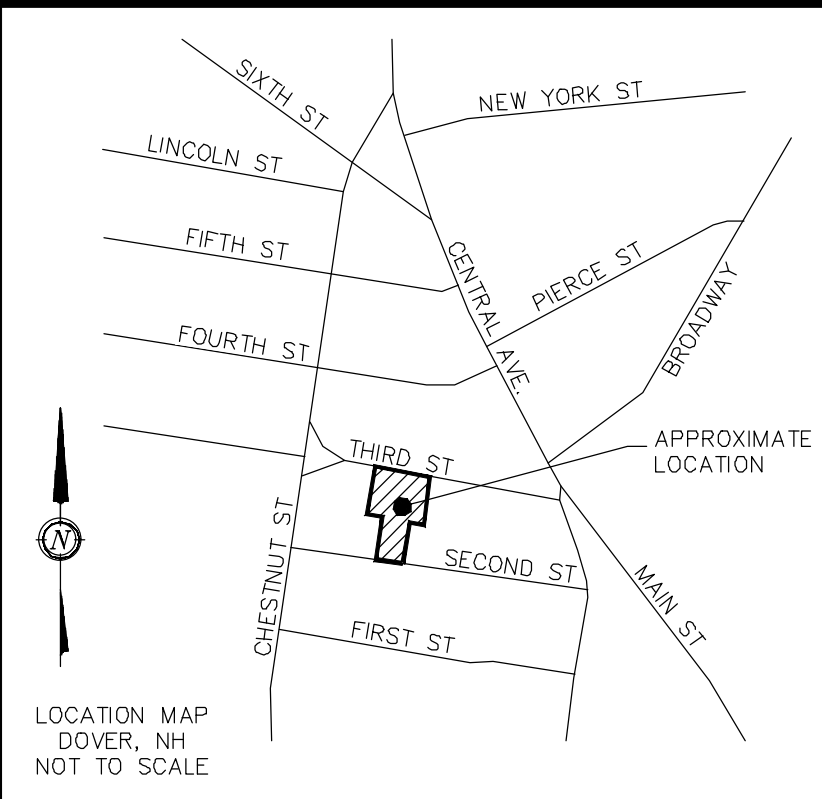


NOTES:

- OWNER: JOHN WONG & MO Y WONG, TRUSTEE OF THE MO Y. WONG LIVING REVOCABLE TRUST OF 2006
42 THIRD STREET
DOVER, NH 03820
- APPLICANT: WOODEN RULER REALTY, LLC
35 THIRD STREET
DOVER, NH 03820
- A.) TAX MAP 6, LOT 32
B.) TAX MAP 6, LOT 40
- A.) S.C.R.D. BOOK 4290, PAGE 111
B.) S.C.R.D. BOOK 4290, PAGE 111
- A.) LOT AREA: 13,364 Sq. Ft., 0.31 Ac.
B.) LOT AREA: 9,000 Sq. Ft., 0.21 Ac.
- ZONING: CBD - CENTRAL BUSINESS DISTRICT (GENERAL SUB-DISTRICT)
- SETBACKS:
 - FRONT BUILD TO (SECOND ST) ~ 6'-16"
 - FRONT BUILD TO (THIRD ST) ~ 5'-10"
 - REAR ~ 0'-24" MAX
 - SIDE ~ 0'-24" MAX
 - REAR ~ 10'
 - MIN. LOT SIZE: N/A
 - MIN. FRONTAGE BUILD-OUT: 70%
 - MIN. LOT COVERAGE: 75%
 - MAX. BUILDING HEIGHT: 5 STORIES
 - MIN. BUILDING HEIGHT: 2 STORIES
- PERCENTAGES ARE A FACTOR OF THE LOT MERGER
- THE INTENT OF THIS PLAN IS TO SHOW THE SITE PLAN FOR THE PROPOSED DEVELOPMENT, PARKING IN BASEMENT LEVEL, COMMERCIAL UNITS AND STORAGE ON LEVEL 1 AND SIXTEEN RESIDENTIAL UNITS PER FLOOR ON LEVELS 2-4 AND TEN ON LEVEL 5 FOR A TOTAL OF FIFTY-EIGHT (58) RESIDENTIAL UNITS.
- I HEREBY CERTIFY THAT, TO THE BEST OF MY KNOWLEDGE AND BELIEF, THIS PROPERTY DOES NOT FALL WITHIN THE FLOOD PLAIN FLOOD HAZARD REF: FEMA COMMUNITY #330145, MAP 33017C0310E, DATED: SEPTEMBER 30, 2015.
- VERTICAL DATUM BASED ON NAVD83 ELEVATIONS. HORIZONTAL DATUM BASED ON NAD83 STATE PLANE. COORDINATES GATHERED USING TOPCON HIPER SR SURVEY GRADE GPS RECEIVERS.
- THE BOUNDARY LINES SHOWN ON THIS PLAN ARE THE RESULT OF A CLOSED TRAVERSE PERFORMED BY THIS OFFICE IN SPRING OF 2018 WITH AN ERROR OF CLOSURE BETTER THAN 1 PART IN 10,000.
- LIST ANY VARIANCES OR SPECIAL EXCEPTIONS GRANTED BY THE ZONING BOARD OF ADJUSTMENT OR CONDITIONAL USE PERMITS GRANTED BY THE PLANNING BOARD FOR THE PROPOSED USE OR STRUCTURE:
- WETLANDS WERE DELINEATED BY DEIDRA BENJAMIN, CERTIFIED WETLANDS SCIENTIST, IN ACCORDANCE WITH CHAPTER 170-27.1 OF THE ZONING ORDINANCE, IN JUNE OF 2022. NO WETLANDS WERE FOUND ON SITE.
- AS-BUILT PLANS OF THE SITE PLAN SHALL BE SUBMITTED ON PAPER AND IN DIGITAL FORMAT AUTOCAD DWG, AUTOCAD DXF OR ESRI FORMAT TO THE CITY OF DOVER ENGINEER'S OFFICE UPON COMPLETION OF PROJECT. AS-BUILTS ARE REQUIRED REGARDLESS OF OWNERSHIP OF ROAD. AS-BUILT PLANS SHALL BE PREPARED AND CERTIFIED CORRECT BY A L.L.S. OR P.E. DIGITAL FILES SHALL BE GEO-REFERENCED TO NEW HAMPSHIRE STATE PLANE COORDINATES NAD83 AND SHALL BE EXPRESSED IN FEET.
- THE INSTALLATION OF ELECTRIC POWER, CABLE TELEVISION AND TELEPHONE LINES SHALL BE UNDERGROUND THROUGHOUT THE SITE FOR WHICH DEVELOPMENT IS PROPOSED.
- THE SUBJECT PARCEL IS SERVED BY MUNICIPAL WATER AND SEWER.
- ALL CONSTRUCTION SHALL CONFORM WITH THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION (NHDOT) "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" DATED 2016, AND WITH THE CITY OF DOVER COMMUNITY SERVICES REGULATIONS AND STANDARD SPECIFICATION FOR CONSTRUCTION. THE MORE STRINGENT SPECIFICATION SHALL APPLY.
- ALL EROSION CONTROL NOTES SHALL INCLUDE PROVISIONS FOR CONSTRUCTION SEQUENCING, TEMPORARY EROSION CONTROL MEASURES, AND PERMANENT STANDARDS SUCH AS LOAM SPREAD RATE FOR DISTURBED AREAS, RATES OF LIME, TYPE AND RATES FOR FERTILIZER, AND SEED AND MULCH MIXTURE WITH RATES OF APPLICATION.
- ALL TREATMENT SWALES TO BE CONSTRUCTED SHALL HAVE SOD BOTTOMS. (COMMON NOTE NOT APPLICABLE TO THIS PROJECT.)
- A LETTER OF CREDIT FOR THE COST OF RE-VEGETATING ALL DISTURBED AREAS ON THE SITE SHALL BE SUBMITTED, AND THE APPROVED CONSTRUCTION SIGN SHALL BE INSTALLED PRIOR TO ANY EARTH DISTURBING ACTIVITY OCCURS. THE PROPOSED PROJECT WILL CONSIST OF ONE PHASE AND WILL DISTURB 22,364 Sq.Ft. 0.51 Ac.
- A PRE-CONSTRUCTION CONFERENCE WITH THE DEVELOPER, THE DESIGN ENGINEER, THE EARTHWORK CONTRACTOR AND THE CITY ENGINEER SHALL OCCUR PRIOR TO ANY EARTH DISTURBING ACTIVITY.
- SITE CONSTRUCTION HOURS SHALL BE LIMITED TO MONDAY-FRIDAY 7 AM-6 PM, SATURDAY 7 AM-6 PM, NO SUNDAY HOURS OR FEDERAL HOLIDAYS. HOURS OF CONSTRUCTION MUST BE DOCUMENTED ON A SITE CONSTRUCTION SIGN ALONG WITH THE CONTACT INFORMATION FOR THE GENERAL CONTRACTOR. SAID SIGNAGE MUST BE LOCATED AND APPROVED BY THE CITY ENGINEER OR ASSISTANT CITY MANAGER.
- BUILDING ADDRESSES SHALL BE ASSIGNED BY THE BUILDING OFFICIAL AT THE TIME OF ISSUANCE OF A BUILDING PERMIT.
- THE FOLLOWING FEDERAL AND STATE PERMITS OR UTILITY ORDERS HAVE BEEN ISSUED FOR THE SUBJECT PROPERTY:
 - NHDES SEWER DISCHARGE PERMIT PENDING 10032810
 - EVSOURCE WORK ORDER NUMBER
- COMMERCIAL VEHICLE ROUTE DURING CONSTRUCTION SHALL CONFORM TO DOVER CITY CODE OR BE COORDINATED WITH THE COMMUNITY SERVICES DIRECTOR. IN ADDITION, A SPECIFIC PRE-CONSTRUCTION MEETING IS TO BE HELD WITH THE DEVELOPER, SITE CONTRACTOR AND MUNICIPAL DEPARTMENT HEADS TO DETERMINE STAGING AREA REQUIREMENTS. A REVIEW OF APPROVED LOCATIONS AND WRITTEN AGREEMENTS ARE NEEDED TO ENSURE THE PROJECT WILL NOT HAVE A DETRIMENTAL IMPACT ON THIRD STREET BUSINESSES OR SECOND STREET RESIDENTS.
- ANY RETAINING WALL TALLER THAN FOUR FEET (4') REQUIRES ISSUANCE OF A BUILDING PERMIT FROM INSPECTION SERVICES.
- ANY FENCE TALLER THAN SEVEN FEET (7') REQUIRES THE ISSUANCE OF A BUILDING PERMIT FROM INSPECTION SERVICES.
- APPLICANT SHALL COMPLETE LAND USE DEVELOPMENT TRACKING FORM, MOST RECENTLY REVISED VERSION, UTILIZING THE ONLINE POLLUTION TRACKING AND ACCOUNTING PILOT PROJECT (PTAPP) PORTAL.
[HTTPS://WWW.UNH.EDU/UNHSC/PTAPP](https://www.unh.edu/unhsc/ptapp)
- THE BUILDING IS REQUIRED TO BE SOLAR READY. THE TOTAL FOOT PRINT OF THE BUILDING IS 18,930 Sq.Ft. 30% OF THE ROOF (5,679 Sq.Ft.) IS REQUIRED TO BE CONSTRUCTED AS A GREEN ROOF OR CONTAIN SOLAR PANELS. THE APPLICANT IS PROPOSING A GREEN ROOF.

GRAPHIC SCALE

(IN FEET)
1 inch = 20 ft.



NOTES CONTINUED:

- THE OWNER OF RECORD SHALL RECORD AT THE REGISTRY OF DEEDS DOCUMENTATION SUFFICIENT TO PROVIDE NOTICE TO ALL PERSONS/ENTITIES THAT MAY ACQUIRE ANY PROPERTY SUBJECT TO THE REQUIREMENTS AND RESPONSIBILITIES DESCRIBED IN THE APPROVED STORMWATER MANAGEMENT PLAN. THE NOTICE SHALL COMPLY WITH THE APPLICABLE REQUIREMENTS FOR RECORDING CONTAINED IN RSA 477 AND 478. THE NOTICE NEED NOT SET FORTH THE REQUIREMENTS AT LENGTH, SO LONG AS IT IS SUFFICIENT TO PROVIDE NOTICE TO PROSPECTIVE PURCHASERS TO THE REQUIREMENTS FOR MAINTENANCE AND REPORTING. (COMMON NOTE NOT APPLICABLE FOR THIS PROJECT).
- FIRE DEPARTMENT ACCESS SHALL BE INSTALLED AND MAINTAINED TO SUPPORT THE IMPOSED LOADS OF FIRE APPARATUS IN ALL WEATHER CONDITIONS AT ALL TIMES.
- EXTERIOR LIGHTING SHALL BE CUT-OFF TYPE FIXTURES PER CHAPTER 153-14-E AND SHALL PROVIDE LIGHTING DIRECTED ON-SITE ONLY.
- A SECURITY SYSTEM SHALL BE INSTALLED AS REQUIRED BY CHAPTER 45, ARTICLE I, SECTION 45-2 OF THE CODE OF THE CITY OF DOVER.
- APPROVED BACKFLOW PREVENTERS SHALL BE PROVIDED FOR BOTH FIRE AND DOMESTIC WATER LINES.
- THE PROPOSED STRUCTURE SHALL BE SERVED BY A SPRINKLER SYSTEM AS REQUIRED BY CHAPTER 81-30 OF THE CODE OF THE CITY OF DOVER AND THE ADOPTED STATE OF NH BUILDING AND FIRE CODES.
- SPRINKLER CONNECTIONS MUST BE FLUSHED IN ACCORDANCE WITH NFPA 24 AND A CONTRACTOR'S MATERIAL AND TEST CERTIFICATE FOR UNDERGROUND PIPING FORM MUST BE COMPLETED AND APPROVED BY INSPECTION SERVICES PRIOR TO CONNECTION OF THE BACKFLOW DEVICE.
- FIRE DEPARTMENT CONNECTION(S) SHALL BE LOCATED ON THE STREET SIDE OF THE BUILDING PER NFPA 13. ACCESS TO THE FDC SHALL MAINTAIN A CLEAR AND UNOBSTRUCTED PATH AT ALL TIMES.
- THE SITE LAYOUT IS DESIGNED IN COMPLIANCE WITH APPLICABLE ACCESSIBILITY REGULATIONS. THE PROPOSED STRUCTURE WILL BE ALSO BE DESIGNED IN ACCORDANCE WITH APPLICABLE ACCESSIBILITY REGULATIONS. (I.E. IBC, ANSI-117.1) AND NH RSA 155-A:5.
- EXISTING BUILDING AREA: 8,854 Sq. Ft. (39.6%)
EXISTING PAVED IMPERVIOUS AREA: 10,995 Sq. Ft. (49.1%)
TOTAL EXISTING IMPERVIOUS COVER IS 19,849 Sq. Ft. (88.8%)
PROPOSED BUILDING AREA: 18,930 Sq. Ft. (84.64%)
PROPOSED PAVED IMPERVIOUS AREA: 290 Sq. Ft. (1.3%)
TOTAL PROPOSED IMPERVIOUS COVER IS 13,541 Sq. Ft. (60.55%)
TOTAL IMPERVIOUS CONSIDERS GREEN ROOF VALUES ARE A FUNCTION OF THE LOT MERGER
- PRIVATE TRASH PICKUP WILL BE USED THROUGH THE USE OF BINS COLLECTED AND STORED AT THE PARKING LEVEL WITHIN AN ENCLOSURE.
- MUNICIPAL SIDEWALK TO REMAIN OPERATIONAL AT ALL TIMES.
- THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO LOCATE EXACTLY AND TO PRESERVE ANY AND ALL UNDERGROUND UTILITIES CALL "DIG-SAFE" 1-888-DIGSAFE (344-7233) AT LEAST 72 HOURS BEFORE COMMENCING CONSTRUCTION.
- AS PART OF THE CONSIDERATION OF THE PROPOSED SITE PLAN THE PLANNING BOARD IS APPROVING THE MERGER OF THESE TWO LOTS.
- MECHANICAL SYSTEMS ARE PROPOSED TO BE ON THE ROOF AND SHIELDED BY THE PEREPT.

CONDITIONAL USE PERMITS:

1 BENCH FOR EVERY 75' OF FRONTAGE. NO BENCH IS PROPOSED ON THIRD STREET DUE TO SIDEWALK CONSTRAINTS.
STREET TREES REQUIRED EVERY 25'-30': NO STREET TREES ARE PROPOSED ON THIRD STREET DUE TO SIDEWALK CONSTRAINTS.

RECREATION SPACE REQUIREMENTS:

PROPOSED NUMBER OF BEDROOMS: 83
OPEN SPACE REQUIREMENT (100 SF PER BEDROOM): 8,300 SF
1 RECREATION SPACE FOR PASSIVE USE: 4150 SF (SATISFIED ON SITE GREEN ROOF)
1 RECREATION SPACE FOR ACTIVE USE: 4,100 SF (SATISFIED OFF SITE)
ACTIVE RECREATION FEE REQUIRED

WAIVER REQUEST:

PARKING GARAGE ISLE WIDTH: 153'-14"(D)(8)(b)
SITE SPECIFIC SOILS MAP: 153-14(A)(3)(I)(2)(C)

PARKING REQUIREMENTS:

CHAPTER 153-14D PARKING TABLE
RESIDENTIAL (CBD-C)
... 1.25 SPACES PER UNIT + 0.4 VISITOR SPACE PER UNIT
... MIN. CALCULATION: 58 UNITS x 1.25 SPACES = 73 SPACES
... MAX. CALCULATION: 58 UNITS x 1.65 SPACES = 96 SPACES

TOTAL PROPOSED PARKING SPACES = 40 SPACES
33 ADDITIONAL PARKING SPACES WILL BE PROVIDED OFF SITE AT 35 THIRD STREET
MIN. REQUIRED PARKING SPACES: 73 SPACES
MAX. ALLOWED PARKING SPACES: 96 SPACES
PROPOSED PARKING SPACES: 73 SPACES
5% BICYCLE RACK STORAGE = 4 SPACES REQ. 7 SPACES PROVIDED
5% EV SPACE REQ = 2 SPACES REQ. 2 SPACES PROVIDED
THE PROJECT MAINTAINS 3 SPACES ON SECOND STREET WITH NO LOSS OF PUBLIC PARKING AND ADDS 3 SPACES ON THIRD STREET

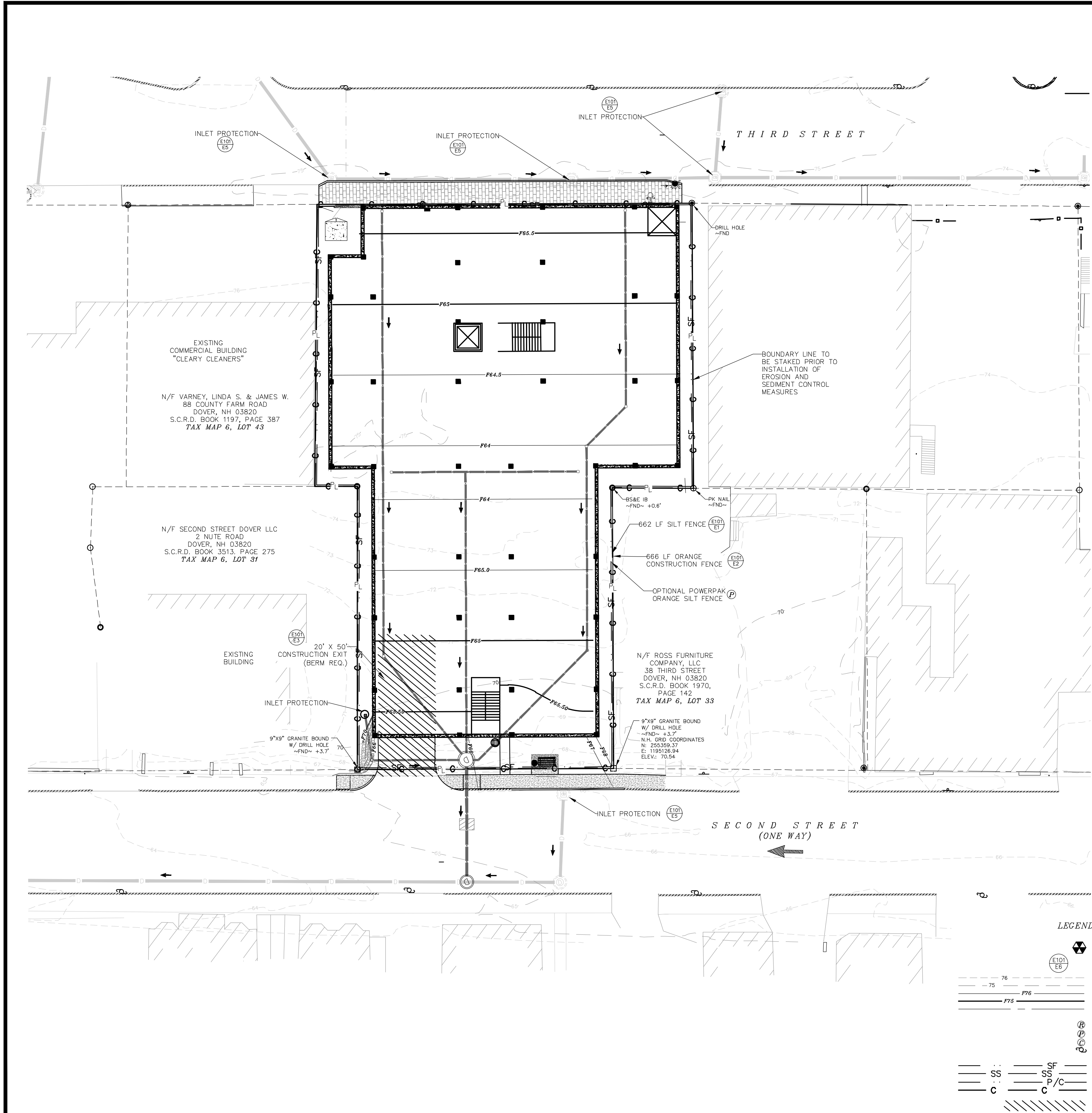
DESCRIPTION	
REVISION	DATE

SITE PLAN
FOR: WOODEN RULER REALTY, LLC
LAND OF: JOHN WONG & MO Y WONG, TRUSTEE OF THE
MO Y. WONG LIVING REVOCABLE TRUST OF 2006
42 & 44 THIRD STREET
DOVER, N.H.
TAX MAP 6, LOTS 32 & 40

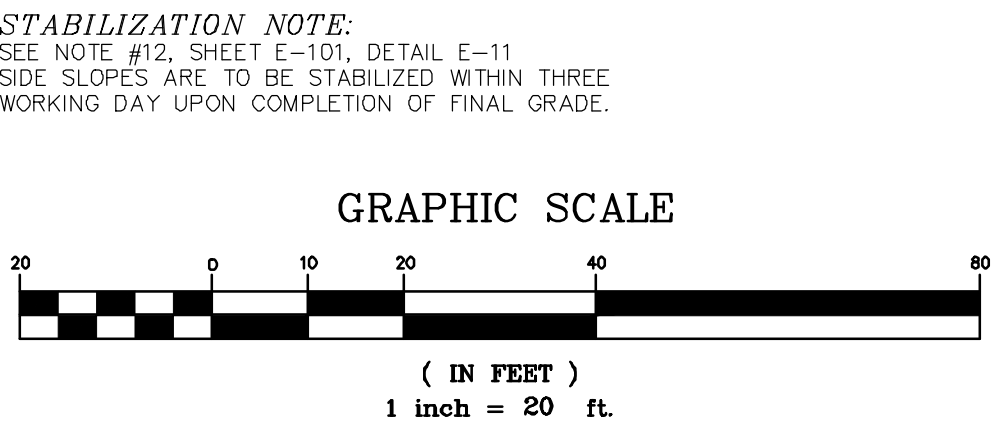
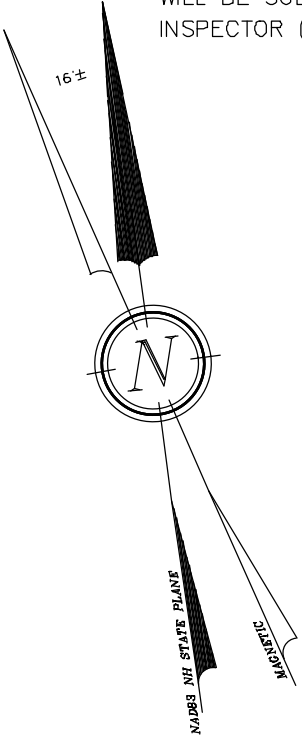
BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863
SCALE : 1 IN. EQUALS 20 FT.
DATE : AUGUST 11, 2022
FILE NO. : DB 2022 - 037

KENNETH A. BERRY
No. 14243
Professional Engineer





- NOTES:**
- 1.) OWNER: JOHN WONG & MO Y WONG, TRUSTEE OF THE MO Y. WONG LIVING REVOCABLE TRUST OF 2006
42 THIRD STREET
DOVER, NH 03820
 - APPLICANT: WOODEN RULER REALTY, LLC
35 THIRD STREET
DOVER, NH 03820
 - 2.) A.) TAX MAP 6, LOT 32
B.) TAX MAP 6, LOT 40
 - 3.) A.) S.C.R.D. BOOK 4290, PAGE 111
B.) S.C.R.D. BOOK 4290, PAGE 111
 - 4.) A.) LOT AREA: 9,000 Sq. Ft., 0.21 Ac.
B.) LOT AREA: 13,364 Sq. Ft., 0.31 Ac.
 - 5.) THE INTENT OF THIS PLAN IS SHOW THE PROPOSED EROSION AND SEDIMENT CONTROL MEASURES.
 - 6.) CONTRACTOR IS TO INSTALL A CONSTRUCTION ENTRANCE PRIOR TO EARTH DISTURBING ACTIVITIES.
 - 7.) CONTRACTOR IS RESPONSIBLE FOR SWEEPING THE PARKING LOT, SIDEWALKS AND ANYTHING DISTURBED, TO ENSURE THAT NO SEDIMENT IS BEING TRACKED ONTO THIRD STREET, SECOND STREET, OR THE EXISTING DRIVEWAYS.
 - 8.) CONTRACTOR IS RESPONSIBLE FOR CLEANING AND MAINTAINING THE INLET PROTECTION ONCE INSTALLED.
 - 9.) FUGITIVE DUST IS TO BE CONTROLLED THROUGHOUT THE CONSTRUCTION PROCESS IN ACCORDANCE WITH ENV-A 1000.
 - 10.) CONTRACTOR IT TO MEET THE REQUIREMENTS SPECIFIED IN RSA 430:51-57 AND AGR 3800, RELATING TO INVASIVE SPECIES.
 - 11.) CONTRACTOR IS RESPONSIBLE FOR PROTECTING THE WATER QUALITY FROM ANY RUN OFF DURING THE CONSTRUCTION PROCESS, IN ACCORDANCE WITH ENV-WQ 1507, IN ORDER TO PREVENT VIOLATIONS OF THE STORM WATER QUALITY STANDARDS.
 - 12.) CONTRACTOR MAY USE SILT FENCE OR SILT SOXX FOR PERIMETER CONTROL (MULCH BERM WOULD NOT BE APPROPRIATE IN THIS LOCATION. SPECIFIC PRACTICES MAY BE SPECIFIED, SEE PLAN.
 - 13.) EROSION AND SEDIMENT CONTROL INSPECTIONS TO BE CONDUCTED ONCE PER EVERY SEVEN DAYS AND AT AN INCREASED FREQUENCY INCLUDING WITHIN 24-HOURS OF A 0.25 INCH RAIN EVENT. INSPECTIONS TO BE CONDUCTED BY A "QUALIFIED PERSON" AS DEFINED BY EPA CGP 4.1.1 AND INSPECTION REPORTS SUBMITTED TO THE CITY OF DOVER, NH, ENGINEERING DEPARTMENT WITHIN 24 HOURS IN ACCORDANCE WITH CGP 4.1.7 AND MAINTAINED BY THE OWNER FOR A PERIOD OF THREE YEARS AFTER THE PROJECT IS COMPLETED. SEE ALSO CITY OF DOVER ADDITIONAL INSPECTION REQUIREMENTS BELOW.
 - 14.) PER EPA CGP Z.1.2.2 (INSTALL PERIMETER CONTROL), "YOU MUST INSTALL SEDIMENT CONTROLS ALONG THOSE PERIMETER AREAS OF YOUR SITE THAT WILL RECEIVE STORMWATER FROM EARTH DISTURBING ACTIVITIES." AS A RESULT OF SWPPP INSPECTIONS, THE CONTRACTOR MAY HAVE TO EXPAND PERIMETER CONTROLS TO MEET THIS REQUIREMENT. THE E&SC PLAN IS INITIAL GUIDANCE AS TO THE ANTICIPATED REQUIREMENTS AND IT THE CONTRACTORS RESPONSIBILITY TO ENSURE THAT STORMWATER VIOLATION DO NOT OCCUR. (CGP - CONSTRUCTION GENERAL PERMIT)
 - 15.) CITY OF DOVER: IN ACCORDANCE WITH SITE PLAN REVIEW REGULATIONS (153-14) THE FOLLOWING STORMWATER MEASURES ARE REQUIRED.
 - A.) ALL PROPOSED BMPs WILL CONFORM TO THE NH STORMWATER MANUAL VOLUME 3.
 - B.) EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY SOIL LAND DISTURBANCE AND MUST BE REVIEWED AND APPROVED BY COMMUNITY SERVICE.
 - C.) TEMPORARY STABILIZATION MEASURES SHOULD BE IN PLACE WITHIN SEVEN CALENDAR DAYS FOR EXPOSED SOILS AREAS THAT ARE WITHIN ONE HUNDRED FEET OF A SURFACE WATER BODY OR A WETLAND AND NO MORE THAN 14 CALENDAR DAYS FOR ALL OTHER AREAS. PERMANENT STABILIZATION SHOULD BE IN PLACE WITHIN THREE CALENDAR DAYS FOLLOWING COMPLETION OF FINAL GRADING OF EXPOSED SOIL AREAS.
 - D.) ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED IN FUNCTIONING CONDITION UNTIL FINAL STABILIZATION IS ACCOMPLISHED.
 - E.) COMMUNITY SERVICES DEPARTMENT OR THEIR DESIGNATED AGENT SHALL HAVE ACCESS TO THE SITE TO COMPLETE ROUTINE INSPECTIONS AND SHALL BE NOTIFIED 24-HOURS PRIOR TO INSTALLATION OF A STORMWATER BMP IN ORDER TO SCHEDULE AN INSPECTION, DURING NORMAL WORKING HOURS.
 - F.) THE PLANNING BOARD OR COMMUNITY SERVICES MAY REQUIRE THE DESIGN ENGINEER AND/OR AN INDEPENDENT, THIRD-PARTY INSPECTION AND OVERSIGHT OF THE CONSTRUCTION OF STORMWATER MANAGEMENT FACILITIES AND EROSION AND SEDIMENT CONTROL AT THEIR DISCRETION. THE OWNER / APPLICANT IS RESPONSIBLE FOR ALL FEES ASSOCIATED WITH INSPECTIONS.
 - G.) ALL SWPPP INSPECTIONS MUST BE CONDUCTED BY A QUALIFIED PROFESSIONAL SUCH AS A PROFESSIONAL ENGINEER (PE), A CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL (CPESC), A CERTIFIED EROSION SEDIMENT AND STORMWATER INSPECTOR (CESSWI), OR A CERTIFIED PROFESSIONAL IN STORMWATER QUALITY (CPSWQ). INSPECTION REPORTS WILL BE SUBMITTED TO THE COMMUNITY SERVICES DEPARTMENT. U.S. EPA, CGP 2022 REQUIRES A QUALIFIED AND CERTIFIED INSPECTOR (SEE SWPPP).



- LEGEND:**
- TEMPORARY BENCHMARK (T.B.M.)
 - DETAIL SHEET / DETAIL
 - CONTOUR MINOR, EXISTING
 - CONTOUR MAJOR, EXISTING
 - CONTOUR MINOR, PROPOSED
 - CONTOUR MAJOR, PROPOSED
 - CENTER LINE
 - STORMWATER BMP PROTECTION
 - PERIMETER CONTROL
 - RESIDENTIAL/ROADWAY CONSTRUCTION
 - UTILITY POLE
 - SILT FENCE
 - FILTREXX SILT/SOXX
 - PERIMETER CONTROL
 - CONSTRUCTION FENCE
 - CONSTRUCTION ENTRANCE/EXIT

SOILS & DEWATERING:

SJC SUFFIELD SILT LOAM $K = 0.49$

SEE SITE SPECIFIC SOILS MAP (SSSM)
SEE WEBSOIL USDA-NRCS
ERODIBILITY FACTOR - K, CPESC MANUAL, ENVIROCERT INTERNATIONAL INC. & ROCKINGHAM COUNTY SOIL SURVEY, ROCKWEB SOIL ATTRIBUTES.

CONTRACTOR TO BE AWARE OF THE SOIL PROFILES AND ENSURE THAT PROPER EROSION PREVENTION AND SEDIMENT CONTROL MEASURES ARE TAKEN AT ALL TIMES. ANY DEWATERING REQUIREMENTS IN NEW HAMPSHIRE REQUIRE SPECIAL PROVISIONS IN ACCORDANCE WITH THE "CLARIFICATION OF SECTION 9.1.2 (STATE OF NEW HAMPSHIRE CONDITIONS) AND OTHER NH SPECIFIC INFORMATION FOR THE U.S. EPA 2012 NPDES CONSTRUCTION GENERAL PERMIT (CGP)" DATED MAY 3, 2012 INCLUDED IN THE SWPPP.

COVER MANAGEMENT DURING CONSTRUCTION FOR EXPOSED SOIL WILL INCLUDE HAY / STRAW APPLIED AT A RATE OF 2.0 TONS PER ACRE, TEMPORARY SEEDING OF ANNUAL RYE GRASS, AND PERMANENT SEEDING AT THE EARLIES OPPORTUNITY. SEE ADDITIONAL REQUIREMENT FOR STABILIZATION ON THE EROSION AND SEDIMENT CONTROL DETAIL SHEETS, E-101 AND E-102.

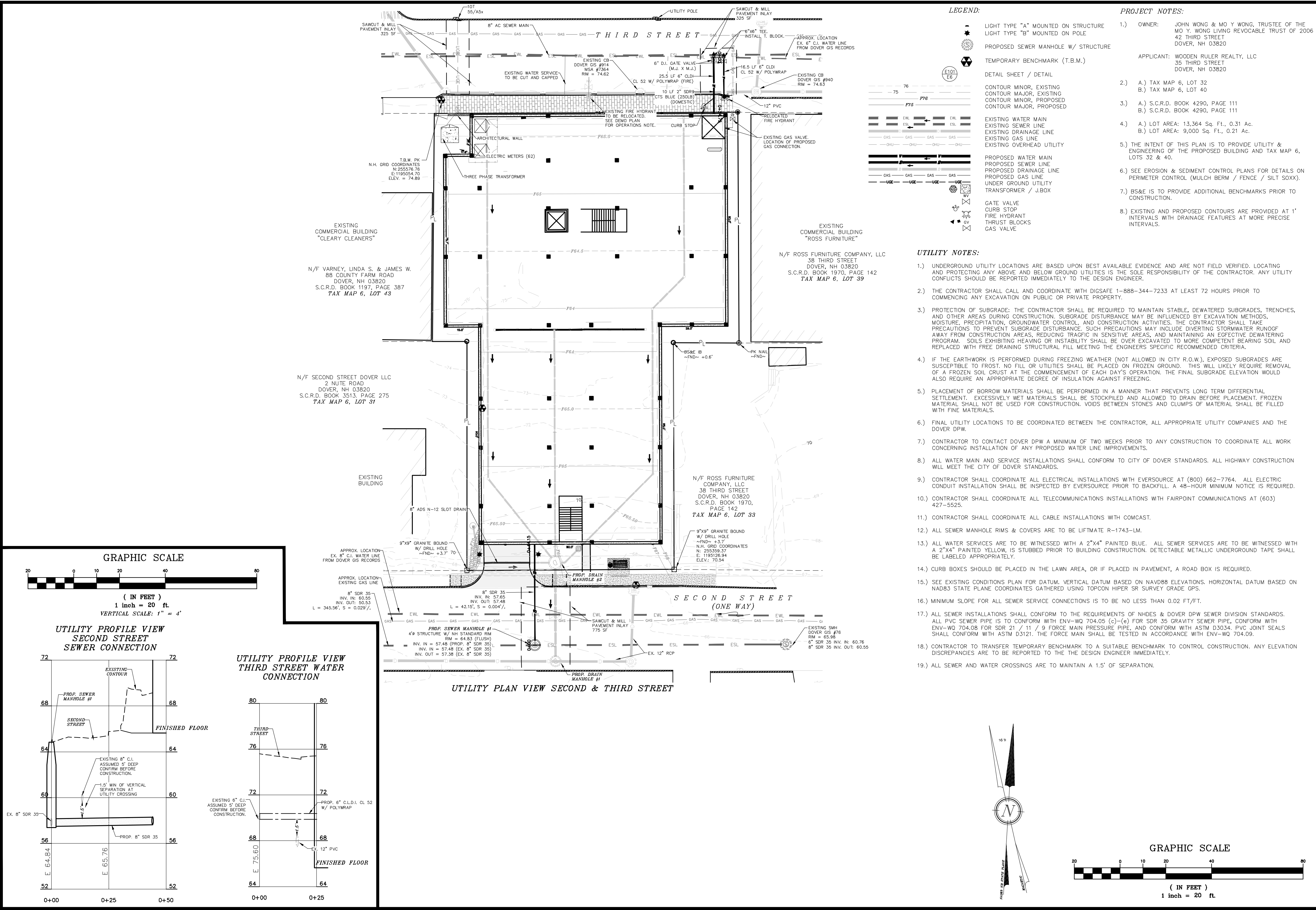
THE CONSTRUCTION SCHEDULE WILL BE MANAGED SO THAT ALL STORMWATER STRUCTURES WILL BE BUILT AND STABILIZED PRIOR TO RECEIVING SURFACE WATER RUNOFF. CONTRACTOR TO BE RESPONSIBLE FOR ALL DIVERSIONS DURING CONSTRUCTION AND FOR INTERIM SEDIMENT AND EROSION CONTROL MEASURES.

REVISION		DATE	DESCRIPTION

EROSION AND SEDIMENT CONTROL PLAN
FOR: WOODEN RULER REALTY, LLC
LAND OF: JOHN WONG & MO Y WONG, TRUSTEE OF THE
MO Y. WONG LIVING REVOCABLE TRUST OF 2006
42 & 44 THIRD STREET
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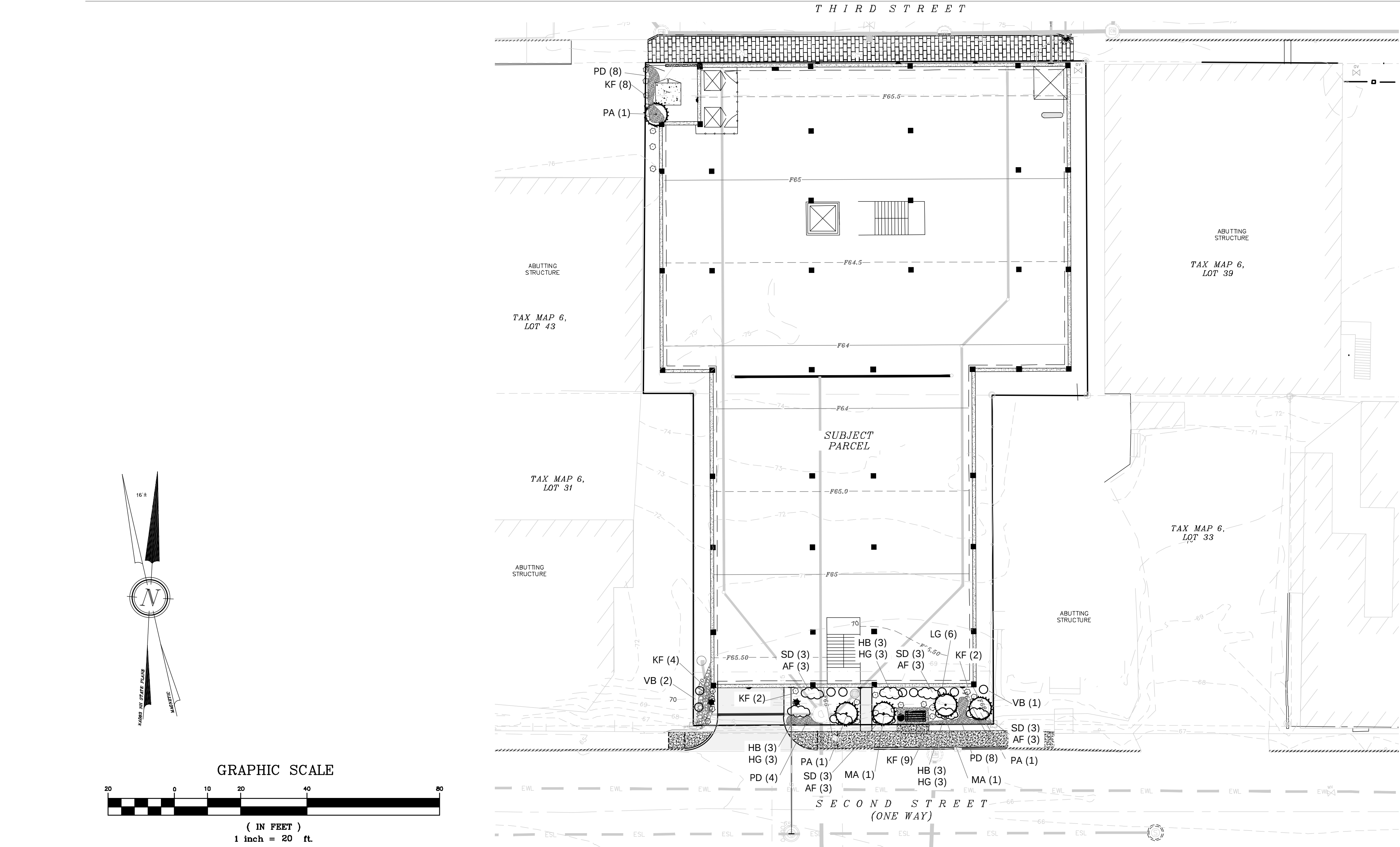


REVISION	DATE	DESCRIPTION

UTILITY PLAN & PROFILE
FOR: WOODEN RULER REALTY, LLC
LAND OF: JOHN WONG & MO Y WONG, TRUSTEE OF THE
MO Y. WONG LIVING REVOCABLE TRUST OF 2006
42 & 44 THIRD STREET
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KENNETH A. BERRY
REGISTERED PROFESSIONAL ENGINEER
STATE OF NEW HAMPSHIRE
No. 7424



- NOTES:**
- CALL DIG SAFE PRIOR TO BEGINNING WORK. (1-888-344-7233). THE LANDSCAPE CONTRACTOR IS ADVISED OF THE PRESENCE OF UNDERGROUND UTILITIES AND SHALL VERIFY THE EXISTENCE AND LOCATION OF THE SAME BEFORE COMMENCING AND DIGGING OPERATIONS. THE LANDSCAPE CONTRACTOR SHALL REPLACE OR REPAIR UTILITIES, PAVING, WALKS, CURBING, ETC DAMAGED IN PERFORMANCE OF THIS JOB AT NO ADDITIONAL COST TO THE OWNER OR GENERAL CONTRACTOR.
 - CONTRACTOR SHALL THOROUGHLY FAMILIARIZE THEMSELVES WITH ALL SITE CONDITIONS PRIOR TO CONSTRUCTION BIDDING.
 - THE CONTRACTOR SHALL SUPPLY ALL PLANT MATERIALS IN QUANTITIES SUFFICIENT TO COMPLETE THE PLANTINGS SHOWN ON THE DRAWINGS. VARIATIONS IN QUANTITIES ARE TO BE APPROVED BY THE DESIGN ENGINEER.
 - PROVIDED SMOOTH TRANSITION WHERE NEW WORK MEETS EXISTING CONDITIONS.
 - ALL PLANT MATERIAL INSTALLED SHALL MEET THE SPECIFICATIONS OF "AMERICAN STANDARD FOR NURSERY STOCK" BY THE AMERICAN ASSOCIATION OF NURSERYMEN
 - ALL PLANT MATERIALS SHALL BE FREE FROM INSECTS AND DISEASE.
 - ALL PLANTINGS SHALL BE DONE IN ACCORDANCE WITH ACCEPTABLE HORTICULTURAL PRACTICES. THIS IS TO INCLUDE PROPER PLANTING MIX, PLANT BED AND TREE PIT PREPARATION, PRUNING STAKING OR GUYING, WRAPPING, SPRAYING, FERTILIZATION, PLANTING AND ADEQUATE MAINTENANCE UNTIL ACCEPTANCE FROM OWNER.
 - ALL GRASS, OTHER VEGETATION AND DEBRIS SHALL BE REMOVED FROM ALL PLANTING AREAS PRIOR TO PLANTING.
 - THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF EXISTING AND NEWLY PLANTED TREES AND SHRUBS DURING THE CONSTRUCTION PROCESS. WHERE REQUIRED, THE CONTRACTOR SHALL INSTALL TEMPORARY FENCING (SNOW OR EQUAL) AROUND EXISTING TREES AND SHRUBS THAT COULD BE IMPACTED BY THE CONSTRUCTION PROCESS. STORAGE OF CONSTRUCTION EQUIPMENT, CONSTRUCTION MATERIALS, SNOW STORAGE AND OR VEHICLE PARKING SHALL NOT BE PERMITTED WITHIN THE DRIP LINE OF TREES OR TWENTY FEET WHICH EVER IS GREATER.
 - NEW PLANTINGS SHALL BE INSTALLED PER PROJECT DRAWINGS AND SPECIFICATION THAT INCLUDE FERTILIZATION AND MULCHING AS REQUIRED.
 - ALL SHRUB BEDS AND TREE PITS SHALL BE MULCHED WITH 3" CLEAN SHREDDED BLACK MULCH
 - WHERE INDICATED ON PLAN, PLANTING SOIL MIXTURE FOR GROUND COVER AND PERENNIAL BED AREAS SHALL CONSIST OF FOUR PARTS TOPSOIL, TWO PARTS SPHAGNUM PEAT MOSS, AND ONE PART HORTICULTURAL PERLITE BY VOLUME. PEAT MOSS MAY BE SUBSTITUTED WITH WELL-ROTTED OR DEHYDRATED MANURE OR COMPOST. ROTOTILL BEDS TO A DEPTH OF 8 INCHES.
 - MAINTENANCE OF NEW PLANTINGS AND LAWNS SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR AND OR LANDSCAPE SUBCONTRACTOR UNTIL ACCEPTANCE BY THE OWNER. RESPONSIBILITIES SHALL INCLUDE WATERING WEEDING AND MOWING AS NECESSARY. ALL PLANT MATERIAL SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM THE DATE OF ACCEPTANCE, REPLACEMENT MATERIAL SHALL BE GUARANTEED FOR AND ADDITIONAL YEAR FROM TIME OF INSTALLATION.
 - THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL TEMPORARY EROSION CONTROL MEASURES DURING THE CONSTRUCTION PHASE AND UNTIL ALL AREAS HAVE BEEN STABILIZED AND ACCEPTED BY THE OWNER. THE GENERAL CONTRACTOR SHALL PROVIDE WEEKLY INSPECTIONS OF EROSION MEASURE AND IMMEDIATELY AFTER STORM EVENTS AND REPAIR AS NECESSARY.
 - THE GENERAL CONTRACTOR AND OR THE LANDSCAPE SUBCONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL THREE GUYING MATERIAL ONCE PLANT MATERIAL HAS BEEN ESTABLISHED. (MINIMUM OF ONE GROWING SEASON). ALL TEMPORARY EROSION CONTROL MEASURE SHALL BE REMOVED ONCE STABILIZATION OF DISTURBANCE HAS BEEN ACCEPTED BY OWNER.
 - THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR A MINIMUM OF TWO MOWINGS FOR ALL TURF AREAS OR UNTIL ACCEPTANCE BY THE OWNER. A MINIMUM UNIFORM 75% CATCH OF TURF IS REQUIRED FOR ACCEPTANCE.
 - ALL PLANTINGS SHALL BE WATERED REGULARLY DURING THEIR FIRST YEAR AND MAINTAINED PERMANENTLY IN GOOD GROWING CONDITION AS AN EFFECTIVE VISUAL SCREEN.
 - SHRUBS OR TREES WHICH DIE SHALL BE REPLACED WITHIN ONE GROWING SEASON WITH NEW SHRUBS OR TREES TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE LANDSCAPING REQUIREMENTS.
 - ALL REQUIRED LANDSCAPING SHALL BE INSTALLED BEFORE OCCUPANCY, OR WITHIN SIX MONTHS IF OCCUPANCY OCCURS DURING WINTER CONDITIONS.
 - TREES ARE TO BE 6' TALL AT PLANTING.
 - ALL PLANT STOCK SHALL CONFORM TO ANSI Z260.1 – NURSERY STOCK, LATEST EDITIONS (AMERICAN ASSOCIATION OF NURSERYMEN, INC.)
 - 4" AGED PINEBARK MULCH AND A WEED BARRIER (TY-PAR FABRIC OR APPROVED EQUAL)
- SHALL BE APPLIED TO ALL SHRUB AND GROUND COVER BEDS. INSTALL WEED BARRIER AS PER MANUFACTURERS RECOMMENDATIONS.
- PLANT-PIT BACK-FILL SHALL BE MIXED AT A RATE OF 7 PARTS OF TOPSOIL TO 2 PARTS OF DEHYDRATED COW MANURE. SLOW RELEASE FERTILIZER SHALL BE APPLIED AS PER MANUFACTURERS RECOMMENDATIONS. USE EXISTING ON-SITE TOPSOIL AS PART OF BACK FILL WHEN AVAILABLE.
 - ALL LANDSCAPED AREAS NOT PLANTED WITH TREES, SHRUBS OR GROUND COVER SHALL BE RESTORED WITH SEED OR SOD AS INDICATED ON PLANS.
 - TOPSOIL WILL BE TESTED FOR FERTILIZATION REQUIREMENTS, AND SLOW RELEASE ENVIRONMENTALLY FRIENDLY FERTILIZER WILL BE APPLIED AT THE RECOMMENDED RATES.
 - ALL DISTURBED WETLAND BUFFER AREAS, EXCEPT FOR AREAS THAT ARE PART OF THE DRAINAGE SYSTEM, ARE TO BE RESEED WITH A CONSERVATION SEED MIX AND ONLY MOWED TWICE PER YEAR.
 - ALL PLANT SUBSTITUTIONS MUST BE APPROVED BY THE ENGINEER.
 - PLANTS SHALL BE SUBJECT TO INSPECTION AND APPROVAL AT THE PLACE OF GROWTH, UPON DELIVERY OR AT THE JOB SITE WHILE WORK IS ONGOING TO CONFORMITY TO SPECIFIED QUALITY, SIZE AND VARIETY.
 - PLANTS FURNISHED IN CONTAINERS SHALL HAVE THE ROOTS WELL ESTABLISHED IN THE SOIL MASS AND SHALL HAVE AT LEAST ONE (1) GROWING SEASON. ROOT-BOUND PLANTS OR INADEQUATELY SIZED CONTAINERS TO SUPPORT THE PLANT MAY BE DEEMED UNACCEPTABLE.
 - ALL PLANTS SHALL BE GUARANTEED BY THE CONTRACTOR FOR NO LESS THAN ONE FULL YEAR FROM THE TIME OF INSTALLATION. DURING THIS TIME, THE OWNER SHALL MAINTAIN ALL PLANT MATERIALS IN THE ABOVE MANNER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSPECT THE PLANTS TO ENSURE PROPER CARE. IF THE CONTRACTOR IS DISSATISFIED WITH THE CARE GIVEN, HE SHALL IMMEDIATELY, AND IN SUFFICIENT TIME TO PERMIT THE CONDITION TO BE RECTIFIED, NOTIFY THE OWNER IN WRITING OR OTHERWISE FORFEIT HIS CLAIM.
 - BY THE END OF THE GUARANTEE PERIOD, THE CONTRACTOR SHALL HAVE REPLACED ANY PLANT MATERIAL THAT IS MISSING, NOT TRUE TO SIZE AS SPECIFIED, THAT HAS DIED, THAT HAS LOST NATURAL SHAPE DUE TO DEAD BRANCHES, EXCESS PRUNING OR INADEQUATE OR IMPROPER CARE, OR IS, IN THE OPINION OF THE OWNER, IN UNHEALTHY OR UNSIGHTLY CONDITION.
 - THE CONTRACTOR IS TO USE TEMPORARY MEASURES FOR WATERING PLANTS DURING THE ESTABLISHMENT PERIOD. INCLUDING CONNECTING TEMPORARY HOSES TO THE STRUCTURE WATER SUPPLY LINE AND UTILIZING SPRINKLERS UNTIL 85% GROWTH OCCURS.

- PLANTING NOTES:**
- CONTRACTOR SHALL OBTAIN APPROVAL FROM L.A. PRIOR TO PURCHASING &/OR INSTALLING SUBSTITUTE PLANT MATERIAL PRIOR TO PURCHASE OF ANY SUBSTITUTE MATERIALS.
 - CONSTRUCTION ACCESS WILL BE AS DIRECTED BY L.A. CONTRACTOR IS RESPONSIBLE FOR RESTORATION OF ACCESS ROUTE AND ALL AREAS DISTURBED BY PLANTING OPERATIONS UPON COMPLETION OF CONSTRUCTION OPERATIONS, AT NO ADDITIONAL COST TO THE OWNER.
 - LAYOUT OF ALL PLANTING BEDS AND LOCATION OF PLANTS TO BE APPROVED BY L.A. ON SITE PRIOR TO CONSTRUCTION AND INSTALLATION.
 - CONTRACTOR TO REMOVE ALL DEBRIS GENERATED BY PLANT INSTALLATION. DEBRIS TO BE DISPOSED OF IN A LEGAL MANNER.
 - ALL PLANT MATERIAL SHALL BE GUARANTEED TO BE IN GOOD, HEALTHY & FLOURISHING CONDITION FOR ONE YEAR FROM THE DATE OF FINAL INSTALLATION APPROVAL BY L.A. CONTRACTOR SHALL REPLACE, WITHOUT COST TO OWNER, AND AS SOON AS WEATHER CONDITIONS PERMIT, ALL DEAD AND NON-FLOURISHING PLANTS AS DETERMINED BY THE L.A. REPLACEMENT PLANTS SHALL BE GUARANTEED IDENTICALLY TO ORIGINAL PLANTS, TIME PERIOD COMMENCING FROM DATE OF REPLACEMENT PLANTING APPROVAL BY L.A.
 - ALL BEDS TO BE MULCHED WITH 3" DEPTH SHREDDED BARK MULCH UNLESS NOTED OTHERWISE.
 - CONTRACTOR TO PROVIDE NECESSARY TEMPORARY IRRIGATION IF NEEDED BASED ON TIME OF YEAR THE PROJECT IS IMPLEMENTED.
 - ALL PLANT MATERIAL TO COMPLY WITH THE CITY OF DOVER'S SITE REVIEW REGULATIONS, 149-14(G), SUCH THAT THERE SHALL BE DECIDUOUS SHADE TREES PLANTED 40 FEET O.C. ALONG THE PERIMETER OF THE PARKING LOTS AND SHRUBS PLANTED 5 FEET O.C. WITHIN THE PERIMETER BUFFER. SEE PLANT LIST FOR SPECIES AND SIZE OF PLANTS.
- TEMPORARY WATERING NOTES:**
- CONTRACTOR IS RESPONSIBLE FOR MAKING SURE ALL PLANT MATERIAL HAS ADEQUATE WATER DURING THE ESTABLISHMENT PERIOD.
 - THE USE OF GATOR BAGS, SOAKER HOSE, HAND WATERING AND OTHER TECHNIQUES SHOULD BE USED TO ASSURE PROPER HYDRATION OF THE PLANTINGS IS MAINTAINED.
 - TEMPORARY IRRIGATION SYSTEMS CAN BE SET UP TO ASSIST IN WATERING ACTIVITIES.

PLANTING SCHEDULE 42-44 Third Street Botanical Name / Common Name			
Trees			
Plantanus acerifolia / London Planetree	3" Cal.	3	PA
Maackia amurensis 'Starburst' / Starburst Amur Maackia	3" Cal.	2	MA
Shrubs			
Ilex glabra / Inkberry	3 Gal.	6	LG
Viburnum / Viburnum	3 Gal.	3	VB
Perennials			
Hemerocallis 'Happy Returns' / Happy Returns Daylily	#1	12	SD
Astilbe x arendsii 'Bridal Veil' / Bridal Veil Astilbe	#1	12	AF
Hosta 'Big Daddy' / Big Daddy Plantain Lily	#1	9	HB
Hosta 'Gluacumole' / Guacamole Plantain Lily	#1	9	HG
Phlox divaricata' / Wild blue phlox	#1	20	PD
Grasses			
Calamagrostis acutifolia 'Karl Foerster' / Feather Reed Grass	#2	25	KF



- General Plant Maintenance Guide**
- General Plant Bed Maintenance:**
- All plant maintenance should be performed by a qualified horticulturalist or licensed arborist. Cleaning the dead material out of the planting bed in the fall helps keep litter from building up around the plants and in some cases killing the plants. Watering the first year during dry periods will help get the plants established. Mulching every year is not necessary. Raking the old mulch and burning it over is all that is needed. When necessary only install one inch of mulch and do not place the mulch closer than 3" to the trunks or stems of woody plants.
- Trees:**
- The first year watering during dry periods will be necessary.
 - 3" inches of mulch maybe used. The mulch should be kept 3 inches from the trunk.
 - Fertilizing is not necessary for the first year. Fertilizing in subsequent years only when and if the foliage is looking weak.
 - Fertilization should occur prior to Mat 31st or after trees have dropped their leaves for the year.
 - Prune dead wood once a year.
 - Depending on the amount of compaction the bed area receives, deep root aeration may be needed over time.
- Woody Shrubs:**
- The first year watering during dry periods will be necessary.
 - 3" inches of mulch maybe used. The mulch should be kept 3 inches from the stems.
 - Fertilizing is not necessary for the first year. Fertilizing in subsequent years only when and if the foliage is looking weak.
 - Fertilization should occur prior to Mat 31st or after shrubs have dropped their leaves or gone dormant for the year.
 - Prune dead wood once a year.
- Grasses:**
- Grasses only need to be clipped back at the end of the growing season and all the clippings removed from the area.
 - Do not over mulch. Too much mulch will prohibit the grass from developing into a strong clump.
- Perennials:**
- All perennials need to be pruned back after the first or second hard frost. A two-step method: first dead head all the flower heads and let drop to the ground for re-seeding. Second cut the stems back to 3" above the ground and remove the stem and leaf litter and place in compost. Do not over mulch. Too much mulch will prohibit the growth and development
 - Fertilizing perennials once in the spring with a low phosphate fertilizer will help the plants to get started in the spring.
- www.terrainplanning.com 311 kast hill road hopkinton nh 03229 T:603-491-2322



terrain
planning & design llc

311 kast hill road
hopkinton, nh 03229
603. 491. 2322
terrainplanning.com

**42 & 44
THIRD STREET**

Site Location:
42 & 44 Third Street
Dover, NH
Tax Map: 6
Lots: 32 & 40

Prepared For:
Berry Surveying & Engineering
335 Second Crown Point Rd
Barrington, NH 03825

**LANDSCAPE
PLAN**

DATE:

SCALE: 1" = 20'

PROJECT #: 1802

Drawn By: ID

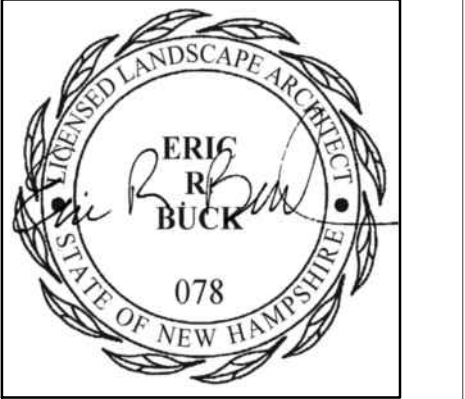
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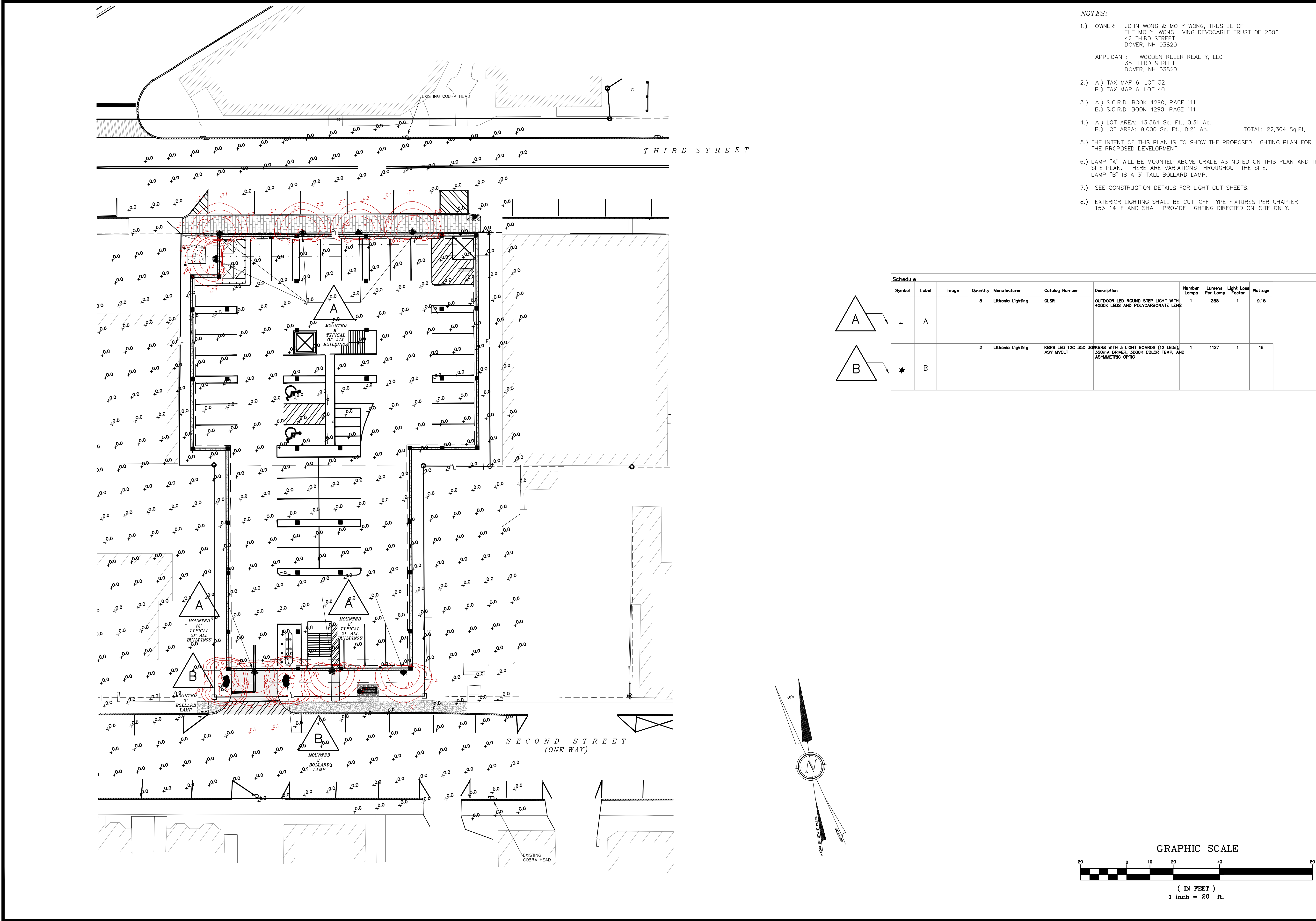
REVISIONS: DATE:
Issued for Client Review

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SHEET 9 OF 19





- NOTES:
- 1.) OWNER: JOHN WONG & MO Y WONG, TRUSTEE OF THE MO Y. WONG LIVING REVOCABLE TRUST OF 2006
42 THIRD STREET
DOVER, NH 03820

APPLICANT: WOODEN RULER REALTY, LLC
35 THIRD STREET
DOVER, NH 03820
 - 2.) A.) TAX MAP 6, LOT 32
B.) TAX MAP 6, LOT 40
 - 3.) A.) S.C.R.D. BOOK 4290, PAGE 111
B.) S.C.R.D. BOOK 4290, PAGE 111
 - 4.) A.) LOT AREA: 13,364 Sq. Ft., 0.31 Ac.
B.) LOT AREA: 9,000 Sq. Ft., 0.21 Ac. TOTAL: 22,364 Sq.Ft.
 - 5.) THE INTENT OF THIS PLAN IS TO SHOW THE PROPOSED LIGHTING PLAN FOR THE PROPOSED DEVELOPMENT.
 - 6.) LAMP "A" WILL BE MOUNTED ABOVE GRADE AS NOTED ON THIS PLAN AND THE SITE PLAN. THERE ARE VARIATIONS THROUGHOUT THE SITE.
LAMP "B" IS A 3' TALL BOLLARD LAMP.
 - 7.) SEE CONSTRUCTION DETAILS FOR LIGHT CUT SHEETS.
 - 8.) EXTERIOR LIGHTING SHALL BE CUT-OFF TYPE FIXTURES PER CHAPTER 153-14-E AND SHALL PROVIDE LIGHTING DIRECTED ON-SITE ONLY.

Schedule										
Symbol	Label	Image	Quantity	Manufacturer	Catalog Number	Description	Number Lamps	Lumens Per Lamp	Light Loss Factor	Wattage
	A		8	Lithonia Lighting	OLSR	OUTDOOR LED ROUND STEP LIGHT WITH 4000K LEDS AND POLYCARBONATE LENS	1	358	1	9.15
	B		2	Lithonia Lighting	KBRB LED 120 350 30W ASY MVOLT	KBRB WITH 3 LIGHT BOARDS (12 LED), 350mA DRIVER, 3000K COLOR TEMP, AND ASYMMETRIC OPTIC	1	1127	1	16

REVISION	DATE	DESCRIPTION

LIGHTING PLAN
FOR: WOODEN RULER REALTY, LLC
LAND OF: JOHN WONG & MO Y WONG, TRUSTEE OF THE
MO Y. WONG LIVING REVOCABLE TRUST OF 2006
42 & 44 THIRD STREET
DOVER, N.H.
TAX MAP 6, LOTS 32 & 40

BERRY SURVEYING & ENGINEERING

335 SECOND CROWN POINT ROAD

BARRINGTON, NH 03825 (603)332-2863

SCALE : 1 IN. EQUALS 20 FT.

DATE : AUGUST 11, 2022

FILE NO. : DB 2022 - 037

STATE OF NEW HAMPSHIRE

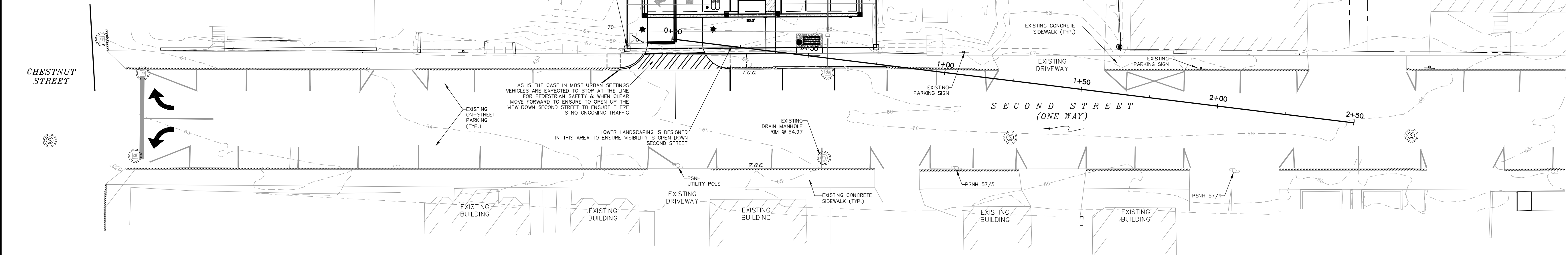
KENNETH A. BERRY

No. 1994

PROFESSIONAL ENGINEER

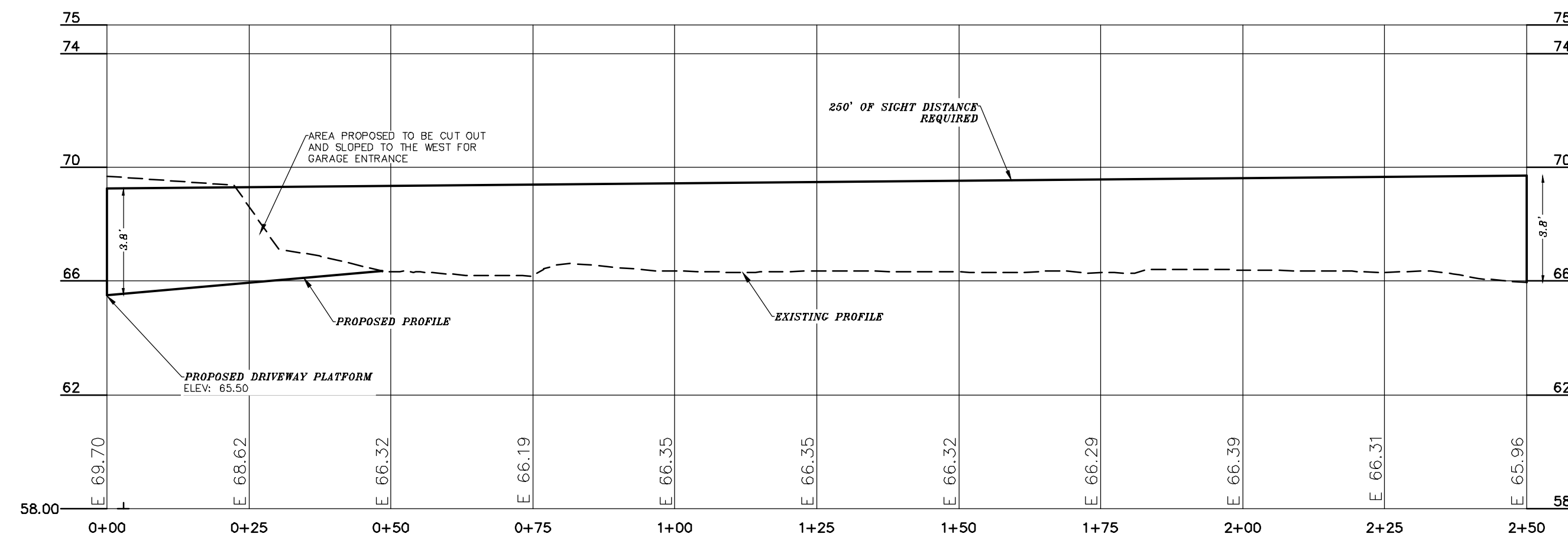
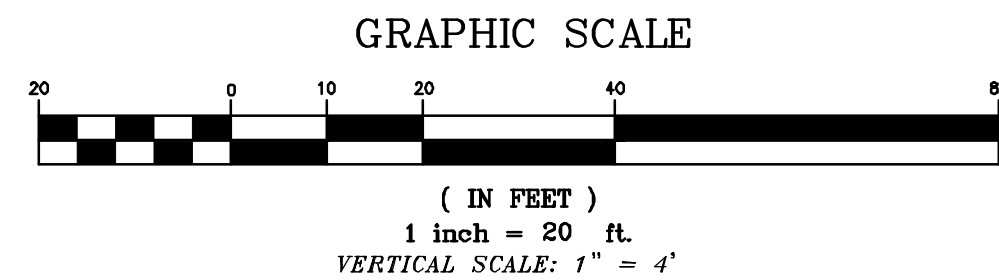
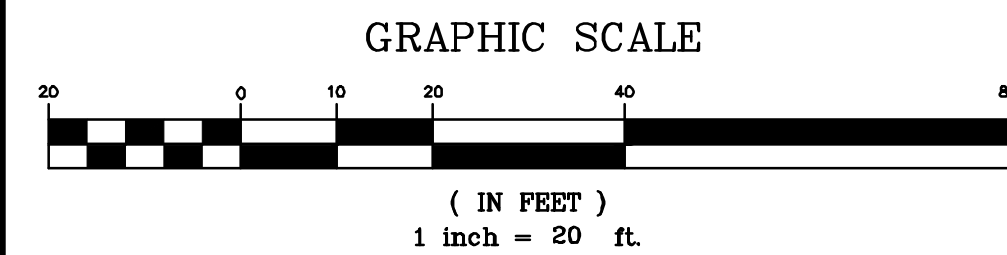
NOTES:

- 1.) OWNER: JOHN WONG & MO Y WONG, TRUSTEE OF THE
MO Y. WONG LIVING REVOCABLE TRUST OF 2006
42 THIRD STREET
DOVER, NH 03820
- APPLICANT: WOODEN RULER REALTY, LLC
35 THIRD STREET
DOVER, NH 03820
- 2.) TAX MAP 6, LOT 32
TAX MAP 6, LOT 40
- 3.) LOT AREA: 9,000 Sq. Ft., 0.21 ACRES
LOT AREA: 13,364 Sq. Ft., 0.31 ACRES
- 4.) S.C.R.D. BOOK 4290, PAGE 111
S.C.R.D. BOOK 4290, PAGE 111
- 5.) THIS IS A MIXED USE SITE PLAN.
- 6.) THE INTENT OF THIS PLAN IS TO DEMONSTRATE THE AVAILABLE SIGHT
DISTANCE FROM THE THE DRIVEWAY EAST ONTO SECOND STREET.
- 7.) EXISTING CONDITIONS INFORMATION IS BASED ON A SURVEY
PERFORMED BY BERRY SURVEYING & ENGINEERING AND IS ENCLOSED IN
THIS PACKAGE. EXISTING AND PROPOSED CONTOURS ARE PROVIDED AT 1'
INTERVALS WITH DRAINAGE FEATURES AT MORE PRECISE INTERVALS.
- 8.) THIS PROJECT SHALL BE CONSTRUCTED IN ACCORDANCE WITH NHDOT
STANDARD SPECIFICATIONS DATED 2016. CURRENT STANDARD PLANS,
SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS INCLUDED IN THE
PROPOSAL.



PLAN VIEW SECOND STREET

PROFILE VIEW SIGHT LINE

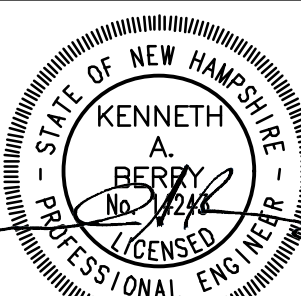


HWY-1

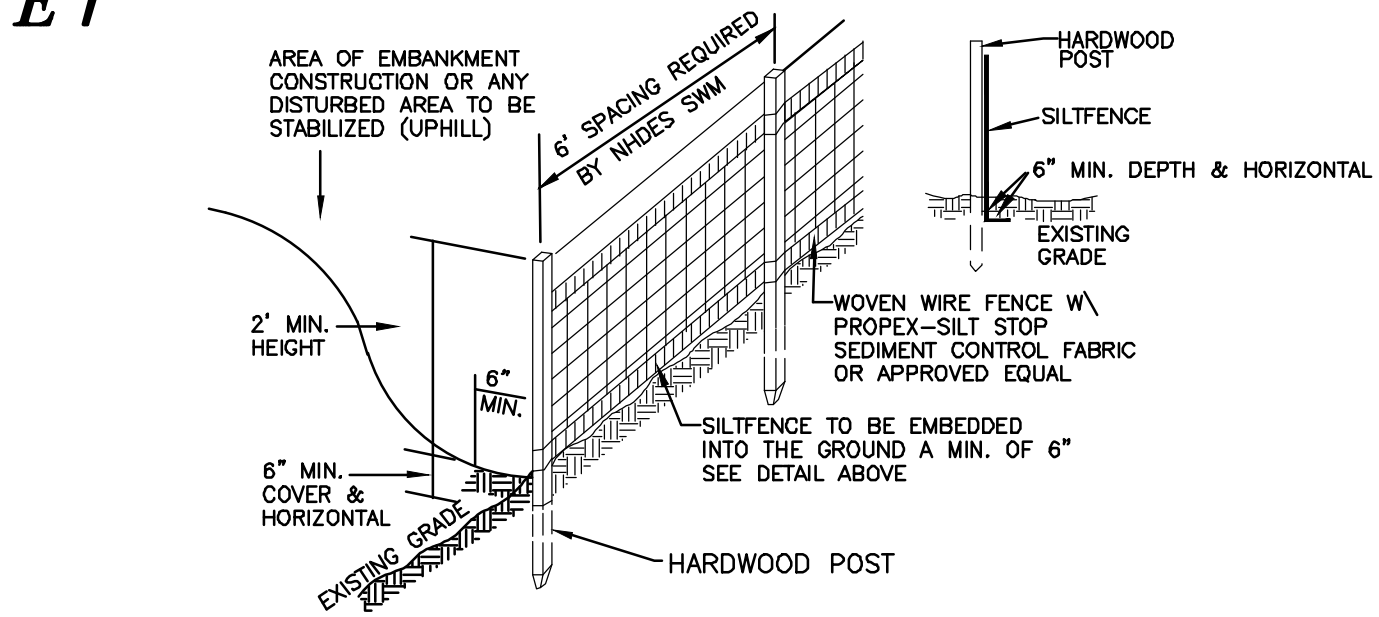
REVISION	DATE	DESCRIPTION

SIGHT DISTANCE PLAN DRIVEWAY WESTBOUND
FOR: WOODEN RULER REALTY, LLC
LAND OF: JOHN WONG & MO Y WONG, TRUSTEE OF THE
MO Y. WONG LIVING REVOCABLE TRUST OF 2006
DOVER, N.H.
TAX MAP 6, LOTS 32 & 40

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863
SCALE : 1 IN. EQUALS 20 FT.
DATE : AUGUST 11, 2022
FILE NO. : DB 2022 - 037



E1



SILT FENCE CONSTRUCTION SPECIFICATIONS

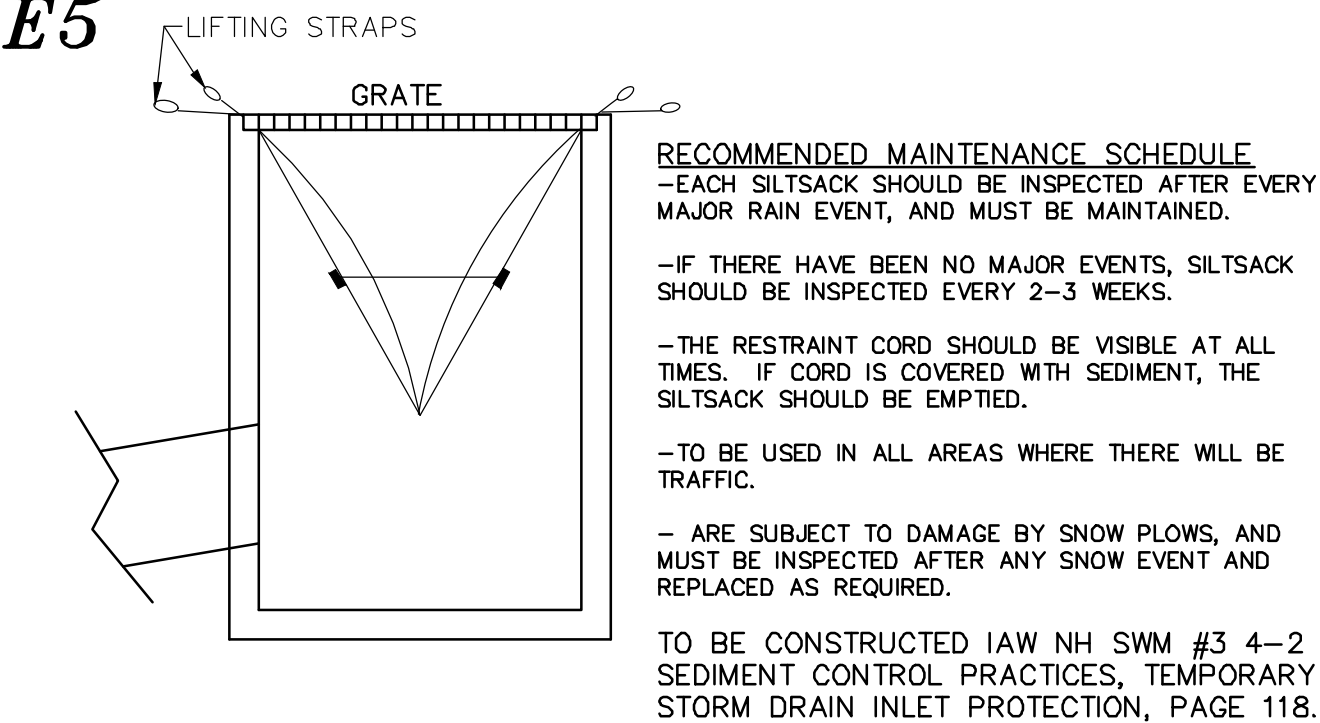
- WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES AND FILTER CLOTH SHALL BE FASTENED TO WOVEN WIRE EVERY 24" AT TOP MID AND BOTTOM SECTIONS AND BE EMBEDDED INTO GROUND A MINIMUM OF 8" THE FENCE POSTS SHALL BE A MINIMUM 48" LONG, SPACED A MAXIMUM 6' APART, AND DRIVEN A MINIMUM OF 16" INTO THE GROUND.
- WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THE ENDS OF THE FABRIC SHALL BE OVERLAPPED BY SIX INCHES, FOLDED AND STAPLED TO PREVENT SEDIMENT FROM BY-PASSING.
- MAINTENANCE SHALL BE PERFORMED AS NEEDED AND SEDIMENT REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE AND PROPERLY DISPOSED OF. SEE MAINTENANCE NOTE BELOW.
- REMOVAL OF SEDIMENT REQUIRED AT A DEPTH OF 6-INCHES.
- PLACE THE ENDS OF THE SILT FENCE UP CONTOUR TO PROVIDE FOR SEDIMENT STORAGE.
- SILT FENCES SHALL BE REMOVED WHEN NO LONGER NEEDED AND THE SEDIMENT COLLECTED SHALL BE DISPOSED AS DIRECTED BY THE ENGINEER.
- THE AREA DISTURBED BY THE REMOVAL SHALL BE SMOOTHED AND RE-VEGETATED.
- TO BE CONSTRUCTED IAW NH SWM #3 4-2 SEDIMENT CONTROL PRACTICES, SILT FENCE, PAGE 90.

SILT FENCE MAINTENANCE

- SILT FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REPAIRS THAT ARE REQUIRED SHALL BE MADE IMMEDIATELY.
- IF THE FABRIC ON A SILT FENCE SHOULD DECOMPOSE OR BECOME INEFFECTIVE DURING THE EXPECTED LIFE OF THE FENCE, THE FABRIC SHALL BE REPLACED PROMPTLY.
- SEDIMENT DEPOSITS SHOULD BE REMOVED WHEN THEY REACH SIX-INCHES IN DEPTH.
- SEDIMENT DEPOSITS THAT ARE REMOVED OR LEFT IN PLACE AFTER THE FABRIC HAS BEEN REMOVED SHALL BE GRADED TO CONFORM WITH THE EXISTING TOPOGRAPHY AND VEGETATED.

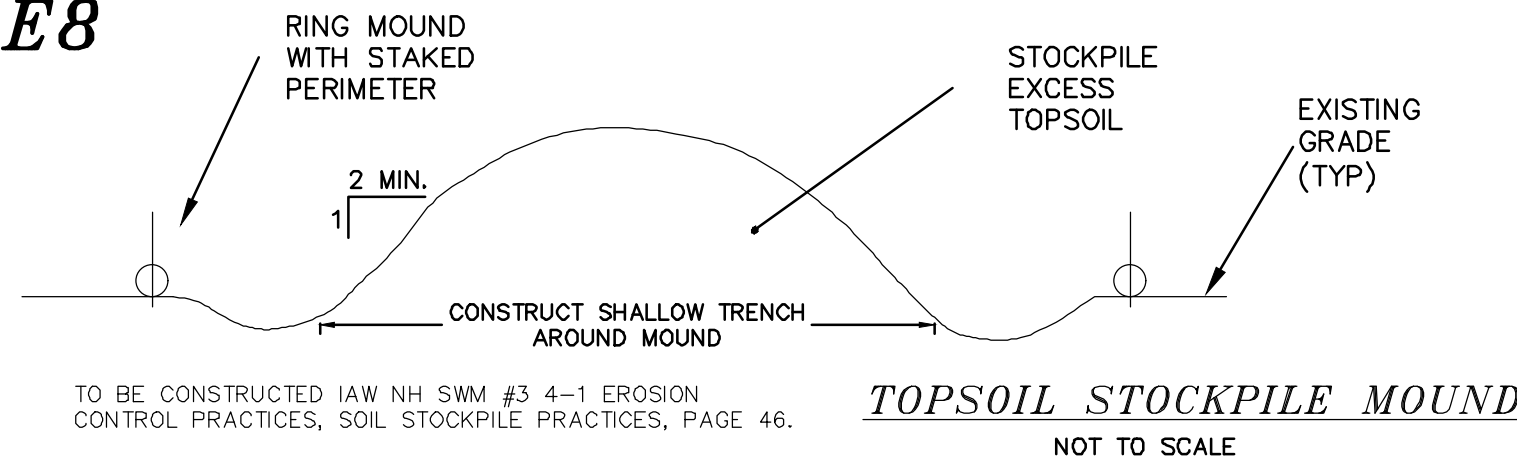
SILT FENCE DETAIL
NOT TO SCALE

E5



SILTSACK DETAIL
NOT TO SCALE

E8



E11

DEFINITION OF STABLE:

PER ENV-WQ 1500 ALTERATION OF TERRAIN

- BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED.
- A MINIMUM OF 85 PERCENT VEGETATED GROWTH HAS BEEN ESTABLISHED.
- A MINIMUM OF 3 INCHES OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIP-RAP HAS BEEN INSTALLED.
- OR, EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.

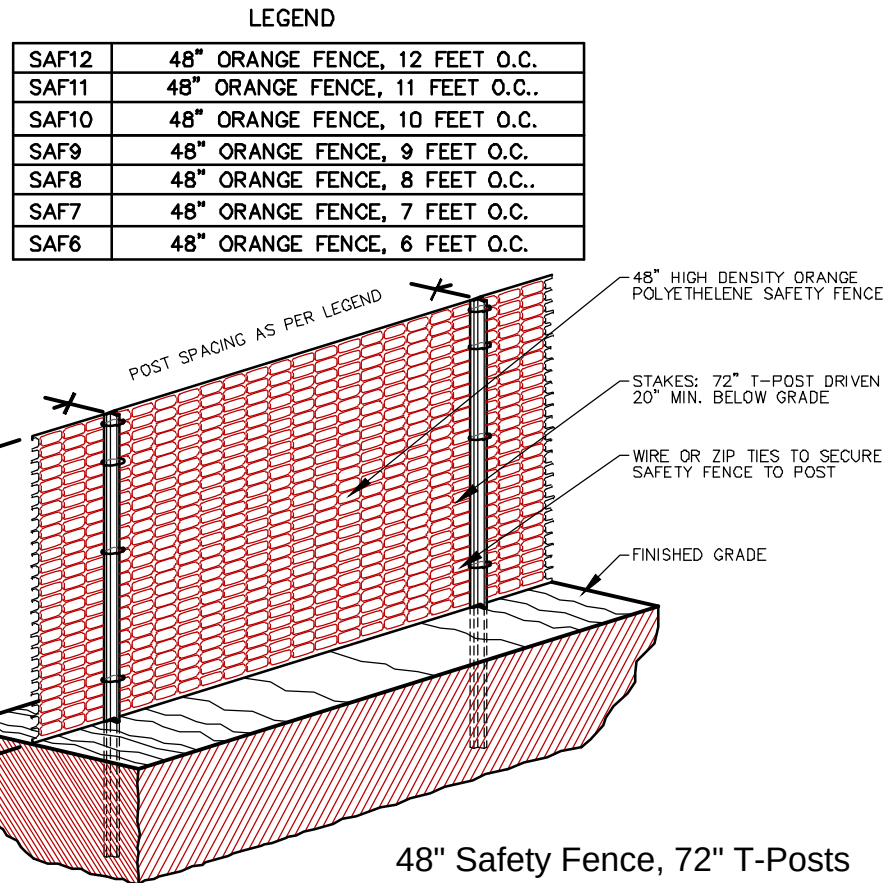
ADDITION STABILIZATION NOTES:

- HAY MULCH OR OTHER APPROVED METHODS SHALL BE USED TO CONTROL EROSION OF NEWLY GRADED AREAS. ALL CUT AND FILL SLOPES SHALL BE SEEDED AND MULCHED WITHIN 72 HOURS AFTER THEIR CONSTRUCTION.
- DISTURBED SOIL AREAS SHALL BE EITHER TEMPORARILY OR PERMANENTLY STABILIZED. IN AREAS WHERE FINAL GRADING HAS NOT OCCURRED, TEMPORARY STABILIZATION MEASURES SHOULD BE IN PLACE WITHIN SEVEN (7) CALENDAR DAYS FOR EXPOSED SOIL AREAS THAT ARE WITHIN ONE HUNDRED (100) FEET OF A SURFACE WATER BODY OR A WETLAND AND NO MORE THAN 14 CALENDAR DAYS FOR ALL OTHER AREAS. PERMANENT STABILIZATION SHOULD BE IN PLACE WITHIN THREE (3) CALENDAR DAYS FOLLOWING COMPLETION OF FINAL GRADING OF EXPOSED SOIL AREAS.

E2

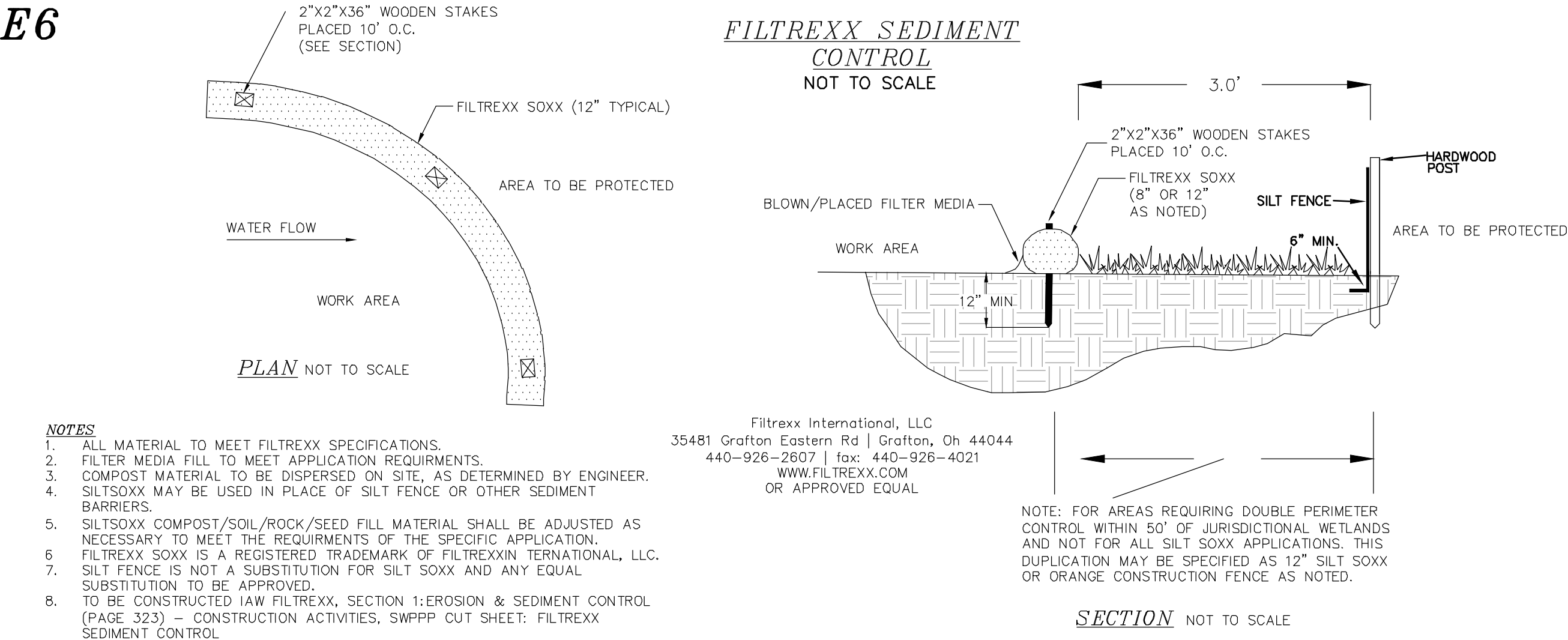
CONSTRUCTION SAFETY FENCE

NOT TO SCALE



- ALL SENSITIVE AREAS SHALL BE PROTECTED AS PER PLAN.
- ALL TREES IN THE CONSTRUCTION AREA NOT SPECIFICALLY DESIGNATED FOR REMOVAL SHALL BE PRESERVED AND PROTECTED WITH HIGH VISIBILITY FENCE AS PER PLAN.
- WHEN PRACTICABLE, INSTALL HIGH VISIBILITY 3 FEET OUTSIDE OF THE DRIP LINE OF THE TREE.
- SAFETY FENCE SHOULD BE FASTENED SECURELY TO THE T-POSTS.
- THE FENCING MUST REMAIN IN PLACE DURING ALL PHASES OF CONSTRUCTION; ANY CHANGE OF THE PROTECTIVE FENCING MUST BE APPROVED.

E6



NOTES

- ALL MATERIAL TO MEET FILTREXX SPECIFICATIONS.
- FILTER MEDIA FILL TO MEET APPLICATION REQUIREMENTS.
- COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER.
- SILT SOXX MAY BE USED IN PLACE OF SILT FENCE OR OTHER SEDIMENT BARRIERS.
- SILT SOXX COMPOST/SOIL/ROCK/SEED FILL MATERIAL SHALL BE ADJUSTED AS NECESSARY TO MEET THE REQUIREMENTS OF THE SPECIFIC APPLICATION.
- FILTREXX SOXX IS A REGISTERED TRADEMARK OF FILTREXX INTERNATIONAL, LLC.
- SILT FENCE IS NOT A SUBSTITUTION FOR SILT SOXX AND ANY EQUAL SUBSTITUTION TO BE APPROVED.
- TO BE CONSTRUCTED IAW FILTREXX, SECTION 1: EROSION & SEDIMENT CONTROL (PAGE 323) - CONSTRUCTION ACTIVITIES, SWPPP CUT SHEET: FILTREXX SEDIMENT CONTROL.

Filtrex International, LLC
35481 Grafton Eastern Rd | Grafton, Oh 44044
440-926-2607 | fax: 440-926-4021
WWW.FILTREXX.COM
OR APPROVED EQUAL

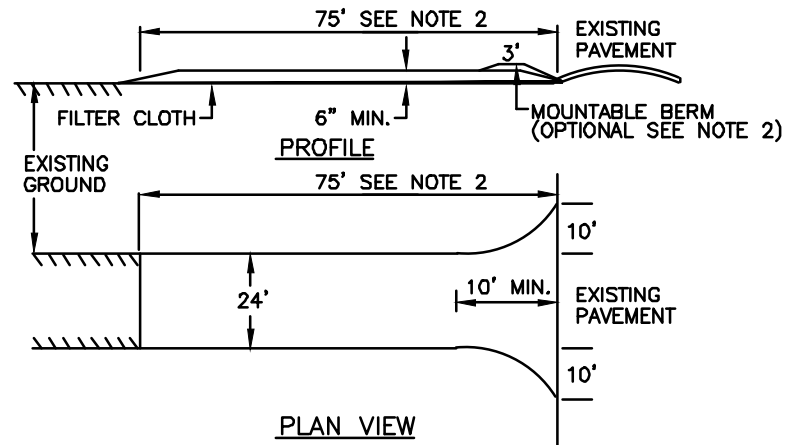
NOTE: FOR AREAS REQUIRING DOUBLE PERIMETER CONTROL WITHIN 50' OF JURISDICTIONAL WETLANDS AND NOT FOR ALL SILT SOXX APPLICATIONS, THIS DUPLICATION MAY BE SPECIFIED AS 12" SILT SOXX OR ORANGE CONSTRUCTION FENCE AS NOTED.

SECTION NOT TO SCALE

E3

STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE

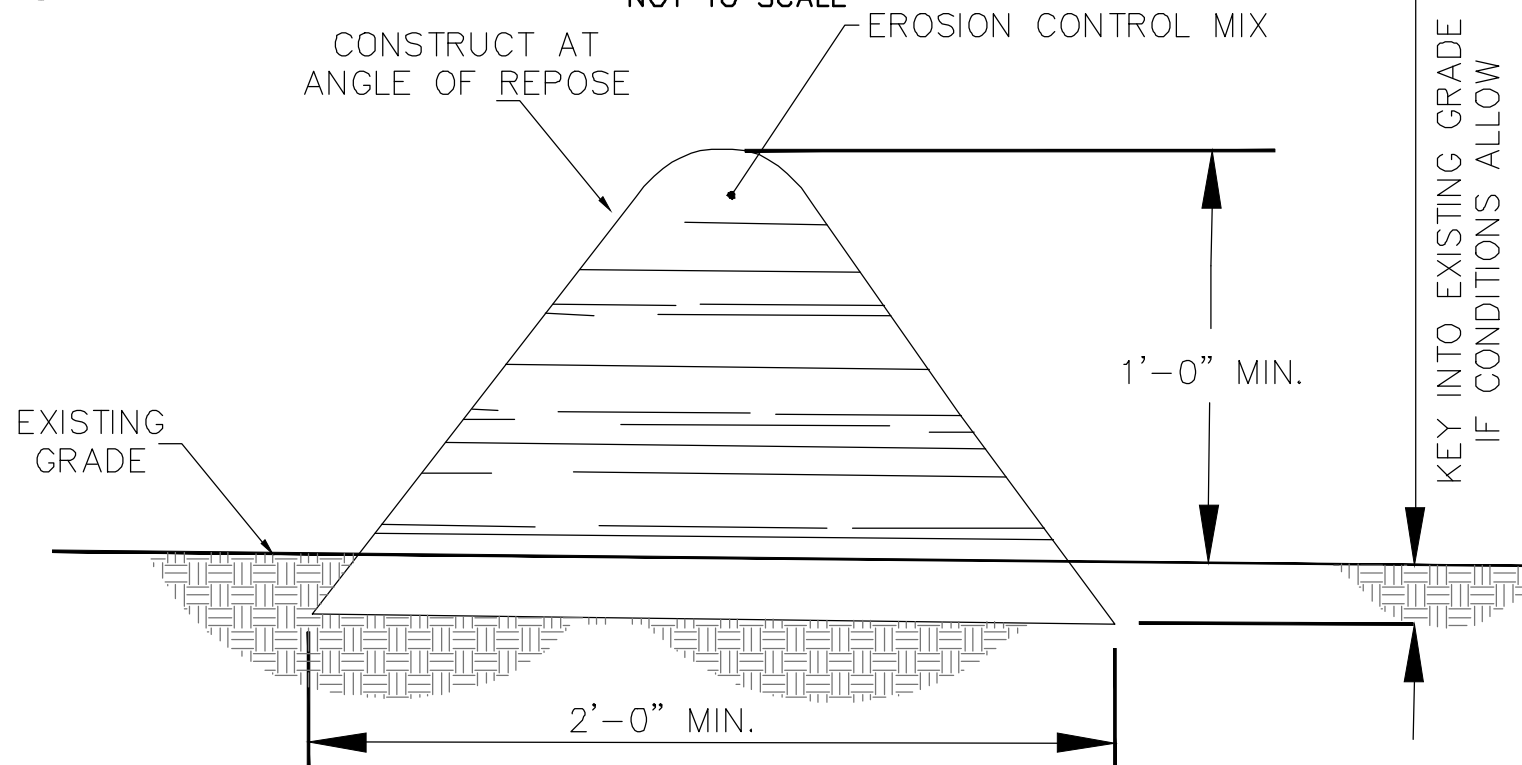


- STONE FOR A STABILIZED CONSTRUCTION ENTRANCE SHALL BE 3 INCH STONE, RECLAIMED STONE, OR RECYCLED CONCRETE EQUIVALENT.
- THE LENGTH OF THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 75 FEET, EXCEPT THAT THE MINIMUM LENGTH MAY BE REDUCED TO 50 FEET IF A 3-INCH TO 6-INCH BERM IS INSTALLED AT THE ENTRANCE OF THE PROJECT SITE.
- THE THICKNESS OF THE STONE FOR THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 6 INCHES.
- THE WIDTH OF THE ENTRANCE SHALL NOT BE LESS THAN THE FULL WIDTH OF THE ENTRANCE WHERE INGRESS OR EGRESS OCCURS OR 10 FEET, WHICHEVER IS GREATER.
- GEOTEXTILE FILTER CLOTH SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING.
- ALL SURFACE WATER THAT IS FLOWING TO OR DIVERTED TOWARD THE CONSTRUCTION ENTRANCE SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A BERM WITH 5:1 SLOPES THAT CAN BE CROSSED BY VEHICLES MAY BE SUBSTITUTED FOR THE PIPE.
- THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, WASHED, OR TRACKED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED PROMPTLY.
- TO BE CONSTRUCTED IAW NH SWM #3 4-2 SEDIMENT CONTROL PRACTICES, TEMPORARY CONSTRUCTION EXIT, PAGE 124.

E4

EROSION CONTROL MIX BERM

NOT TO SCALE



EROSION CONTROL MIX BERMS SHALL BE USED ONLY AS FOLLOWS:

- BERMS SHALL BE USED IN AREAS WHERE EROSION WILL OCCUR ONLY IN THE FORM OF SHEET EROSION AND THERE IS NO CONCENTRATION OF WATER IN A CHANNEL OR DRAINAGE WAY ABOVE THE BERM.
- THE BERMS SHALL BE INSTALLED FOLLOWING THE CONTOUR OF THE LAND AS CLOSELY AS POSSIBLE.
- THE BERMS SHALL BE INSTALLED ON SLOPES LESS THAN 5%.
- SUBJECT TO (E), BELOW, THE MIX SHALL HAVE AN ORGANIC PORTION BETWEEN 80 AND 100% DRY WEIGHT BASIS, AND BE FIBROUS AND ELONGATED SUCH AS FROM SHREDDED BARK, STUMP GRINDINGS, COMPOSED BARK, OR EQUIVALENT MANUFACTURED PRODUCTS.
- WOOD AND BARK CHIPS, GROUND CONSTRUCTION DEBRIS, OR REPROCESSED WOOD PRODUCTS SHALL NOT BE USED AS ORGANIC MATERIAL.
- THE MIX SHALL NOT CONTAIN SILTS, CLAY, OR FINE SANDS.
- THE MIX SHALL HAVE A PARTICLE SIZE BY WEIGHT OF 70 TO 85% PASSING A 6-INCH SCREEN AND A MAXIMUM OF 85% PASSING THE 0.75-INCH SCREEN.
- THE MIX PH SHALL BE BETWEEN 5.0 AND 8.0.
- THE BERM SHALL BE AT LEAST 12 INCHES HIGH AND AT LEAST 2 FEET WIDE.
- TO BE CONSTRUCTED IAW NH SWM #3 4-2 SEDIMENT CONTROL PRACTICES, EROSION CONTROL MIX BERMS, PAGE 106.

E7

TEMPORARY EROSION CONTROL MEASURES

- THE SMALLEST PRACTICAL AREA OF LAND SHALL BE EXPOSED AT ANY ONE TIME.
- EROSION, SEDIMENT AND DETENTION MEASURES SHALL BE INSTALLED AS SHOWN ON THE PLANS AND AT LOCATIONS AS REQUIRED, DIRECTED BY THE ENGINEER.
- ALL DISTURBED AREAS SHALL BE RETURNED TO ORIGINAL GRADES AND ELEVATIONS. DISTURBED AREAS SHALL BE LOAMED WITH A MINIMUM OF 4" OF LOAM AND SEEDED WITH NOT LESS THAN ONE POUND OF SEED PER 50 SQUARE YARDS OF AREA. (SEE SEED SPECIFICATIONS THIS SHEET)
- ALL DISTURBED AREAS WILL BE RESTABILIZED WITHIN 45 DAYS. AT ANY ONE TIME, NO MORE THAN 5 ACRES, (217,800 Sq. Ft.) WILL BE DISTURBED.
- SILT FENCES AND PERIMETER BARRIERS SHALL BE INSPECTED PERIODICALLY AND AFTER EVERY RAIN DURING THE LIFE OF THE PROJECT. ALL DAMAGED AREAS SHALL BE REPAIRED, SEDIMENT DEPOSITS SHALL PERIODICALLY BE REMOVED AND DISPOSED OF.
- AFTER ALL DISTURBED AREAS HAVE BEEN STABILIZED, THE TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE REMOVED AND THE AREA DISTURBED BY THE REMOVAL SMOOTHED AND RE-VEGETATED.
- PER THE EPA COP REQUIREMENTS THERE WILL BE REPORTS OF THE EROSION CONTROL INSPECTIONS IAW SWPPP PREPARED BY BS&E. ALL EROSION CONTROLS SHALL BE INSPECTED WEEKLY AND WITHIN 24 HOURS AFTER 0.25" OR GREATER RAIN EVENT.
- DITCHES, SWALES, AND BASINS SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
- DO NOT TRAFFIC EXPOSED SOIL SURFACES WITH CONSTRUCTION EQUIPMENT, IF FEASIBLE, PERFORM EXCAVATIONS WITH EQUIPMENT POSITIONED OUTSIDE THE LIMITS OF THE INFILTRATION SYSTEM.
- ROADWAYS, DRIVEWAYS AND CUT AND FILL SLOPES MUST BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINAL GRADE.
- STABILIZATION MEASURES:
 - A MINIMUM OF 85% OF VEGETATIVE COVER HAS BEEN ESTABLISHED.
 - A MINIMUM OF 3 INCHES OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIP RAP HAS BEEN INSTALLED, OR
 - EROSION CONTROL BLANKETS HAVE BEEN INSTALLED.
- THIS PROJECT IS TO BE MANAGED IN A MANNER THAT MEETS THE REQUIREMENTS AND INTENT OF RSA 430:53 AND CHAPTER AGR 3800 RELATIVE TO INVASIVE SPECIES.
- THE NHDES STORMWATER MANUAL, IN THREE VOLUMES, DATED DECEMBER 2008, IS A PART OF THIS PLAN SET AND THE MORE RESTRICTIVE WILL GOVERN. (NH SWM)

E10

WINTER STABILIZATION NOTES

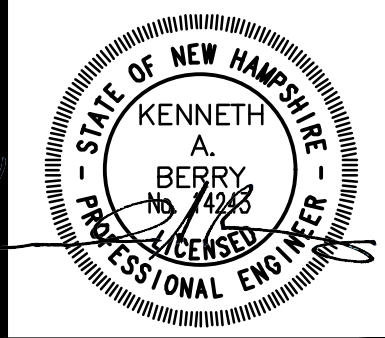
- ALL DISTURBED AREAS THAT DO NOT HAVE AT LEAST 85% VEGETATIVE COVERAGE PRIOR TO OCTOBER 15TH SHALL BE STABILIZED BY APPLYING MULCH AT A RATE OF 3-4 TONS PER ACRE. ALL SIDE SLOPES, STEEPER THAN 4:1, THAT ARE NOT DIRECTED TO SWALES OR DETENTION BASINS, SHALL BE LINED WITH BIODEGRADABLE/PHOTODEGRADABLE "JUTE MATTING" (EXCELSIOR'S CURLEX II OR EQUAL). ALL OTHER SLOPES SHALL BE MULCHED AND TACKED AT A RATE OF 3-4 TONS PER ACRE. THE APPLICATION OF MULCH AND/OR JUTE MATTING SHALL NOT OCCUR OVER EXISTING SNOW COVER. IF THE SITE IS ACTIVE AFTER OCTOBER 15TH, ANY SNOW THAT ACCUMULATES ON DISTURBED AREAS SHALL BE REMOVED. PRIOR TO SPRING THAW ALL AREAS WILL BE STABILIZED, AS DIRECTED ABOVE.
- ALL SWALES THAT DO NOT HAVE FULLY ESTABLISHED VEGETATION SHALL BE EITHER LINED WITH TEMPORARY JUTE MATTING OR TEMPORARY STONE CHECK DAMS (APPROPRIATELY SPACED). STONE CHECK DAMS WILL BE MAINTAINED THROUGHOUT THE WINTER MONTHS. IF THE SWALES ARE TO BE MATTED WITH PERMANENT LINERS OR RIPRAP WITH ENGINEERING FABRIC, THIS SHALL BE COMPLETED PRIOR TO WINTER SHUTDOWN OR AS SOON AS THEY ARE PROPERLY GRADED AND SHAPED.
- PRIOR TO OCT. 15TH ALL ROADWAY AND PARKING AREAS SHALL BE BROUGHT UP TO AND THROUGH THE BANK RUN GRAVEL APPLICATION. IF THESE AREAS' ELEVATIONS ARE PROPOSED TO REMAIN BELOW THE PROPOSED SUBGRADE ELEVATION, THE SUBGRADE MATERIAL SHALL BE ROUGHLY CROWNED AND A 3" LAYER OF CRUSHED GRAVEL SHALL BE PLACED AND COMPACTED. THIS WILL ALLOW THE SUBGRADE TO SHED RUNOFF AND WILL REDUCE ROADWAY EROSION. THIS CRUSHED GRAVEL DOES NOT HAVE TO CONFORM TO NH DOT 304.3, BUT SHALL HAVE BETWEEN 15-25% PASSING THE #200 SIEVE AND THE LARGEST STONE SIZE SHALL BE 2". IF THE SITE IS ACTIVE AFTER OCTOBER 15TH, ANY ACCUMULATED SNOW SHALL BE REMOVED FROM ALL ROADWAY AND PARKING AREAS.
- AFTER OCTOBER 15TH, THE END OF NEW HAMPSHIRE'S AVERAGE GROWING SEASON, NO ADDITIONAL LOAM SHALL BE SPREAD ON SIDE SLOPES AND SWALES. THE STOCKPILES THAT WILL BE LEFT UNDISTURBED UNTIL SPRING SHALL BE SEEDED BY THIS DATE. AFTER OCTOBER 15TH, ANY NEW OR DISTURBED PILES SHALL BE MULCHED AT A RATE OF 3-4 TONS PER ACRE. ALL STOCKPILES THAT WILL REMAIN THROUGHOUT THE WINTER SHALL BE SURROUNDED WITH SILT FENCING.
- ENV-WQ 1505.06 COLD WEATHER SITE STABILIZATION (B)(1) LIMITS AREA OF EXPOSURE TO ONE ACRE OF UNSTABILIZED SOIL WITHOUT OBTAINING A WAIVER AND WINTER CONSTRUCTION PLAN.

E-101

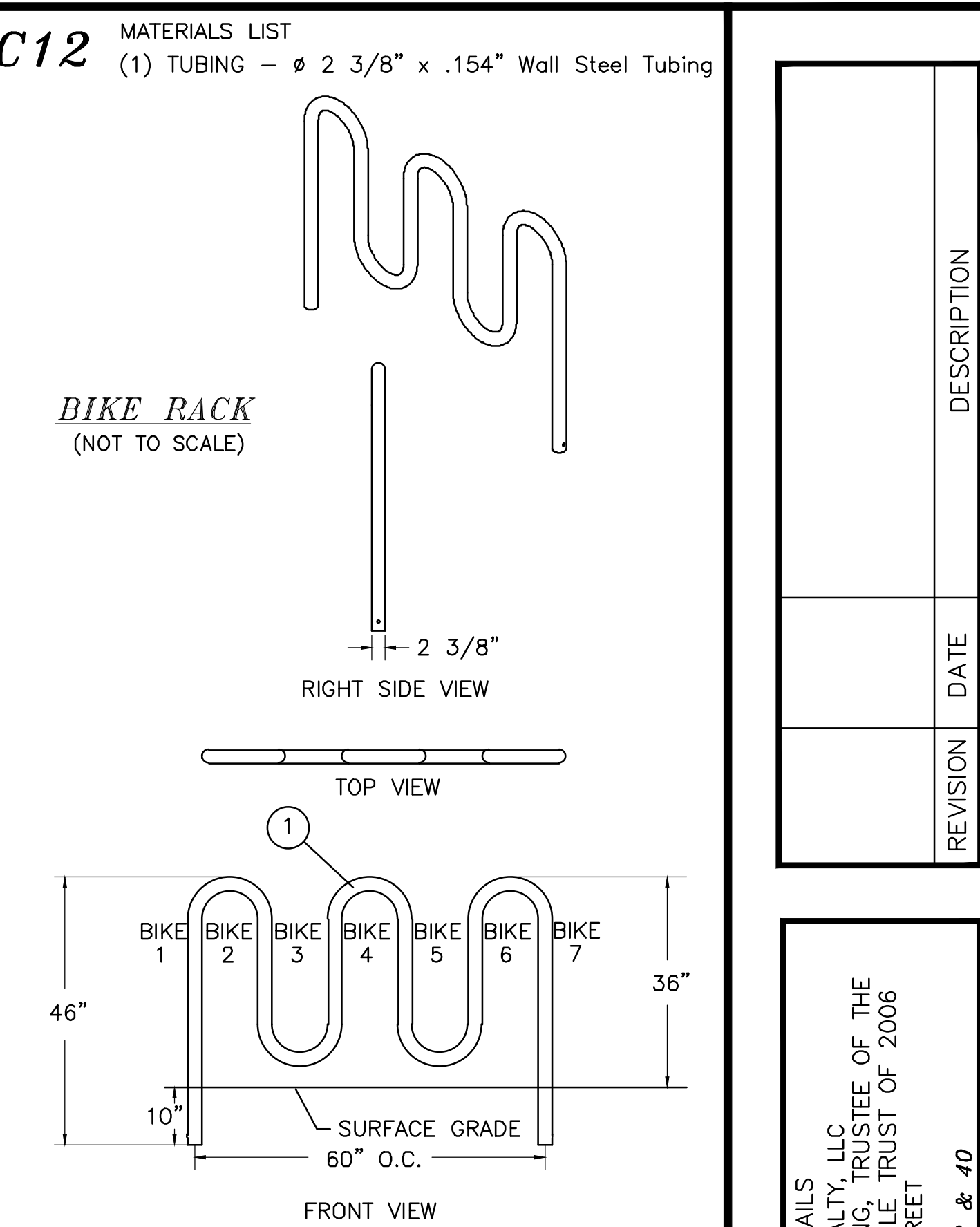
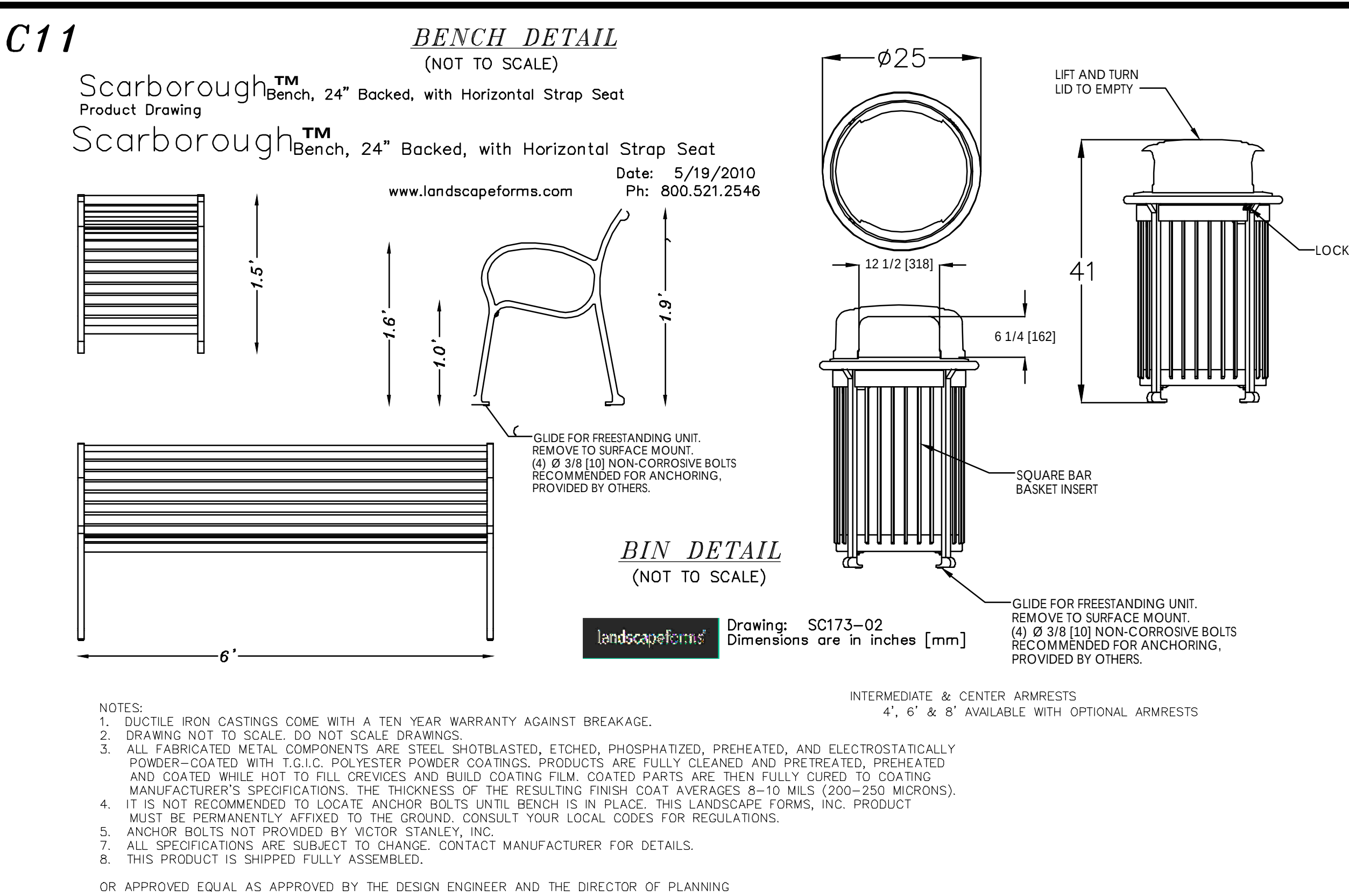
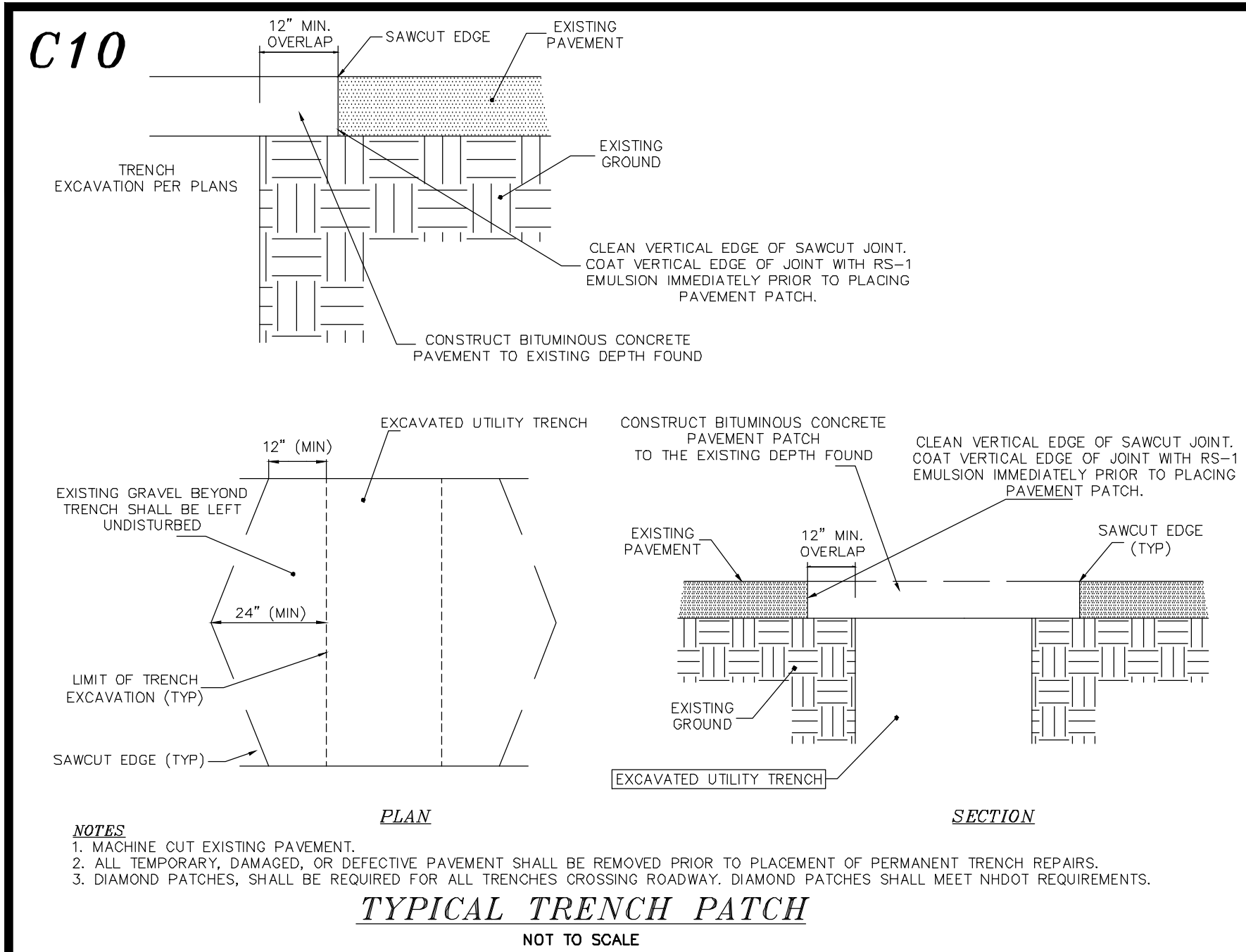
REVISION	DATE	DESCRIPTION

EROSION & SEDIMENT CONTROL DETAILS
FOR: WOODEN RULER REALTY, LLC
LAND OF: JOHN WONG & MO Y WONG, TRUSTEE OF THE
MO Y. WONG LIVING REVOCABLE TRUST OF 2006
42 & 44 THIRD STREET
DOVER, N.H.
TAX MAP 6, LOTS 32 & 40

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863
AS NOTED
DATE : AUGUST 11, 2022
FILE NO. : DB 2022 - 037



SHEET 12 OF 19



C13

KBR8 LED
LED Specification Bollard

Specifications

- 8" Round (203 mm)
- 40" (1016 mm)
- 27 lbs (12.25 kg)

Ordering Information

Series	Color	Power	Color temperature	Direction	Height	Control options	Other options	Finish
KBR8 LED	Asymmetric 12C 12120V	300 (30W)	300K	AS1 Asymmetric 12C	40"	120V	120V	White
	Symmetric 12C 12120V	400 (40W)	400K	S10 Symmetric	20"	120V	120V	Black
	Symmetric 12C 12120V	500 (50W)	500K	AS10 Asymmetric 12C	20"	120V	120V	Black
	Symmetric 12C 12120V	700 (70W)	700K	AS10 Asymmetric 12C	20"	120V	120V	Black

Accessories

- 1. Only available in the 12C AS10 version.
- 2. Only available in the 12C S10 version.
- 3. Only available with 400-400W version.
- 4. Not available with 12C.
- 5. MOUNT alternative on any low voltage from 120-277V.
- 6. MOUNT alternative on any low voltage from 120-277V.
- 7. Single head LED requires 120-277V, up to 347 voltage option.
- 8. Single head LED requires 120-277V, up to 347 voltage option.
- 9. MOUNT alternative with 120V option.

LITHONIA LIGHTING™

FEATURES & SPECIFICATIONS

INTENDED USE

Provides years of maintenance-free illumination for outdoor use in residential & commercial applications. Ideal for applications such as lighting walkways and driveways.

CONSTRUCTION

Cast aluminum housing with corrosion-resistant paint in white finish. AIA compliant.

OPTICS

4000K CCT LED.

Polyethylene lens protects the LED from moisture, dirt and other contaminants.

LUMEN MAINTENANCE

The L10 will deliver 70% of its initial lumens at 50,000 hour average L70 life. See the OLSR has 570 lumens and the OLSR has 530 lumens.

ELECTRICAL

120V driver operates on any line voltage from 120-277V.

Operating temperature: -30°C to 40°C.

10' surge protection standard.

INSTALLATION

Surface mount to universal junction box (provided by others).

LIFETIME

UL Listed and Canadian safety standards for wet locations.

WARRANTY

5-year limited warranty. Complete warranty terms located at: www.lithonia.com/warranty

Notes:

- 1. All values are design or typical values, measured under laboratory conditions at 25 °C.
- 2. Specifications subject to change without notice.

Outdoor General Purpose OLSR LED STEP LIGHT

Specifications

- 6-1/2" (165 mm)
- 6-1/2" (165 mm)
- 3-1/8" (76 mm)

ORDERING INFORMATION

Lead times will vary depending on options selected. Consult with your sales representative.

Series	Color temperature (K)	Voltage	Finish
OLSR	4000K	120V	WH White

Example: OLSR WH

C14

NOTE: Temporary seed mix for stabilization of turf shall be winter rye or oats at a rate of 2.5 lbs. per 1000 s.f. and shall be placed prior to OCT. 15, if permanent seeding not yet complete.

SEEDING GUIDE

USE	SEEDING MIXTURE 1/	DROUGHTY	WELL DRAINED	MODERATELY WELL DRAINED	POORLY DRAINED
STEEP CUTS AND FILLS, BORROW AND DISPOSAL AREAS	A	FAIR	GOOD	GOOD	FAIR
	B	POOR	GOOD	GOOD	FAIR
	C	POOR	GOOD	GOOD	FAIR
	D	FAIR	GOOD	GOOD	EXCELLENT
	E	FAIR	GOOD	GOOD	EXCELLENT
	F	FAIR	GOOD	GOOD	EXCELLENT
	G	FAIR	GOOD	GOOD	EXCELLENT
	H	FAIR	GOOD	GOOD	EXCELLENT
	I	FAIR	GOOD	GOOD	EXCELLENT
	J	FAIR	GOOD	GOOD	EXCELLENT
	K	FAIR	GOOD	GOOD	EXCELLENT
	L	FAIR	GOOD	GOOD	EXCELLENT
	M	FAIR	GOOD	GOOD	EXCELLENT
	N	FAIR	GOOD	GOOD	EXCELLENT
	O	FAIR	GOOD	GOOD	EXCELLENT
	P	FAIR	GOOD	GOOD	EXCELLENT
	Q	FAIR	GOOD	GOOD	EXCELLENT
	R	FAIR	GOOD	GOOD	EXCELLENT
	S	FAIR	GOOD	GOOD	EXCELLENT
	T	FAIR	GOOD	GOOD	EXCELLENT
	U	FAIR	GOOD	GOOD	EXCELLENT
	V	FAIR	GOOD	GOOD	EXCELLENT
	W	FAIR	GOOD	GOOD	EXCELLENT
	X	FAIR	GOOD	GOOD	EXCELLENT
	Y	FAIR	GOOD	GOOD	EXCELLENT
	Z	FAIR	GOOD	GOOD	EXCELLENT

SEEDING RATES

MIXTURE	POUNDS PER ACRE	POUNDS PER 1,000 S.F.
A. TALL FESCUE	20	0.45
B. CREEPING RED FESCUE	20	0.45
C. RED TOP	2	0.05
D. TOTAL	42	0.95
E. TALL FESCUE	15	0.35
F. CREEPING RED FESCUE	10	0.25
G. CROWN VETCH	15	0.35
H. TOTAL	40	0.95
I. TALL FESCUE	24	0.55
J. CREEPING RED FESCUE	24	0.55
K. BIRD'S FOOT TREFOIL	48	1.10
L. TOTAL	96	2.20
M. TALL FESCUE	20	0.45
N. FLAT PEA	20	0.45
O. TOTAL	40	0.95
P. TALL FESCUE	50	1.15
Q. CREEPING RED FESCUE 1/2	50	1.15
R. KENTUCKY BLUEGRASS 1/2	100	2.30
S. TOTAL	200	4.60
T. TALL FESCUE 1	150	3.80

CONSERVATION MIX

MIXTURE	POUNDS PER ACRE	POUNDS PER 1,000 S.F.
TALL FESCUE (35%)	15	0.35
CREEPING RED FESCUE (25%)	15	0.35
ANNUAL RYEGRASS (12%)	5	0.12
PERENNIAL RYEGRASS (10%)	5	0.12
KENTUCKY BLUEGRASS (10%)	15	0.35
WHITE CLOVER (3%)	7	0.16

SEEDING SPECIFICATIONS

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2. SEEDBED PREPARATION
 - A. SURFACE AND SEEPAGE WATER SHOULD BE DRAINED OR DIVERTED FROM THE SITE TO PREVENT DROWNING OR WINTER KILLING OF THE PLANTS.
 - B. STONES LARGER THAN 4 INCHES AND TRASH SHOULD BE REMOVED BECAUSE THEY INTERFERE WITH SEEDING AND FUTURE MAINTENANCE OF THE AREA. WHERE FEASIBLE, THE SOIL SHOULD BE TILLED TO A DEPTH OF ABOUT 4 INCHES TO PREPARE A SEED BED AND MIX FERTILIZER AND LIME INTO THE SOIL. THE SEEDBED SHOULD BE LEFT IN REASONABLY FIRM AND SMOOTH CONDITION. THE LAST TILLAGE OPERATION SHOULD BE PERFORMED ACROSS THE SLOPE WHEREVER PRACTICAL.
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 - AGRICULTURAL LIMESTONE, 2 TONS PER ACRE OR 100LBS. PER 1,000 SQ.FT.
 - NITROGEN(N), 50LBS. PER ACRE OR 1.1LBS. PER 1,000 SQ.FT.
 - PHOSPHATE(P2O5), 100LBS. PER ACRE OR 2.2LBS. PER 1,000 SQ.FT.
 - POTASH(K2O), 100LBS. PER ACRE OR 2.2LBS. PER 1,000 SQ.FT.
 - (NOTE: THIS IS THE EQUIVALENT OF 500LBS. PER ACRE OF 10-20-20 FERTILIZER OR 1,000LBS. PER ACRE OF 5-10-10.)

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 - B. STONES LARGER THAN 4 INCHES AND TRASH SHOULD BE REMOVED BECAUSE THEY INTERFERE WITH SEEDING AND FUTURE MAINTENANCE OF THE AREA. WHERE FEASIBLE, THE SOIL SHOULD BE TILLED TO A DEPTH OF ABOUT 4 INCHES TO PREPARE A SEED BED AND MIX FERTILIZER AND LIME INTO THE SOIL. THE SEEDBED SHOULD BE LEFT IN REASONABLY FIRM AND SMOOTH CONDITION. THE LAST TILLAGE OPERATION SHOULD BE PERFORMED ACROSS THE SLOPE WHEREVER PRACTICAL.
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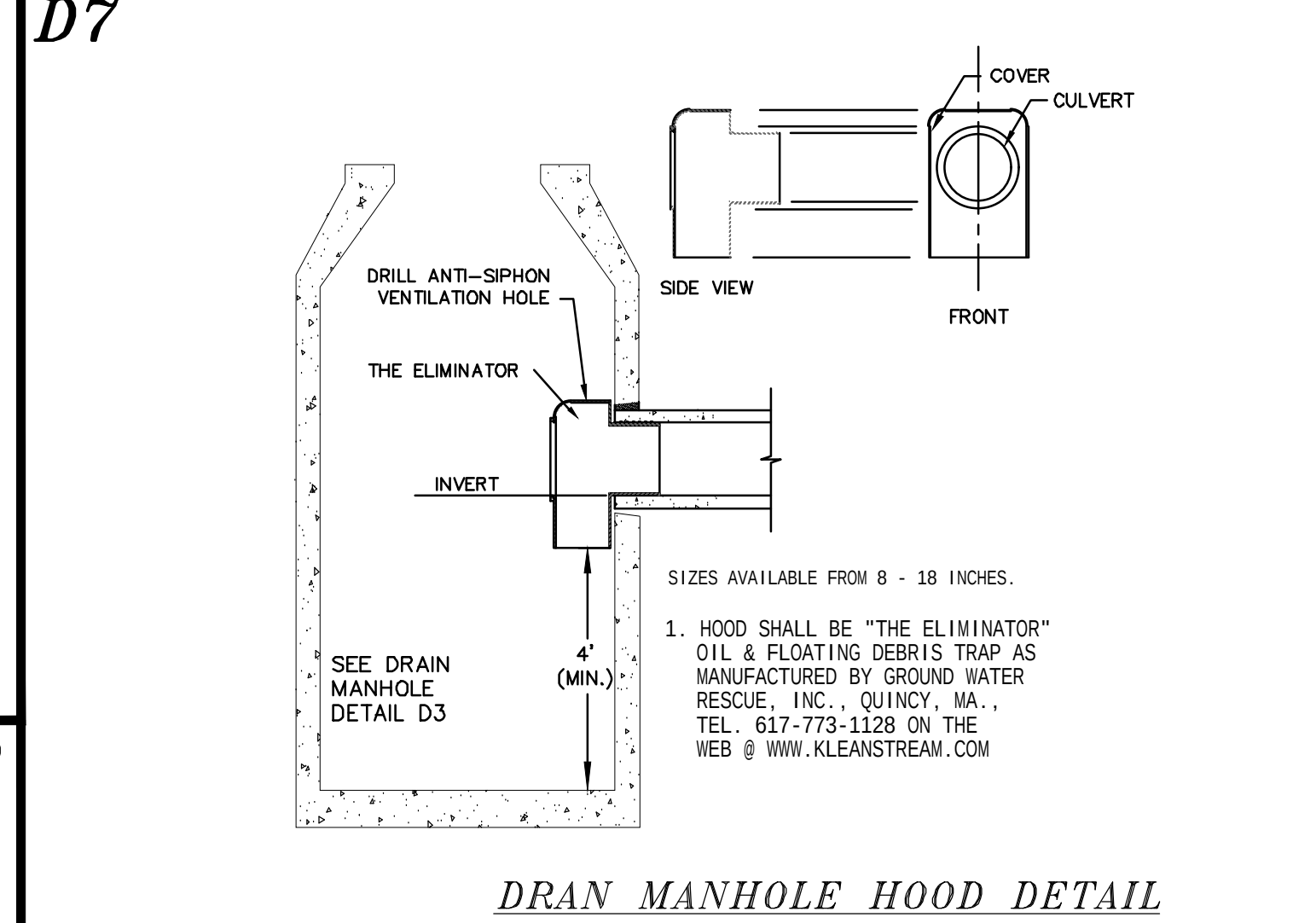
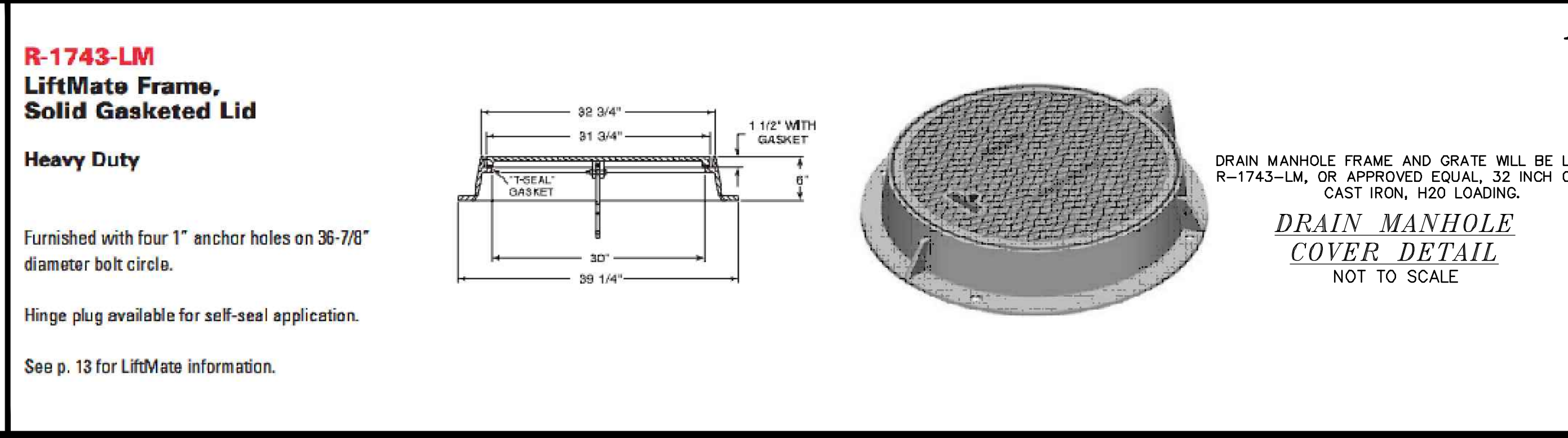
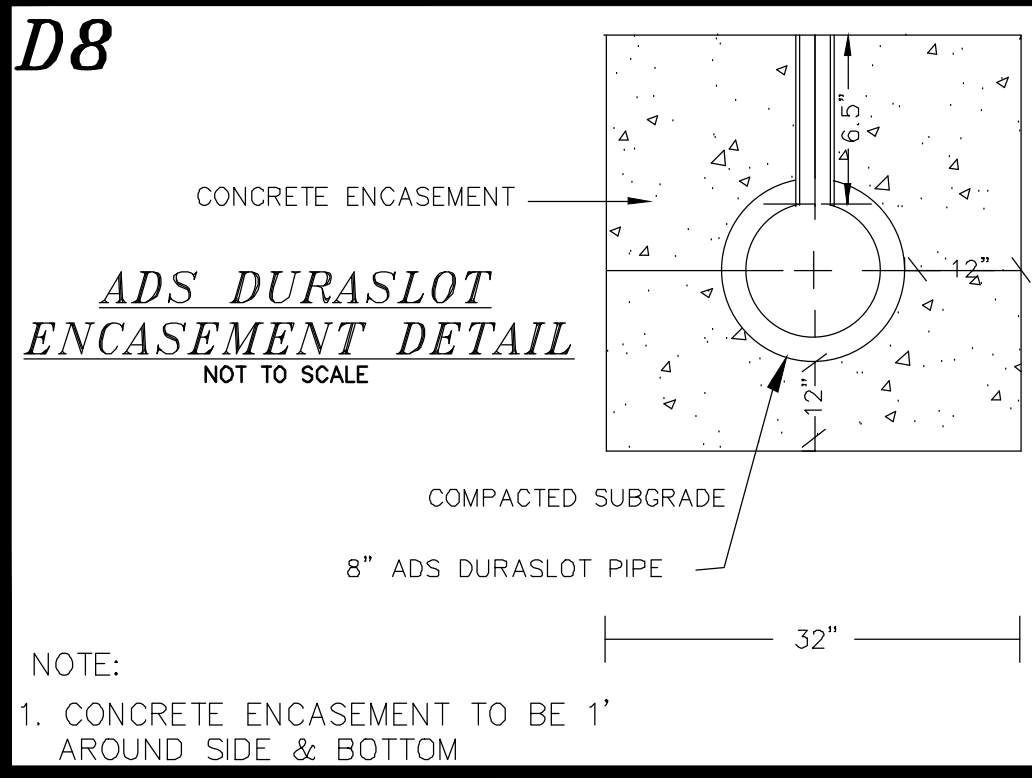
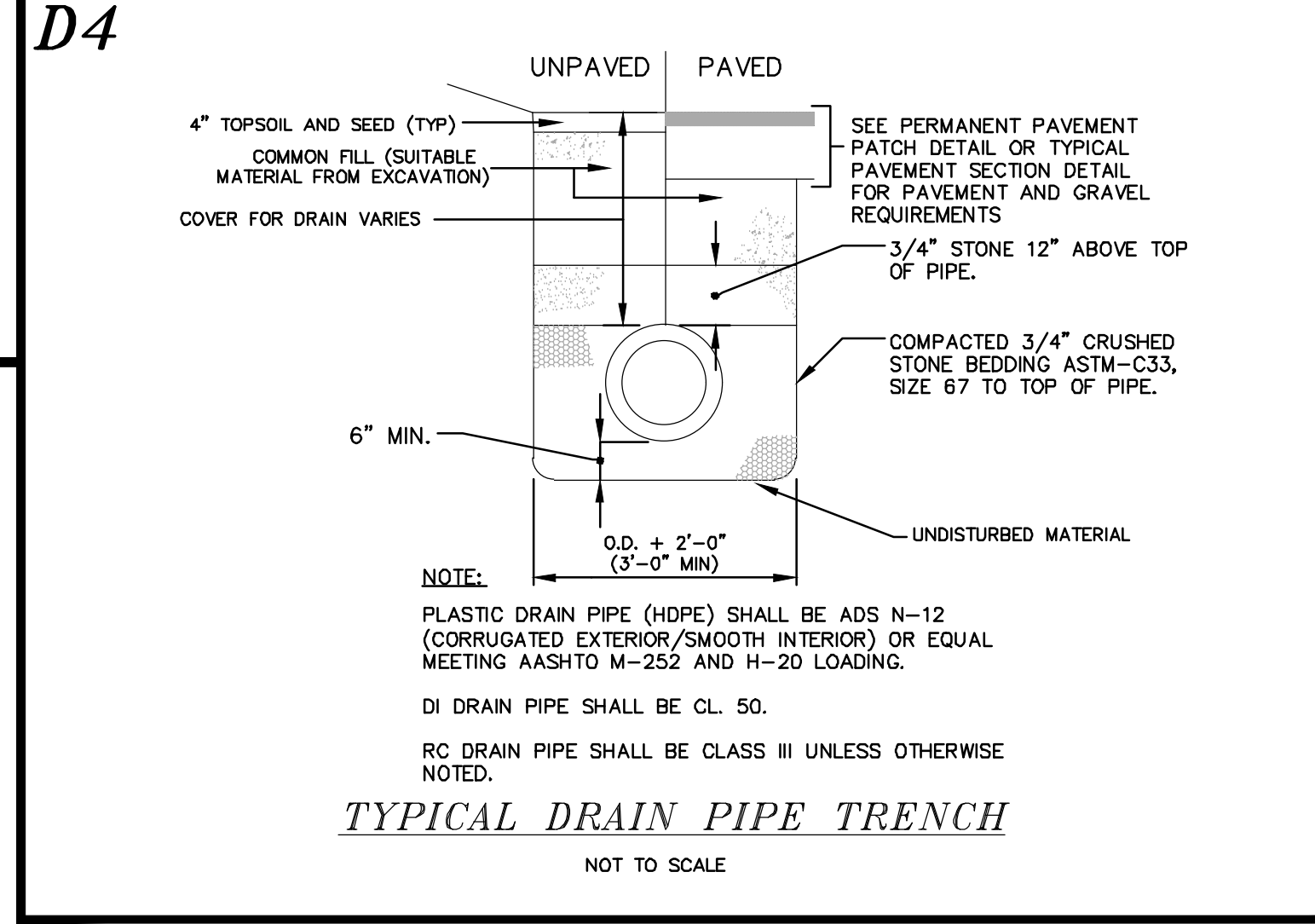
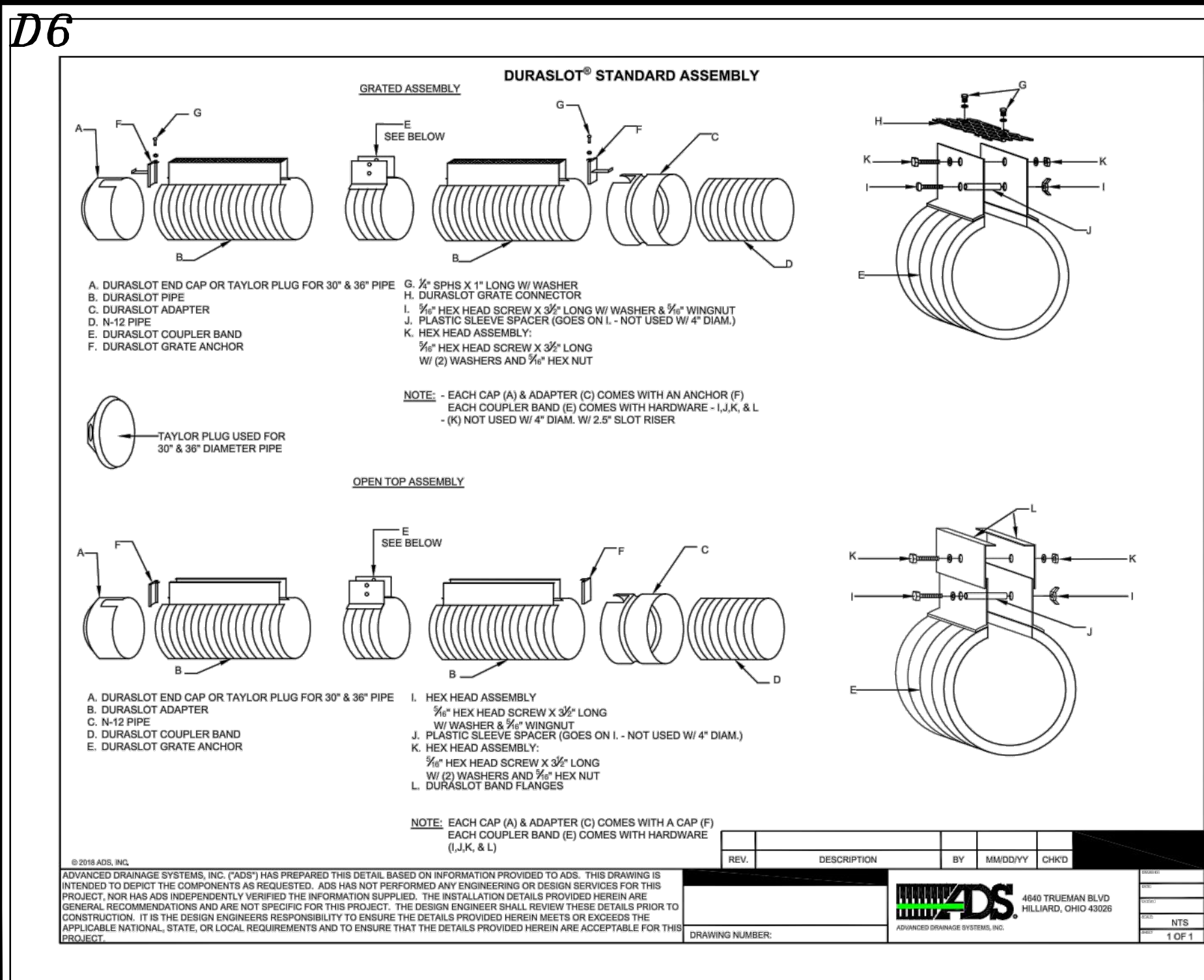
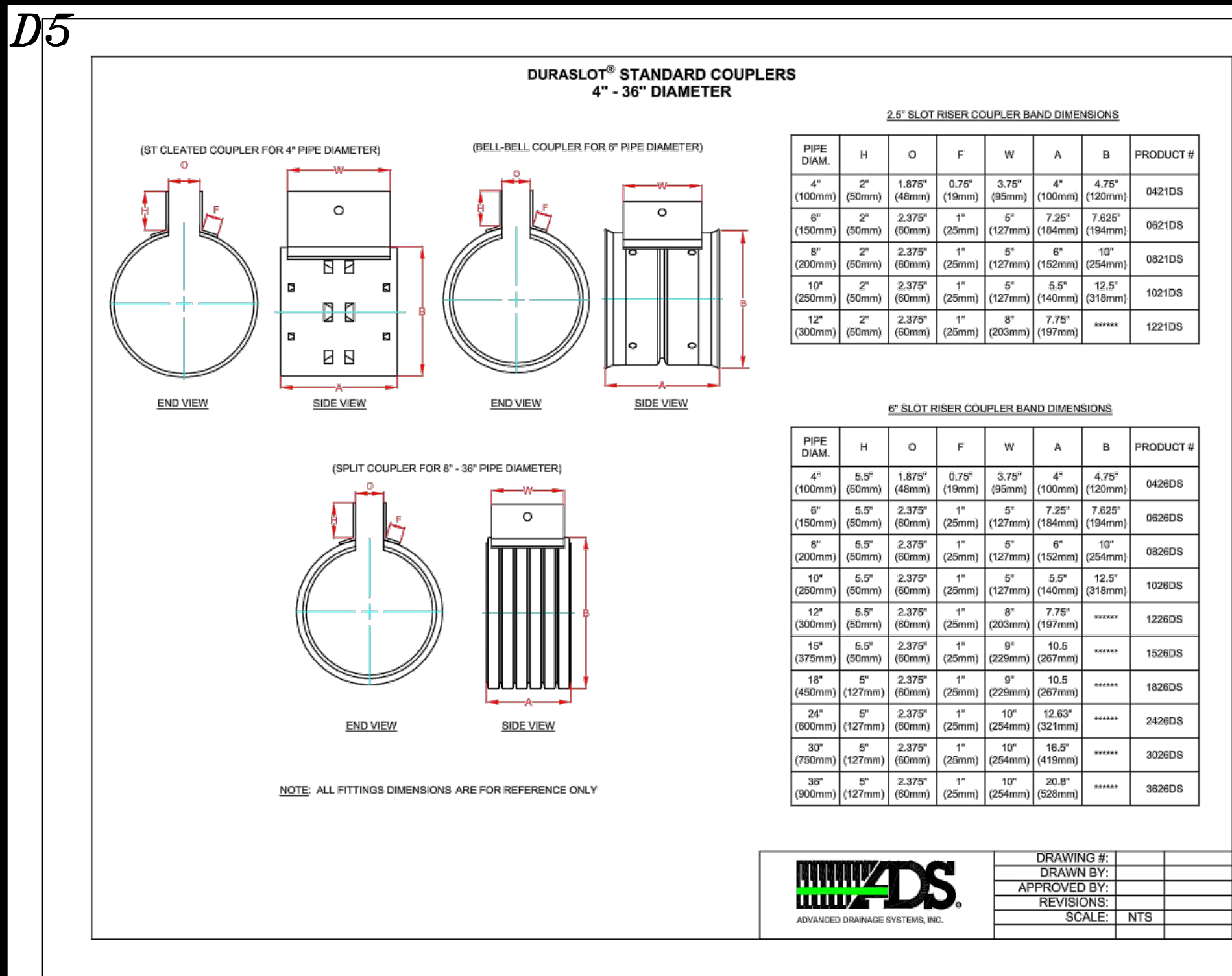
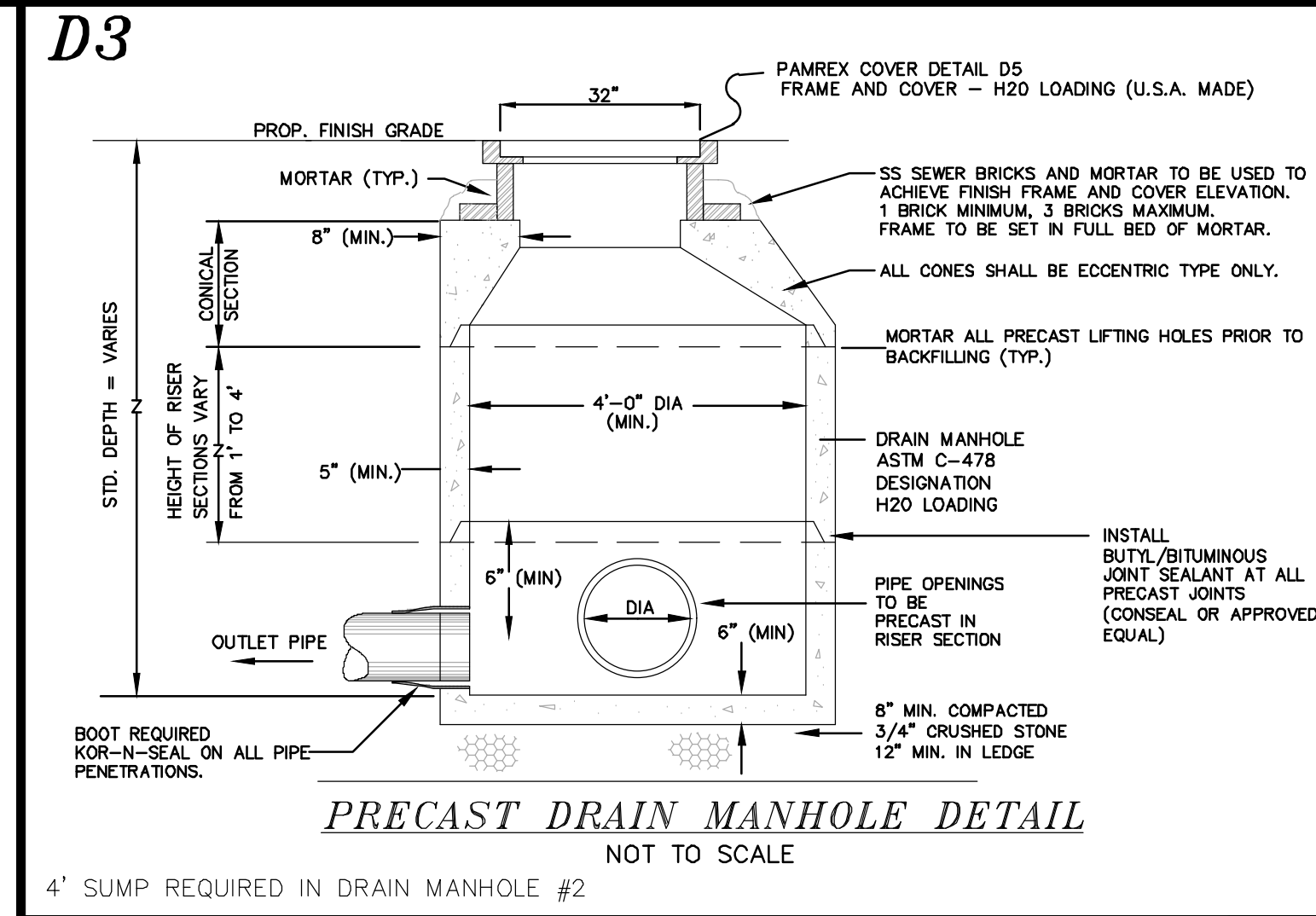
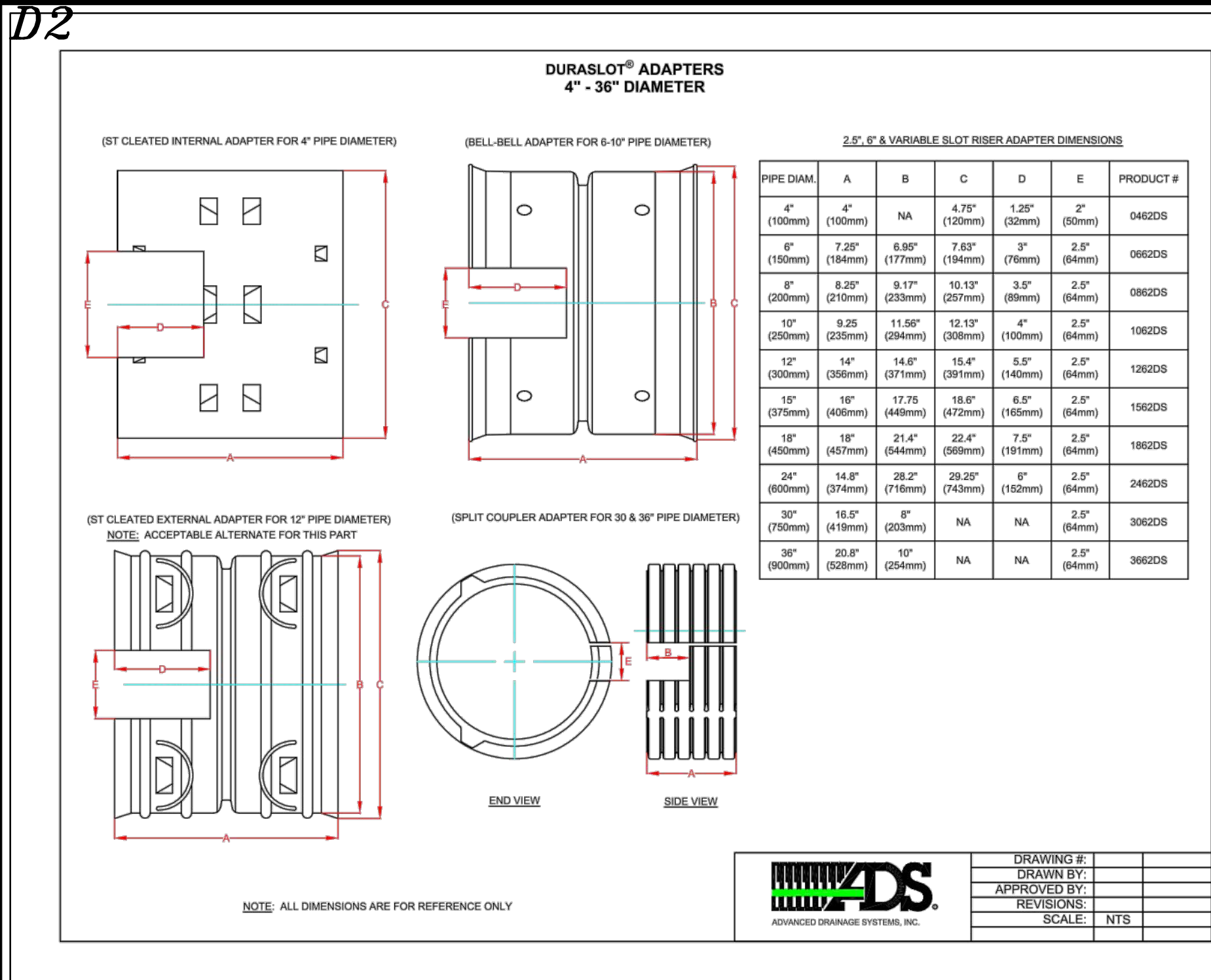
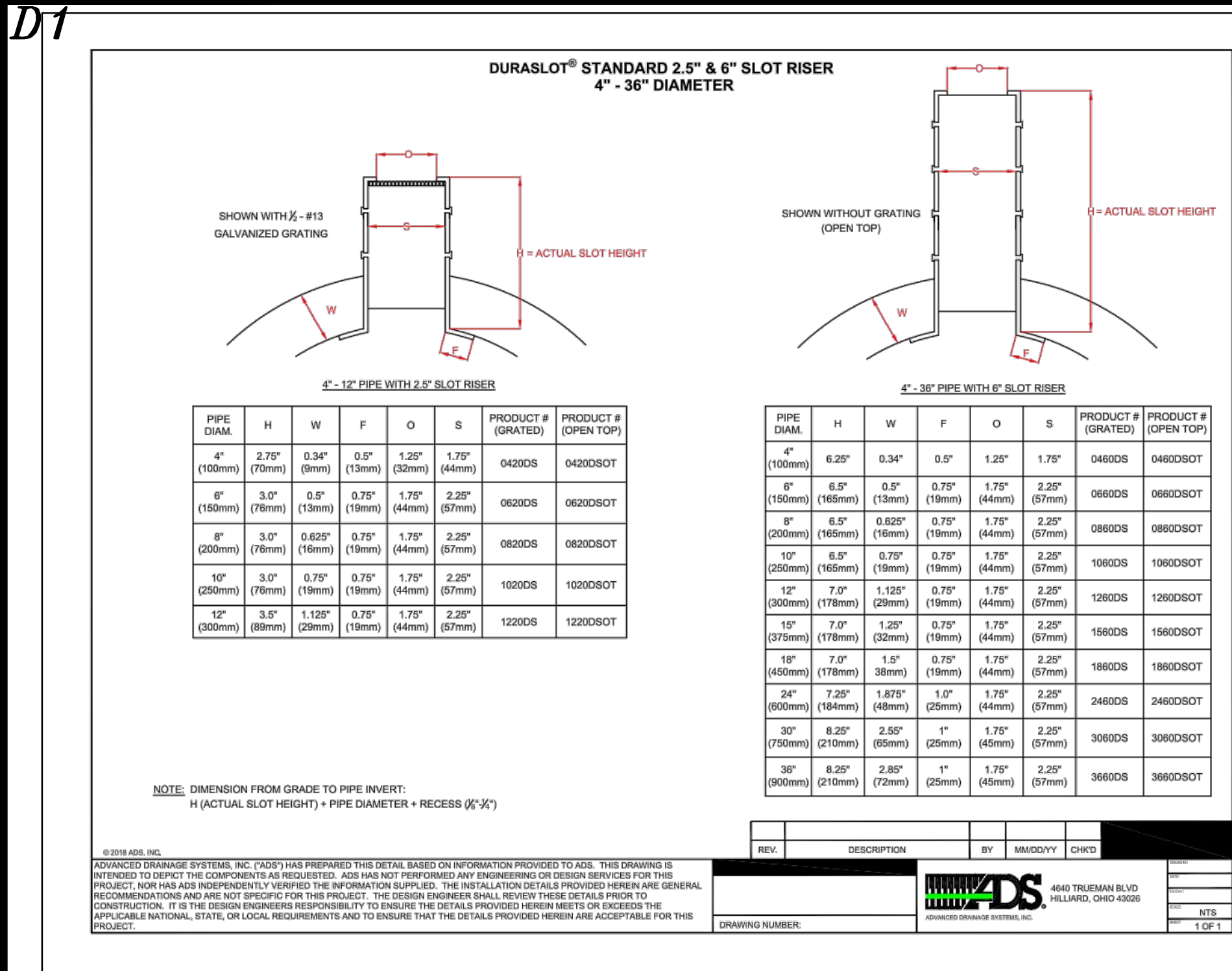
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REVISION DATE

DESCRIPTION

DRAINAGE CONSTRUCTION DETAILS
FOR: WOODEN RULER REALTY, LLC
LAND OF: JOHN WONG & MO Y WONG, TRUSTEE OF THE
MO Y. WONG LIVING REVOCABLE TRUST OF 2006
DOVER, N.H.
TAX MAP 6, LOTS 32 & 40

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863
AS NOTED
DATE : AUGUST 11, 2022
FILE NO. : DB 2022 - 037

STATE OF NEW HAMPSHIRE
KENNETH A. BERRY
PROFESSIONAL ENGINEER
No. 724

REFERENCE IS MADE TO A LONG TERM MAINTENANCE MANUAL PREPARED BY BERRY SURVEYING & ENGINEERING, WHICH IS ON FILE AT THE CITY OF ROCHESTER PLANNING DEPARTMENT, AND CAN BE FOUND AT THE OFFICE OF BERRY SURVEYING & ENGINEERING, (603) 332-2863

D-101

SHEET 15 OF 19

NO. 12 DRAIN BASIN: 281222 _ X

(1, 2) INTEGRATED DUCTILE IRON FRAME & GRATE TO MATCH BASIN O.D.

(3) VARIABLE INVERT HEIGHTS AVAILABLE (ACCORDING TO PLANTING SITE)

MINIMUM PIPE BURIAL DEPTH PER PIPE MANUFACTURER RECOMMENDATION (SEE SAME AS MIN. SUMP)

(4) ADAPTER ANGLES AVAILABLE *P* ACCORDING TO PLANS

TRAFFIC LOADS: CONCRETE SLAB DIMENSIONS ARE FOR GUIDELINE PURPOSES ONLY. ACTUAL CONCRETE SLAB MUST BE DESIGNED TAKING INTO CONSIDERATION LOCAL SOIL CONDITIONS, TRAFFIC LOADING, & OTHER APPLICABLE DESIGN FACTORS. SEE DRAWING NO. 700-110-111 FOR NON TRAFFIC INSTALLATION.

(5) VARIABLE SUMP DEPTH ACCORDING TO PLANS 8\"/>

(6) VARIOUS TYPES OF INLET & OUTLET ADAPTERS AVAILABLE: 6\"/>

THE BACKFILL MATERIAL SHALL BE CRUSHED STONE OR OTHER GRANULAR MATERIAL MEETING THE REQUIREMENTS OF CLASS 1, CLASS 2, OR CLASS 3 MATERIAL AS DEFINED IN ASTM D2221. BEDDING & BACKFILL FOR SURFACE DRAINAGE INLETS SHALL BE PLACED & COMPACTED UNIFORMLY IN ACCORDANCE WITH ASTM D2221.

1 - GRATE/SLOPE COVER SHALL BE DUCTILE IRON PER ASTM A536 GR-65-05, WITH THE DISPOSITION OF THE BROKEN GRATE.

2 - FINWES SHALL BE DUCTILE IRON PER ASTM A536 GR-65-05.

3 - CHAIN BARS TO CUSTOM MANUFACTURED ACCORDING TO PLANT DETAILS. RISERS ARE NEEDED FOR BASINS OVER 10\"/>

4 - DRAINAGE CONNECTION STUD JOINT TIGHTNESS SHALL CONFORM TO ASTM SPEC FOR CORRUGATED HOSE W/ 10\"/>

5 - ADAPTER CAN BE MOUNTED ON ANY ANGLE UP TO 30\"/>

ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 700-110-015.

THIS PRINT DISCLOSES SUBJECT MATTER IN WHICH INFLUENT AND PROPOSED WAY RIGHTS. THE RECEIPT OF THIS PRINT DOES NOT CONFER, HOWEVER, OR GRANT THE USE OF DESIGN OR TECHNICAL INFORMATION SHOWN HEREIN. REPRODUCTION OF THIS PRINT FOR ANY OR SPECIFIC COMMERICAL INTEREST, OR MANUFACTURE OF ANY ARTICLES, HEREFROM, FOR THE ENCLOSURE OF ANY OTHERS IS FORBIDDEN, EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM THE ORIGINAL ORIGINATOR.

GRATE OPTIONS	LOAD	PART #	DRAWING #
PLC 2\"/>			

DATE	BY	DESC	DETAIL
08-01-06			

REVISION	BY	DATE	PROJECT NO./NAME
02-15-15			

DWG SIZE	A	SCALE	SHEET	1 OF 1	DWG NO.	700-110-109	REV	E
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3150 VERONA AVE
BURFORD, ON L3R 9V18
PH: 770-122-3440
FAX: 770-122-3446
www.gallopblast-uk.com

gallopblast
INC.

TITLE
NO. 12 DRAIN BASIN QUICK SPEC INSTALLATION DETAIL

1. TRAP TO BE INSTALLED AS CLOSE TO THE DISTURBED AREA OR SOURCE OF SEDIMENT AS POSSIBLE.
2. THE MAXIMUM CONTRIBUTING DRAINAGE AREA TO THE TRAP SHALL BE LESS THAN 5 ACRES.
3. THE MINIMUM VOLUME OF THE TRAP SHALL BE 3,600 CUBIC FEET OF STORAGE FOR EACH ACRE OF DRAINAGE AREA.
4. THE SIDE SLOPES OF THE TRAP SHALL BE 3:1 OR FLATTER AND SHALL BE STABILIZED IMMEDIATELY AFTER THEIR CONSTRUCTION.
5. THE OUTLET OF THE TRAP SHALL BE A MINIMUM OF ONE FOOT BELOW THE CREST OF THE TRAP AND SHALL DISCHARGE TO A STABILIZED AREA.
6. THE TRAP SHALL BE CLEANED WHEN 50 PERCENT OF THE ORIGINAL VOLUME IS FILLED.
7. THE MATERIALS REMOVED FROM THE TRAP SHALL BE PROPERLY DISPOSED OF AND STABILIZED.

ISOMETRIC VIEW

CROSS SECTION

SIEVE DESIGNATION	SIZE OF STONE (INCHES)
100%	12
84-100%	6
68-83%	3
42-55%	1
8-12%	NO. 4

STONE LINED SEDIMENT TRAP

NOT TO SCALE

[illegible]

Diagram illustrating a water treatment system setup. A central filter bag is surrounded by a rectangular arrangement of straw bales. A discharge pipe is connected to the filter bag, secured with a hose clamp. The system is designed to filter water before discharge.

Labels in the diagram include:

- SET FILTER BAG IN TOP OF FILTER FABRIC OR VEGETATION
- STAKED STRAW BALE
- HOSE CLAMP
- ANCHOR PIPE TO BALES
- PROPOSED PUMP DISCHARGE PIPE

NOTES:

- 1.) ENSURE DISCHARGE POINT IS STABILIZED WITH VEGETATION OR PROPER EROSION AND SEDIMENT CONTROL PRACTICES.
- 2.) USE DIFFUSER NOZZLE OR LOW DISCHARGE RATE TO PREVENT SCOURING.
- 3.) TO BE PLACED AT AN UPLAND LOCATION THAT WILL ALLOW WATER TO DRAIN INTO THE GROUND.
- 4.) SIZE OF DE-WATERING AREA TO BE 10' x 10', ADJUST SIZE DEPENDING ON VOLUME AND USE.
- 5.) ADDITIONAL BALES MAY BE USED TO INCREASE RETENTION AND FILTERING.

- 1 - 6" - 36" SOLID COVERS SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-0305.
- 2 - 12" - 36" FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-0305.
- 3 - 6" - 18" SOLID COVERS FIT DIRECTLY INTO DRAIN BASIN WITH THE USE OF A PVC GASKET TOP. SEE DRAWING NO. 7001-105-046.
- 4 - DRAIN BASIN TO BELECTOR MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE NEEDED FOR BASINS OVER 4' HIGH TO PREVENT RESTRICTIONS. SEE DRAWING NO. 7001-105-046.
- 5 - DRAINAGE CONNECTION FROM JUMP TIGHTNESS SHALL CONFORM TO ASTM D1585 FOR CORRUGATED HDPE AND 8" MINIMUM COLLAR WALLS N-2"HP & L-2"HP BEARING (EX. SDR 35).
- 6 - ADAPTERS CAN BE LOCATED ON ANY ANGLE OF 0° TO 30° TO ESTABLISH MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-105-043.
- 7 - 6" - 36" SOLID COVERS SHALL MEET MINIMUM LOAD RATING.
- 8 - IF A 18" SOLID COVERS ARE RATED FOR LIGHT DUTY APPLICATIONS ONLY, NO CONCRETE COLLAR NEEDED FOR LIGHT DUTY RATING.

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DWG NO.	REV	MATERIAL	3150 VERONA AVE BUFFORD, OK 73008 (405) 770-8240 FAX (405) 770-8240 FAX www.nyploplast.com
DATE	05-14-07		Nyploplast
REVISY BY	NH	PROJECT NO.	01
DATE	06-15-18		TITLE
DWG SIZE	A	SCALE	1/4" = 1'-0"
SHEET	1 OF 1	DWG NO.	7001-105-001
			CRAN BASIN WITH SOLID COVER QUICK ERECTION INSTALLATION DETAIL
			REV E

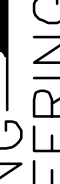
1. THE MAXIMUM LENGTH OF SLOPE ABOVE PERIMETER CONTROL IS 100 FEET.
2. THE MAXIMUM GRADIENT BEHIND CONTROL WILL NOT EXCEED 5%.
3. THE MAXIMUM CONTRIBUTING DRAINAGE AREA OF ONE-QUARTER ACRE PER 100- FEET OF PRACTICE LENGTH.
4. PERIMETER CONTROL IS TO BE INSTALLED PRIOR TO EARTH MOVING ACTIVITEIS, INCLUDING GRUBBING AND CLEARING.

1. DO NOT LAYOUT PERIMETER CONTROL ALONG SLOPING PROPERTY PERIMETER WITHOUT INSTALLING "J" HOOKS" AT HIGH CONCENTRATION AREAS, RUNOFF WILL CONCENTRATE AND CAUSE FAILURES ALONG THE PERIMETER.
2. "J" HOOKS" CAN BE USED TO HELP LIMIT THE CONCENTRATION OF RUNOFF AND PROVIDE MORE STABILITY TO THE PERIMETER.
3. EROSION AND EROSION CONTROL MULCH BERM MAY BE USED INTERCHANGEABLY IN SPECIFIED AREA. SILT FENCE MAY NOT BE SUBSTITUTED FOR FILTREXX SILT SOXX OR APPROVED ALTERNATIVE.
4. SEE HAMPSHIRE STORM WATER MANUAL: VOLUME 3, PAGE 99 FOR FURTHER DETAILS AND SPECIFICATIONS

REVISION	DATE	DESCRIPTION

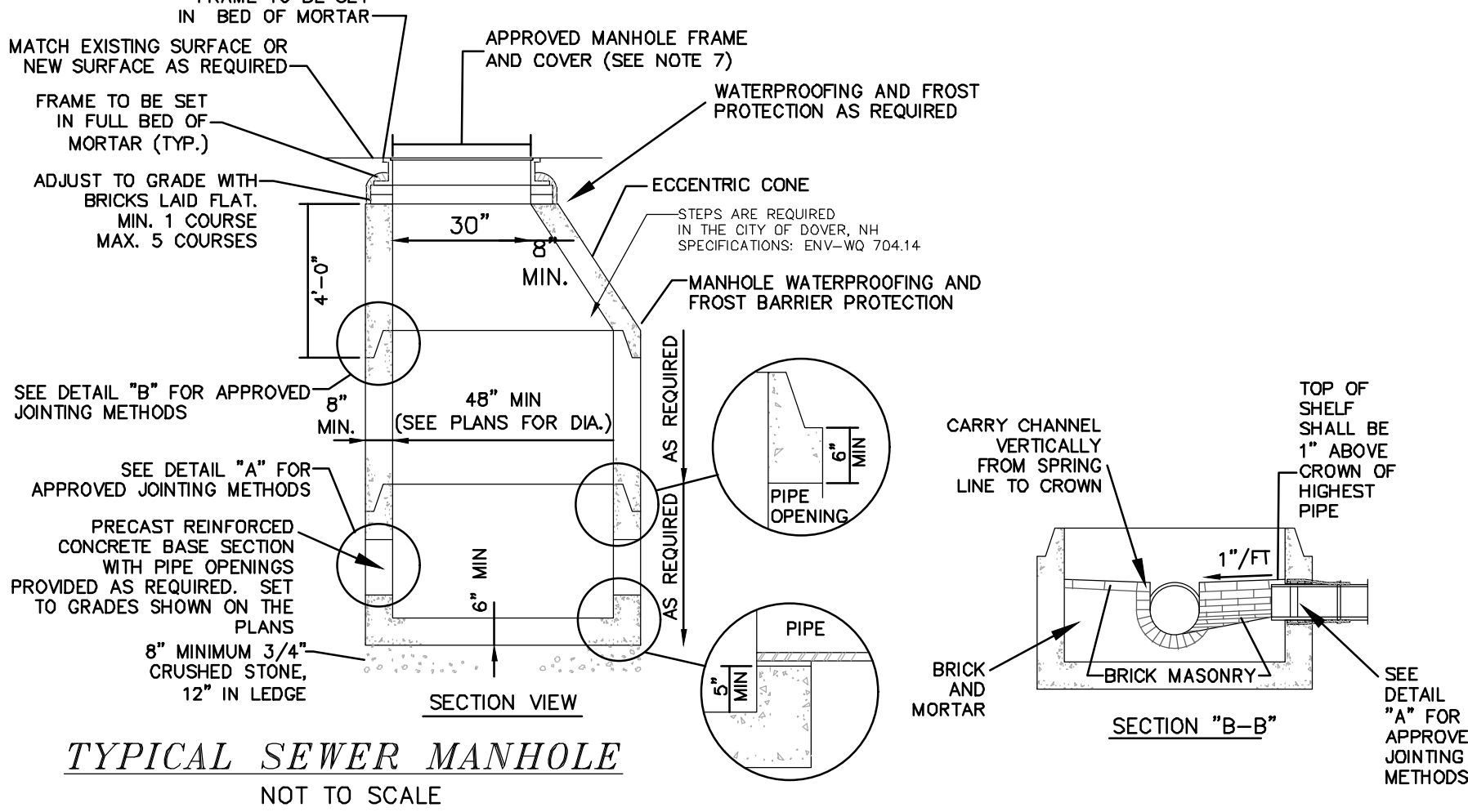
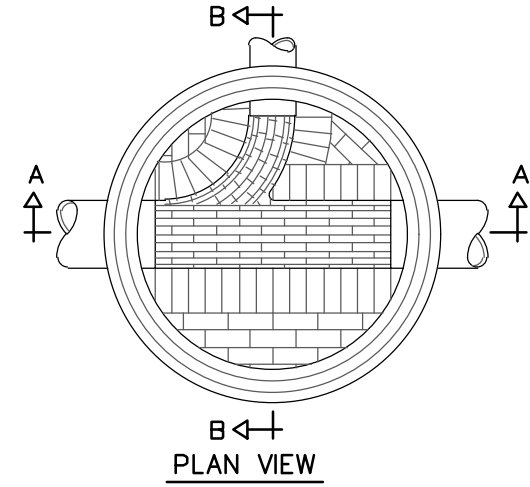
DRAINAGE DETAILS
FOR: WOODEN RULER REALTY, LLC
LAND OF: JOHN WONG & MO Y WONG, TRUSTEE OF THE
MO Y. WONG LIVING REVOCABLE TRUST OF 2006
42 & 44 THIRD STREET
DOVER, N.H.
TAX MAP 6, LOTS 32 & 40

TAX MAP 6, LOTS 32 & 40

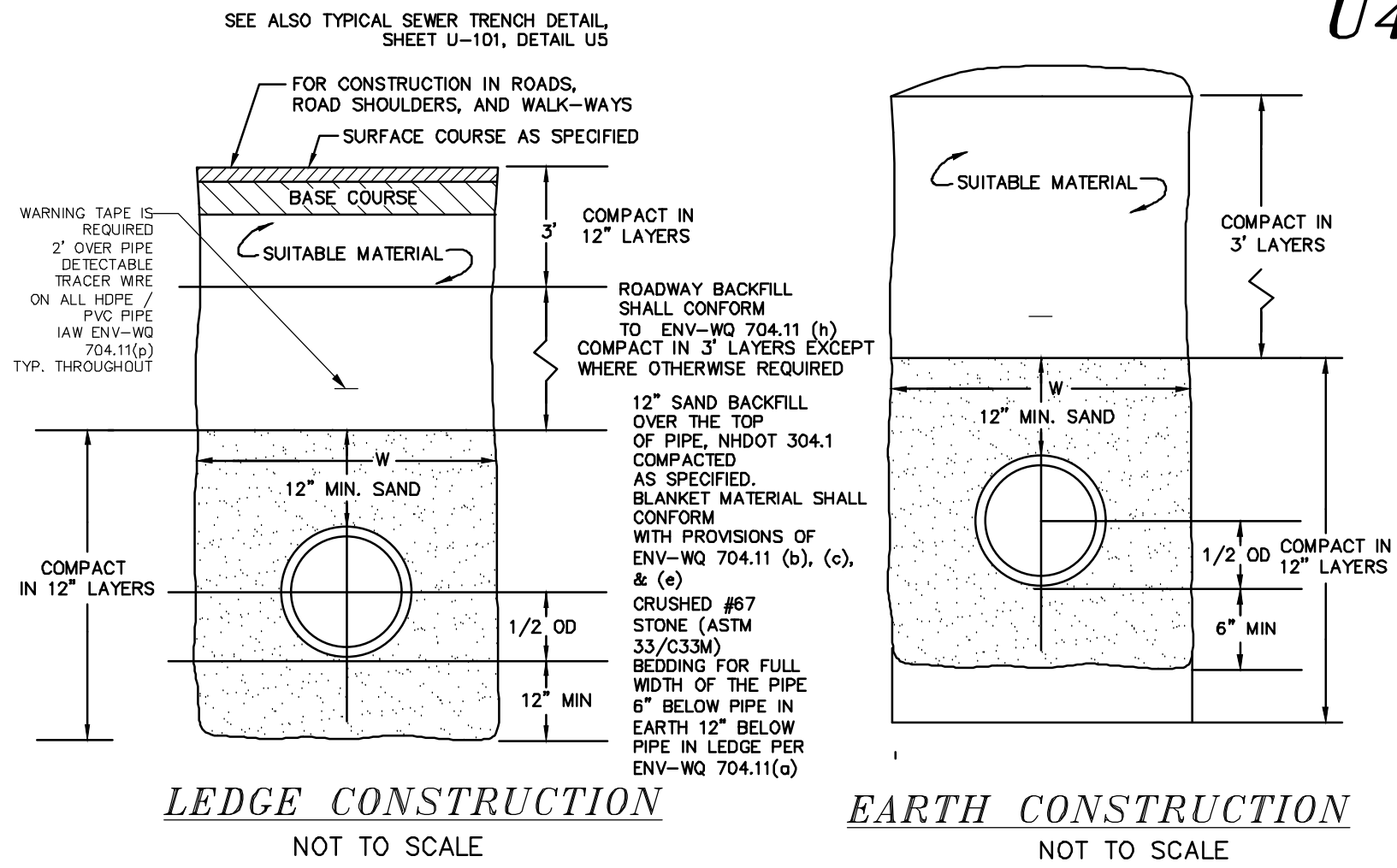
	BERRY SURVEYING & ENGINEERING 335 SECOND CROWN POINT ROAD BARRINGTON, NH 03825 (603)332-2863	
	AS NOTED	
	DATE :	AUGUST 11, 2022
	FILE NO. :	DB 2022 - 037

NOTES ON MANHOLE AND SEWER CONSTRUCTION:

- 1) IT IS THE INTENTION THAT THE MANHOLE, INCLUDING ALL COMPONENT PARTS, HAVE ADEQUATE SPACE, STRENGTH AND LEAKPROOF QUALITIES CONSIDERED NECESSARY FOR THE INTENDED SERVICE. SPACE REQUIREMENTS AND CONFIGURATIONS SHALL BE AS SHOWN ON THE DRAWING. MANHOLES SHALL BE AN ASSEMBLY OF PRECAST SECTIONS, WITH STEEL REINFORCEMENT AND ADEQUATE JOINTING. THE COMPLETE STRUCTURE SHALL BE OF SUCH MATERIAL AND QUALITY AS TO WITHSTAND HS-20-44 LOADING, INCLUDING THE COVER. ALL SMH CONSTRUCTION AND MATERIALS WILL BE IAW ENV-WQ 704.13 ADOPTED OCTOBER 15, 2014
- 2) BARRELS AND CONE SECTIONS SHALL BE PRECAST REINFORCED CONCRETE. (IAW ENV-WQ 704.12 (d))
- 3) SEWER MANHOLE DIAMETER SHALL BE AS INDICATED ON THE PLANS.
- 4) PRECAST CONCRETE BARREL SECTIONS, CONES AND BASES SHALL CONFORM TO ASTM C478.
- 5) GRAVITY SEWER PIPE TESTING WILL BE IN ACCORDANCE WITH ENV-WQ 704.08 AND MAN HOLE TESTING IAW ENV-WQ 704.12 DATED OCTOBER 15, 2014.
- 6) INVERTS AND SHELVES: MANHOLES SHALL HAVE A BRICK PAVED SHELF AND INVERT, CONSTRUCTED TO CONFORM TO THE SIZE OF THE PIPE AND FLOW. INVERT BRICKS SHALL BE LAID ON EDGE AND THE BASE SECTION SHALL BE FULL. AT CHANGES IN DIRECTIONS, THE INVERTS SHALL BE LAID OUT IN CURVES OF THE LONGEST RADIUS POSSIBLE TANGENT TO THE CENTER LINE OF THE SEWER PIPES. CARE SHALL BE TAKEN TO ENSURE THAT THE BRICK INVERT IS A SMOOTH CONTINUATION OF THE SEWER INVERT. SHELVES SHALL BE CONSTRUCTED TO THE ELEVATION OF THE HIGHEST PIPE CROWN AND SLOPE TO DRAIN TOWARD THE FLOWING THROUGH CHANNEL. UNDERLAYMENT OF INVERT AND SHELF SHALL CONSIST OF BRICK MASONRY. (IAW ENV-WQ 704.13 (a) (9)), MORTAR SHALL CONFORM WITH REQUIREMENTS OF IAW ENV-WQ 704.13 (c).
- FRAMES AND COVERS: MANHOLES FRAMES AND COVERS SHALL BE OF HEAVY DUTY DESIGN AND PROVIDE A 30-INCH CLEAR OPENING. 3-INCH (MINIMUM HEIGHT) LETTERS WITH THE WORD "SEWER" SHALL BE PLAINLY CAST INTO THE CENTER OF EACH MANHOLE COVER. (IAW ENV-WQ 704.13 (a) (4-6)) SEWER MAN HOLE COVERS ARE TO BE LIFTMATE R-1743-LM.
- 7) SHALLOW MANHOLE: IN UEL OF A CONE SECTION, WHEN MANHOLE DEPTH IS LESS THAN 6 FEET, A REINFORCED CONCRETE SLAB COVER MAY BE USED HAVING AN ECCENTRIC ENTRANCE OPENING AND CAPABLE OF SUPPORTING H-20 LOADS.
- 8) HORIZONTAL JOINTS BETWEEN SECTIONS OF PRECAST CONCRETE BARRELS SHALL BE OF A TYPE APPROVED BY THE DOVER DPW, WHICH TYPE SHALL, IN GENERAL, DEPEND FOR WATER TIGHTNESS UPON A DOUBLE ROW OF AN OVERLAPPING TYPE ELASTOMERIC OR MASTIC-LIKE GASKET. APPROVED ELASTOMERIC SEALANTS ARE: RAM-NEK, KENT SEAL NO. 2, EZ, OR EQUAL.
- 9) IN CROSS COUNTRY AREAS OUTSIDE OF THE PAVED ROADWAY SURFACE, THE MANHOLE FRAME ELEVATION SHALL BE A MINIMUM OF 6" ABOVE FINISHED GRADE. GRADE TO PROVIDE POSITIVE DRAINAGE AWAY FROM THE MANHOLE. SEE TYPICAL TRENCH DETAIL ON SHEET D-102.
- 11.) ALL FRAMES AND GRATES ARE TO BE U.S.A. MADE. MANHOLE STEPS ARE REQUIRED IN THIS MUNICIPALITY AND MUST CONFORM TO THE REQUIREMENTS OF ENV-WQ 704.14.
- 12.) THE CONTRACTOR TO WORK WITH CITY OF DOVER REVIEW ENGINEER AND SEWER DEPARTMENT ON THE MEANS AND METHODS USED TO INSTALL ALL SEWER STRUCTURES.
- 13.) ANY WORK INVOLVING THE CUTTING INTO THE EXISTING A.C. PIPE SHALL MEET THE REQUIREMENTS OF ENV-A 1800.
- 14.) THE "CITY OF DOVER, NEW HAMPSHIRE, DEPARTMENT OF COMMUNITY SERVICES, CONSTRUCTION GUIDELINES, PERMITS, RULES, AND REGULATIONS" (DATED MARCH 13, 2018) ARE A PART OF THE CONSTRUCTION DETAILS AND TO BE FOLLOWED.
- 15.) MANHOLES SHALL BE TESTED FOR LEAKAGE USING A VACUUM TEST IN ACCORDANCE WITH THE ASTM C1244 STANDARD AND ENV-WQ 704.17.

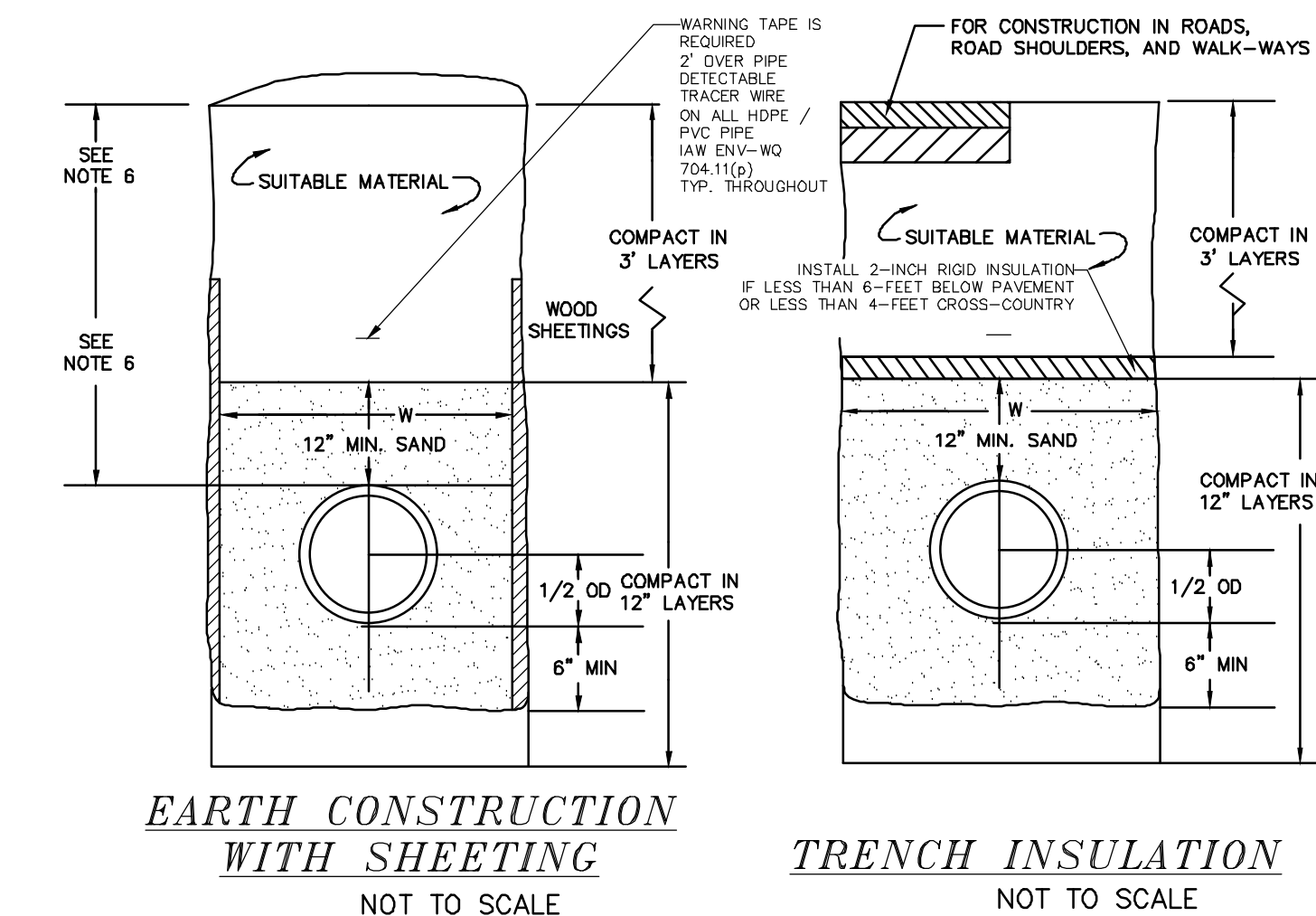


TYPICAL SEWER MANHOLE
NOT TO SCALE



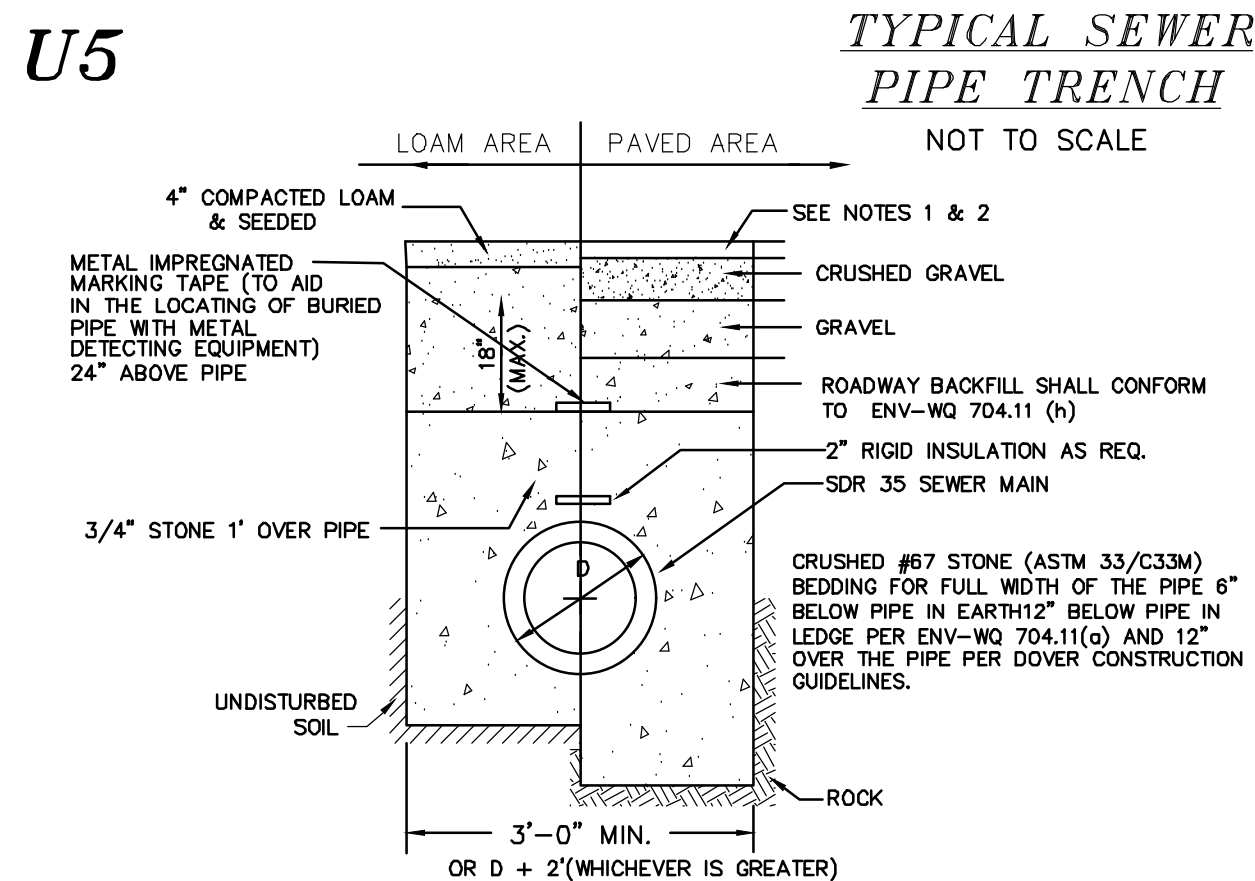
LEDGE CONSTRUCTION
NOT TO SCALE

EARTH CONSTRUCTION
NOT TO SCALE



EARTH CONSTRUCTION
WITH SHEETING
NOT TO SCALE

TRENCH INSULATION
NOT TO SCALE



TYPICAL SEWER
PIPE TRENCH
NOT TO SCALE

- NOTE:
1. PAVEMENT REPAIR IN EXISTING ROADWAYS SHALL CONFORM TO STREET OPENING REGULATIONS.
 2. NEW ROADWAY CONSTRUCTION SHALL CONFORM TO SUBDIVISION SPEC'S.
 3. ANTI-SEEP COLLARS OR CLAY CHECK DAMS ON STEEP RUNS IN WET CONDITIONS.
 4. ALL SEWER INSTALLATIONS SHALL CONFORM TO THE REQUIREMENTS OF NHDES & MUNICIPAL DPW SEWER DIVISION STANDARDS. ALL PVC SEWER PIPE IS TO CONFORM WITH ENV-WQ 704.05 (c)-(e) AND CONFORM WITH ASTM D3034. PVC JOINT SEALS SHALL CONFORM WITH ASTM D3121. SDR-21 PVC FORCE MAIN PIPE MATERIAL IS REQUIRED IN LOCATIONS AS SHOWN. SDR-21 PVC FORCEMAIN PIPE WILL CONFORM TO ENV-WQ 704.08.

U1

U2

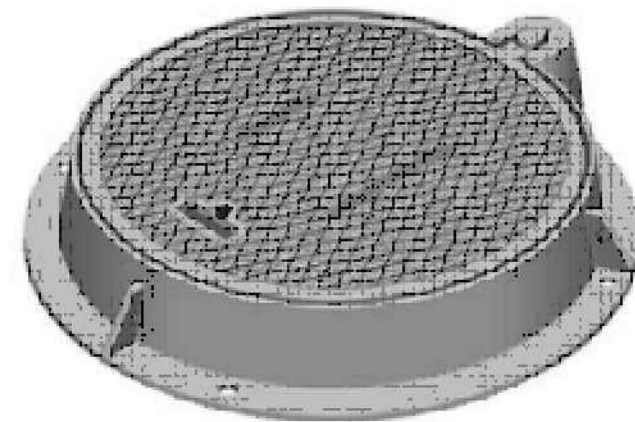
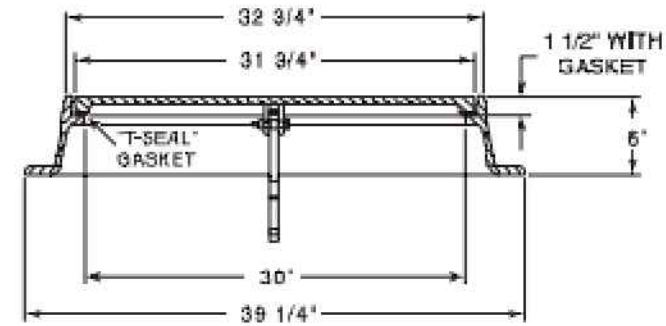
R-1743-LM
LiftMate Frame,
Solid Gasketed Lid

Heavy Duty

Furnished with four 1" anchor holes on 36-7/8" diameter bolt circle.

Hinge plug available for self-seal application.

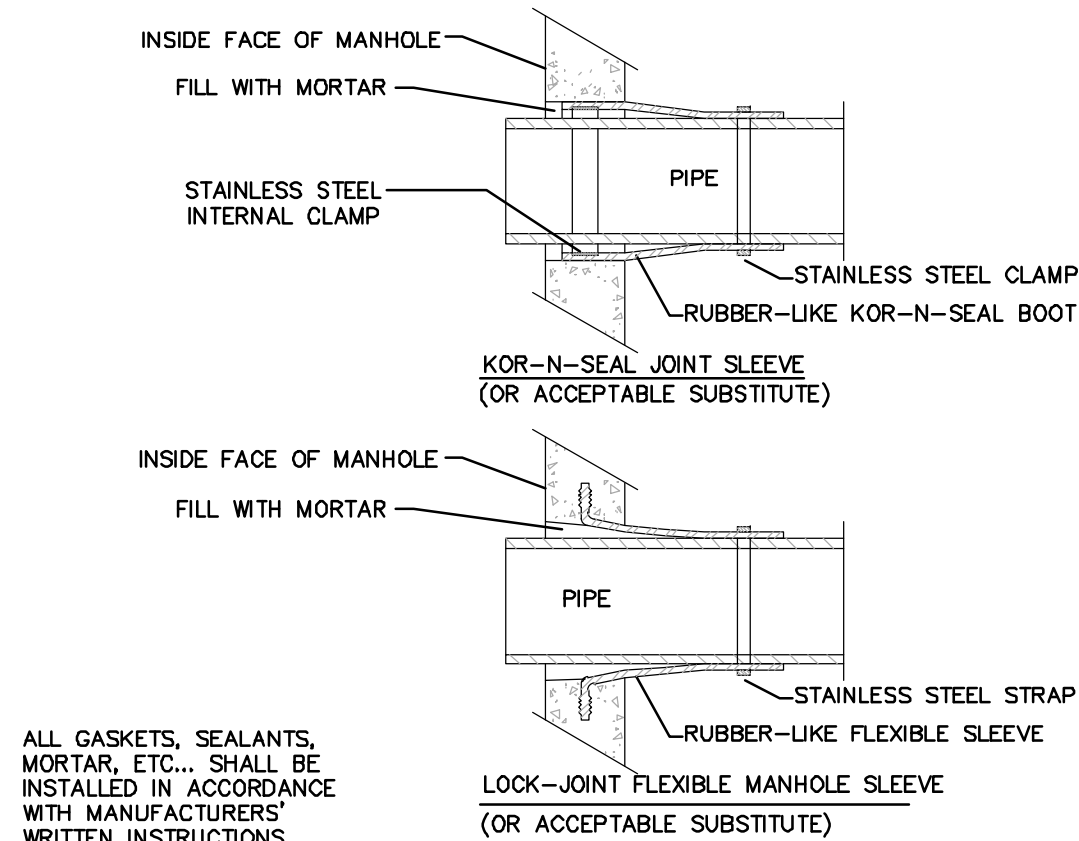
See p. 13 for LiftMate information.



SEWER MANHOLE FRAME AND GRATE WILL BE LIFTMATE R-1743-LM, OR APPROVED EQUAL, 32 INCH OPENING, CAST IRON, H20 LOADING.

SEWER MANHOLE COVER DETAIL
NOT TO SCALE

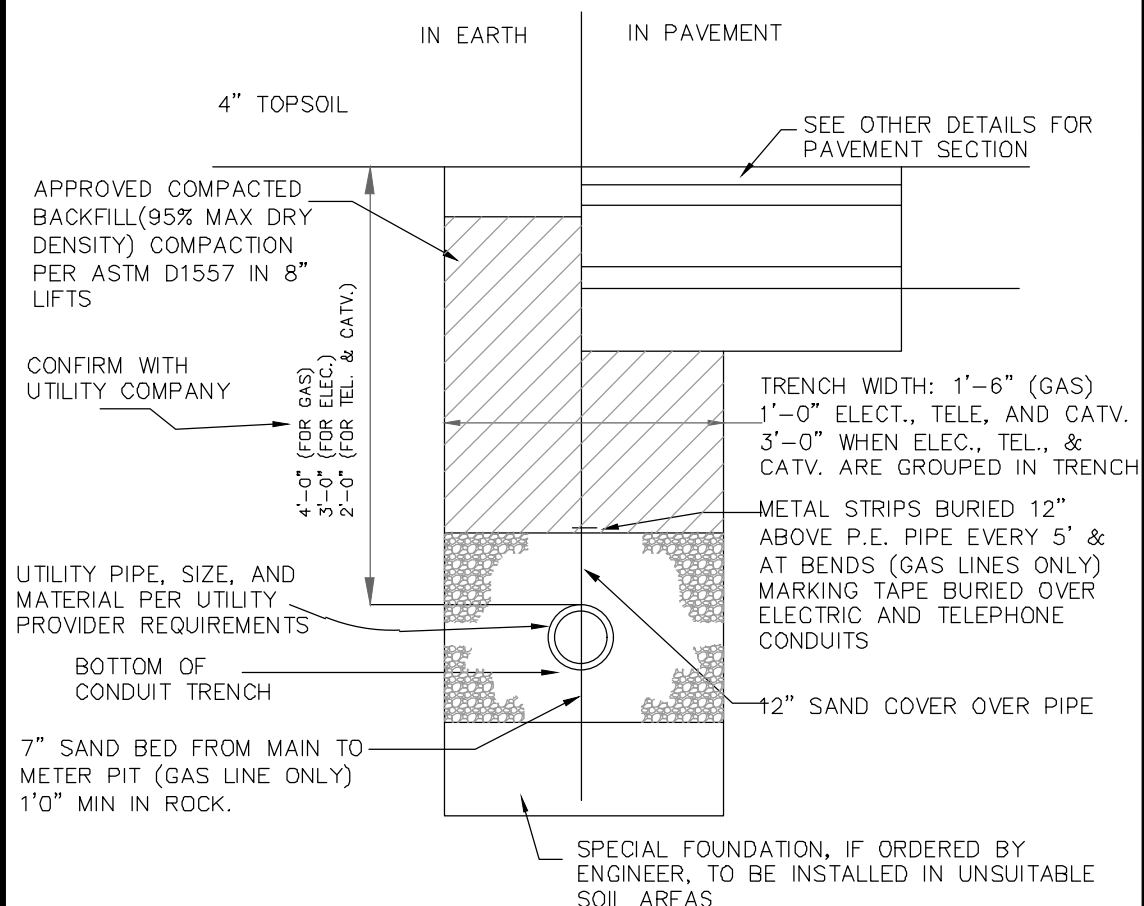
U3



DETAIL "A" - PIPE TO MANHOLE JOINTS
NOT TO SCALE

DETAIL "B" HORIZONTAL JOINTS
NOT TO SCALE

U6

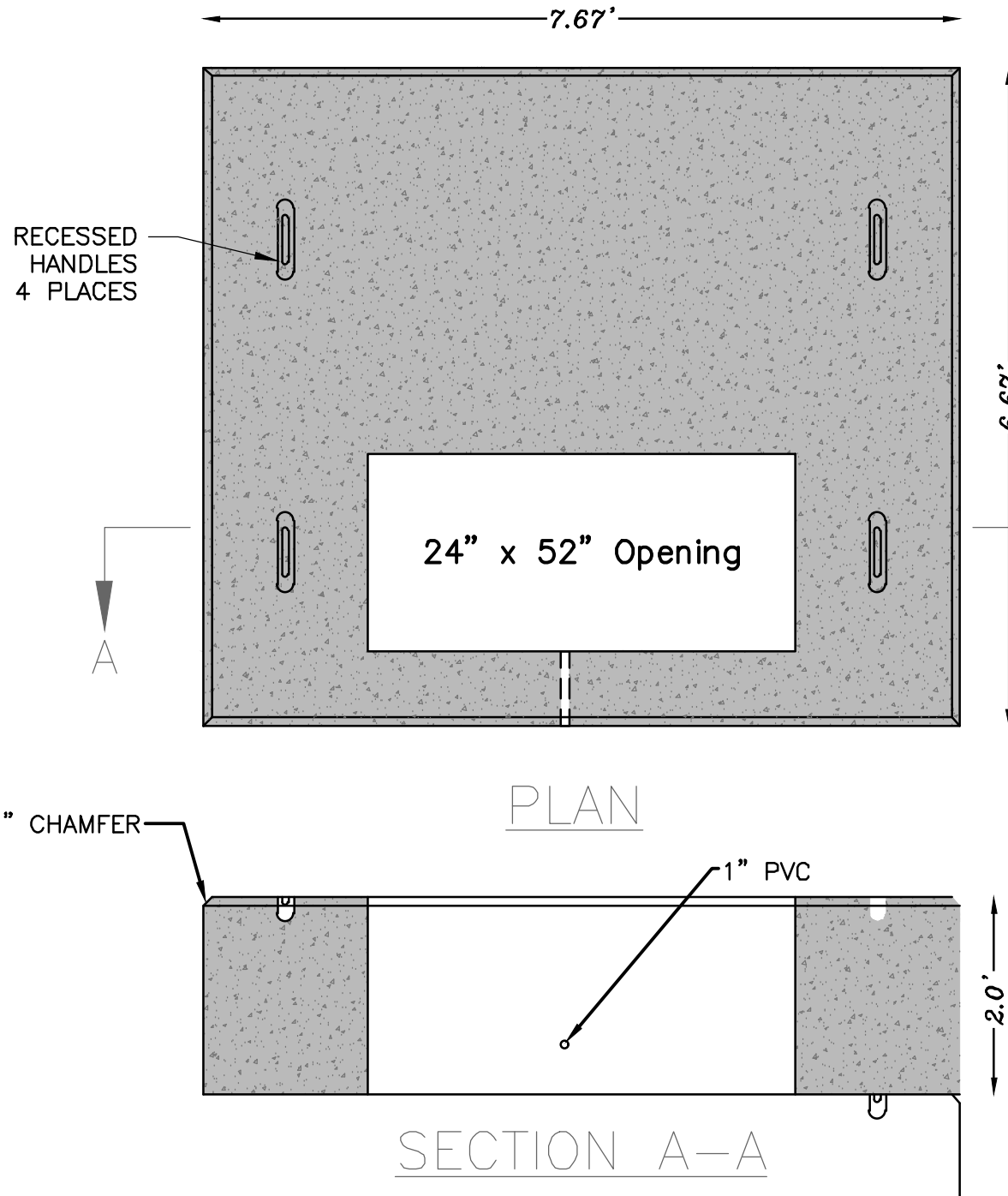


ELECTRICAL, TELEPHONE,
AND GAS TRENCH
NOT TO SCALE

U7

TRANSFORMER AND PAD DETAIL
NOT TO SCALE

EVERSOURCE- NH 53-111 3 PHASE
TRANSFORMER PAD 75-500 KVA
COORDINATE WITH EVERSOURCE PRIOR
TO PURCHASE

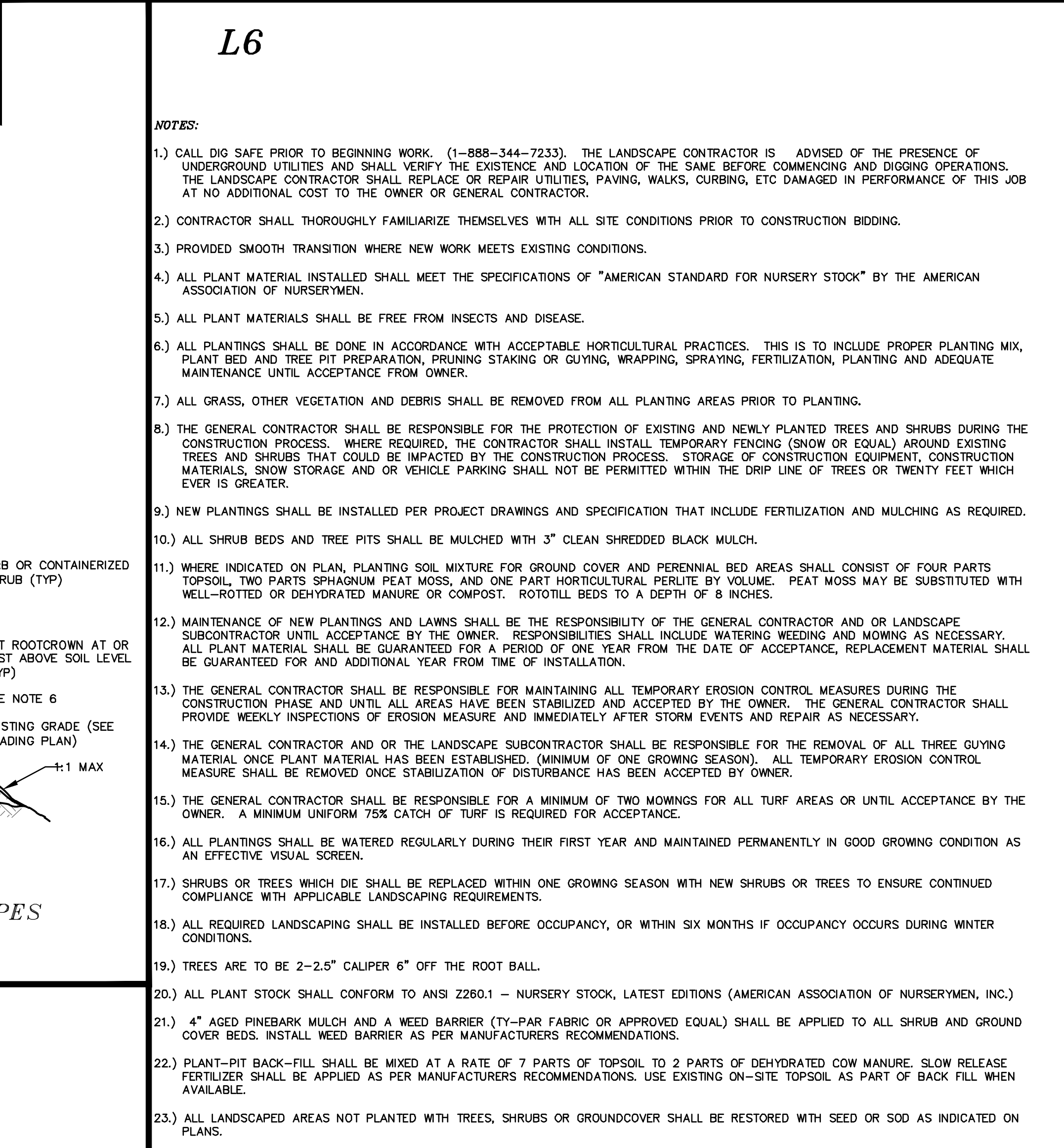
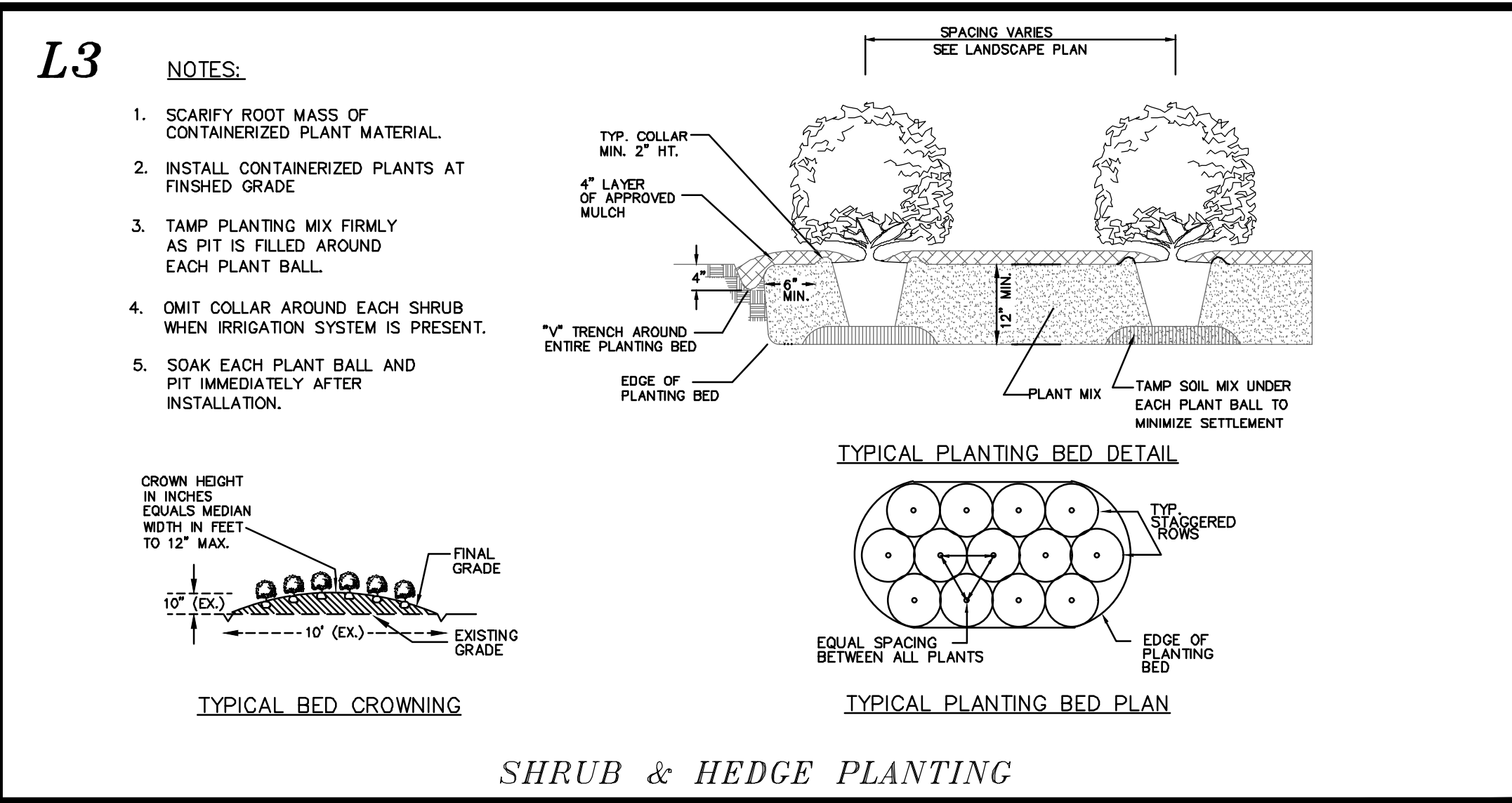
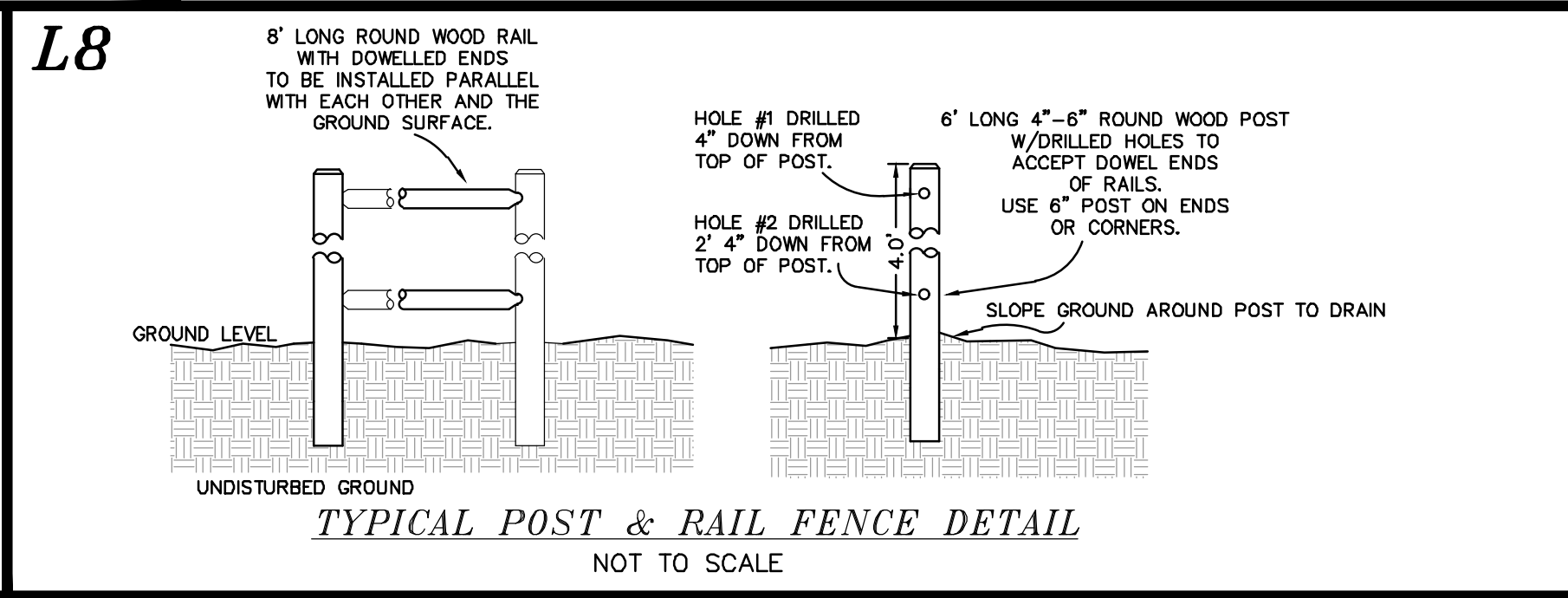
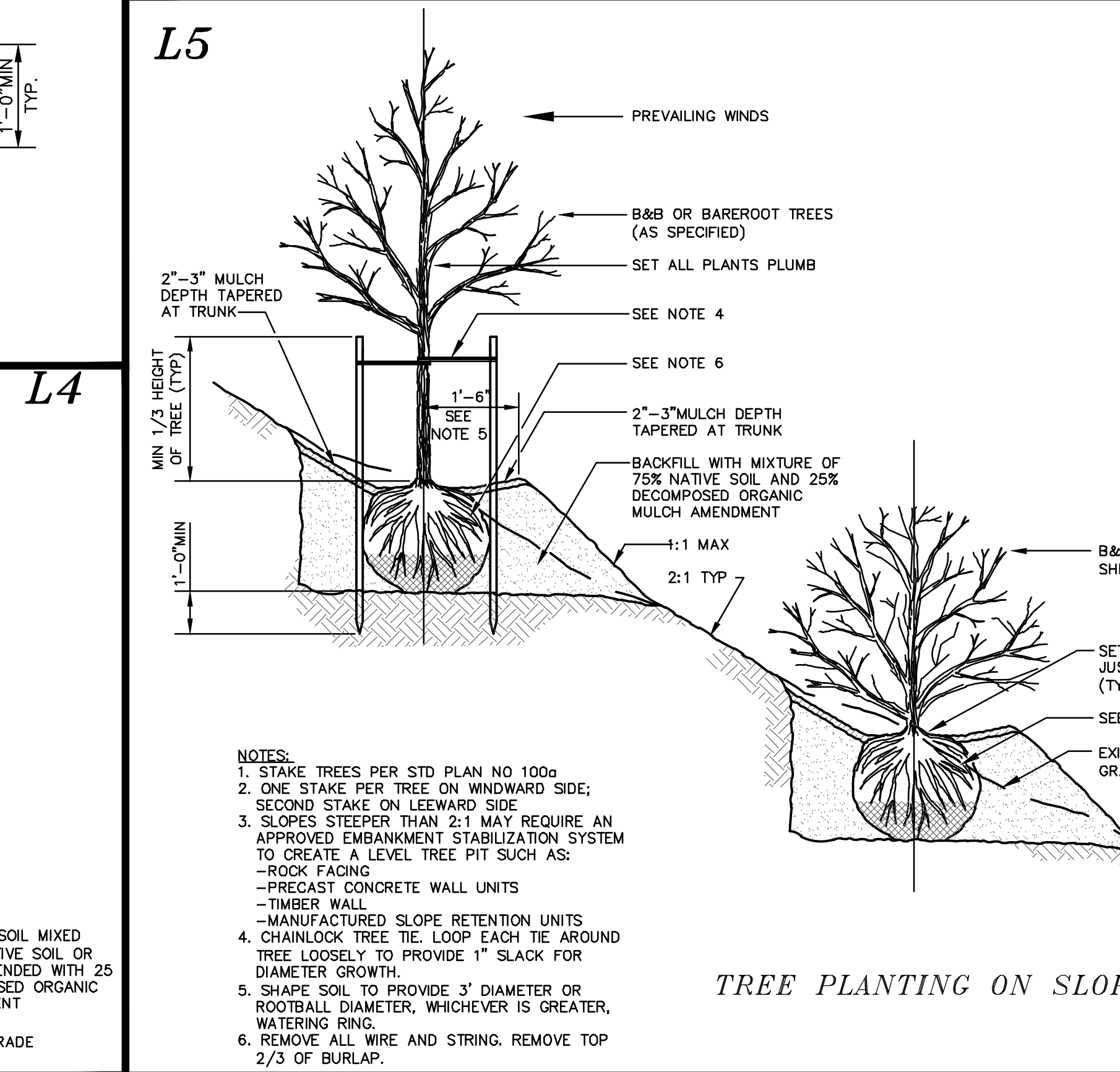
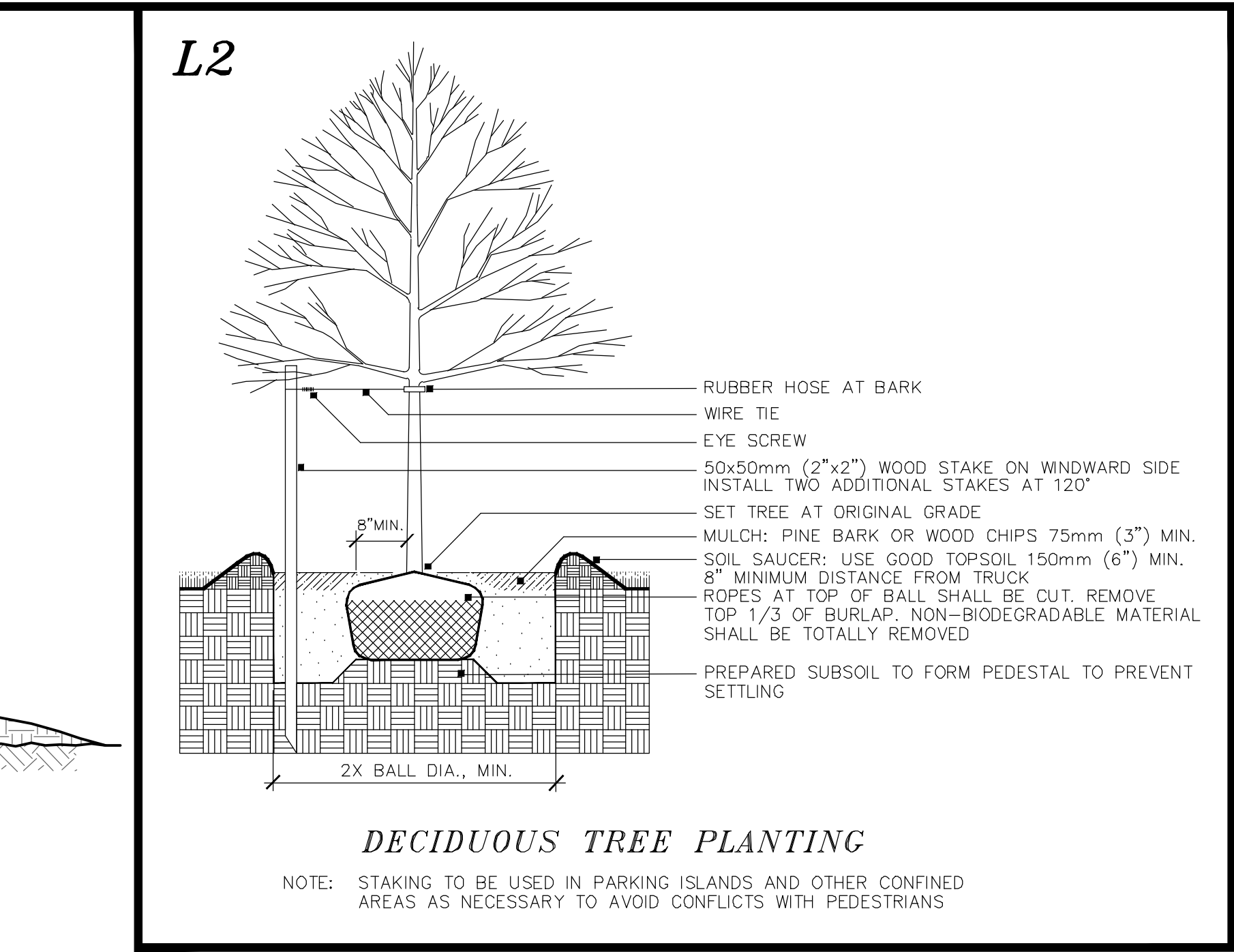
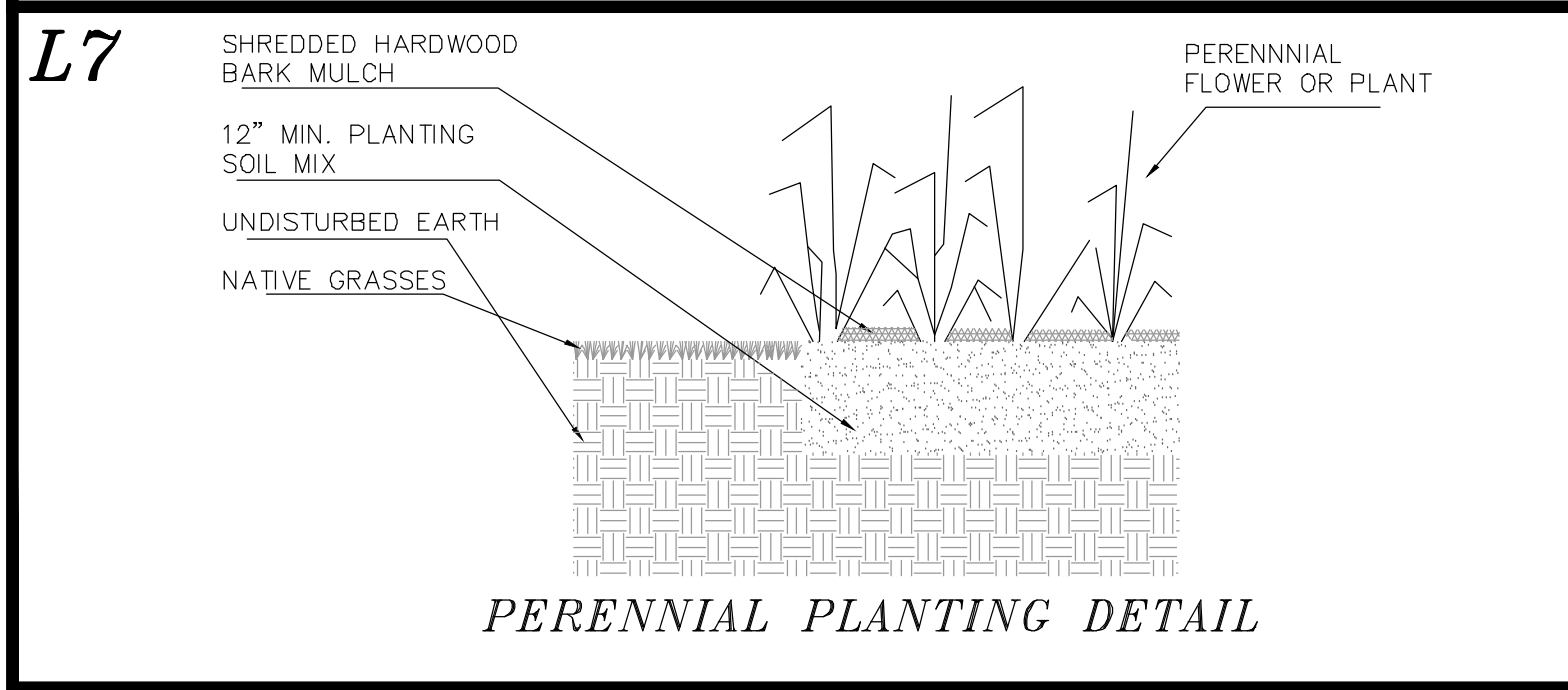
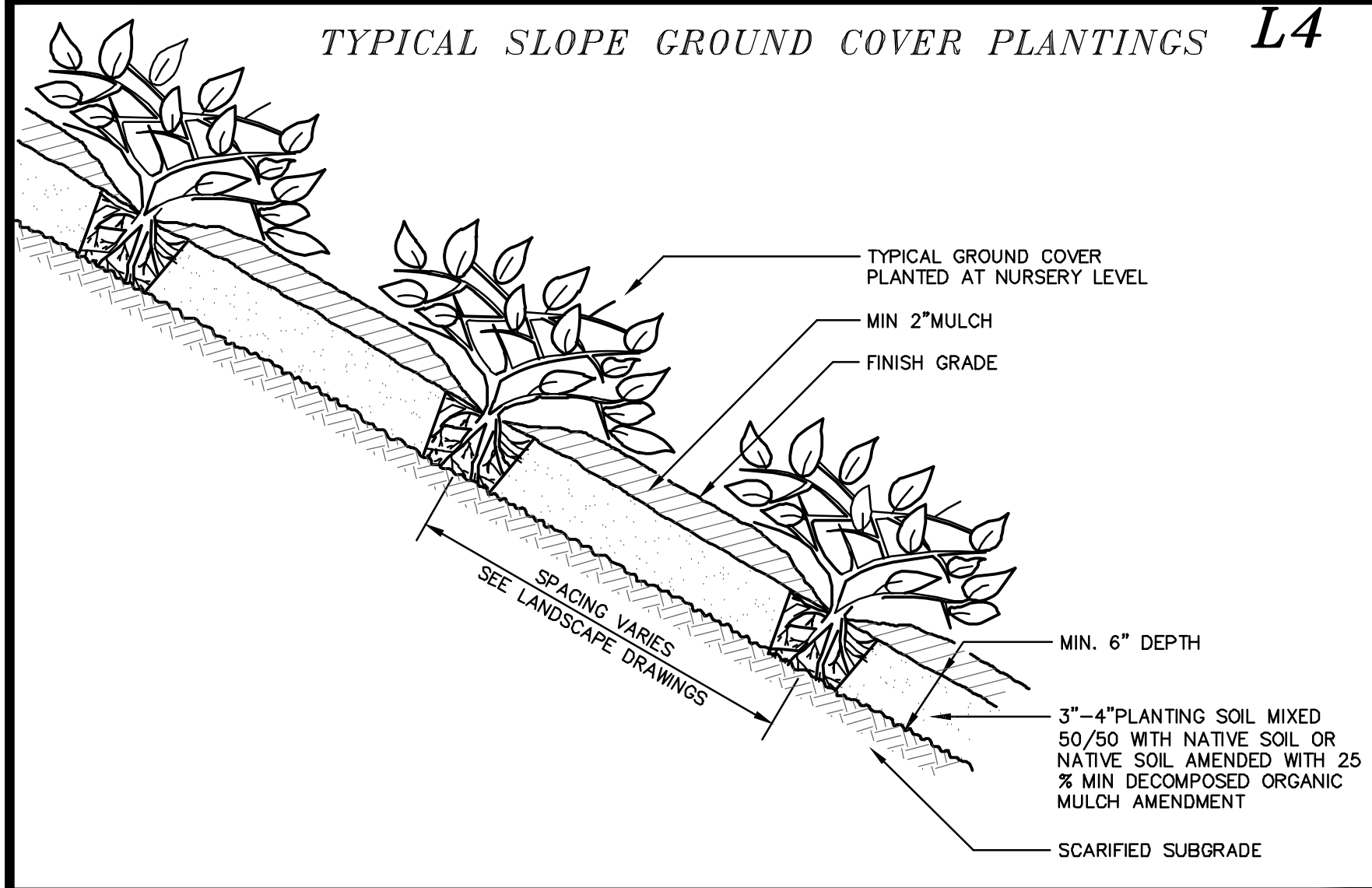
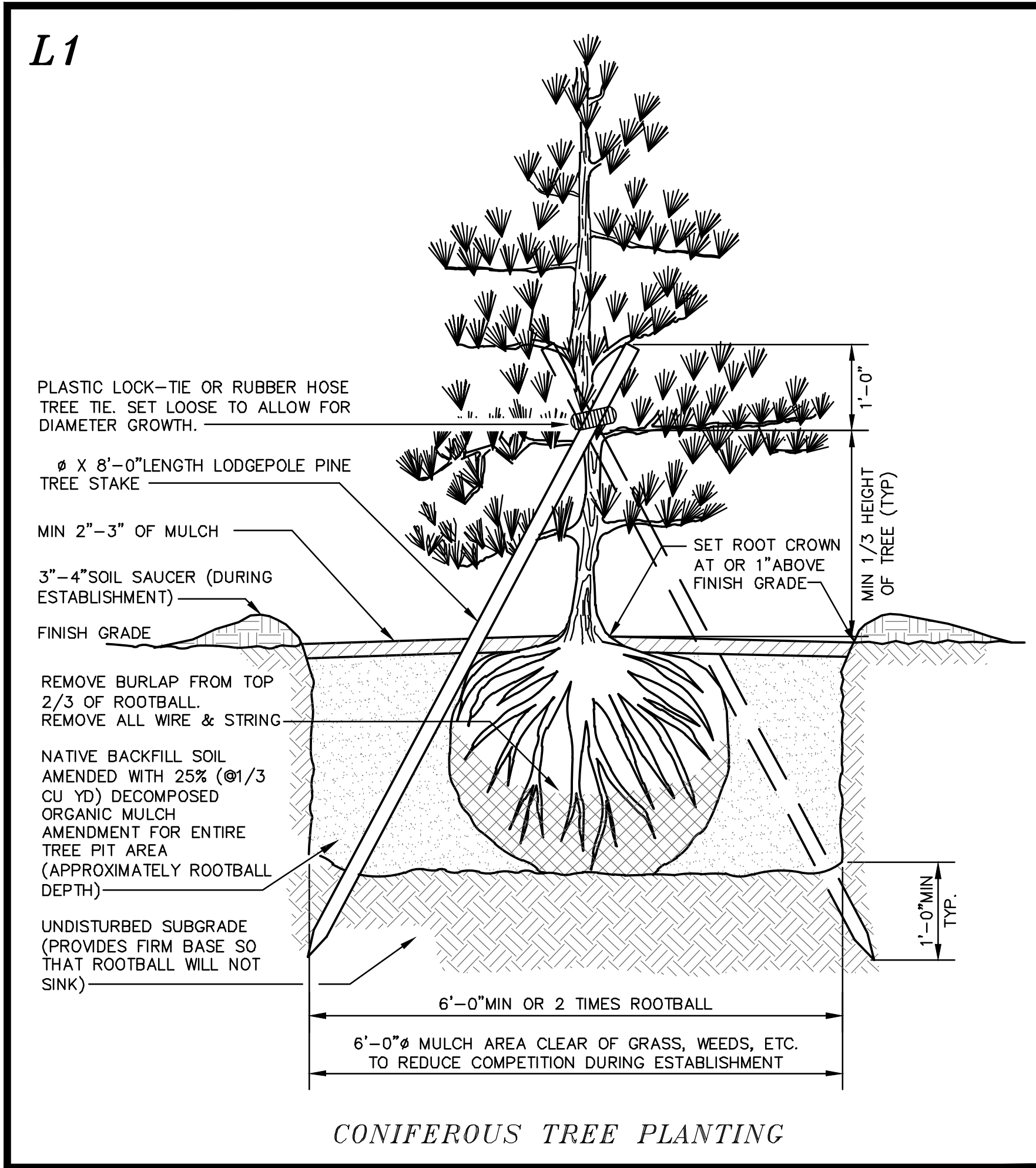


- NOTES:
1. CONCRETE: 4,000 PSI MIN. AFTER 28 DAYS
 2. REINFORCEMENT STEEL CONFORMS TO ASTM A615 GRADE 60 #6 REBAR.
 3. PAD MEETS OR EXCEEDS EVERSOURCE SPECIFICATIONS
 4. TRANSFORMER MUST BE SHEA CONCRETE PRODUCT OR EQUAL.

REVISION	DATE	DESCRIPTION

UTILITY DETAILS
FOR: WOODEN RULER REALTY, LLC
LAND OF: JOHN WONG & MO Y WONG, TRUSTEE OF THE
MO Y. WONG LIVING REVOCABLE TRUST OF 2006
42 & 44 THIRD STREET
DOVER, N.H.
TAX MAP 6, LOTS 32 & 40

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863
AS NOTED
DATE : AUGUST 11, 2022
FILE NO. : DB 2022 - 037
STATE OF NEW HAMPSHIRE
KENNETH A. BERRY
REGISTERED PROFESSIONAL ENGINEER
NO. 7843
EXPIRATION DATE 12/31/2025



REVISION	DATE	DESCRIPTION

LANDSCAPING DETAILS

FOR: WOODEN RULER REALTY, LLC

LAND OF: JOHN WONG & MO Y WONG, TRUSTEE OF THE

MO Y. WONG LIVING REVOCABLE TRUST OF 2006

42 & 44 THIRD STREET

DOVER, N.H.

TAX MAP 6, LOTS 32 & 40

BERRY SURVEYING & ENGINEERING

335 SECOND CROWN POINT ROAD

BARRINGTON, NH 03825 (603)332-2863

AS NOTED

DATE : AUGUST 11, 2022

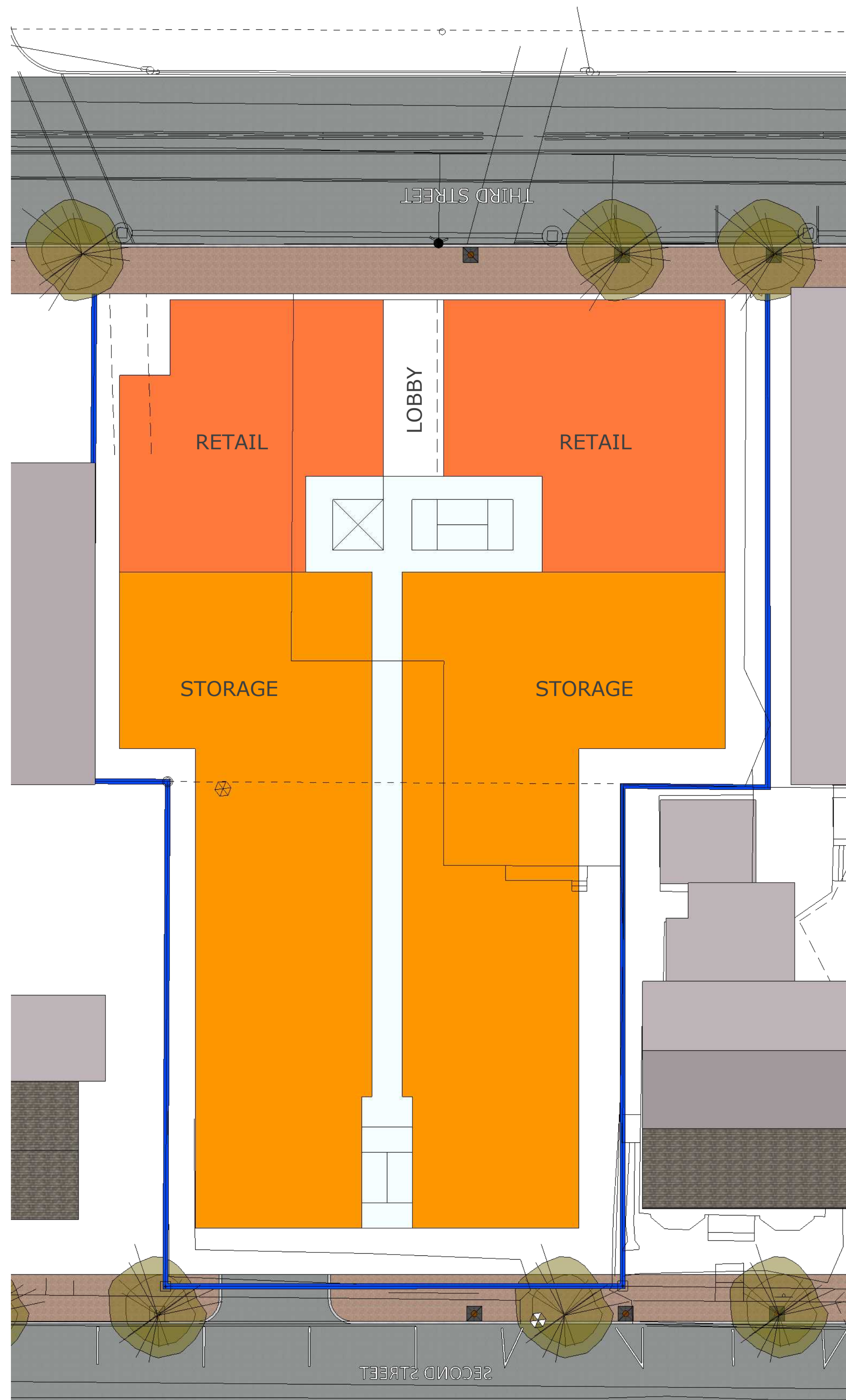
FILE NO. : DB 2022 - 037

STATE OF NEW HAMPSHIRE

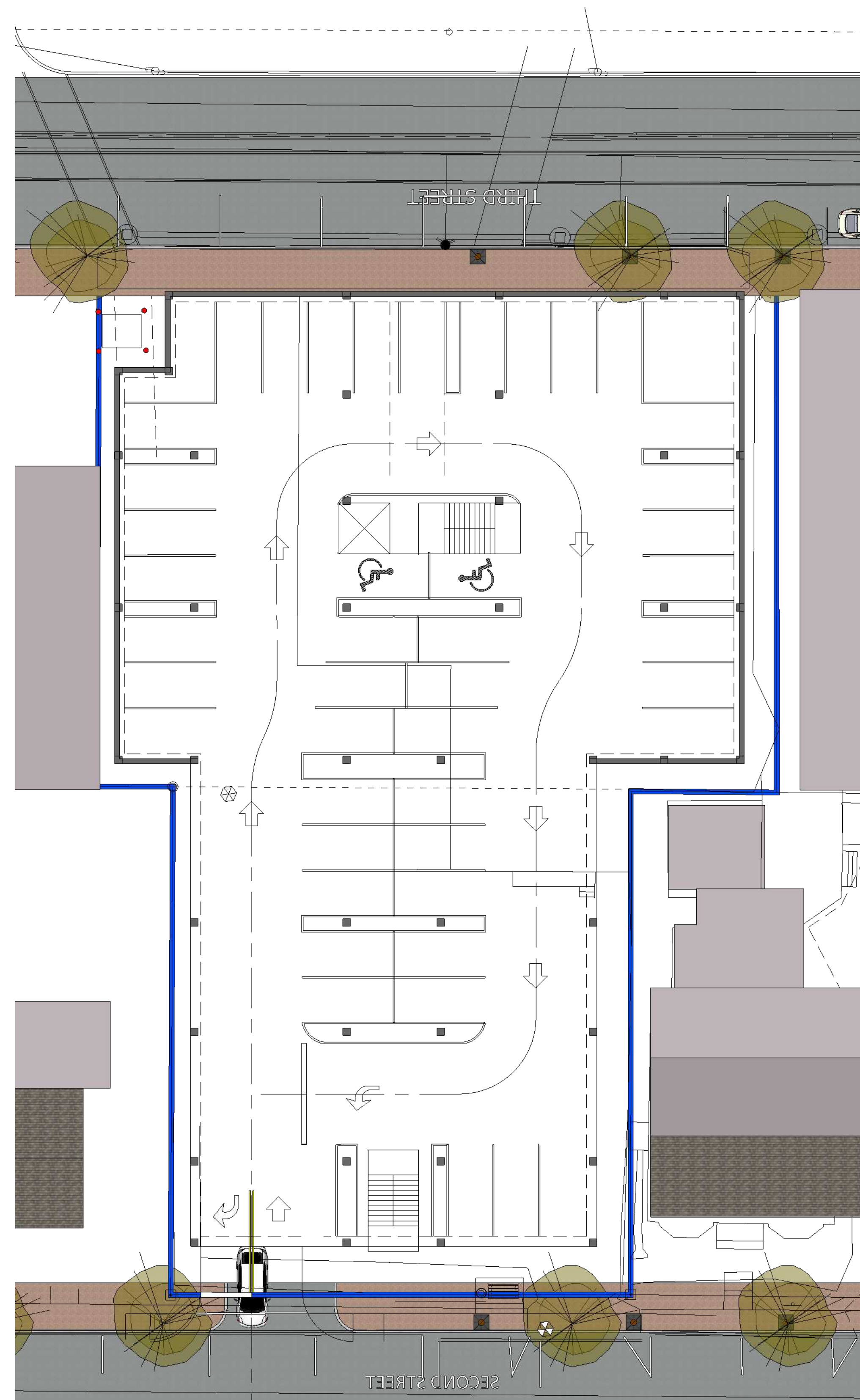
KENNETH A. BERRY

PROFESSIONAL ENGINEER

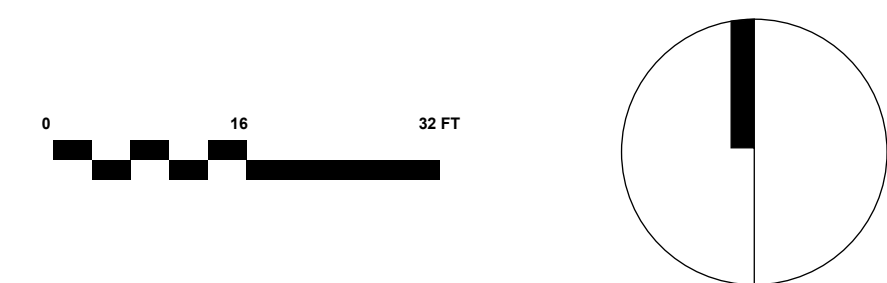
SHEET 19 OF 19

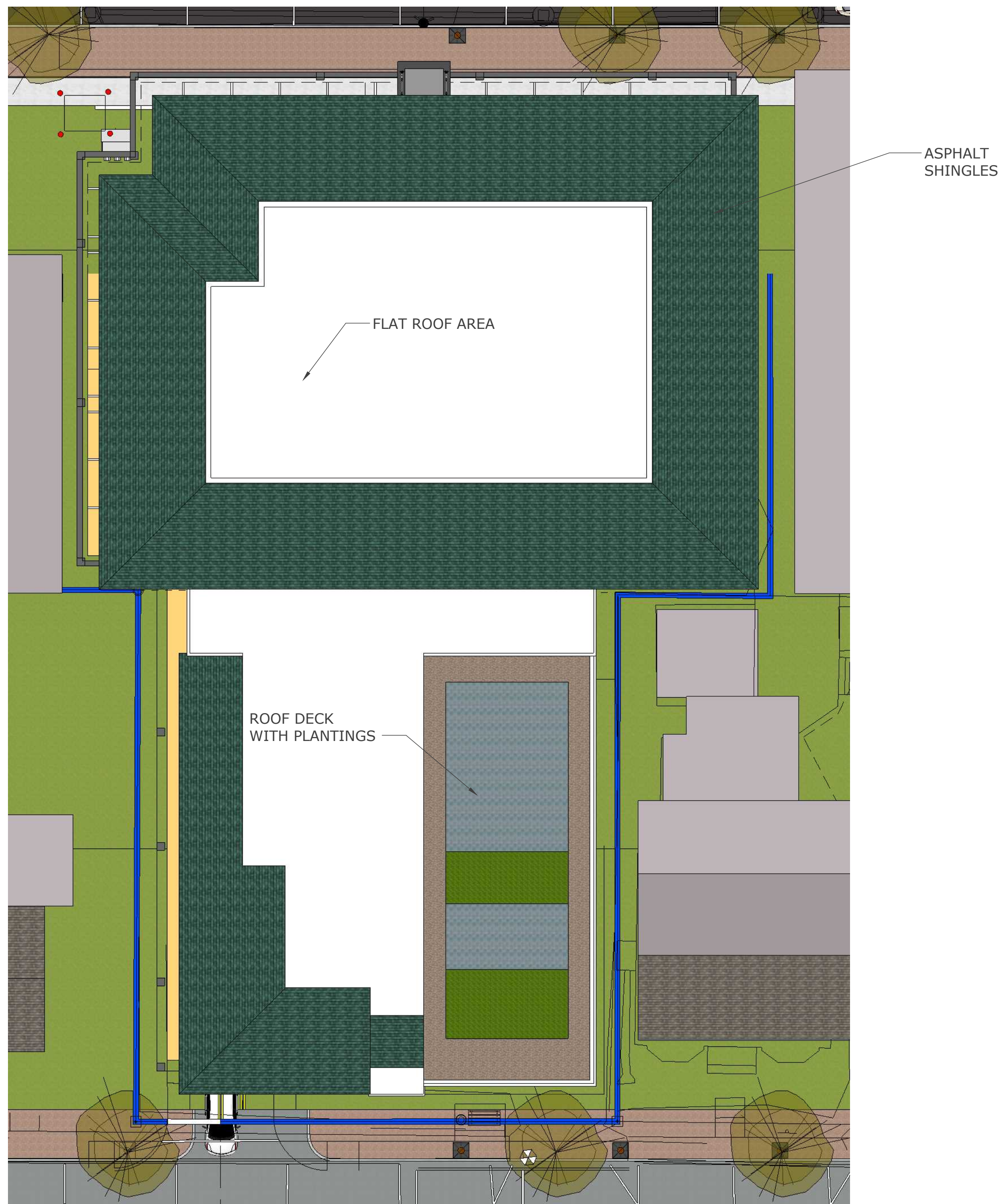


1ST FLOOR RETAIL PLAN - THIRD STREET

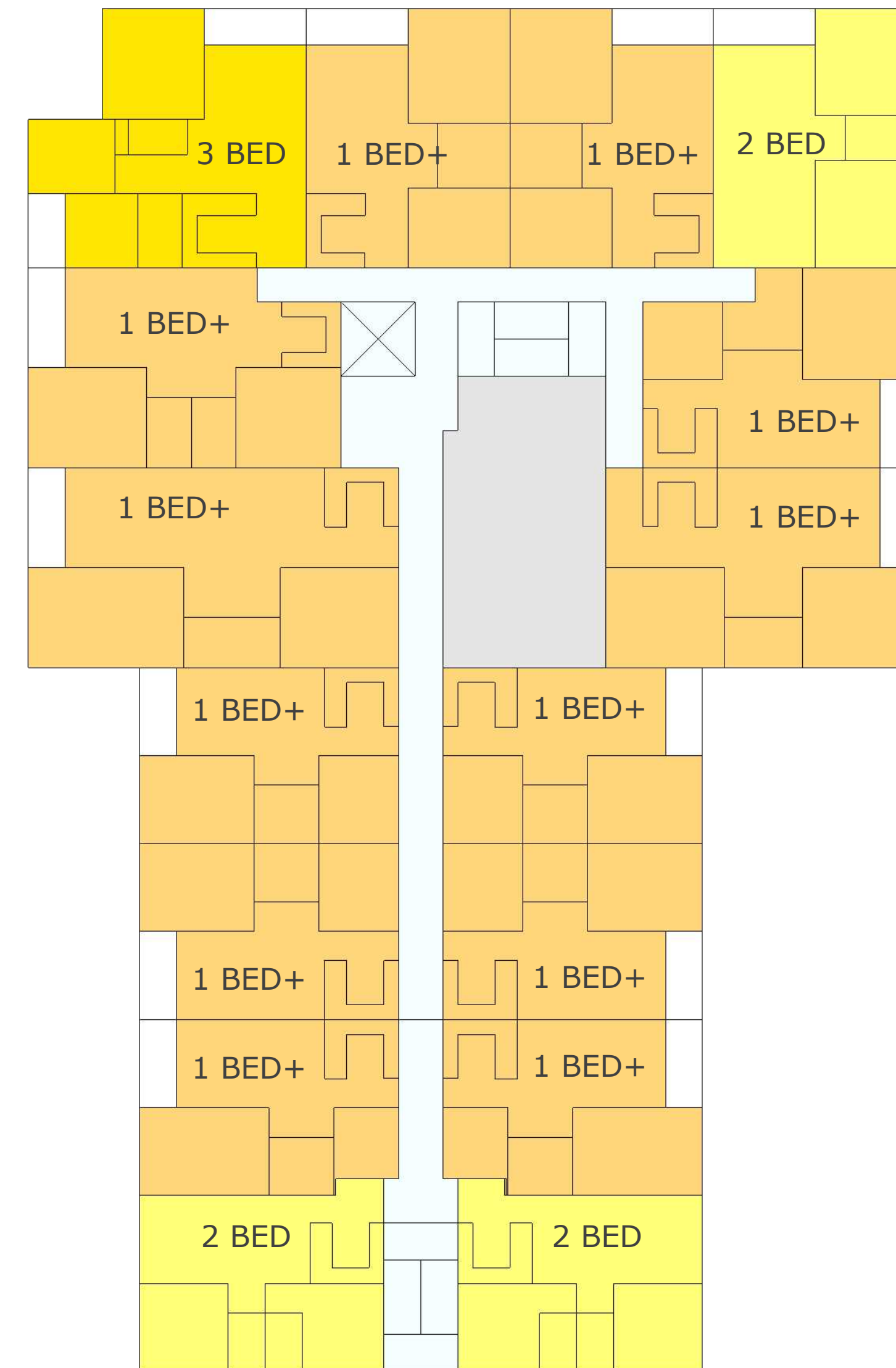


GARAGE PLAN - 2ND STREET

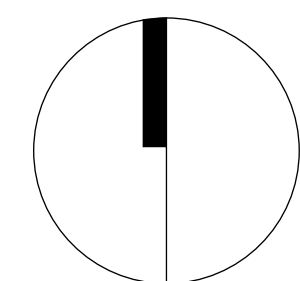




ROOF PLAN



TYPICAL UPPER PLAN





EAST ELEVATION



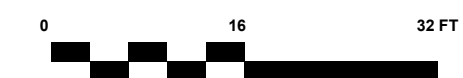
SOUTH ELEVATION - 2ND STREET



WEST ELEVATION



NORTH ELEVATION - 3RD STREET





VIEW AT 2ND STREET



VIEW AT THIRD STREET

**DRAINAGE ANALYSIS
&
EROSION AND SEDIMENT
CONTROL PLAN**

Prepared for:

Wooden Ruler Realty, LLC
35 Third Street
DOVER, NH 03820

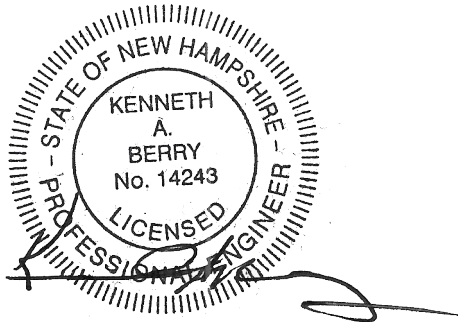
Land of

John Wong & Mo Y Wong, Trustee of
The Mo Y. Wong Living Revocable Trust of 2006
42 Third Street
DOVER, NH 03820

**42 THIRD STREET, DOVER, NH
TAX MAP 6, LOT 32 & 40**

Prepared by:

**Berry Surveying & Engineering
335 Second Crown Point Road
Barrington, NH 03825**



Project Number:
DB 2022-037

August 11, 2022

Table of Contents

USGS Quadrangle Location Map

Design Method Objectives	Page 2
1.0 Existing Conditions Analysis	Page 2
2.0 Proposed Subdivision Analysis	Page 3
3.0 Full Comparative Analysis	Page 5
4.0 Erosion & Sediment Control, BMP's	Page 6
5.0 Conclusion	Page 13

Appendix I - Existing Conditions Analysis

25 Yr-24 Hr. Full Summary
2 Yr- 24 Hr Node Listing
10 Yr -24 Hr. Node Listing
50 Yr-24 Hr. Node Listing

Appendix II - Proposed Conditions Analysis

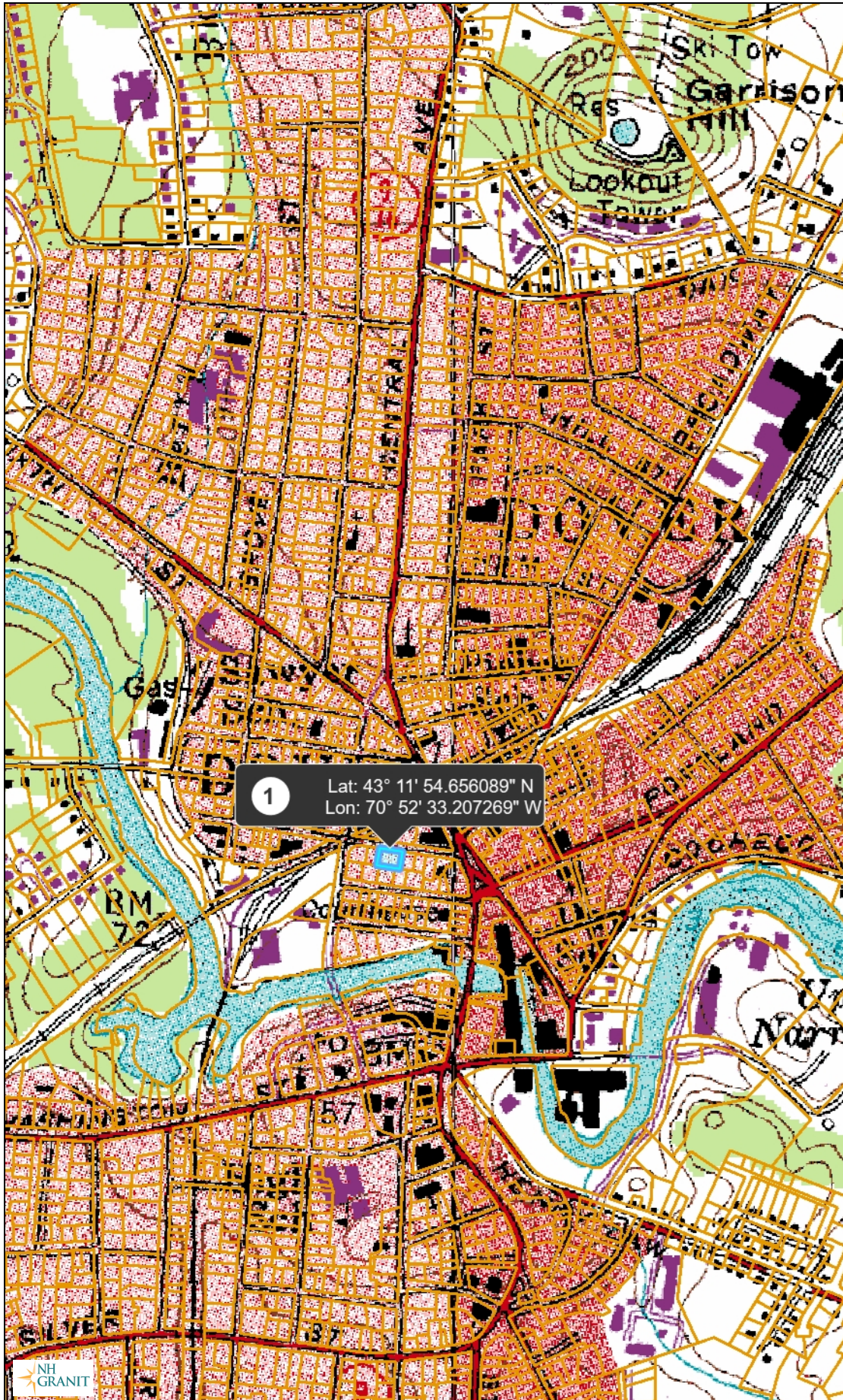
25 Yr-24 Hr. Full Summary
2 Yr-24 Hr. Node Listing
10 Yr-24 Hr. Node Listing
50 Yr-24 Hr. Node Listing

Appendix III - Calculations, Charts, & Graphs

Extreme Precipitation Tables
NCRS USDA Web-soil Map
Stormwater System Operation:
Inspection and Maintenance Manual & Plan
Watershed Report Card and Impaired Waters
Filtrexx Silt Soxx Installation Specifications

Enclosed:	W-1 Sheet	Existing Conditions Watershed Plan	Sheet 1
	W-2 Sheet	Post Construction Watershed Plan	Sheet 2
		Erosion & Sediment Control Plan and Details	

Map by NH GRANIT



Legend

Parcels

Parcel Polygons

Attributes for Additional Lines

State

County

City/Town

Map Scale

1: 10,000

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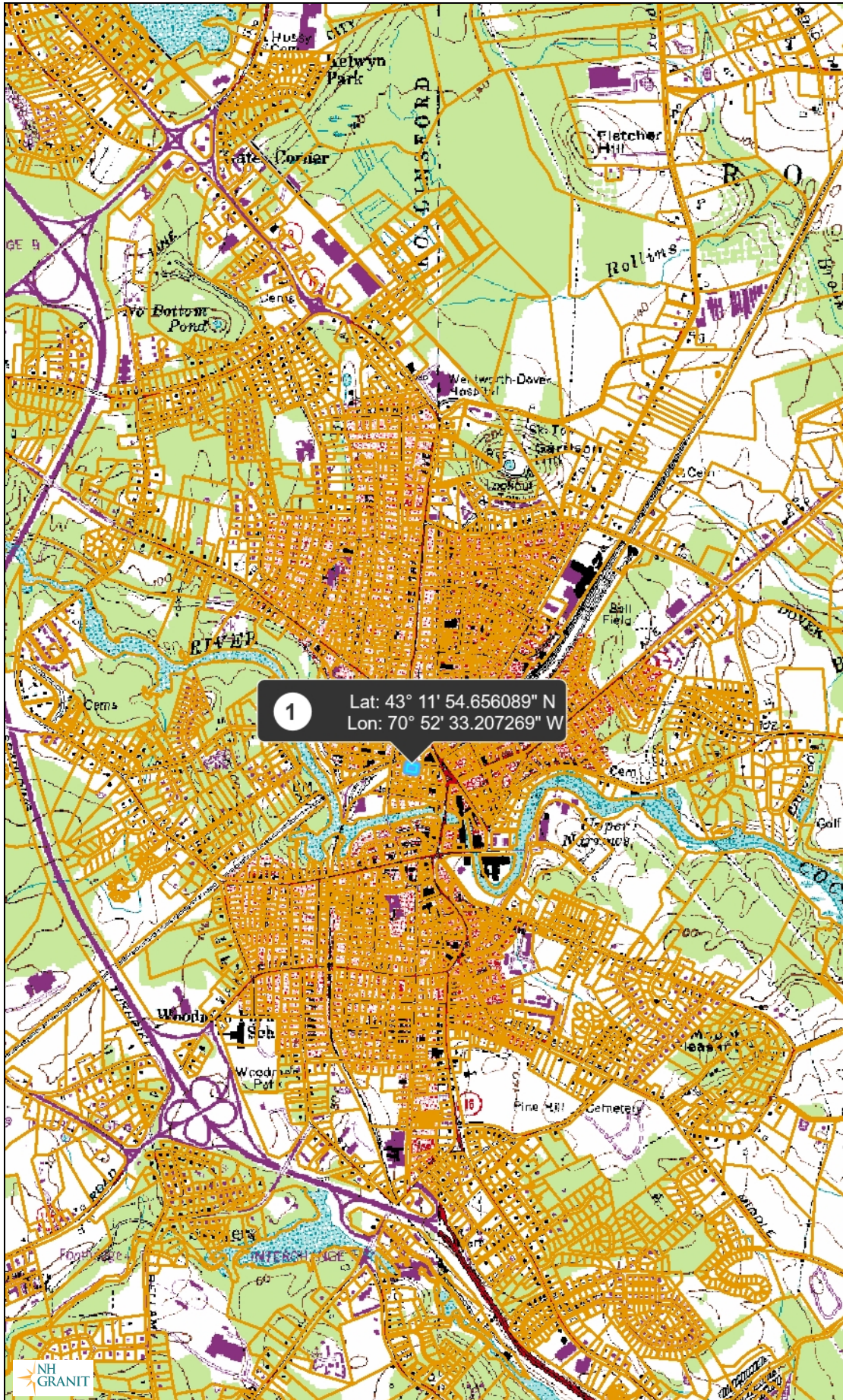
Map Generated: 5/11/2022



Notes



Map by NH GRANIT



Legend

Parcels

Parcel Polygons

Attributes for Additional Lines

State

County

City/Town

Map Scale

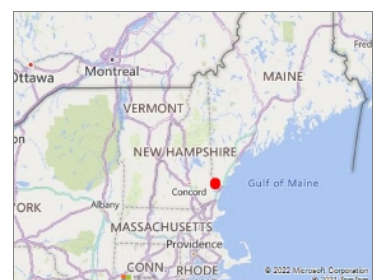
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Map Generated: 5/11/2022



Notes



DESIGN METHOD OBJECTIVES

Wooded Ruler Realty, LLC is proposing to develop Mixed Use Building with Retail & Storage Commercial Space, Residential Units, and Parking at 42 Third Street (Tax Map 6, Lot 32 & 40.) The property is currently occupied by a Restaurant with Boarding Rooms on Lot 40 and paved parking on Lot 32.

An Existing and Proposed Conditions analysis was conducted for the purpose of estimating the peak rate of stormwater run-off from the property, on Third Street and Second Street and to subsequently design adequate mitigation of drainage. There are five existing drainage discharge points which were identified in the existing analysis and duplicated in the proposed conditions analysis. This is intended as a comparative analysis at these distinct points. Designing two watershed models we have compared the differences in these rates of peak run-off and surface water volume. Sheet W1, Existing Conditions Watershed Plan, outlines the characteristics of the site in its existing or pre-construction conditions. The second analysis displays the proposed (post-construction) conditions (See Sheet W2.) The analysis was conducted using data for; 2 Yr – 24 Hr (3.62”), 10 Yr – 24 Hr (5.46”), 25 Yr -24 Hr (6.91”), 50 Yr – 24 Hr (8.27”), and 100 YR-24 Hr (9.89”) storm events. Storm event analysis was accomplished using the USDA SCS TR-20 method within the HydroCAD Stormwater Modeling System environment and rainfall quantities are based on the Extreme Precipitation Table for this location from the Northeast Regional Climate Center / Cornell University (<http://precip.eas.cornell.edu>). As Dover is considered a Seacoast Community by NHDES the Extreme Precipitation quantities have been adjusted to be 115% of the documented rainfalls for the 24-hour events.

1.0 Existing Conditions Analysis:

Reference: Sheet W1 - Existing Conditions Watershed Plan (Enclosed)
Existing Conditions Plan

The existing property consists of 0.52 acres on currently two lots, Lot 32 and Lot 40, Tax Map 6. There is currently a restaurant with boarding rooms and paved parking on the two parcels. This analysis includes surface water runoff that enters the MS4 drainage system.

The receiving watershed is the Chocheco (Cocheco) River Central Avenue Dam, (NHIMP 600030608-04) which is Impaired by Mercury (TMDL 33883, NE Regional Mercury TMDL) and pH.

There were no wetlands identified on the site. The current use is supported by municipal water and sewer.

The soils are made up of Sfc – Suffield Silt Loam, which is classified as Hydrologic Soil Group (HSG) C, based on the USDA, NRCS Websoil. The Existing conditions Analysis

is divided into Five Final Analysis Points or Reaches by the drainage and structures on Third Street and Second Street. Again, each point of analysis is being treated distinctly.

Final Reach #100:

Consisting of the majority of the existing site, Subcatchment #1 contributes runoff to an existing Catch Basin, subsequent Drain Man Hole, and to a point in the Dover MS4 system within Second Street.

Final Reach #200:

Subcatchment #2 consists of a portion of Second Street that drains to the west.

Final Reach #300:

Subcatchment #3 consists of land area adjacent to and including a portion of Third Street where surface water runoff is routed to an existing Catch Basin.

Final Reach #400:

Likewise, Subcatchment #4 consists of land area adjacent to and including a portion of Third Street where surface water runoff is routed to an existing Catch Basin.

Final Reach #500:

Likewise, Subcatchment #5 consists of land area adjacent to and including a portion of Third Street where surface water runoff is routed to an existing Catch Basin.

2.0 Proposed Conditions Analysis:

Reference: Sheet W2 - Proposed Conditions Watershed Plan (Enclosed)
 Proposed Site Plan
 Proposed Site Detail Plans

The proposed conditions analysis consists twelve subcatchment evaluated at the same five Final Analysis Points.

Final Reach #100:

Subcatchment #1 has been substantially reduced in size and contributes runoff to the existing Catch Basin. The roof drains from the proposed building, Subcatchments #11, #12, #13, #14 and the Green Roof #15 are all compiled in a drain manhole. There is also a Yard Drain, Subcatchment #6 & Pond C01 and a culvert Slot Drain, Subcatchment #7, discharging into the same Drain Manhole. The discharge of the Drain Manhole

discharges into a new Drain Manhole to be install in Second Street at the same Final Evaluation Point.

Final Reach #200:

Subcatchment #2 is very similar in size compared to the Existing Conditions Analysis and evaluated in the same location.

Final Reach #300:

The runoff from Subcatchment #3 is similar to the Existing Conditions Analysis except that the entire roof is captured and routed into Final Reach #100.

Final Reach #400:

The runoff from Subcatchment #4 is similar to the Existing Conditions Analysis except that the entire roof is captured and routed into Final Reach #100.

Final Reach #500:

The runoff from Subcatchment #5 is similar to the Existing Conditions Analysis except that the entire roof is captured and routed into Final Reach #100.

Summary

The impervious surface of the proposed development is reduced in the Proposed Conditions Analysis as compared to the Existing Conditions Analysis. Much of this reduction is accomplished by utilizing a Green Roof for a portion of the proposed structure. All of the runoff is pretreated by deep sumps.

3.0 FULL COMPARATIVE ANALYSIS

ANALYSIS COMPONENT: PEAK RATE DISCHARGE (Cubic Feet / Second)

		2 Yr	10 Yr	25 Yr	50 Yr	
Final Reach #100	Existing	1.62	2.47	3.14	3.76	
	Proposed	1.50	2.38	3.08	3.76	
Final Reach #200	Existing	0.20	0.31	0.40	0.49	
	Proposed	0.19	0.30	0.38	0.45	
Final Reach #300	Existing	0.18	0.27	0.35	0.42	
	Proposed	0.11	0.18	0.22	0.27	
Final Reach #400	Existing	0.17	0.26	0.33	0.39	
	Proposed	0.16	0.24	0.30	0.36	
Final Reach #500	Existing	0.06	0.10	0.12	0.14	
	Proposed	0.06	0.09	0.12	0.14	

ANALYSIS COMPONENT: VOLUME (Acre Feet)

		2 Yr	10 Yr	25 Yr	50 Yr	
Final Reach #100	Existing	0.130	0.203	0.260	0.313	
	Proposed	0.121	0.195	0.253	0.308	
Final Reach #200	Existing	0.015	0.024	0.032	0.039	
	Proposed	0.015	0.024	0.031	0.037	
Final Reach #300	Existing	0.014	0.022	0.029	0.035	
	Proposed	0.009	0.014	0.018	0.022	
Final Reach #400	Existing	0.014	0.022	0.028	0.033	
	Proposed	0.013	0.020	0.025	0.031	
Final Reach #500	Existing	0.005	0.008	0.010	0.012	
	Proposed	0.005	0.008	0.010	0.012	

4.0 EROSION & SEDIMENT CONTROL PLANS BEST MANAGEMENT PRACTICES (BMP's)

Reference: Proposed Site Plan and Grading Plan
Erosion & Sediment Control Plan
Erosion & Sediment Control Details

The proposed site development is protected from erosion and the abutting properties are protected from sediment by the use of Best Management Practices as outlined in the New Hampshire Stormwater Manual, Volume 2, Post-Construction Best Management Practices Selection & Design (December 2008, NHDES & US EPA); and City of Dover Chapter 149-14 A, Stormwater Management, Erosion Control, and Flood Hazards. **Any area disturbed by construction will be re-stabilized within 14 calendar days and abutting properties will not be adversely affected by this development. All disturbed soils within 100 feet of surface waters or wetlands will be temporarily or permanently stabilized within 7 calendar days. Erosion and sediment control measures shall be installed prior to any soil land disturbance and must be reviewed and approved by the City of Dover Community Services Department. All swales and drainage structures will be constructed and stabilized prior to having run-off directed to them.** Reference is also made to the Stormwater System Operation Inspection & Maintenance Manual which has been written specifically for this project and available to the owner.

As this proposed site redevelopment will disturb less than one acre of land, a Notice of Intent does not need to be submitted to the US EPA. This project will not be covered by the Construction General Permit. As this project proposes less than 100,000 square feet of impact it does not require an issued permit by NHDES AoT, however construction is governed by a General Permit by Rule under NH RSA 485-A:17. Either a Stormwater Pollution Prevention Plan (SWPPP) or a Stormwater Management Plan (SWMP) as required by the City of Dover will be required. In either case, the requirements of Chapter 149-14 A will be included in the plan.

Perimeter Control

The plan set demonstrates the location of perimeter control for sediment containment. The Erosion and Sediment Control Details, Sheet E-101, has the specifications for installation and maintenance of the Erosion Control Mix Berm, Silt Fence, and Silt Socks.

Vegetated Stabilization

All areas that are disturbed during construction will be stabilized with vegetated material within 30 days of breaking ground. Construction will be managed in such a manner that erosion is prevented and that no abutter's property will be subjected to any

siltation, unless otherwise permitted. All areas to be planted with grass for long-term cover will follow the specification and on Sheet E-102 using seeding mixture C, as follows:

Mixture	Pounds per Acre	Pounds per 1,000 Sq. Ft.
Tall Fescue	24	0.55
Creeping Red Fescue	24	0.55
Total	48	1.10

Conservation Mix

Mixture	Pounds per Acre	Pounds per 1,000 Sq. Ft.
Tall Fescue	15	0.35
Creeping Red Fescue	15	0.35
Annual Ryegrass	5	0.12
Perennial Ryegrass	5	0.12
Kentucky Bluegrass	15	0.35
White Clover	7	0.16
Total	62	1.45

Conservation Mix will be used to stabilize all 2:1 slopes and all land area disturbed within the wetland buffer. (If applicable)

Stabilized Construction Entrance

A temporary gravel construction entrance provides an area where mud can be dislodged from tires before the vehicle leaves the construction site to reduce the amount of mud and sediment transported onto paved municipal and state roads. The stone size for the pad should be between 1 and 2-inch coarse aggregate, and the pad itself constructed to a minimum length of 50' for the full width of the access road. The aggregate should be placed at least six inches thick. A plan view and profile are shown on Sheet E-102-Erosion and Sediment Control Detail Plan.

Environmental Dust Control

Dust will be controlled on the site by the use of multiple Best Management Practices. Mulching and temporary seeding will be the first line of protection to be utilized where problems occur. If dust problems are not solved by these applications, the use of water and calcium chloride can be applied. Calcium chloride will be applied at a rate that will keep the surface moist but not cause pollution.

Inlet Protection / Storm Drain Inlets

Storm drain inlet protection will be installed per the Erosion & Sediment Control Details as a sediment barrier installed around a storm drain inlet, catch basin, or curb inlet to reduce sediment intrusion into a system after it has been constructed and existing catch basins. These are to be constructed in accordance with the Erosion & Sediment Control Details, Sheet E-101 and maintained after every rain event.

At a minimum, you must comply with following (EPA CGP Part 2.1.2.9.b) "Clean, or remove and replace, the protection measures as sediment accumulates, the filter becomes clogged, and/or performance is compromised. Where there is evidence of sediment accumulation adjacent to the inlet protection measure, you must remove the deposited sediment by the end of the same work day in which it is found or by the end of the following work day if removal by the same work day is not feasible."

It is vital in the construction of this site that the existing MS4 drainage system not be impacted by sediment. See also sediment track out below.

Sediment Track-Out / Stabilized Construction Entrance / Exit

A temporary gravel construction entrance provides an area where mud can be dislodged from tires before the vehicle leaves the construction site to reduce the amount of mud and sediment transported onto paved municipal and state roads. The stone size for the pad should be between 1 and 2-inch coarse aggregate, and the pad itself constructed to a minimum length of 50' for the full width of the access road. The aggregate should be placed at least six inches thick. A plan view and profile are shown on Construction Details Plan. The Construction Exit will be maintained in a condition that will prevent tracking of sediment onto the public highway. When the control pad becomes ineffective, the stone should be removed along with the collected soil material, regraded on site, and stabilized. A plan view and profile are shown on the Construction Details Plan in E-101 Erosion & Sediment Control Details.

Off-site Vehicle Tracking: A stabilized construction entrance has been provided to help reduce vehicle tracking of sediments. The paved street adjacent to the site entrance will be swept every other week or as necessary to remove any excess mud, dirt or rock tracked from the site. After the binder pavement has been placed, any construction activity that causes the tracking of sediments will also result in street sweeping. Pavement should be swept prior to surface pavement and periodically to remove materials. Dump trucks hauling material from the construction site will be covered with a tarpaulin.

At a minimum, you must provide for maintenance that meets the following (EPA CGP Part 2.1.2.3.d) "Where sediment has been tracked-out from your site onto the surface of off-site streets, other paved areas, and sidewalks, you must remove the deposited sediment by the end of the same work day in which the track-out occurs or by the end of

the next work day if track-out occurs on a non-work day. You must remove the track-out by sweeping, shoveling, or vacuuming these surfaces, or by using other similarly effective means of sediment removal. You are prohibited from hosing or sweeping tracked-out sediment into any stormwater conveyance (unless it is connected to a sediment basin, sediment trap, or similarly effective control), storm drain inlet, or surface water."

Stockpiled Sediment or Soil

Stockpiled materials including topsoil, excavated materials, borrow materials imported onto the site, construction aggregates, and sediment removed from temporary sediment traps will be located in designated areas at least 50 feet away from concentrated flows. All stockpiles will have erosion protection in the form of silt fence and diversion swales will be applied to protect the material and surrounding areas. Inactive stockpiles will be seeded for temporary stabilization. Erosion control measures will be inspected in accordance with the schedule for all other activities on site.

At a minimum, you must comply with following (EPA CGP Part 2.1.2.4d) "Do not hose down or sweep soil or sediment accumulated on pavement or other impervious surfaces into any stormwater conveyance (unless connected to a sediment basin, sediment trap, or similar effective control,) storm drain inlet, or surface water."

Dewatering Practices

Dewatering practices are not known to be required on this site. If during construction this becomes required, an addendum will be published specific for the requirements. As a general rule, ground water that needs to be removed from an excavation will be pumped to a sediment basin or a storm drain inlet prior to discharge from the site.

At a minimum, you must comply with following (EPA CGP Part 2.1.3.4) "With backwash water, either haul it away for disposal or return it to the beginning of the treatment process; and replace and clean the filter media used in dewatering devices when the pressure differential equals or exceeds the manufacturer's specifications."

Regarding dewatering practices in the State of New Hampshire, specifically see Construction General Permit Section 9.1.2 NHR12000 State of New Hampshire and "Clarification of Section 9.1.2 ... and other New Hampshire specific information for the U.S. EPA 2012 NPDES Construction General Permit (CGP), May 3, 2012"

Construction Sequence

1. Cut and remove trees in construction area only as required.
2. Construct and/or install temporary and permanent sediment erosion and detention control facilities as required.
3. Erosion, sediment and detention control facility shall be installed & stabilized prior to any earth moving operation & or directing runoff to them.
4. Clear, cut and dispose of debris in approved facility.
5. Construct temporary culverts as required, or directed.
6. Construct roadways for access to desired construction areas. All roads shall be stabilized immediately.
7. Install pipe and construction associated appurtenances as required or directed. Install rain gardens. All disturbed areas shall be stabilized immediately after grading.
8. Begin permanent and temporary seeding and mulching. All cut and fill slopes and disturbed areas shall be seeded or mulched as required, or directed. No area is allowed to be disturbed for a length of time that exceeds 60 days before being stabilized. Daily, or as required. All roadways and parking areas shall be stabilized within 72 hours of achieving finished grades. All cut and fill slopes shall be stabilized within 72 hours of achieving finished grades.
9. Construct temporary berms, drains ditches, silt fences, sediment traps, etc. mulch and seed as required.
10. Inspect and maintain all erosion and sediment control measures during construction.
11. Complete permanent seeding and landscaping.
12. Remove temporary erosion control measures after seeding areas have established themselves and site improvements are complete.
13. Smooth and revegetate all disturbed areas.
14. Finish paving all roadways.

Temporary Erosion Control Measures

1. The smallest practical area of land shall be exposed at any one time.
2. Erosion, sediment control measures shall be installed as shown on the plans and at locations as required, or directed by the engineer.
3. All disturbed areas shall be returned to original grades and elevations. Disturbed areas shall be loamed with a minimum of 4" of loam and seeded with not less than 1.10 pound of seed per 1,000 square feet (48 pounds per acre) of area.
4. Silt fences and other barriers shall be inspected periodically and after every rainstorm during the life of the project. All damaged areas shall be repaired, sediment deposits shall periodically be removed and properly disposed of.
5. After all disturbed areas have been stabilized, the temporary erosion control measures are to be removed and the area disturbed by the removal smoothed and re-vegetated.
6. Areas must be seeded and mulched within 5 days of final grading, permanently stabilized within 3 days of final grading, or temporarily stabilized within 14 days of initial disturbance of soil.

Inspection and Maintenance Schedule

Sediment control measures will be inspected during and after storm events to ensure that the practice still has integrity and is not allowing sediment to pass. Depending on SWPPP criteria, all controls will be inspected either once every 7 days and after storm events. Inspection reports must be submitted to City of Dover, Community Services, Engineering Department. Sediment build-up in swales and level spreaders will be removed if it is deeper than six inches. See also Stormwater System Operation: Inspection & Maintenance Manual published separately also by Berry Surveying & Engineering. See also Storm Water Pollution Prevention Plan (SWPPP) and / or Stormwater Management Plan (SWMP) developed in accordance with EPA NPDES or City of Dover requirements.

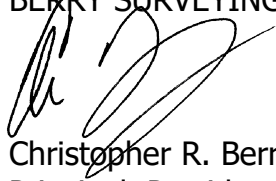
Corrective Action measures will be made in accordance with Stormwater Management Plan (SWMP) / SWPPP requirements and records maintained on site by the Contractor.

5.0 CONCLUSION

Peak rates of runoff flow are reduced in the post-construction analysis / condition, as compared to the pre-construction peak rates of runoff flow at Final Reach #100 & #200. This reduction occurs during the 2 Yr, 10 Yr, 25 Yr, and 50 Yr, extreme storm events due to the reduction in the Impervious Area. Per Env-Wq 1507.05(b)(1)(a) the channel protection volume is satisfied by the 2-year, 24-hour post-development peak flow rate generated from the proposed disturbance being less than the 2-year, 24-hour pre-development peak flow rate and the 2 year, 24-hour post-development storm volume has not increased over the pre-development volume by more than 0.1 acre-feet.

A Site Specific, Terrain Alteration Permit (RSA 485: A-17) is not required for this site plan due to the area of disturbance being less than 100,000 SF and the site will operate as a General Permit by Rule under this rule. Because the site impact is less than one acre, a Notice of Intent with the EPA is not required but the site will operation in accordance with the City of Dover Chapter 153-14 A Stormwater Management, Erosion Control, and Flood Hazards and the approved Stormwater Management Plan.

Respectfully Submitted,
BERRY SURVEYING & ENGINEERING



Christopher R. Berry, SIT 567
Principal, President



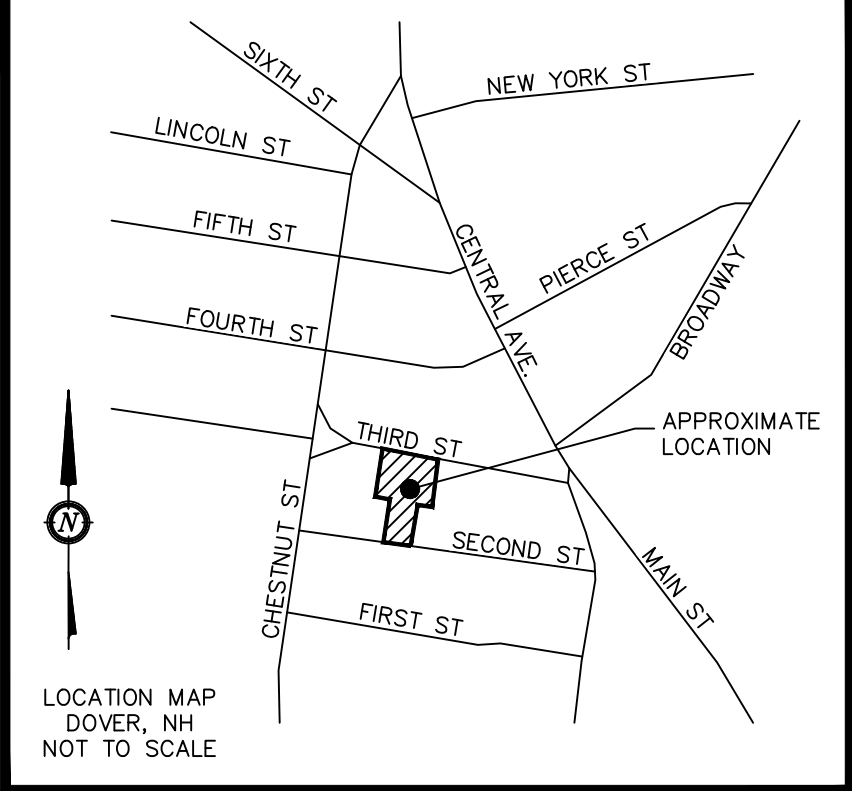
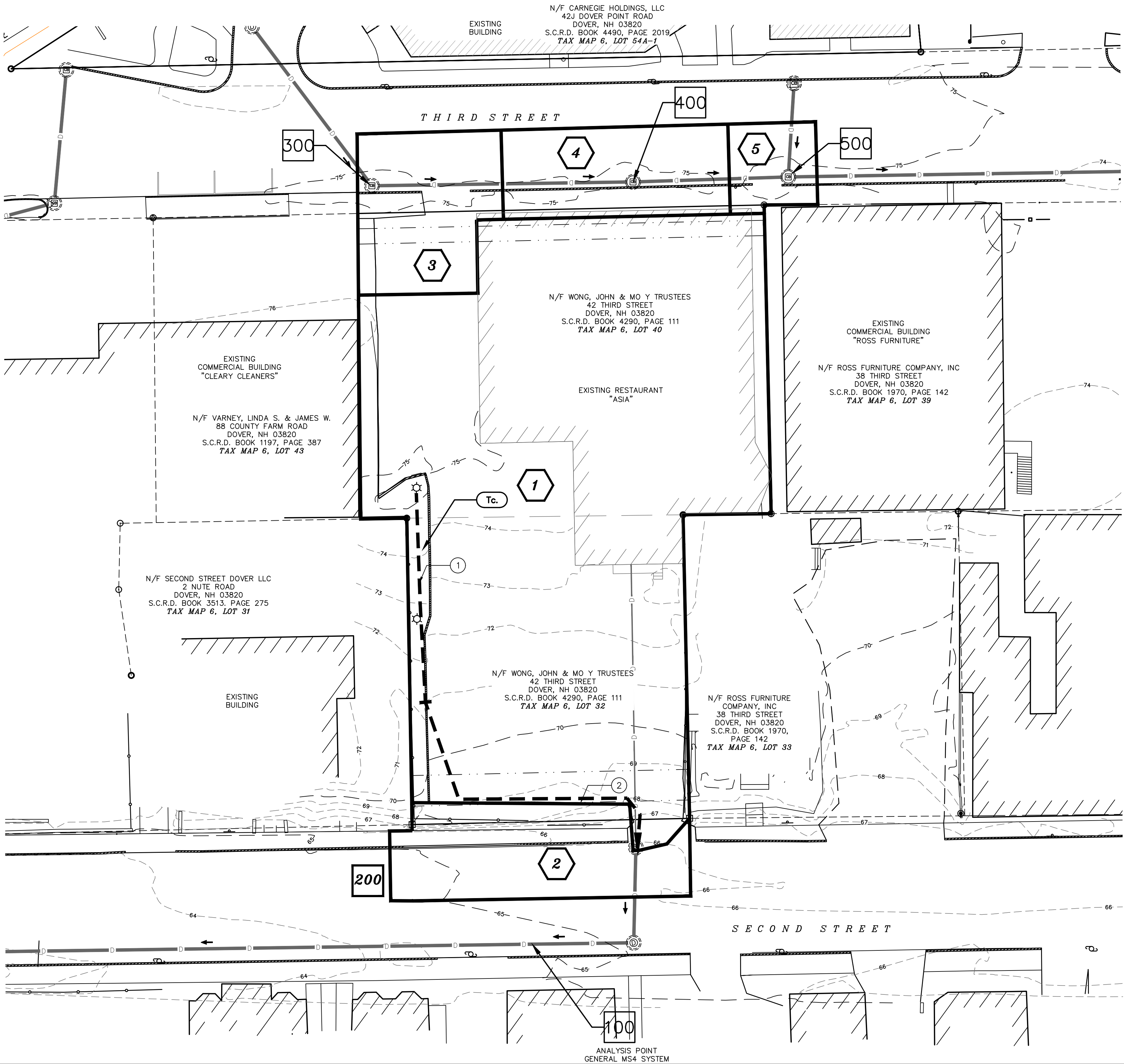
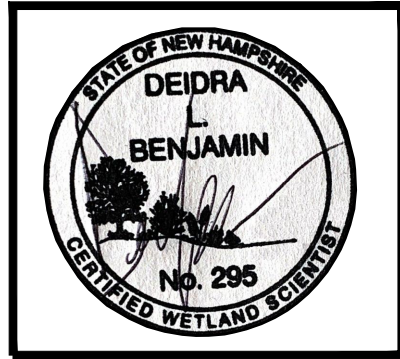
Kenneth A. Berry PE, LLS,
CPSWQ, CPESC, CESSWI
Principal, VP - Technical Operations

Kevin R. Poulin, EIT
Project Engineer

WETLAND NOTES:

- WETLANDS WERE DELINEATED BY DEIDRA BENJAMIN, IN JUNE 2022 UTILIZING THE FOLLOWING STANDARDS:
1. REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION, (VERSION 2.0) JANUARY 2012, U.S. ARMY CORPS OF ENGINEERS.
 2. FIELD INDICATORS OF HYDRIC SOILS IN THE UNITED STATES, A GUIDE FOR IDENTIFYING AND DELINEATING HYDRIC SOILS, VERSION 8.0, UNITED STATES DEPARTMENT OF AGRICULTURE (2016).
 3. NATIONAL WETLAND PLANT LIST (CURRENT VERSION).
 4. NO WETLANDS WERE FOUND ON SITE.

DEIDRA BENJAMIN, CWS #295



NOTES:

- 1.) OWNER: WONG, JOHN & WONG, MO Y TRUSTEE OF THE MO. Y. WONG LIVING REV. TRUST OF 2006
42 THIRD STREET
DOVER, NH 03820
- APPLICANT: WOODEN RULER REALTY, LLC
35 THIRD STREET
DOVER, NH 03820
- 2.) A.) TAX MAP 6, LOT 32
B.) TAX MAP 6, LOT 40
- 3.) A.) S.C.R.D. BOOK 4290, PAGE 111
B.) S.C.R.D. BOOK 4290, PAGE 111
- 4.) A.) LOT AREA: 9,000 Sq. Ft., 0.21 Ac.
B.) LOT AREA: 13,364 Sq. Ft., 0.31 Ac.
- 5.) VERTICAL DATUM BASED ON NAVD88 ELEVATIONS. HORIZONTAL DATUM BASED ON NAD83 STATE PLANE. COORDINATES GATHERED USING TOPCON HIPER SR SURVEY GRADE GPS RECEIVERS.
- 6.) THE INTENT OF THIS PLAN IS TO SHOW THE EXISTING WATERSHED CONDITIONS OF TAX MAP 6, LOTS 32 & 40 LOCATED IN DOVER, N.H.
- 7.) NO WETLANDS WERE FOUND ON SITE. SEE EXISTING CONDITIONS PLAN. SEE SITE SPECIFIC SOIL SURVEY FOR SOILS MAP.

NRCS SOILS LEGEND

SYMBOL	SOIL TAXONOMIC NAME	HYDROLOGIC SOIL GROUP
SfC	SUFFIELD SILT LOAM	C
SLOPE: A = 0-3% B = 3-8% C = 8-15% D = 15-25% E = 25-50% F = 50%+		
DENOMINATOR: /Rk = ROCKY /VPD = VERY POORLY DRAINED /PD = POORLY DRAINED /SWPD = SOMEWHAT POORLY DRAINED /MWD = MODERATELY WELL DRAINED		

SEE WEBSOIL USDA-NRCS

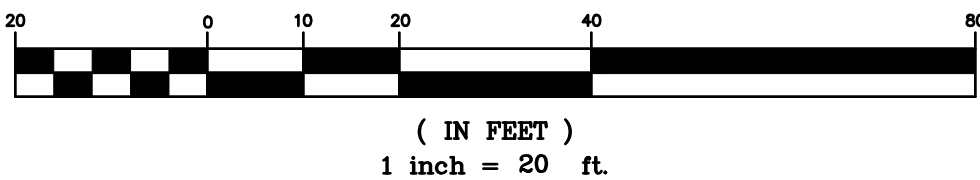
LINE TYPE LEGEND:

---	EXISTING CONTOUR MINOR
---	EXISTING CONTOUR MAJOR
---	PROPERTY LINE
---	NRCS SOIL LINE
---	NRCS SOIL LABEL
---	LIMIT OF WATERSHED
---	TIME OF CONCENTRATION PATH
---	STRAFFORD COUNTY REGISTRY OF DEEDS
---	S.C.R.D. TYP. FND

SYMBOLS LEGEND:

#	SUBCATCHMENT AREA SYMBOL
#	FLOW REACH SYMBOL
#	POND DEVICE SYMBOL
Tc.	TIME OF CONCENTRATION SEGMENT

GRAPHIC SCALE



REVISION	DATE	DESCRIPTION

W-1 EXISTING WATERSHED PLAN
FOR: WOODEN RULER REALTY, LLC
LAND OF: JOHN WONG & MO Y WONG, TRUSTEE OF THE
MO Y. WONG LIVING REVOCABLE TRUST OF 2006
DOVER, N.H.
TAX MAP 6, LOTS 32 & 40

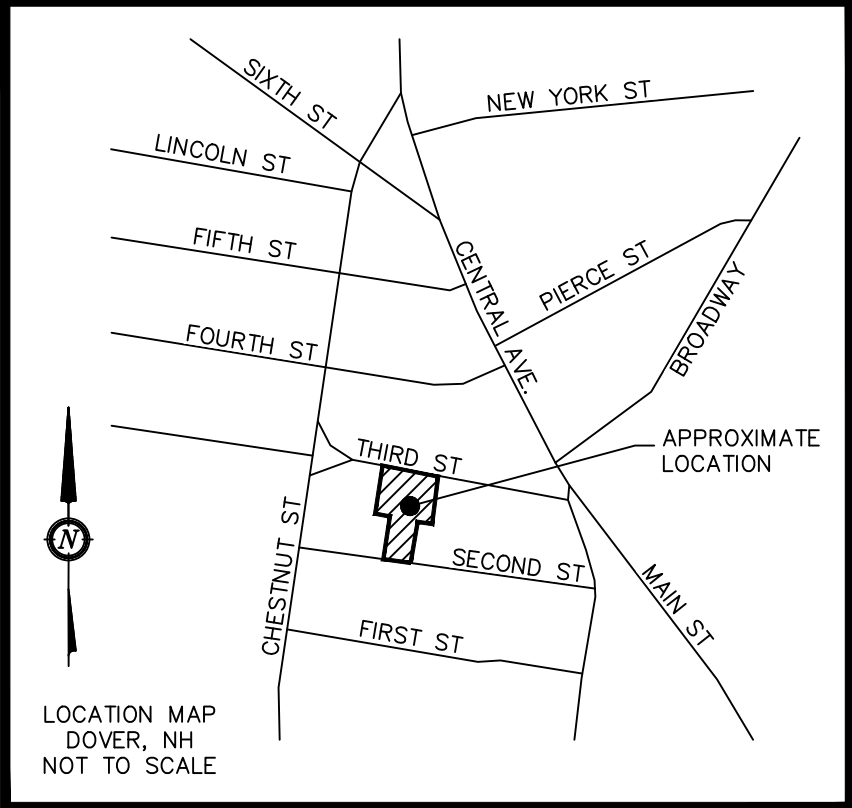
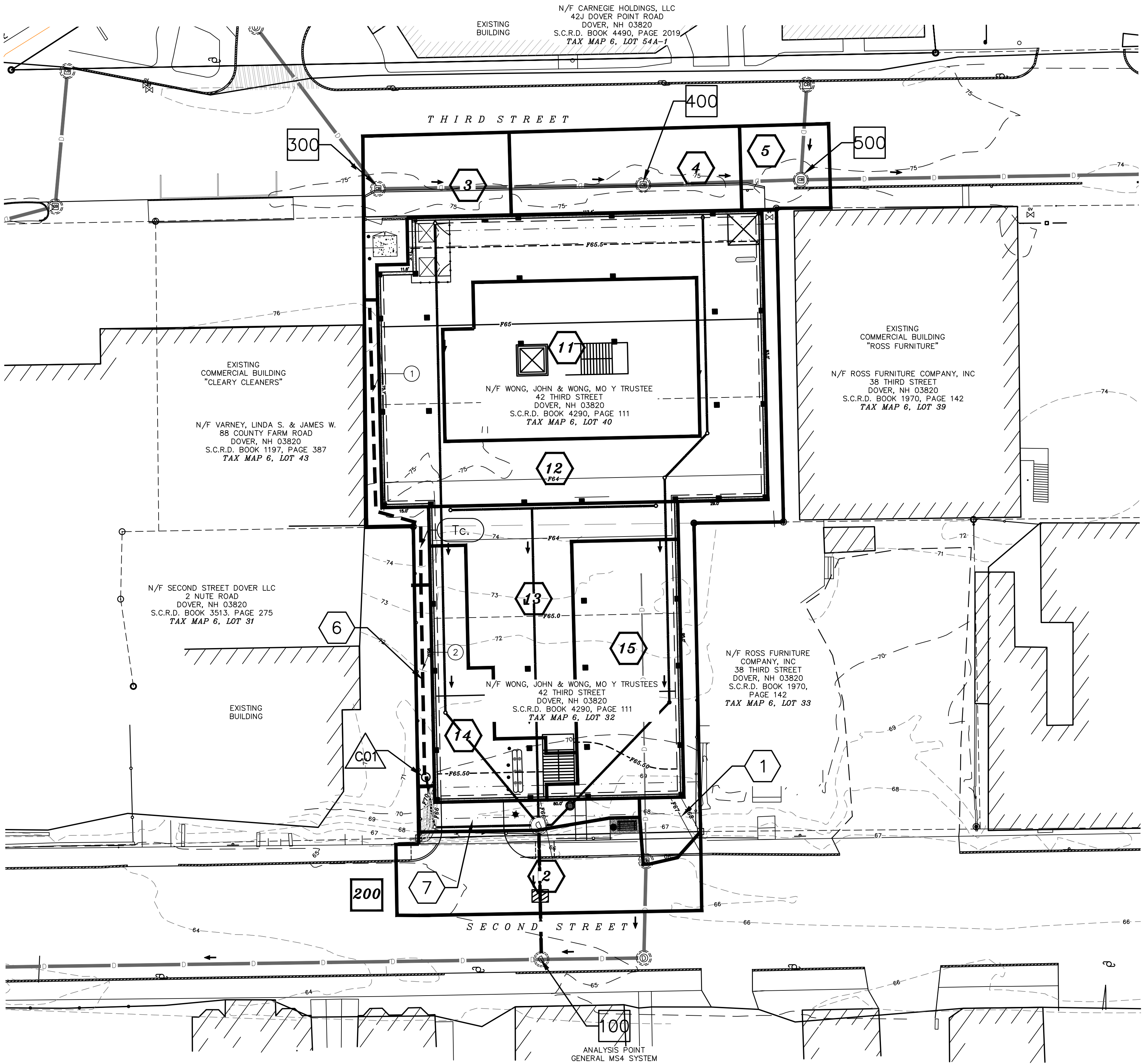
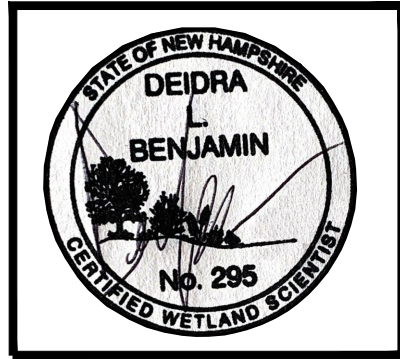
BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863
SCALE : 1 IN. EQUALS 20 FT.
DATE : AUGUST 11, 2022
FILE NO. : DB 2022 - 037

STATE OF NEW HAMPSHIRE
KENNETH A. BERRY
No. 14243
Professional Engineer

WETLAND NOTES:

- WETLANDS WERE DELINEATED BY DEIDRA BENJAMIN, IN JUNE 2022 UTILIZING THE FOLLOWING STANDARDS:
1. REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION, (VERSION 2.0) JANUARY 2012, U.S. ARMY CORPS OF ENGINEERS.
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 3. NATIONAL WETLAND PLANT LIST (CURRENT VERSION).
 4. NO WETLANDS WERE FOUND ON SITE.

DEIDRA BENJAMIN, CWS #295



NOTES:

- 1.) OWNER: WONG, JOHN & WONG, MO Y TRUSTEE OF THE MO. Y. WONG LIVING REV. TRUST OF 2006 42 THIRD STREET DOVER, NH 03820
APPLICANT: WOODEN RULER REALTY, LLC 35 THIRD STREET DOVER, NH 03820
- 2.) A.) TAX MAP 6, LOT 32
B.) TAX MAP 6, LOT 40
- 3.) A.) S.C.R.D. BOOK 4290, PAGE 111
B.) S.C.R.D. BOOK 4290, PAGE 111
- 4.) A.) LOT AREA: 9,000 Sq. Ft., 0.21 Ac.
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SLOPE: A = 0-3% B = 3-8% C = 8-15% D = 15-25% E = 25-50% F = 50%+		
DENOMINATOR: /Rk = ROCKY /VPD = VERY POORLY DRAINED /PD = POORLY DRAINED /SWPD = SOMEWHAT POORLY DRAINED /MWD = MODERATELY WELL DRAINED		

SEE WEBSOIL USDA-NRCS

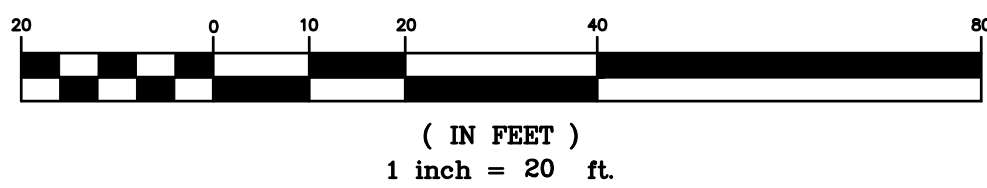
LINE TYPE LEGEND:

---	EXISTING CONTOUR MINOR
---	EXISTING CONTOUR MAJOR
---	PROPERTY LINE
---	NRCS SOIL LINE
---	NRCS SOIL LABEL
---	LIMIT OF WATERSHED
---	TIME OF CONCENTRATION PATH
---	STRAFFORD COUNTY REGISTRY OF DEEDS
---	S.C.R.D. TYP. FND

SYMBOLS LEGEND:

#	#	SUBCATCHMENT AREA SYMBOL
#	#	FLOW REACH SYMBOL
#	#	POND DEVICE SYMBOL
Tc.	#	TIME OF CONCENTRATION SEGMENT

GRAPHIC SCALE

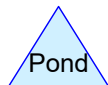
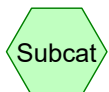
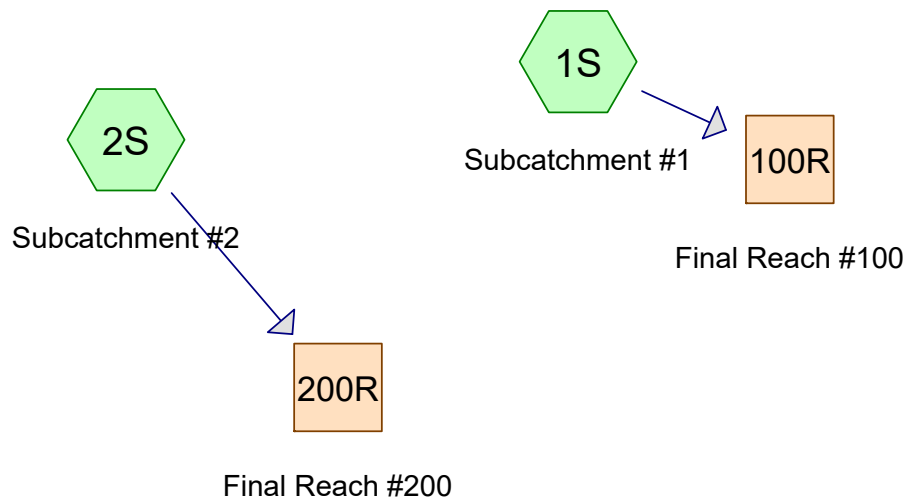
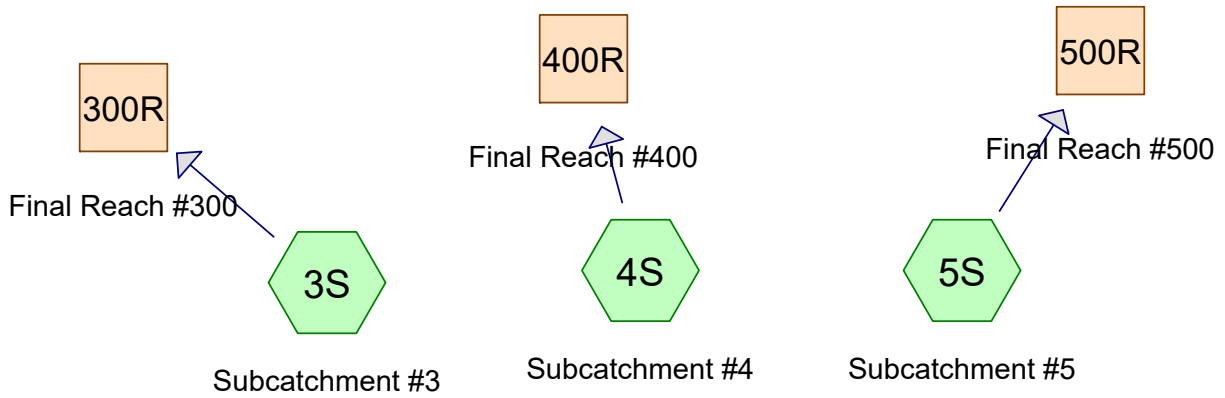


REVISION	DATE	DESCRIPTION

W-2 PROPOSED WATERSHED PLAN
FOR: WOODEN RULER REALTY, LLC
LAND OF: JOHN WONG & MO Y WONG, TRUSTEE OF THE
MO Y. WONG LIVING REVOCABLE TRUST OF 2006
DOVER, N.H.
TAX MAP 6, LOTS 32 & 40

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863
SCALE : 1 IN. EQUALS 20 FT.
DATE : AUGUST 11, 2022
FILE NO. : DB 2022 - 037

KENNETH A. BERRY
REGISTERED PROFESSIONAL ENGINEER
NO. 1428



22-037 Existing Analysis

Prepared by Berry Surveying & Engineering

Printed 8/15/2022

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Page 2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.045	74	>75% Grass cover, Good, HSG C (1S, 2S, 3S)
0.413	98	Paved parking, HSG C (1S, 2S, 3S, 4S, 5S)
0.202	98	Roofs, HSG C (1S, 3S, 4S, 5S)
0.660	96	TOTAL AREA

22-037 Existing Analysis

Prepared by Berry Surveying & Engineering

Printed 8/15/2022

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Page 3

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.660	HSG C	1S, 2S, 3S, 4S, 5S
0.000	HSG D	
0.000	Other	
0.660		TOTAL AREA

22-037 Existing Analysis

Prepared by Berry Surveying & Engineering

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Page 4

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.045	0.000	0.000	0.045	>75% Grass cover, Good	1S, 2S, 3S
0.000	0.000	0.413	0.000	0.000	0.413	Paved parking	1S, 2S, 3S, 4S, 5S
0.000	0.000	0.202	0.000	0.000	0.202	Roofs	1S, 3S, 4S, 5S
0.000	0.000	0.660	0.000	0.000	0.660	TOTAL AREA	

22-037 Existing Analysis

Prepared by Berry Surveying & Engineering

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Type III 24-hr 2Yr-24Hr Rainfall=3.62"

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Page 5

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+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Subcatchment#1	Runoff Area=20,761 sf 94.11% Impervious Runoff Depth>3.27" Flow Length=173' Tc=6.0 min CN=97 Runoff=1.62 cfs 0.130 af
Subcatchment2S: Subcatchment#2	Runoff Area=2,745 sf 78.03% Impervious Runoff Depth>2.85" Tc=6.0 min CN=93 Runoff=0.20 cfs 0.015 af
Subcatchment3S: Subcatchment#3	Runoff Area=2,297 sf 93.99% Impervious Runoff Depth>3.27" Tc=6.0 min CN=97 Runoff=0.18 cfs 0.014 af
Subcatchment4S: Subcatchment#4	Runoff Area=2,167 sf 100.00% Impervious Runoff Depth>3.38" Tc=6.0 min CN=98 Runoff=0.17 cfs 0.014 af
Subcatchment5S: Subcatchment#5	Runoff Area=797 sf 100.00% Impervious Runoff Depth>3.38" Tc=6.0 min CN=98 Runoff=0.06 cfs 0.005 af
Reach 100R: Final Reach #100	Inflow=1.62 cfs 0.130 af Outflow=1.62 cfs 0.130 af
Reach 200R: Final Reach #200	Inflow=0.20 cfs 0.015 af Outflow=0.20 cfs 0.015 af
Reach 300R: Final Reach #300	Inflow=0.18 cfs 0.014 af Outflow=0.18 cfs 0.014 af
Reach 400R: Final Reach #400	Inflow=0.17 cfs 0.014 af Outflow=0.17 cfs 0.014 af
Reach 500R: Final Reach #500	Inflow=0.06 cfs 0.005 af Outflow=0.06 cfs 0.005 af

Total Runoff Area = 0.660 ac Runoff Volume = 0.178 af Average Runoff Depth = 3.24"
6.82% Pervious = 0.045 ac 93.18% Impervious = 0.615 ac

22-037 Existing Analysis

Prepared by Berry Surveying & Engineering

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Type III 24-hr 2Yr-24Hr Rainfall=3.62"

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Page 6

Summary for Subcatchment 1S: Subcatchment #1

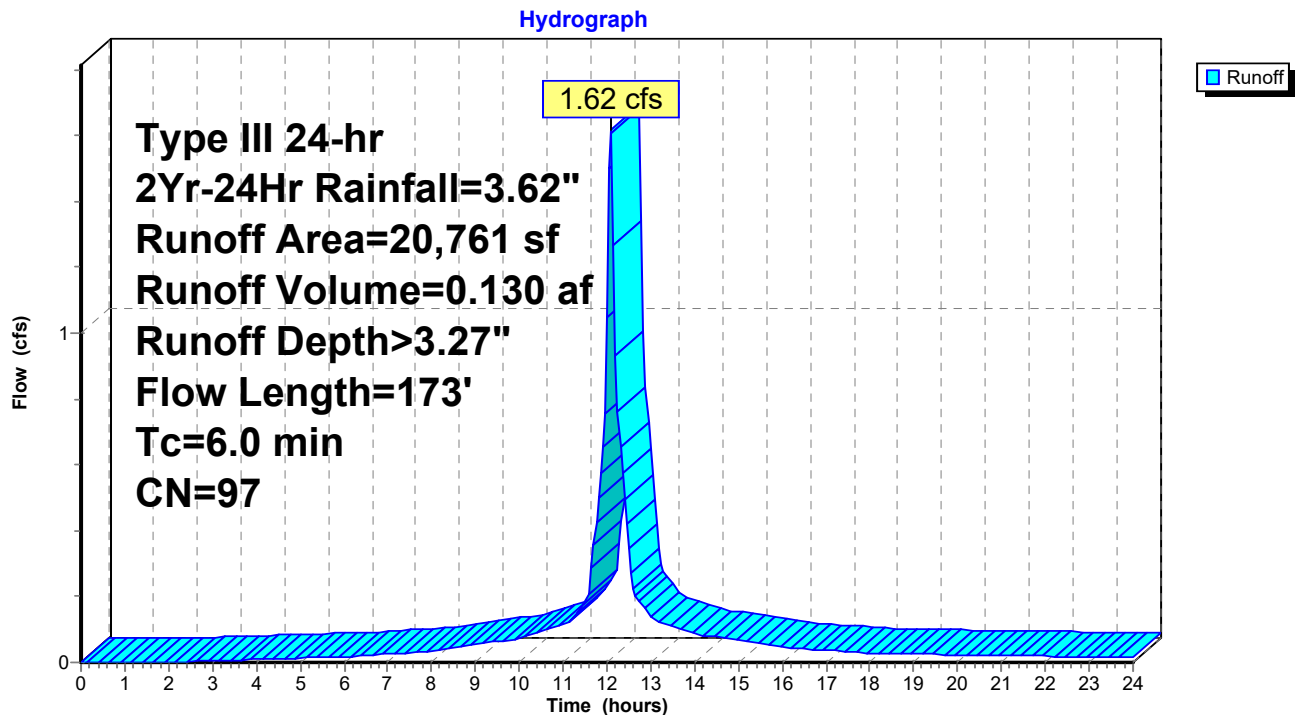
Runoff = 1.62 cfs @ 12.09 hrs, Volume= 0.130 af, Depth> 3.27"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2Yr-24Hr Rainfall=3.62"

Area (sf)	CN	Description
8,637	98	Roofs, HSG C
1,222	74	>75% Grass cover, Good, HSG C
10,902	98	Paved parking, HSG C
20,761	97	Weighted Average
1,222		5.89% Pervious Area
19,539		94.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.3	68	0.0623	0.26		Sheet Flow, Segment #1
					Grass: Short n= 0.150 P2= 3.62"
0.4	105	0.0476	4.43		Shallow Concentrated Flow, Segment #2
					Paved Kv= 20.3 fps
4.7	173	Total, Increased to minimum Tc = 6.0 min			

Subcatchment 1S: Subcatchment #1



22-037 Existing Analysis

Prepared by Berry Surveying & Engineering

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Type III 24-hr 2Yr-24Hr Rainfall=3.62"

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Page 7

Summary for Subcatchment 2S: Subcatchment #2

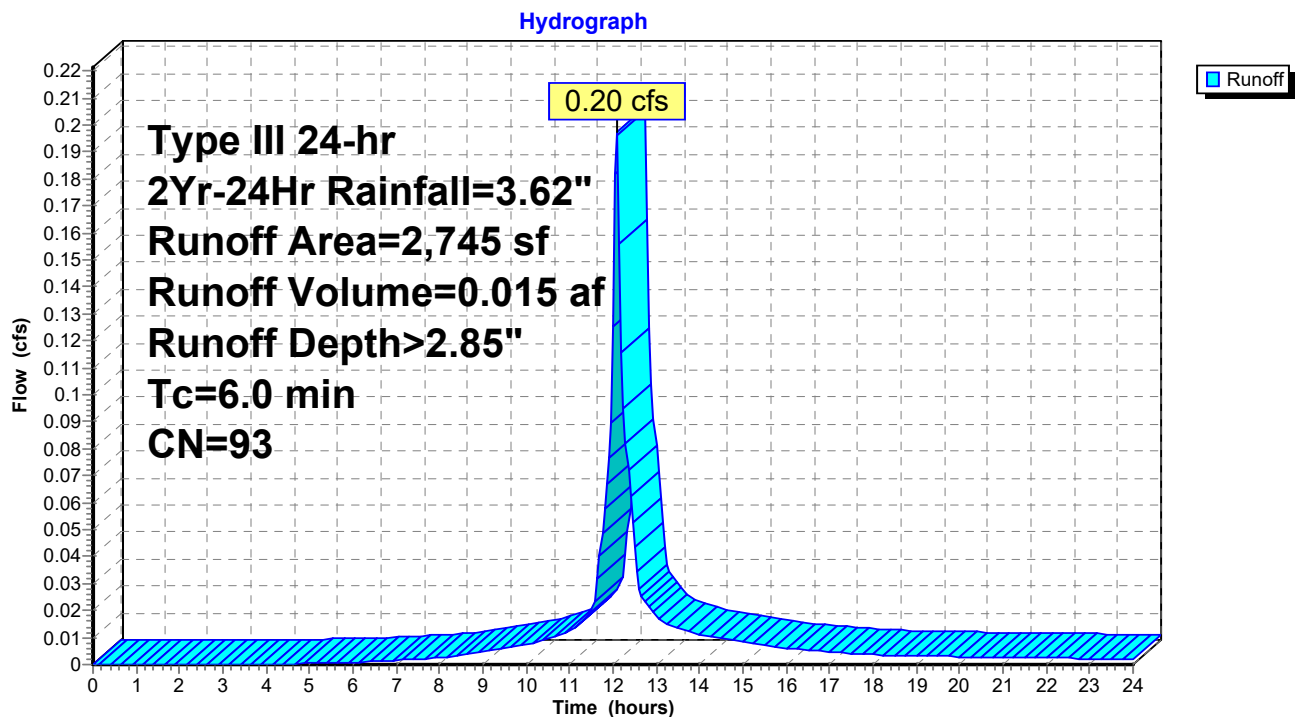
Runoff = 0.20 cfs @ 12.09 hrs, Volume= 0.015 af, Depth> 2.85"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2Yr-24Hr Rainfall=3.62"

Area (sf)	CN	Description
603	74	>75% Grass cover, Good, HSG C
2,142	98	Paved parking, HSG C
2,745	93	Weighted Average
603		21.97% Pervious Area
2,142		78.03% Impervious Area

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

Subcatchment 2S: Subcatchment #2



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Type III 24-hr 2Yr-24Hr Rainfall=3.62"

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Summary for Subcatchment 3S: Subcatchment #3

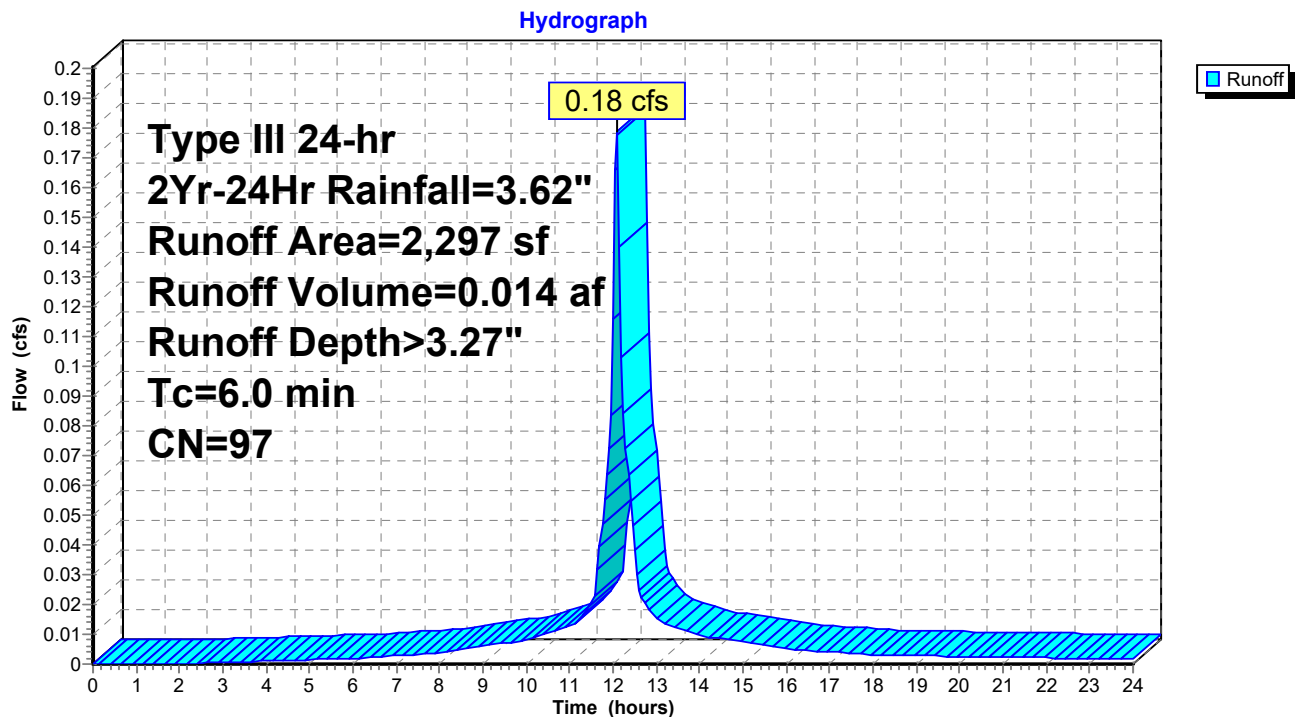
Runoff = 0.18 cfs @ 12.09 hrs, Volume= 0.014 af, Depth> 3.27"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2Yr-24Hr Rainfall=3.62"

Area (sf)	CN	Description
19	98	Roofs, HSG C
138	74	>75% Grass cover, Good, HSG C
2,140	98	Paved parking, HSG C
2,297	97	Weighted Average
138		6.01% Pervious Area
2,159		93.99% Impervious Area

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

Subcatchment 3S: Subcatchment #3



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Type III 24-hr 2Yr-24Hr Rainfall=3.62"

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Summary for Subcatchment 4S: Subcatchment #4

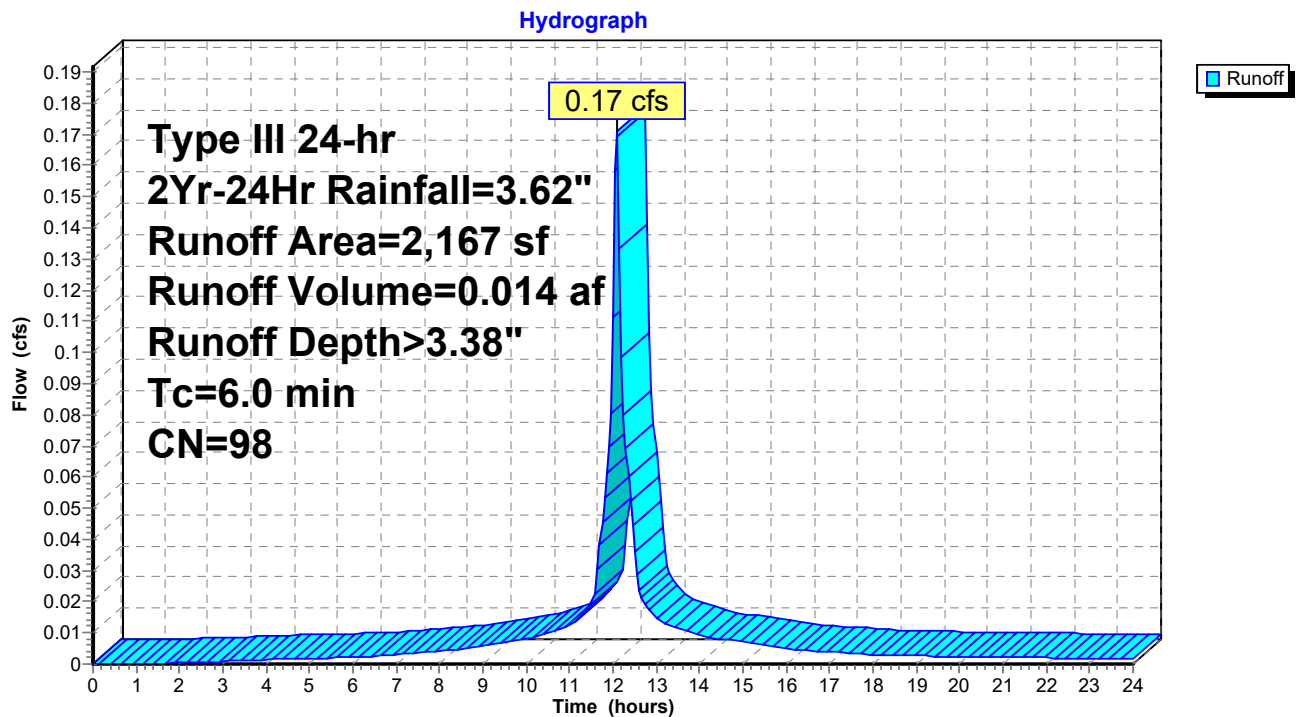
Runoff = 0.17 cfs @ 12.09 hrs, Volume= 0.014 af, Depth> 3.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2Yr-24Hr Rainfall=3.62"

Area (sf)	CN	Description
140	98	Roofs, HSG C
2,027	98	Paved parking, HSG C
2,167	98	Weighted Average
2,167		100.00% Impervious Area

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

Subcatchment 4S: Subcatchment #4



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Type III 24-hr 2Yr-24Hr Rainfall=3.62"

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Summary for Subcatchment 5S: Subcatchment #5

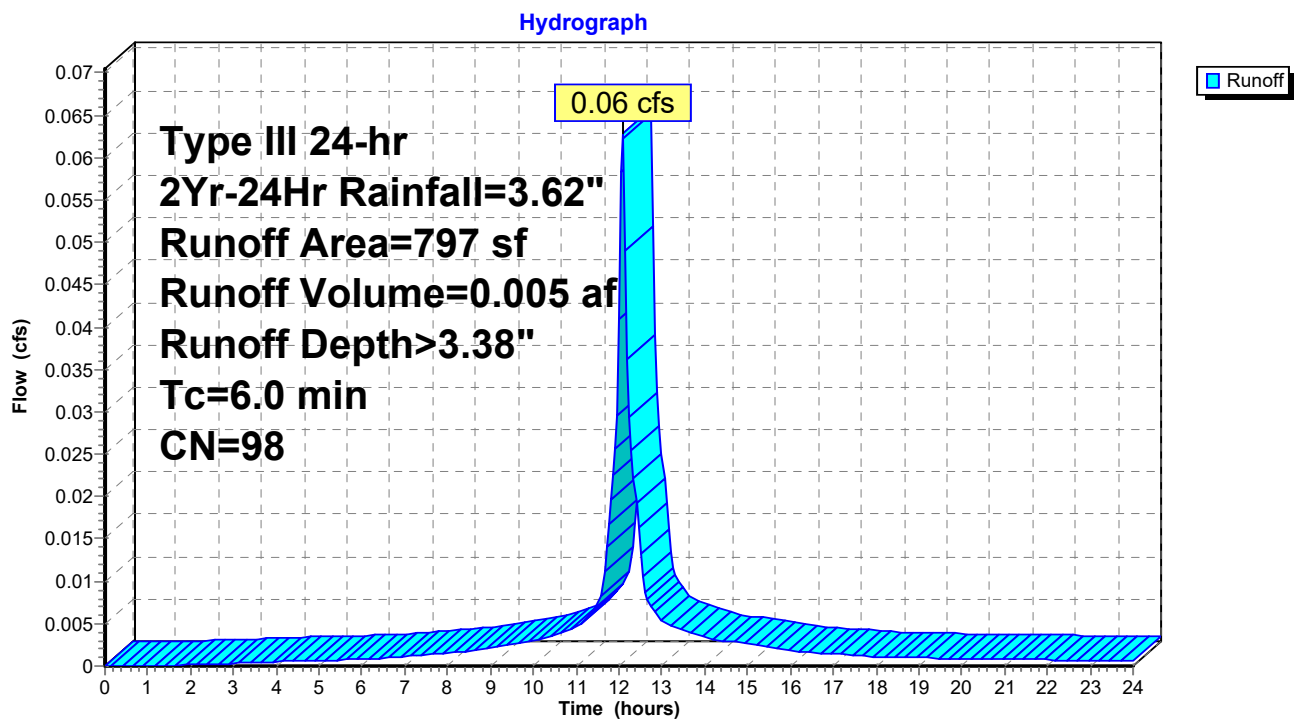
Runoff = 0.06 cfs @ 12.09 hrs, Volume= 0.005 af, Depth> 3.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2Yr-24Hr Rainfall=3.62"

Area (sf)	CN	Description
12	98	Roofs, HSG C
785	98	Paved parking, HSG C
797	98	Weighted Average
797		100.00% Impervious Area

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

Subcatchment 5S: Subcatchment #5



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Type III 24-hr 2Yr-24Hr Rainfall=3.62"

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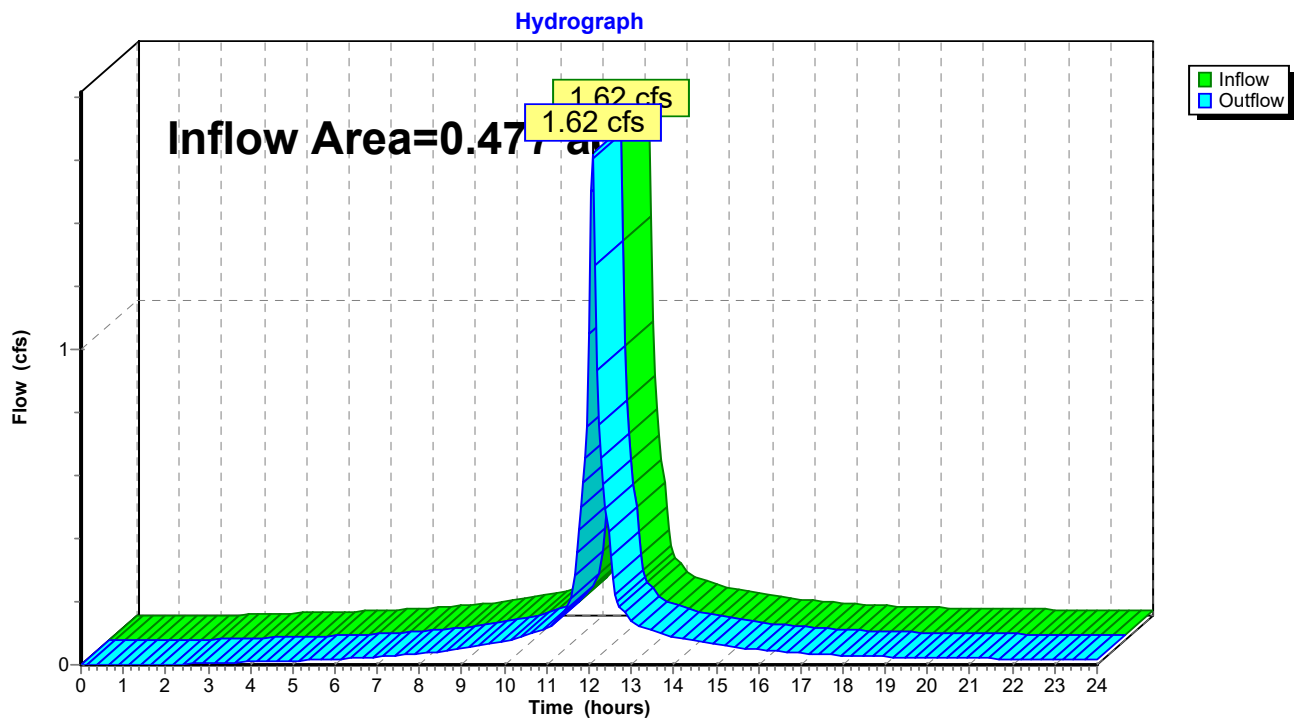
Summary for Reach 100R: Final Reach #100

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.477 ac, 94.11% Impervious, Inflow Depth > 3.27" for 2Yr-24Hr event
Inflow = 1.62 cfs @ 12.09 hrs, Volume= 0.130 af
Outflow = 1.62 cfs @ 12.09 hrs, Volume= 0.130 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Reach 100R: Final Reach #100



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Type III 24-hr 2Yr-24Hr Rainfall=3.62"

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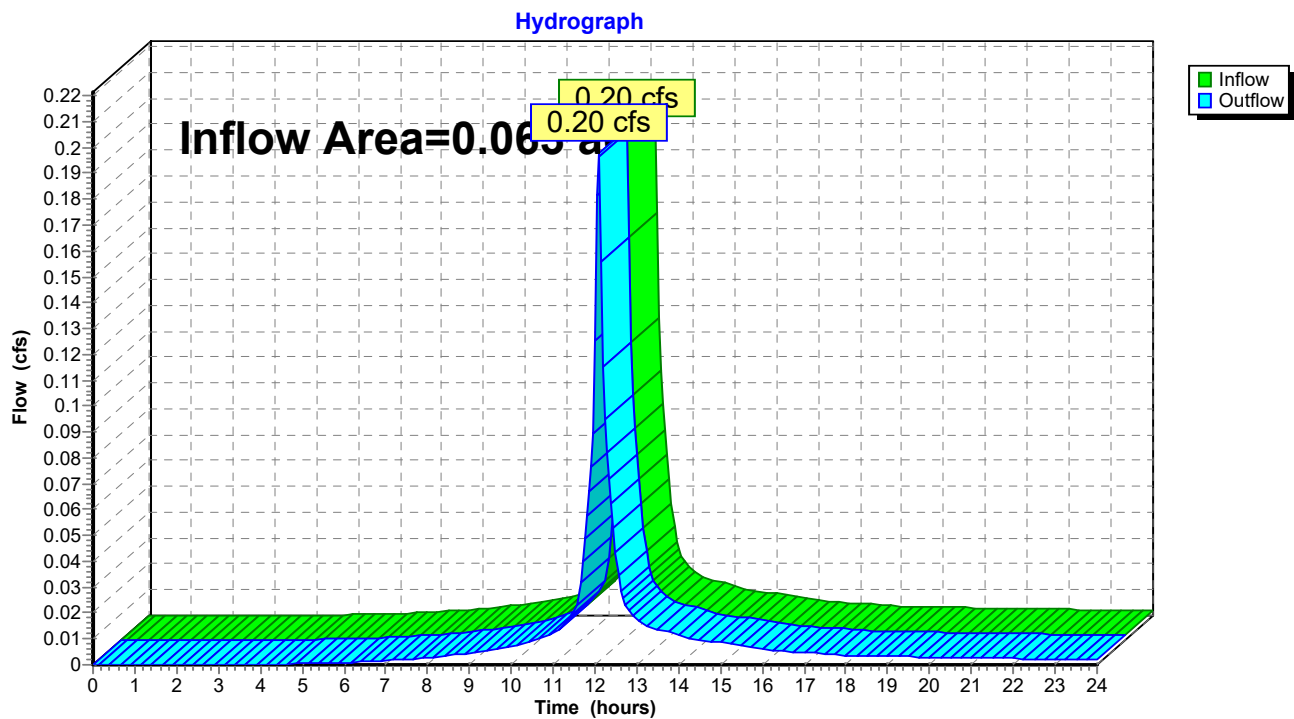
Summary for Reach 200R: Final Reach #200

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.063 ac, 78.03% Impervious, Inflow Depth > 2.85" for 2Yr-24Hr event
Inflow = 0.20 cfs @ 12.09 hrs, Volume= 0.015 af
Outflow = 0.20 cfs @ 12.09 hrs, Volume= 0.015 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Reach 200R: Final Reach #200



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Type III 24-hr 2Yr-24Hr Rainfall=3.62"

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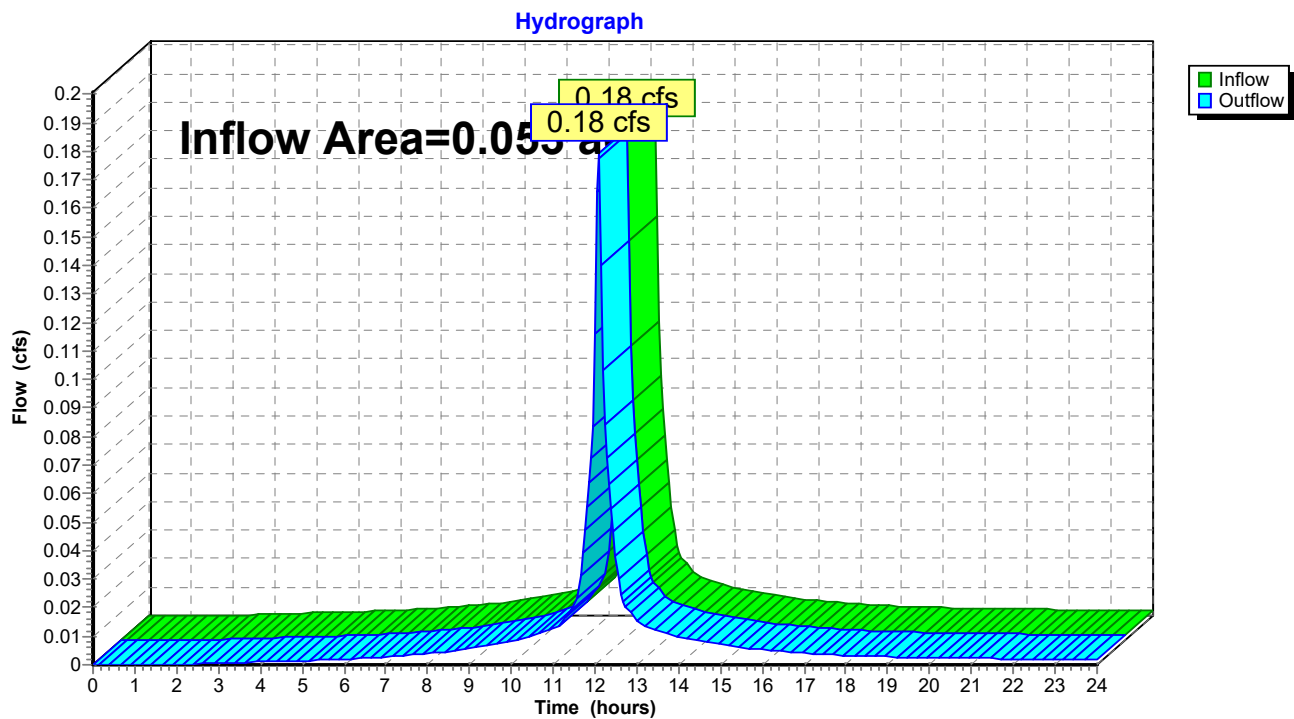
Summary for Reach 300R: Final Reach #300

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.053 ac, 93.99% Impervious, Inflow Depth > 3.27" for 2Yr-24Hr event
Inflow = 0.18 cfs @ 12.09 hrs, Volume= 0.014 af
Outflow = 0.18 cfs @ 12.09 hrs, Volume= 0.014 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Reach 300R: Final Reach #300



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Type III 24-hr 2Yr-24Hr Rainfall=3.62"

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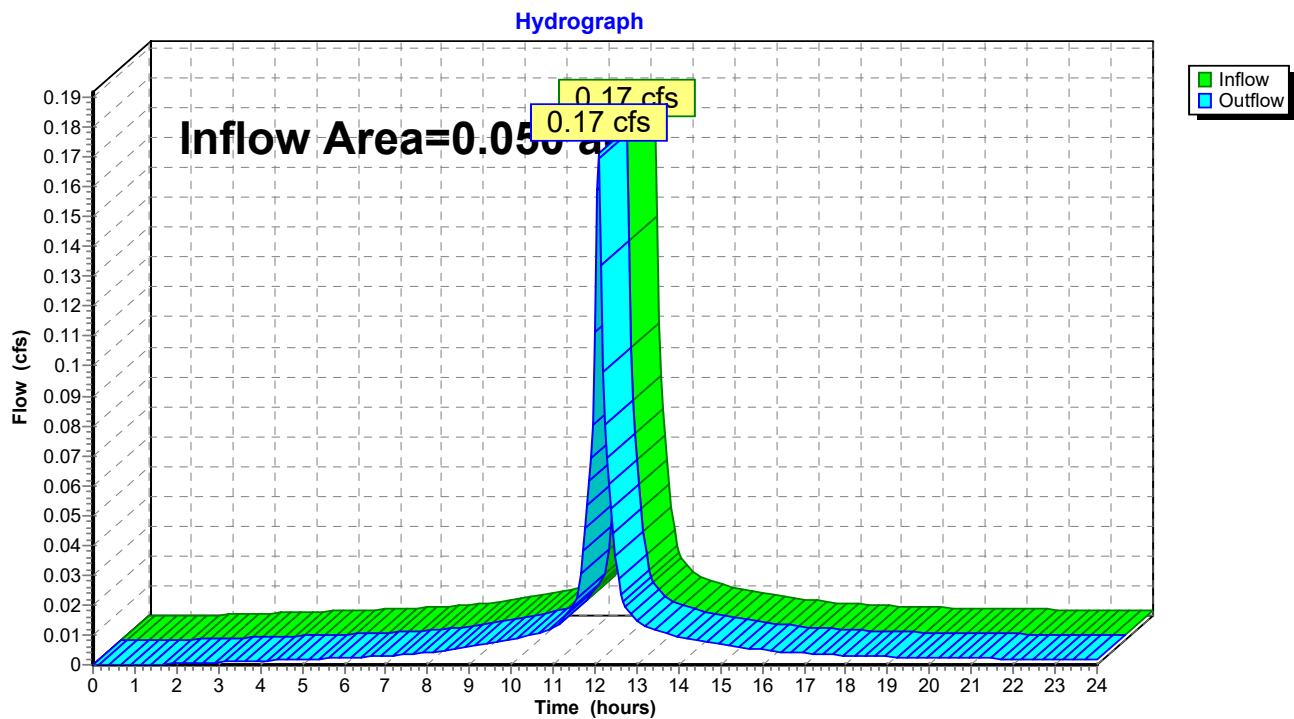
Summary for Reach 400R: Final Reach #400

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.050 ac, 100.00% Impervious, Inflow Depth > 3.38" for 2Yr-24Hr event
Inflow = 0.17 cfs @ 12.09 hrs, Volume= 0.014 af
Outflow = 0.17 cfs @ 12.09 hrs, Volume= 0.014 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Reach 400R: Final Reach #400



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Type III 24-hr 2Yr-24Hr Rainfall=3.62"

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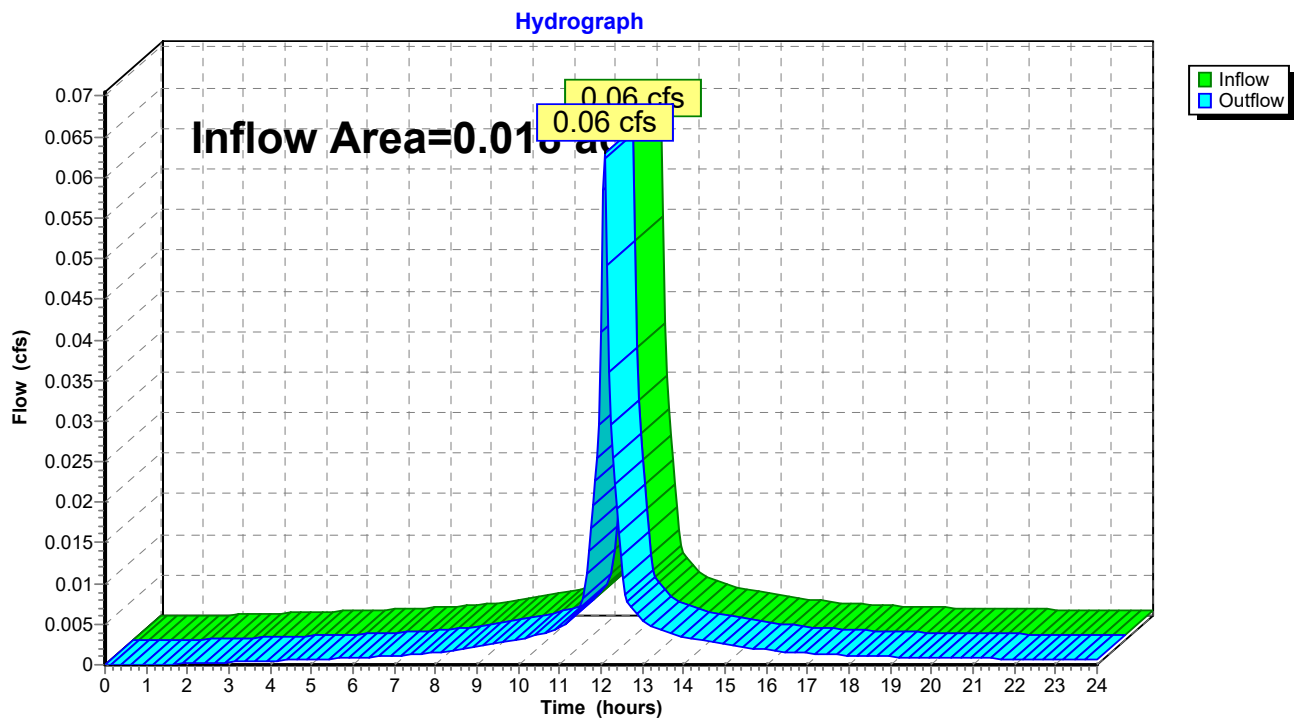
Summary for Reach 500R: Final Reach #500

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.018 ac, 100.00% Impervious, Inflow Depth > 3.38" for 2Yr-24Hr event
Inflow = 0.06 cfs @ 12.09 hrs, Volume= 0.005 af
Outflow = 0.06 cfs @ 12.09 hrs, Volume= 0.005 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Reach 500R: Final Reach #500



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Type III 24-hr 10Yr-24Hr Rainfall=5.46"

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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+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Subcatchment#1	Runoff Area=20,761 sf 94.11% Impervious Runoff Depth>5.10" Flow Length=173' Tc=6.0 min CN=97 Runoff=2.47 cfs 0.203 af
Subcatchment2S: Subcatchment#2	Runoff Area=2,745 sf 78.03% Impervious Runoff Depth>4.65" Tc=6.0 min CN=93 Runoff=0.31 cfs 0.024 af
Subcatchment3S: Subcatchment#3	Runoff Area=2,297 sf 93.99% Impervious Runoff Depth>5.10" Tc=6.0 min CN=97 Runoff=0.27 cfs 0.022 af
Subcatchment4S: Subcatchment#4	Runoff Area=2,167 sf 100.00% Impervious Runoff Depth>5.22" Tc=6.0 min CN=98 Runoff=0.26 cfs 0.022 af
Subcatchment5S: Subcatchment#5	Runoff Area=797 sf 100.00% Impervious Runoff Depth>5.22" Tc=6.0 min CN=98 Runoff=0.10 cfs 0.008 af
Reach 100R: Final Reach #100	Inflow=2.47 cfs 0.203 af Outflow=2.47 cfs 0.203 af
Reach 200R: Final Reach #200	Inflow=0.31 cfs 0.024 af Outflow=0.31 cfs 0.024 af
Reach 300R: Final Reach #300	Inflow=0.27 cfs 0.022 af Outflow=0.27 cfs 0.022 af
Reach 400R: Final Reach #400	Inflow=0.26 cfs 0.022 af Outflow=0.26 cfs 0.022 af
Reach 500R: Final Reach #500	Inflow=0.10 cfs 0.008 af Outflow=0.10 cfs 0.008 af

Total Runoff Area = 0.660 ac Runoff Volume = 0.279 af Average Runoff Depth = 5.07"
6.82% Pervious = 0.045 ac 93.18% Impervious = 0.615 ac

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Type III 24-hr 10Yr-24Hr Rainfall=5.46"

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Summary for Subcatchment 1S: Subcatchment #1

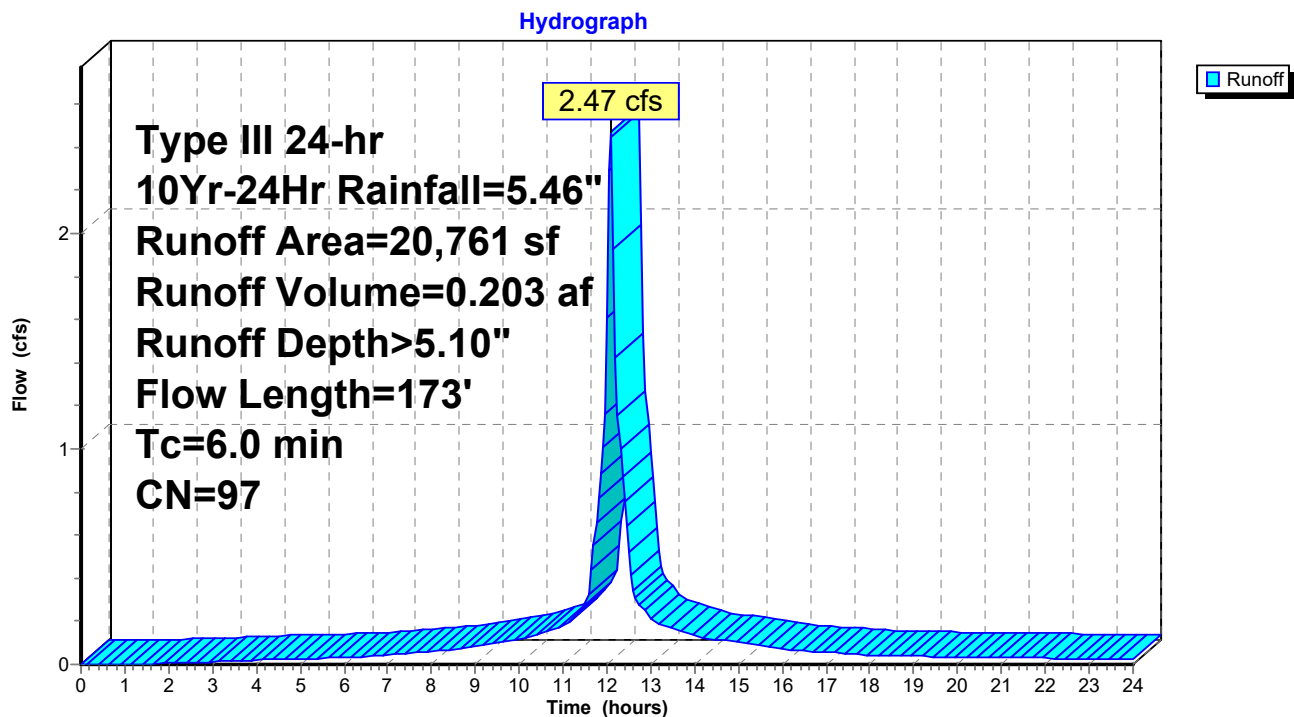
Runoff = 2.47 cfs @ 12.09 hrs, Volume= 0.203 af, Depth> 5.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10Yr-24Hr Rainfall=5.46"

Area (sf)	CN	Description
8,637	98	Roofs, HSG C
1,222	74	>75% Grass cover, Good, HSG C
10,902	98	Paved parking, HSG C
20,761	97	Weighted Average
1,222		5.89% Pervious Area
19,539		94.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.3	68	0.0623	0.26		Sheet Flow, Segment #1
					Grass: Short n= 0.150 P2= 3.62"
0.4	105	0.0476	4.43		Shallow Concentrated Flow, Segment #2
					Paved Kv= 20.3 fps
4.7	173				Total, Increased to minimum Tc = 6.0 min

Subcatchment 1S: Subcatchment #1



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Type III 24-hr 10Yr-24Hr Rainfall=5.46"

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Summary for Subcatchment 2S: Subcatchment #2

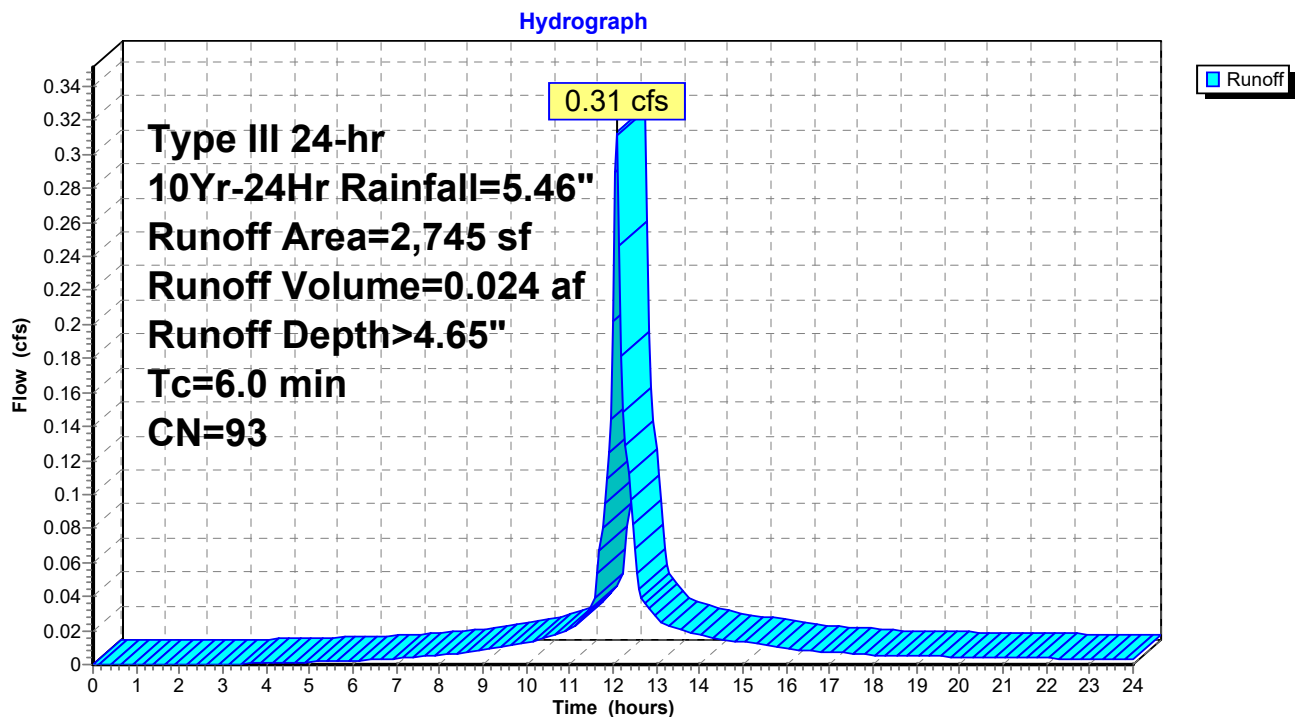
Runoff = 0.31 cfs @ 12.09 hrs, Volume= 0.024 af, Depth> 4.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10Yr-24Hr Rainfall=5.46"

Area (sf)	CN	Description
603	74	>75% Grass cover, Good, HSG C
2,142	98	Paved parking, HSG C
2,745	93	Weighted Average
603		21.97% Pervious Area
2,142		78.03% Impervious Area

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

Subcatchment 2S: Subcatchment #2



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Type III 24-hr 10Yr-24Hr Rainfall=5.46"

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Summary for Subcatchment 3S: Subcatchment #3

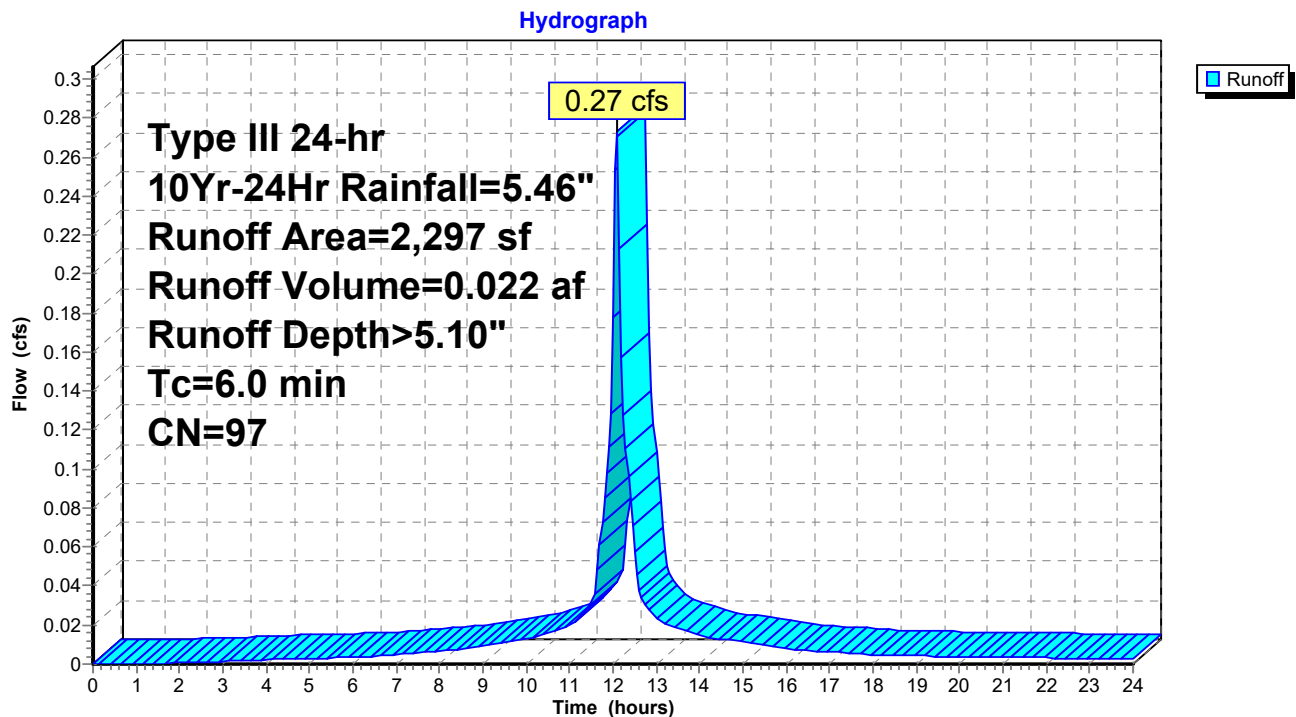
Runoff = 0.27 cfs @ 12.09 hrs, Volume= 0.022 af, Depth> 5.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10Yr-24Hr Rainfall=5.46"

Area (sf)	CN	Description
19	98	Roofs, HSG C
138	74	>75% Grass cover, Good, HSG C
2,140	98	Paved parking, HSG C
2,297	97	Weighted Average
138		6.01% Pervious Area
2,159		93.99% Impervious Area

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

Subcatchment 3S: Subcatchment #3



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Type III 24-hr 10Yr-24Hr Rainfall=5.46"

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Summary for Subcatchment 4S: Subcatchment #4

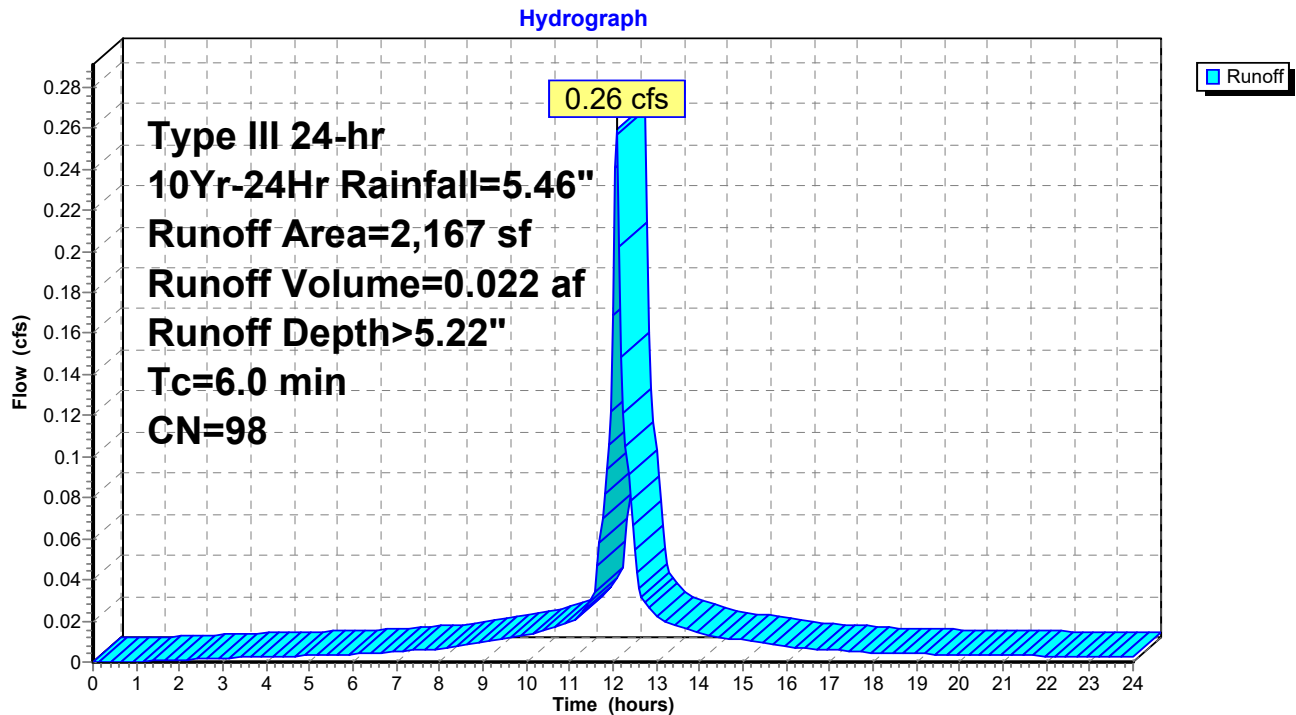
Runoff = 0.26 cfs @ 12.09 hrs, Volume= 0.022 af, Depth> 5.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10Yr-24Hr Rainfall=5.46"

Area (sf)	CN	Description
140	98	Roofs, HSG C
2,027	98	Paved parking, HSG C
2,167	98	Weighted Average
2,167		100.00% Impervious Area

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

Subcatchment 4S: Subcatchment #4



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Type III 24-hr 10Yr-24Hr Rainfall=5.46"

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Summary for Subcatchment 5S: Subcatchment #5

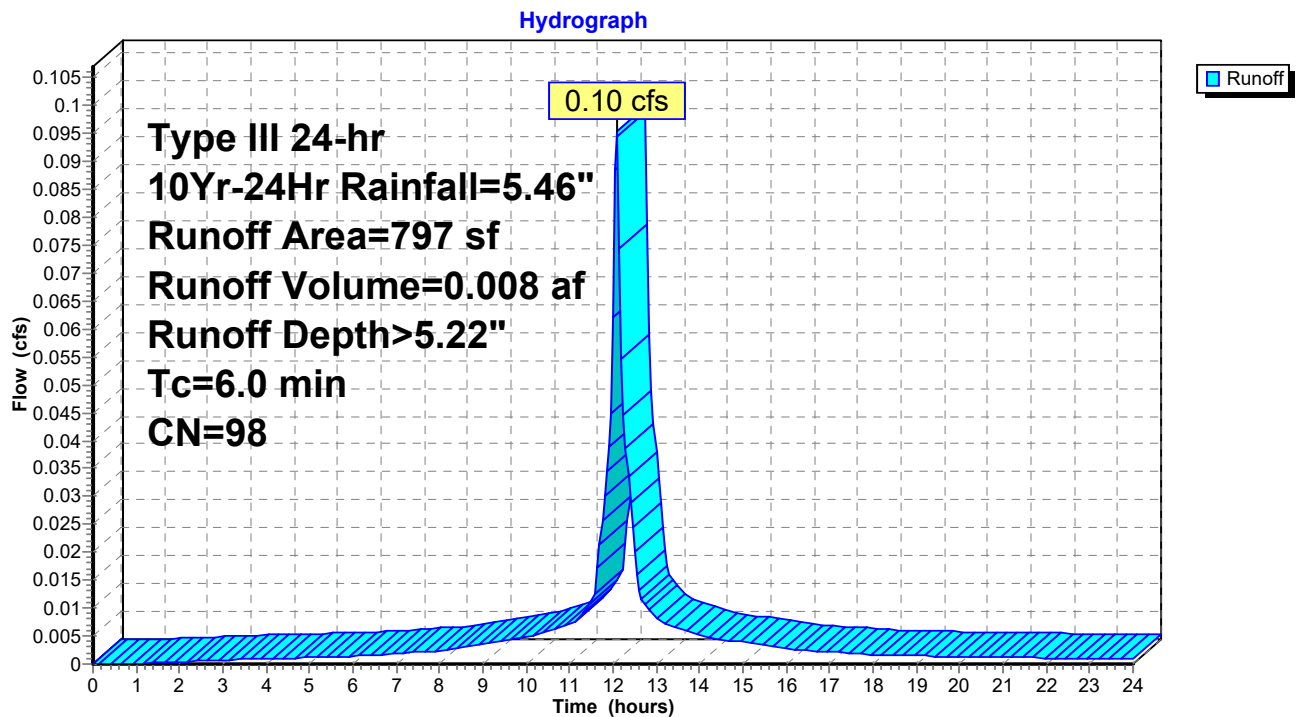
Runoff = 0.10 cfs @ 12.09 hrs, Volume= 0.008 af, Depth> 5.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10Yr-24Hr Rainfall=5.46"

Area (sf)	CN	Description
12	98	Roofs, HSG C
785	98	Paved parking, HSG C
797	98	Weighted Average
797		100.00% Impervious Area

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

Subcatchment 5S: Subcatchment #5



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Type III 24-hr 10Yr-24Hr Rainfall=5.46"

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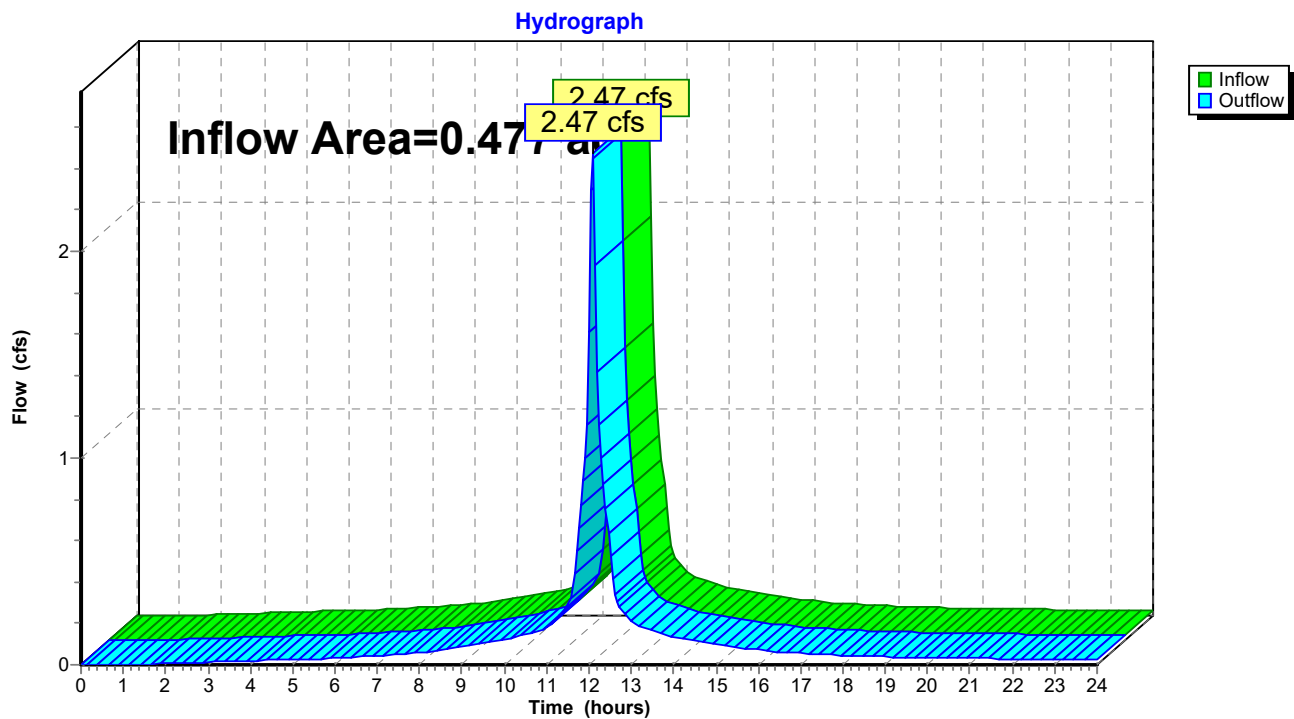
Summary for Reach 100R: Final Reach #100

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.477 ac, 94.11% Impervious, Inflow Depth > 5.10" for 10Yr-24Hr event
Inflow = 2.47 cfs @ 12.09 hrs, Volume= 0.203 af
Outflow = 2.47 cfs @ 12.09 hrs, Volume= 0.203 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Reach 100R: Final Reach #100



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Type III 24-hr 10Yr-24Hr Rainfall=5.46"

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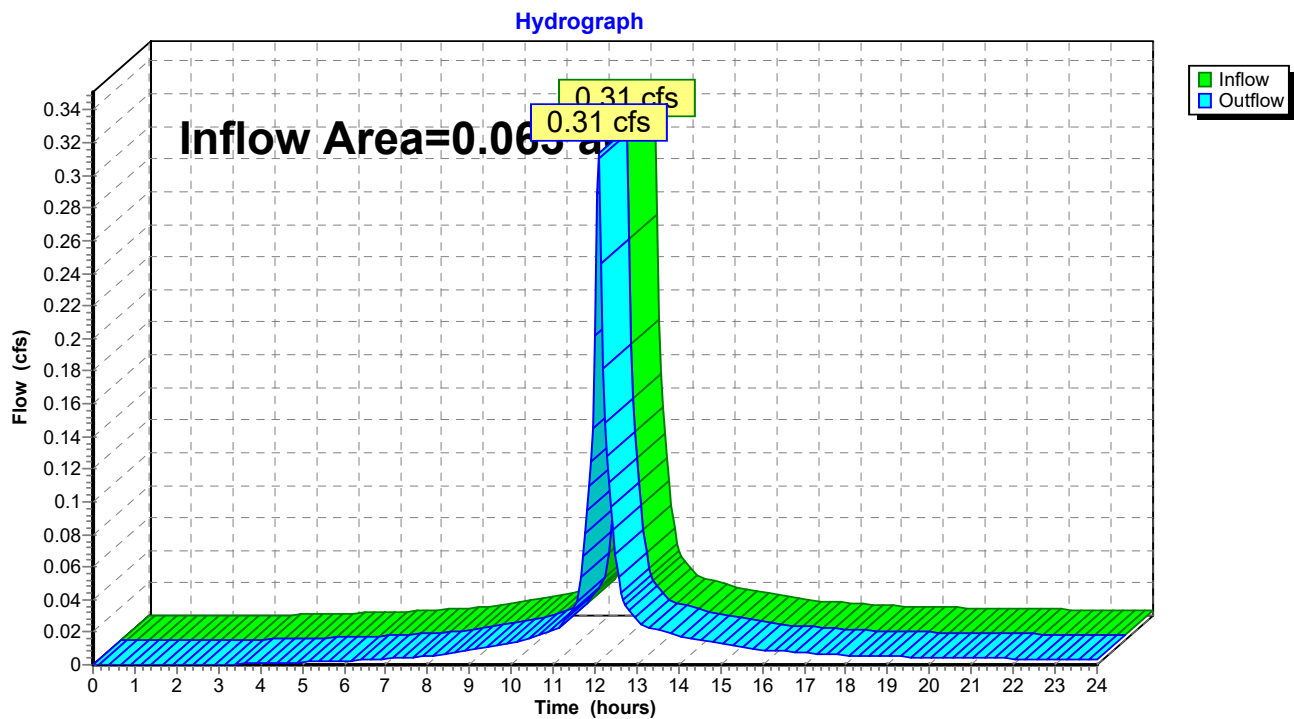
Summary for Reach 200R: Final Reach #200

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.063 ac, 78.03% Impervious, Inflow Depth > 4.65" for 10Yr-24Hr event
Inflow = 0.31 cfs @ 12.09 hrs, Volume= 0.024 af
Outflow = 0.31 cfs @ 12.09 hrs, Volume= 0.024 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Reach 200R: Final Reach #200



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Type III 24-hr 10Yr-24Hr Rainfall=5.46"

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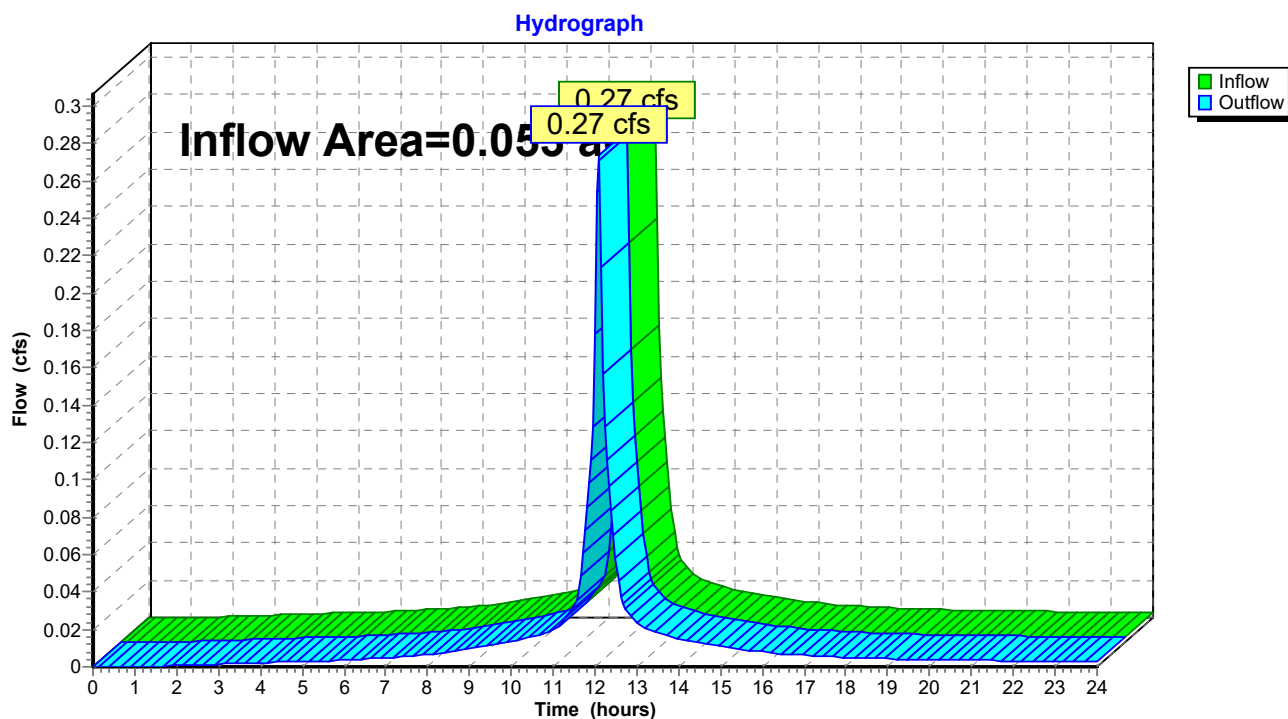
Summary for Reach 300R: Final Reach #300

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.053 ac, 93.99% Impervious, Inflow Depth > 5.10" for 10Yr-24Hr event
Inflow = 0.27 cfs @ 12.09 hrs, Volume= 0.022 af
Outflow = 0.27 cfs @ 12.09 hrs, Volume= 0.022 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Reach 300R: Final Reach #300



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Type III 24-hr 10Yr-24Hr Rainfall=5.46"

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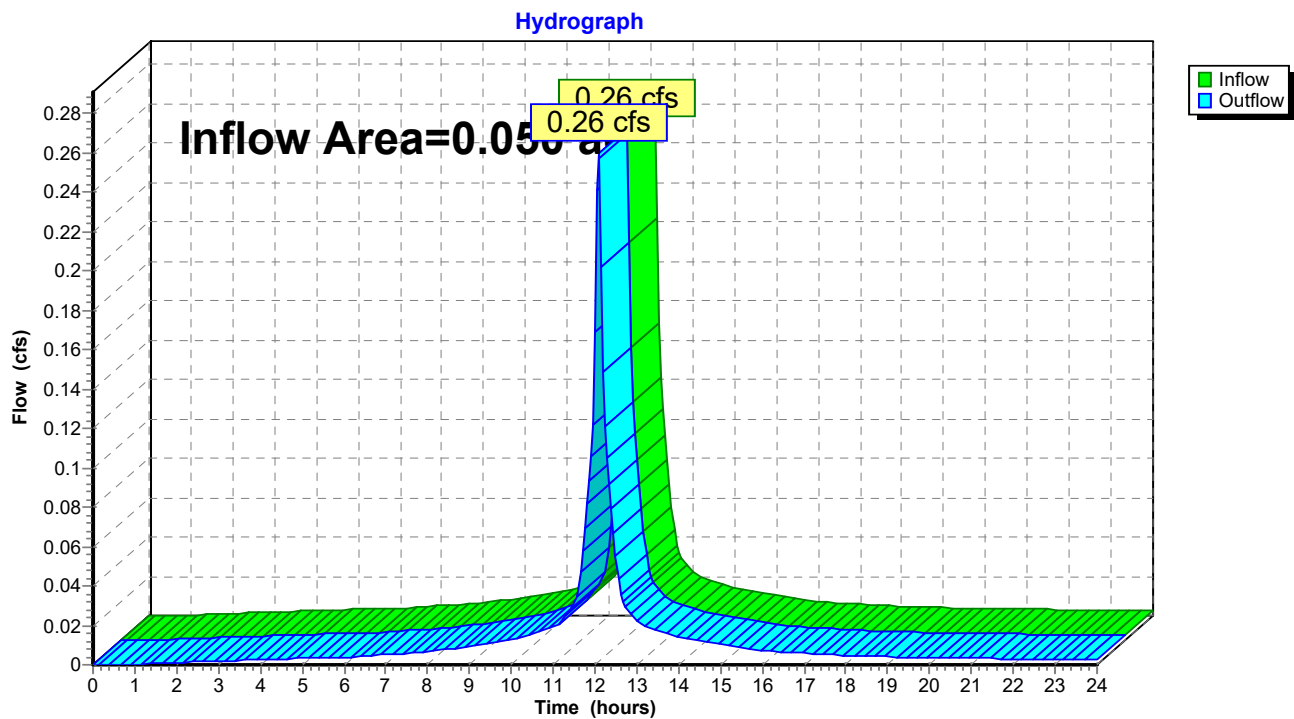
Summary for Reach 400R: Final Reach #400

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.050 ac, 100.00% Impervious, Inflow Depth > 5.22" for 10Yr-24Hr event
Inflow = 0.26 cfs @ 12.09 hrs, Volume= 0.022 af
Outflow = 0.26 cfs @ 12.09 hrs, Volume= 0.022 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Reach 400R: Final Reach #400



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Type III 24-hr 10Yr-24Hr Rainfall=5.46"

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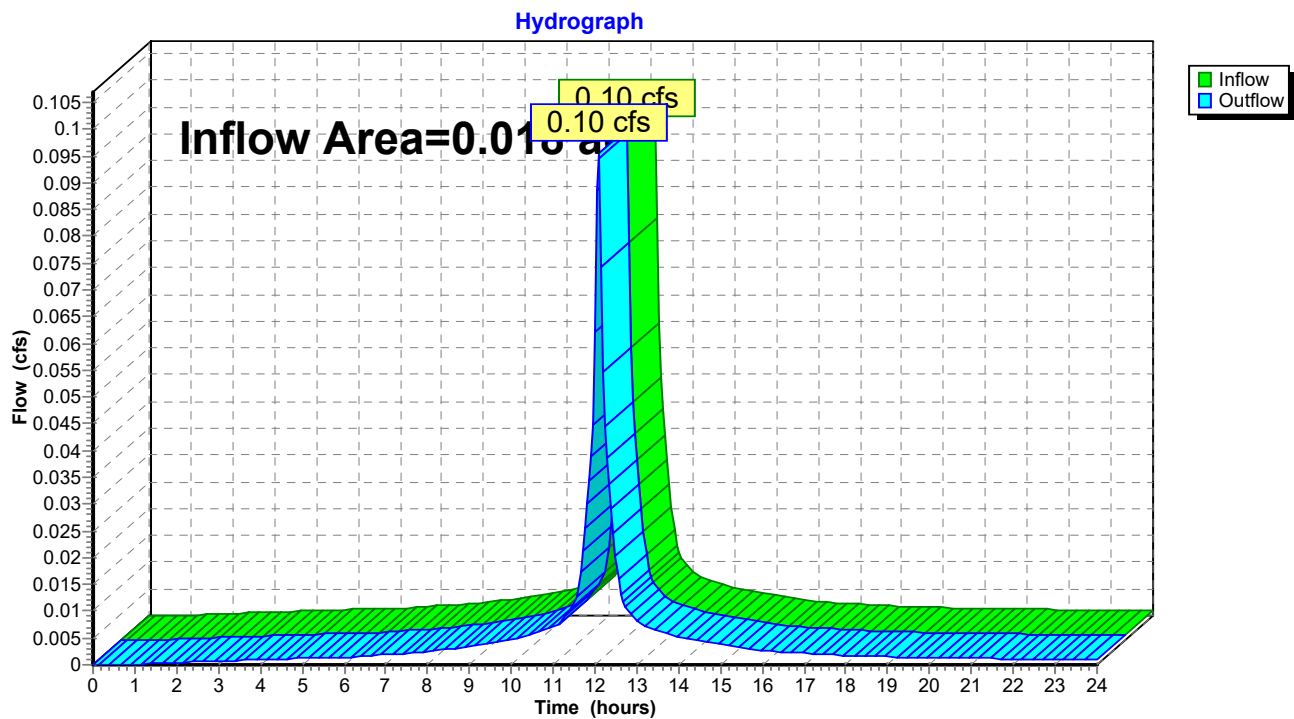
Summary for Reach 500R: Final Reach #500

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.018 ac, 100.00% Impervious, Inflow Depth > 5.22" for 10Yr-24Hr event
Inflow = 0.10 cfs @ 12.09 hrs, Volume= 0.008 af
Outflow = 0.10 cfs @ 12.09 hrs, Volume= 0.008 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Reach 500R: Final Reach #500



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Type III 24-hr 25Yr-24Hr Rainfall=6.90"

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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+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Subcatchment#1	Runoff Area=20,761 sf 94.11% Impervious Runoff Depth>6.54" Flow Length=173' Tc=6.0 min CN=97 Runoff=3.14 cfs 0.260 af
Subcatchment2S: Subcatchment#2	Runoff Area=2,745 sf 78.03% Impervious Runoff Depth>6.07" Tc=6.0 min CN=93 Runoff=0.40 cfs 0.032 af
Subcatchment3S: Subcatchment#3	Runoff Area=2,297 sf 93.99% Impervious Runoff Depth>6.54" Tc=6.0 min CN=97 Runoff=0.35 cfs 0.029 af
Subcatchment4S: Subcatchment#4	Runoff Area=2,167 sf 100.00% Impervious Runoff Depth>6.66" Tc=6.0 min CN=98 Runoff=0.33 cfs 0.028 af
Subcatchment5S: Subcatchment#5	Runoff Area=797 sf 100.00% Impervious Runoff Depth>6.66" Tc=6.0 min CN=98 Runoff=0.12 cfs 0.010 af
Reach 100R: Final Reach #100	Inflow=3.14 cfs 0.260 af Outflow=3.14 cfs 0.260 af
Reach 200R: Final Reach #200	Inflow=0.40 cfs 0.032 af Outflow=0.40 cfs 0.032 af
Reach 300R: Final Reach #300	Inflow=0.35 cfs 0.029 af Outflow=0.35 cfs 0.029 af
Reach 400R: Final Reach #400	Inflow=0.33 cfs 0.028 af Outflow=0.33 cfs 0.028 af
Reach 500R: Final Reach #500	Inflow=0.12 cfs 0.010 af Outflow=0.12 cfs 0.010 af

Total Runoff Area = 0.660 ac Runoff Volume = 0.358 af Average Runoff Depth = 6.51"
6.82% Pervious = 0.045 ac 93.18% Impervious = 0.615 ac

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Type III 24-hr 25Yr-24Hr Rainfall=6.90"

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Summary for Subcatchment 1S: Subcatchment #1

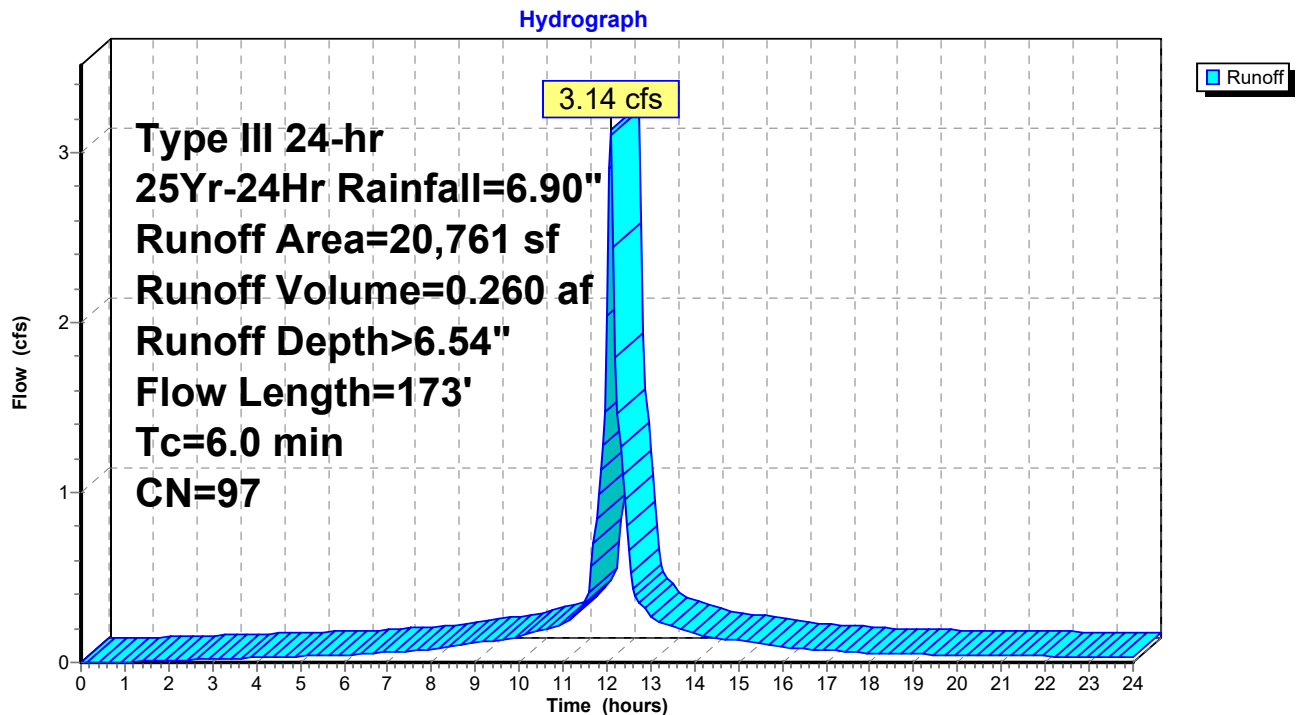
Runoff = 3.14 cfs @ 12.09 hrs, Volume= 0.260 af, Depth> 6.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25Yr-24Hr Rainfall=6.90"

Area (sf)	CN	Description
8,637	98	Roofs, HSG C
1,222	74	>75% Grass cover, Good, HSG C
10,902	98	Paved parking, HSG C
20,761	97	Weighted Average
1,222		5.89% Pervious Area
19,539		94.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.3	68	0.0623	0.26		Sheet Flow, Segment #1
					Grass: Short n= 0.150 P2= 3.62"
0.4	105	0.0476	4.43		Shallow Concentrated Flow, Segment #2
					Paved Kv= 20.3 fps
4.7	173				Total, Increased to minimum Tc = 6.0 min

Subcatchment 1S: Subcatchment #1



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Type III 24-hr 25Yr-24Hr Rainfall=6.90"

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Summary for Subcatchment 2S: Subcatchment #2

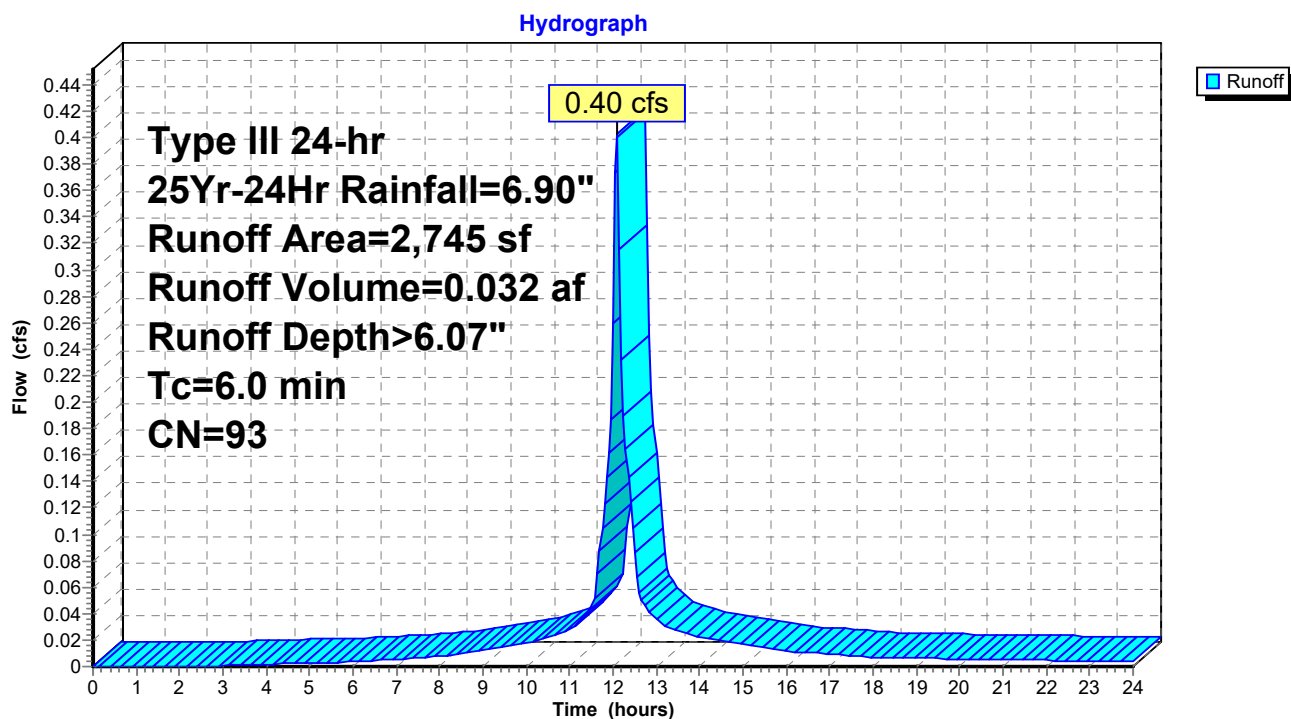
Runoff = 0.40 cfs @ 12.09 hrs, Volume= 0.032 af, Depth> 6.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25Yr-24Hr Rainfall=6.90"

Area (sf)	CN	Description
603	74	>75% Grass cover, Good, HSG C
2,142	98	Paved parking, HSG C
2,745	93	Weighted Average
603		21.97% Pervious Area
2,142		78.03% Impervious Area

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

Subcatchment 2S: Subcatchment #2



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Type III 24-hr 25Yr-24Hr Rainfall=6.90"

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Summary for Subcatchment 3S: Subcatchment #3

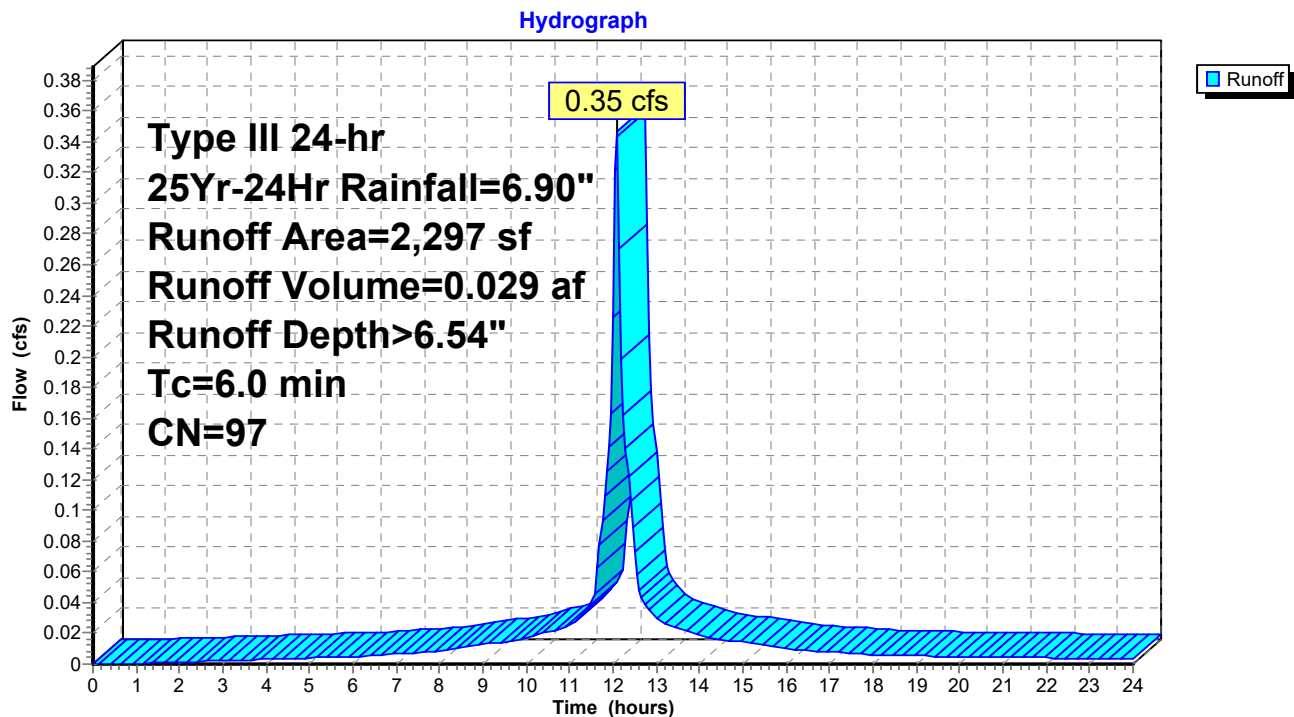
Runoff = 0.35 cfs @ 12.09 hrs, Volume= 0.029 af, Depth> 6.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25Yr-24Hr Rainfall=6.90"

Area (sf)	CN	Description
19	98	Roofs, HSG C
138	74	>75% Grass cover, Good, HSG C
2,140	98	Paved parking, HSG C
2,297	97	Weighted Average
138		6.01% Pervious Area
2,159		93.99% Impervious Area

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

Subcatchment 3S: Subcatchment #3



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Type III 24-hr 25Yr-24Hr Rainfall=6.90"

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Summary for Subcatchment 4S: Subcatchment #4

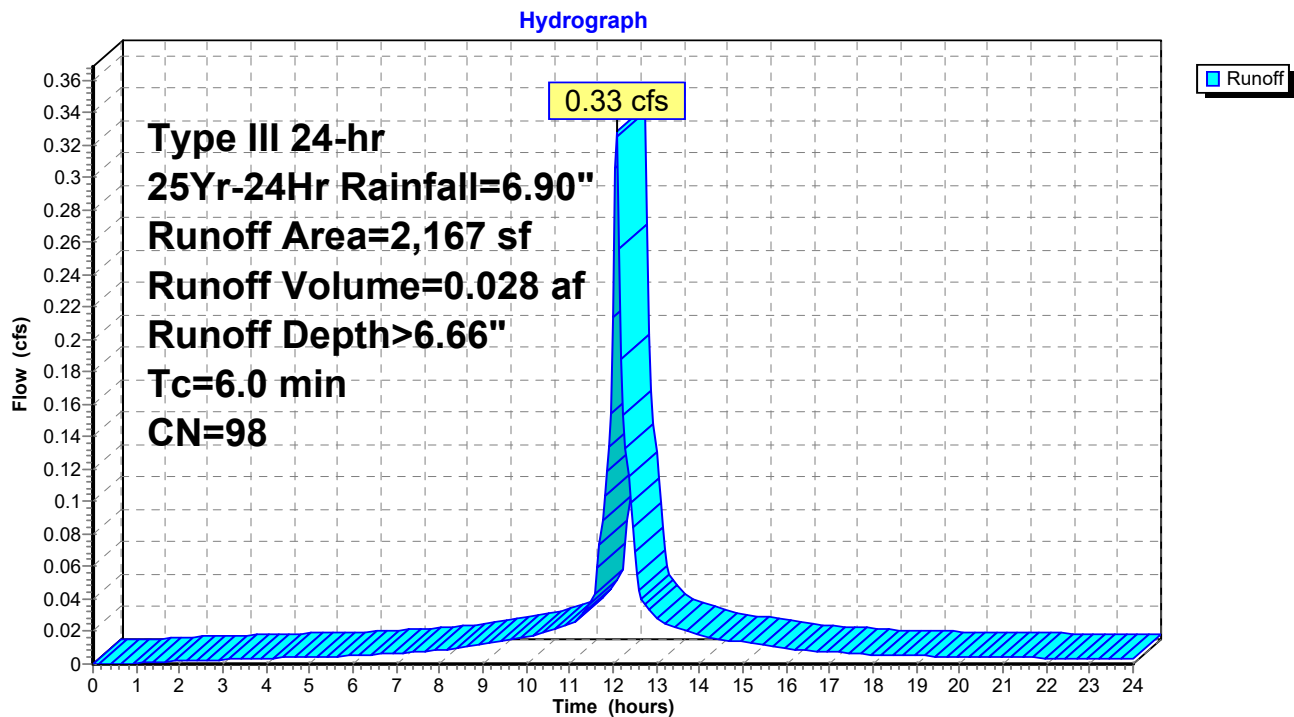
Runoff = 0.33 cfs @ 12.09 hrs, Volume= 0.028 af, Depth> 6.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25Yr-24Hr Rainfall=6.90"

Area (sf)	CN	Description
140	98	Roofs, HSG C
2,027	98	Paved parking, HSG C
2,167	98	Weighted Average
2,167		100.00% Impervious Area

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

Subcatchment 4S: Subcatchment #4



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Type III 24-hr 25Yr-24Hr Rainfall=6.90"

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Summary for Subcatchment 5S: Subcatchment #5

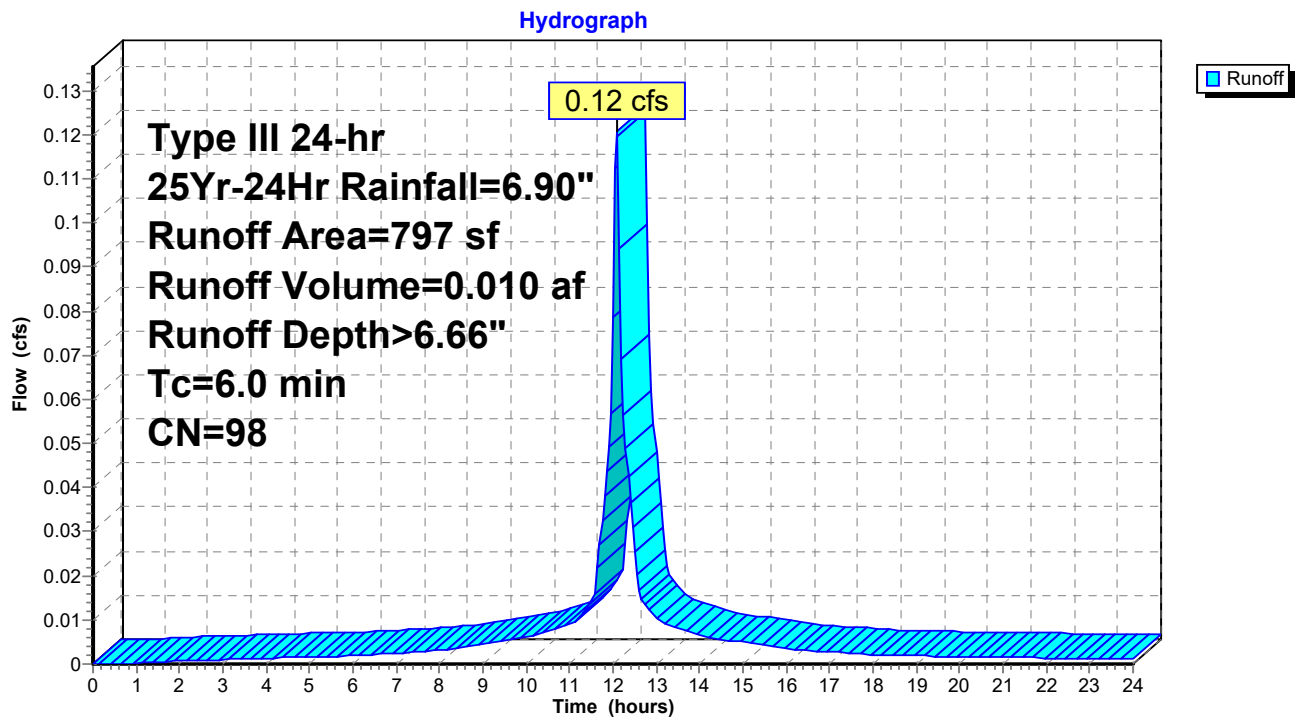
Runoff = 0.12 cfs @ 12.09 hrs, Volume= 0.010 af, Depth> 6.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25Yr-24Hr Rainfall=6.90"

Area (sf)	CN	Description
12	98	Roofs, HSG C
785	98	Paved parking, HSG C
797	98	Weighted Average
797		100.00% Impervious Area

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

Subcatchment 5S: Subcatchment #5



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Type III 24-hr 25Yr-24Hr Rainfall=6.90"

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Summary for Reach 100R: Final Reach #100

[40] Hint: Not Described (Outflow=Inflow)

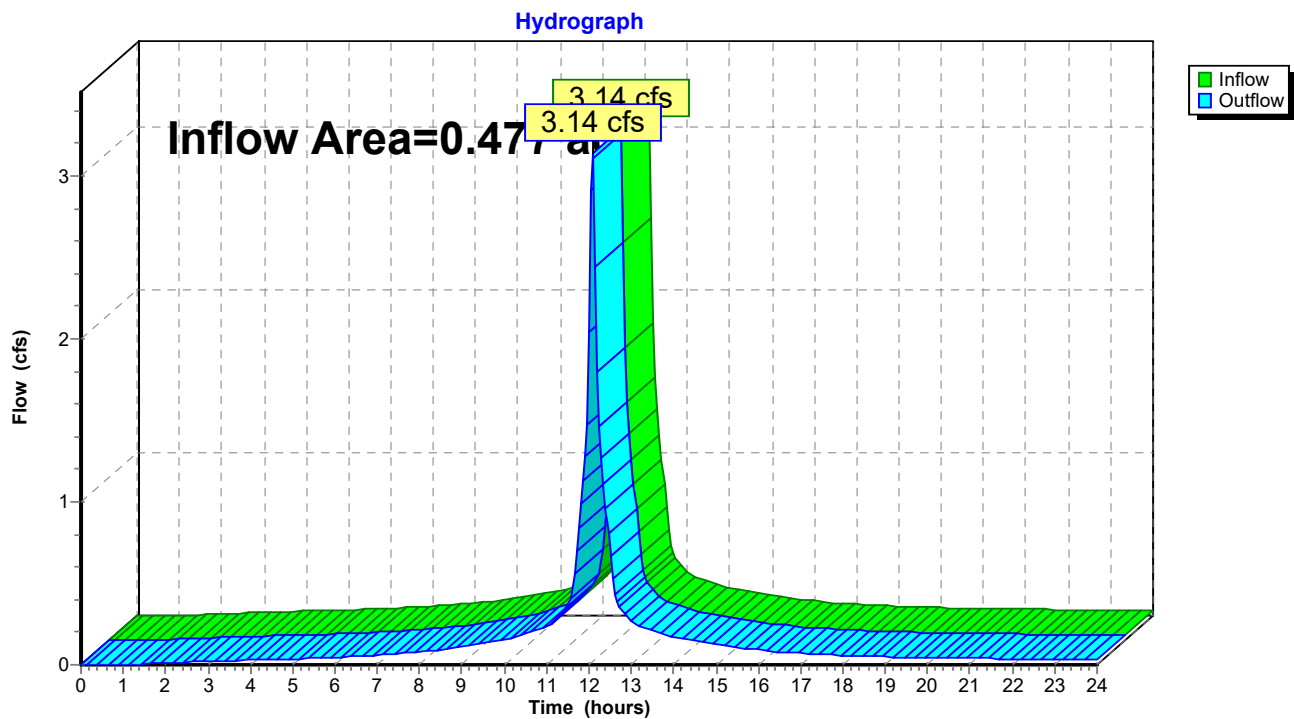
Inflow Area = 0.477 ac, 94.11% Impervious, Inflow Depth > 6.54" for 25Yr-24Hr event

Inflow = 3.14 cfs @ 12.09 hrs, Volume= 0.260 af

Outflow = 3.14 cfs @ 12.09 hrs, Volume= 0.260 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Reach 100R: Final Reach #100



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Type III 24-hr 25Yr-24Hr Rainfall=6.90"

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Summary for Reach 200R: Final Reach #200

[40] Hint: Not Described (Outflow=Inflow)

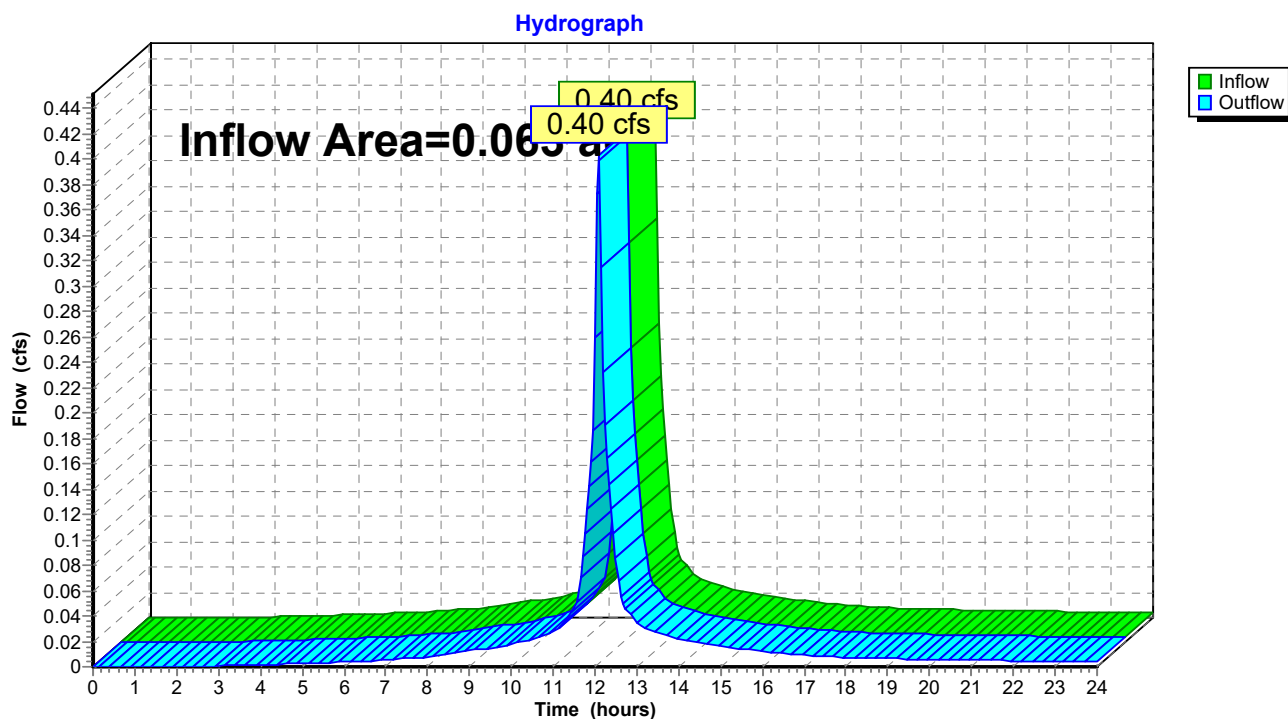
Inflow Area = 0.063 ac, 78.03% Impervious, Inflow Depth > 6.07" for 25Yr-24Hr event

Inflow = 0.40 cfs @ 12.09 hrs, Volume= 0.032 af

Outflow = 0.40 cfs @ 12.09 hrs, Volume= 0.032 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Reach 200R: Final Reach #200



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Type III 24-hr 25Yr-24Hr Rainfall=6.90"

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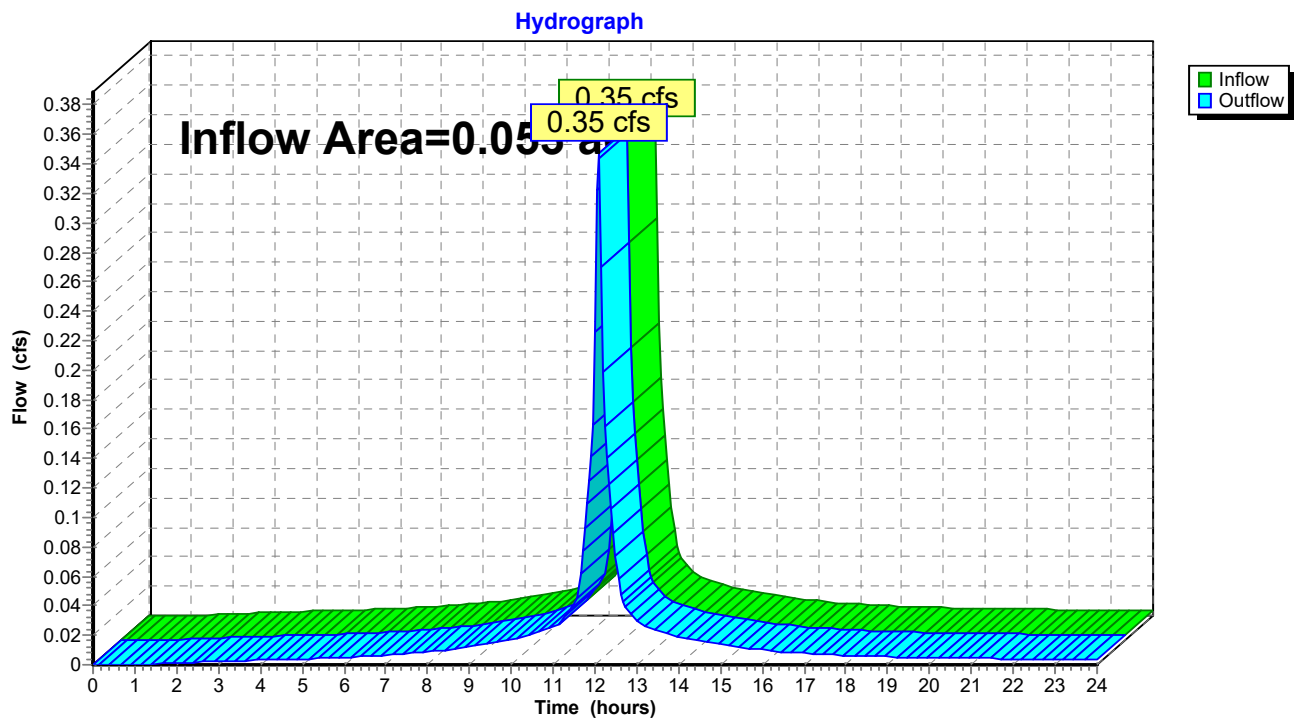
Summary for Reach 300R: Final Reach #300

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.053 ac, 93.99% Impervious, Inflow Depth > 6.54" for 25Yr-24Hr event
Inflow = 0.35 cfs @ 12.09 hrs, Volume= 0.029 af
Outflow = 0.35 cfs @ 12.09 hrs, Volume= 0.029 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Reach 300R: Final Reach #300



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Type III 24-hr 25Yr-24Hr Rainfall=6.90"

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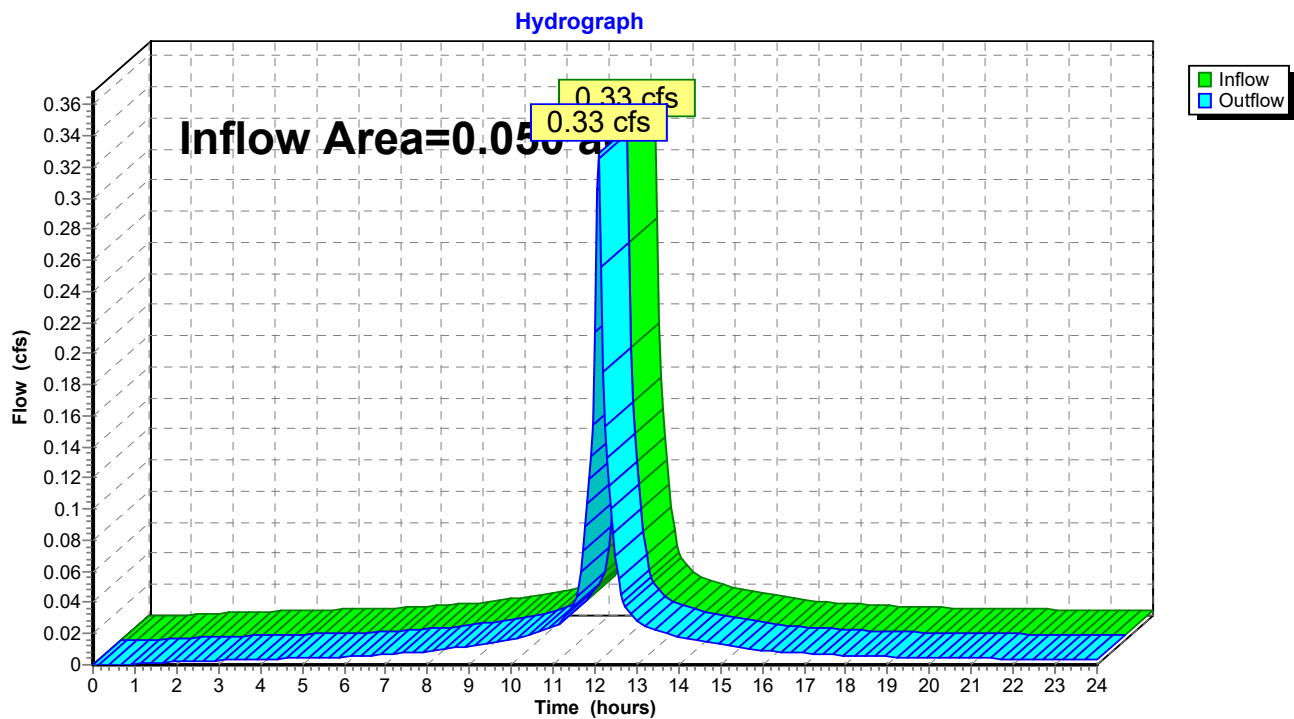
Summary for Reach 400R: Final Reach #400

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.050 ac, 100.00% Impervious, Inflow Depth > 6.66" for 25Yr-24Hr event
Inflow = 0.33 cfs @ 12.09 hrs, Volume= 0.028 af
Outflow = 0.33 cfs @ 12.09 hrs, Volume= 0.028 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Reach 400R: Final Reach #400



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Type III 24-hr 25Yr-24Hr Rainfall=6.90"

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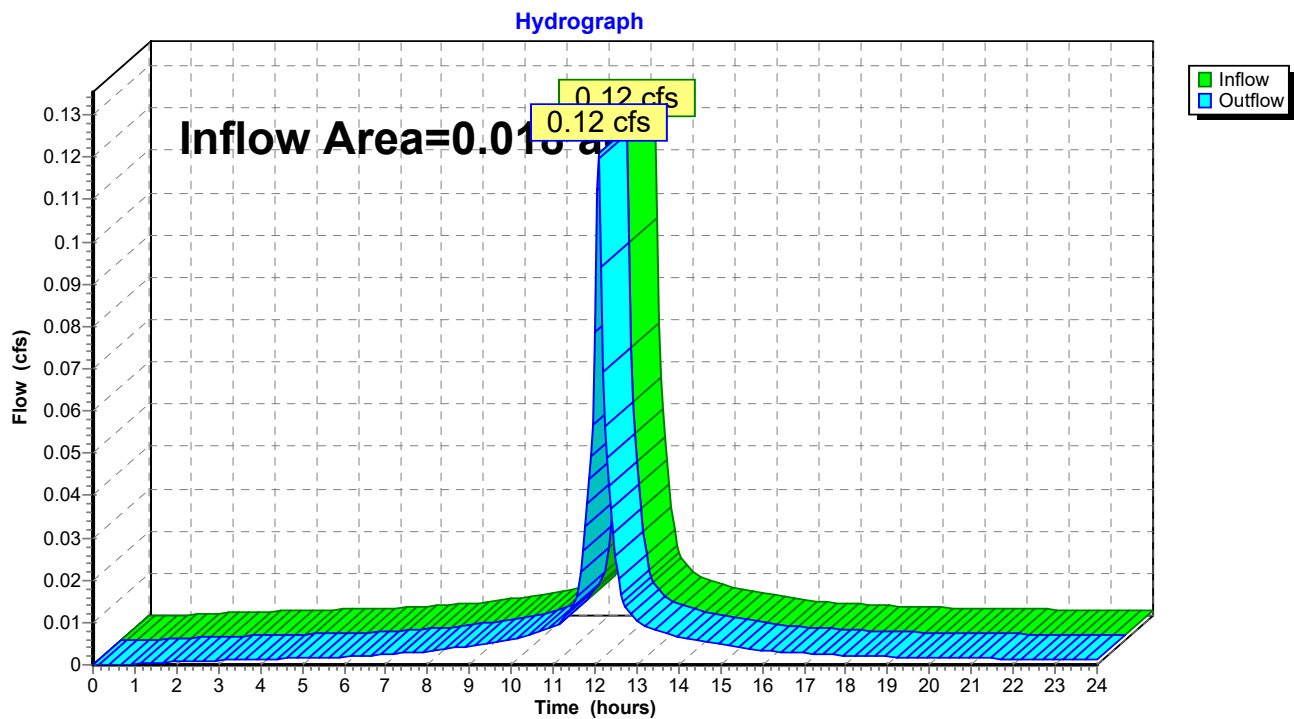
Summary for Reach 500R: Final Reach #500

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.018 ac, 100.00% Impervious, Inflow Depth > 6.66" for 25Yr-24Hr event
Inflow = 0.12 cfs @ 12.09 hrs, Volume= 0.010 af
Outflow = 0.12 cfs @ 12.09 hrs, Volume= 0.010 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Reach 500R: Final Reach #500



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Type III 24-hr 50Yr-24Hr Rainfall=8.25"

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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+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Subcatchment#1	Runoff Area=20,761 sf 94.11% Impervious Runoff Depth>7.89" Flow Length=173' Tc=6.0 min CN=97 Runoff=3.76 cfs 0.313 af
Subcatchment2S: Subcatchment#2	Runoff Area=2,745 sf 78.03% Impervious Runoff Depth>7.41" Tc=6.0 min CN=93 Runoff=0.49 cfs 0.039 af
Subcatchment3S: Subcatchment#3	Runoff Area=2,297 sf 93.99% Impervious Runoff Depth>7.89" Tc=6.0 min CN=97 Runoff=0.42 cfs 0.035 af
Subcatchment4S: Subcatchment#4	Runoff Area=2,167 sf 100.00% Impervious Runoff Depth>8.01" Tc=6.0 min CN=98 Runoff=0.39 cfs 0.033 af
Subcatchment5S: Subcatchment#5	Runoff Area=797 sf 100.00% Impervious Runoff Depth>8.01" Tc=6.0 min CN=98 Runoff=0.14 cfs 0.012 af
Reach 100R: Final Reach #100	Inflow=3.76 cfs 0.313 af Outflow=3.76 cfs 0.313 af
Reach 200R: Final Reach #200	Inflow=0.49 cfs 0.039 af Outflow=0.49 cfs 0.039 af
Reach 300R: Final Reach #300	Inflow=0.42 cfs 0.035 af Outflow=0.42 cfs 0.035 af
Reach 400R: Final Reach #400	Inflow=0.39 cfs 0.033 af Outflow=0.39 cfs 0.033 af
Reach 500R: Final Reach #500	Inflow=0.14 cfs 0.012 af Outflow=0.14 cfs 0.012 af

Total Runoff Area = 0.660 ac Runoff Volume = 0.432 af Average Runoff Depth = 7.85"
6.82% Pervious = 0.045 ac 93.18% Impervious = 0.615 ac

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Type III 24-hr 50Yr-24Hr Rainfall=8.25"

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Summary for Subcatchment 1S: Subcatchment #1

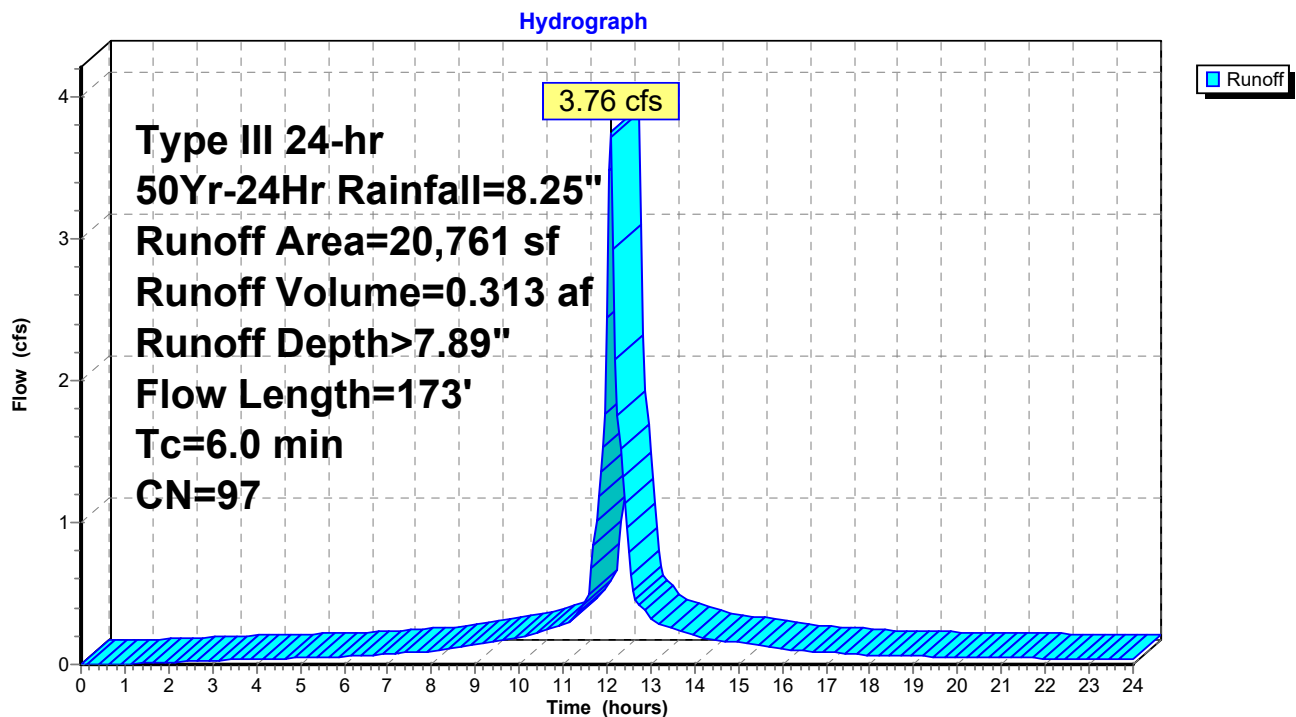
Runoff = 3.76 cfs @ 12.09 hrs, Volume= 0.313 af, Depth> 7.89"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50Yr-24Hr Rainfall=8.25"

Area (sf)	CN	Description
8,637	98	Roofs, HSG C
1,222	74	>75% Grass cover, Good, HSG C
10,902	98	Paved parking, HSG C
20,761	97	Weighted Average
1,222		5.89% Pervious Area
19,539		94.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.3	68	0.0623	0.26		Sheet Flow, Segment #1
					Grass: Short n= 0.150 P2= 3.62"
0.4	105	0.0476	4.43		Shallow Concentrated Flow, Segment #2
					Paved Kv= 20.3 fps
4.7	173				Total, Increased to minimum Tc = 6.0 min

Subcatchment 1S: Subcatchment #1



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Type III 24-hr 50Yr-24Hr Rainfall=8.25"

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Summary for Subcatchment 2S: Subcatchment #2

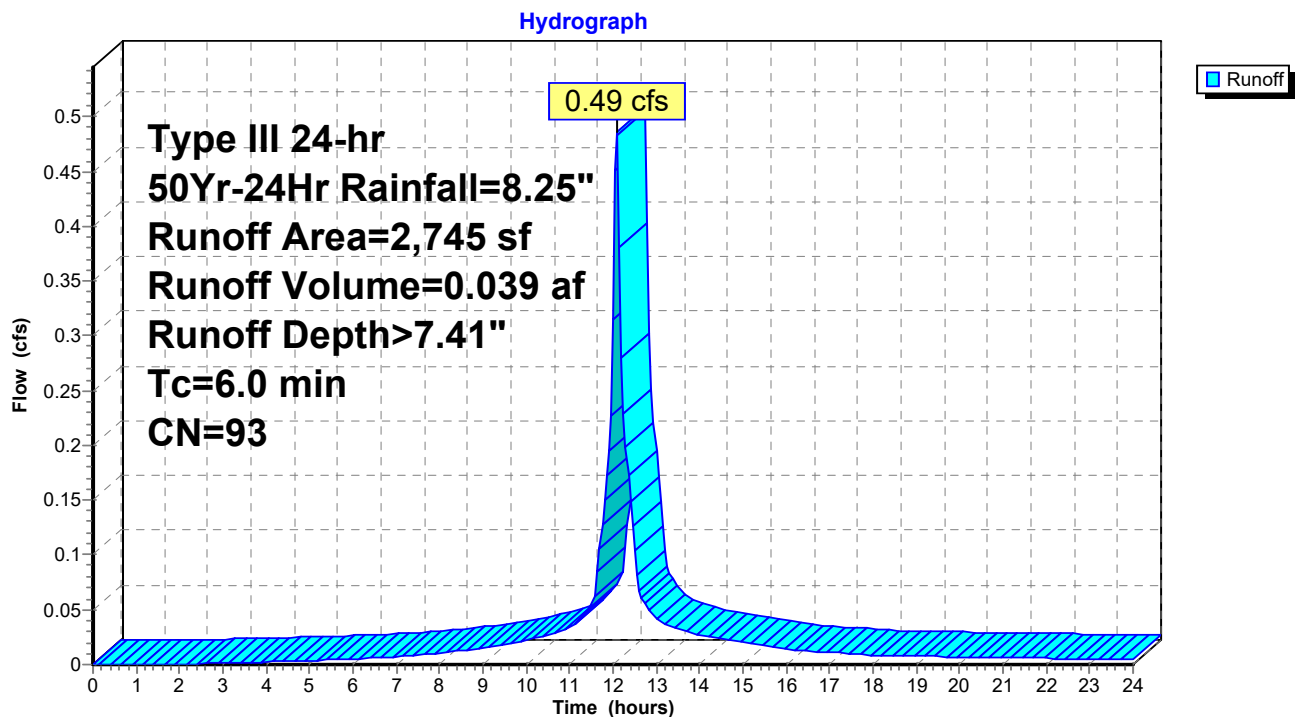
Runoff = 0.49 cfs @ 12.09 hrs, Volume= 0.039 af, Depth> 7.41"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50Yr-24Hr Rainfall=8.25"

Area (sf)	CN	Description
603	74	>75% Grass cover, Good, HSG C
2,142	98	Paved parking, HSG C
2,745	93	Weighted Average
603		21.97% Pervious Area
2,142		78.03% Impervious Area

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

Subcatchment 2S: Subcatchment #2



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Type III 24-hr 50Yr-24Hr Rainfall=8.25"

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Summary for Subcatchment 3S: Subcatchment #3

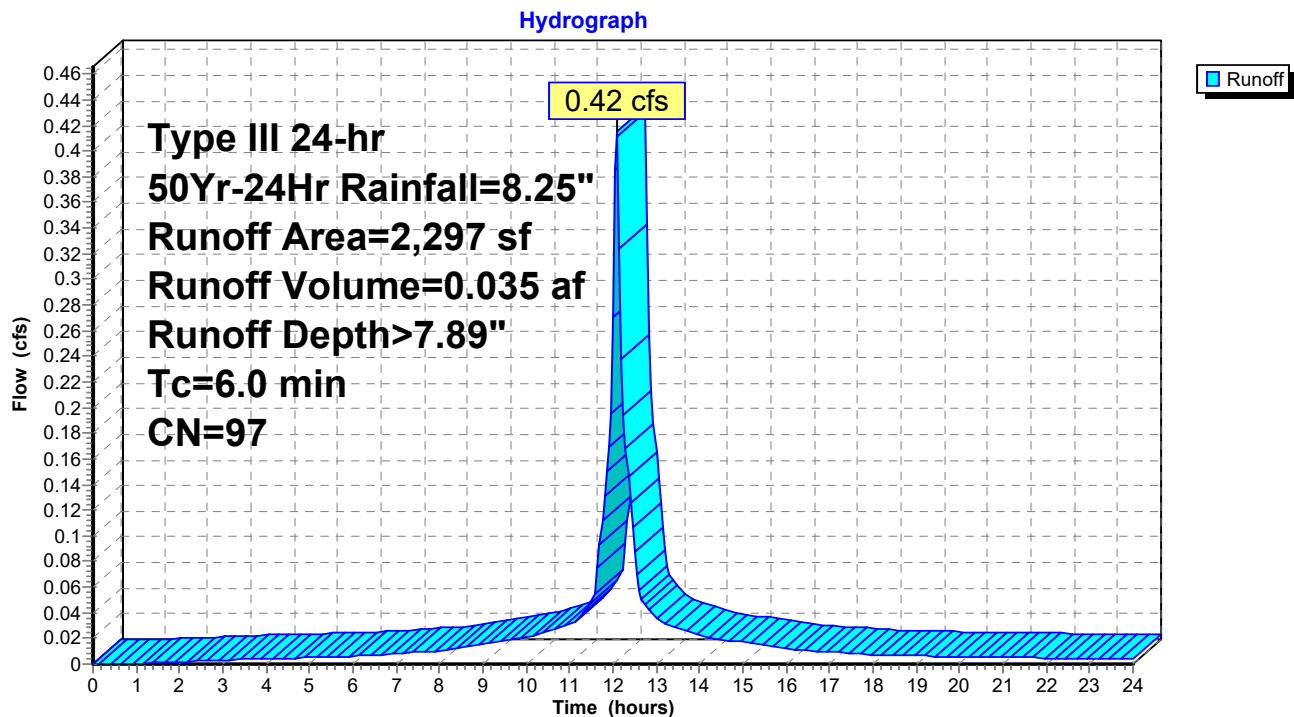
Runoff = 0.42 cfs @ 12.09 hrs, Volume= 0.035 af, Depth> 7.89"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50Yr-24Hr Rainfall=8.25"

Area (sf)	CN	Description
19	98	Roofs, HSG C
138	74	>75% Grass cover, Good, HSG C
2,140	98	Paved parking, HSG C
2,297	97	Weighted Average
138		6.01% Pervious Area
2,159		93.99% Impervious Area

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

Subcatchment 3S: Subcatchment #3



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Type III 24-hr 50Yr-24Hr Rainfall=8.25"

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Summary for Subcatchment 4S: Subcatchment #4

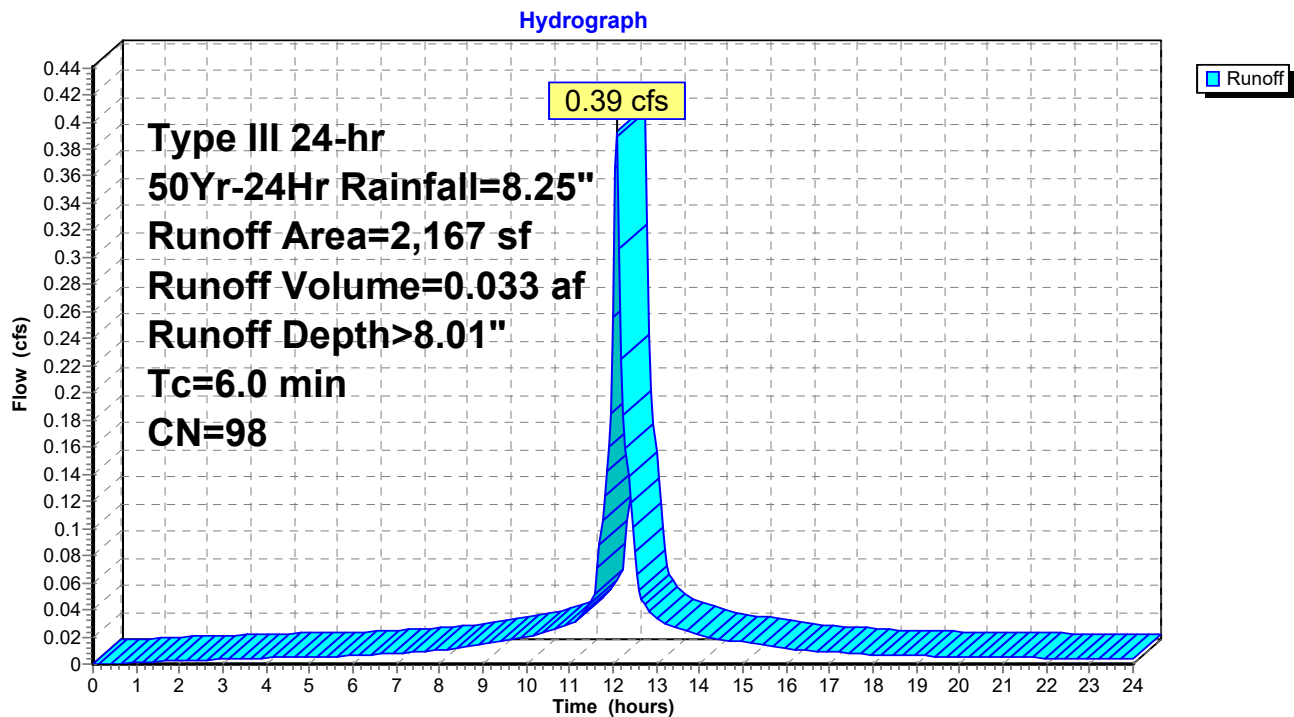
Runoff = 0.39 cfs @ 12.09 hrs, Volume= 0.033 af, Depth> 8.01"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50Yr-24Hr Rainfall=8.25"

Area (sf)	CN	Description
140	98	Roofs, HSG C
2,027	98	Paved parking, HSG C
2,167	98	Weighted Average
2,167		100.00% Impervious Area

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

Subcatchment 4S: Subcatchment #4



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Type III 24-hr 50Yr-24Hr Rainfall=8.25"

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Summary for Subcatchment 5S: Subcatchment #5

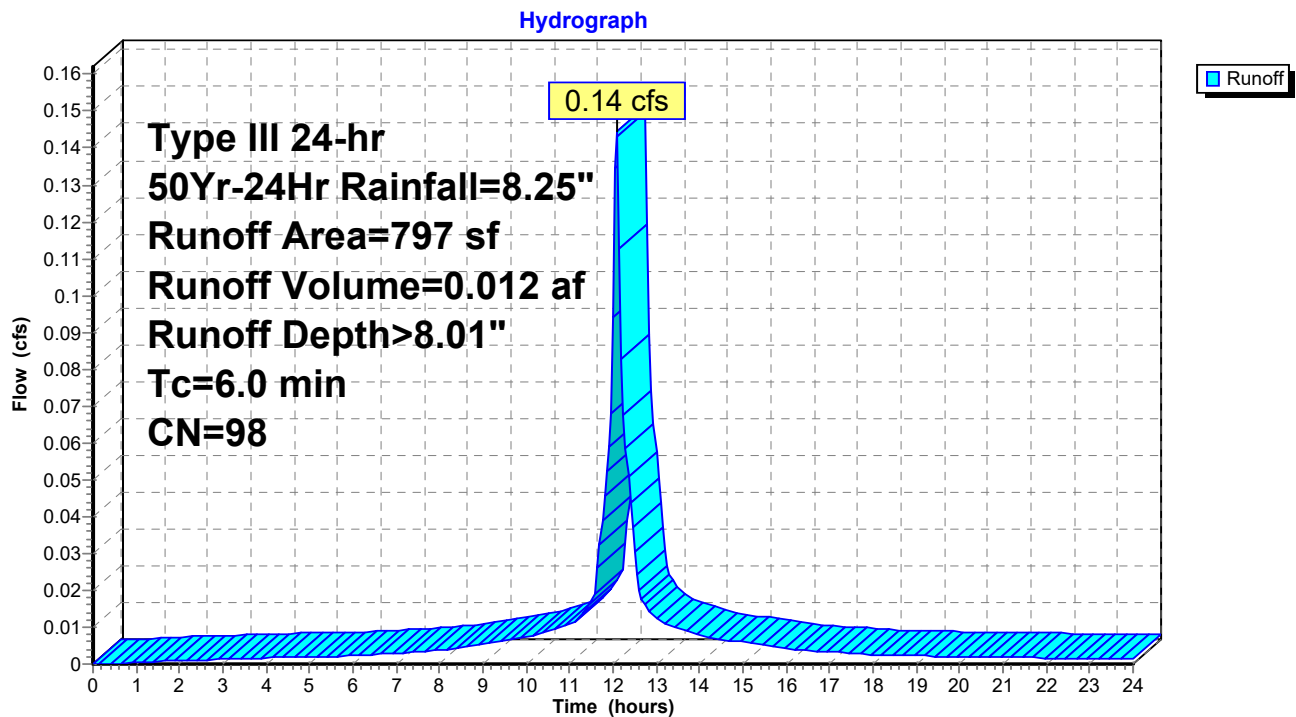
Runoff = 0.14 cfs @ 12.09 hrs, Volume= 0.012 af, Depth> 8.01"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50Yr-24Hr Rainfall=8.25"

Area (sf)	CN	Description
12	98	Roofs, HSG C
785	98	Paved parking, HSG C
797	98	Weighted Average
797		100.00% Impervious Area

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

Subcatchment 5S: Subcatchment #5



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Type III 24-hr 50Yr-24Hr Rainfall=8.25"

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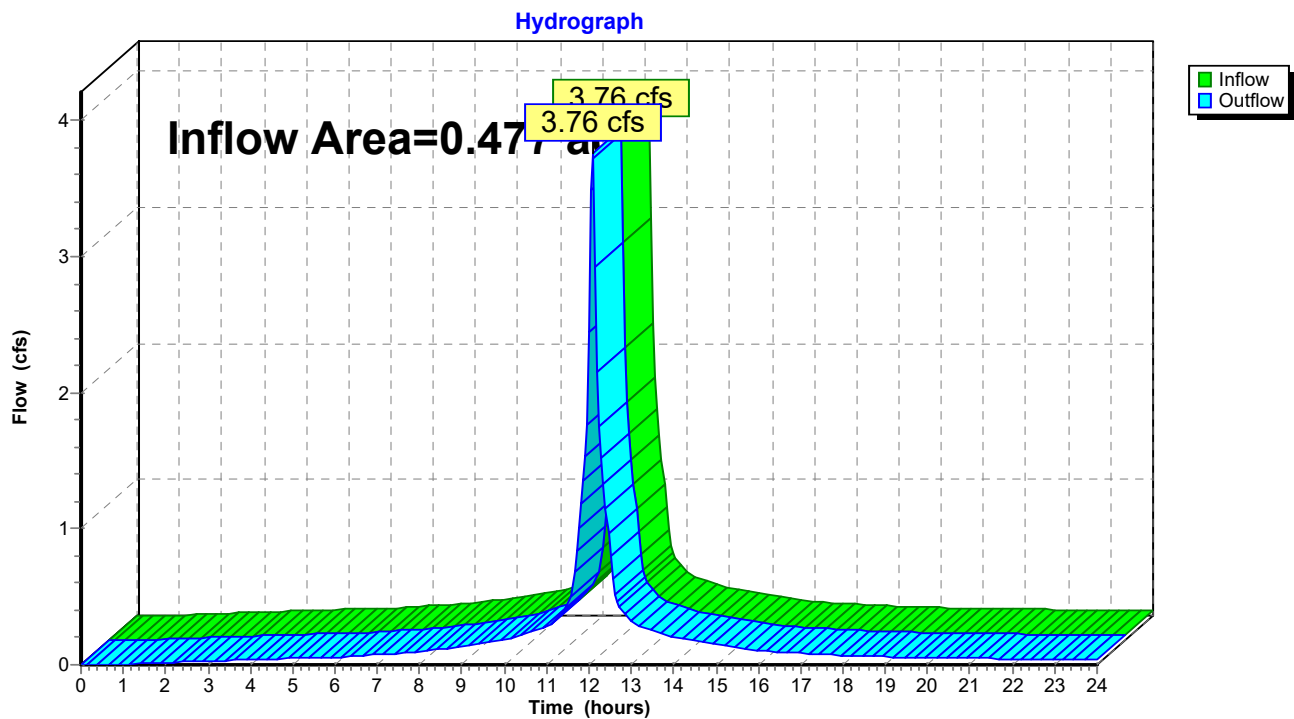
Summary for Reach 100R: Final Reach #100

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.477 ac, 94.11% Impervious, Inflow Depth > 7.89" for 50Yr-24Hr event
Inflow = 3.76 cfs @ 12.09 hrs, Volume= 0.313 af
Outflow = 3.76 cfs @ 12.09 hrs, Volume= 0.313 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Reach 100R: Final Reach #100



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Type III 24-hr 50Yr-24Hr Rainfall=8.25"

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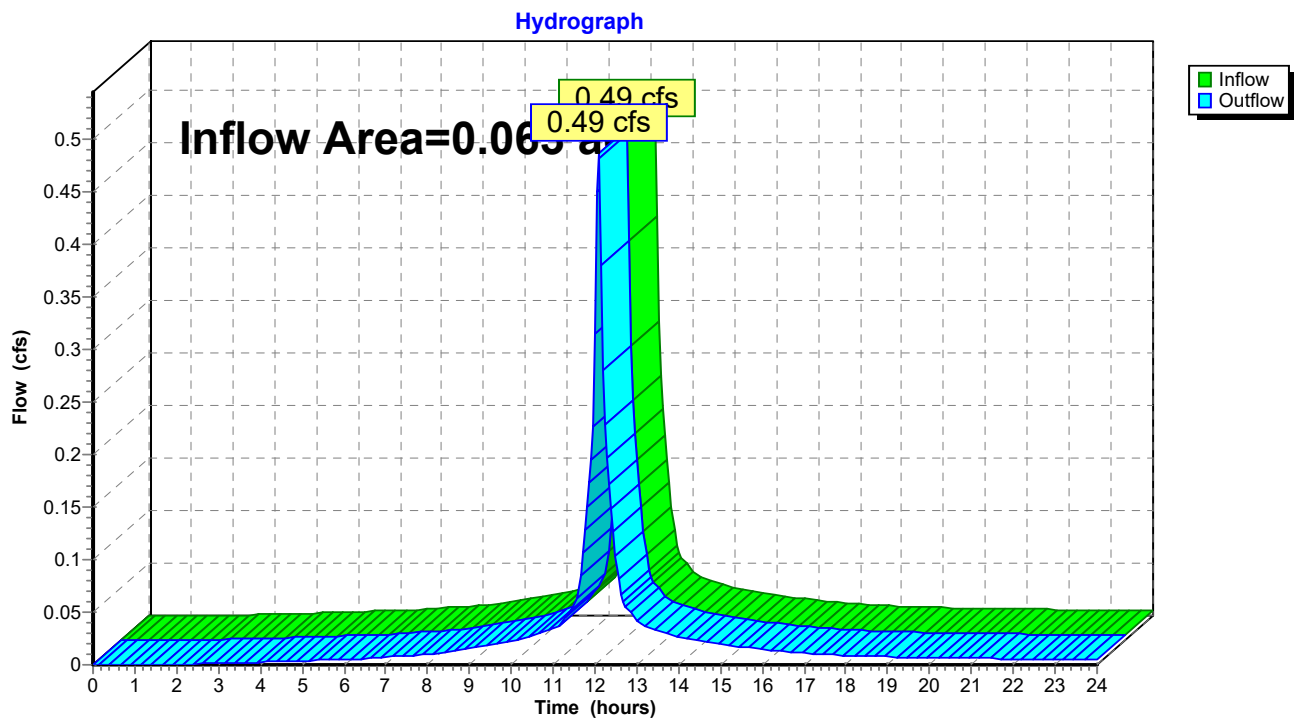
Summary for Reach 200R: Final Reach #200

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.063 ac, 78.03% Impervious, Inflow Depth > 7.41" for 50Yr-24Hr event
Inflow = 0.49 cfs @ 12.09 hrs, Volume= 0.039 af
Outflow = 0.49 cfs @ 12.09 hrs, Volume= 0.039 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Reach 200R: Final Reach #200



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Type III 24-hr 50Yr-24Hr Rainfall=8.25"

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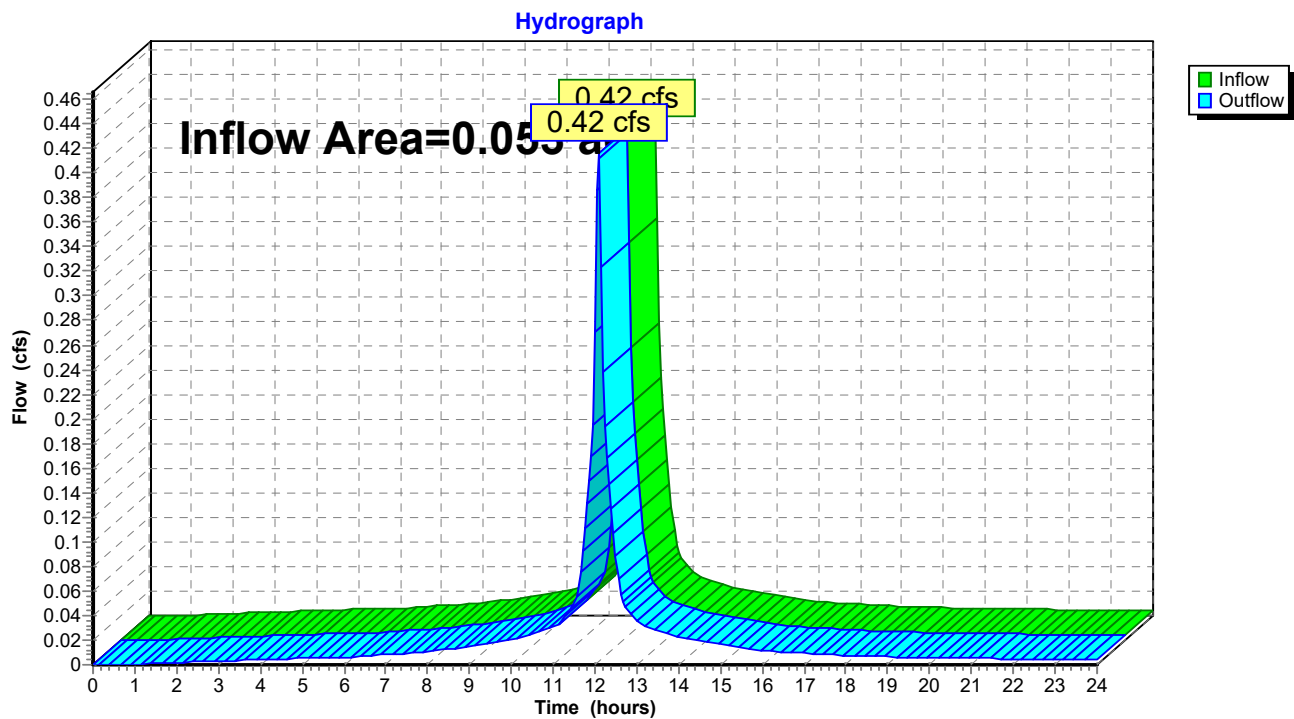
Summary for Reach 300R: Final Reach #300

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.053 ac, 93.99% Impervious, Inflow Depth > 7.89" for 50Yr-24Hr event
Inflow = 0.42 cfs @ 12.09 hrs, Volume= 0.035 af
Outflow = 0.42 cfs @ 12.09 hrs, Volume= 0.035 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Reach 300R: Final Reach #300



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Type III 24-hr 50Yr-24Hr Rainfall=8.25"

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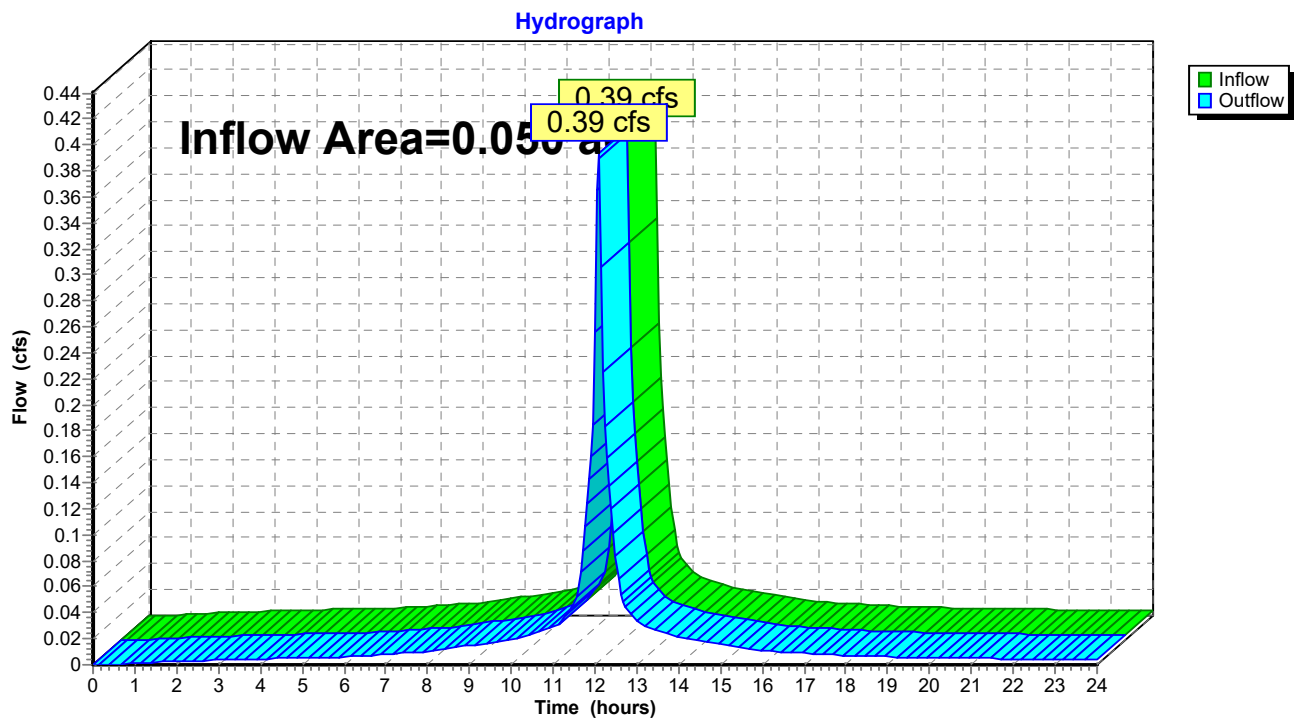
Summary for Reach 400R: Final Reach #400

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.050 ac, 100.00% Impervious, Inflow Depth > 8.01" for 50Yr-24Hr event
Inflow = 0.39 cfs @ 12.09 hrs, Volume= 0.033 af
Outflow = 0.39 cfs @ 12.09 hrs, Volume= 0.033 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Reach 400R: Final Reach #400



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Type III 24-hr 50Yr-24Hr Rainfall=8.25"

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Summary for Reach 500R: Final Reach #500

[40] Hint: Not Described (Outflow=Inflow)

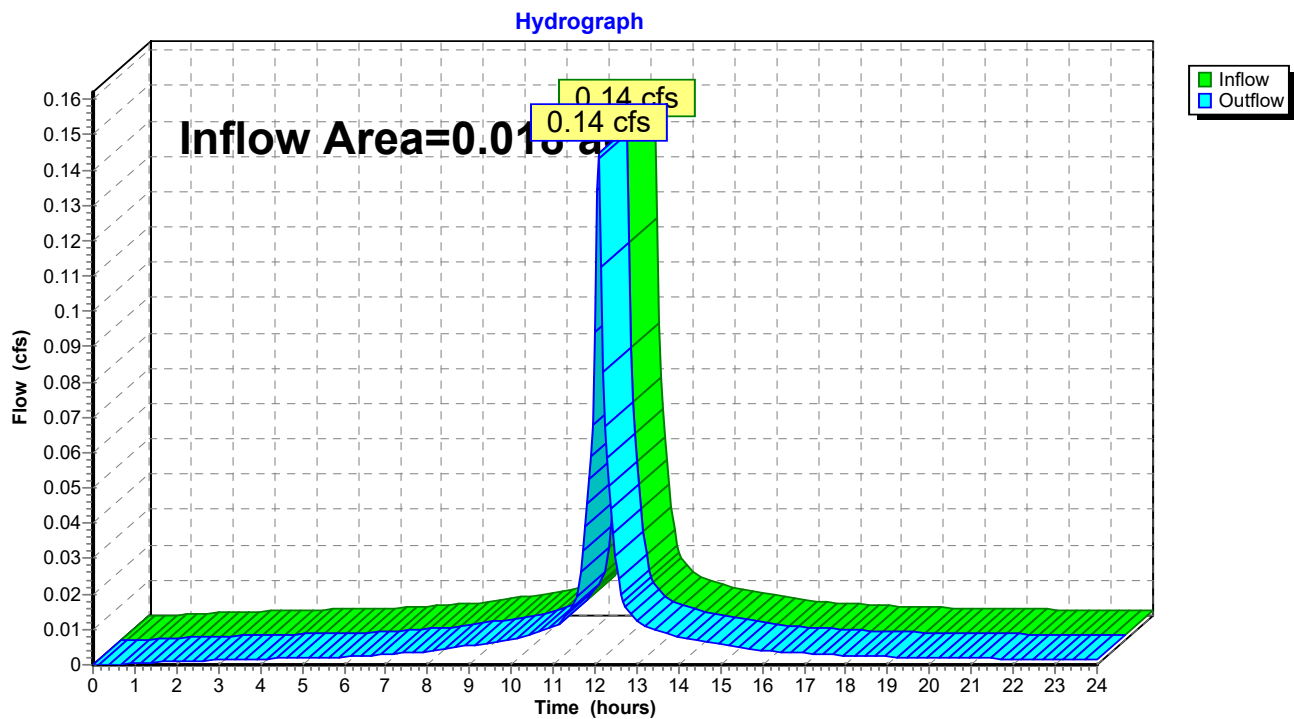
Inflow Area = 0.018 ac, 100.00% Impervious, Inflow Depth > 8.01" for 50Yr-24Hr event

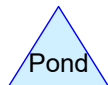
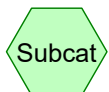
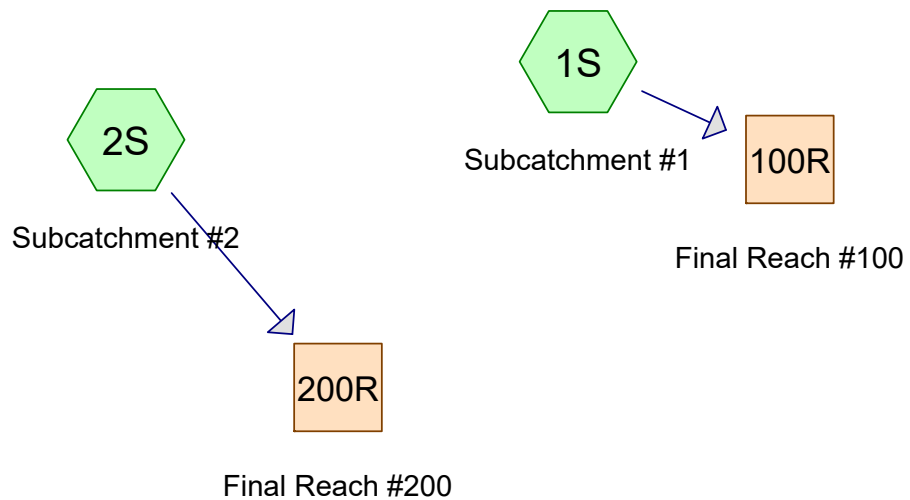
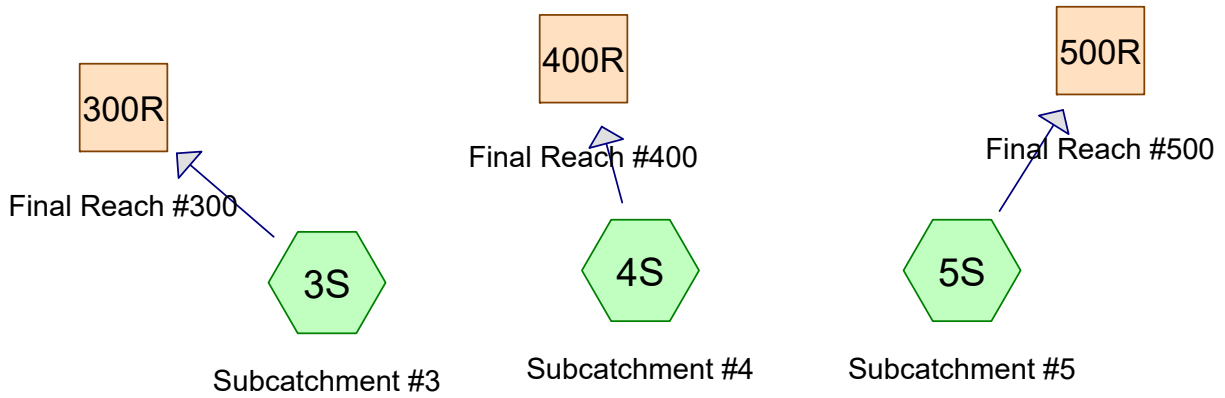
Inflow = 0.14 cfs @ 12.09 hrs, Volume= 0.012 af

Outflow = 0.14 cfs @ 12.09 hrs, Volume= 0.012 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Reach 500R: Final Reach #500





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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.045	74	>75% Grass cover, Good, HSG C (1S, 2S, 3S)
0.413	98	Paved parking, HSG C (1S, 2S, 3S, 4S, 5S)
0.202	98	Roofs, HSG C (1S, 3S, 4S, 5S)
0.660	96	TOTAL AREA

22-037 Existing Analysis

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Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.660	HSG C	1S, 2S, 3S, 4S, 5S
0.000	HSG D	
0.000	Other	
0.660		TOTAL AREA

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Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.045	0.000	0.000	0.045	>75% Grass cover, Good	1S, 2S, 3S
0.000	0.000	0.413	0.000	0.000	0.413	Paved parking	1S, 2S, 3S, 4S, 5S
0.000	0.000	0.202	0.000	0.000	0.202	Roofs	1S, 3S, 4S, 5S
0.000	0.000	0.660	0.000	0.000	0.660	TOTAL AREA	

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Type III 24-hr 25Yr-24Hr Rainfall=6.90"

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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+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Subcatchment#1	Runoff Area=20,761 sf 94.11% Impervious Runoff Depth>6.54" Flow Length=173' Tc=6.0 min CN=97 Runoff=3.14 cfs 0.260 af
Subcatchment2S: Subcatchment#2	Runoff Area=2,745 sf 78.03% Impervious Runoff Depth>6.07" Tc=6.0 min CN=93 Runoff=0.40 cfs 0.032 af
Subcatchment3S: Subcatchment#3	Runoff Area=2,297 sf 93.99% Impervious Runoff Depth>6.54" Tc=6.0 min CN=97 Runoff=0.35 cfs 0.029 af
Subcatchment4S: Subcatchment#4	Runoff Area=2,167 sf 100.00% Impervious Runoff Depth>6.66" Tc=6.0 min CN=98 Runoff=0.33 cfs 0.028 af
Subcatchment5S: Subcatchment#5	Runoff Area=797 sf 100.00% Impervious Runoff Depth>6.66" Tc=6.0 min CN=98 Runoff=0.12 cfs 0.010 af
Reach 100R: Final Reach #100	Inflow=3.14 cfs 0.260 af Outflow=3.14 cfs 0.260 af
Reach 200R: Final Reach #200	Inflow=0.40 cfs 0.032 af Outflow=0.40 cfs 0.032 af
Reach 300R: Final Reach #300	Inflow=0.35 cfs 0.029 af Outflow=0.35 cfs 0.029 af
Reach 400R: Final Reach #400	Inflow=0.33 cfs 0.028 af Outflow=0.33 cfs 0.028 af
Reach 500R: Final Reach #500	Inflow=0.12 cfs 0.010 af Outflow=0.12 cfs 0.010 af

Total Runoff Area = 0.660 ac Runoff Volume = 0.358 af Average Runoff Depth = 6.51"
6.82% Pervious = 0.045 ac 93.18% Impervious = 0.615 ac

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Type III 24-hr 25Yr-24Hr Rainfall=6.90"

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Summary for Subcatchment 1S: Subcatchment #1

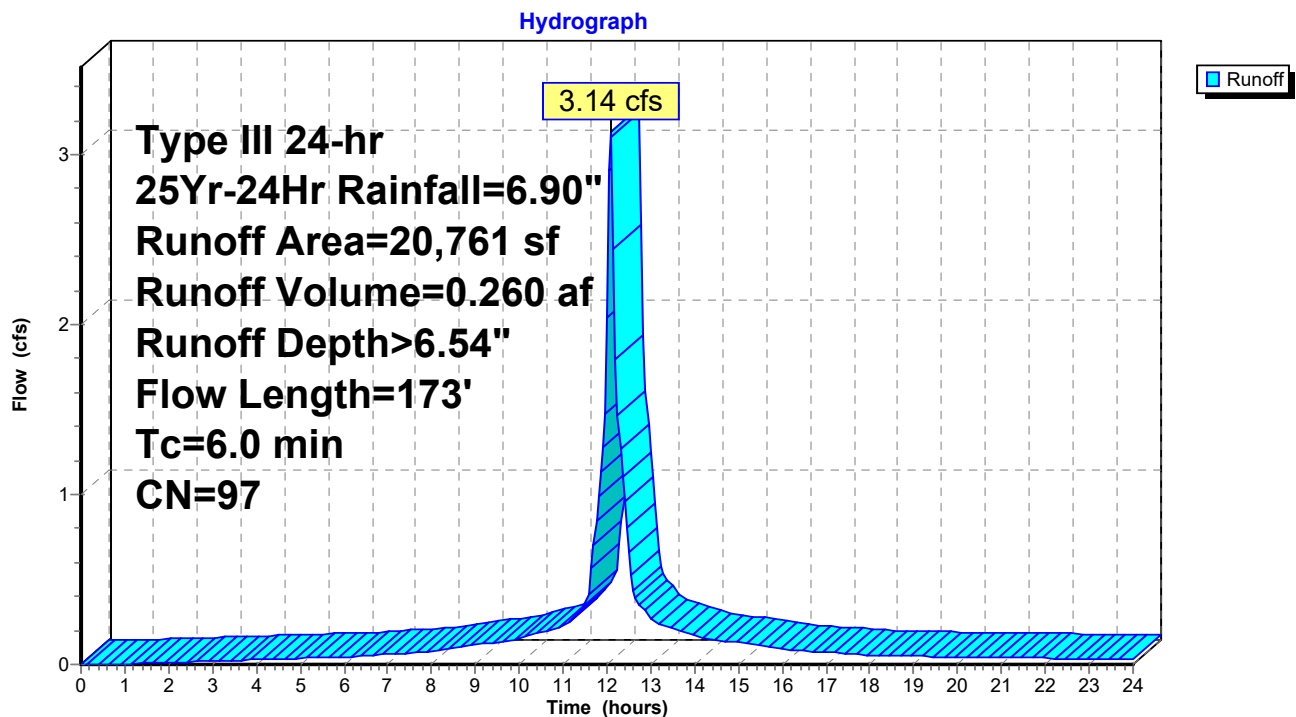
Runoff = 3.14 cfs @ 12.09 hrs, Volume= 0.260 af, Depth> 6.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25Yr-24Hr Rainfall=6.90"

Area (sf)	CN	Description
8,637	98	Roofs, HSG C
1,222	74	>75% Grass cover, Good, HSG C
10,902	98	Paved parking, HSG C
20,761	97	Weighted Average
1,222		5.89% Pervious Area
19,539		94.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.3	68	0.0623	0.26		Sheet Flow, Segment #1
					Grass: Short n= 0.150 P2= 3.62"
0.4	105	0.0476	4.43		Shallow Concentrated Flow, Segment #2
					Paved Kv= 20.3 fps
4.7	173				Total, Increased to minimum Tc = 6.0 min

Subcatchment 1S: Subcatchment #1



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Type III 24-hr 25Yr-24Hr Rainfall=6.90"

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Summary for Subcatchment 2S: Subcatchment #2

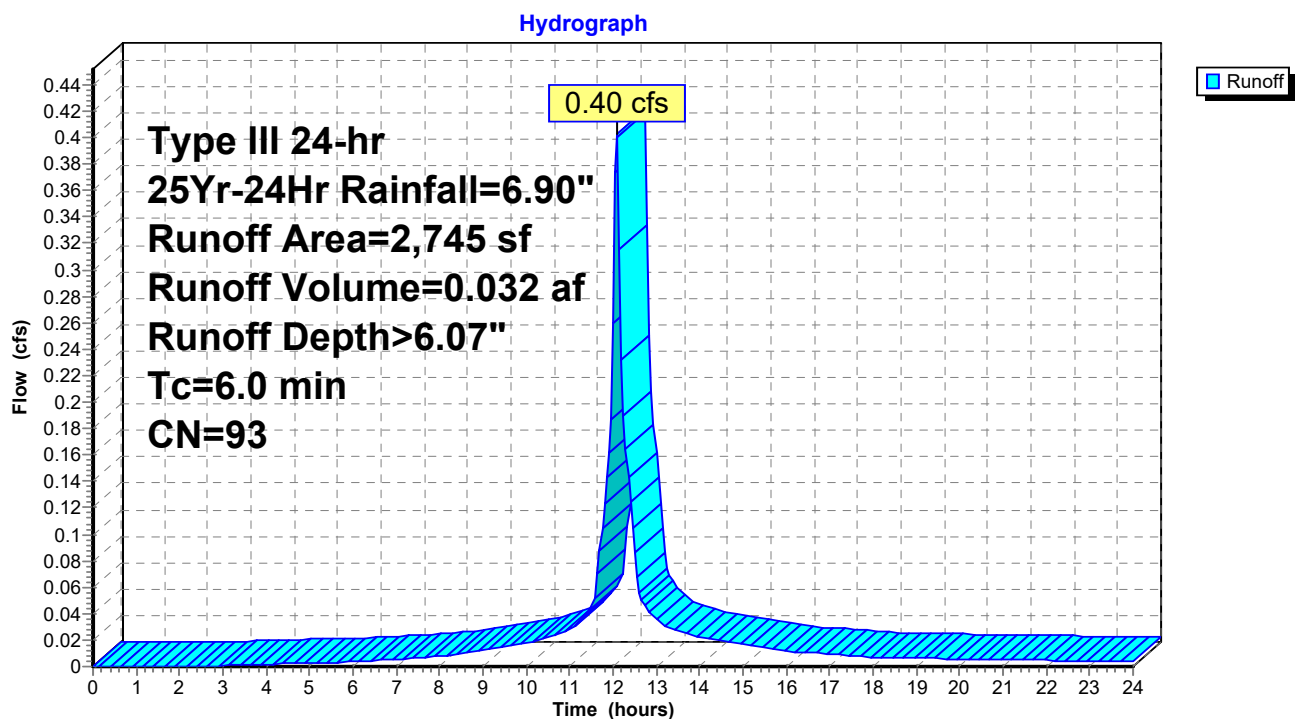
Runoff = 0.40 cfs @ 12.09 hrs, Volume= 0.032 af, Depth> 6.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25Yr-24Hr Rainfall=6.90"

Area (sf)	CN	Description
603	74	>75% Grass cover, Good, HSG C
2,142	98	Paved parking, HSG C
2,745	93	Weighted Average
603		21.97% Pervious Area
2,142		78.03% Impervious Area

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

Subcatchment 2S: Subcatchment #2



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Type III 24-hr 25Yr-24Hr Rainfall=6.90"

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Summary for Subcatchment 3S: Subcatchment #3

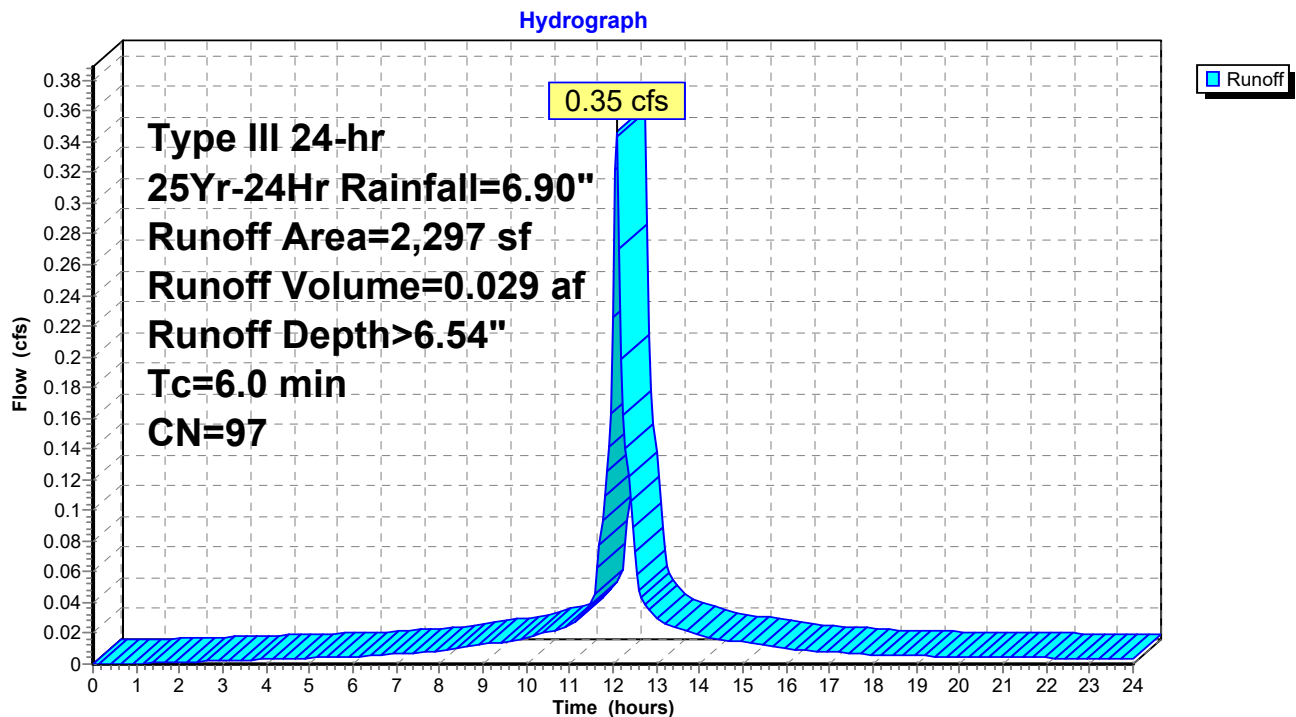
Runoff = 0.35 cfs @ 12.09 hrs, Volume= 0.029 af, Depth> 6.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25Yr-24Hr Rainfall=6.90"

Area (sf)	CN	Description
19	98	Roofs, HSG C
138	74	>75% Grass cover, Good, HSG C
2,140	98	Paved parking, HSG C
2,297	97	Weighted Average
138		6.01% Pervious Area
2,159		93.99% Impervious Area

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

Subcatchment 3S: Subcatchment #3



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Type III 24-hr 25Yr-24Hr Rainfall=6.90"

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Summary for Subcatchment 4S: Subcatchment #4

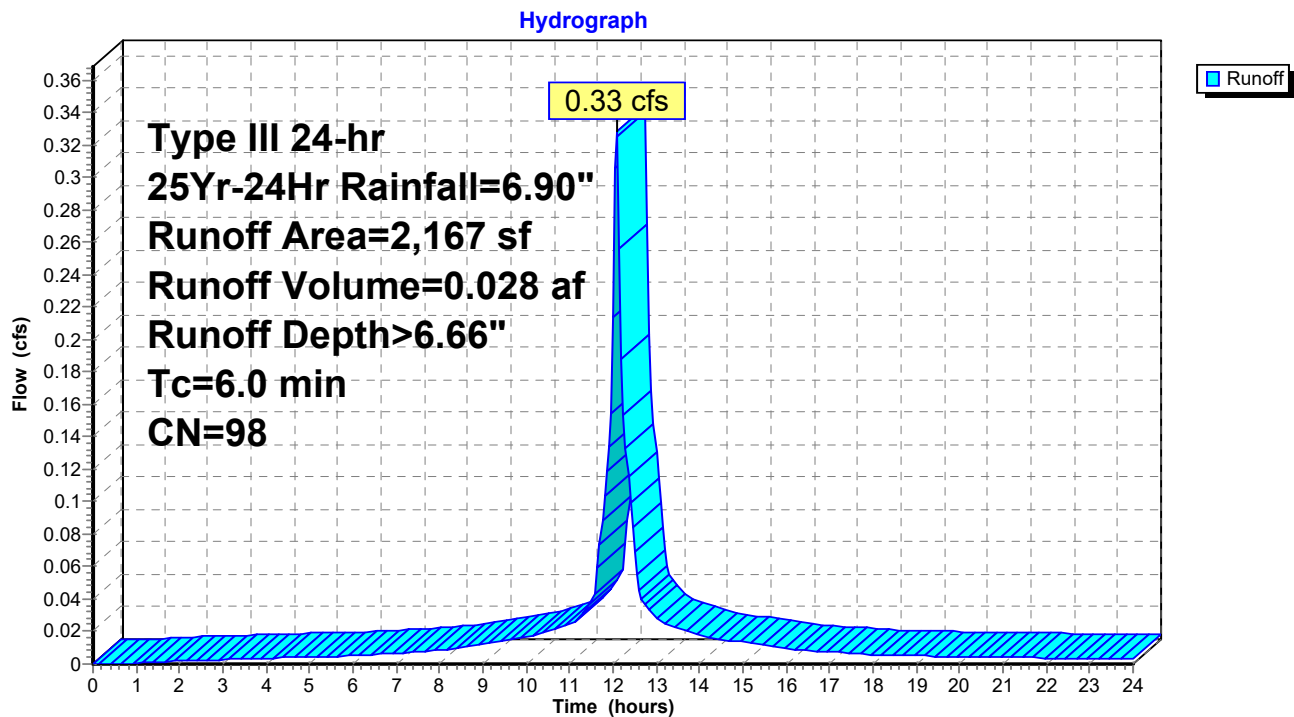
Runoff = 0.33 cfs @ 12.09 hrs, Volume= 0.028 af, Depth> 6.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25Yr-24Hr Rainfall=6.90"

Area (sf)	CN	Description
140	98	Roofs, HSG C
2,027	98	Paved parking, HSG C
2,167	98	Weighted Average
2,167		100.00% Impervious Area

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

Subcatchment 4S: Subcatchment #4



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Type III 24-hr 25Yr-24Hr Rainfall=6.90"

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Summary for Subcatchment 5S: Subcatchment #5

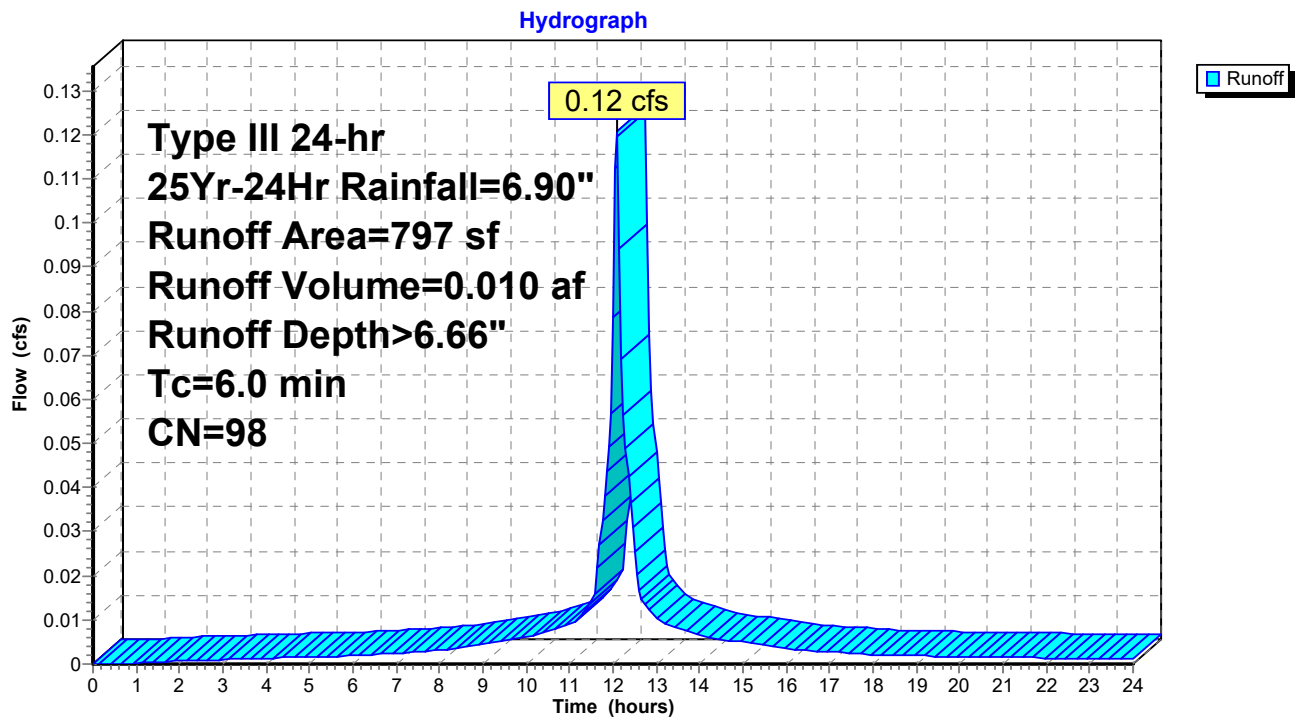
Runoff = 0.12 cfs @ 12.09 hrs, Volume= 0.010 af, Depth> 6.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25Yr-24Hr Rainfall=6.90"

Area (sf)	CN	Description
12	98	Roofs, HSG C
785	98	Paved parking, HSG C
797	98	Weighted Average
797		100.00% Impervious Area

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

Subcatchment 5S: Subcatchment #5



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Type III 24-hr 25Yr-24Hr Rainfall=6.90"

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Summary for Reach 100R: Final Reach #100

[40] Hint: Not Described (Outflow=Inflow)

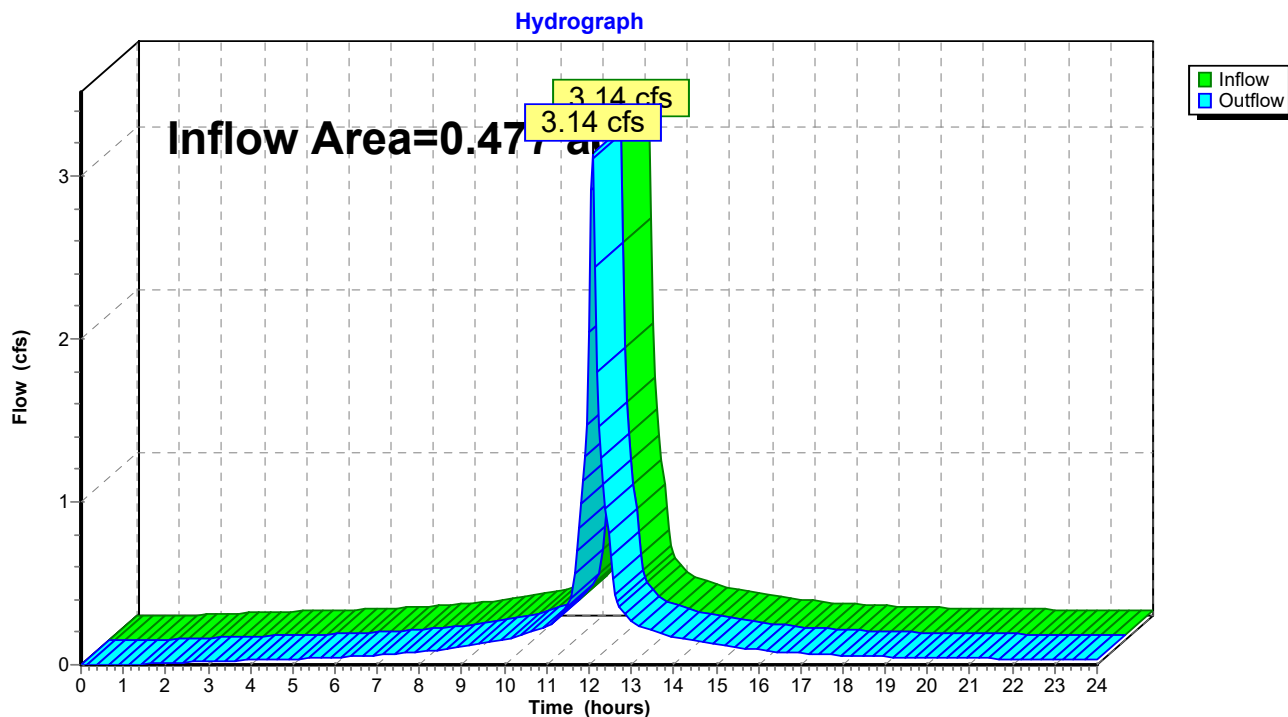
Inflow Area = 0.477 ac, 94.11% Impervious, Inflow Depth > 6.54" for 25Yr-24Hr event

Inflow = 3.14 cfs @ 12.09 hrs, Volume= 0.260 af

Outflow = 3.14 cfs @ 12.09 hrs, Volume= 0.260 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Reach 100R: Final Reach #100



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Type III 24-hr 25Yr-24Hr Rainfall=6.90"

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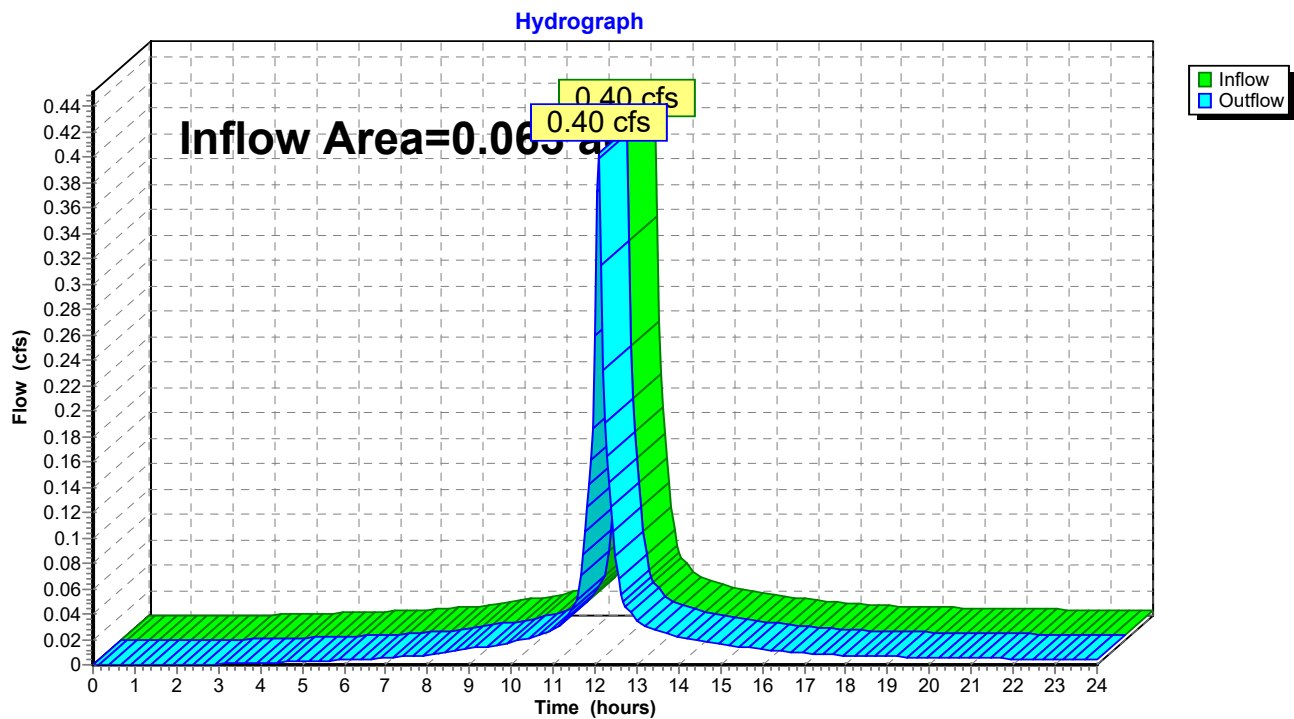
Summary for Reach 200R: Final Reach #200

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.063 ac, 78.03% Impervious, Inflow Depth > 6.07" for 25Yr-24Hr event
Inflow = 0.40 cfs @ 12.09 hrs, Volume= 0.032 af
Outflow = 0.40 cfs @ 12.09 hrs, Volume= 0.032 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Reach 200R: Final Reach #200



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Type III 24-hr 25Yr-24Hr Rainfall=6.90"

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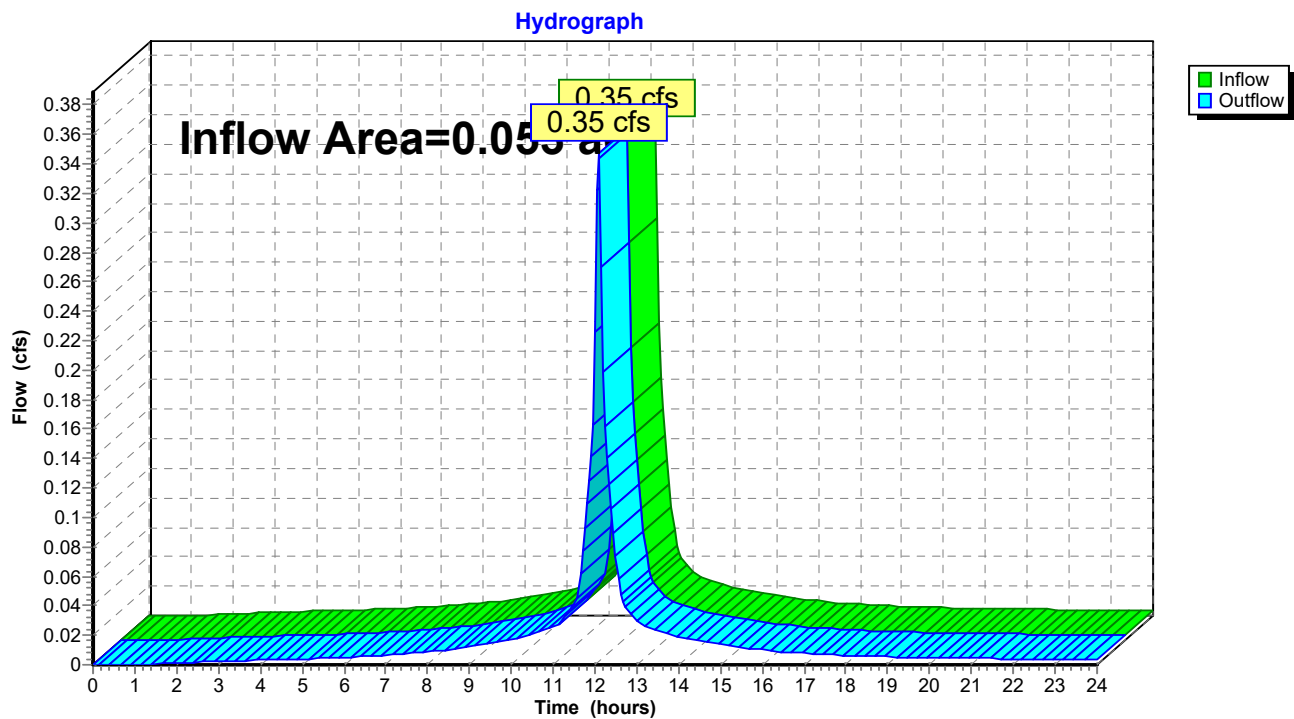
Summary for Reach 300R: Final Reach #300

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.053 ac, 93.99% Impervious, Inflow Depth > 6.54" for 25Yr-24Hr event
Inflow = 0.35 cfs @ 12.09 hrs, Volume= 0.029 af
Outflow = 0.35 cfs @ 12.09 hrs, Volume= 0.029 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Reach 300R: Final Reach #300



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Type III 24-hr 25Yr-24Hr Rainfall=6.90"

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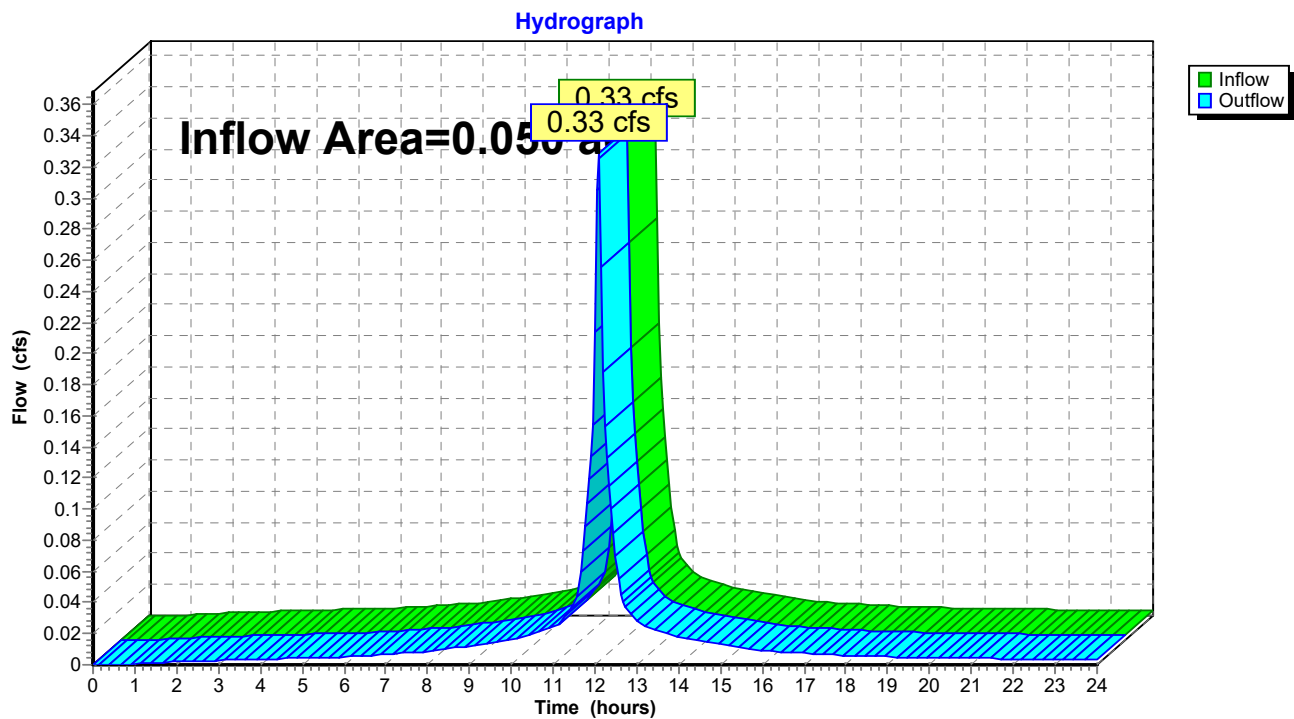
Summary for Reach 400R: Final Reach #400

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.050 ac, 100.00% Impervious, Inflow Depth > 6.66" for 25Yr-24Hr event
Inflow = 0.33 cfs @ 12.09 hrs, Volume= 0.028 af
Outflow = 0.33 cfs @ 12.09 hrs, Volume= 0.028 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Reach 400R: Final Reach #400



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Type III 24-hr 25Yr-24Hr Rainfall=6.90"

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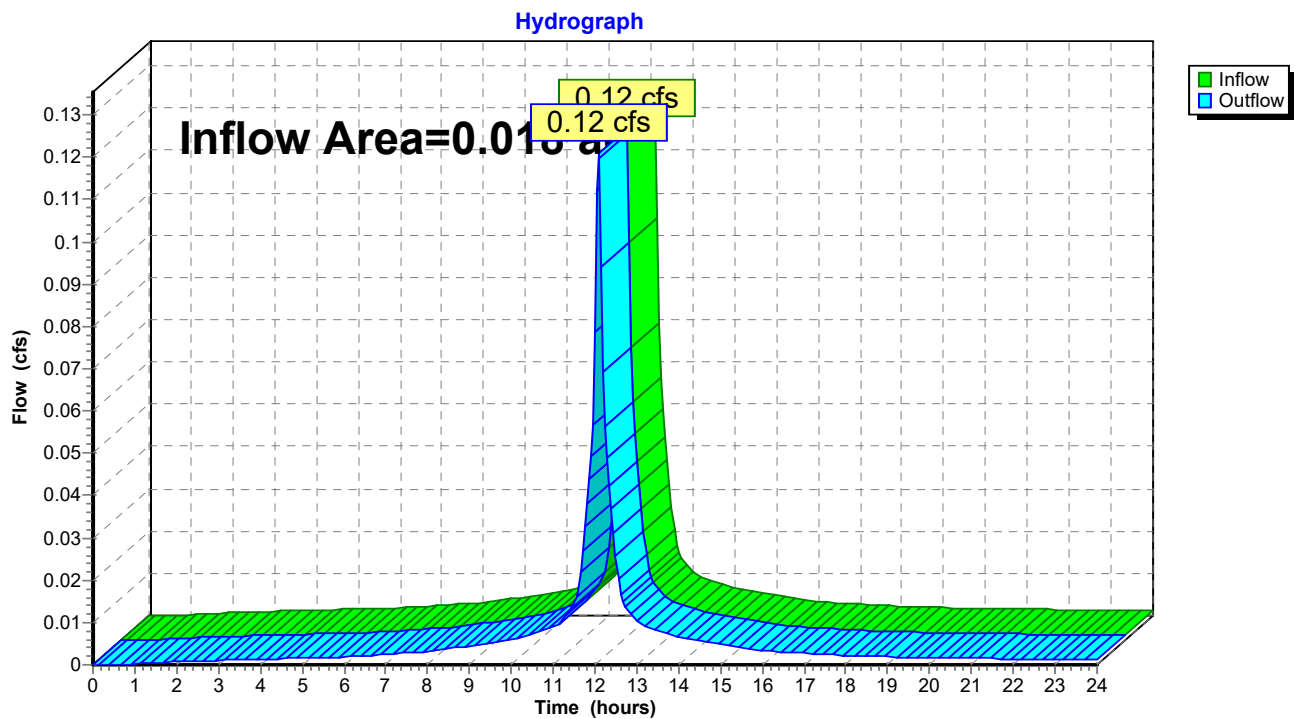
Summary for Reach 500R: Final Reach #500

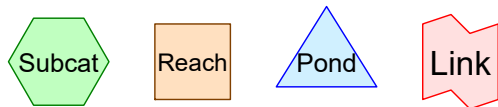
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.018 ac, 100.00% Impervious, Inflow Depth > 6.66" for 25Yr-24Hr event
Inflow = 0.12 cfs @ 12.09 hrs, Volume= 0.010 af
Outflow = 0.12 cfs @ 12.09 hrs, Volume= 0.010 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Reach 500R: Final Reach #500





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22-037 Proposed Analysis*Type III 24-hr 2Yr-24Hr Rainfall=3.62"*

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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+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Subcatchment#1	Runoff Area=1,491 sf 52.72% Impervious Runoff Depth>2.20" Flow Length=173' Tc=6.0 min CN=86 Runoff=0.09 cfs 0.006 af
Subcatchment2S: Subcatchment#2	Runoff Area=2,502 sf 92.37% Impervious Runoff Depth>3.16" Tc=6.0 min CN=96 Runoff=0.19 cfs 0.015 af
Subcatchment3S: Subcatchment#3	Runoff Area=1,515 sf 81.32% Impervious Runoff Depth>2.95" Tc=6.0 min CN=94 Runoff=0.11 cfs 0.009 af
Subcatchment4S: Subcatchment#4	Runoff Area=1,995 sf 100.00% Impervious Runoff Depth>3.38" Tc=6.0 min CN=98 Runoff=0.16 cfs 0.013 af
Subcatchment5S: Subcatchment#5	Runoff Area=772 sf 100.00% Impervious Runoff Depth>3.38" Tc=6.0 min CN=98 Runoff=0.06 cfs 0.005 af
Subcatchment6S: Subcatchment#6	Runoff Area=872 sf 0.00% Impervious Runoff Depth>1.32" Flow Length=171' Tc=9.2 min CN=74 Runoff=0.03 cfs 0.002 af
Subcatchment7S: (new Subcat)	Runoff Area=638 sf 29.94% Impervious Runoff Depth>1.73" Tc=6.0 min CN=80 Runoff=0.03 cfs 0.002 af
Subcatchment11S: Subcatchment#11	Runoff Area=4,019 sf 100.00% Impervious Runoff Depth>3.38" Tc=6.0 min CN=98 Runoff=0.32 cfs 0.026 af
Subcatchment12S: Subcatchment#12	Runoff Area=7,363 sf 100.00% Impervious Runoff Depth>3.38" Tc=6.0 min CN=98 Runoff=0.58 cfs 0.048 af
Subcatchment13S: Subcatchment#13	Runoff Area=2,992 sf 100.00% Impervious Runoff Depth>3.38" Tc=6.0 min CN=98 Runoff=0.24 cfs 0.019 af
Subcatchment14S: Subcatchment#14	Runoff Area=1,729 sf 100.00% Impervious Runoff Depth>3.38" Tc=6.0 min CN=98 Runoff=0.14 cfs 0.011 af
Subcatchment15S: (new Subcat)	Runoff Area=2,879 sf 1.74% Impervious Runoff Depth>1.20" Tc=6.0 min CN=72 Runoff=0.09 cfs 0.007 af
Reach 100R: Final Reach #100	Inflow=1.50 cfs 0.121 af Outflow=1.50 cfs 0.121 af
Reach 200R: Final Reach #200	Inflow=0.19 cfs 0.015 af Outflow=0.19 cfs 0.015 af
Reach 300R: Final Reach #300	Inflow=0.11 cfs 0.009 af Outflow=0.11 cfs 0.009 af
Reach 400R: Final Reach #400	Inflow=0.16 cfs 0.013 af Outflow=0.16 cfs 0.013 af

22-037 Proposed Analysis*Type III 24-hr 2Yr-24Hr Rainfall=3.62"*

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Reach 500R: Final Reach #500

Inflow=0.06 cfs 0.005 af

Outflow=0.06 cfs 0.005 af

Pond 1P: Ex. CB 1Peak Elev=62.27' Storage=0.000 af Inflow=0.09 cfs 0.006 af
12.0" Round Culvert n=0.012 L=27.1' S=0.0133 '/' Outflow=0.09 cfs 0.006 af**Pond 2P: Ex. CB 2**Peak Elev=61.87' Storage=0.000 af Inflow=0.09 cfs 0.006 af
12.0" Round Culvert n=0.012 L=28.9' S=0.0142 '/' Outflow=0.09 cfs 0.006 af**Pond 3P: Slot Drain**Peak Elev=64.17' Inflow=0.05 cfs 0.004 af
8.0" Round Culvert n=0.012 L=8.7' S=0.1517 '/' Outflow=0.05 cfs 0.004 af**Pond 4P: Roof Drains**Peak Elev=62.26' Inflow=0.37 cfs 0.031 af
8.0" Round Culvert n=0.012 L=10.0' S=0.0050 '/' Outflow=0.37 cfs 0.031 af**Pond 5P: Roof Drains**Peak Elev=62.74' Inflow=0.99 cfs 0.080 af
8.0" Round Culvert n=0.012 L=30.0' S=0.0050 '/' Outflow=0.99 cfs 0.080 af**Pond C01P: Yard Drain**Peak Elev=66.09' Storage=0 cf Inflow=0.03 cfs 0.002 af
8.0" Round Culvert n=0.012 L=13.8' S=0.1014 '/' Outflow=0.03 cfs 0.002 af**Pond D01P: Drain Manhole #1**Peak Elev=62.19' Storage=15 cf Inflow=1.41 cfs 0.115 af
12.0" Round Culvert n=0.012 L=40.0' S=0.0050 '/' Outflow=1.41 cfs 0.115 af

22-037 Proposed Analysis

Type III 24-hr 10Yr-24Hr Rainfall=5.46"

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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+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Subcatchment#1	Runoff Area=1,491 sf 52.72% Impervious Runoff Depth>3.90" Flow Length=173' Tc=6.0 min CN=86 Runoff=0.15 cfs 0.011 af
Subcatchment2S: Subcatchment#2	Runoff Area=2,502 sf 92.37% Impervious Runoff Depth>4.99" Tc=6.0 min CN=96 Runoff=0.30 cfs 0.024 af
Subcatchment3S: Subcatchment#3	Runoff Area=1,515 sf 81.32% Impervious Runoff Depth>4.76" Tc=6.0 min CN=94 Runoff=0.18 cfs 0.014 af
Subcatchment4S: Subcatchment#4	Runoff Area=1,995 sf 100.00% Impervious Runoff Depth>5.22" Tc=6.0 min CN=98 Runoff=0.24 cfs 0.020 af
Subcatchment5S: Subcatchment#5	Runoff Area=772 sf 100.00% Impervious Runoff Depth>5.22" Tc=6.0 min CN=98 Runoff=0.09 cfs 0.008 af
Subcatchment6S: Subcatchment#6	Runoff Area=872 sf 0.00% Impervious Runoff Depth>2.73" Flow Length=171' Tc=9.2 min CN=74 Runoff=0.06 cfs 0.005 af
Subcatchment7S: (new Subcat)	Runoff Area=638 sf 29.94% Impervious Runoff Depth>3.29" Tc=6.0 min CN=80 Runoff=0.06 cfs 0.004 af
Subcatchment11S: Subcatchment#11	Runoff Area=4,019 sf 100.00% Impervious Runoff Depth>5.22" Tc=6.0 min CN=98 Runoff=0.48 cfs 0.040 af
Subcatchment12S: Subcatchment#12	Runoff Area=7,363 sf 100.00% Impervious Runoff Depth>5.22" Tc=6.0 min CN=98 Runoff=0.88 cfs 0.074 af
Subcatchment13S: Subcatchment#13	Runoff Area=2,992 sf 100.00% Impervious Runoff Depth>5.22" Tc=6.0 min CN=98 Runoff=0.36 cfs 0.030 af
Subcatchment14S: Subcatchment#14	Runoff Area=1,729 sf 100.00% Impervious Runoff Depth>5.22" Tc=6.0 min CN=98 Runoff=0.21 cfs 0.017 af
Subcatchment15S: (new Subcat)	Runoff Area=2,879 sf 1.74% Impervious Runoff Depth>2.56" Tc=6.0 min CN=72 Runoff=0.19 cfs 0.014 af
Reach 100R: Final Reach #100	Inflow=2.38 cfs 0.195 af Outflow=2.38 cfs 0.195 af
Reach 200R: Final Reach #200	Inflow=0.30 cfs 0.024 af Outflow=0.30 cfs 0.024 af
Reach 300R: Final Reach #300	Inflow=0.18 cfs 0.014 af Outflow=0.18 cfs 0.014 af
Reach 400R: Final Reach #400	Inflow=0.24 cfs 0.020 af Outflow=0.24 cfs 0.020 af

22-037 Proposed Analysis*Type III 24-hr 10Yr-24Hr Rainfall=5.46"*

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Reach 500R: Final Reach #500

Inflow=0.09 cfs 0.008 af

Outflow=0.09 cfs 0.008 af

Pond 1P: Ex. CB 1Peak Elev=62.32' Storage=0.000 af Inflow=0.15 cfs 0.011 af
12.0" Round Culvert n=0.012 L=27.1' S=0.0133 '/' Outflow=0.15 cfs 0.011 af**Pond 2P: Ex. CB 2**Peak Elev=61.92' Storage=0.000 af Inflow=0.15 cfs 0.011 af
12.0" Round Culvert n=0.012 L=28.9' S=0.0142 '/' Outflow=0.15 cfs 0.011 af**Pond 3P: Slot Drain**Peak Elev=64.23' Inflow=0.11 cfs 0.009 af
8.0" Round Culvert n=0.012 L=8.7' S=0.1517 '/' Outflow=0.11 cfs 0.009 af**Pond 4P: Roof Drains**Peak Elev=62.38' Inflow=0.57 cfs 0.047 af
8.0" Round Culvert n=0.012 L=10.0' S=0.0050 '/' Outflow=0.57 cfs 0.047 af**Pond 5P: Roof Drains**Peak Elev=63.33' Inflow=1.56 cfs 0.128 af
8.0" Round Culvert n=0.012 L=30.0' S=0.0050 '/' Outflow=1.56 cfs 0.128 af**Pond C01P: Yard Drain**Peak Elev=66.13' Storage=0 cf Inflow=0.06 cfs 0.005 af
8.0" Round Culvert n=0.012 L=13.8' S=0.1014 '/' Outflow=0.06 cfs 0.005 af**Pond D01P: Drain Manhole #1**Peak Elev=62.45' Storage=20 cf Inflow=2.23 cfs 0.183 af
12.0" Round Culvert n=0.012 L=40.0' S=0.0050 '/' Outflow=2.23 cfs 0.183 af

22-037 Proposed Analysis*Type III 24-hr 25Yr-24Hr Rainfall=6.90"*

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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+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Subcatchment#1	Runoff Area=1,491 sf 52.72% Impervious Runoff Depth>5.27" Flow Length=173' Tc=6.0 min CN=86 Runoff=0.20 cfs 0.015 af
Subcatchment2S: Subcatchment#2	Runoff Area=2,502 sf 92.37% Impervious Runoff Depth>6.42" Tc=6.0 min CN=96 Runoff=0.38 cfs 0.031 af
Subcatchment3S: Subcatchment#3	Runoff Area=1,515 sf 81.32% Impervious Runoff Depth>6.19" Tc=6.0 min CN=94 Runoff=0.22 cfs 0.018 af
Subcatchment4S: Subcatchment#4	Runoff Area=1,995 sf 100.00% Impervious Runoff Depth>6.66" Tc=6.0 min CN=98 Runoff=0.30 cfs 0.025 af
Subcatchment5S: Subcatchment#5	Runoff Area=772 sf 100.00% Impervious Runoff Depth>6.66" Tc=6.0 min CN=98 Runoff=0.12 cfs 0.010 af
Subcatchment6S: Subcatchment#6	Runoff Area=872 sf 0.00% Impervious Runoff Depth>3.95" Flow Length=171' Tc=9.2 min CN=74 Runoff=0.08 cfs 0.007 af
Subcatchment7S: (new Subcat)	Runoff Area=638 sf 29.94% Impervious Runoff Depth>4.60" Tc=6.0 min CN=80 Runoff=0.08 cfs 0.006 af
Subcatchment11S: Subcatchment#11	Runoff Area=4,019 sf 100.00% Impervious Runoff Depth>6.66" Tc=6.0 min CN=98 Runoff=0.61 cfs 0.051 af
Subcatchment12S: Subcatchment#12	Runoff Area=7,363 sf 100.00% Impervious Runoff Depth>6.66" Tc=6.0 min CN=98 Runoff=1.12 cfs 0.094 af
Subcatchment13S: Subcatchment#13	Runoff Area=2,992 sf 100.00% Impervious Runoff Depth>6.66" Tc=6.0 min CN=98 Runoff=0.45 cfs 0.038 af
Subcatchment14S: Subcatchment#14	Runoff Area=1,729 sf 100.00% Impervious Runoff Depth>6.66" Tc=6.0 min CN=98 Runoff=0.26 cfs 0.022 af
Subcatchment15S: (new Subcat)	Runoff Area=2,879 sf 1.74% Impervious Runoff Depth>3.74" Tc=6.0 min CN=72 Runoff=0.28 cfs 0.021 af
Reach 100R: Final Reach #100	Inflow=3.08 cfs 0.253 af Outflow=3.08 cfs 0.253 af
Reach 200R: Final Reach #200	Inflow=0.38 cfs 0.031 af Outflow=0.38 cfs 0.031 af
Reach 300R: Final Reach #300	Inflow=0.22 cfs 0.018 af Outflow=0.22 cfs 0.018 af
Reach 400R: Final Reach #400	Inflow=0.30 cfs 0.025 af Outflow=0.30 cfs 0.025 af

22-037 Proposed Analysis*Type III 24-hr 25Yr-24Hr Rainfall=6.90"*

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Reach 500R: Final Reach #500

Inflow=0.12 cfs 0.010 af

Outflow=0.12 cfs 0.010 af

Pond 1P: Ex. CB 1Peak Elev=62.35' Storage=0.000 af Inflow=0.20 cfs 0.015 af
12.0" Round Culvert n=0.012 L=27.1' S=0.0133 '/' Outflow=0.20 cfs 0.015 af**Pond 2P: Ex. CB 2**Peak Elev=61.95' Storage=0.000 af Inflow=0.20 cfs 0.015 af
12.0" Round Culvert n=0.012 L=28.9' S=0.0142 '/' Outflow=0.20 cfs 0.015 af**Pond 3P: Slot Drain**Peak Elev=64.27' Inflow=0.16 cfs 0.012 af
8.0" Round Culvert n=0.012 L=8.7' S=0.1517 '/' Outflow=0.16 cfs 0.012 af**Pond 4P: Roof Drains**Peak Elev=62.46' Inflow=0.72 cfs 0.060 af
8.0" Round Culvert n=0.012 L=10.0' S=0.0050 '/' Outflow=0.72 cfs 0.060 af**Pond 5P: Roof Drains**Peak Elev=63.92' Inflow=2.01 cfs 0.166 af
8.0" Round Culvert n=0.012 L=30.0' S=0.0050 '/' Outflow=2.01 cfs 0.166 af**Pond C01P: Yard Drain**Peak Elev=66.15' Storage=0 cf Inflow=0.08 cfs 0.007 af
8.0" Round Culvert n=0.012 L=13.8' S=0.1014 '/' Outflow=0.08 cfs 0.007 af**Pond D01P: Drain Manhole #1**Peak Elev=62.71' Storage=25 cf Inflow=2.88 cfs 0.238 af
12.0" Round Culvert n=0.012 L=40.0' S=0.0050 '/' Outflow=2.88 cfs 0.238 af

22-037 Proposed Analysis*Type III 24-hr 50Yr-24Hr Rainfall=8.25"*

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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+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Subcatchment#1	Runoff Area=1,491 sf 52.72% Impervious Runoff Depth>6.57" Flow Length=173' Tc=6.0 min CN=86 Runoff=0.25 cfs 0.019 af
Subcatchment2S: Subcatchment#2	Runoff Area=2,502 sf 92.37% Impervious Runoff Depth>7.77" Tc=6.0 min CN=96 Runoff=0.45 cfs 0.037 af
Subcatchment3S: Subcatchment#3	Runoff Area=1,515 sf 81.32% Impervious Runoff Depth>7.53" Tc=6.0 min CN=94 Runoff=0.27 cfs 0.022 af
Subcatchment4S: Subcatchment#4	Runoff Area=1,995 sf 100.00% Impervious Runoff Depth>8.01" Tc=6.0 min CN=98 Runoff=0.36 cfs 0.031 af
Subcatchment5S: Subcatchment#5	Runoff Area=772 sf 100.00% Impervious Runoff Depth>8.01" Tc=6.0 min CN=98 Runoff=0.14 cfs 0.012 af
Subcatchment6S: Subcatchment#6	Runoff Area=872 sf 0.00% Impervious Runoff Depth>5.14" Flow Length=171' Tc=9.2 min CN=74 Runoff=0.11 cfs 0.009 af
Subcatchment7S: (new Subcat)	Runoff Area=638 sf 29.94% Impervious Runoff Depth>5.86" Tc=6.0 min CN=80 Runoff=0.10 cfs 0.007 af
Subcatchment11S: Subcatchment#11	Runoff Area=4,019 sf 100.00% Impervious Runoff Depth>8.01" Tc=6.0 min CN=98 Runoff=0.73 cfs 0.062 af
Subcatchment12S: Subcatchment#12	Runoff Area=7,363 sf 100.00% Impervious Runoff Depth>8.01" Tc=6.0 min CN=98 Runoff=1.34 cfs 0.113 af
Subcatchment13S: Subcatchment#13	Runoff Area=2,992 sf 100.00% Impervious Runoff Depth>8.01" Tc=6.0 min CN=98 Runoff=0.54 cfs 0.046 af
Subcatchment14S: Subcatchment#14	Runoff Area=1,729 sf 100.00% Impervious Runoff Depth>8.01" Tc=6.0 min CN=98 Runoff=0.31 cfs 0.026 af
Subcatchment15S: (new Subcat)	Runoff Area=2,879 sf 1.74% Impervious Runoff Depth>4.91" Tc=6.0 min CN=72 Runoff=0.37 cfs 0.027 af
Reach 100R: Final Reach #100	Inflow=3.76 cfs 0.308 af Outflow=3.76 cfs 0.308 af
Reach 200R: Final Reach #200	Inflow=0.45 cfs 0.037 af Outflow=0.45 cfs 0.037 af
Reach 300R: Final Reach #300	Inflow=0.27 cfs 0.022 af Outflow=0.27 cfs 0.022 af
Reach 400R: Final Reach #400	Inflow=0.36 cfs 0.031 af Outflow=0.36 cfs 0.031 af

22-037 Proposed Analysis*Type III 24-hr 50Yr-24Hr Rainfall=8.25"*

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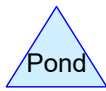
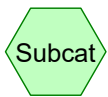
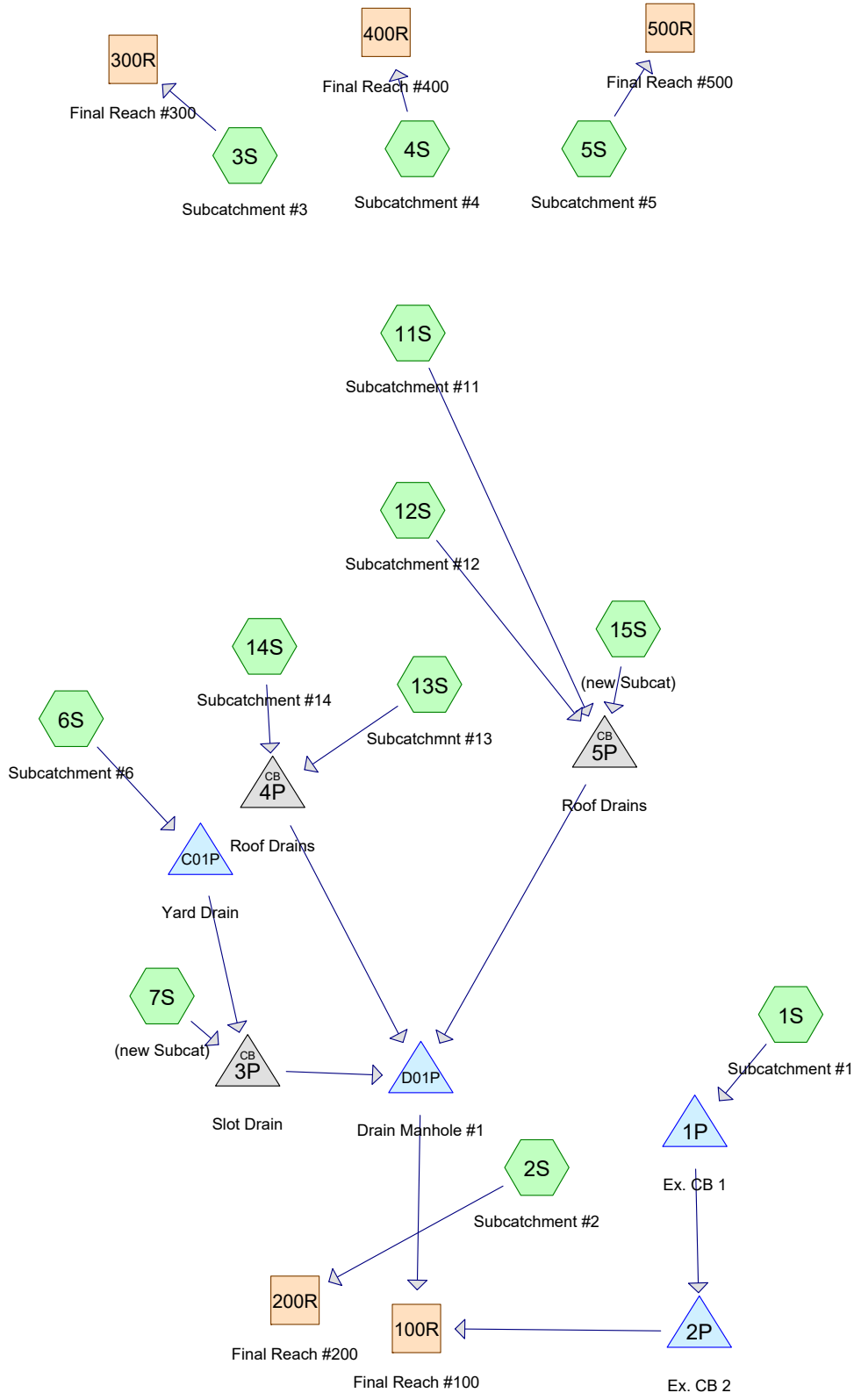
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Reach 500R: Final Reach #500

Inflow=0.14 cfs 0.012 af

Outflow=0.14 cfs 0.012 af

Pond 1P: Ex. CB 1Peak Elev=62.37' Storage=0.000 af Inflow=0.25 cfs 0.019 af
12.0" Round Culvert n=0.012 L=27.1' S=0.0133 '/' Outflow=0.25 cfs 0.019 af**Pond 2P: Ex. CB 2**Peak Elev=61.97' Storage=0.000 af Inflow=0.25 cfs 0.019 af
12.0" Round Culvert n=0.012 L=28.9' S=0.0142 '/' Outflow=0.25 cfs 0.019 af**Pond 3P: Slot Drain**Peak Elev=64.30' Inflow=0.20 cfs 0.016 af
8.0" Round Culvert n=0.012 L=8.7' S=0.1517 '/' Outflow=0.20 cfs 0.016 af**Pond 4P: Roof Drains**Peak Elev=62.55' Inflow=0.86 cfs 0.072 af
8.0" Round Culvert n=0.012 L=10.0' S=0.0050 '/' Outflow=0.86 cfs 0.072 af**Pond 5P: Roof Drains**Peak Elev=64.62' Inflow=2.44 cfs 0.201 af
8.0" Round Culvert n=0.012 L=30.0' S=0.0050 '/' Outflow=2.44 cfs 0.201 af**Pond C01P: Yard Drain**Peak Elev=66.18' Storage=0 cf Inflow=0.11 cfs 0.009 af
8.0" Round Culvert n=0.012 L=13.8' S=0.1014 '/' Outflow=0.11 cfs 0.009 af**Pond D01P: Drain Manhole #1**Peak Elev=63.05' Storage=31 cf Inflow=3.49 cfs 0.289 af
12.0" Round Culvert n=0.012 L=40.0' S=0.0050 '/' Outflow=3.51 cfs 0.289 af



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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.039	74	>75% Grass cover, Good, HSG C (1S, 3S, 6S, 7S)
0.167	98	Paved parking, HSG C (1S, 2S, 3S, 4S, 5S, 7S)
0.371	98	Roofs, HSG C (11S, 12S, 13S, 14S, 15S)
0.083	72	Woods/grass comb., Good, HSG C (1S, 2S, 7S, 15S)
0.660	93	TOTAL AREA

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Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.660	HSG C	1S, 2S, 3S, 4S, 5S, 6S, 7S, 11S, 12S, 13S, 14S, 15S
0.000	HSG D	
0.000	Other	
0.660		TOTAL AREA

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Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.039	0.000	0.000	0.039	>75% Grass cover, Good	1S, 3S, 6S, 7S
0.000	0.000	0.167	0.000	0.000	0.167	Paved parking	1S, 2S, 3S, 4S, 5S, 7S
0.000	0.000	0.371	0.000	0.000	0.371	Roofs	11S, 12S, 13S, 14S, 15S
0.000	0.000	0.083	0.000	0.000	0.083	Woods/grass comb., Good	1S, 2S, 7S, 15S
0.000	0.000	0.660	0.000	0.000	0.660	TOTAL AREA	

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Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	1P	62.13	61.77	27.1	0.0133	0.012	12.0	0.0	0.0
2	2P	61.73	61.32	28.9	0.0142	0.012	12.0	0.0	0.0
3	3P	64.05	62.73	8.7	0.1517	0.012	8.0	0.0	0.0
4	4P	61.83	61.78	10.0	0.0050	0.012	8.0	0.0	0.0
5	5P	61.93	61.78	30.0	0.0050	0.012	8.0	0.0	0.0
6	C01P	66.00	64.60	13.8	0.1014	0.012	8.0	0.0	0.0
7	D01P	61.45	61.25	40.0	0.0050	0.012	12.0	0.0	0.0

22-037 Proposed Analysis

Type III 24-hr 25Yr-24Hr Rainfall=6.90"

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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+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Subcatchment#1	Runoff Area=1,491 sf 52.72% Impervious Runoff Depth>5.27" Flow Length=173' Tc=6.0 min CN=86 Runoff=0.20 cfs 0.015 af
Subcatchment2S: Subcatchment#2	Runoff Area=2,502 sf 92.37% Impervious Runoff Depth>6.42" Tc=6.0 min CN=96 Runoff=0.38 cfs 0.031 af
Subcatchment3S: Subcatchment#3	Runoff Area=1,515 sf 81.32% Impervious Runoff Depth>6.19" Tc=6.0 min CN=94 Runoff=0.22 cfs 0.018 af
Subcatchment4S: Subcatchment#4	Runoff Area=1,995 sf 100.00% Impervious Runoff Depth>6.66" Tc=6.0 min CN=98 Runoff=0.30 cfs 0.025 af
Subcatchment5S: Subcatchment#5	Runoff Area=772 sf 100.00% Impervious Runoff Depth>6.66" Tc=6.0 min CN=98 Runoff=0.12 cfs 0.010 af
Subcatchment6S: Subcatchment#6	Runoff Area=872 sf 0.00% Impervious Runoff Depth>3.95" Flow Length=171' Tc=9.2 min CN=74 Runoff=0.08 cfs 0.007 af
Subcatchment7S: (new Subcat)	Runoff Area=638 sf 29.94% Impervious Runoff Depth>4.60" Tc=6.0 min CN=80 Runoff=0.08 cfs 0.006 af
Subcatchment11S: Subcatchment#11	Runoff Area=4,019 sf 100.00% Impervious Runoff Depth>6.66" Tc=6.0 min CN=98 Runoff=0.61 cfs 0.051 af
Subcatchment12S: Subcatchment#12	Runoff Area=7,363 sf 100.00% Impervious Runoff Depth>6.66" Tc=6.0 min CN=98 Runoff=1.12 cfs 0.094 af
Subcatchment13S: Subcatchment#13	Runoff Area=2,992 sf 100.00% Impervious Runoff Depth>6.66" Tc=6.0 min CN=98 Runoff=0.45 cfs 0.038 af
Subcatchment14S: Subcatchment#14	Runoff Area=1,729 sf 100.00% Impervious Runoff Depth>6.66" Tc=6.0 min CN=98 Runoff=0.26 cfs 0.022 af
Subcatchment15S: (new Subcat)	Runoff Area=2,879 sf 1.74% Impervious Runoff Depth>3.74" Tc=6.0 min CN=72 Runoff=0.28 cfs 0.021 af
Reach 100R: Final Reach #100	Inflow=3.08 cfs 0.253 af Outflow=3.08 cfs 0.253 af
Reach 200R: Final Reach #200	Inflow=0.38 cfs 0.031 af Outflow=0.38 cfs 0.031 af
Reach 300R: Final Reach #300	Inflow=0.22 cfs 0.018 af Outflow=0.22 cfs 0.018 af
Reach 400R: Final Reach #400	Inflow=0.30 cfs 0.025 af Outflow=0.30 cfs 0.025 af

22-037 Proposed Analysis

Type III 24-hr 25Yr-24Hr Rainfall=6.90"

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Reach 500R: Final Reach #500

Inflow=0.12 cfs 0.010 af

Outflow=0.12 cfs 0.010 af

Pond 1P: Ex. CB 1Peak Elev=62.35' Storage=0.000 af Inflow=0.20 cfs 0.015 af
12.0" Round Culvert n=0.012 L=27.1' S=0.0133 '/ Outflow=0.20 cfs 0.015 af**Pond 2P: Ex. CB 2**Peak Elev=61.95' Storage=0.000 af Inflow=0.20 cfs 0.015 af
12.0" Round Culvert n=0.012 L=28.9' S=0.0142 '/ Outflow=0.20 cfs 0.015 af**Pond 3P: Slot Drain**Peak Elev=64.27' Inflow=0.16 cfs 0.012 af
8.0" Round Culvert n=0.012 L=8.7' S=0.1517 '/ Outflow=0.16 cfs 0.012 af**Pond 4P: Roof Drains**Peak Elev=62.46' Inflow=0.72 cfs 0.060 af
8.0" Round Culvert n=0.012 L=10.0' S=0.0050 '/ Outflow=0.72 cfs 0.060 af**Pond 5P: Roof Drains**Peak Elev=63.92' Inflow=2.01 cfs 0.166 af
8.0" Round Culvert n=0.012 L=30.0' S=0.0050 '/ Outflow=2.01 cfs 0.166 af**Pond C01P: Yard Drain**Peak Elev=66.15' Storage=0 cf Inflow=0.08 cfs 0.007 af
8.0" Round Culvert n=0.012 L=13.8' S=0.1014 '/ Outflow=0.08 cfs 0.007 af**Pond D01P: Drain Manhole #1**Peak Elev=62.71' Storage=25 cf Inflow=2.88 cfs 0.238 af
12.0" Round Culvert n=0.012 L=40.0' S=0.0050 '/ Outflow=2.88 cfs 0.238 af**Total Runoff Area = 0.660 ac Runoff Volume = 0.337 af Average Runoff Depth = 6.12"**
18.52% Pervious = 0.122 ac 81.48% Impervious = 0.538 ac

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Type III 24-hr 25Yr-24Hr Rainfall=6.90"

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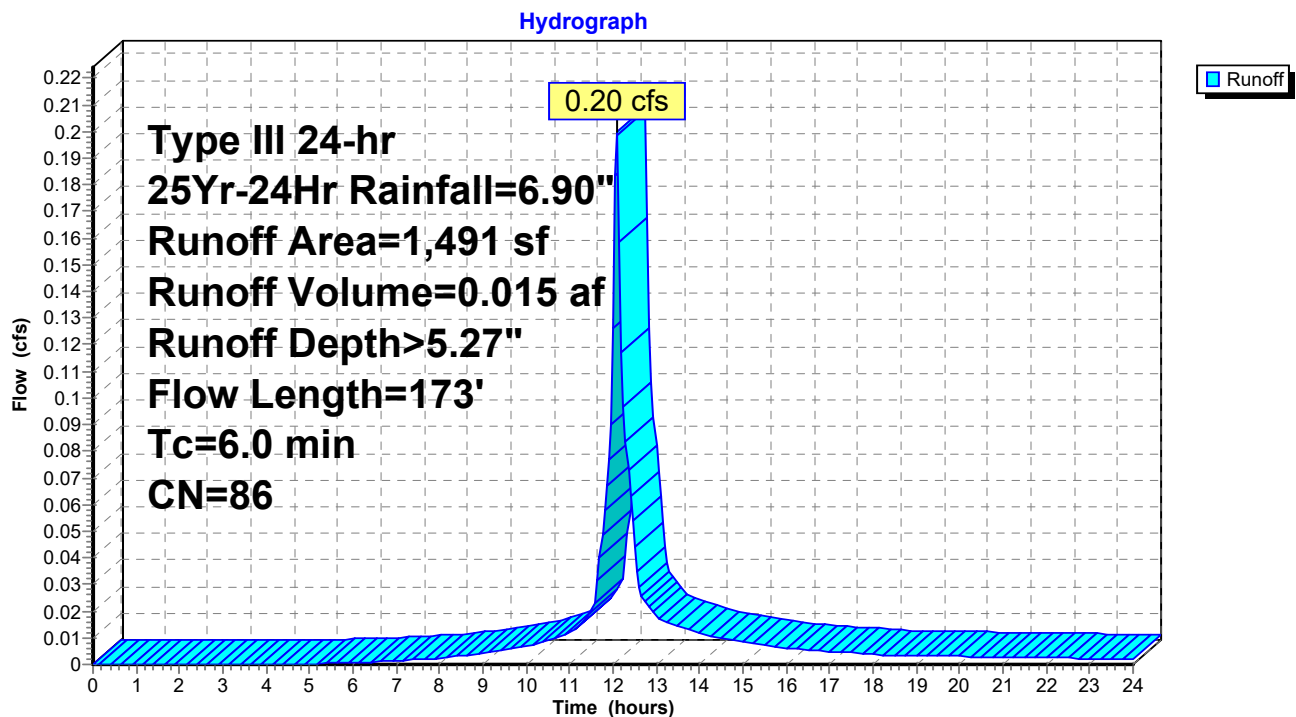
Summary for Subcatchment 1S: Subcatchment #1

Runoff = 0.20 cfs @ 12.09 hrs, Volume= 0.015 af, Depth> 5.27"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25Yr-24Hr Rainfall=6.90"

Area (sf)	CN	Description
451	74	>75% Grass cover, Good, HSG C
786	98	Paved parking, HSG C
254	72	Woods/grass comb., Good, HSG C
1,491	86	Weighted Average
705		47.28% Pervious Area
786		52.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.3	68	0.0623	0.26		Sheet Flow, Segment #1
					Grass: Short n= 0.150 P2= 3.62"
0.4	105	0.0476	4.43		Shallow Concentrated Flow, Segment #2
					Paved Kv= 20.3 fps
4.7	173				Total, Increased to minimum Tc = 6.0 min

Subcatchment 1S: Subcatchment #1

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Type III 24-hr 25Yr-24Hr Rainfall=6.90"

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Summary for Subcatchment 2S: Subcatchment #2

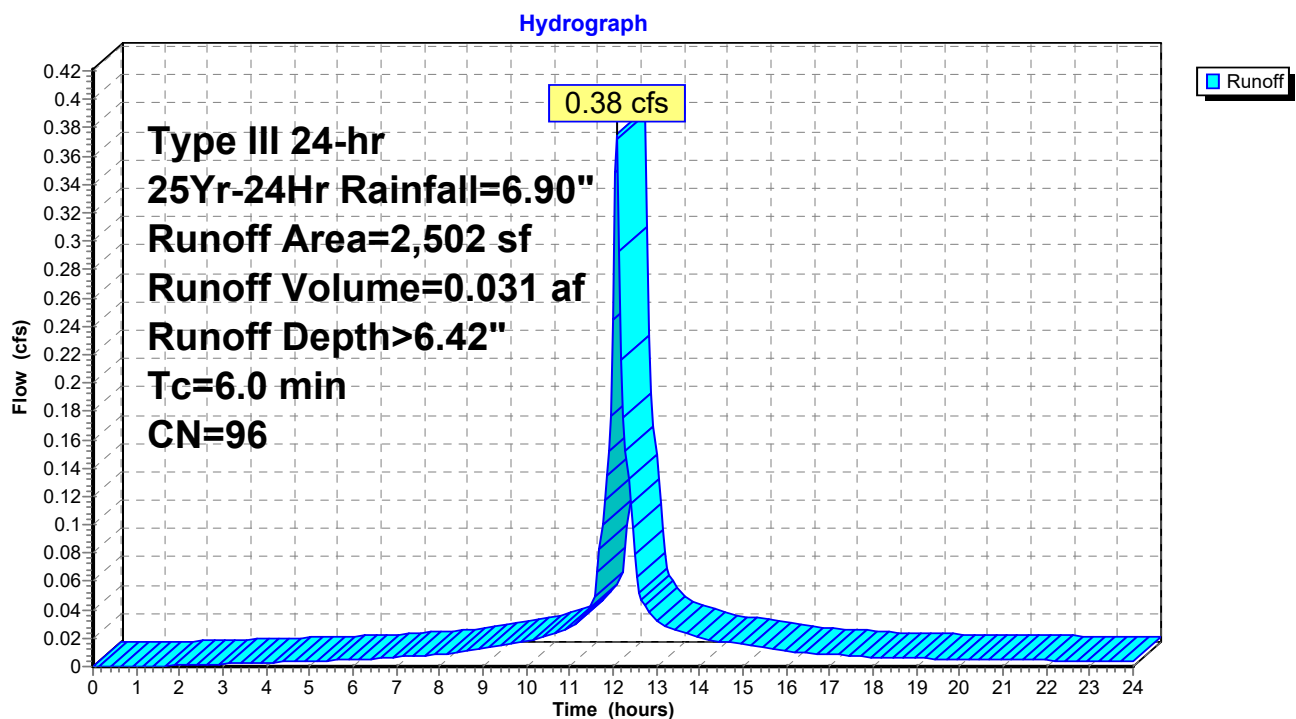
Runoff = 0.38 cfs @ 12.09 hrs, Volume= 0.031 af, Depth> 6.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25Yr-24Hr Rainfall=6.90"

Area (sf)	CN	Description
2,311	98	Paved parking, HSG C
191	72	Woods/grass comb., Good, HSG C
2,502	96	Weighted Average
191		7.63% Pervious Area
2,311		92.37% Impervious Area

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

Subcatchment 2S: Subcatchment #2



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Type III 24-hr 25Yr-24Hr Rainfall=6.90"

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Summary for Subcatchment 3S: Subcatchment #3

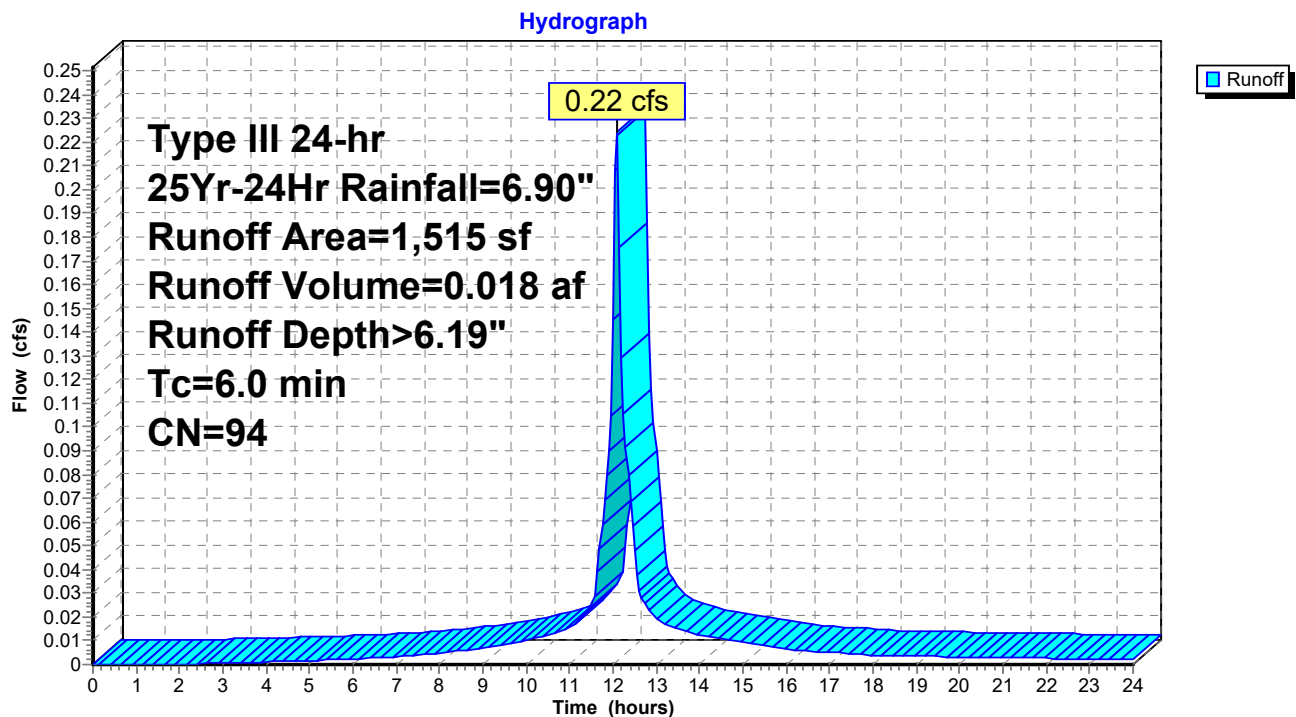
Runoff = 0.22 cfs @ 12.09 hrs, Volume= 0.018 af, Depth> 6.19"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25Yr-24Hr Rainfall=6.90"

Area (sf)	CN	Description
283	74	>75% Grass cover, Good, HSG C
1,232	98	Paved parking, HSG C
1,515	94	Weighted Average
283		18.68% Pervious Area
1,232		81.32% Impervious Area

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

Subcatchment 3S: Subcatchment #3



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Type III 24-hr 25Yr-24Hr Rainfall=6.90"

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Summary for Subcatchment 4S: Subcatchment #4

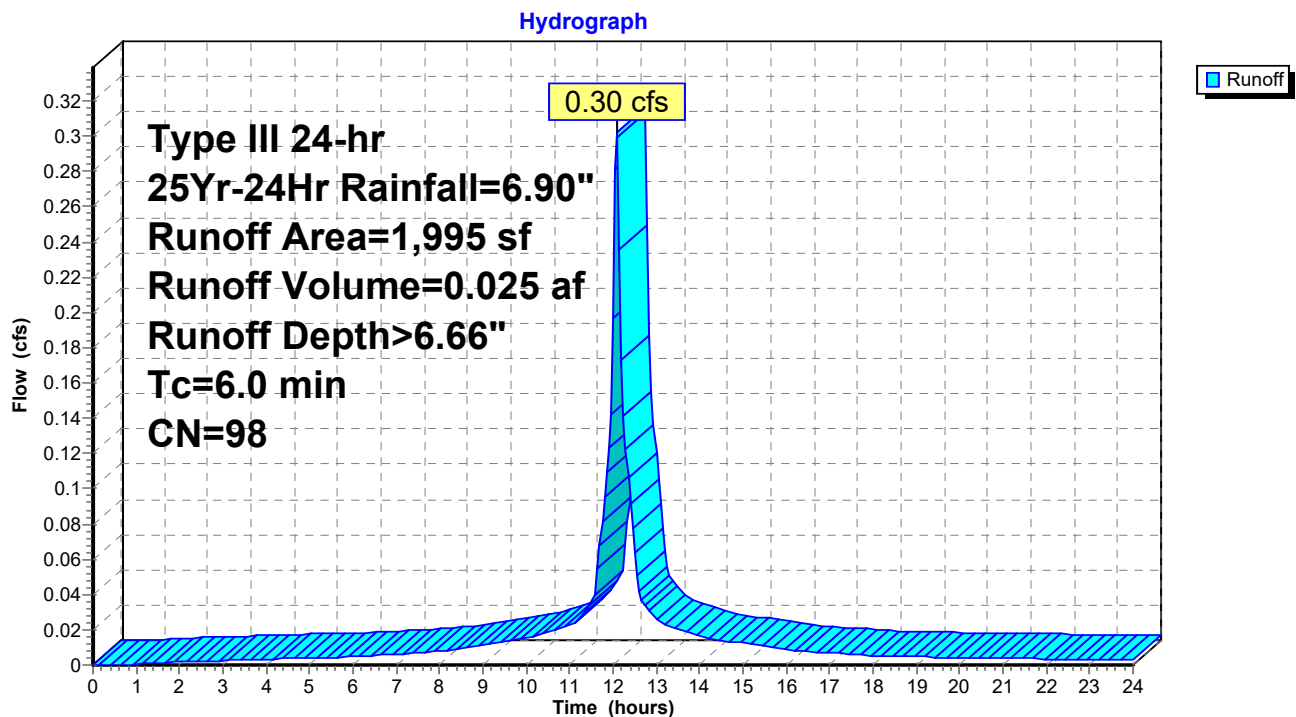
Runoff = 0.30 cfs @ 12.09 hrs, Volume= 0.025 af, Depth> 6.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25Yr-24Hr Rainfall=6.90"

Area (sf)	CN	Description
1,995	98	Paved parking, HSG C
1,995		100.00% Impervious Area

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

Subcatchment 4S: Subcatchment #4



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Type III 24-hr 25Yr-24Hr Rainfall=6.90"

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Summary for Subcatchment 5S: Subcatchment #5

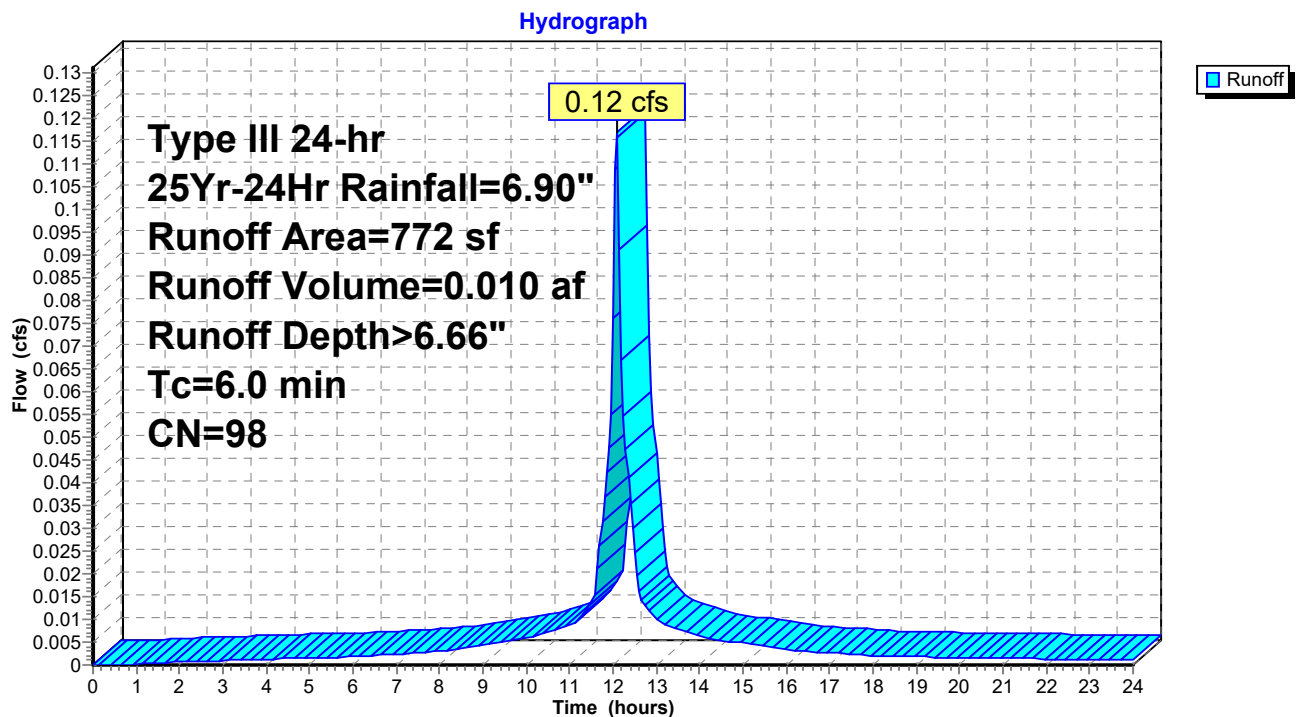
Runoff = 0.12 cfs @ 12.09 hrs, Volume= 0.010 af, Depth> 6.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25Yr-24Hr Rainfall=6.90"

Area (sf)	CN	Description
772	98	Paved parking, HSG C
772		100.00% Impervious Area

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

Subcatchment 5S: Subcatchment #5



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Type III 24-hr 25Yr-24Hr Rainfall=6.90"

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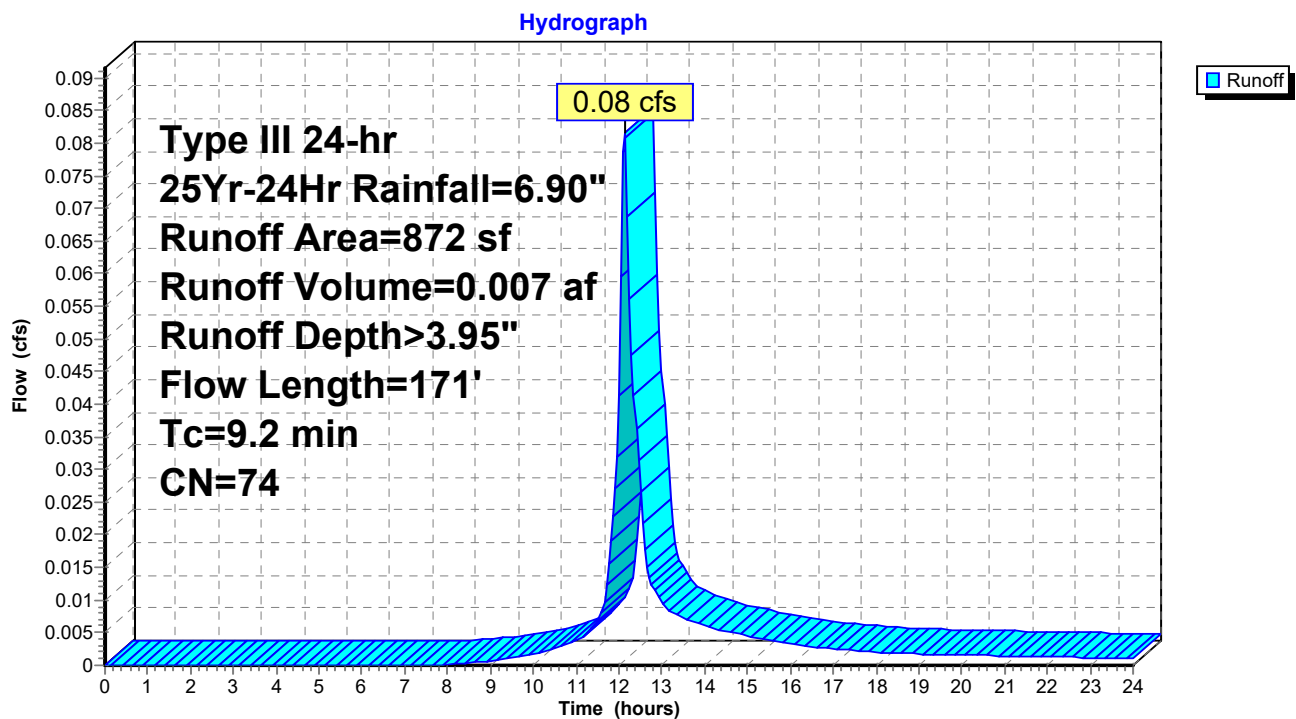
Summary for Subcatchment 6S: Subcatchment #6

Runoff = 0.08 cfs @ 12.13 hrs, Volume= 0.007 af, Depth> 3.95"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25Yr-24Hr Rainfall=6.90"

Area (sf)	CN	Description
872	74	>75% Grass cover, Good, HSG C
872		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.4	100	0.0250	0.20		Sheet Flow, Segment #1 Grass: Short n= 0.150 P2= 3.62"
0.8	71	0.0492	1.55		Shallow Concentrated Flow, Segment #2 Short Grass Pasture Kv= 7.0 fps
9.2	171	Total			

Subcatchment 6S: Subcatchment #6

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Type III 24-hr 25Yr-24Hr Rainfall=6.90"

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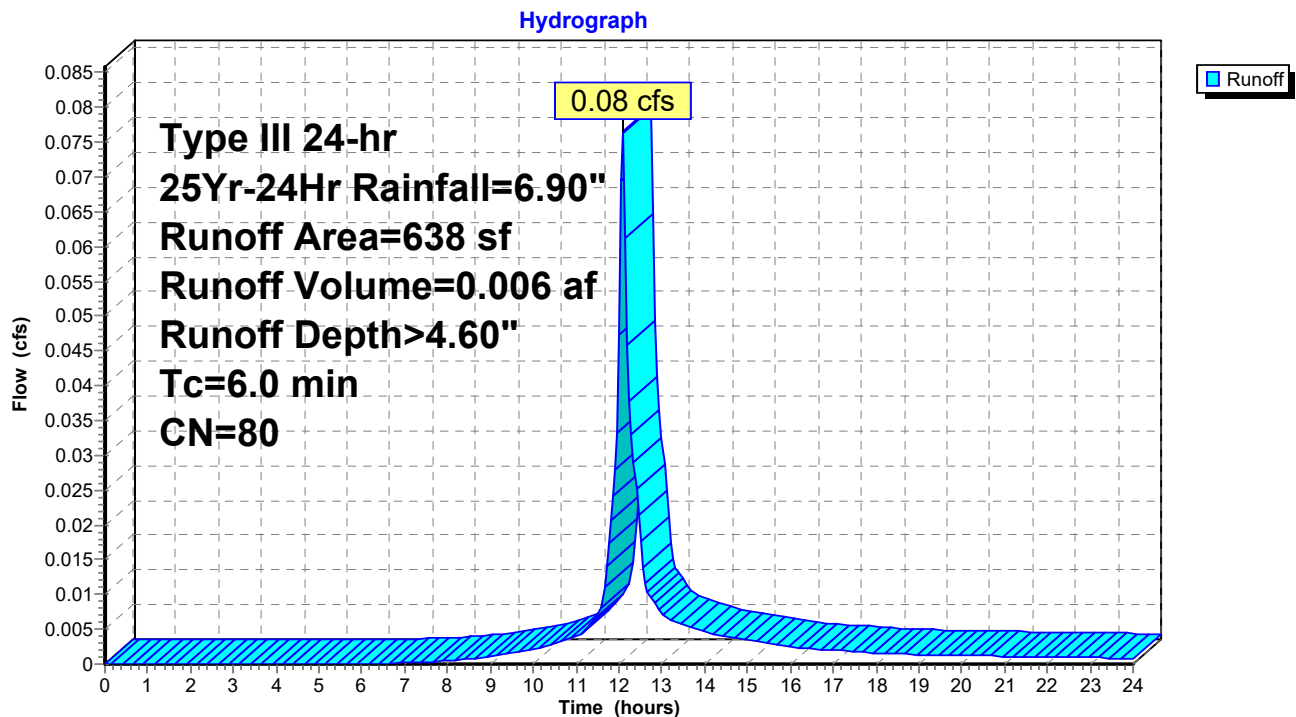
Summary for Subcatchment 7S: (new Subcat)

Runoff = 0.08 cfs @ 12.09 hrs, Volume= 0.006 af, Depth> 4.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25Yr-24Hr Rainfall=6.90"

Area (sf)	CN	Description
98	74	>75% Grass cover, Good, HSG C
191	98	Paved parking, HSG C
349	72	Woods/grass comb., Good, HSG C
638	80	Weighted Average
447		70.06% Pervious Area
191		29.94% Impervious Area

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

Subcatchment 7S: (new Subcat)

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Type III 24-hr 25Yr-24Hr Rainfall=6.90"

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Summary for Subcatchment 11S: Subcatchment #11

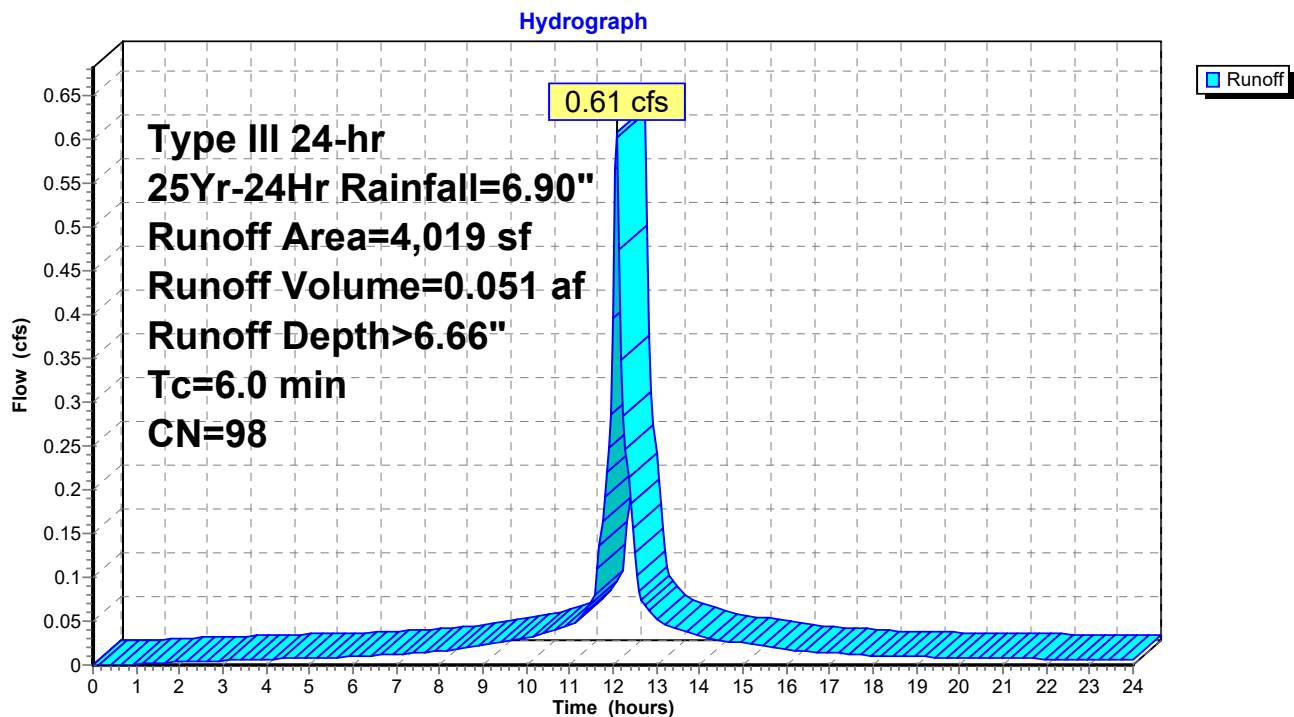
Runoff = 0.61 cfs @ 12.09 hrs, Volume= 0.051 af, Depth> 6.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25Yr-24Hr Rainfall=6.90"

Area (sf)	CN	Description
4,019	98	Roofs, HSG C
4,019		100.00% Impervious Area

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

Subcatchment 11S: Subcatchment #11



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Type III 24-hr 25Yr-24Hr Rainfall=6.90"

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Summary for Subcatchment 12S: Subcatchment #12

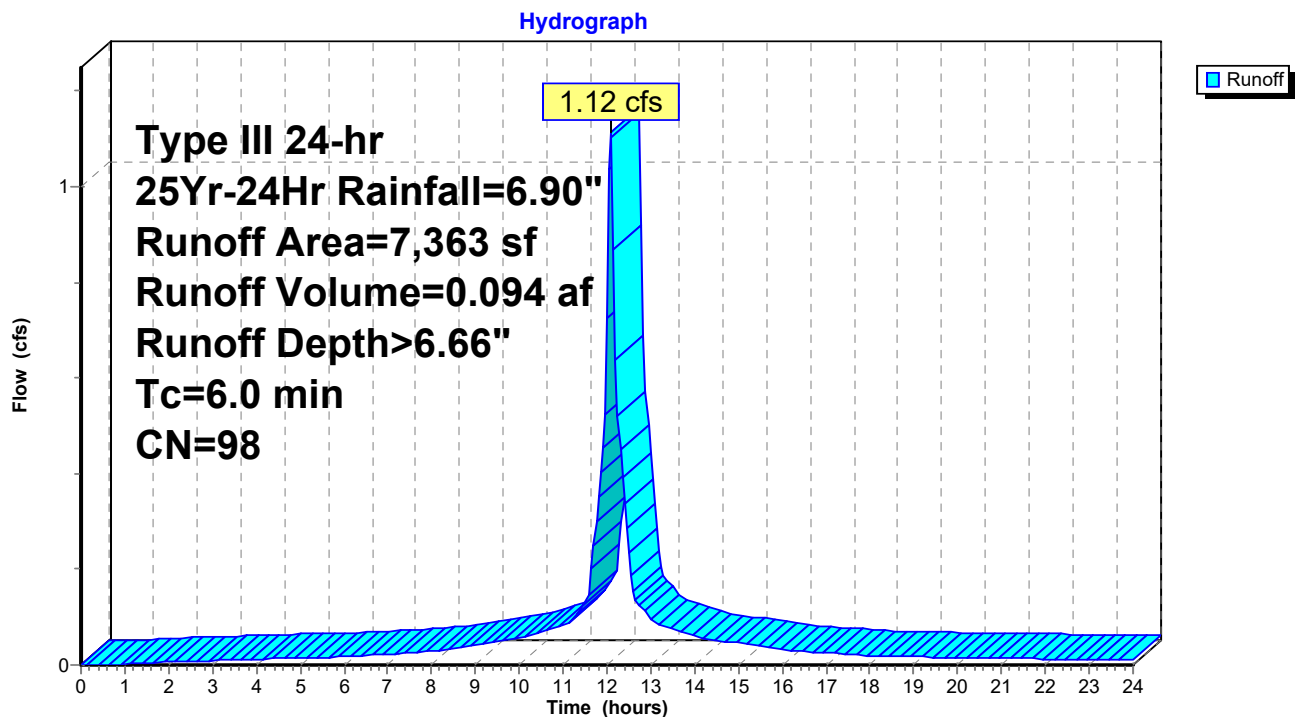
Runoff = 1.12 cfs @ 12.09 hrs, Volume= 0.094 af, Depth> 6.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25Yr-24Hr Rainfall=6.90"

Area (sf)	CN	Description
7,363	98	Roofs, HSG C
7,363		100.00% Impervious Area

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

Subcatchment 12S: Subcatchment #12



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Type III 24-hr 25Yr-24Hr Rainfall=6.90"

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Summary for Subcatchment 13S: Subcatchmnt #13

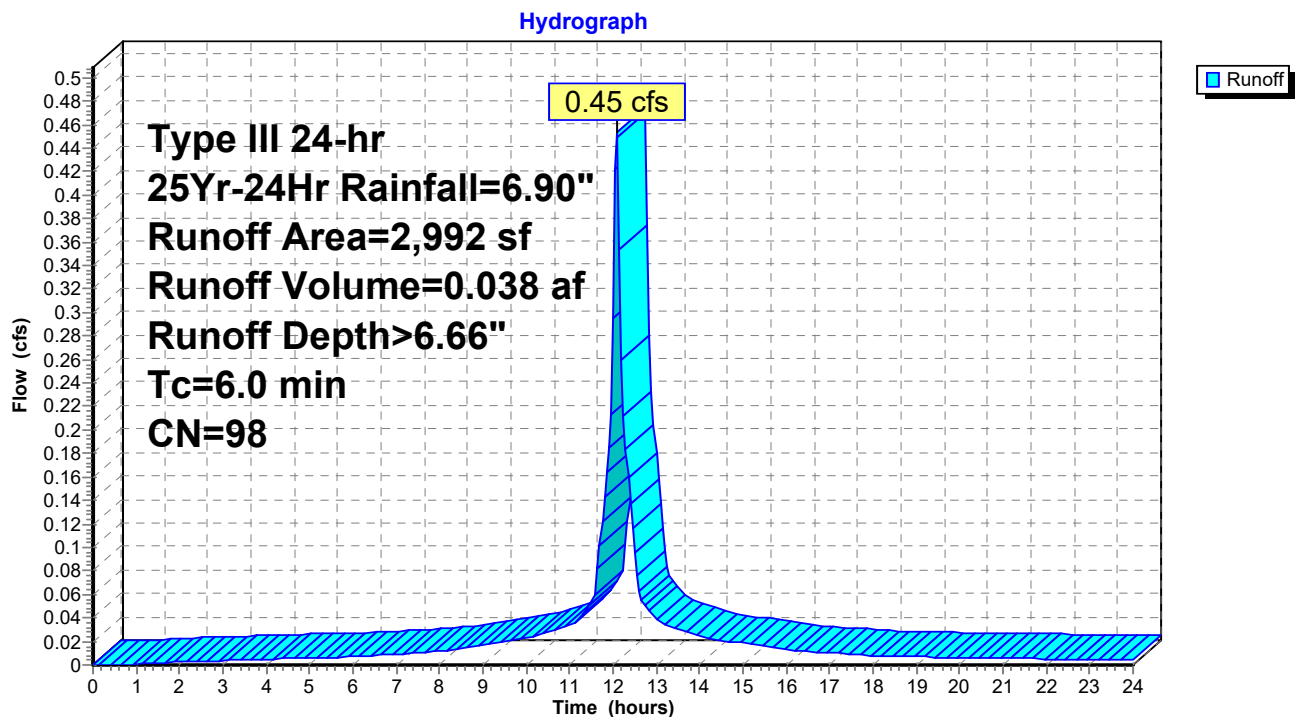
Runoff = 0.45 cfs @ 12.09 hrs, Volume= 0.038 af, Depth> 6.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25Yr-24Hr Rainfall=6.90"

Area (sf)	CN	Description
2,992	98	Roofs, HSG C
2,992		100.00% Impervious Area

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

Subcatchment 13S: Subcatchmnt #13



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Type III 24-hr 25Yr-24Hr Rainfall=6.90"

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Summary for Subcatchment 14S: Subcatchment #14

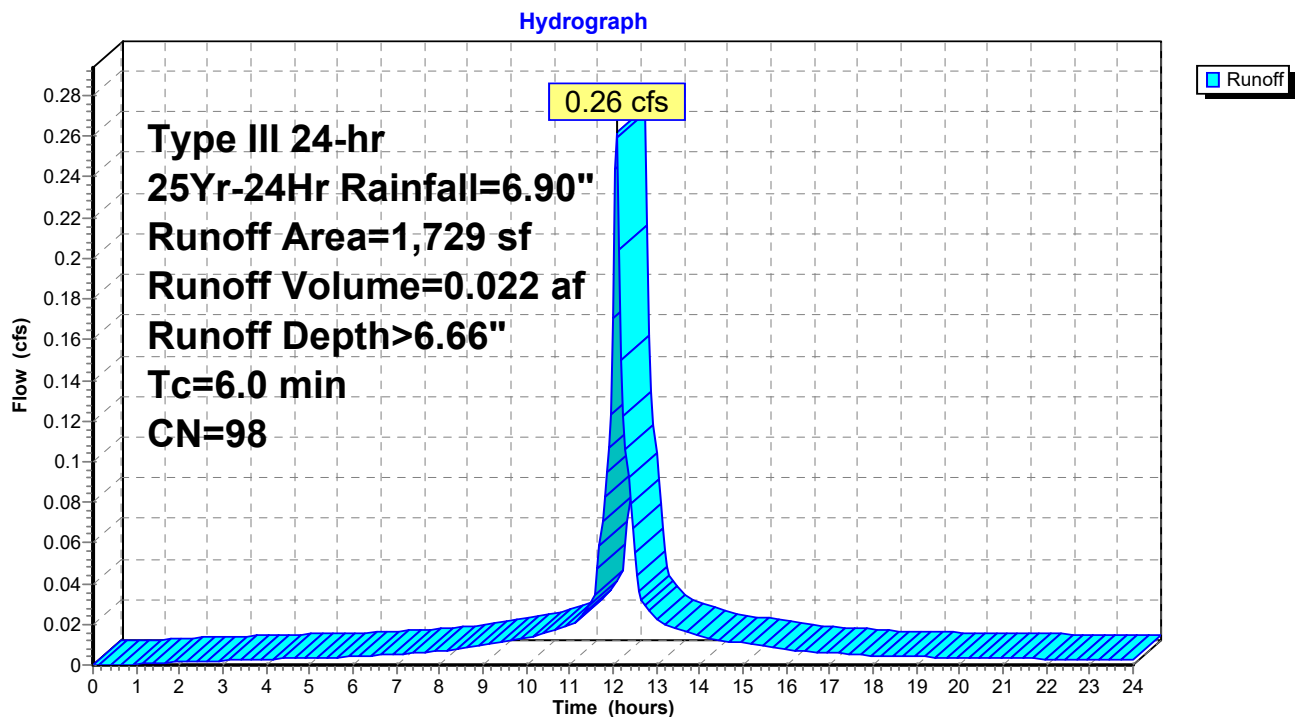
Runoff = 0.26 cfs @ 12.09 hrs, Volume= 0.022 af, Depth> 6.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25Yr-24Hr Rainfall=6.90"

Area (sf)	CN	Description
1,729	98	Roofs, HSG C
1,729		100.00% Impervious Area

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

Subcatchment 14S: Subcatchment #14



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Type III 24-hr 25Yr-24Hr Rainfall=6.90"

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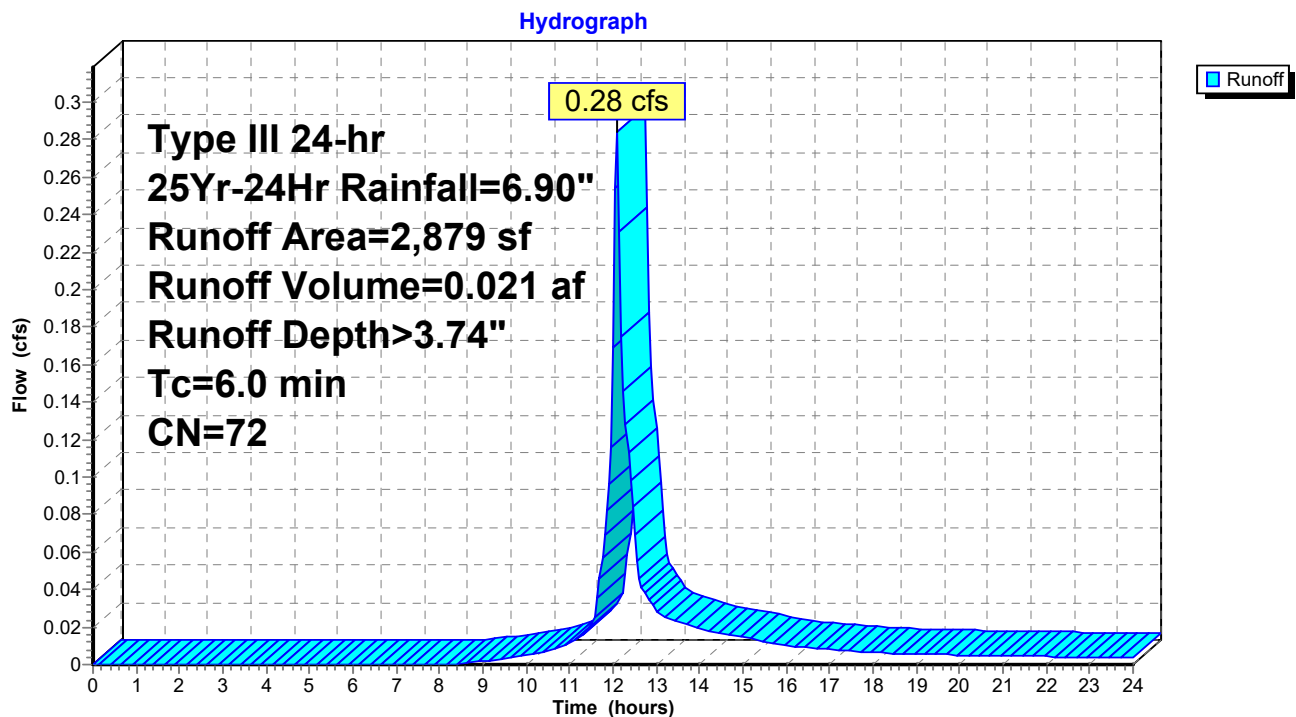
Summary for Subcatchment 15S: (new Subcat)

Runoff = 0.28 cfs @ 12.09 hrs, Volume= 0.021 af, Depth> 3.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25Yr-24Hr Rainfall=6.90"

Area (sf)	CN	Description
50	98	Roofs, HSG C
2,829	72	Woods/grass comb., Good, HSG C
2,879	72	Weighted Average
2,829		98.26% Pervious Area
50		1.74% Impervious Area

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

Subcatchment 15S: (new Subcat)

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Type III 24-hr 25Yr-24Hr Rainfall=6.90"

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Summary for Reach 100R: Final Reach #100

[40] Hint: Not Described (Outflow=Inflow)

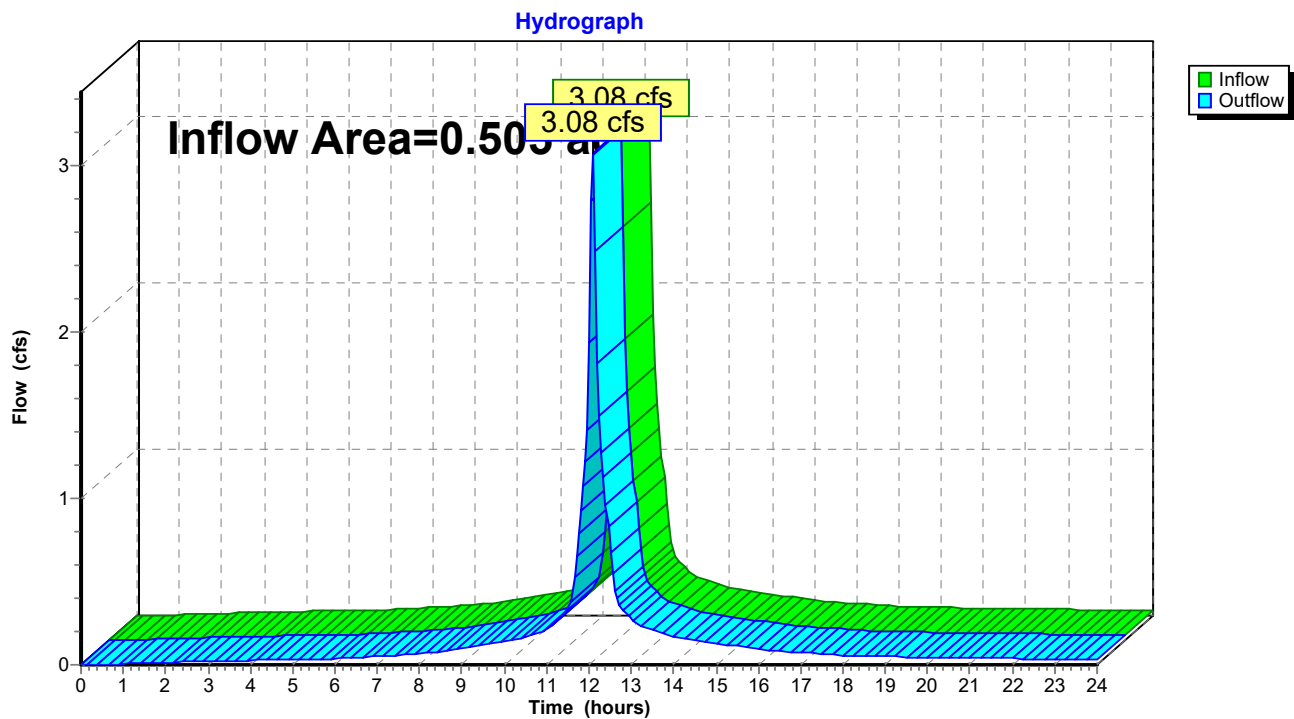
Inflow Area = 0.505 ac, 77.92% Impervious, Inflow Depth > 6.01" for 25Yr-24Hr event

Inflow = 3.08 cfs @ 12.09 hrs, Volume= 0.253 af

Outflow = 3.08 cfs @ 12.09 hrs, Volume= 0.253 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Reach 100R: Final Reach #100



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Type III 24-hr 25Yr-24Hr Rainfall=6.90"

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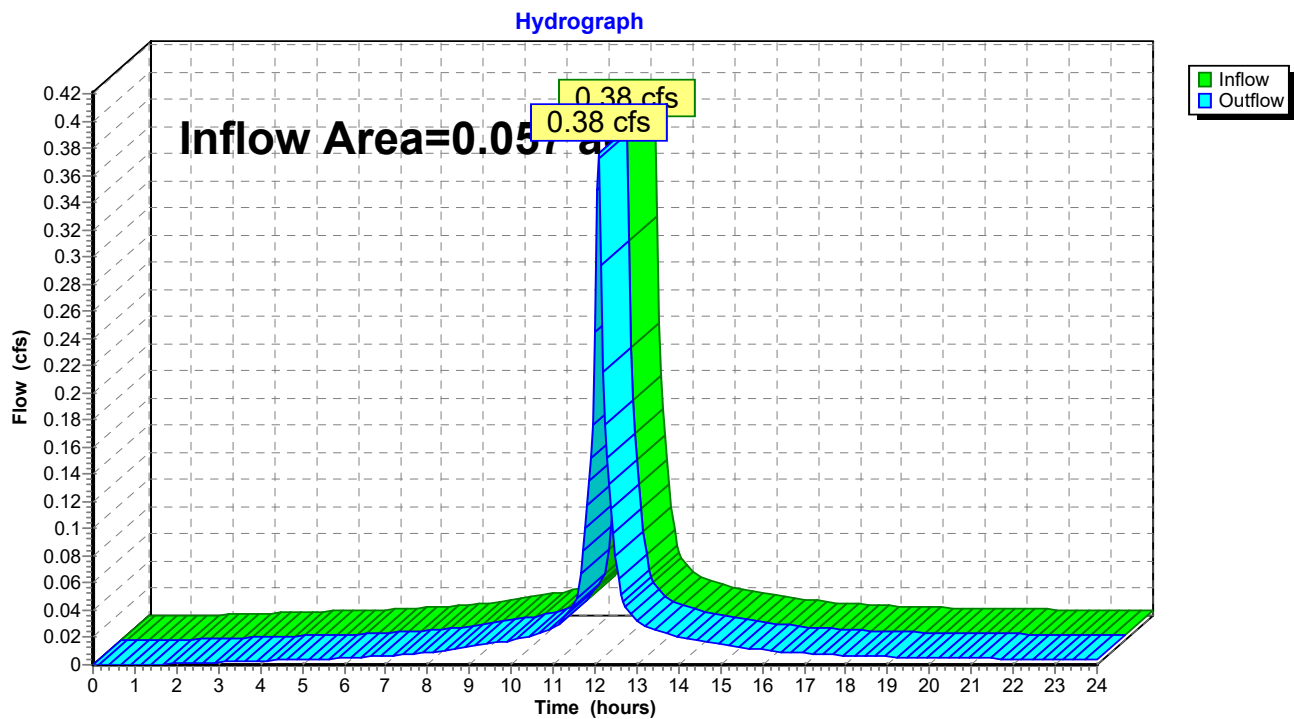
Summary for Reach 200R: Final Reach #200

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.057 ac, 92.37% Impervious, Inflow Depth > 6.42" for 25Yr-24Hr event
Inflow = 0.38 cfs @ 12.09 hrs, Volume= 0.031 af
Outflow = 0.38 cfs @ 12.09 hrs, Volume= 0.031 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Reach 200R: Final Reach #200



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Type III 24-hr 25Yr-24Hr Rainfall=6.90"

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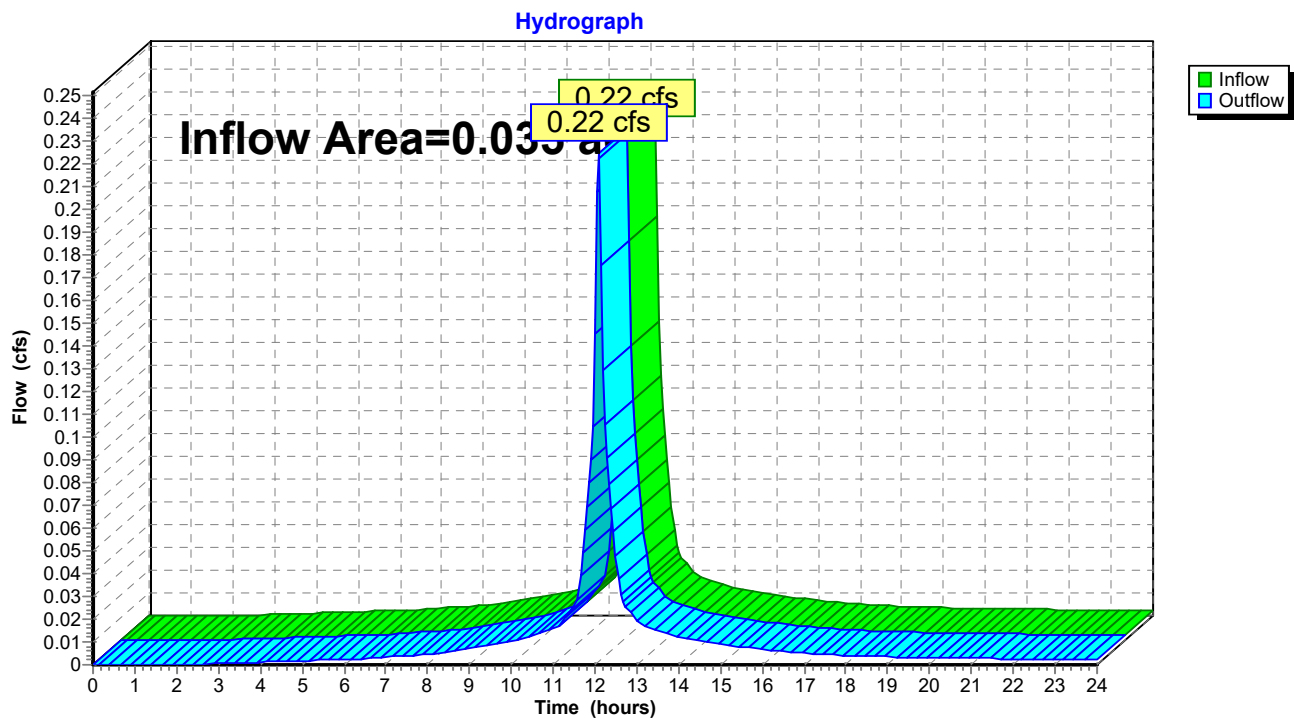
Summary for Reach 300R: Final Reach #300

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.035 ac, 81.32% Impervious, Inflow Depth > 6.19" for 25Yr-24Hr event
Inflow = 0.22 cfs @ 12.09 hrs, Volume= 0.018 af
Outflow = 0.22 cfs @ 12.09 hrs, Volume= 0.018 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Reach 300R: Final Reach #300



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Type III 24-hr 25Yr-24Hr Rainfall=6.90"

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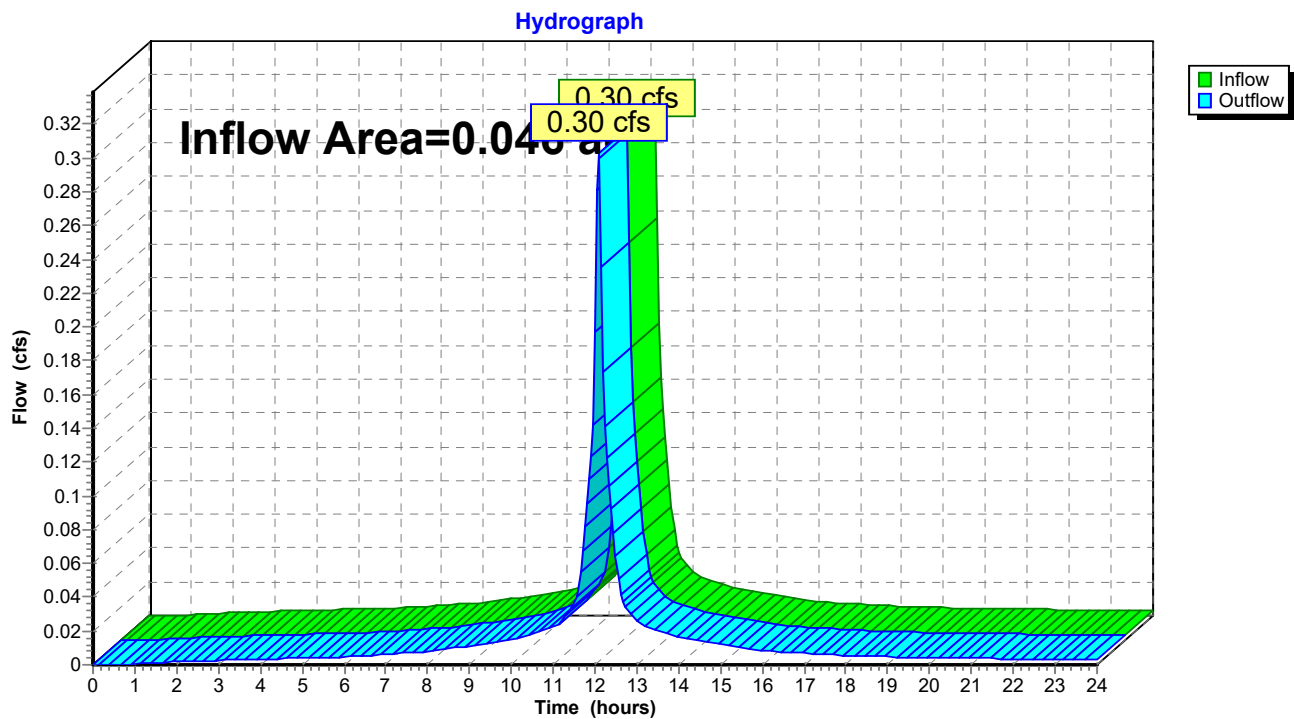
Summary for Reach 400R: Final Reach #400

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.046 ac, 100.00% Impervious, Inflow Depth > 6.66" for 25Yr-24Hr event
Inflow = 0.30 cfs @ 12.09 hrs, Volume= 0.025 af
Outflow = 0.30 cfs @ 12.09 hrs, Volume= 0.025 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Reach 400R: Final Reach #400



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Type III 24-hr 25Yr-24Hr Rainfall=6.90"

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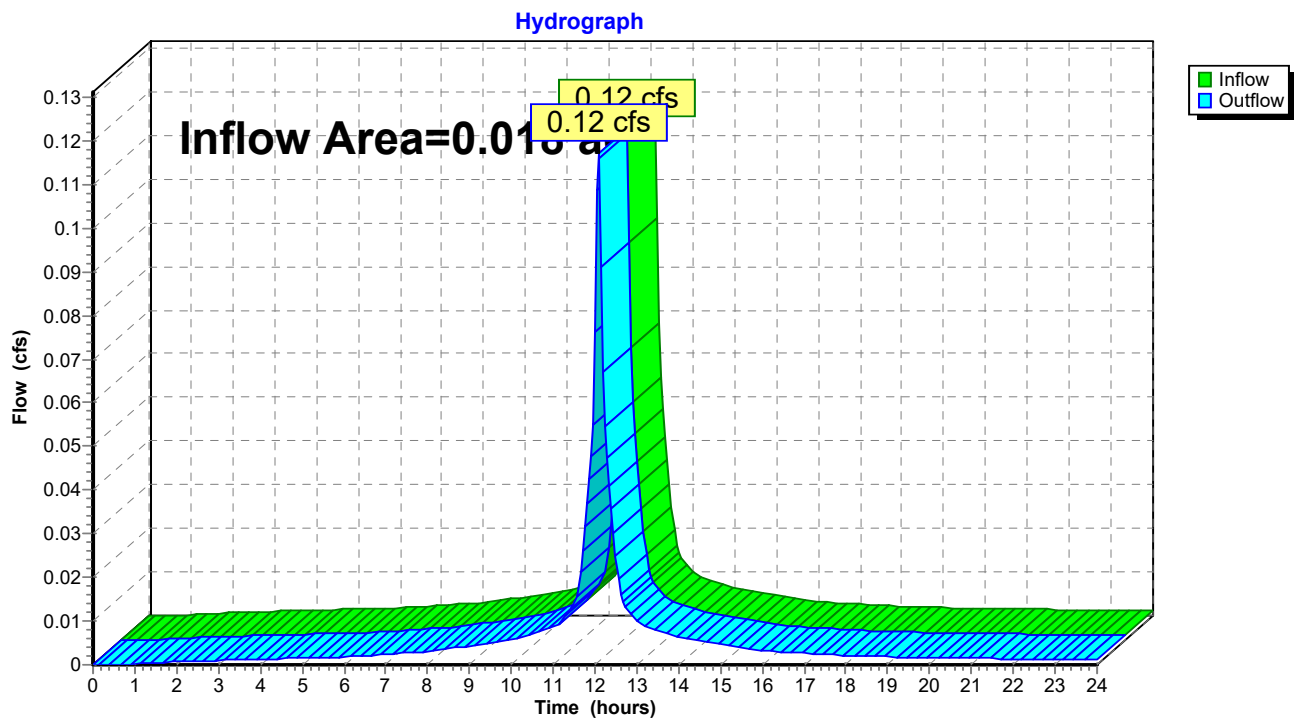
Summary for Reach 500R: Final Reach #500

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.018 ac, 100.00% Impervious, Inflow Depth > 6.66" for 25Yr-24Hr event
Inflow = 0.12 cfs @ 12.09 hrs, Volume= 0.010 af
Outflow = 0.12 cfs @ 12.09 hrs, Volume= 0.010 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Reach 500R: Final Reach #500



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Type III 24-hr 25Yr-24Hr Rainfall=6.90"

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Summary for Pond 1P: Ex. CB 1

Inflow Area = 0.034 ac, 52.72% Impervious, Inflow Depth > 5.27" for 25Yr-24Hr event
Inflow = 0.20 cfs @ 12.09 hrs, Volume= 0.015 af
Outflow = 0.20 cfs @ 12.09 hrs, Volume= 0.015 af, Atten= 0%, Lag= 0.2 min
Primary = 0.20 cfs @ 12.09 hrs, Volume= 0.015 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 62.35' @ 12.09 hrs Surf.Area= 0.000 ac Storage= 0.000 af

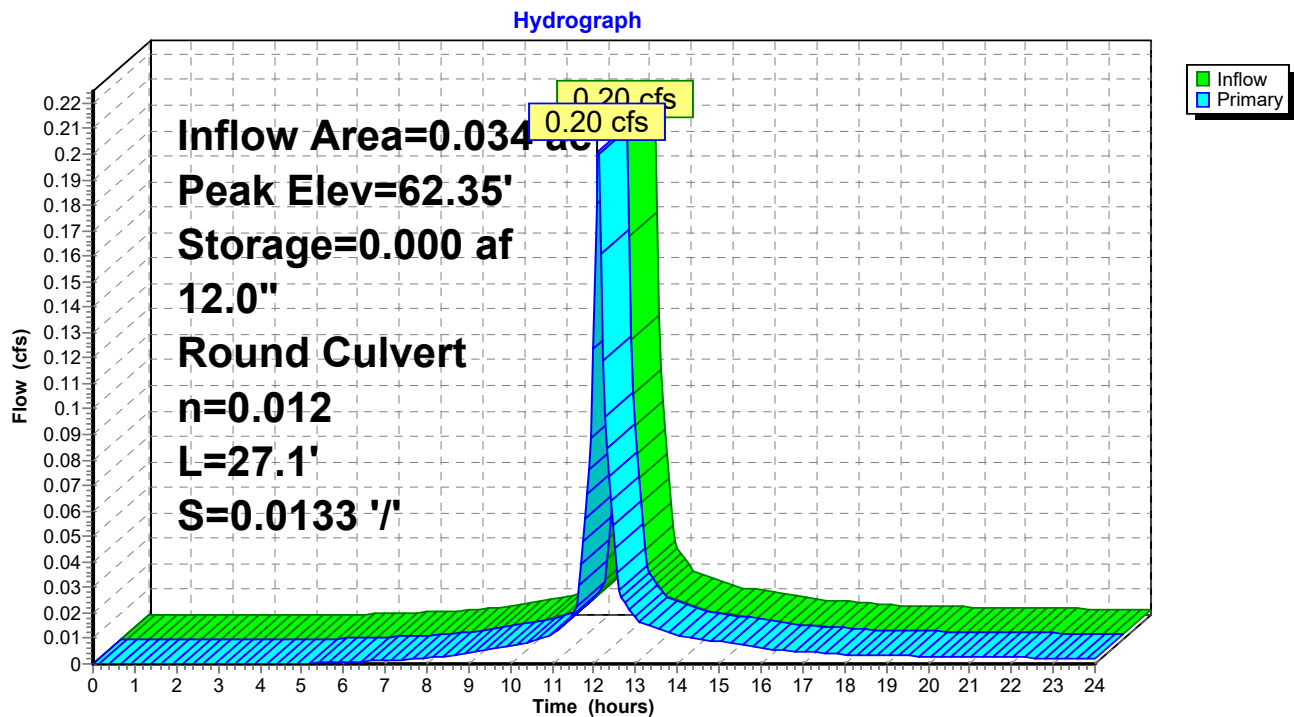
Plug-Flow detention time= 0.7 min calculated for 0.015 af (100% of inflow)
Center-of-Mass det. time= 0.6 min (792.9 - 792.3)

Volume	Invert	Avail.Storage	Storage Description
#1	62.13'	0.001 af	4.00'D x 3.55'H 4" Structure

Device	Routing	Invert	Outlet Devices
#1	Primary	62.13'	12.0" Round 12" HDPE N-12 L= 27.1' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 62.13' / 61.77' S= 0.0133 '/ Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.20 cfs @ 12.09 hrs HW=62.35' (Free Discharge)
1=12" HDPE N-12 (Inlet Controls 0.20 cfs @ 1.58 fps)

Pond 1P: Ex. CB 1



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Type III 24-hr 25Yr-24Hr Rainfall=6.90"

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Summary for Pond 2P: Ex. CB 2

[79] Warning: Submerged Pond 1P Primary device # 1 OUTLET by 0.18'

Inflow Area = 0.034 ac, 52.72% Impervious, Inflow Depth > 5.26" for 25Yr-24Hr event
Inflow = 0.20 cfs @ 12.09 hrs, Volume= 0.015 af
Outflow = 0.20 cfs @ 12.09 hrs, Volume= 0.015 af, Atten= 0%, Lag= 0.1 min
Primary = 0.20 cfs @ 12.09 hrs, Volume= 0.015 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 61.95' @ 12.09 hrs Surf.Area= 0.000 ac Storage= 0.000 af

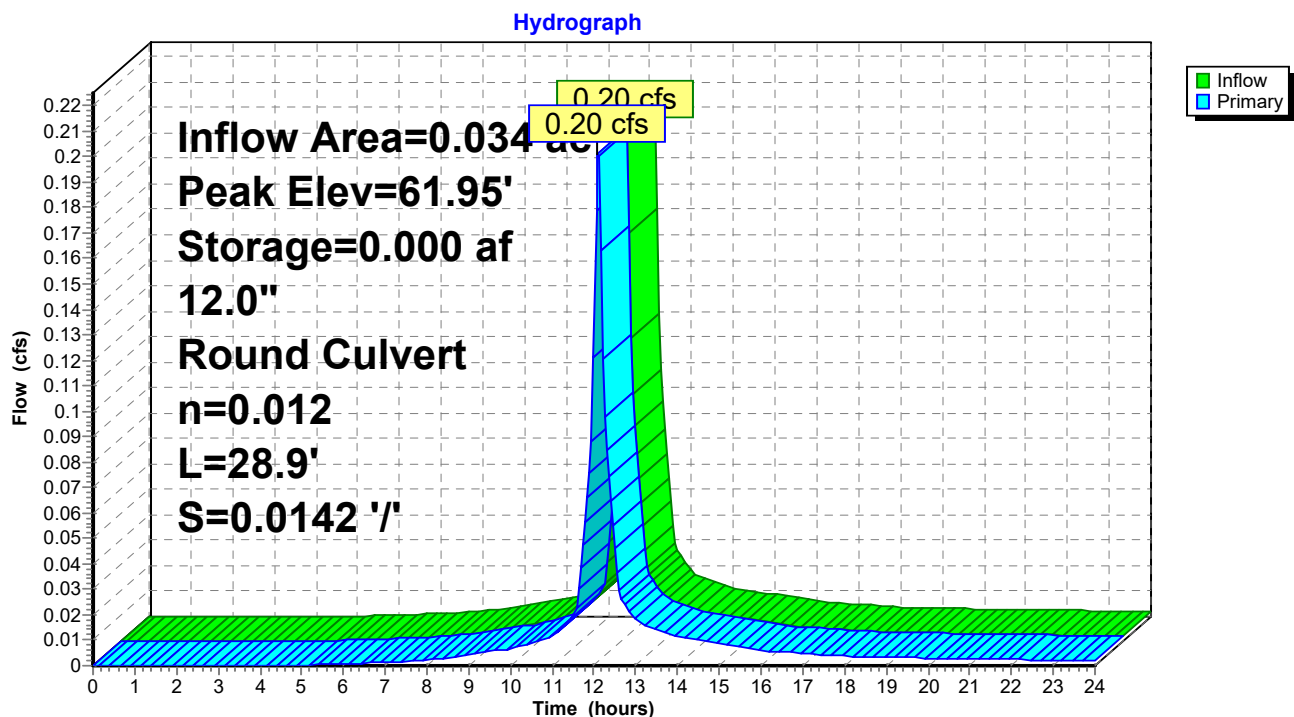
Plug-Flow detention time= 0.7 min calculated for 0.015 af (100% of inflow)
Center-of-Mass det. time= 0.6 min (793.4 - 792.9)

Volume	Invert	Avail.Storage	Storage Description
#1	61.73'	0.001 af	4.00'D x 3.24'H 4" Structure

Device	Routing	Invert	Outlet Devices
#1	Primary	61.73'	12.0" Round 12" HDPE N-12 L= 28.9' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 61.73' / 61.32' S= 0.0142 '/ Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.20 cfs @ 12.09 hrs HW=61.95' (Free Discharge)
←1=12" HDPE N-12 (Inlet Controls 0.20 cfs @ 1.58 fps)

Pond 2P: Ex. CB 2



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Type III 24-hr 25Yr-24Hr Rainfall=6.90"

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Summary for Pond 3P: Slot Drain

[57] Hint: Peaked at 64.27' (Flood elevation advised)

Inflow Area = 0.035 ac, 12.65% Impervious, Inflow Depth > 4.22" for 25Yr-24Hr event
Inflow = 0.16 cfs @ 12.11 hrs, Volume= 0.012 af
Outflow = 0.16 cfs @ 12.11 hrs, Volume= 0.012 af, Atten= 0%, Lag= 0.0 min
Primary = 0.16 cfs @ 12.11 hrs, Volume= 0.012 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Peak Elev= 64.27' @ 12.11 hrs

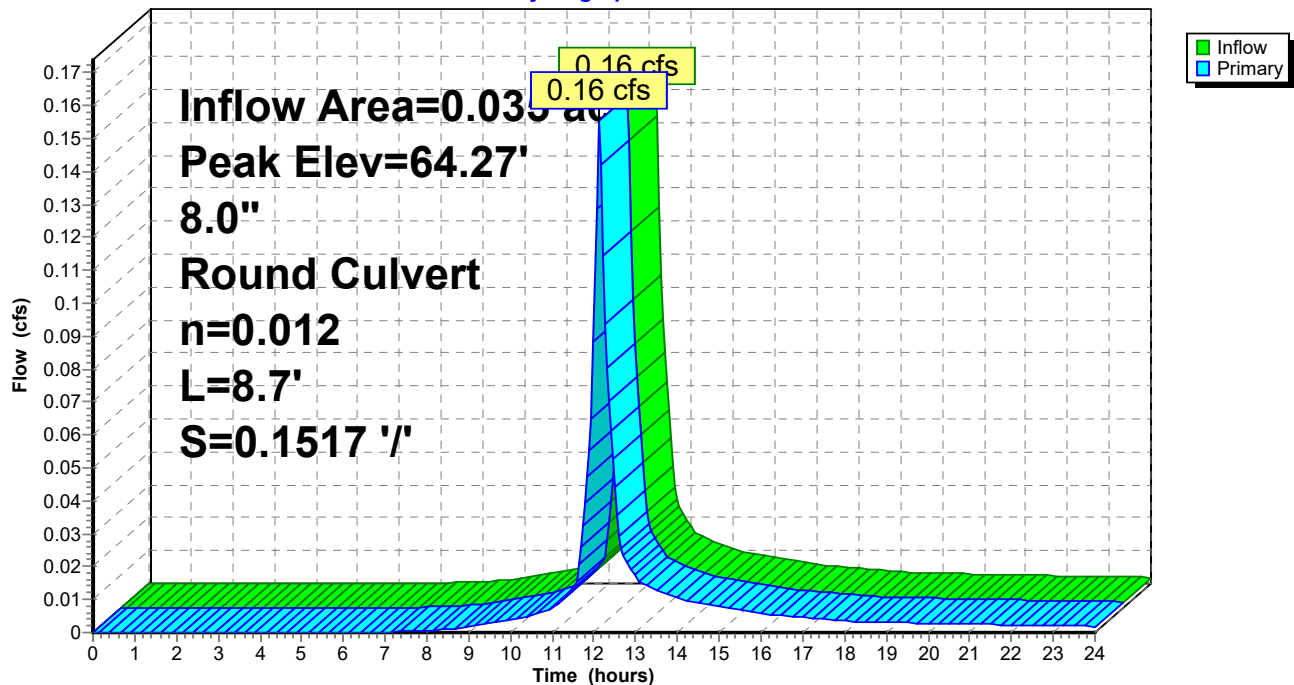
Device	Routing	Invert	Outlet Devices
#1	Primary	64.05'	8.0" Round Culvert L= 8.7' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 64.05' / 62.73' S= 0.1517 '/' Cc= 0.900 n= 0.012, Flow Area= 0.35 sf

Primary OutFlow Max=0.15 cfs @ 12.11 hrs HW=64.26' (Free Discharge)

↑ **1=Culvert** (Inlet Controls 0.15 cfs @ 1.58 fps)

Pond 3P: Slot Drain

Hydrograph



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Type III 24-hr 25Yr-24Hr Rainfall=6.90"

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Summary for Pond 4P: Roof Drains

[57] Hint: Peaked at 62.46' (Flood elevation advised)

Inflow Area = 0.108 ac, 100.00% Impervious, Inflow Depth > 6.66" for 25Yr-24Hr event
Inflow = 0.72 cfs @ 12.09 hrs, Volume= 0.060 af
Outflow = 0.72 cfs @ 12.09 hrs, Volume= 0.060 af, Atten= 0%, Lag= 0.0 min
Primary = 0.72 cfs @ 12.09 hrs, Volume= 0.060 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Peak Elev= 62.46' @ 12.09 hrs

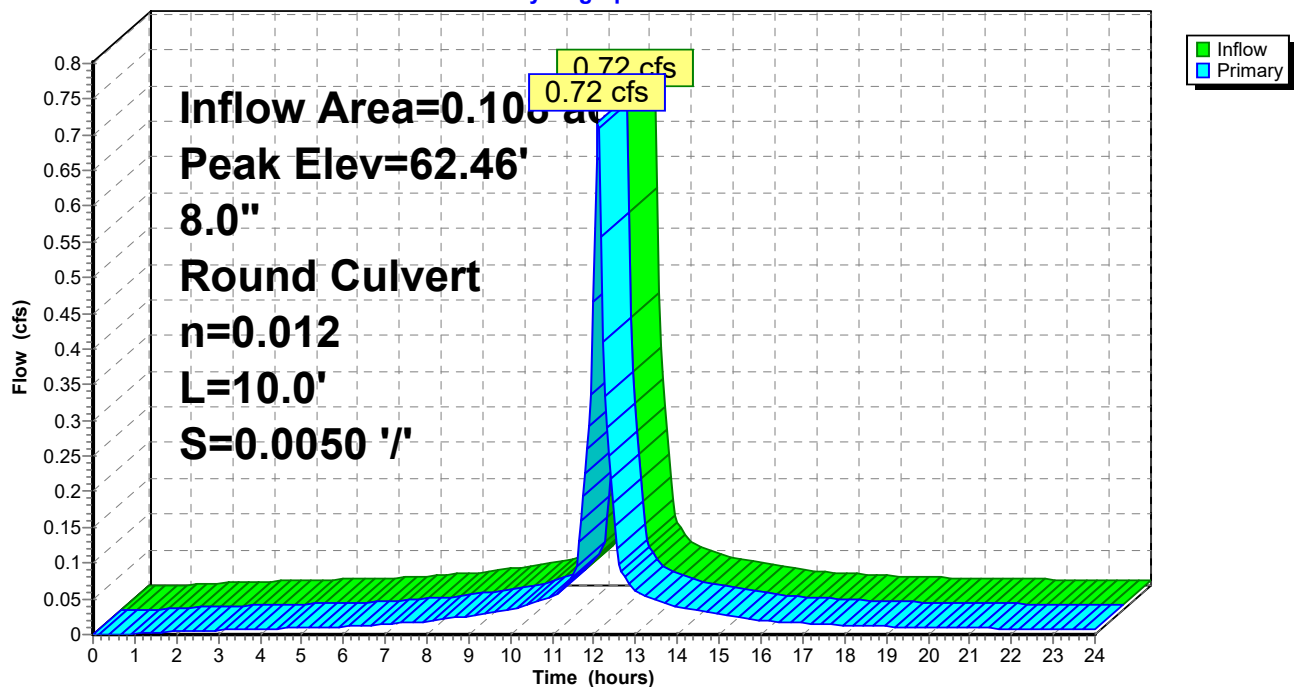
Device	Routing	Invert	Outlet Devices
#1	Primary	61.83'	8.0" Round 8" HDPE N-12 L= 10.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 61.83' / 61.78' S= 0.0050 '/' Cc= 0.900 n= 0.012, Flow Area= 0.35 sf

Primary OutFlow Max=0.70 cfs @ 12.09 hrs HW=62.45' (Free Discharge)

↑1=8" HDPE N-12 (Barrel Controls 0.70 cfs @ 2.67 fps)

Pond 4P: Roof Drains

Hydrograph



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Type III 24-hr 25Yr-24Hr Rainfall=6.90"

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Summary for Pond 5P: Roof Drains

[57] Hint: Peaked at 63.92' (Flood elevation advised)

Inflow Area = 0.327 ac, 80.16% Impervious, Inflow Depth > 6.07" for 25Yr-24Hr event
Inflow = 2.01 cfs @ 12.09 hrs, Volume= 0.166 af
Outflow = 2.01 cfs @ 12.09 hrs, Volume= 0.166 af, Atten= 0%, Lag= 0.0 min
Primary = 2.01 cfs @ 12.09 hrs, Volume= 0.166 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

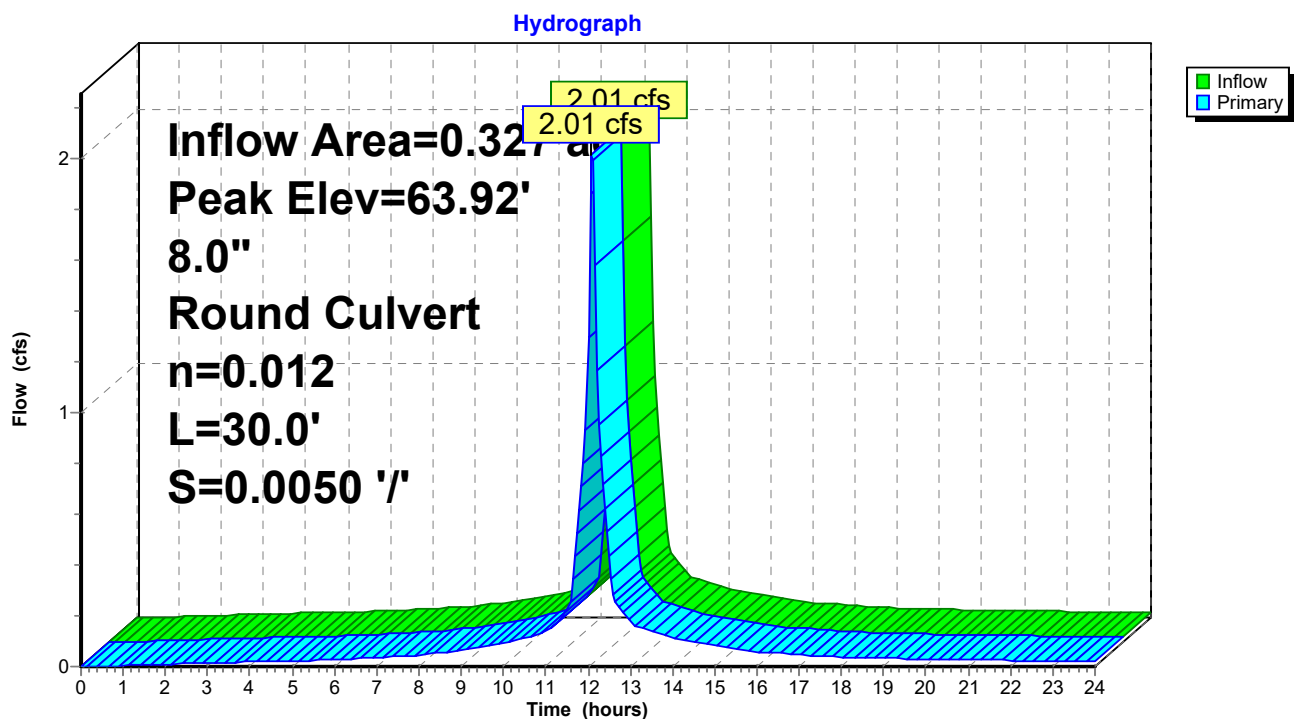
Peak Elev= 63.92' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	61.93'	8.0" Round 8" HDPE N-12 L= 30.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 61.93' / 61.78' S= 0.0050 '/' Cc= 0.900 n= 0.012, Flow Area= 0.35 sf

Primary OutFlow Max=1.96 cfs @ 12.09 hrs HW=63.85' (Free Discharge)

↑1=8" HDPE N-12 (Barrel Controls 1.96 cfs @ 5.61 fps)

Pond 5P: Roof Drains



22-037 Proposed Analysis

Prepared by Berry Surveying & Engineering

HydroCAD® 10.00-25 s/n 10221 © 2019 HydroCAD Software Solutions LLC

Type III 24-hr 25Yr-24Hr Rainfall=6.90"

Printed 8/15/2022

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Summary for Pond C01P: Yard Drain

Inflow Area = 0.020 ac, 0.00% Impervious, Inflow Depth > 3.95" for 25Yr-24Hr event
Inflow = 0.08 cfs @ 12.13 hrs, Volume= 0.007 af
Outflow = 0.08 cfs @ 12.13 hrs, Volume= 0.007 af, Atten= 0%, Lag= 0.0 min
Primary = 0.08 cfs @ 12.13 hrs, Volume= 0.007 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Peak Elev= 66.15' @ 12.13 hrs Surf.Area= 2 sf Storage= 0 cf

Plug-Flow detention time= 0.1 min calculated for 0.007 af (100% of inflow)

Center-of-Mass det. time= 0.1 min (824.7 - 824.6)

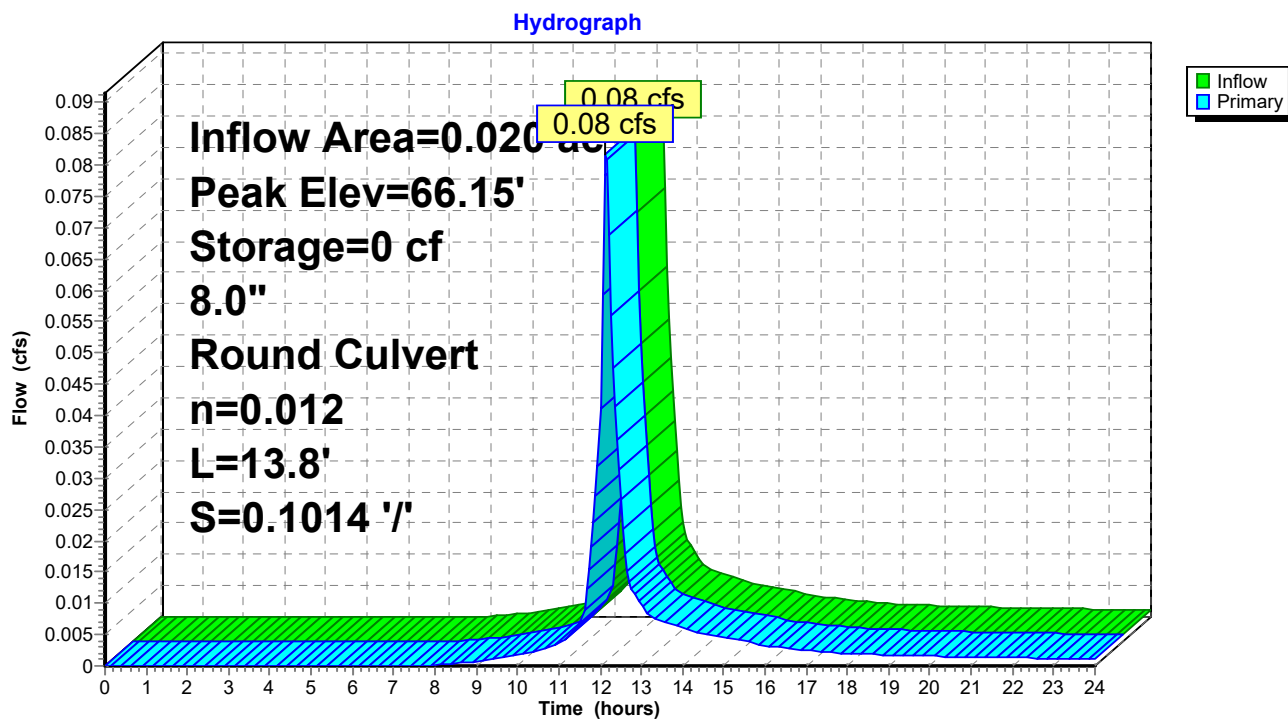
Volume	Invert	Avail.Storage	Storage Description
#1	66.00'	7 cf	1.50'D x 4.00'H 18" Structure

Device	Routing	Invert	Outlet Devices
#1	Primary	66.00'	8.0" Round 8" HDPE N-12 L= 13.8' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 66.00' / 64.60' S= 0.1014 '/' Cc= 0.900 n= 0.012, Flow Area= 0.35 sf

Primary OutFlow Max=0.08 cfs @ 12.13 hrs HW=66.15' (Free Discharge)

1=8" HDPE N-12 (Inlet Controls 0.08 cfs @ 1.33 fps)

Pond C01P: Yard Drain



Prepared by Berry Surveying & Engineering

HydroCAD® 10.00-25 s/n 10221 © 2019 HydroCAD Software Solutions LLC

Type III 24-hr 25Yr-24Hr Rainfall=6.90"

Printed 8/15/2022

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Summary for Pond D01P: Drain Manhole #1

[81] Warning: Exceeded Pond 4P by 0.25' @ 12.10 hrs

[79] Warning: Submerged Pond 5P Primary device # 1 INLET by 0.78'

Inflow Area = 0.470 ac, 79.76% Impervious, Inflow Depth > 6.07" for 25Yr-24Hr event
 Inflow = 2.88 cfs @ 12.09 hrs, Volume= 0.238 af
 Outflow = 2.88 cfs @ 12.09 hrs, Volume= 0.238 af, Atten= 0%, Lag= 0.1 min
 Primary = 2.88 cfs @ 12.09 hrs, Volume= 0.238 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 62.71' @ 12.09 hrs Surf.Area= 20 sf Storage= 25 cf

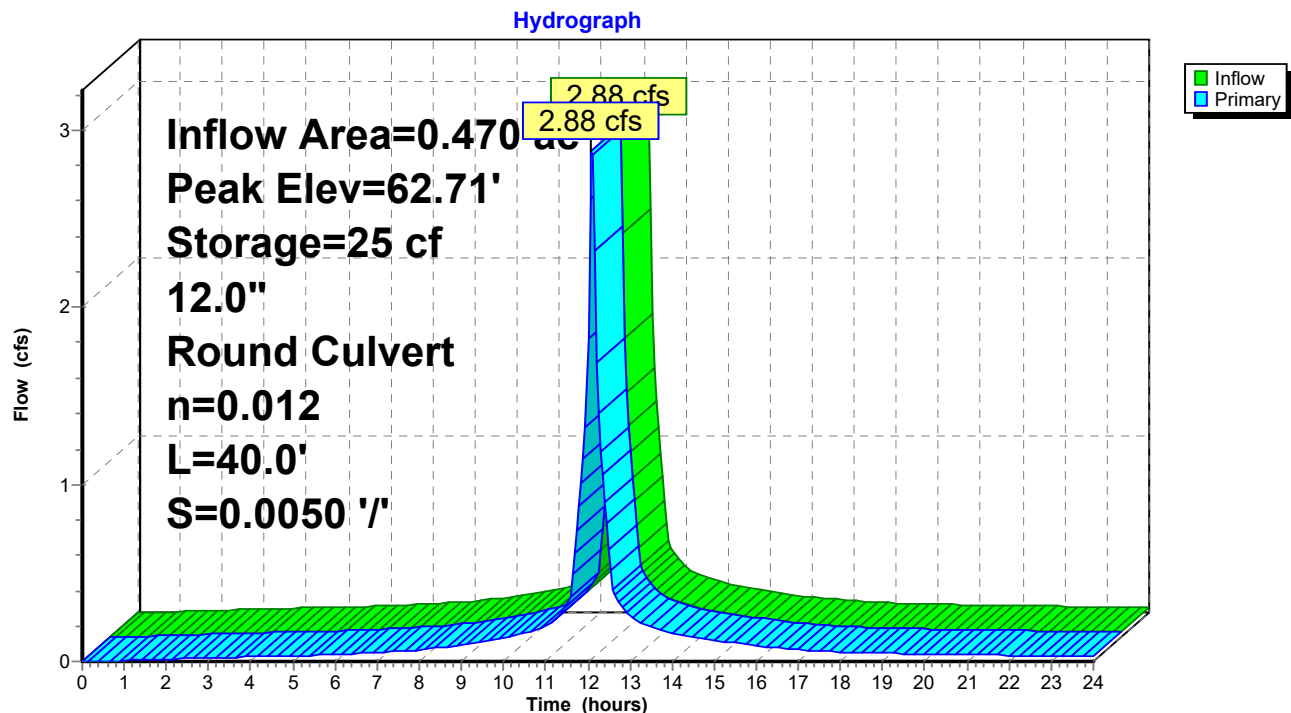
Plug-Flow detention time= 0.4 min calculated for 0.237 af (100% of inflow)
Center-of-Mass det. time= 0.3 min (754.1 - 753.8)

Volume	Invert	Avail.Storage	Storage Description
#1	61.45'	79 cf	5.00'D x 4.00'H 5' Structure

Device	Routing	Invert	Outlet Devices
#1	Primary	61.45'	12.0" Round 12" HDPE N-12 L= 40.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 61.45' / 61.25' S= 0.0050 '/ Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=2.83 cfs @ 12.09 hrs HW=62.69' (Free Discharge)
 1=12" HDPE N-12 (Barrel Controls 2.83 cfs @ 3.72 fps)

Pond D01P: Drain Manhole #1



Extreme Precipitation Tables

Northeast Regional Climate Center

Data represents point estimates calculated from partial duration series. All precipitation amounts are displayed in inches.

Smoothing	Yes
State	New Hampshire
Location	
Longitude	70.879 degrees West
Latitude	43.199 degrees North
Elevation	0 feet
Date/Time	Mon, 11 Jul 2022 13:21:51 -0400

Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.26	0.40	0.50	0.65	0.81	1.03	1yr	0.70	0.98	1.20	1.54	2.00	2.60	2.87	1yr	2.30	2.76	3.16	3.88	4.45	1yr
2yr	0.32	0.49	0.61	0.81	1.01	1.29	2yr	0.88	1.17	1.50	1.91	2.45	3.15	3.51	2yr	2.79	3.37	3.87	4.60	5.24	2yr
5yr	0.37	0.57	0.72	0.96	1.23	1.58	5yr	1.06	1.44	1.85	2.39	3.08	3.98	4.49	5yr	3.52	4.32	4.94	5.81	6.57	5yr
10yr	0.40	0.63	0.80	1.09	1.42	1.85	10yr	1.22	1.69	2.18	2.83	3.66	4.75	5.42	10yr	4.20	5.21	5.95	6.93	7.80	10yr
25yr	0.46	0.74	0.94	1.30	1.72	2.27	25yr	1.49	2.09	2.70	3.53	4.61	6.00	6.95	25yr	5.31	6.68	7.62	8.77	9.79	25yr
50yr	0.52	0.83	1.06	1.48	2.00	2.67	50yr	1.73	2.46	3.18	4.19	5.49	7.17	8.40	50yr	6.35	8.07	9.19	10.47	11.64	50yr
100yr	0.58	0.94	1.21	1.71	2.32	3.12	100yr	2.01	2.89	3.75	4.96	6.53	8.57	10.15	100yr	7.58	9.76	11.08	12.52	13.84	100yr
200yr	0.64	1.05	1.36	1.95	2.70	3.67	200yr	2.33	3.40	4.43	5.89	7.79	10.25	12.26	200yr	9.07	11.79	13.36	14.97	16.46	200yr
500yr	0.76	1.24	1.62	2.36	3.31	4.54	500yr	2.85	4.22	5.50	7.37	9.81	12.98	15.75	500yr	11.49	15.15	17.14	18.97	20.72	500yr

Lower Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.24	0.37	0.45	0.60	0.74	0.90	1yr	0.64	0.88	0.92	1.25	1.57	2.13	2.46	1yr	1.88	2.36	2.89	3.36	4.04	1yr
2yr	0.31	0.49	0.60	0.81	1.00	1.18	2yr	0.86	1.16	1.36	1.83	2.36	3.04	3.40	2yr	2.69	3.27	3.75	4.47	5.06	2yr
5yr	0.35	0.54	0.67	0.91	1.16	1.40	5yr	1.00	1.37	1.61	2.15	2.78	3.71	4.12	5yr	3.28	3.97	4.61	5.41	6.11	5yr
10yr	0.38	0.59	0.73	1.02	1.32	1.60	10yr	1.14	1.56	1.81	2.44	3.13	4.27	4.78	10yr	3.78	4.60	5.32	6.24	7.01	10yr
25yr	0.44	0.66	0.83	1.18	1.55	1.91	25yr	1.34	1.87	2.11	2.84	3.65	4.95	5.78	25yr	4.38	5.56	6.48	7.54	8.41	25yr
50yr	0.48	0.73	0.91	1.31	1.76	2.19	50yr	1.52	2.14	2.35	3.19	4.10	5.65	6.67	50yr	5.00	6.41	7.53	8.70	9.64	50yr
100yr	0.54	0.81	1.02	1.47	2.01	2.51	100yr	1.74	2.45	2.63	3.57	4.57	6.44	7.68	100yr	5.70	7.39	8.74	10.03	11.03	100yr
200yr	0.59	0.90	1.13	1.64	2.29	2.87	200yr	1.98	2.81	2.93	3.99	5.10	7.33	8.85	200yr	6.48	8.51	10.13	11.57	12.65	200yr
500yr	0.69	1.03	1.33	1.93	2.74	3.46	500yr	2.37	3.38	3.40	4.62	5.92	8.67	10.65	500yr	7.67	10.24	12.31	14.00	15.11	500yr

Upper Confidence Limits

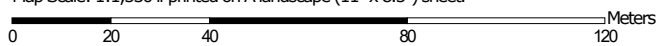
	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.28	0.43	0.53	0.71	0.87	1.08	1yr	0.75	1.05	1.23	1.74	2.21	2.87	3.09	1yr	2.54	2.97	3.43	4.22	4.81	1yr
2yr	0.33	0.51	0.62	0.85	1.04	1.25	2yr	0.90	1.22	1.48	1.95	2.51	3.29	3.63	2yr	2.91	3.49	4.00	4.75	5.45	2yr
5yr	0.39	0.61	0.75	1.03	1.31	1.58	5yr	1.13	1.55	1.86	2.50	3.20	4.24	4.86	5yr	3.75	4.67	5.28	6.23	7.00	5yr
10yr	0.46	0.70	0.87	1.22	1.57	1.92	10yr	1.36	1.88	2.23	3.04	3.86	5.21	6.07	10yr	4.61	5.83	6.67	7.65	8.54	10yr
25yr	0.56	0.85	1.05	1.50	1.97	2.48	25yr	1.70	2.42	2.88	3.96	4.96	7.05	8.15	25yr	6.24	7.84	8.93	10.08	11.12	25yr
50yr	0.64	0.98	1.22	1.75	2.35	2.99	50yr	2.03	2.93	3.49	4.83	6.02	8.71	10.22	50yr	7.70	9.82	11.17	12.39	13.60	50yr
100yr	0.75	1.13	1.42	2.04	2.80	3.62	100yr	2.42	3.54	4.24	5.90	7.32	10.75	12.80	100yr	9.52	12.31	13.95	15.27	16.64	100yr
200yr	0.87	1.30	1.65	2.39	3.34	4.39	200yr	2.88	4.29	5.15	7.22	8.89	13.32	16.07	200yr	11.79	15.45	17.44	18.80	20.38	200yr
500yr	1.06	1.58	2.03	2.95	4.20	5.63	500yr	3.62	5.51	6.66	9.45	11.52	17.70	21.69	500yr	15.66	20.86	23.46	24.79	26.67	500yr

Soil Map—Strafford County, New Hampshire



Soil Map may not be valid at this scale.

Map Scale: 1:1,530 if printed on A landscape (11" x 8.5") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84



**Natural Resources
Conservation Service**

Web Soil Survey
National Cooperative Soil Survey

5/11/2022
Page 1 of 3

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

Water Features



Streams and Canals

Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

Background



Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Strafford County, New Hampshire

Survey Area Data: Version 22, Aug 31, 2021

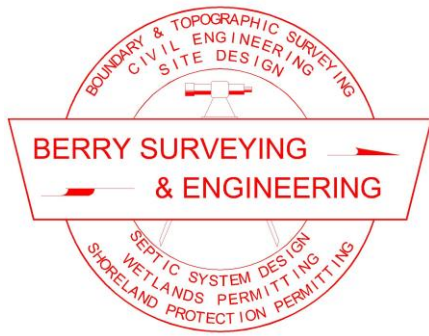
Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Sep 19, 2021—Nov 1, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
SfC	Suffield silt loam, 8 to 15 percent slopes	6.4	73.1%
SfE	Suffield silt loam, 15 to 35 percent slopes	2.3	26.9%
Totals for Area of Interest		8.7	100.0%



BERRY SURVEYING & ENGINEERING

335 Second Crown Point Road

Barrington, NH 03825

Phone: (603) 332-2863

Fax: (603) 335-4623

www.BerrySurveying.Com

Stormwater System Operation: Inspection and Maintenance Manual

Prepared for:

Wooden Ruler Realty, LLC

35 Third Street

DOVER, NH 03820

Land of

John Wong & Mo Y Wong, Trustee of

The Mo Y. Wong Living Revocable Trust of 2006

42 Third Street

DOVER, NH 03820

42 THIRD STREET, DOVER, NH

TAX MAP 6, LOT 32 & 40

Prepared By

Berry Surveying & Engineering

335 Second Crown Point Road

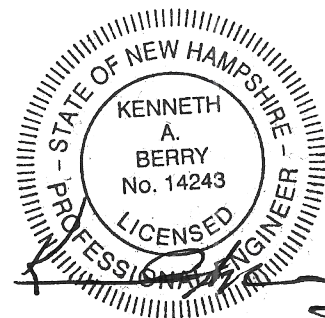
Barrington, NH 03825

603-332-2863

August 11, 2022

File Number

2022-037



Stormwater System Operation: Inspection and Maintenance Manual

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Site Plans	
NHDES Invasive Species	
NHDES Green SnoPro Utilization Chart	

This Operation and Maintenance Plan & Inspection and Maintenance Manual was prepared for the Stormwater System to be constructed at Tax Map 6, Lot 32 & 40. It has been prepared in accordance with RSA 485-A:17 and Administrative Rules Env-Wq 1507.08 administered by the NHDES Alteration of Terrain and City of Dover Site Plan Review Regulations.

Introduction

The Best Management Practices (BMP) described in this manual are specified in more detail within the plan set giving design details and specifications. The New Hampshire Stormwater Manual, Volume 2, Post-Construction Best Management Practices Selection & Design (December 2008, NHDES & US EPA) is included by reference to this manual. Additional details, construction specifications, and example drawings are provided within this reference. (<http://des.nh.gov/organization/divisions/water/stormwater/>)

The BMP's are covered below in the general order in which the storm water flows. Each BMP has a description and maintenance consideration listed. A checklist table is provided after the narrative to summarize the maintenance responsibilities and schedule. A Log Form is also provided for the owners use.

For details regarding the design of the Storm Water System see also Drainage Analysis and Sediment and Erosion Control Plan also published by Berry Surveying & Engineering originally dated August 11, 2022 as revised. See also plan set completed for Knox Wooden Ruler Realty, LLC originally dated August 11, 2022, as revised.

Wooden Ruler Realty, LLC, William T. Goldstein, Managing Member, land developer for Tax Map 6, Lot 32 & 40, Third Street, Dover, NH is responsible for the Stormwater System Operation and Maintenance on the drainage infrastructure on the property. A significant step in this responsibility is the Inspection and Maintenance of each component of the system. Ongoing, semi-annual, and annual inspection and maintenance requirements are documented below and must be taken seriously. Failure of any component of the system can result in surface water run-off ponding and/or freezing in the roadway, leaving the developed site untreated, and/or causing violations to issued permits. The owner must maintain, and have available, plans of the Stormwater System in order properly inspect and maintain the system. (Reduced copies attached.) The owner is responsible to ensure that any subsequent owner, owners association, or subcontractor has copies of the Log Form and Annual Report records and fully understands the responsibilities of this plan. The grantor owner will ensure this document is provided to the grantee owner by duplicating the Ownership Responsibility Sheet which is found toward the back of this document, which will be maintained with the Inspection & Maintenance Logs, provided to the City of Dover Community Services Department with the Annual Report and available to NHDES upon request.

Green Roof

Description: The intent of the Green Roof is to provide recreation space for residents but also reduce the urbanized weighted curve number of this projects and projects in general. The roof is equipped with a membrane and collection pan so that as runoff infiltrates the green roof section it is collected at a reduced rate and discharged through the conventional roof drainage system.

Though this is not a conventional treatment system, the capacity of the roofs ability to collect water at a reduced rate is integral to the stormwater analysis prepared for the project.

Maintenance Considerations:

Green Roof should be inspected at least twice annually and following any rainfall event exceeding 0.25 inches in a twenty-four hour period. Maintenance rehabilitation will be conducted as warranted by each inspection. Trash and debris will be removed at each inspection from the inlet catch basin grates. Assurance of grass growth and proper loam depth is required to be inspected twice annually. Loam compaction is the largest concern for Green Roof design. If compaction is taking place, please use conventional means to plug the material or till it to allow for future proper growth and infiltration. The area should be mowed to ensure growth is a manageable usable elevation and does not become overgrown.

Catch Basin, and Drain Manholes

Description: Catch Basins are used throughout the site to capture and, along with culvert pipes and manhole, route surface water runoff to stormwater treatment and detention infrastructure. During construction the catch basins will be protected by inlet protection per the approved construction plans. The practice of street sweeping on a bi-annual basis will help reduce maintenance of these catch basins and culvert pipes.

Note: Deep sump catch basins are not allowed to be used on this proposed development due to wildlife concerns and any manufacturer sump resulting in a catch basin must be filled with washed crushed stone. Sediment should be trapped in the sediment forebays but is also a concern in earlier structures.

Maintenance Considerations: Sediment must be removed from Catch Basins and Manholes on a regular basis, at least twice a year and more often if post-winter maintenance and street sweeping is not conducted. Inspections should be conducted periodically. At a minimum they should be cleaned after snow-melt and after leaf-drop. Disposal of all material, sediment, and debris must be done in accordance with state

and federal regulations. Culvert pipes will be inspected to ensure that surface water runoff is capable of leaving the structures.

Snow Storage Areas & Winter Maintenance

Description: The effective use of salt and sand for winter maintenance is both a cost and an environmental consideration. In accordance with City of Dover Chapter 149-14 A, Snow and ice removal shall be performed by a contractor certified by the "Green SnoPro" program, or approved equivalent, following the Best Management Practices for the application of deicing materials. De-icing logs will be maintained for the development.

Maintenance Considerations: Snow will be stockpiled in designated area during the course of the winter and any excess snow will be taken off-site and disposed of in an appropriate area. As the snow is melting in the spring, sand will be swept and removed from the site. The catch basin sumps will be scheduled for one of the two annual cleanings in the early spring.

Reference is made to the NHDES Green SnoPro program and Minnesota Pollution Control Agency document "Winter Parking Lot and Sidewalk Maintenance Manual"

Control of Invasive Plants

During maintenance activities, check for the presence of invasive plants and remove in a safe manner as described on the following pages. They should be controlled as described on the following pages.

Invasive plants are introduced, alien, or non-native plants, which have been moved by people from their native habitat to a new area. Some exotic plants are imported for human use such as landscaping, erosion control, or food crops. They also can arrive as "hitchhikers" among shipments of other plants, seeds, packing materials, or fresh produce. Some exotic plants become invasive and cause harm by:

- becoming weedy and overgrown;
- killing established shade trees;
- obstructing pipes and drainage systems;
- forming dense beds in water;
- lowering water levels in lakes, streams, and wetlands;
- destroying natural communities;
- promoting erosion on stream banks and hillsides; and
- resisting control except by hazardous chemical.

Annual Report

Description: The owner is responsible to keep an **I & M Activity Log** that documents inspection, maintenance and repairs to the storm water management system, and a **Deicing Log** to track the amount and type of deicing material applied to the site. The original owner is responsible to ensure that any subsequent owner(s) have copies of the Stormwater System Operation: Inspection and Maintenance Manual, copies of past logs and checklists. This includes any owner association for potential condominium conversion of the property. The Annual Report will be prepared and submitted to the City of Dover Community Services Department (Engineering) with copies of both logs and check lists no later than December 15th of each year and made available to NHDES upon request. Upon an ownership change, the Annual Report will include the Transfer of Ownership Responsibility Forms duplicated from the form found below.

BERRY SURVEYING & ENGINEERING

Kevin R. Poulin, EIT
Project Engineer

A handwritten signature in black ink, appearing to read 'K. Berry', with a stylized flourish at the end.

Kenneth A. Berry, PE, LLS
CPSWQ, CPESC, CESSWI
Principal, VP – Technical Operations

STORMWATER SYSTEM OPERATION AND MAINTENANCE PLAN

Inspection & Maintenance Manual Checklist

**Wooden Ruler Realty, LLC
 42 Third Street
 Dover, NH 03820**

☒	Date	BMP / System	Minimum Inspection Frequency	Minimum Inspection Requirements	Maintenance / Cleanout Threshold
		Pavement Sweeping	Three Times Per Year	N/A	N/A
		Litter/Trash Removal	Routinely	Inspect dumpsters, outdoor waste receptacles area, and yard areas.	Parcel will be free of litter/trash.
		Deicing Agents	N/A	N/A	Use salt as the primary agent for roadway safety during winter.
		Closed Drainage System:			
		Drainage Pipes	1 time per 2 years	Check for sediment accumulation & clogging.	Less than 2" sediment depth
		Catch Basins	2 times per year	Check for sediment accumulation & clogging.	Sediment accumulated to a depth of 2 feet.

☒	Date	BMP / System	Minimum Inspection Frequency	Minimum Inspection Requirements	Maintenance / Cleanout Threshold
		Green Roof	Annually	Vegetation evaluation.	Take corrective measures of grass if required.
		Winter Maintenance	Ongoing	Remove snow as directed.	Ongoing
		Post Winter Maintenance	Annually	Remove excess sand, gross solids, and repair vegetation and plantings	Parcel will be free of excess sand, litter/trash. Vegetation per approved plans.
		Annual Report	1 time per year	Submit Annual Report to Dover Building Inspector and kept on file by the owner.	Report to be submitted on or before December 15th each year. Make copies available to NHDES upon request.

Inspection Notes:

Inspection & Maintenance Manual Log Form

[illegible]

Deicing Log Form

[illegible]

STORMWATER SYSTEM OPERATION & MAINTENANCE PLAN CERTIFICATION

Owner		Responsibility
Name:	Wooden Ruler Realty, LLC William T. Goldstein, Managing Member	The owner is responsible for the conduct of all construction activities, and ultimate compliance with all the provisions of the Stormwater System Operation & Maintenance Plan and the implementation of the Inspection and Maintenance Manual.
Address:	35 Third Street Dover, NH 03820	
Telephone:	1-603-531-8258	

OWNER CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction and supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signed: _____ Date: _____

Printed Name:

Representing:

Control of Invasive Plants

**New Hampshire
Department of Agriculture,
Markets & Food
Douglas Cygan
603-271-3488
doug.cygan@agr.nh.gov**

This guide lists garden plants and weeds which are already causing significant changes to natural areas in the Mid-Atlantic. **Measures for controlling each species are indicated by number, e.g., (3), in the text with a full explanation at the end of this article.** Click on the word [Control](#): to jump to that section. Then click your "back" button to return to the text. Following each section suggested alternative plants are given. These alternatives are native plants, well adapted and needing little care, attractive to birds and butterflies, and an important part of the food web for our indigenous species.

INVASIVE TREES

NORWAY MAPLE (*Acer platanoides*) has large leaves similar to sugar maple. To easily confirm that the plant is Norway maple, break off a leaf and if it's truly Norway maple it will exude milky white sap. Fall foliage is yellow. (Exception: cultivars such as 'Crimson King,' which have red leaves in spring or summer, may have red autumn leaves.) The leaves turn color late, usually in late October after native trees have dropped their foliage. This tree suppresses growth of grass, garden plants, and forest understory beneath it, at least as far as the drip-line. Its wind-borne seeds can germinate and grow in deep shade. The presence of young Norway maples in our woodlands is increasing.

[Control](#): (1); (7), (8), (9), or (10); (11) in mid-October to early November, before the leaves turn color.

TREE OF HEAVEN (*Ailanthus altissima*), is incredibly tough and can grow in the poorest conditions. It produces huge quantities of wind-borne seeds, grows rapidly, and secretes a toxin that kills other plants. Its long compound leaves, with 11-25 lance-shaped leaflets, smell like peanut butter or burnt coffee when crushed. Once established, this tree cannot be removed by mechanical means alone.

[Control](#): (1) - seedlings only. Herbicide - use Garlon 3a (9) with no more than a 1" gap between cuts, or (10); plus (11) on re-growth. Or paint bottom 12" of bark with Garlon 4 Ultra (in February or March to protect surrounding plants). USE MAXIMUM STRENGTH SPECIFIED ON LABEL for all herbicide applications on Ailanthus. Glyphosate is not effective against Ailanthus.

INVASIVE SHRUBS

AUTUMN OLIVE (*Eleagnus umbellata*): Formerly recommended for erosion control and wildlife value, these have proved highly invasive and diminish the overall quality of wildlife habitat.

[Control](#): (1) - up to 4" diameter trunks; (7) or (10) or bury stump. Do not mow.

MULTIFLORA ROSE (*Rosa multiflora*), formerly recommended for erosion control, hedges, and wildlife habitat, becomes a huge shrub that chokes out all other vegetation and is too dense for many species of birds to nest in, though a few favor it. In shade, it grows up trees like a vine. It is covered with white flowers in June. (Our native roses have fewer flowers, mostly pink.) Distinguish multiflora by its size, and by the presence of very hard, curved thorns, and a fringed edge to the leaf stalk.

[Control](#): (1) - pull seedlings, dig out larger plants at least 6" from the crown and 6" down; (4) on extensive infestations; (10) or (11). It may remain green in winter, so herbicide may *applied when other plants are dormant. For foliar application, mix Rodeo with extra sticker-spreader, or use Roundup Sure Shot Foam on small plants.*

BUSH HONEYSUCKLES (*Lonicera spp.*), including Belle, Amur, Morrow's, and Tatarian honeysuckle. (In our region, assume that any honeysuckle is exotic unless it is a scarlet-flowered vine). Bush honeysuckles create denser shade than native shrubs, reducing plant diversity and eliminating nest sites for many forest interior species.

Control: (2) on ornamentals; (1); on shady sites only, brush cut in early spring and again in early fall (3); (4) during the growing season; (7); or (10) late in the growing season.

BLUNT-LEAVED PRIVET (*Ligustrum obtusifolium*). Control: (1); (7) or (10); or trim off all flowers. Do not cut back or mow.

BURNING BUSH, WINGED EUONYMUS (*Euonymus alatus*), identified by wide, corky wings on the branches.

Control: (1); (7) or (10); or trim off all flowers.

JAPANESE BARBERRY (*Berberis thunbergii*), and all cultivars and varieties.

Control: (1); (7) or (10); or trim off all flowers.

INVASIVE WOODY VINES

All of these vines shade out the shrubs and young trees of the forest understory, eventually killing them, and changing the open structure of the forest into a dense tangle. DO NOT PLANT NEXT TO OPEN SPACE.

JAPANESE HONEYSUCKLE (*Lonicera japonica*), including Hall's honeysuckle, has gold-and-white flowers with a heavenly scent and sweet nectar in June. This is probably the familiar honeysuckle of your childhood. It is a rampant grower that spirals around trees, often strangling them.

Control: (1); (3); (10); (11) in fall or early spring when native vegetation is dormant. Plan to re-treat repeatedly.

ORIENTAL BITTERSWEET (*Celastrus orbiculatus*) has almost completely displaced American bittersweet (*C. scandens*). The Asian plant has its flowers and bright orange seed capsules in clusters all along the stem, while the native species bears them only at the branch tips.

Control: (1); keep ornamental plants cut back, remove all fruits as soon as they open, and bag or burn fruits; to eradicate use Garlon 3a (10).

JAPANESE KNOTWEED, MEXICAN BAMBOO (*Polygonum cuspidatum*) can grow in shade. The stems have knotty joints, reminiscent of bamboo. It grows 6-10' tall and has large pointed oval or triangular leaves.

Control: Cut at least 3 times each growing season and/or treat with Rodeo (10) or (11). In gardens, heavy mulch or dense shade may kill it.

INVASIVE HERBACEOUS PLANTS

GARLIC MUSTARD (*Alliaria petiolata*, *A. officinalis*), a white-flowered biennial with rough, scalloped leaves (kidney-, heart- or arrow-shaped), recognizable by the smell of garlic and taste of mustard when its leaves are crushed. (The odor fades by fall.)

Control: Pull before it flowers in spring (1), removing crown and roots. Tamp down soil afterwards. Once it has flowered, cut (2), being careful not to scatter seed, then bag and burn or send to the landfill. (11) may be appropriate in some settings.

JAPANESE STILT GRASS (*Microstegium vimineum*) can be identified by its lime-green color and a line of silvery hairs down the middle of the 2-3" long blade. It tolerates sun or dense shade and quickly invades areas left bare or disturbed by tilling or flooding. An annual grass, it builds up a large seed bank in the soil.

Control: Easily pulled in early to mid-summer (1) - be sure to pull before it goes to seed. If seeds have formed, bag and burn or send to landfill. Mowing weekly or when it has just begun to flower may prevent it from setting seed (3). Use glyphosate (11) or herbicidal soap (less effective) on large infestations. Follow up with (5) in spring.

MILE-A-MINUTE VINE, DEVIL'S TAIL TEARTHUMB (*Polygonum perfoliatum*), a rapidly growing annual vine with triangular leaves, barbed stems, and turquoise berries in August which are spread by birds. It quickly covers and shades out herbaceous plants.

Control: same as for stilt grass.

SPOTTED KNAPWEED (*Centaurea maculosa*), a biennial with thistle-like flowers.

Control: Do NOT pull (1) unless the plant is young and the ground is very soft - the tap root will break off and produce several new plants. Wear sturdy gloves. (2); (6); (10) or (11).

CONTROL MEASURES

- (1) PULL seedlings and small or shallow-rooted plants when soil is moist. Dig out larger plants, including the root systems. Use a forked spade or weed wrench for trees or shrubs.
- (2) DEADHEAD to prevent spread of seeds of invasive plants. Cut off seeds or fruits before they ripen. Bag, and burn or send to a landfill.
- (3) MOW or CUTTING at least 4 times a season to deplete plants' store of nutrients and carbohydrates, reduce seed formation, and kill or minimize spread of plants. If necessary, repeat each year.
- (4) CONTROLLED BURNING during the spring, repeated over several years, allows native vegetation to compete more effectively with the invasive species. This requires a permit. Spot treatment with glyphosate in late fall can be used to make this method more effective.
- (5) Use a CORN-BASED PRE-EMERGENCE HERBICIDE on annual weeds. This product is also an organic fertilizer, i.e., it can stimulate growth of existing plants, including weeds, so it is appropriate for lawns and gardens but may not be appropriate in woodlands.
- (6) In lawns, SPOT TREAT with BROAD-LEAF WEEDKILLER. Good lawn-care practices (test soil; use lime and fertilizer only when soil test shows a need; mow high and frequently; leave clippings on lawn) reduce weed infestations.
- (7) CUT DOWN the tree. Grind out the stump, or clip off re-growth.
- (8) GIRDLE tree: cut through the bark and growing layer (cambium) all around the trunk, about 6" above the ground. Girdling is most effective in spring when the sap is rising, and from middle to late summer when the tree is sending down food to the roots. Clip off sucker sprouts.
- (9) FRILL: Using a machete, hatchet or similar device, hack scars (several holes in larger trees) downward into the cambium layer, and squirt in glyphosate (or triclopyr if recommended in text above). Follow label directions for Injection and Frill Applications. This is most effective from middle to late summer. Clip off any sucker sprouts or treat with glyphosate.
- (10) CUT STEM / CUT STUMP WITH GLYPHOSATE (or triclopyr if specified above). Follow label directions for Cut Stump Application. Clip off sucker sprouts or paint with glyphosate. See Note on Herbicides.
- (11) FOLIAR SPRAY WITH GLYPHOSATE herbicide (see Note on Herbicides). Use a backpack or garden sprayer or mist blower, following label directions. Avoid overspray and/or dripping onto non-target plants, because glyphosate kills most plants except moss. If it rolls off waxy or grass-like foliage, use additional sticker-spreader. Deciduous trees, shrubs, and perennials move nutrients down to the roots in late summer. Glyphosate is particularly effective at this time and when plants have just gone out of flowering. Several invasive species retain their foliage after native plants have lost theirs, and resume growth earlier in spring than most natives. This allows you to treat them without harming the natives. However, the plant must be actively growing for the herbicide to work. Retreatments may be necessary the following year if suckering occurs or the plant hasn't been entirely killed.

NOTE ON HERBICIDES: It is highly recommended that small populations try to be controlled using non-chemical methods wherever feasible. However, for large infestations, and for a few plants specified above, herbicide use is essential. Apply herbicides carefully to avoid non-target plants, glyphosate is the least environmentally damaging herbicide in most cases. Add food coloring for visibility, and a soap-based sticker such as Cide-Kick. Glyphosate is ineffective on some

plants; for these, triclopyr (Garlon) may be indicated. When using herbicides, read the entire label and observe all precautions listed, including proper disposal. If in doubt, call your local Cooperative Extension Service.

Pavement Temp. (°F) and Trend (↑ ↓)	Weather Condition	Maintenance Actions	Application Rate (lbs/per 1000 sq.ft.)			
			Salt Prewetted/Pretreated with salt brine	Salt Prewetted/Pretreated with other blends	Dry salt	Winter sand
>30 ↑	Snow	Plow, treat intersections only				Not recommended
	Frz. Rain	Apply chemical				Not recommended
30 ↓	Snow	Plow and apply chemical				Not recommended
	Frz. Rain	Apply chemical				Not recommended
25 - 30 ↑	Snow	Plow and apply chemical				Not recommended
	Frz. Rain	Apply chemical				Not recommended
25 - 30 ↓	Snow	Plow and apply chemical				Not recommended
	Frz. Rain	Apply chemical				3.25
20 - 25 ↑	Snow or frz. Rain	Plow and Apply chemical				3.25 for frz. Rain
20 - 25 ↓	Snow	Plow and apply chemical				Not recommended
	Frz. Rain	Apply chemical				3.25
15 - 20 ↑	Snow	Plow and apply chemical				Not recommended
	Frz. Rain	Apply chemical				3.25
15 - 20 ↓	Snow or Frz. Rain	Plow and apply chemical				3.25 for frz. Rain
0 to 15 ↑↓	Snow	Plow, treat with blends, sand hazardous areas	Not recommended		Not recommended	5.0 and spot-treat as needed
< 0	Snow	Plow, treat with blends, sand hazardous areas	Not recommended		Not recommended	5.0 and spot-treat as needed

Table 19. Application Rates for Deicing

These rates & table format are based on road application guidelines (Mn Snow & Ice Control Field Handbook, Manual 2005-1). Develop your own application rates by adjusting your current rates incrementally downward toward these guidelines. Where temperature categories overlap, select the rate most applicable to your situation.

Each Watershed Report Card covers a single 12-digit Hydrologic Unit Code (HUC12), on average a 34 square mile area. Each Watershed Report Card has three components;

1. REPORT CARD - A one page card that summarizes the overall use support for Aquatic Life Integrity, Primary Contact (i.e. Swimming), and Secondary Contact (i.e. Boating) Designated Uses on every Assessment Unit ID (AUID) within the HUC12.
2. HUC 12 MAP - A map of the watershed with abbreviated labels for each AUID within the HUC12.
3. ASSESSMENT DETAILS - Anywhere from one to forty pages with the detailed assessment information for each and every AUID in the Report Card and Map.

How are the Surface Water Quality Assessment determinations made?

All readily available data with reliable Quality Assurance/Quality Control is used in the biennial surface water quality assessments. For a full understanding of how the Surface Water Quality Standards (Env-Wq 1700) are translated into surface water quality assessments we urge the reader to review the 2020/2022 [Consolidated Assessment and Listing Methodology](#) (CALM).

Where can I find more advanced mapping resources?

GIS files are available by assessment cycle at the NHDES [FTP site](#).

I'd like to see the more raw water quality data?

The [web mapping tool](#) allows you to download the data used in the assessment of the primary contact and aquatic life designated uses by clicking on the “[Data Access Waterbody Data \(Aquatic Life and Swimming Uses\)](#)” link for any assessment unit.

How are assessments coded in the report card?

Assessment outcomes are displayed on a color scale as well as an alpha numeric scale that provides additional distinctions for the designated use and parameter level assessments as outlined in the table below.

		Severe	Poor	Likely Bad	No Data	Likely Good	Marginal	Good
		Not Supporting, Severe	Not Supporting, Marginal	Insufficient Information – Potentially Not Supporting	No Data	Insufficient Information – Potentially Full Supporting	Full Support, Marginal	Full Support, Good
CATEGORY	Description							
Category 2	Meets standards						2-M or 2-OBS	2-G
Category 3	Insufficient Information			3-PNS	3-ND	3-PAS		
Category 4	Does not Meet Standards;							
4A	TMDL* Completed	4A-P	4A-M or 4A-T					
4B	Other enforceable measure will correct the issue.	4B-P	4B-M or 4B-T					
4C	Non-pollutant (i.e. exotic weeds)	4C-P	4C-M					
Category 5	TMDL* Needed	5-P	5-M or 5-T					

* [TMDL](#) stands for Total Maximum Daily Load studies

Watershed 305(b) Assessment Summary Report:

Assessment Cycle: 2020/2022

HUC 12: 010600030608

HUC 12 Name: Lower Cochecho River

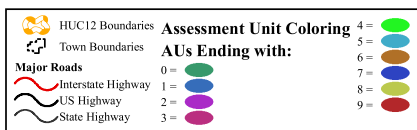
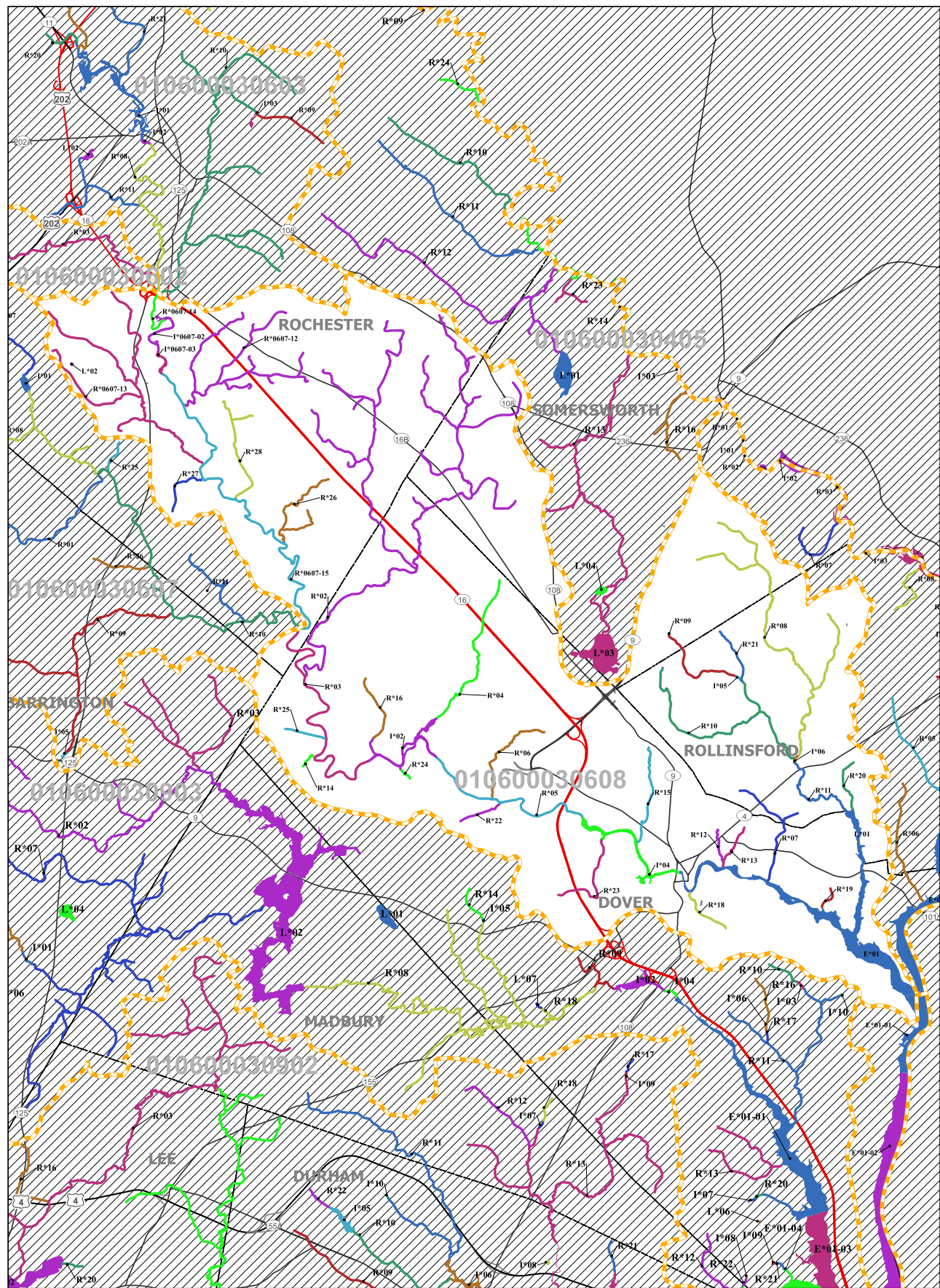
(Locator map on next page only applies to this HUC12)

Good	Meets water quality standards/thresholds by a relatively large margin.
Marginal	Meets water quality standards/thresholds but only marginally.
Likely Good	Limited data available, however, the data that is available suggests that the parameter is Potentially Attaining Standards (PAS).
No Current Data	Insufficient information to make an assessment decision.
Likely Bad	Limited data available, however, the data that is available suggests that the parameter is Potentially Not Supporting (PNS) water quality standards.
Poor	Not meeting water quality standards/thresholds. The impairment is marginal.
Severe	Not meeting water quality standards/thresholds. The impairment is more severe and causes poor water quality.



Assessment Unit ID	Map Label	Assessment Unit Name	Aquatic Life	Fish Consump.	Swimming	Boating
NHEST600030608-01	E*01	Cochecho River		5-M	5-P	4A-M
NHIMP600030607-02	I*0607-02	Cochecho River - Gonic Dam Pond	5-M	4A-M	4A-P	2-G
NHIMP600030607-03	I*0607-03	Cochecho River - Mill Pond Dam	3-PNS	4A-M	3-ND	3-ND
NHIMP600030608-02	I*02	Cochecho River - Watson Waldron Dam	5-M	4A-M	3-PAS	3-ND
NHIMP600030608-04	I*04	Cochecho River - Central Ave Dam	5-M	4A-M	3-PAS	3-ND
NHIMP600030608-05	I*05	Conservation Pond Dam	3-ND	4A-M	3-ND	3-ND
NHIMP600030608-06	I*06	Fresh Creek - Farm Pond	3-ND	4A-M	3-ND	3-ND
NHLAK600030608-01	L*01	Fresh Creek Pond	5-M	4A-M	4A-P	3-ND
NHLAK600030608-02	L*02	Unnamed Pond	3-ND	4A-M	3-PAS	3-PAS
NHRIV600030607-12	R*0607-12	Unnamed Tributary - To Cochecho River	3-ND	4A-M	3-ND	3-ND
NHRIV600030607-13	R*0607-13	Unnamed Brook - To Cochecho River	3-ND	4A-M	3-ND	3-ND

NHRIV600030607-14	R*0607-14	Cochecho River	3-ND	4A-M	3-ND	3-ND
NHRIV600030607-15	R*0607-15	Cochecho River	5-M	4A-M	2-G	2-G
NHRIV600030608-02	R*02	Blackwater Brook-Clark Brook	3-ND	4A-M	4A-P	3-ND
NHRIV600030608-03	R*03	Cochecho River - Unnamed Brook	5-M	4A-M	4A-M	3-ND
NHRIV600030608-04	R*04	Reyners Brook	3-ND	4A-M	4A-P	3-ND
NHRIV600030608-05	R*05	Cochecho River	5-M	4A-M	4A-M	3-ND
NHRIV600030608-06	R*06	Indian Brook	5-P	4A-M	4A-P	3-ND
NHRIV600030608-07	R*07	Emerson Brook	3-ND	4A-M	3-ND	3-ND
NHRIV600030608-08	R*08	Fresh Creek - Twombly Brook	5-P	4A-M	4A-M	3-ND
NHRIV600030608-09	R*09	Unnamed Brook - Rollins Brook	3-ND	4A-M	3-ND	3-ND
NHRIV600030608-10	R*10	Rollins Brook	5-P	4A-M	4A-P	3-ND
NHRIV600030608-11	R*11	Fresh Creek	3-PNS	4A-M	4A-P	4A-M
NHRIV600030608-12	R*12	Unnamed Tributary - To Cochecho River (Dover (Downstream Of Portland Ave))	3-ND	4A-M	3-ND	3-ND
NHRIV600030608-13	R*13	Unnamed Tributary - To Cochecho River - (Dover (Upstream Of Atlantic Ave))	3-ND	4A-M	3-ND	3-ND
NHRIV600030608-14	R*14	Unnamed Trib. To Cochecho River, Dover (From Landfill)	5-M	4A-M	3-ND	3-ND
NHRIV600030608-15	R*15	Berry Brook	5-M	4A-M	4A-P	2-G
NHRIV600030608-16	R*16	Jackson Brook	3-ND	4A-M	4A-P	3-ND
NHRIV600030608-18	R*18	Unnamed Brook	3-ND	4A-M	3-ND	3-ND
NHRIV600030608-19	R*19	Unnamed Brook	3-ND	4A-M	3-ND	3-ND
NHRIV600030608-20	R*20	Unnamed Brook	3-ND	4A-M	3-ND	3-ND
NHRIV600030608-21	R*21	Unnamed Brook - To Rollins Brook	3-ND	4A-M	3-ND	3-ND
NHRIV600030608-22	R*22	Horn Brook	3-ND	4A-M	3-ND	3-ND
NHRIV600030608-23	R*23	Unnamed Brook	3-ND	4A-M	3-ND	3-ND
NHRIV600030608-24	R*24	Unnamed Brook	3-ND	4A-M	3-ND	3-ND
NHRIV600030608-25	R*25	Unnamed Brook	3-ND	4A-M	3-ND	3-ND
NHRIV600030608-26	R*26	Unnamed Brook	3-ND	4A-M	3-ND	3-ND
NHRIV600030608-27	R*27	Unnamed Brook	3-ND	4A-M	3-ND	3-ND
NHRIV600030608-28	R*28	Unnamed Brook	3-ND	4A-M	3-ND	3-ND



Abbrev. Label HUC 12

L*03 010700060201

AUID = NH LAK700060201-03

Assessment Unit IDs are derived from the HUC12 they reside within. The labels have been shortened on this map for presentation purposes.

Example: the Label "L*03" in HUC12 = 010700060201 represents AUID = "NHLAK700060201-03"

In rare cases where an AUID extends beyond the boundary of a single HUC12, additional portions of the end of the HUC 12 number have also been replaced.

0 0.6 1.2 1.8 2.4 Miles

Scale:1:59,820

Assessment Unit ID: NHIMP600030608-04

Size: 20 ACRES

2020/2022, 305(b)/303(d) - All

Assessment Unit Name: Cocheco River - Central Ave Dam

Assessment Unit Category: 5-M

Reviewed Parameters by Assessment Unit

Beach: N

Town(s) Primary Town is Listed First: Dover

Designated Use Description	Desig. Use Category	Parameter Name	Parameter Threatened (Y/N)	Last Sample	Last Exceed	Parameter Category	TMDL Priority
Aquatic Life Integrity	5-M	ALKALINITY, CARBONATE AS CaCO3	N	1999	1999	3-ND	
		ALUMINIUM	N	2007	1999	3-ND	
		AMMONIA (TOTAL)	N	2018	N/A	2-G	
		ARSENIC	N	2004	N/A	3-ND	
		CADMIUM	N	1999	1999	3-ND	
		CHLORIDE	N	2018	N/A	3-PAS	
		COPPER	N	1999	1998	3-ND	
		Chlorophyll-a	N	2019	NLV	No Std	
		DISSOLVED OXYGEN SATURATION	N	2018	2016	3-PNS	
		IRON	N	2004	N/A	3-ND	
		LEAD	N	1999	1999	3-ND	
		OXYGEN, DISSOLVED	N	2018	2016	3-PNS	
		PH	N	2018	2016	5-M	LOW
Fish Consumption	4A-M	TURBIDITY	N	2014	2004	3-ND	
		ZINC	N	1999	N/A	3-ND	
		ARSENIC	N	2004	2004	3-ND	

Good Meets water quality standards/thresholds by a relatively large margin.	Marginal Meets water quality standards/thresholds but only marginally.	Likely Good Limited data available. The data that is available suggests that the parameter is Potentially Attaining Standards (PAS)	No Current Data Insufficient information to make an assessment decision.	Likely Bad Limited data available. The data that is available suggests that the parameter is Potentially Not Supporting (PNS) water quality standards.	Poor Not meeting water quality standards/thresholds. The impairment is marginal.	Severe Not meeting water quality standards/thresholds. The impairment is more severe and causes poor water quality.
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Fish Consumption	4A-M	COPPER	N	1999	N/A	3-ND	
		MERCURY - FISH CONSUMPTION ADVISORY	N			4A-M	
		ZINC	N	1999	N/A	3-ND	
Potential Drinking Water Supply	2-G	ARSENIC	N	2004	2004	3-ND	
		COPPER	N	1999	N/A	3-ND	
		ESCHERICHIA COLI	N	2013	2013	3-ND	
		FECAL COLIFORM	N	1993	1993	3-ND	
		IRON	N	2004	2004	3-ND	
		ZINC	N	1999	N/A	3-ND	
Primary Contact Recreation	3-PAS	CHLOROPHYLL-A	N	2019	2002	3-PAS	
Secondary Contact Recreation	3-ND	ESCHERICHIA COLI	N	2013	2011	3-ND	
		ESCHERICHIA COLI	N	2013	N/A	3-ND	
Wildlife	3-ND						

Good Meets water quality standards/thresholds by a relatively large margin.	Marginal Meets water quality standards/thresholds but only marginally.	Likely Good Limited data available. The data that is available suggests that the parameter is Potentially Attaining Standards (PAS)	No Current Data Insufficient information to make an assessment decision.	Likely Bad Limited data available The data that is available suggests that the parameter is Potentially Not Supporting (PNS) water quality standards.	Poor Not meeting water quality standards/thresholds. The impairment is marginal.	Severe Not meeting water quality standards/thresholds The impairment is more severe and causes poor water quality.
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SWPPP Cut Sheet:

Filtrex[®] Inlet Protection *Sediment & Perimeter Control Technology*

PURPOSE & DESCRIPTION

Filtrex[®] Inlet protection is a three-dimensional tubular sediment control and storm water runoff filtration device typically used for storm drain **inlet protection** of sediment and soluble pollutants (such as phosphorus and petroleum hydrocarbons) on and around construction activities.

APPLICATION

Drain inlets are located in areas that receive runoff from surrounding lands, often exposed and disturbed soils, and are located at a low point, or in a sump. Inlet protection used around drain inlets (or *Drain Inlet protection*) should completely enclose the circumference of the drain and where possible should not be placed on a grade or slope. Inlet protection used around drain inlets should never be the only form of site sediment control and should be accompanied by erosion control/slope stabilization practices, such as Slope protection or rolled erosion control blankets (RECB). Inlet protection should never be placed where they divert runoff flow from the drain inlet, or on top of the inlet, which can cause flooding. Under high runoff and sediment loading conditions placement of 1-2 in (25-50 mm) diameter rock (AASHTO #2) may be placed around the outer circumference of the Inlet protection up to ½ the height of the Inlet protection. This will slow runoff velocity as it contacts the Inlet protection and will reduce sediment build-up and clogging of the Inlet protection.

Curb inlets are generally located on paved surfaces and are designed to rapidly drain storm runoff from roadways to prevent flooding that poses a hazard to vehicular traffic. Inlet protection devices should be placed in a manner which intercepts runoff prior to entering the inlet, but does not block or divert runoff from the inlet. To prevent diversion of runoff, Inlet protection used around curbs (or *Curb*

Inlet protection) should be used in low points, or sumps, and minor slopes or grades. Inlet protection should never be placed in or on the curb inlet drain, or placed in a manner than obstructs vehicular traffic. Inlet protection height should be at least 1 in (25 mm) lower than top of curb inlet to allow for overflow into the drain and not over the curb. Maximum sediment removal efficiency occurs when minor ponding exists behind Inlet protection but should never lead to flooding.

Curb sediment containment systems are used to reduce the sediment and pollutant load flowing to a curb inlet. They are generally placed on paved surfaces perpendicular to runoff flow and should be lower than the height of the curb. Curb sediment containment systems should never cause flooding or placed where they are a hazard to vehicular traffic. Inlet protection used for curb sediment containment (or *Curb Sediment Containment Inlet protection*) can be placed on a grade but should never be placed directly upslope from curb inlet where it may inadvertently divert runoff from entering curb inlet.

INSTALLATION

1. Inlet protection used for inlet protection to reduce sediment and soluble pollutants entering storm drains shall meet Filtrex[®] FilterSoxx[™] Material Specifications and use Certified Filtrex[®] FilterMedia[™].
2. Contractor is required to be a Filtrex[®] Certified[™] Installer as determined by Filtrex[®] International, LLC (440-926-2607 or visit web site at [Filtrex.com](http://www.filtrex.com)). Certification shall be considered current if appropriate identification is shown during time of bid or at time of application (current list of installers can be found at www.filtrex.com). Look for the Filtrex[®] Certified[™] Installer Seal.



3. Filtrexx® Inlet protection shall be placed at locations indicated on plans as directed by the Engineer. Inlet protection should be installed in a pattern that allows complete protection of the inlet area.
4. Installation of curb Inlet protection will ensure a minimal overlap of at least 1 ft (300mm) on either side of the opening being protected. The Inlet protection will be anchored to the soil behind the curb using staples, stakes or other devices capable of holding the Inlet protection in place.
5. Standard Inlet protection for curb inlet protection and curb sediment containment will use 8 in (200mm) diameter Inlet protection, and drain inlets on soil will use 12 in (300mm) or 18 in (450mm) diameter Inlet protection. In severe flow situations, larger Inlet protection may be specified by the Engineer. During curb installation, Inlet protection shall be compacted to be slightly shorter than curb height.
6. If Inlet protection becomes clogged with debris and sediment, they shall be maintained so as to assure proper drainage and water flow into the storm drain. In severe storm events, overflow of the Inlet protection may be acceptable in order to keep the area from flooding.
7. Curb and drain Inlet protection shall be positioned so as to provide a permeable physical barrier to the drain itself, allowing sediment to collect on the outside of the Inlet protection.
8. For drains and inlets that have only curb cuts, without street grates, a spacer is required in order to keep the Inlet protection away from the drain opening. This spacer should be a hog wire screen bent to overlap the grate opening and keep the sock from falling into the opening. Use at least one spacer for every 4 ft (1.2m) of curb drain opening. The wire grid also prevents other floatable waste from passing over the Inlet protection.
9. Stakes shall be installed through the middle of the drain Inlet protection on 5 ft (1.5m) centers, using 2 in (50mm) x 2 in (50mm) x 3 ft (1m) wood stakes.
10. Staking depth for sand and silt loam soils shall be 12 in (300mm), and 8 in (200mm) for clay soils.

INSPECTION AND MAINTENANCE

Routine inspection should be conducted within 24 hrs of a runoff event or as designated by the regulating authority. Inlet protection should be regularly inspected to make sure they maintain their

shape and are producing adequate hydraulic flow-through. If ponding becomes excessive, additional Inlet protection may be required or sediment removal may be necessary. Inlet protection shall be inspected until contributing drainage area has been permanently stabilized and construction activity has ceased

1. The Contractor shall maintain the Inlet protection in a functional condition at all times and it shall be routinely inspected.
2. If the Inlet protection has been damaged, it shall be repaired, or replaced if beyond repair.
3. The Contractor shall remove sediment at the base of the upslope side of the Inlet protection when accumulation has reached 1/2 of the effective height of the Inlet protection, or as directed by the Engineer. Alternatively, for drain Inlet protection a new Soxx™ may be placed on top of the original increasing the sediment storage capacity without soil disturbance.
4. Inlet protection shall be maintained until disturbed area above or around the device has been permanently stabilized and construction activity has ceased.
5. Regular maintenance includes lifting the Inlet protection and cleaning around and under them as sediment collects.
6. The FilterMedia™ will be removed from paved areas or dispersed on site soil or behind curb once disturbed area has been permanently stabilized, construction activity has ceased, or as determined by the Engineer.

Table 2.4 Spacing for Curb Sediment Containment Systems.

Grade (%)	Spacing (ft)	Spacing (mm)
0.5	100	30
1.0	50	15
2.0	25	8
3.0	16	5
4.0	13	4
5.0	10	3

Source: Fifield, 2001.



Figure 2.1. Engineering Design Drawing for Curb and Drain Inlet Protection

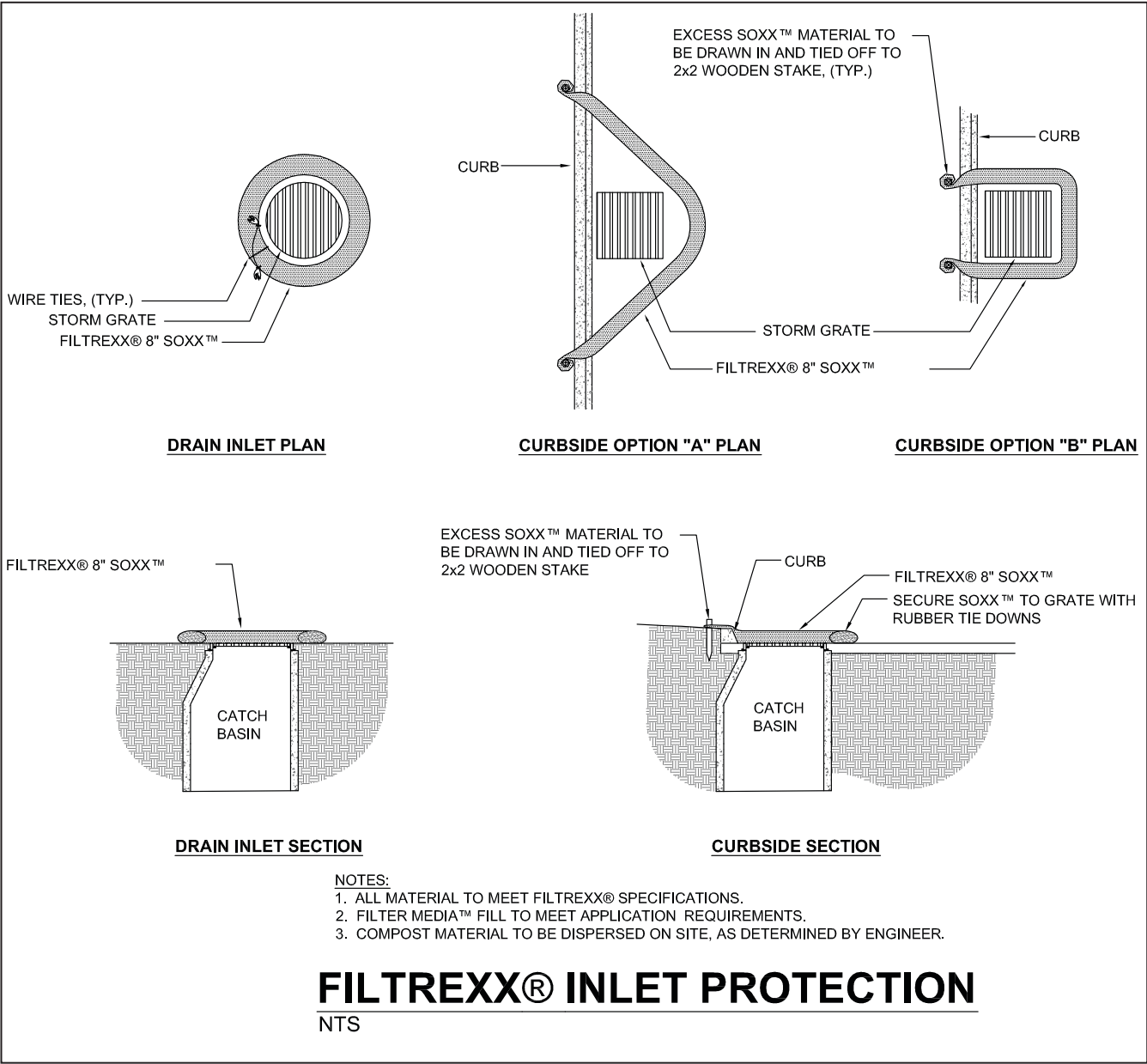
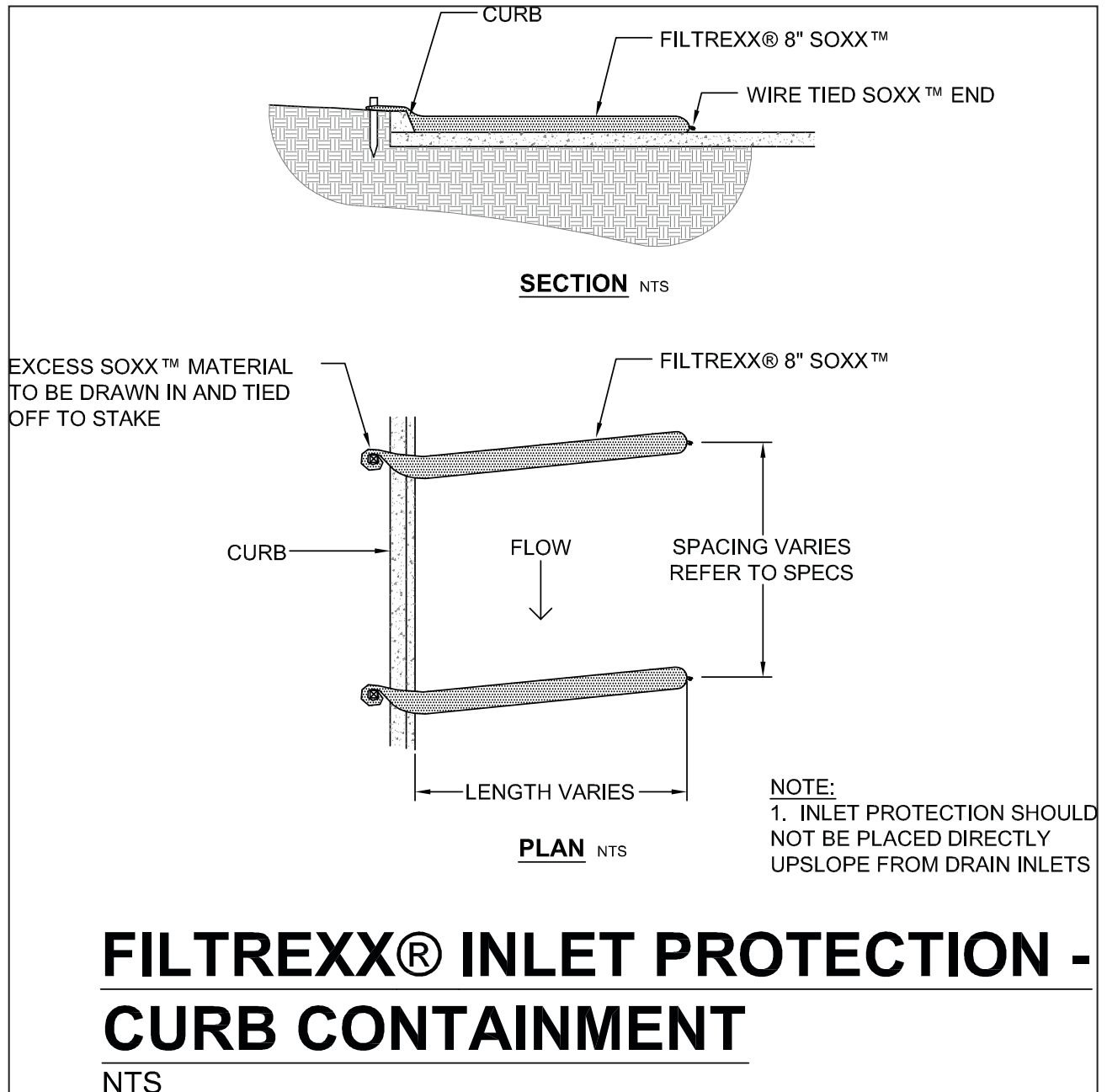


Figure 2.2. Engineering Design Drawing for Curb Sediment Containment Inlet Protection



SWPPP Cut Sheet:

Filtrex[®] Sediment Control

Sediment & Perimeter Control Technology

PURPOSE & DESCRIPTION

Filtrex[®] Sediment control is a three-dimensional tubular sediment control and storm water runoff filtration device typically used for **perimeter control** of sediment and other soluble pollutants (such as phosphorus and petroleum hydrocarbons), on and around construction activities.

APPLICATION

Filtrex[®] Sediment control is to be installed down slope of any disturbed area requiring erosion and sediment control and filtration of soluble pollutants from runoff. Sediment control is effective when installed perpendicular to sheet or low concentrated flow. Acceptable applications include:

- Site perimeters
- Above and below disturbed areas subject to sheet runoff, interrill and rill erosion
- Above and below exposed and erodable slopes
- Around area drains or inlets located in a 'sump'
- On compacted soils where trenching of silt fence is difficult or impossible
- Around sensitive trees where trenching of silt fence is not beneficial for tree survival or may unnecessarily disturb established vegetation.
- On frozen ground where trenching of silt fence is impossible.
- On paved surfaces where trenching of silt fence is impossible.

INSTALLATION

1. Sediment control used for perimeter control of sediment and soluble pollutants in storm runoff shall meet Filtrex[®] Soxx[™] Material Specifications and use Certified Filtrex[®] FilterMedia[™].
2. Contractor is required to be Filtrex[®] Certified[™], or use pre-filled Filtrex[®] Sediment control

products manufactured by a Filtrex[®] Certified Manufacturer[™] as determined by Filtrex[®] International, LLC (440-926-2607 or visit www.filtrex.com). Certification shall be considered current if appropriate identification is shown during time of bid or at time of application. Look for the Filtrex[®] Certified[™] Seal.

3. Sediment control will be placed at locations indicated on plans as directed by the Engineer.
4. Sediment control should be installed parallel to the base of the slope or other disturbed area. In extreme conditions (i.e., 2:1 slopes), a second Sediment control shall be constructed at the top of the slope.
5. Effective Soxx[™] height in the field should be as follows: 8" Diameter Sediment control = 6.5" high, 12" Diameter Sediment control = 9.5" high, 18" Diameter SiltSoxx[™] = 14.5" high, 24" Diameter Sediment control = 19" high.
6. Stakes shall be installed through the middle of the Sediment control on 10 ft (3m) centers, using 2 in (50mm) by 2 in (50mm) by 3 ft (1m) hard wood stakes. In the event staking is not possible, i.e., when Sediment control is used on pavement, heavy concrete blocks shall be used behind the Sediment control to help stabilize during rainfall/runoff events.
7. Staking depth for sand and silt loam soils shall be 12 in (300mm), and 8 in (200mm) for clay soils.
8. Loose compost may be backfilled along the upslope side of the Sediment control, filling the seam between the soil surface and the device, improving filtration and sediment retention.
9. If the Sediment control is to be left as a permanent filter or part of the natural landscape, it may be seeded at time of installation for



establishment of permanent vegetation. The Engineer will specify seed requirements.

10. Filtrex® Sediment control is not to be used in perennial, ephemeral, or intermittent streams.

See design drawing schematic for correct Filtrex® Sediment control installation (Figure 1.1).

INSPECTION AND MAINTENANCE

Routine inspection should be conducted within 24 hrs of a runoff event or as designated by the regulating authority. Sediment control should be regularly inspected to make sure they maintain their shape and are producing adequate hydraulic flow-through. If ponding becomes excessive, additional Sediment control may be required to reduce effective slope length or sediment removal may be necessary. Sediment control shall be inspected until area above has been permanently stabilized and construction activity has ceased

1. The Contractor shall maintain the Sediment control in a functional condition at all times and it shall be routinely inspected.
2. If the Sediment control has been damaged, it shall be repaired, or replaced if beyond repair.

3. The Contractor shall remove sediment at the base of the upslope side of the Sediment control when accumulation has reached 1/2 of the effective height of the Sediment control, or as directed by the Engineer. Alternatively, a new Sediment control can be placed on top of and slightly behind the original one creating more sediment storage capacity without soil disturbance.
4. Sediment control shall be maintained until disturbed area above the device has been permanently stabilized and construction activity has ceased.
5. The FilterMedia™ will be dispersed on site once disturbed area has been permanently stabilized, construction activity has ceased, or as determined by the Engineer.
6. For long-term sediment and pollution control applications, Sediment control can be seeded at the time of installation to create a vegetative filtering system for prolonged and increased filtration of sediment and soluble pollutants (contained vegetative filter strip). The appropriate seed mix shall be determined by the Engineer.

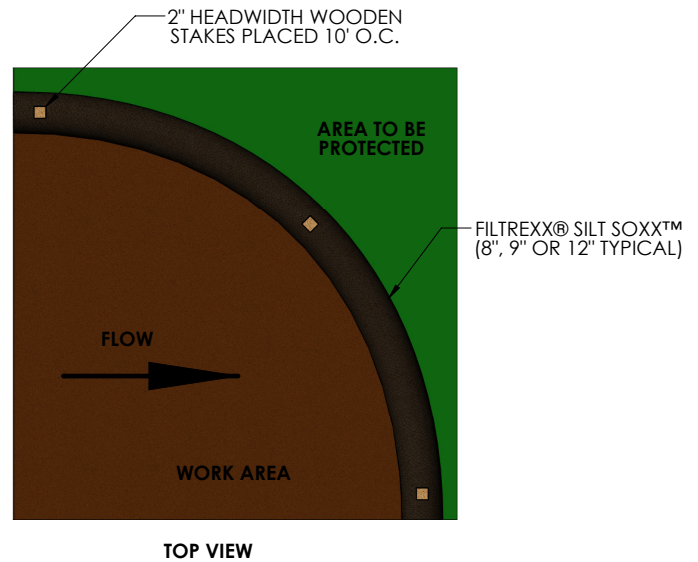
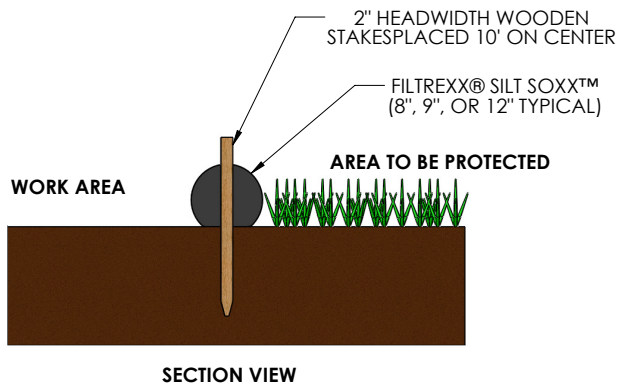
Slope Percent	Maximum Slope Length Above Sediment Control in Feet (meters)*				
	8 in (200 mm) Sediment control	12 in (300 mm) Sediment control	18 in (450 mm) Sediment control	24 in (600mm) Sediment control	32 in (800mm) Sediment control
	6.5 in (160 mm)**	9.5 in (240 mm) **	14.5 in (360 mm) **	19 in (480 mm) **	26 in (650 mm) **
2 (or less)	600 (180)	750 (225)	1000 (300)	1300 (400)	1650 (500)
5	400 (120)	500 (150)	550 (165)	650 (200)	750 (225)
10	200 (60)	250 (75)	300 (90)	400 (120)	500 (150)
15	140 (40)	170 (50)	200 (60)	325 (100)	450 (140)
20	100 (30)	125 (38)	140 (42)	260 (80)	400 (120)
25	80 (24)	100 (30)	110 (33)	200 (60)	275 (85)
30	60 (18)	75 (23)	90 (27)	130 (40)	200 (60)
35	60 (18)	75 (23)	80 (24)	115 (35)	150 (45)
40	60 (18)	75 (23)	80 (24)	100 (30)	125 (38)
45	40 (12)	50 (15)	60 (18)	80 (24)	100 (30)
50	40 (12)	50 (15)	55 (17)	65 (20)	75 (23)

* Based on a failure point of 36 in (0.9 m) super silt fence (wire reinforced) at 1000 ft (303 m) of slope, watershed width equivalent to receiving length of sediment control device, 1 in/ 24 hr (25 mm/24 hr) rain event.

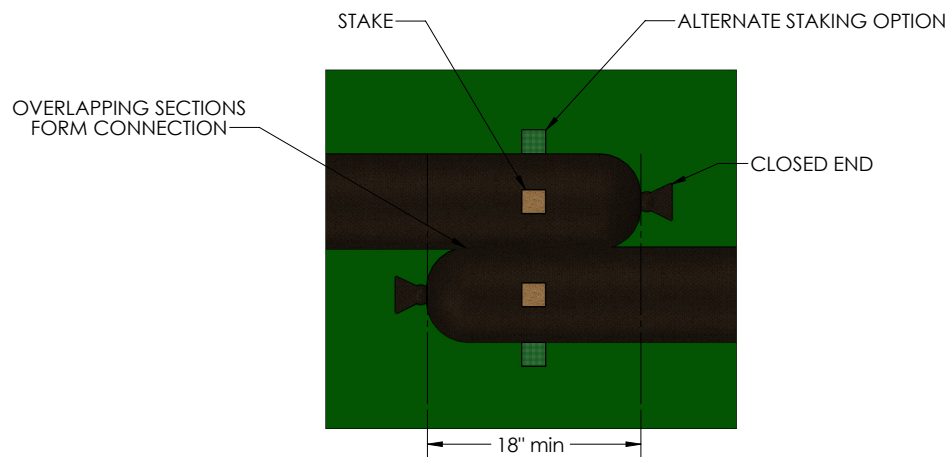
** Effective height of Sediment control after installation and with constant head from runoff as determined by Ohio State University.



FILTREXX® SILT SOXX™



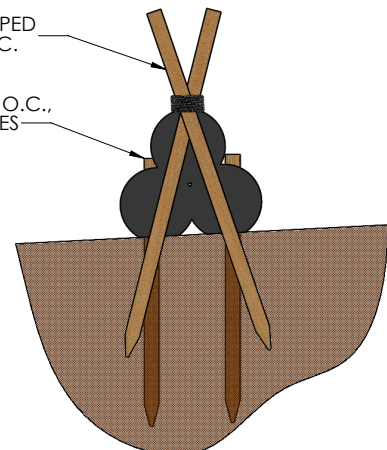
COMPOST SOCK CONNECTION/ATTACHMENT DETAIL



FILTREXX® PYRAMID STAKING DETAIL

(2) 2"x2"x48+" HARDWOOD STAKES, WRAPPED TOGETHER WITH 16 GAUGE WIRE, 10' O.C.

2"x2"x36" HARDWOOD STAKE, 10' O.C., STARTING 5' FROM ANGLED STAKES



NOTES:
1. ALL MATERIAL TO MEET FILTREXX® SPECIFICATIONS.
2. SILT SOXX™ FILL TO MEET APPLICATION REQUIREMENTS.
3. COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER.

