INLAND WETLANDS
COMMISSION
Telephone (203) 563-0180
Fax (203) 563-0284

TOWN HALL
238 Danbury Road
Wilton, Connecticut 06897

APPLICATION FOR A SIGNIFICANT REGULATED ACTIVITY

For Office Use Only:

	WET#
Filing Fee $	Wilton Land Record Map#
Date of Submission	Volume # Page #
Date of Acceptance	Assessor's Map # Lot#

APPLICANT INFORMATION:

Applicant Wilton Campus 1691, LLC (Nichola	Agent (if applicable) Sara Berryman, VHB
Address 500 North Broadway, Suite 201	Address 100 Great Meadow Road, Suite 200
Jericho, NY 11753	Wethersfield, CT 06109
Telephone (917) 699-0960	Telephone 860-807-4336
Email nbrown@kimcorealty.com	Email sberryman@vhb.com

PROJECT INFORMATION:

Property Address 21-23 River Road	Site Acreage Lot 25.1 = 5.44, Lot 25.4 = 6.76
Acres of altered Wetlands On-Site 0	Cu. Yds. of Material Excavated 160 CY
Linear Feet of Watercourse +/- 530ft	Cu. Yds. of Material to be Deposited 980 CY
Linear Feet of Open Water 0	Acres of altered upland buffer +/-0.93-acres
Sq. Ft. of proposed and/or altered impervious coverage +/-0.7-acres	Sq. Ft. of disturbed land in regulated area +/-0.93-acres

Disturbances within regulated area are limited to only the 100' upland buffer. no direct wetland impacts are proposed.

APPLICATION REQUIREMENTS:

Is The Site Within a Public Water Supply Watershed Boundary? NO ✓ YES* ☐

Is The Site Within 500 Feet of a Town Boundary? NO ✓ YES* ☐

* If the answer is yes, then the applicant is responsible for notifying the appropriate water authority and/or adjoining community's Wetlands Department. Instructions for notification are available at the office of the commission.

Project Description and Purpose: The proposal seeks to demolish a portion of the existing building that fronts River Rd and proposed to construct two (2) new buildings, totaling +/-170 total residential units and approx. +/-12,000 SF of retail and restaurant space. The parking lot will be reconstructed to accommodate the two new buildings, as well as landscaping, utility, site lighting, and stormwater management improvements to support the use.

In addition, the applicant shall provide eleven (11) collated copies of the following information as well as an electronic submission via email to mike.conklin@wiltonct.org & elizabeth.larkin@wiltonct.org **

- [x] A. Written consent from the owner authorizing the agent to act on his/her behalf
- [x] B. A Location Map at a scale of 1" = 800'
- [x] C. *A Site Plan showing existing and proposed features at a scale not to exceed 1" = 40'* accurate to the level of a A-2 property and T-2 topographic surveys
- [x] D. Sketch Plans depicting the alternatives considered see "Narrative"
- [x] E. Engineering Reports and Analysis and additional drawing to fully describe the proposed project
- [x] F. Sedimentation and Erosion Control Plan, including the Construction Sequence
- [x] G. Names and addresses of adjoining property owners
- [x] H. A narrative describing, in detail

  a. the proposed activity
  b. the alternatives considered
  c. impacts
  d. proposed mitigation measures
- [x] I. Soils Report prepared by a Certified Soil Scientist and Wetlands Map prepared by a Registered Land Surveyor
- [x] J. A Biological Evaluation prepared by a biologist or other qualified professional
- [x] K Description of the chemical and physical characteristics of fill material to be used in the Regulated Area see "Narrative"
- [x] L. Description and maps detailing the watershed of the Regulated Area
- [x] M. Envelopes addressed to adjacent neighbors, the applicant, and/or agent, with ***certified*** postage and no return address

****Application materials shall be collated and copies of documents more than two pages in length shall be double sided.**

See Section 7 of the Wetlands and Watercourses Regulations of the Town of Wilton for a more detailed description of applications requirements.

The Applicant or his/her agent certifies that he is familiar with the information provided in this application and is aware of the penalties for obtaining a permit through deception, inaccurate or misleading information.

By signing this application, permission is hereby given to necessary and proper inspections of the subject property by the Commissioners and designated agents of the Commission or consultants to the Commission, at reasonable times, both before and after a final decision has been rendered.

Wilton Campus 1691, LLC by its Agent, Gregory and Adams, P.C.
Applicant's Signature: J. Casey Healy/ko Date: April 23, 2024

Wilton Campus 1691, LLC by its Agent, Gregory and Adams, P.C.
Agent's Signature (if applicable): J. Casey Healy/ko Date: April 23, 2024

GREGORY AND ADAMS, P.C.
ATTORNEYS AT LAW
190 OLD RIDGEFIELD ROAD
WILTON, CT 06897
(203) 762-9000
FAX: (203) 834-1628

ESTABLISHED 1964

WWW.GREGORYANDADAMS.COM

PAUL H. BURNHAM
SUSAN L. GOLDMAN
J. VANCE HANCOCK
DERREL M. MASON*
MATTHEW C. MASON*
JAMES D'ALTON MURPHY*⚙
KATHLEEN L. ROYLE *
RALPH E. SLATER
ROGER R. VALKENBURGH *

* ALSO ADMITTED IN NEW YORK
⚙ ALSO ADMITTED IN VERMONT

J. CASEY HEALY
OF COUNSEL

JULIAN A. GREGORY
(1912 - 2002)

THOMAS T. ADAMS
(1929 - 2015)

PLEASE REPLY TO SENDER:
J. CASEY HEALY
DIRECT DIAL: 203-571-6304
jhealy@gregoryandadams.com

April 23, 2024

By E-mail and Hand Delivery
Inland Wetlands Commission
Town Hall Annex
238 Danbury Road
Wilton, CT 06897
Attn: Mr. Mike Conklin – Director of Environmental Affairs

Re: Wilton Campus 1691, LLC – Application to Inland Wetlands Commission
Premises: 15-21 River Road, Wilton, Connecticut

Dear Mr. Chairman and Members of the Commission:

As attorney for Wilton Campus 1691, LLC ("WC1691"), we hereby submit materials prepared in support of its proposed redevelopment at the Premises, a small portion of which will occur in a regulated area (not in a wetlands or watershed). We enclose thirteen full-size and one reduced-size copies for the Commission of each the following in support of WC1691's application for significant regulated activity:

1. Authorization letter signed by WC1691 authorizing Gregory and Adams to act as its Agent in connection with all Wilton land use matters.

2. Assessor's Parcel Map.

3. Application for a Significant Regulated Activity.

4. Wetland Narrative & Application Material prepared by VHB dated April 18, 2024.

5. Site Civil Planset titled "Proposed Redevelopment, 21-23 River Road, Wilton, CT" prepared by VHB dated April 23, 2024.

6. Stormwater Management Report prepared by VHB dated April 2024.

7. Title Certification Letter prepared by Gregory and Adams, P.C.

8. List of Project Professionals.

I also enclose:

1. Gregory and Adams' check in the amount of $1,260.00 in payment of the application fee
2. Gregory and Adams' check in the amount of $15.84 in payment of the certificate of mailing fee.
3. Envelopes addressed to owners of property adjoining the Premises.
4. Two envelopes addressed to Gregory and Adams, P.C.

We do not believe a third-party review of this application is required but recognize that this decision falls within the purview of the Commission. If the Commission desires to request a third-party review, Wilton Campus 1691 would like the opportunity to discuss the scope of the review with the Commission. Thank you.

We look forward to presenting the application to the Commission.

Respectfully submitted,
Gregory and Adams, P.C.

/s/ J. Casey Healy
By: ____________________
J. Casey Healy

JCH/ko
Enclosures
By email only, with enclosures:
cc: Nicholas Brown – Wilton Campus 1691, LLC
Craig Flaherty – Redniss & Mead
Matt Renauld – Mahan Rykiel Associates
Mark Grocki – VHB
Ricky Long, Ahmed Aly and Brian O'Connor – Cube 3
Kathleen L. Royle, Esq.

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THOMAS T. ADAMS
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PLEASE REPLY TO SENDER:
J. CASEY HEALY
DIRECT DIAL: 203-571-6304
jhealy@gregoryandadams.com

February 28, 2024

By E-Mail Only
Wilton Campus 1691, LLC
c/o Mr. Nicholas Brown

Re: Wilton Campus 1691, LLC – Land Use Applications
Premises: 15 and 21 River Road, Wilton, Connecticut

Dear Mr. Brown:

As you know, we are in the process of preparing land use applications to various Town of Wilton and State of Connecticut and other government agencies, if applicable. These agencies require written authorization from the applicant and owner authorizing Gregory and Adams, P.C to act as its agent in connection with any and all land use matters involving the subject Premises. Please sign a copy of this letter as applicant and owner and return it to me by email.

Very truly yours,

/s/ J. Casey Healy
J. Casey Healy

JD'AM/ko

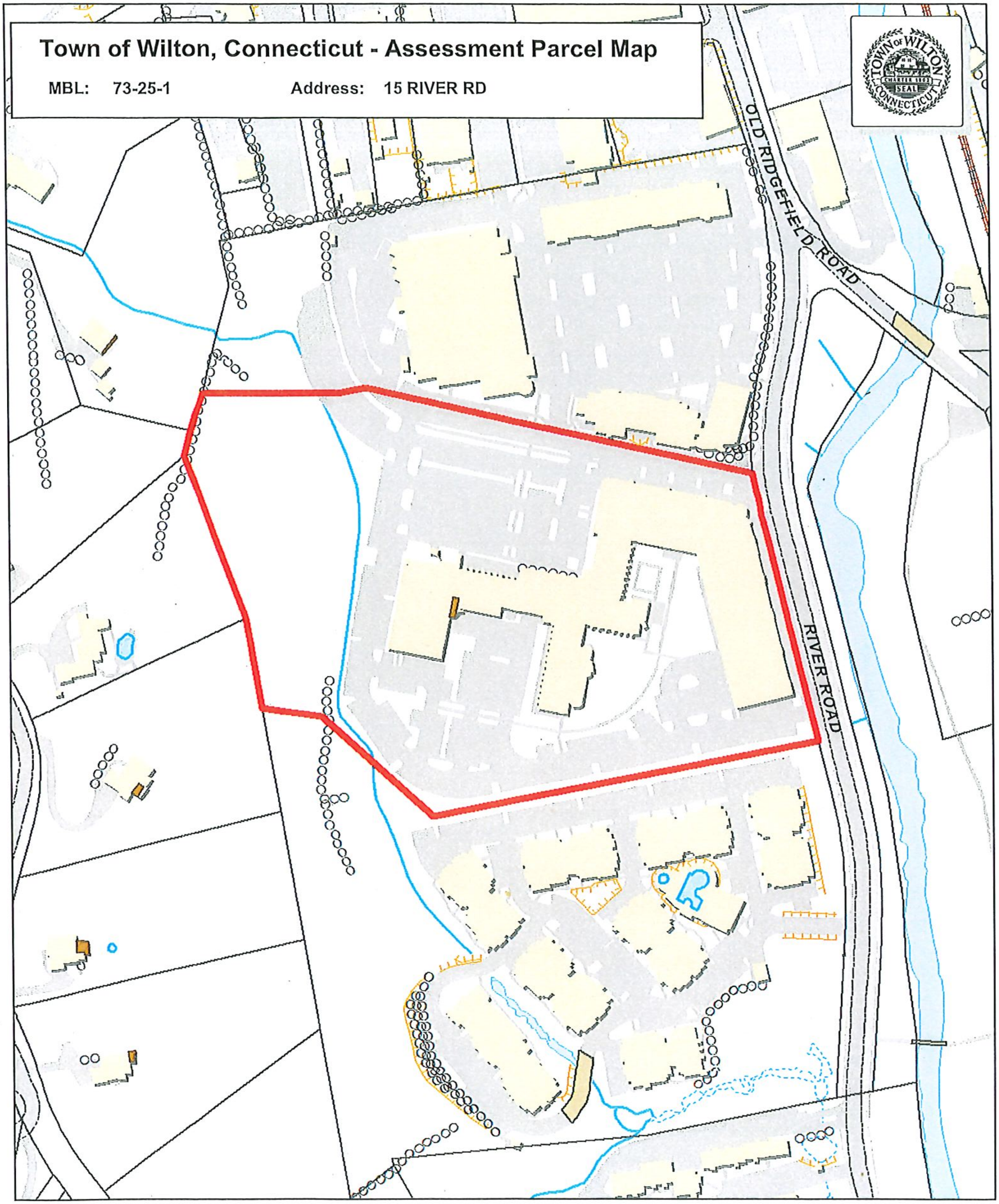
The undersigned hereby authorizes Gregory and Adams, P.C. to act as its agent in connection with the above-referenced matters.

Wilton Campus 1691, LLC

By: ______________________________
Nicholas Brown
Vice President

Town of Wilton, Connecticut - Assessment Parcel Map

MBL: 73-25-1 **Address:** 15 RIVER RD



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Approximate Scale:

1 inch = 200 feet

Disclaimer:
This map is for informational purposes only.
All information is subject to verification by any user.
The Town of Wilton and its mapping contractors
assume no legal responsibility for the information contained herein.

Map Grand List Date: Oct 2017

0 110 220 330
Feet

GREGORY AND ADAMS, P.C.

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PLEASE REPLY TO SENDER:
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jhealy@gregoryandadams.com

April 16, 2024

By E-mail and Hand Delivery
Inland Wetlands Commission
Town Hall Annex
238 Danbury Road
Wilton, CT 06897
Attn: Mr. Mike Conklin – Director of Environmental Affairs

Re: Wilton Campus 1691, LLC – Application to Inland Wetlands Commission
Premises: 15-21 River Road, Wilton, Connecticut

Dear Mr. Chairman and Members of the Commission:

As attorneys for Wilton Campus 1691, LLC, we hereby certify that title to the above-referenced Premises is vested in Wilton Campus 1691, LLC by virtue of a Statutory Quit Claim Deed from Wilton Executive Campus, LLC to Wilton Campus 1691, LLC dated March 4, 2013 and recorded on March 6, 2013 in Volume 2311 of the Wilton Land Records at Page 53. A copy of the Deed is enclosed.

Respectfully submitted,
Gregory and Adams, P.C.

/s/ J. Casey Healy
By: ___________________
J. Casey Healy

JCHko
Enclosure

00129261
VOL# 2311 PG# 53

STATUTORY QUITCLAIM DEED

KNOW ALL PERSONS BY THESE PRESENTS THAT:

WILTON EXECUTIVE CAMPUS, LLP, a Connecticut limited liability partnership having an address at c/o Sparrow Management LLC, 1300 Post Road East, Westport, Connecticut 06880 (the "Grantor"), for good and valuable consideration, grants to WILTON CAMPUS 1691, LLC, a Delaware limited liability company having an address at c/o Sparrow Management LLC, 1300 Post Road East, Westport, Connecticut 06880 (the "Grantee"), with QUITCLAIM COVENANTS, the following:

All that certain piece or parcel of land with the improvements thereon, located in the City of Wilton, County of Fairfield, and State of Connecticut, being bounded and described on Exhibit A attached hereto

IN WITNESS WHEREOF, the Grantor has executed this instrument as of the 4 day of March, 2013.

Witnesses:

Stephan B. Grozinger

E. Claire Ingram

WILTON EXECUTIVE CAMPUS, LLP

By: Stephen J. Saft, managing partner

STATE OF CONNECTICUT)
) ss.: Town of Westport
COUNTY OF FAIRFIELD)

The foregoing instrument was acknowledged before me this February 27, 2013 by Stephen J. Saft, a managing partner of Wilton Executive Campus LLP, on behalf of the partnership.

Stephan B. Grozinger, Esq.
Commissioner of the Superior Court

No Conveyance Tax Collected
Bettye Joan Rasosnetti
Town Clerk of Wilton

00129261
VOL: 2311 PG: 54

Exhibit A

Real property known as 15 River Road in the City of Wilton, County of Fairfield, State of Connecticut, described as follows:

All that certain tract, piece or parcel of land, together with the buildings and other improvements located thereon, situated, lying and being in the Town of Wilton, County of Fairfield and State of Connecticut, shown as Parcel "A" 12.1986 acres, and as more particularly delineated on a survey entitled "Improvement location Survey of Property in Wilton, Connecticut prepared for Wilton Campus Properties, LLC" dated February 11, 2000, prepared by Robert L. Liddel Jr. of the firm of Rocco V. D'Andrea, Inc., and filed in the Wilton Town Clerk's Office as Map No. 5214.

Together with the slope and drainage pipe rights and agreements benefiting the premises as set forth in the deed from Wilton Properties Associates to Julius Wile Sons & Co., Inc. dated April 26, 1977 and recorded April 26, 1977 in Volume 273 at Page 258 of the Wilton Land Records.

Together with the rights benefiting the premises granted in the Easement And Right-Of-Way from Albert J. Kleban, Trustee, to Nabisco, Inc. dated December 3, 1985 and recorded December 4, 1985 in Volume 520 at Page 147 of the Wilton Land Records.

Together with the drainage easement benefiting the premises as granted in the Drainage Easement Agreement between Wilton Shopping Center, Limited Partnership and Wilton Executive Campus Associates dated February 17, 1990 and recorded February 21, 1990 in Volume 710 at Page 211 of the Wilton Land Records.

Being the same premises as shown on prior maps recorded in the Wilton Town Clerk's Office as Maps No. 4409 and 5158.

Together with the easements set forth in the Reciprocal Access and Parking Easement Agreement by and between Wilton River Park 1688, LLC, Wilton Executive Campus, LP and Wilton River Park North, LLC recorded August 10, 2012 in Volume 2269, Page 106 of the Wilton Land Records.

Received For Record
Mar 06,2013 AT 12:33P
ATTEST: Bettye J. Rasosnetti
Wilton Town Clerk

Wilton Campus 1691, LLC

Land Use Applications to Town of Wilton

Premises: 15-21 River Road, Wilton, CT

List of Project Professionals

1. Owner and Applicant	Wilton Campus 1691, LLC c/o Gregory and Adams, P.C. 190 Old Ridgefield Road Wilton, CT 06897
2. Surveyor	Jack W. Shoemaker Valley Land Services, Inc. 4383 Hecktown Road Bethlehem, PA 18020 610-365-2907
3. Land Use Consultant	Craig J. Flaherty Redniss & Mead 22 1st Street Stamford, CT 06905 C.Flaherty@rednissmead.com 203-327-0500
4. Civil Engineer	Mark Grocki VHB 100 Great Meadow Road, Ste. 200 Wethersfield, CT 06109-2377 MGrocki@VHB.com 860-807-4369
5. Landscape Architect	Matt Renauld Mahan Rykiel Associates, Inc. 3300 Clipper Mill Road, Ste. 200 Baltimore, MD 21211 mrenauld@mahanrykiel.com 443-691-8857
6. Architect	Ricky Long Cube 3 160 State Street, Floor 6 Boston, MA 02109 rlong@cube3.com 978-989-9900

7. Attorneys

J. Casey Healy, Esq.
Kathleen L. Royle, Esq.
Gregory and Adams, P.C.
190 Old Ridgefield Road
Wilton, CT 06897
jhealy@gregoryandadams.com
kroyle@gregoryandadams.com
203.762.9000

21-23 River Road, Wilton, Connecticut

Wilton Center Redevelopment

Wetland Narrative & Application Materials

PREPARED FOR

Wilton Campus 1691, LLC
500 North Broadway, Suite 201
Jericho, NY 11753

PREPARED BY

vhb

100 Great Meadow Road
Suite 200
Wethersfield, CT, 06109

APRIL 18, 2024

Memorandum

To:	Chairman Nick Lee Middlebury Inland Wetlands Commission	Date:	April 18, 2024
		Project #:	20849.00
From:	Sara Berryman, CSS Wetland Scientist Mark Grocki, PE	Re:	21-23 River Rd Redevelopment Wilton, CT **Narrative - IW Application**

Dear Chairman Lee,

The following Narrative is to accompany the application to the Inland Wetlands Commission for proposed regulated activity within 100ft of a wetland or watercourse at 21-23 River Rd in Wilton, CT (aka Wilton Center, Map 73, Lots 25.1 and 25.4, see Figure 1).

Proposed Activity:

The Applicant, Wilton Campus 1691, LLC, is proposing to redevelop a portion of the site located at 21-23 River Road in Wilton, CT. The project will include the demolition of an existing building along River Road and construct of two (2) new buildings: Building A) a four-story, ±50,000 square foot (sf) building footprint with ±100 multifamily residential apartment units on the second, third and fourth floors with ±12,000 sf of restaurant/retail use on the first floor; and Building B) a 5-story, ±25,000 sf footprint, stand-alone building with ±70 multifamily residential apartment units at the rear of the site. The remaining building onsite will be retained with its existing use of office and retail space. Improved landscaping, utility infrastructure, parking, stormwater management system, and wetland mitigation measures will be proposed to support the redevelopment.

The project site is located within the Norwalk River Valley on the west side of River Road. The site is bounded by Wilton River Park Plaza to the north, River Road and Norwalk River to the east, the Avalon apartment complex to the south, and a dense wooded hillside to the west.

There are two separate wetland systems located on or adjacent to the project site. Wetlands associated with the Norwalk River are located on the eastern side of River Road. Though not directly within the limit of work, the 100ft upland review buffer of the Norwalk River extends into the proposed development. A second wetland system following a small watercourse is located at the toe of slope along the western edge of the currently developed site. Work is proposed within the 100' regulated area to this westerly system, predominately within already disturbed areas for existing impervious parking lots. The westerly wetland system itself will remain unaltered and be protected as there are no direct wetland impacts proposed.

A Wetland & Watercourse Delineation Report was prepared on October 4, 2023 by VHB (Attachment C) describing the wetland resources delineated within the project site. An additional Functions and Values report (Attachment D) was

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P 860.807.4300

compiled describing the minimal to no impact to the adjacent wetland systems. These reports are included under separate cover.

There are no direct wetland impacts proposed for the redevelopment of the property to either of the two wetland systems. The proposed regulated activity within 100ft of a wetland or watercourse includes the following:

1. Re-construction of parking fields currently located within the 100' upland review buffer to the wetlands.
2. Construction of Building B within 100' upland review buffer, which is predominately located within an already-disturbed areas (parking lot).
3. Stormwater management and water quality improvements, including an underground retention system, rain garden, hydrodynamic water quality units, catch basins, and closed pipe network, etc.
4. Landscaping and utility improvements.
5. Wetland Mitigation plantings and improvements (further described herein and within the attached reports).

Alternatives Considered (see Attachment G):

The proposed development has evolved significantly through various stages of conception and design, over several years to meet the unique demands and expectations of the Town of Wilton. Attached to this memo are several alternatives considered for the layout of the property. The current design has undergone numerous modifications and revisions to align with the Town's strategic plan for conservation and development, bringing mixed use residential and commercial to Wilton Center. Several alternative layout designs have been thoroughly assessed and subsequently discredited as they failed to meet the prerequisite standards set by the community's plan. These designs were found lacking in preserving the town's charm, ensuring sustainable development, or permitting designated green spaces, all of which are vital to Wilton's Plan of Conservation and Development and meeting the intent of the newly adopted Form-Based Zoning Code.

The "Preferred" site layout is the result of considerable hard work and meetings with local Town Staff, Planning & Zoning Commission meetings, etc. that would accommodate the Town of Wilton's vision for Wilton Center to promote a street-scape, mixed use retail/ residential development. The following describes various site plan iterations and reasons why rejected which guided the development to the preferred site layout:

- <u>Preferred Layout: Sheet C-2.0 Layout & Materials Plan by VHB:</u>
  - The preferred layout proposes many benefits with respect to site design, stormwater quality, and surrounding critical resource area protection. Stormwater quality measures and BMPs in the form of deep sump/ hooded catch basins, hydrodynamic water quality units, underground retention system to capture

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and infiltrate 1" volume from roof runoff, and a rain garden are all proposed to improve water quality at the site (further described in the Stormwater Management Report prepared by VHB, under separate cover). A Wetland Mitigation Plan as described herein (and within the site civil planset) is proposed to enhance the watercourse towards the western (rear) of the property.

- As storm intensities increase over the past several years, River Rd has been discovered to be within a FEMA 100yr special flood hazard area with Base Flood Elevations established. Through analysis of the projected 100yr flood event elevations onto the site, it was also discovered that the existing building along River Rd is at risk today of inundation from the 100yr flood event. Under the proposed plan, the proposed Building A is pulled further back and away from River Rd when compared to the existing building's location and the frontage sidewalk and parking has been graded appropriately. Therefore, the proposed building is now located outside of the projected 100yr flood event. This proposal allows for a better protected building from the 100yr flood inundation, thus providing for better life/health/safety measures while maintaining proper compensatory flood volume onsite.
- The improved underground retention system is designed to infiltrate the 1" storm volume from the two (2) new buildings' rooftops. This will also help relieve any taxing of stormwater runoff volume discharging into the Norwalk River, providing relief from potential future flooding from a 100yr storm event. Moreover, there is an existing detention/ retention system onsite today consisting of 36" perforated pipes, but recent geotechnical investigations reveal that this system may be at seasonal high groundwater, putting its effectiveness at risk. It was also discovered through the design process that this existing 36" pipe system is undersized for the 1" stormwater retention, therefore the new proposed underground system seeks to alleviate these concerns and adding more storage volume while maximizing separation from groundwater. Despite the existing 36" pipe's shortcomings, a large portion of it shall remain and will connect to the new underground chamber retention system because removal of the 36" pipes will unnecessarily disturb a large, mature vegetated buffer to the southerly abutting apartment complex and will serve to expand the volume of the overall proposed retention system. (further discussions of the proposed stormwater system is described in the submitted Stormwater Management Report by VHB).
- This current layout presents a well-balanced site by pulling the building frontage (i.e. Building A) further back from River Rd while still maintaining a desirable streetscape presence and meets the expectation of Planning & Zoning commission, POCD, and Form-Based Zoning Code.
- Specific to Building B (rear building), unlike previous Alternate Versions of the site layout (described below), Building B is pulled away from the westerly watercourse and wetland system, thus proposing no direct wetland impacts. The impervious limits for the proposal are also pulled further away in the southwest corner of the site when compared to existing conditions. The vast majority of this site plan is

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Memorandum

contained within existing limits of impervious area with only a small portion of Building B extending beyond the existing parking lot. To offset this impervious encroachment, a wetland mitigation plan with proposed plantings is proposed (further described below).

- Alternate Versions 1, 2, 3:

The alternate plans attached have evolved over several iterations. While these iterations may seem similar to the preferred site plan, there are specific differences which are undesirable from both layout and critical resource management and protection perspectives.

  - The rear (South) Bldg B presents a more aggressive layout, extending beyond limits of existing pavement, encroaching very close to wetlands which may have resulted in watercourse diversion, Army Corps of Engineers permitting and/or direct wetland impacts by extending beyond the existing impervious limits. It was hopeful and later achieved by the Preferred Layout to pull the rear Building B away from the critical wetland resources at the rear of the property.
  - Specific to Alternate Version 1: The front (East) Building A infringes more on the 100yr special flood hazard zone and FEMA floodplain as this front building is closer to Norwalk River which would be very difficult to properly provide compensatory flood storage when filling within the 100yr floodzone. Furthermore, there is either no or very minimal parking in front of Building A.
  - Subsequent iterations in Versions 2 and 3 provide excessive greenspace between the building and River Road which have been rejected by Planning & Zoning due to lack of active streetscape on River Rd, advising the developer against adding greenspace between the building and River Road. This prohibition was later codified in the new Form Base Code limiting building setback, in order to create an active streetscape environment.

- No-Build Alternative:
  - A no-built alternative may also be considered but is outshined by the improvements and benefits of the proposed Preferred Layout alternative. If no improvements were made, the existing stormwater management system provides limited relief for the Norwalk River flooding concerns, likely due to the fact that the existing underground system was designed 20+ years ago with different/ lessened stormwater data when compared to current data, thus an undersized and underperforming stormwater management system would remain.

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Memorandum

- Through recent geotechnical investigations, the existing onsite retention system is found to be at seasonal high groundwater, putting it at risk for inadequate volume retention or infiltration/ water quality measures. The new, proposed retention system will not only be upsized from the current system, but is proposed with proper separation from seasonal high groundwater.
- There are currently no plans to improve or enhance the existing watercourse towards the rear (west) of the property, leaving it in an unattractive, unenhanced state. The proposed mitigation planting plan seeks to improve this critical habitat (see additional discussion below under "Proposed Mitigation Measures").
- Water quality measures do exist on site but are limited. There is an existing water quality unit onsite, but it is likely undersized when compared to current rainfall data and standards.
- As discussed above, River Rd is projected to be within the FEMA 100yr special flood hazard area. Through our analysis, it is found that the projection of the 100yr flood event has the potential to affect the existing building that fronts River Road today. Under the proposed improvements plan, the new Building A will be pulled further away and slightly raised from the potential 100yr floodwaters while still maintaining appropriate flood volume compensation onsite.

Impacts:

No direct impacts to the delineated resources areas are anticipated as a result of the project. Within the 100-ft upland review area of the delineated intermittent stream along the west edge of the property, a portion of the existing parking lot will be removed, and Building B with new parking areas will be constructed. Moreover, the proposed site improvements along River Rd are within 100ft to the Norwalk River. The resulting disturbance area from these 2 locations is approximately 0.93 acres of disturbance, again only contained within the 100-ft upland review area (with no direct wetland impacts). The majority of the upland review area adjacent to the rear westerly stream is already disturbed due to the existing development and parking lots. Only approximately 500 square feet of new disturbance (i.e. beyond the existing limits of impervious parking lot) within the upland review area is proposed, which is associated with Building B.

Proposed Mitigation Measures:

While no direct wetland impacts will occur to the delineated wetland resources, plantings are proposed along the intermittent stream in the western portion of the property as a way to enhance the stream habitat. Debris that has accumulated in the stream will also be removed and supplemental plantings will be placed along the stream within an

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P 860.807.4300

approximate 20-ft area around the streambanks, providing habitat and food sources for wildlife and enhancing the visual quality of the area. Supplemental plantings will include the following:

- Common winterberry (*Ilex verticillata*) – provides food sources for songbirds, showy berries in fall/winter.
- Gray dogwood (*Cornus racemosa*) – provides food sources for pollinators, birds, and small mammals.
- Sensitive fern (*Onoclea sensibilis*) – provides shelter for amphibians.
- Sheep laurel (*Kalmia angustifolia*) – provides showy flowers, food source for pollinators.
- Spicebush (*Lindera benzoin*) – provides food source for pollinators and birds.

In addition to the above-mentioned mitigation measures, an Erosion and Sedimentation Control plan has been engineered and submitted with the site civil planset for protection of these critical resource areas during construction activities. The Erosion and Sediment Control plan includes measures to prevent the migration of silt and sediment during the construction process. A doubled BMP measure consisting of silt fencing and straw bales will line the perimeter of the construction area closest to the wetland resources. All catch basins will be fitted with silt sacks and will be removed/ replaced once full. A stabilized construction entrance (stone tracking pad) will be installed at the primary entrance/ exit for construction vehicles at River Rd. the Contractor will be instructed to clean/wash tires upon exiting the construction area, refresh the tracking pad when necessary, and provide street sweeping as required for any additional sediment tracked onto roadways. It is important to note that the existing site today does not drain or discharge stormwater to the rear westerly watercourse, only to the Norwalk River, therefore the Contractor will be instructed to monitor the Norwalk River for sediment discharges after each rainfall event to ensure the protection of the watercourse. There will be a designated concrete washout area located onsite during construction, well away from any critical resource areas, as well as temporary sediment detention basins for dewatering, as needed.

A Soil and Groundwater Management Plan (SGWMP) for use and implementation during construction activities is recommended for the contractor to follow. A summary memorandum of the recommended SGWMP best management practices is included with this submission (Attachment F).

Fill Material: Chemical and Physical Characteristics

The anticipated fill material imported to support construction of the proposed development that will be located within 100’ of a wetland or watercourse will primarily consist of the following:

- Process aggregate base material and bituminous asphalt pavement to support parking lots and drive aisles.

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- Concrete: for sidewalks, building foundations and slabs, pavers, etc., or for stormwater management systems such as underground detention chambers, manholes, catch basins, or for sanitary sewer structures such as manholes.
- Landscaping including loam and seed/sod (grass/ vegetation stabilization), mulch and shrubs/ trees.
- Materials for utilities include the following: PVC (sewer pipe), HDPE (storm), Copper (domestic water less than 2"), ductile iron (domestic water 2" and greater or fire protection), concrete (manhole structures), etc.
- Light pole foundations & conduits

Attachments:

- Figure 1 – Site Location Map
- Attachment A – Town of Wilton Application for a Significant Regulated Activity Form
- Attachment B – VHB Site Civil Planset, "Proposed Redevelopment, 21-23 River Rd, Wilton, CT" (Under separate cover)
- Attachment C - VHB Wetlands and Watercourse Delineation Report, dated October 4, 2023
  - Figure 1 – USGS Site Location Map
  - Figure 2 – Delineated Wetlands and Watercourses Sketch
  - Appendix A – Site Photograph Log
- Attachment D - VHB Wetland Functions & Values Report, dated April 19, 2024
  - Appendix A – VHB Wetland and Watercourses Delineation Report (Referenced above)
  - Appendix B – Wetland Functions/Value Evaluation Form
  - Appendix C – CT DEEP NDDB Map (December 2023)
- Attachment E - VHB Stormwater Management Report (Under separate cover)
- Attachment F – VHB Soil and Groundwater Management Plan Summary, dated April 23, 2024
- Attachment G – Alternative Plan Versions
- Attachment H – Wilton Campus 1691 LLC Letter of Authorization to VHB
- Attachment I – Abutters List

100 Great Meadow Road
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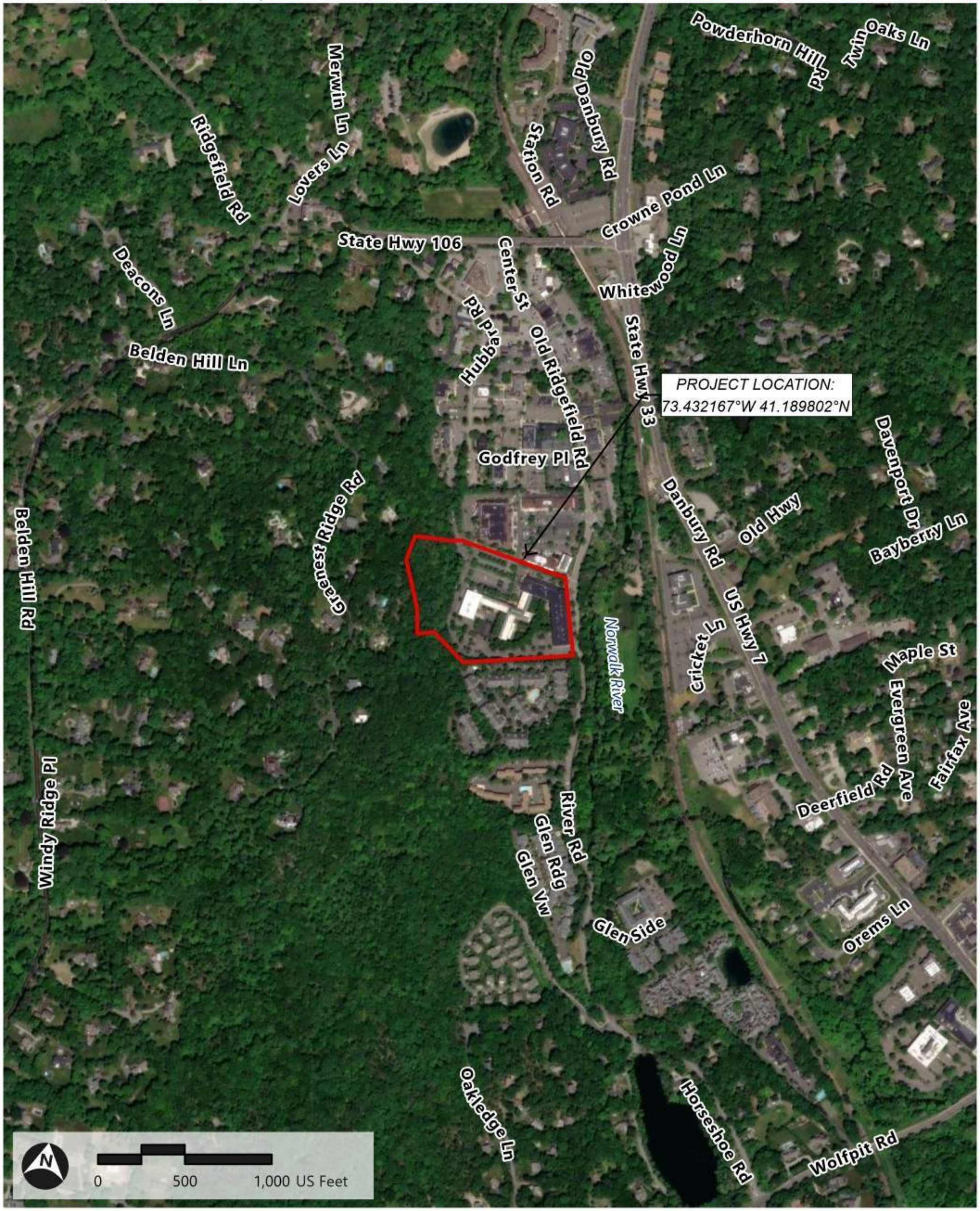
FIGURES

Figure 1: USGS Site Location Map

Wilton Campus Development | Wilton, Connecticut



Project Location

Path: \\vhb.com\gis\proj\WhitePlains\20849.00 Wilton Cntr Redevelop\Project\Wilton Site.aprx (sberryman, 4/9/2024)

Source: USGS, VHB

ATTACHMENT A

TOWN OF WILTON APPLICATION FOR A SIGNIFICANT REGULATED ACTIVITY FORM

ATTACHMENT B

VHB SITE CIVIL PLANSET, “PROPOSED REDEVELOPMENT, 21-23 RIVER RD, WILTON, CT”

(Under separate cover)

ATTACHMENT C

VHB WETLANDS AND WATERCOURSES DELINEATION REPORT

October 4, 2023

Ref: 20849.00

Mr. Nicholas Brown
500 North Broadway, Suite 201
Jericho, New York 11753

Re: Wetland & Watercourse Delineation Report
Wilton Campus Development, Wilton, Connecticut

Mr. Brown,

VHB completed an on-site investigation to determine the presence or absence of wetlands and/or watercourses at 15 River Road (Parcel ID Nos. 73-25-1 and 73-25-4) in the Town of Wilton, Connecticut (Figure 1) as requested and authorized. This investigation of the site involved a wetland/watercourse delineation that was completed by a qualified soil scientist and conducted in accordance with the principles and practices noted in the United States Department of Agriculture (USDA) Soil Survey Manual (1993). The soil classification system of the National Cooperative Soil Survey was used in this investigation to identify the soil map units present on the Project site. This report includes descriptions of site conditions, photographic documentation (Appendix A), and a Delineated Wetlands and Watercourse Sketch (Figure 2) displaying resources delineated within the Project site.

INVESTIGATION

The Project site was investigated on September 1, 2022. The weather during the time of delineation was sunny, with a temperature of 83°F. The state of Connecticut has been experiencing moderate, severe, and extreme drought conditions, which were ongoing during the September 2022 delineation effort. No significant rainfall event occurred within two days prior to the site visit. Soil types are identified by observing soil morphology (soil texture, color, structure, etc.). Soil morphology is evaluated through numerous test pits and/or hand borings (generally to a depth of at least two feet). If a wetland and/or watercourse were determined to be present, their boundaries are identified with flags and hung from vegetation or small wire stakes if in fields or grass communities. These flags are labeled “Wetland Delineation” and are generally spaced a maximum of approximately 50 feet apart. If both resources are within ±10-12 feet distance of each other, the most conservative of the two lines will be delineated. It is important to note that flagged wetland and watercourse boundaries are subject to change until verified by local, state, or federal regulatory agencies.

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REGULATORY INFORMATION

Wetlands and watercourses are regulated by both state and federal law each with different definitions and regulatory requirements. Accordingly, the State may regulate waters that fall outside of federal jurisdiction; however, where federal jurisdiction exists concurrent State jurisdiction is almost always present.

State Regulation

Wetland determinations are based on the presence of poorly drained, very poorly drained, alluvial, or floodplain soils and submerged land. *Watercourses* are defined as "rivers, streams, brooks, waterways, lakes, ponds, marshes, swamps, bogs and all other bodies of water, natural or artificial, vernal or intermittent, public or private, which are contained within, flow through or border upon the state or any portion thereof." *Intermittent watercourse* determinations are made based on the presence of a defined permanent channel and bank, and two of the following characteristics: (1) evidence of scour or deposits of recent alluvium or detritus, (2) the presence of standing or flowing water for a duration longer than a particular storm incident, and (3) the presence of hydrophytic vegetation. (See Inland Wetlands and Watercourses Act §22a-38 CGS.)

WETLAND AND WATERCOURSE SITE DESCRIPTION

Wetland classifications used to identify the type of wetland(s) occurring on the Project site are based on guidance from the U.S. Fish and Wildlife Service (USFWS) (Cowardin et.al. 1979). These are further qualified with the Hydrogeomorphic Method of wetland classification (Brinson, 1993).

Wetland/Watercourse Description

As shown in Figure 1, the Project site is located within the Norwalk River valley, with a steep slope bounding the western edge of the site and the Norwalk River channel located ±100 feet to the east of the site. The majority of the Project site is developed by commercial and office buildings with associated parking lots and driveways, and the surrounding parcels to the north and south are also similarly developed.

The Ordinary High-Water Line (OHW Line) of an intermittent stream was delineated along the toe of the slope and adjacent to onsite parking lots during the September 2022 delineation effort. The delineation relied on physical indications of the OHW Line including:

- Natural line impressed on the bank
- Changes in the character of the soil
- Destruction of terrestrial vegetation
- Presence of litter and debris
- Presence of a wrack line
- Leaf litter disturbed or washed away

- Scour
- Deposition
- Bed and banks
- Exposed root systems

Based on a review of historic aerial imagery, in the 1940s the stream onsite was a naturally flowing stream flowing north to south along the toe of the slope of the river valley, converging with a tributary of the Norwalk River ±750 feet south of the Project site. Until the 1970s, the Project site and surrounding area were either undeveloped or used for agricultural purposes. However, as the development of the area progressed through the 1990s, the once naturally flowing stream was diverted and occasionally culverted to support the development of the area. Currently, the stream is culverted (See Figure 2) until daylighting ±150 feet to the south of the northern Project site boundary. The stream then continues to flow naturally through the site and into the adjacent property to the south.

At the time of delineation, there was no flowing or standing water within the stream channel. Leaf litter, snags, and detritus covered the majority of the channel, but a natural, well-defined channel bank was present, and a sandy stream bottom was identified throughout its presence onsite. It is anticipated that in addition to human littering, stormwater sheet flow from the adjacent steep slope and upgradient areas likely pushed detritus and snags down the slope and into the stream channel.

Due to its location at the toe of a forested slope, canopy trees and saplings were the dominant vegetation onsite during the September 2022 delineation effort. Shrubs were limited to the western bank of the stream, and the eastern bank adjacent to the onsite parking lots consisted of a maintained lawn. As stated above, uplands onsite consisted of impervious parking lots, driveways, commercial and office buildings, and associated maintained lawn areas.

TABLE 1: Dominant Vegetation Within and Adjacent to Watercourse (Common (*Scientific)* names.)

TREES & SAPLINGS				
Scientific	**Common**	**Indicator**	**Upland**	**Wetland**
Acer rubrum	Red Maple	FAC	X	X
Acer saccharinum	Sugar maple	FACW	X	X
Fagus grandifolia	American beech	FACU	X	-
Liriodendron tulipifera	Tulip poplar	FACU	X	-
Platanus occidentalis	American sycamore	FACW	X	X
Populus deltoides	Eastern cottonwood	FAC	X	X
Quercus alba	White oak	FACU	X	-
SHRUBS				
Scientific	**Common**	**Indicator**	**Upland**	**Wetland**
Clethra alnifolia	Sweet pepperbush	FACU	X	X
Euonymus atropurpureus	Burning bush	FACU	X	X

*Fallopia japonica**	Japanese knotweed	FACU	X	-
Lindera benzoin	Northern spice bush	FACW	-	X
HERBS & VINES				
Scientific	**Common**	**Indicator**	**Upland**	**Wetland**
Alliaria petiolate	Garlic mustard	FACU	X	-
Rosa multiflora	Multiflora rose	FACU	-	X
Smilax rotundifolia	Common greenbrier	FAC	X	-

*Denotes State non-native invasive species
OBL-Obligate wetland species (99% or more found in wetlands)
FACW-Facultative wetland species (67%-99% found in wetlands)
FAC- Facultative species (34% -66% found in wetlands)
UPL- Upland species
NI- No Indicator

SOIL MAP TYPES

A brief description of each soil map unit identified on the Project site is presented below including information from the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) soil descriptions. For further information on these and other soils, please refer to the internet site at http://soils.usda.gov/technical/classification/osd/index.html).

Upland Soils

Canton Soil Series

The Canton series is a Typic Dystrudept consisting of very deep, well-drained soils formed in a loamy mantle and underlain by sandy till. The series is typically found on nearly level to very steep glaciated plains, hills, and ridges with slopes that range from 0 to 35 percent. Saturated hydraulic conductivity is high in the solum and high or very high in the substratum. Diagnostic horizons and features recognized in this pedon include an ochric epipedon in the zone from 0 to 2 inches (A and E horizons) and a cambic horizon in the zone from 2 to 22 inches (Bw1 and Bw2 horizons). There is a lithologic discontinuity showing an abrupt change in sand distribution at 22 inches (2C1 horizon).

Charlton Soils

The Charlton series is a Typic Dystrudept consisting of very deep, well-drained loamy soils formed in till. The series is typically found on nearly level to very steep soils on till plains and hills with slopes that range from 0 to 50 percent. Saturated hydraulic conductivity is moderately high or high. The diagnostic horizons and features recognized in this pedon include an ochric epipedon in the zone from 0 to 4 inches (Oe & A horizon) and a cambic horizon in the zone from 4 to 27 inches (Bw horizons). The particle-size class of this series is described as coarse-loamy with sizes in the control section from 10 to 40 inches.

REFERENCES

1. Brinson, M.M. 1993. *A Hydrogeomorphic Classification for Wetlands*. Tech. Rpt.WRP-DE-4, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.

2. Cowardin, L.M., V. Carter, F.C. Golet and E.T. LaRoe, 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Fish and Wildlife Service. Washington, D.C. FWS/OBS-79/31.

3. United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) soil descriptions. Internet site: http://soils.usda.gov/technical/classification/osd/index.html).

CLOSING

Thank you for the opportunity to work with you on this Project. Please contact Jeffrey Shamas at 860-807-4388 if you have any questions or require additional assistance.

Sincerely,
Vanasse Hangen Brustlin, Inc.

Anna Loss
Senior Environmental and Wetland Scientist
aloss@vhb.com

Jeffrey R. Shamas, CE, CSS, ENV SP, SPWS
Director of Environmental Services
jshamas@vhb.com

Included in Report:

Figure 1 – USGS Site Location Map
Figure 2 – Delineated Wetlands and Watercourses Sketch
Appendix A – Site Photograph Log

APPENDIX A

SITE PHOTOGRAPH LOG

Figure 1: Site Photograph Log

Wilton Campus Development | Wilton, Connecticut

Project Location
Photo Location

Path: \\vhb.com\gis\proj\WhitePlains\20849.00 Wilton Cntr Redevelop\Project\Wilton Site.aprx (SPelletier, 9/29/2023)

Source: CTDEEP, USGS, VHB

Engineers | Scientists | Planners | Designers

PHOTOGRAPHIC LOG

Client Name: Wilton Campus 1691, LLC	Site Location: Wilton, CT	Project No: 20849.00

Photo No.: 1	Date: 9/1/2022

Description: Facing south near Flag No. 100, a view of the delineated stream channel continuing offsite. Litter, debris, wrack lines, and exposed root systems are visible.

Engineers | Scientists | Planners | Designers

PHOTOGRAPHIC LOG

Client Name: Wilton Campus 1691, LLC	Site Location: Wilton, CT	Project No: 20849.00

Photo No.: 2	Date: 9/1/2022

Description: Facing north near Flag No. 101, no water is present within the stream channel. However, stained leaves, a well-defined channel, and a sandy stream bed were physical indicators used during the delineation effort.

Engineers | Scientists | Planners | Designers

PHOTOGRAPHIC LOG

Client Name: Wilton Campus 1691, LLC | **Site Location:** Wilton, CT | **Project No**: 20849.00

Photo No.: 2a | **Date:** 9/26/2023

Description: Facing southwest, a view of a wooded area adjacent to the existing parking lot. The area was investigated for wetlands, but no redoximorphic characteristics were present in the area.

Engineers | Scientists | Planners | Designers

PHOTOGRAPHIC LOG

Client Name: Wilton Campus 1691, LLC | **Site Location:** Wilton, CT | **Project No**: 20849.00

Photo No.: 3 | **Date:** 9/1/2022

Description: Facing north near Flag No. 104, snags are present throughout the stream channel onsite, but especially at this location. The steep slope is also visible in the background of the picture.

Engineers | Scientists | Planners | Designers

PHOTOGRAPHIC LOG

Client Name: Wilton Campus 1691, LLC | **Site Location:** Wilton, CT | **Project No**: 20849.00

Photo No.: 4 | **Date:** 9/1/2022

Description: Facing west near Flag No. 107, a view of the stream channel directly adjacent to the parking lot.

Engineers | Scientists | Planners | Designers

PHOTOGRAPHIC LOG

Client Name: Wilton Campus 1691, LLC | **Site Location:** Wilton, CT | **Project No**: 20849.00

Photo No.: 5 | **Date:** 9/1/2022

Description: Facing south near Flag No. 111, the stream channel at this location is covered by fallen leaves and debris. While still defined, exposed roots and abrupt change in elevation beneath the fallen leaves were observed.

vhb Engineers | Scientists | Planners | Designers		PHOTOGRAPHIC LOG
Client Name: Wilton Campus 1691, LLC	**Site Location:** Wilton, CT	**Project No**: 20849.00

Photo No.: 6	**Date:** 9/1/2022
Description: Facing south near Flag No. 113, a view of the stream channel. Debris and wrack are visible, but the channel in this area is heavily covered by fallen leaves.	

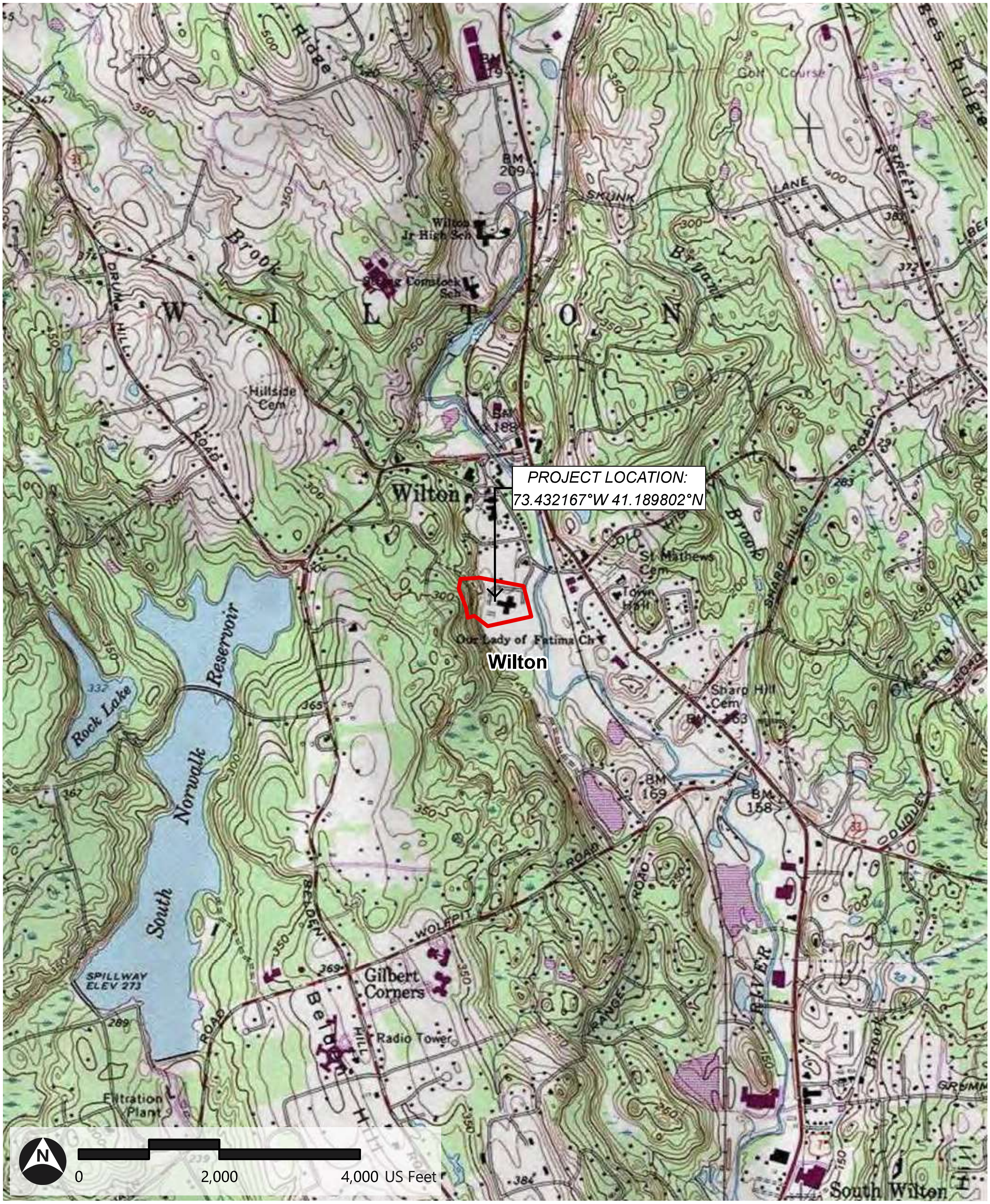
vhb Engineers | Scientists | Planners | Designers		PHOTOGRAPHIC LOG
Client Name: Wilton Campus 1691, LLC	**Site Location:** Wilton, CT	**Project No**: 20849.00

Photo No.: 7	**Date:** 9/1/2022
Description: Facing north, the culvert that carries the stream from the north offsite.	

FIGURES

Figure 1: USGS Site Location Map

Wilton Campus Development | Wilton, Connecticut



Project Location Town Boundary

Source: USGS, VHB

Path: \\vhb.com\gis\proj\WhitePlains\20849.00 Wilton Cntr Redevelop\Project\Wilton Site.aprx (lburbank, 9/15/2022)

Figure 2: Delineated Wetlands and Watercourses Map

Wilton Campus Development | Wilton, Connecticut

Path: \\vhb.com\gis\proj\WhitePlains\20849.00 Wilton Cntr Redevelop\Project\Wilton Site.aprx (lburbank, 9/15/2022)

Project Location	Delineated Ordinary High Water Line
Ordinary High Water Flag	Estimated Off-site Ordinary High Water Line
Culvert	10-ft Contours

Source: CTDEEP, USGS, VHB

ATTACHMENT D

VHB WETLAND FUNCTIONS & VALUES REPORT

WETLAND FUNCTION-VALUE AND IMPACT REPORT

Wilton Campus Development

15 River Road, Parcel Nos. 73-25-1 and 73-25-4, Wilton, Fairfield County, Connecticut

PREPARED FOR

Kimco Realty Corporation
500 North Broadway, Suite 201
Jericho, NY 11753

PREPARED BY

vhb

100 Great Meadow Road
Suite 200
Wethersfield, Connecticut 06109-2377

April 2024

Table of Contents

1

Introduction

This Wetland Function-Value Impact Report was prepared in support of a Town of Wilton Inland Wetland Commission submittal for the proposed redevelopment (herein referred to as the "Project") located at 15 River Road (Parcel Nos. 73-25-1 and 73-25-4) in Wilton, Fairfield County, Connecticut, (herein referred to as the "Site") (Figure 1). The proposed Project consists of the demolition of the existing building along River Road and construction of a four-story, ±50,000 square foot (sf) building that will include multi-family units on the second, third, and fourth floors, and 10,000 sf of restaurant/retail use on the first floor. Additionally, a four-story, ±23,000 sf stand-alone building with multi-family units will be constructed at the rear of the site. The remaining building onsite will be retained with its existing use of office and retail space. Improved landscaping, utility infrastructure, and parking is proposed to support the redevelopment.

The Site was originally investigated on September 1, 2022, during which time a state and federal wetland and watercourse delineation based on criteria used in the State of Connecticut Inland Wetlands and Watercourse Act was completed. Results of that site visit are documented in a Wetland and Watercourse Delineation Report, dated October 4, 2023 (Appendix A).

As shown in the accompanying Inland Wetland Commission submittal, the Project proposes to disturb approximately 0.93 acres of the upland review area to a delineated intermittent stream on the property. The majority of this area is currently developed with existing parking lots and buildings; the Project proposes approximately 500 sf of new disturbance (beyond the existing limits of impervious parking lot). To the east of the property lies the Norwalk River. The Project proposes impacts to the upland review area of the Norwalk River as well. Therefore, the purpose of this report is to assess the current conditions of wetlands and upland review area resources onsite, their function and values, and the effects of the proposed Project on these resources.

2

Site Description and Setting

The 11.8-acre lot is located at 15 River Road in Wilton, Connecticut. The property is currently occupied by a large commercial, multi-use building and associated parking lots. The areas north and south of the Site are developed, with commercial use buildings to the north and condominiums to the south. West of the Site are wooded residential properties. To the east is River Road and the Norwalk River. (Figure 2). Topography onsite ranges from 172ft to 272ft (NAVD88). Steep slopes ranging from 178ft top 272ft are present along the west side of the property; however, no work is proposed within this area. The elevations within the proposed work area range from 172ft to 182ft, gently sloping downgradient from the west to the east.

The existing building and parking areas encompass the majority of the Site. An intermittent stream (Stream 1) was delineated along the west edge of the parking lot, continuing off property to the southwest. Based on a review of historic aerial imagery, the stream was naturally flowing north to south and converging with a tributary of the Norwalk River ±750 feet south of the Site. Until the 1970s, the Site and surrounding area were either undeveloped or used for agriculture. Development of the Site progressed through the 1990s, at which point the once naturally flowing stream was diverted and occasionally culverted to support development in the area. Currently the stream is culverted until daylighting ±150 feet to the south of the northern Site boundary, then continues flowing naturally into the adjacent property to the south.

2.1 - Current Landscape Ecological Setting

The Site is located in southwest Connecticut, just west of the Norwalk River. The surrounding ecological neighborhood is rural with residential and light commercial development, surrounded by forested areas.

3

Wetland Function and Values Assessment

Wetland classifications used to identify the type of wetland(s) occurring on the Site are based on guidance from the U.S. Fish and Wildlife Service (USFWS) (Cowardin et.al. 1979).

Biophysical elements such as a wetland's landscape position, geology, hydrology, substrate, and vegetation determine the wetland functions and to what capacity they are performed. Due to the differing biophysical characteristics between on-site wetlands, the functions the wetlands provide and the capacity to perform those functions vary. To better understand these differences, a description of the assessed wetland functional values was completed based on the United States Army Corps of Engineers (USACE) Highway Methodology Workbook (1993) and its supplement workbook. This method requires a description of each of the wetland communities as well as indicating the functions they provide. The thirteen (13) functions and values that have been recognized include:

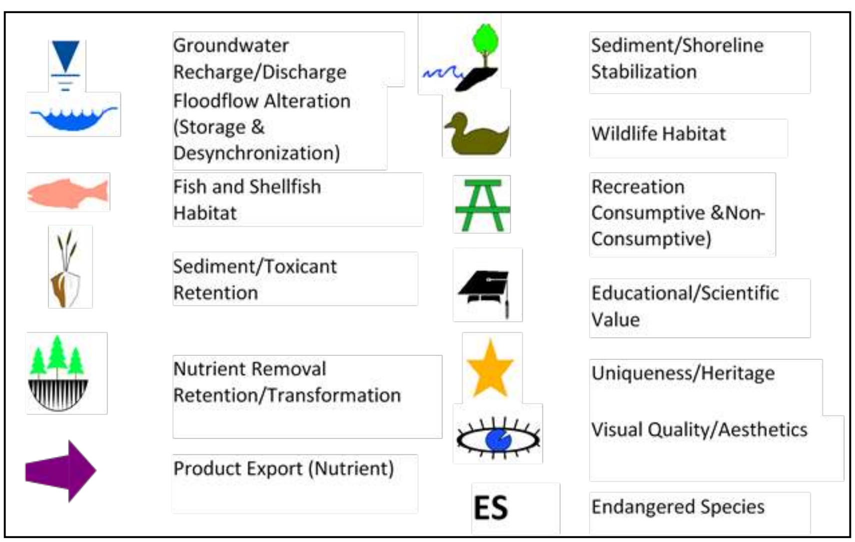


Image 1 - Wetland Function and Values Categories

Aquatic resource areas on the Site, further discussed and documented in the attached Wetland and Watercourse Delineation Report (dated October 4, 2023), consist of one intermittent stream. There is an established 100-ft upland review area regulated by the Town of Wilton.

Stream 1 is naturally occurring and located on the western side of the property. Stream 1 is an intermittent stream that originates from a culvert and flows from north to south along the western edge of the parking lot, before flowing offsite. The watercourse banks are primarily comprised of scrub-shrub vegetation, with sapling trees and a few mature canopy trees located sporadically throughout.

The Project is not proposing any impacts to the stream; however, impacts will occur in the upland areas directly abutting the stream. Therefore, a function-value assessment has been prepared below based on the USACE's 13 functions and values provided above. Please refer to Appendix B for a completed Wetland Function-Value Evaluation Form.

1. Groundwater Recharge/Discharge – This function considers the potential for a wetland to serve as a groundwater recharge and/or discharge area.

   Stream 1 flows north to south from a culvert, continuing offsite to the southwest. It is anticipated that the stream captures stormwater sheet flow from the steep slope to the west. The adjacent parking lots are lined with a curb that would prevent regular stormwater flow from entering the stream; catch basins are also located throughout the parking lots and convey stormwater to the Norwalk River, not to Stream 1.

   During the field delineation efforts, no flowing or standing water was observed in the stream, but during a subsequent site visit in February 2024, the stream was flowing with approximately 8 inches of water. Therefore, Stream 1 serves primarily as a groundwater discharge area.

2. Floodflow Alteration – This function considers the effectiveness of the wetland in reducing flood damage by water retention for prolonged periods following precipitation events and the gradual release of floodwaters.

   A FEMA-identified Flood Hazard Zone X (0.2% annual chance flood hazard) is identified along the Norwalk River to the east of the Site. The river is approximately 50-75 feet wide, with banks that rise approximately 3-4 feet, providing moderate flood water desynchronization for the area. The portion of the Site that is located within the Flood Hazard Zone X is currently developed with an existing building and parking spaces/sidewalks; the Project proposes demolishing the existing building and constructing a new building. As such, no change in the flood storage availability of the Norwalk River is anticipated.

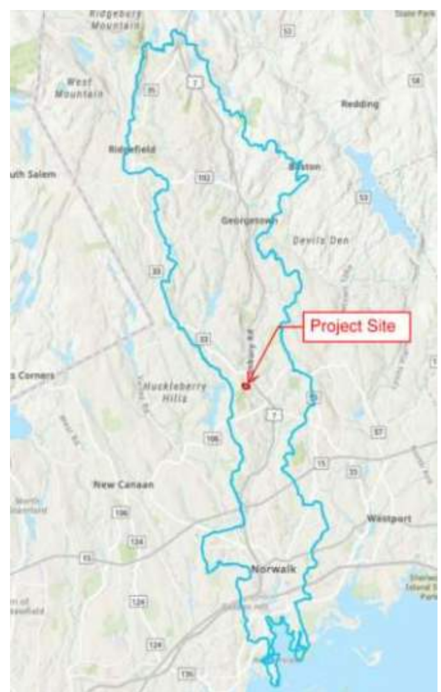


Image 2 -Project Location in HUC 12 Watershed

   No flood hazard zone is identified for Stream 1. According to aerial imagery and elevation contours, the stream is located east of a steep slope. It is expected that runoff from slope flows downgradient toward Stream 1. Stream 1 appears to have the capacity to provide minimal flood water desynchronization (collection, storage, gradual release) during flooding events for its surrounding area. The stream collects and discharges excess water, but due to the defined channel and lack of substantial vegetated wetlands surrounding it, storage of excess water is not anticipated to occur.

As identified by the CTECO Advanced Viewer (See Image 2), the Site's HUC12 watershed (Norwalk River – Frontal Norwalk Harbor (011000060202)) is somewhat developed with moderate impervious cover present. Due to the size of the stream, the desynchronization provided would be small in relation to the size of the watershed.

3. <u>Fish and Shellfish Habitat</u> – This function considers the effectiveness of seasonal or permanent watercourses associated with the wetland in question for fish and shellfish habitat.

   Stream 1 flows from north to south and continues offsite. Stream 1 is approximately three feet in width at the widest part and approximately eight inches deep. The surrounding area is scrub-shrub/forested to the west of the stream; to the east of the stream is a paved parking lot and a large commercial, multi-use building. No fish/shellfish were observed during the site visits. Due to the narrow and shallow nature of the stream, is unlikely that the area is supportive of fish and/or shellfish habitat.

   The Norwalk River is listed as an anadromous fish run for alewife and sea lamprey on the Connecticut Department of Energy and Environmental Protection's (CTDEEP) list of migratory fish runs; the river is also stocked with trout species by CTDEEP and recently underwent restoration work by Trout Unlimited. Currently, catch basins within the existing parking lots convey stormwater to the Norwalk River. The Project proposes stormwater management designs to control flows quality of stormwater that will ultimately be conveyed to the Norwalk River. As such, no impacts are anticipated to fish habitat/species within the Norwalk River as a result of the Project.

4. <u>Sediment/Toxicant/Pathogen Retention; Nutrient Removal; Product Transport</u> – This function reduces or prevents degradation of water quality, the effectiveness of the wetland as a trap for nutrients in runoff water from surrounding uplands or contiguous wetlands and the ability of the wetland to process these nutrients into other forms or trophic levels and the effectiveness of the wetland to produce food or usable products for humans or other living organisms.

   Stream 1 is a small, intermittent stream that flows downstream on a slight grade, being fed by sheet flow from the adjacent steep slope to the west. It is anticipated that sediments/toxicants/pathogens are not retained onsite due to a lack of vegetated wetland in the area.

   Toxicant/nutrient removal functions for Stream 1 are anticipated to be low. The banks of the stream are vegetated, but toxicants/nutrients are not expected to be held in the stream long term. In terms of product transport, the stream is not expected to be a stable source of production. Some vegetation is present along the banks (mostly scrub-shrub and forested vegetation), however that vegetation is not overly diverse.

   The Norwalk River is a much wider and faster flowing watercourse; the banks are vegetated, but due to the flow speed, sediments/toxicants/pathogens are not anticipated to be retained onsite. Toxicant and nutrient removal are also not expected to be held onsite long term. Product transport is expected to be higher for the Norwalk

River, as the vegetation along the banks is more diverse and there is a variety of fish and macroinvertebrates expected to be in the water.

5. Sediment/Shoreline Stabilization – This function considers the effectiveness of a wetland to stabilize streambanks and shorelines against erosion.

   Stream 1 is a narrow, low flow watercourse that has a well-defined channel. The banks of the stream are vegetated with some low vegetation and shrubs/saplings, as well as a few more mature trees. While the vegetation may aid in stabilization, because there is not a vegetated wetland surrounding the stream, erosion and scouring may be possible in very heavy rainfall situations.

   The Norwalk River is wider and faster flowing with vegetated banks. In the Project area, no vegetated wetlands are located along the river, therefore stabilization is not anticipated to be strong as erosion and scouring are likely during heavy rainfall/flooding events.

6. Wildlife Habitat – This function considers the effectiveness of the wetland to provide habitat for various types and populations of animals typically associated with wetlands and the wetland edge.

   Stream 1's location being surrounded by residential and commercial development reduces connectivity from potential wildlife habitat nearby. While the area to the west is forested, there is a very steep, high slope that wildlife would need to navigate prior to reaching the stream. Vegetation along the stream includes some larger trees and shrubs and could provide some habitat and foraging material for avian and small mammal species, however it is unlikely that larger mammals traverse the area due the developed nature of the surrounding vicinity.

   The Norwalk River is listed as an anadromous fish run for alewife and sea lamprey on the CTDEEP's list of migratory fish runs; the river is also stocked with trout species by CTDEEP and recently underwent restoration work by Trout Unlimited. The Project only proposes impacts in the upland review area of the river, where the area is currently already developed. The Project is not anticipated to add any impacts to the wildlife habitat of the Norwalk River.

7. Recreation Consumption – This value considers the suitability of the wetland and associated watercourses to provide recreational opportunities.

   Stream 1 is situated behind and surrounded by residences/small businesses. Residential properties are located to the west of the stream and are forested in nature, but as they are private properties public access to the forested area is restricted. During site visits, people have been observed using the parking lots for walking.

   The Norwalk River recently underwent trout habitat restoration work by Trout Unlimited and is utilized by fishermen for recreational fishing. On the east side of the Norwalk River is a town-owned park (Schneck's Island) that is used for walking. The Project only proposes impacts in the upland review area of the west side of the river, where the area is currently already developed; no impacts to recreation are anticipated.

8. Educational/Scientific Value; Uniqueness/Heritage – This value considers the suitability of the wetland as a site for an "outdoor classroom", as a location for scientific study or

research, and the effectiveness of the wetland or its associated waterbodies to provide certain special cultural resource values.

The stream and the Norwalk River are surrounded by developed, residential/commercial properties and are accessible to the public via the adjacent parking lots/sidewalks. There is no anticipated educational/scientific value to the stream, nor is Stream 1 considered unique or known to contain any remnants of historic or archeological value.

The Norwalk River does contain fish species and may provide some scientific or educational opportunities; however, the Project only proposes impacts to the already-developed upland review area and is not anticipated to impact any scientific/educational value of the Norwalk River.

9. <u>Visual Quality and Aesthetics</u> – This value considers the visual and aesthetic quality or usefulness of the wetland.

   Stream 1 is primarily obstructed from view by the surrounding residences and businesses. The Norwalk River is much more visible from the surrounding area of the Project; however, the Project only proposes impacts to the already-developed upland review area. No impacts to visual quality or aesthetics are anticipated.

10. <u>Endangered Species</u> – This value considers the suitability of the wetland to support threatened or endangered species.

   Based on the most recent CTDEEP Natural Diversity Data Base (NDDB) mapping available (December 2023, Appendix C)), the Site is not located in or near NDDB polygon, and therefore a NDDB review request is not required. As no federal agency is involved with the Project, a review through the United States Fish and Wildlife Service's (USFWS) Information for Planning and Conservation (IPaC) system is also not required.

   This stream is not anticipated to provide quality habitat for any endangered/protected species due to its small size and location within a developed, suburban downtown area with little to no connectivity to regional waterways and/or forests. The Norwalk River does contain fish species, including anadromous species, however no endangered species are anticipated in the river. Furthermore, the Project impacts are limited to the upland review area of the river and are not expected to negatively impact species within the river.

4

Proposed Activities and Potential Impacts

The Project proposes to redevelop a portion of the Site for a multi-use building (Building A) and a residential building (Building B), and associated parking lots.

4.1 – Proposed Activity Within Wetlands & Upland Review Area

The proposed Project will not include any direct impacts to Stream 1. Impacts will occur within the 100-foot upland review area surrounding the stream, due to the clearing of the parking lot area for construction of Building B.

The stream currently does not receive water from the parking lot, unless during flooding conditions, due to the curb height. During the winter, snow from the parking lot is sometimes plowed and piled in the grassy areas between the parking lot and the stream, therefore snowmelt may add to the stream's flow during the winter season.

Currently, catch basins are located throughout the parking lots that convey stormwater to the Norwalk River. Based upon the proposed construction of Building B and redevelopment of the project Site, stormwater from the building and surrounding areas will continue to be conveyed to the Norwalk River, therefore no anticipated additional stormwater will be conveyed to Stream 1. A stormwater management report has been prepared by VHB and is part of the IWW Application for this project, which contains more detailed information on how the stormwater quality and quantity will be managed. The design of the stormwater management measures is intended to control the stormwater flows and quality as to not impact the Norwalk River or its trout stream habitat.

Required permits from local, state, and federal agencies for these disturbances will be procured prior to the start of construction.

4.2 – Potential Effects of Proposed Activity on Flora

The majority of the vegetation within the stream area is red maple (*Acer rubrum*) and sugar maple (*Acer saccharinum*), northern spice bush (*Lindera benzoin*), and multifloral rose (*Rosa multiflora)*. The proposed work would require some vegetation clearing in the upland review area, including removal of a medium-sized tree. Plantings in the area have been proposed in an effort to restore and enhance the impacted upland review area surrounding the stream. Overall, the proposed Project is anticipated to have negligible impacts on Stream 1. Additionally, there are no proposed impacts on the flora to the Norwalk River is anticipated with this project.

4.3 – Potential Effects of Proposed Activity on Fauna

The proposed work is not anticipated to adversely impact fauna in the area as Stream 1 is not anticipated to provide quality wildlife habitat due to its proximity to residential and commercial development. Foraging material is available; however, due to development the area is not anticipated to act as a host to a sizable population of wildlife.

The proposed work in the upland review area of the Norwalk River will occur in an area that is currently developed with a building and parking spaces. The stormwater management plan intends to control stormwater flows/quality to alleviate impacts to the Norwalk River and species that utilize it. The impact of the Project to fauna is anticipated to be negligible.

5

References

1. Cowardin, L.M., V. Carter, F.C. Golet, E.T. LaRoe (1979). Classification of Wetlands and Deepwater Habitats of the United States. US Government Printing Office. Washington D.C. GPO 024-010-00524-6.103 pp.

2. USACOE (1993). The Highway Methodology Workbook Supplement. US Army Corps of Engineers New England Division. NEDEP. 32 pp.

3. United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) soil descriptions. Website:

   http://soils.usda.gov/technical/classification/osd/index.html).

APPENDIX A

VHB WETLAND AND WATERCOURSES DELINEATION REPORT

(Referenced in Attachment C)

APPENDIX B

WETLAND FUNCTIONS/VALUES EVALUATION FORM

Wetland Function-Value Evaluation Form

Total area of wetland ______ Human made? No Is wetland part of a wildlife corridor? No or a "habitat island"? No

Adjacent land use Commercial, multi-use building and parking lots Distance to nearest roadway or other development 3 ft

Dominant wetland systems present R2UB2F Contiguous undeveloped buffer zone present No

Is the wetland a separate hydraulic system? N/A If not, where does the wetland lie in the drainage basin? N/A

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. Stream 1

Latitude ______ Longitude ______

Prepared by: SJB Date 4/1/24

Wetland Impact:
Type Upland review area only - permanent Area ______

Evaluation based on:
Office X Field X

Corps manual wetland delineation completed? Y x N ______

Function/Value	Suitability Y / N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	Y	4, 7, 10, 15	X	Stream collects rainwater/sheet flow from adjacent areas but does not hold it for extended amounts of time.
Floodflow Alteration	Y	9, 11, 13	X	Stream collects rainwater/sheet flow from adjacent areas and conveys offsite.
Fish and Shellfish Habitat	N	8, 17		Stream is intermittent, no fish observed during site visits.
Sediment/Toxicant Retention	N	4		No vegetated wetland is present, therefore retention is minimal.
Nutrient Removal	N	9		No vegetated wetland is present, therefore removal is minimal.
Production Export	Y	2, 4		Some vegetation is present along the banks, but is not dense or diverse.
Sediment/Shoreline Stabilization	N			No vegetated wetland is present.
Wildlife Habitat	Y	7, 17		West of the stream is a large wooded area that could host wildlife, but the site is not anticipated to host wildlife due to its developed nature.
Recreation	Y	10, 11, 12		Adjacent parking lots are currently used by the public for walking, however the area is not a designated recreation area.
Educational/Scientific Value	N			The area does not hold any significant educational or scientific value.
Uniqueness/Heritage	N	9		Parking lots are adjacent to the stream, however the area is not an established recreational area.
Visual Quality/Aesthetics	N			Stream is hidden by residential/commercial buildings and parking lots
ES Endangered Species Habitat	N			No NNDB area nearby
Other				

Notes:

* Refer to backup list of numbered considerations.

APPENDIX C

CT DEEP NDDB MAP

Natural Diversity Data Base Areas

WILTON, CT

December 2023

State and Federal Listed Species

Critical Habitat

Town Boundary

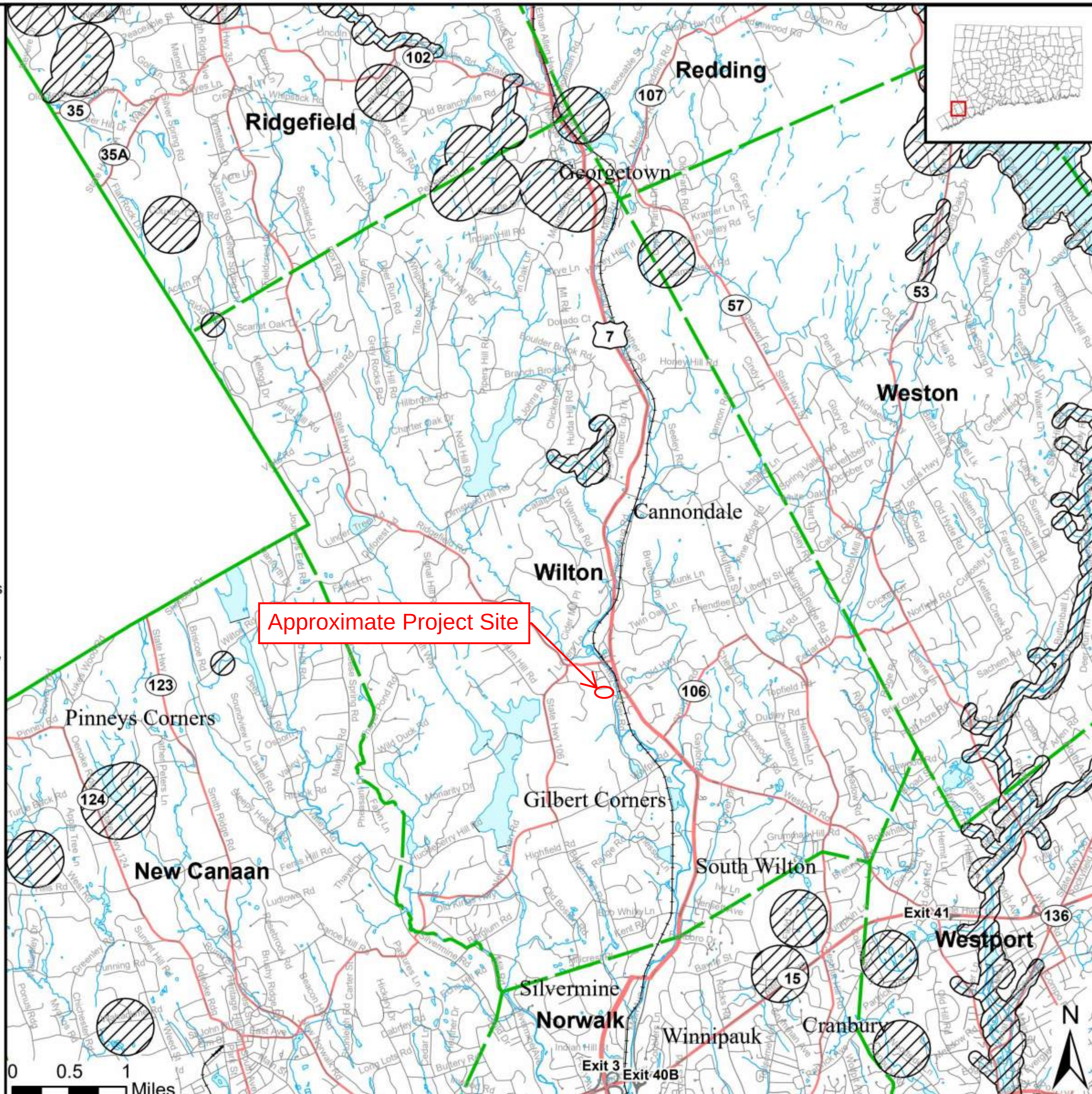
NOTE: This map shows known locations of State and Federal Listed Species and Critical Habitats. Information on listed species is collected and compiled by the Natural Diversity Data Base (NDDB) from a variety of data sources . Exact locations of species have been buffered to produce the generalized locations.

This map is intended for use as a preliminary screening tool for conducting a Natural Diversity Data Base Review Request. To use the map, locate the project boundaries and any additional affected areas If the project is within a hatched area there may be a potential conflict with a listed species. For more information, use DEEP ezFile https://filings.deep.ct.gov/DEEPPortal/ to submit a Request for Natural Diversity Data Base State Listed Species Review or Site Assessment. More detailed instructions are provided along with the request form on our website. https://portal.ct.gov/deep-nddbrequest

Use the CTECO Interactive Map Viewers at http://cteco.uconn.edu to more precisely search for and locate a site and to view aerial imagery with NDDB Areas.

QUESTIONS: Department of Energy and Environmental Protection (DEEP)
79 Elm St, Hartford, CT 06106
email: deep.nddbrequest@ct.gov
Phone: (860) 424-3011

Connecticut Department of Energy & Environmental Protection



ATTACHMENT E

VHB STORMWATER MANAGEMENT REPORT

(Under separate cover)

ATTACHMENT F

VHB SOIL AND GROUNDWATER MANAGEMENT PLAN SUMMARY

April 23, 2024

Ref: 20849.00

Nicholas Brown
500 North Broadway, Suite 201
Jericho, New York 11753

Re: Soil and Groundwater Management Recommendations Memo

Dear Mr. Brown:

Vanasse Hangen Brustlin, Inc. (VHB) has prepared this Soil and Groundwater Management Recommendations Letter for Wilton Campus 1691, LLC (Client) to highlight best practices for soil and groundwater management on-site during redevelopment activities at 11, 15, and 21 River, the Wilton Campus (site). The client has a proposed redevelopment plan that includes various construction activities such as building demolition, building construction, grading, utility trenching, paving, and other activities. Specific activities that disturb subsurface soils and/or groundwater would benefit from a soil and groundwater management plan.

Background Information

The site was enrolled into the Connecticut Department of Energy and Environmental Protection (CTDEEP) Property Transfer Program in March 2013 act due to previous on-site activities that qualified the site as an “establishment” . In April 2020, an Interim LEP Verification was completed for the site and in July 2021, a Final LEP Verification was completed by GZA GeoEnvironmental, Inc. (GZA). On October 5, 2021, CTDEEP issued a Letter of No-Audit for the verification.

During previous investigations by GZA, the site was identified in a Class GA groundwater area with groundwater fluctuating seasonally between 6 to 12 feet below grade at the site. Groundwater investigations identified impacts that included low concentrations of certain pesticides . Soil investigations identified impacts that included low concentrations of ETPH, VOCs, PAHs, metals, and pesticides.

GZA performed soil excavations to specific areas on-site where contaminant concentrations exceeded the applicable CTDEEP Remediation Standard Regulations (RSR) criteria. Confirmation soil samples collected confirmed that the remaining contaminant concentrations in soils were compliant with the RSR criteria. GZA recommended natural attenuation groundwater monitoring be performed to demonstrate RSR compliance for groundwater overtime.

Soil and Groundwater Management Recommendations

Based on the information contained in the GZA reports, there are areas of soil and groundwater contamination that remain at the site may be disturbed during construction activities proposed by the Client. Therefore, VHB recommends that a Soil and Groundwater Management Plan (SGWMP) be prepared and implemented in conjunction with construction activities. The SGWMP should be specific to the site and implement best management practices including, but not limited to:

- All soil stockpiles and equipment/materials storage areas are recommended be located outside of floodplain areas. Temporary stockpiles should be constructed with 6 mil polyethylene plastic placed on the ground and any soil stockpile should be covered with 6 mil polyethylene plastic .
- If grossly contaminated soils are identified via odor or/and sheen/appearance, soil segregation may be recommended.
- If excess soils generated are slated for off-site disposal, proper waste characterization sampling should be conducted to determine potential disposal requirements.
- Any on-site reuse of soils should conducted in such a manner that placement of soils is not in a floodplain, subject to erosion, and in some cases cannot be placed below the groundwater table or used as surface cover based on contaminant concentrations.
- If groundwater dewatering is needed during construction activities, a groundwater discharge permit would likely needed with groundwater sampling to determine discharge is suitable for either discharge to an existing sewer/storm drain or to nearby surface water.
- A site-specific health and safety plan is recommended prior to construction activities to promote worker safety.
- Dust monitoring and/or dust suppression controls maybe required during demolition, excavation, or construction activities.
- Erosion and sediment controls will be required to mitigate the effects of run-on and run-off from the site.
- Processes to follow if unknown environmental issues are encountered.

Conclusions

Documented soil and groundwater contamination exists at the site. The remaining impacted soil is in compliance with CTDEEP RSRs but due to contaminant concentrations will require proper management and/or off-site disposal during construction activities. Groundwater contains pesticide concentrations that would require proper management and disposal if dewatering is needed during excavation activities for the project.

Based on this information, VHB recommends a site specific SGWMP be prepared for the project that contains (at a minimum) the recommended activities outlined above.

If you have any questions, please contact Amy Vaillancourt at availlancourt@vhb.com or at 860-807-4327.

Sincerely,

Amy Vaillancourt

Amy Vaillancourt, LEP
Director of Environmental Services

ATTACHMENT G

ALTERNATE VERSIONS

\\vhb.com\gbl\proj\WhitePlains\20849.00 Wilton Cntr Redevelop\cad\ld\Planset\02_20849.00LM.dwg

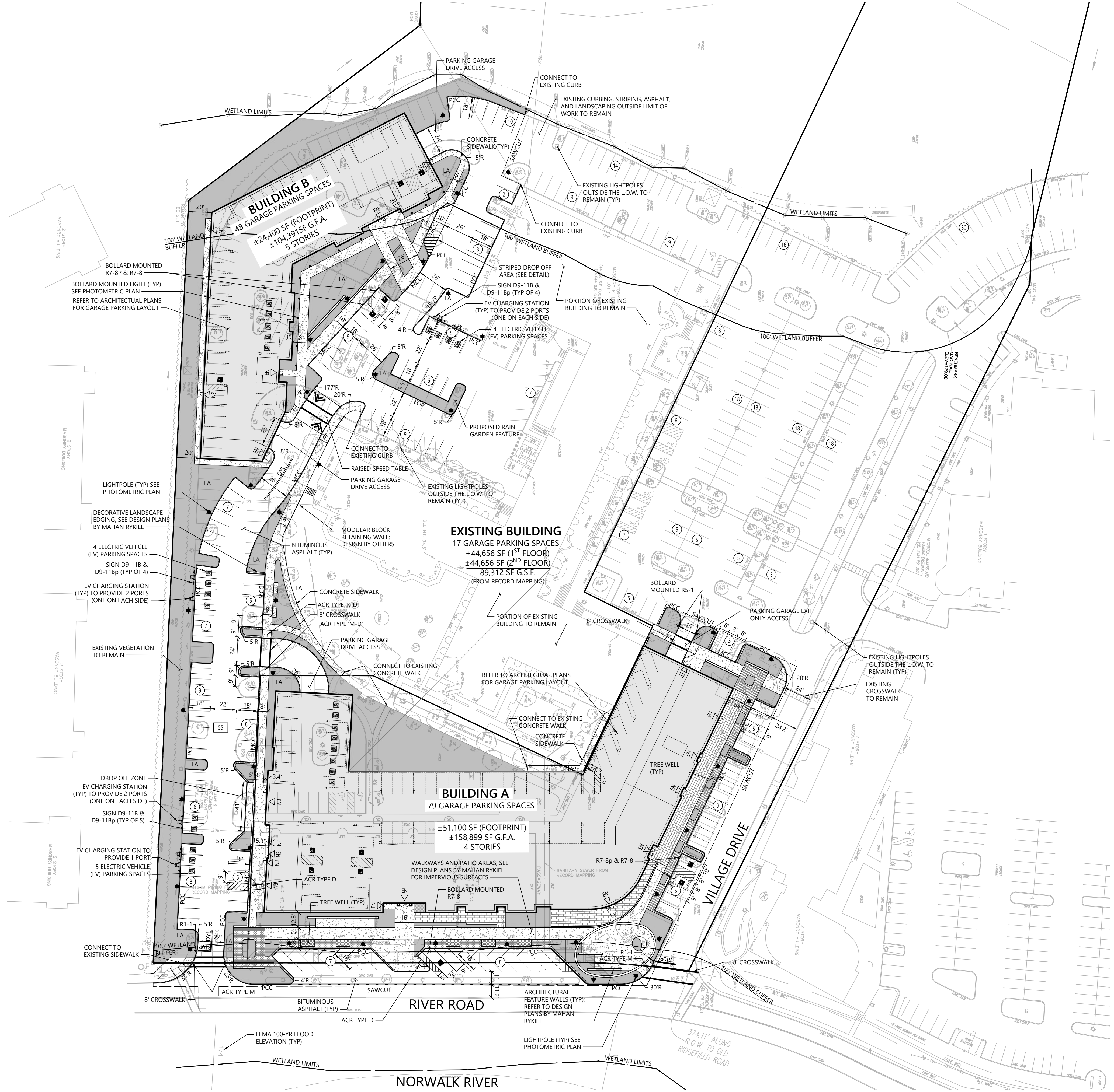
Sign Summary

M.U.T.C.D. Number	Specification Width	Specification Height	Desc.
R1-1	30"	30"	STOP
R5-1	30"	30"	DO NOT ENTER
R7-8	12"	18"	RESERVED PARKING
R7-8P	12"	6"	VAN ACCESSIBLE
W11-2	30"	30"	
W16-7P	24"	12"	

Legend

- Hardscape
- Landscape
- Proposed Building
- Concrete

NOTE: REFER TO LANDSCAPE PLAN BY MAHAN RYKIEL FOR FINAL SURFACE TREATMENT AND DETAILS.



vhb.com
vhb
100 Great Meadow Road
Suite 200
Wethersfield, CT 06109
860.807.4300

0 20 40 80 Feet

21-23 River Rd Redevelopment

21 River Road
Wilton, Connecticut

No.	Revision	Date	Appvd.

Designed by: NP/KE
Checked by: MRG
Issued for: Local Approvals
Date: April 23, 2024

Not Approved for Construction

Drawing Title: **Layout and Materials Plan**

Drawing Number: **C-2.0**

Sheet 02 of 10

Project Number: 20849.00

WILTON CAMPUS REDEVELOPMENT PLAN (VERSION 1)

Office/Retail:
- Demolish 72K SF
- 189K sf to 117K SF

East Building
- 95 Units
- 66 Covered Stalls
- 6.5K SF Amenity/Lobby
- 2.3K SF Retail

South Building
- 63 Units
- 55 Covered Stalls

Parking
- Resi: 1.5/Unit
- Office/Retail: Prior ratio maintained @ 3/1K SF

WILTON CAMPUS REDEVELOPMENT PLAN (VERSION 2)

Office/Retail:
- Demolish 72K SF
- 189K sf to 117K SF

East Building
- 95 Units
- 66 Covered Stalls
- 6.5K SF Amenity/Lobby
- 2.3K SF Retail

South Building
- 63 Units
- 55 Covered Stalls

Parking
- Resi: 1.5/Unit
- Office/Retail: Prior ratio maintained @ 3/1K SF

KIMCO REALTY

WILTON CAMPUS REDEVELOPMENT PLAN (VERSION 3)

Office/Retail:

- Demolish 72K SF
- 189K sf to 117K SF

East Building

- 92 Units
- 66 Covered Stalls
- 6.5K SF Amenity/Lobby
- 2.3K SF Retail

South Building

- 66 Units
- 55 Covered Stalls

Parking

- Resi: 1.5/Unit
- Office/Retail: Prior ratio maintained @ 3/1K SF

ATTACHMENT H

WILTON CAMPUS 1691 LLC LETTER OF AUTHORIZATION TO VHB

Wilton Campus 1691, LLC

500 North Broadway, Suite 201

Jericho, NY 11753

April 11, 2024

Inland Wetlands Commission
Wilton Town Hall
238 Danbury Road
Wilton, CT 06897

Dear Chairman Lee and Members of the Inland Wetlands Commission,

I, Nicholas Brown, Vice president of Development for Kimco Realty, authorized vice president of Wilton Campus 1691, LLC, authorize VHB, Inc. to act as agent on behalf of Wilton Campus 1691, LLC during the Town of Wilton Inland Wetlands Commission entitlement process.

X

Nicholas Brown

ATTACHMENT I

ABUTTERS LIST

Map Block Lot	73-25-3
Property Address	25 River Road
Owner	Avalonbay Communities Inc
Co-Owner	
Mailing Address	P.O. Box 4697 Logan, UT 84323

Map Block Lot	87-4
Property Address	76 Graenest Ridge Road
Owner	Bridge Jordan E & Jamie N
Co-Owner	
Mailing Address	76 Graenest Ridge Road Wilton, CT 06897

Map Block Lot	87-3
Property Address	66 Graenest Ridge Road
Owner	Stenzler Michael E & Caroline P
Co-Owner	
Mailing Address	66 Graenest Ridge Road Wilton, CT 06897

Map Block Lot	87-2
Property Address	58 Graenest Ridge Road
Owner	Boland Amy L & Andrew E
Co-Owner	
Mailing Address	58 Graenest Ridge Road Wilton, CT 06897

Map Block Lot	73-48
Property Address	40 Graenest Ridge Road
Owner	Zheng Min &
Co-Owner	Ye Liyun
Mailing Address	40 Graenest Ridge Road Wilton, CT 06897

Map Block Lot	73-25
Property Address	5 River Road
Owner	Wilton River Park 1688 LLC
Co-Owner	C/O KRC Acquisition Corp
Mailing Address	500 North Broadway, Suite 201 Jericho, NY 11753

Site Plans

Issued for	Local Approvals
Date Issued	April 23, 2024
Latest Issue	April 23, 2024

Proposed ReDevelopment

21-23 River Road
Wilton, Connecticut

vhb.com

100 Great Meadow Road
Suite 200
Wethersfield, CT 06109
860.807.4300

Owner

Wilton Campus 1691, LLC
500 North Broadway, Suite 201
Jericho, NY 11753

Applicant

Wilton Campus 1691, LLC
500 North Broadway, Suite 201
Jericho, NY 11753

Map Block Lot: Map 73/ Lots 25.1 & 25.4

Sheet Index

No.	Drawing Title	Latest Issue
C-1.0	Legend, Abbreviations and General Notes	April 23, 2024
C-2.0	Layout and Materials Plan	April 23, 2024
C-2.1	Overall Parking Plan	April 23, 2024
C-2.2	Bulk Zoning Summary Plan	April 23, 2024
C-3.0	Grading and Drainage Plan	April 23, 2024
C-4.0	Utility Plan	April 23, 2024
C-5.0	Erosion and Sedimentation Control Plan	April 23, 2024
C-6.0	Site Details 1	April 23, 2024
C-6.1	Site Details 2	April 23, 2024
C-6.2	Site Details 3	April 23, 2024
C-6.3	Site Details 4	April 23, 2024

Reference Drawings

No.	Drawing Title	Latest Issue
Sheets 1-3 of 3	Boundary & Topographic Survey	October 4, 2023
Lighting Plans		
SL200	Photometric Plan	April 16, 2024
SL201	Proposed Landscape Lighting Plan	April 16, 2024
SL202	Proposed Building Mount Plan (Level 1)	April 16, 2024
SL203	Proposed Building Mount Plan (Level 2)	April 16, 2024
SL204	Proposed Building Mount Plan (Level 3)	April 16, 2024
SL205	Proposed Building Mount Plan (Level 4)	April 16, 2024
SL206	Proposed Building Mount Plan (Level 5)	April 16, 2024
SL207	Proposed Schedules	April 16, 2024
Landscape Plans		
L1.00	Overall Site Rendering	April 23, 2024
L1.01	Building A Rendering Plan	April 23, 2024
L1.02	Building B Rendering Plan	April 23, 2024
L2.00	Overall Planting Plan	April 23, 2024
L2.01	Building A Planting Plan	April 23, 2024
L2.02	Building B Planting Plan	April 23, 2024
L2.03	Plant Schedule	April 23, 2024
L2.04	Mitigation Planting Plan	April 23, 2024

Survey:
Valley Land Services, LLC
Jack Shoemaker
4383 Hecktown Road
Belhehem, PA 18020
Ph: 610.365.2907

Geotechnical:
GEI
Matt Glunt, PE
455 Winding Brook Dr
Suite 201
Glastonbury, CT 06033
Ph: 860.368.5301

Site Lighting:
On-Site Lighting
Marshall Tromborg
111 Highway 25 North
Suite 201
Buffalo, MN 55313
Ph: 763.682.7114

Architect:
Cube3
Ricky Long
160 State St
Floor 6
Boston, MA 02109
Ph: 617.896.6676

Landscape Architect:
Mahan Rykiel Assoc.
Matt Renauld
3300 Clipper Mill Rd
Suite 200
Baltimore, MD 21211
Ph: 410.900.1634

VHB Project : 20849.00
Issued for : Local Approvals 04/23/24

Legend

Exist. / Prop.	
	PROPERTY LINE
	PROJECT LIMIT LINE
	RIGHT-OF-WAY/PROPERTY LINE
	EASEMENT
	BUILDING SETBACK
	PARKING SETBACK
10+00	BASELINE
	CONSTRUCTION LAYOUT
	ZONING LINE
	TOWN LINE
	LIMIT OF DISTURBANCE
	WETLAND LINE WITH FLAG
	FLOODPLAIN
BLSF	BORDERING LAND SUBJECT TO FLOODING
BZ	WETLAND BUFFER ZONE
NDZ	NO DISTURB ZONE
200'RA	200' RIVERFRONT AREA
	GRAVEL ROAD
EOP	EDGE OF PAVEMENT
BB	BITUMINOUS BERM
BC	BITUMINOUS CURB
CC	CONCRETE CURB
CG	CURB AND GUTTER
ECC	EXTRUDED CONCRETE CURB
MCC	MONOLITHIC CONCRETE CURB
PCC	PRECAST CONC. CURB
SGE	SLOPED GRAN. EDGING
VGC	VERT. GRAN. CURB
	LIMIT OF CURB TYPE
	SAWCUT
	BUILDING
EN	BUILDING ENTRANCE
LD	LOADING DOCK
	BOLLARD
D	DUMPSTER PAD
	SIGN
	DOUBLE SIGN
	STEEL GUARDRAIL
	WOOD GUARDRAIL
	PATH
	TREE LINE
	WIRE FENCE
	FENCE
	STOCKADE FENCE
	STONE WALL
	RETAINING WALL
	STREAM / POND / WATER COURSE
	DETENTION BASIN
	HAY BALES
	SILT FENCE
	SILT SOCK / STRAW WATTLE
4	MINOR CONTOUR
20	MAJOR CONTOUR
10	PARKING COUNT
C10	COMPACT PARKING STALLS
DYL	DOUBLE YELLOW LINE
SL	STOP LINE
	CROSSWALK
	ACCESSIBLE CURB RAMP
	ACCESSIBLE PARKING
VAN	VAN-ACCESSIBLE PARKING

Exist. / Prop.	
	CONCRETE
	HEAVY DUTY PAVEMENT
	BUILDINGS
	RIPRAP
	CONSTRUCTION EXIT
27.35 TC×	TOP OF CURB ELEVATION
26.85 BC×	BOTTOM OF CURB ELEVATION
132.75×	SPOT ELEVATION
45.0 TW / 38.5 BW	TOP & BOTTOM OF WALL ELEVATION
	BORING LOCATION
	TEST PIT LOCATION
MW	MONITORING WELL
UD	UNDERDRAIN
12"D	DRAIN
6"RD	ROOF DRAIN
12"S	SEWER
FM	FORCE MAIN
OHW	OVERHEAD WIRE
6"W	WATER
4"FP	FIRE PROTECTION
2"DW	DOMESTIC WATER
G	GAS
E	ELECTRIC
STM	STEAM
T	TELEPHONE
FA	FIRE ALARM
CATV	CABLE TV
	CATCH BASIN CONCENTRIC
	CATCH BASIN ECCENTRIC
	DOUBLE CATCH BASIN CONCENTRIC
	DOUBLE CATCH BASIN ECCENTRIC
	GUTTER INLET
	DRAIN MANHOLE CONCENTRIC
	DRAIN MANHOLE ECCENTRIC
TD	TRENCH DRAIN
	PLUG OR CAP
CO	CLEANOUT
	FLARED END SECTION
	HEADWALL
	SEWER MANHOLE CONCENTRIC
	SEWER MANHOLE ECCENTRIC
CS	CURB STOP & BOX
WV	WATER VALVE & BOX
TSV	TAPPING SLEEVE, VALVE & BOX
	FIRE DEPARTMENT CONNECTION
HYD	FIRE HYDRANT
WM	WATER METER
PIV	POST INDICATOR VALVE
	WATER WELL
GG	GAS GATE
GM	GAS METER
EMH	ELECTRIC MANHOLE
EM	ELECTRIC METER
	LIGHT POLE
TMH	TELEPHONE MANHOLE
T	TRANSFORMER PAD
	UTILITY POLE
	GUY POLE
	GUY WIRE & ANCHOR
HH	HAND HOLE
PB	PULL BOX
	MATCHLINE

Abbreviations

General

ABAN	ABANDON
ACR	ACCESSIBLE CURB RAMP
ADJ	ADJUST
APPROX	APPROXIMATE
BIT	BITUMINOUS
BS	BOTTOM OF SLOPE
BWLL	BROKEN WHITE LANE LINE
CONC	CONCRETE
DYCL	DOUBLE YELLOW CENTER LINE
EL	ELEVATION
ELEV	ELEVATION
EX	EXISTING
FDN	FOUNDATION
FFE	FIRST FLOOR ELEVATION
GRAN	GRANITE
GTD	GRADE TO DRAIN
LA	LANDSCAPE AREA
LOD	LIMIT OF DISTURBANCE
MAX	MAXIMUM
MIN	MINIMUM
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
PERF	PERFORATED
PROP	PROPOSED
REM	REMOVE
RET	RETAIN
R&D	REMOVE AND DISPOSE
R&R	REMOVE AND RESET
SWEL	SOLID WHITE EDGE LINE
SWLL	SOLID WHITE LANE LINE
TS	TOP OF SLOPE
TYP	TYPICAL

Utility

CB	CATCH BASIN
CMP	CORRUGATED METAL PIPE
CO	CLEANOUT
DCB	DOUBLE CATCH BASIN
DMH	DRAIN MANHOLE
CIP	CAST IRON PIPE
COND	CONDUIT
DIP	DUCTILE IRON PIPE
FES	FLARED END SECTION
FM	FORCE MAIN
F&G	FRAME AND GRATE
F&C	FRAME AND COVER
GI	GUTTER INLET
GT	GREASE TRAP
HDPE	HIGH DENSITY POLYETHYLENE PIPE
HH	HANDHOLE
HW	HEADWALL
HYD	HYDRANT
INV	INVERT ELEVATION
I=	INVERT ELEVATION
LP	LIGHT POLE
MES	METAL END SECTION
PIV	POST INDICATOR VALVE
PWW	PAVED WATER WAY
PVC	POLYVINYLCHLORIDE PIPE
RCP	REINFORCED CONCRETE PIPE
R=	RIM ELEVATION
RIM=	RIM ELEVATION
SMH	SEWER MANHOLE
TSV	TAPPING SLEEVE, VALVE AND BOX
UG	UNDERGROUND
UP	UTILITY POLE

Notes

General

1. CONTRACTOR SHALL NOTIFY "CALL BEFORE YOU DIG, INC." (811 OR 1-800-922-4455) AT LEAST 72 HOURS BEFORE EXCAVATING.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SECURITY AND JOB SAFETY. CONSTRUCTION ACTIVITIES SHALL BE IN ACCORDANCE WITH OSHA STANDARDS AND LOCAL REQUIREMENTS.
3. ACCESSIBLE ROUTES, PARKING SPACES, RAMPS, SIDEWALKS AND WALKWAYS SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE FEDERAL AMERICANS WITH DISABILITIES ACT AND WITH STATE AND LOCAL LAWS AND REGULATIONS (WHICHEVER ARE MORE STRINGENT).
4. AREAS DISTURBED DURING CONSTRUCTION AND NOT RESTORED WITH IMPERVIOUS SURFACES (BUILDINGS, PAVEMENTS, WALKS, ETC.) SHALL RECEIVE 6 INCHES LOAM AND SEED.
5. WITHIN THE LIMITS OF THE BUILDING FOOTPRINT, THE SITE CONTRACTOR SHALL PERFORM EARTHWORK OPERATIONS REQUIRED UP TO SUBGRADE ELEVATIONS.
6. WORK WITHIN THE LOCAL RIGHTS-OF-WAY SHALL CONFORM TO LOCAL MUNICIPAL STANDARDS. WORK WITHIN STATE RIGHTS-OF-WAY SHALL CONFORM TO THE LATEST EDITION OF THE STATE HIGHWAY DEPARTMENTS STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES.
7. UPON AWARD OF CONTRACT, CONTRACTOR SHALL MAKE NECESSARY CONSTRUCTION NOTIFICATIONS AND APPLY FOR AND OBTAIN NECESSARY PERMITS, PAY FEES, AND POST BONDS ASSOCIATED WITH THE WORK INDICATED ON THE DRAWINGS, IN THE SPECIFICATIONS, AND IN THE CONTRACT DOCUMENTS. DO NOT CLOSE OR OBSTRUCT ROADWAYS, SIDEWALKS, AND FIRE HYDRANTS, WITHOUT APPROPRIATE PERMITS.
8. TRAFFIC SIGNAGE AND PAVEMENT MARKINGS SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
9. AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE.
10. IN THE EVENT THAT SUSPECTED CONTAMINATED SOIL, GROUNDWATER, AND OTHER MEDIA ARE ENCOUNTERED DURING EXCAVATION AND CONSTRUCTION ACTIVITIES BASED ON VISUAL, OLFACTORY, OR OTHER EVIDENCE, THE CONTRACTOR SHALL STOP WORK IN THE VICINITY OF THE SUSPECT MATERIAL TO AVOID FURTHER SPREADING OF THE MATERIAL, AND SHALL NOTIFY THE OWNER IMMEDIATELY SO THAT THE APPROPRIATE TESTING AND SUBSEQUENT ACTION CAN BE TAKEN.
11. CONTRACTOR SHALL PREVENT DUST, SEDIMENT, AND DEBRIS FROM EXITING THE SITE AND SHALL BE RESPONSIBLE FOR CLEANUP, REPAIRS AND CORRECTIVE ACTION IF SUCH OCCURS.
12. DAMAGE RESULTING FROM CONSTRUCTION LOADS SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO OWNER.
13. CONTRACTOR SHALL CONTROL STORMWATER RUNOFF DURING CONSTRUCTION TO PREVENT ADVERSE IMPACTS TO OFF SITE AREAS, AND SHALL BE RESPONSIBLE TO REPAIR RESULTING DAMAGES, IF ANY, AT NO COST TO OWNER.
14. THIS PROJECT DISTURBS MORE THAN FIVE ACRES OF LAND AND REQUIRES A CTDEEP PERMIT FOR THE GENERAL PERMIT OF DISCHARGE OF STORMWATER AND DEWATERING WASTEWATER FROM CONSTRUCTION ACTIVITIES. THE CONTRACTOR IS RESPONSIBLE TO FOLLOW THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) AND REQUIREMENTS AS OUTLINED IN THE PERMIT.

Utilities

1. THE LOCATIONS, SIZES, AND TYPES OF EXISTING UTILITIES ARE SHOWN AS AN APPROXIMATE REPRESENTATION ONLY. THE OWNER OR ITS REPRESENTATIVE(S) HAVE NOT INDEPENDENTLY VERIFIED THIS INFORMATION AS SHOWN ON THE PLANS. THE UTILITY INFORMATION SHOWN DOES NOT GUARANTEE THE ACTUAL EXISTENCE, SERVICEABILITY, OR OTHER DATA CONCERNING THE UTILITIES, NOR DOES IT GUARANTEE AGAINST THE POSSIBILITY THAT ADDITIONAL UTILITIES MAY BE PRESENT THAT ARE NOT SHOWN ON THE PLANS. PRIOR TO ORDERING MATERIALS AND BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL VERIFY AND DETERMINE THE EXACT LOCATIONS, SIZES, AND ELEVATIONS OF THE POINTS OF CONNECTIONS TO EXISTING UTILITIES AND, SHALL CONFIRM THAT THERE ARE NO INTERFERENCES WITH EXISTING UTILITIES AND THE PROPOSED UTILITY ROUTES, INCLUDING ROUTES WITHIN THE PUBLIC RIGHTS OF WAY.
2. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, OR EXISTING CONDITIONS DIFFER FROM THOSE SHOWN SUCH THAT THE WORK CANNOT BE COMPLETED AS INTENDED, THE LOCATION, ELEVATION, AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED IN WRITING TO THE OWNER'S REPRESENTATIVE FOR THE RESOLUTION OF THE CONFLICT AND CONTRACTOR'S FAILURE TO NOTIFY PRIOR TO PERFORMING ADDITIONAL WORK RELEASES OWNER FROM OBLIGATIONS FOR ADDITIONAL PAYMENTS WHICH OTHERWISE MAY BE WARRANTED TO RESOLVE THE CONFLICT.
3. SET CATCH BASIN RIMS, AND INVERTS OF SEWERS, DRAINS, AND DITCHES IN ACCORDANCE WITH ELEVATIONS ON THE GRADING AND UTILITY PLANS.
4. RIM ELEVATIONS FOR DRAIN AND SEWER MANHOLES, WATER VALVE COVERS, GAS GATES, ELECTRIC AND TELEPHONE PULL BOXES, AND MANHOLES, AND OTHER SUCH ITEMS, ARE APPROXIMATE AND SHALL BE SET/RESET AS FOLLOWS:
   A. PAVEMENTS AND CONCRETE SURFACES: FLUSH
   B. ALL SURFACES ALONG ACCESSIBLE ROUTES: FLUSH
   C. LANDSCAPE, LOAM AND SEED, AND OTHER EARTH SURFACE AREAS: ONE INCH ABOVE SURROUNDING AREA AND TAPER EARTH TO THE RIM ELEVATION.
5. THE LOCATION, SIZE, DEPTH, AND SPECIFICATIONS FOR CONSTRUCTION OF PROPOSED PRIVATE UTILITY SERVICES SHALL BE INSTALLED ACCORDING TO THE REQUIREMENTS PROVIDED BY, AND APPROVED BY, THE RESPECTIVE UTILITY COMPANY (GAS, TELEPHONE, ELECTRIC, FIRE ALARM, ETC.). FINAL DESIGN LOADS AND LOCATIONS TO BE COORDINATED WITH OWNER AND ARCHITECT.
6. CONTRACTOR SHALL MAKE ARRANGEMENTS FOR AND SHALL BE RESPONSIBLE FOR PAYING FEES FOR POLE RELOCATION AND FOR THE ALTERATION AND ADJUSTMENT OF GAS, ELECTRIC, TELEPHONE, FIRE ALARM, AND ANY OTHER PRIVATE UTILITIES, WHETHER WORK IS PERFORMED BY CONTRACTOR OR BY THE UTILITIES COMPANY.
7. UTILITY PIPE MATERIALS SHALL BE AS FOLLOWS, UNLESS OTHERWISE NOTED ON THE PLAN:
   A. WATER PIPES SHALL BE DUCTILE IRON, CLASS 52, MANUFACTURED AND INSTALLED IN ACCORDANCE WITH AWWA C151, AWWA C111, AWWA C104, AND AWWA C600, LATEST REVISIONS FOR GREATER THAN 2 INCH DIAMETER AND TYPE K COPPER MANUFACTURED AND INSTALLED IN CONFORMANCE WITH ASTM 888, IN ACCORDANCE WITH AWWA C800, LATEST REVISION FOR 2 INCH DIAMETER AND LESS.
   B. SANITARY SEWER PIPES SHALL BE POLYVINYL CHLORIDE (PVC) SDR 35 SEWER PIPE
   C. STORM DRAINAGE PIPES SHALL BE HIGH DENSITY POLYETHYLENE (HDPE) SMOOTH INTERIOR.
8. CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR AND SHALL FURNISH EXCAVATION, INSTALLATION, AND BACKFILL OF ELECTRICAL FURNISHED SITEWORK RELATED ITEMS SUCH AS PULL BOXES, CONDUITS, DUCT BANKS, LIGHT POLE BASES, AND CONCRETE PADS. SITE CONTRACTOR SHALL FURNISH CONCRETE ENCASEMENT OF DUCT BANKS IF REQUIRED BY THE UTILITY COMPANY AND AS INDICATED ON THE DRAWINGS.
9. CONTRACTOR SHALL EXCAVATE AND BACKFILL TRENCHES FOR GAS IN ACCORDANCE WITH GAS COMPANY'S REQUIREMENTS.
10. ALL DRAINAGE AND SANITARY STRUCTURE INTERIOR DIAMETERS (4' MIN.) SHALL BE DETERMINED BY THE MANUFACTURER BASED ON THE PIPE CONFIGURATIONS SHOWN ON THESE PLANS AND LOCAL MUNICIPAL STANDARDS. FOR MANHOLES THAT ARE 20 FEET IN DEPTH AND GREATER, THE MINIMUM DIAMETER SHALL BE 5 FEET.

Layout and Materials

1. DIMENSIONS ARE FROM THE FACE OF CURB, FACE OF BUILDING, FACE OF WALL, AND CENTER LINE OF PAVEMENT MARKINGS, UNLESS OTHERWISE NOTED.
2. CURB RADII ARE 3 FEET UNLESS OTHERWISE NOTED.
3. CURBING SHALL BE CONCRETE CURB (CC) WITHIN THE SITE UNLESS OTHERWISE INDICATED ON THE PLANS.
4. SEE ARCHITECTURAL DRAWINGS FOR EXACT BUILDING DIMENSIONS AND DETAILS CONTIGUOUS TO THE BUILDING, INCLUDING SIDEWALKS, RAMPS, BUILDING ENTRANCES, STAIRWAYS, UTILITY PENETRATIONS, CONCRETE DOOR PADS, COMPACTOR PAD, LOADING DOCKS, BOLLARDS, ETC.
5. PROPOSED BOUNDS AND ANY EXISTING PROPERTY LINE MONUMENTATION DISTURBED DURING CONSTRUCTION SHALL BE SET OR RESET BY A PROFESSIONAL LAND SURVEYOR.
6. PRIOR TO START OF CONSTRUCTION, CONTRACTOR SHALL VERIFY EXISTING PAVEMENT ELEVATIONS AT INTERFACE WITH PROPOSED PAVEMENTS, AND EXISTING GROUND ELEVATIONS ADJACENT TO DRAINAGE OUTLETS TO ASSURE PROPER TRANSITIONS BETWEEN EXISTING AND PROPOSED FACILITIES.

Demolition

1. CONTRACTOR SHALL REMOVE AND DISPOSE OF EXISTING MANMADE SURFACE FEATURES WITHIN THE LIMIT OF WORK INCLUDING BUILDINGS, STRUCTURES, PAVEMENTS, SLABS, CURBING, FENCES, UTILITY POLES, SIGNS, ETC. UNLESS INDICATED OTHERWISE ON THE DRAWINGS. REMOVE AND DISPOSE OF EXISTING UTILITIES, FOUNDATIONS AND UNSUITABLE MATERIAL BENEATH AND FOR A DISTANCE OF 10 FEET BEYOND THE PROPOSED BUILDING FOOTPRINT INCLUDING EXTERIOR COLUMNS, UNLESS SPECIFICALLY NOTED OTHERWISE, SEE PLAN SHEETS FOR SPECIFICS.
2. EXISTING UTILITIES SHALL BE TERMINATED, UNLESS OTHERWISE NOTED, IN CONFORMANCE WITH LOCAL, STATE AND INDIVIDUAL UTILITY COMPANY STANDARD SPECIFICATIONS AND DETAILS. THE CONTRACTOR SHALL COORDINATE UTILITY SERVICE DISCONNECTS WITH THE UTILITY REPRESENTATIVES.
3. CONTRACTOR SHALL DISPOSE OF DEMOLITION DEBRIS IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS, ORDINANCES AND STATUTES.
4 THE DEMOLITION LIMITS DEPICTED IN THE PLANS IS INTENDED TO AID THE CONTRACTOR DURING THE BIDDING AND CONSTRUCTION PROCESS AND IS NOT INTENDED TO DEPICT EACH AND EVERY ELEMENT OF DEMOLITION. THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING THE DETAILED SCOPE OF DEMOLITION BEFORE SUBMITTING ITS BID/PROPOSAL TO PERFORM THE WORK AND SHALL MAKE NO CLAIMS AND SEEK NO ADDITIONAL COMPENSATION FOR CHANGED CONDITIONS OR UNFORESEEN OR LATENT SITE CONDITIONS RELATED TO ANY CONDITIONS DISCOVERED DURING EXECUTION OF THE WORK.
5. UNLESS OTHERWISE SPECIFICALLY PROVIDED ON THE PLANS OR IN THE SPECIFICATIONS, THE ENGINEER HAS NOT PREPARED DESIGNS FOR AND SHALL HAVE NO RESPONSIBILITY FOR THE PRESENCE, DISCOVERY, REMOVAL, ABATEMENT OR DISPOSAL OF HAZARDOUS MATERIALS, TOXIC WASTES OR POLLUTANTS AT THE PROJECT SITE. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR ANY CLAIMS OF LOSS, DAMAGE, EXPENSE, DELAY, INJURY OR DEATH ARISING FROM THE PRESENCE OF HAZARDOUS MATERIAL AND CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS THE ENGINEER FROM ANY CLAIMS MADE IN CONNECTION THEREWITH. MOREOVER, THE ENGINEER SHALL HAVE NO ADMINISTRATIVE OBLIGATIONS OF ANY TYPE WITH REGARD TO ANY CONTRACTOR AMENDMENT INVOLVING THE ISSUES OF PRESENCE, DISCOVERY, REMOVAL, ABATEMENT OR DISPOSAL OF ASBESTOS OR OTHER HAZARDOUS MATERIALS.

Erosion Control

1. PRIOR TO STARTING ANY OTHER WORK ON THE SITE, THE CONTRACTOR SHALL NOTIFY APPROPRIATE AGENCIES AND SHALL INSTALL EROSION CONTROL MEASURES AS SHOWN ON THE PLANS AND AS IDENTIFIED IN FEDERAL, STATE, AND LOCAL APPROVAL DOCUMENTS PERTAINING TO THIS PROJECT.
2. CONTRACTOR SHALL INSPECT AND MAINTAIN EROSION CONTROL MEASURES ON A WEEKLY BASIS (MINIMUM) OR AS REQUIRED PER THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP). THE CONTRACTOR SHALL ADDRESS DEFICIENCIES AND MAINTENANCE ITEMS WITHIN TWENTY-FOUR HOURS OF INSPECTION. CONTRACTOR SHALL PROPERLY DISPOSE OF SEDIMENT SUCH THAT IT DOES NOT ENCUMBER OTHER DRAINAGE STRUCTURES AND PROTECTED AREAS.
3. CONTRACTOR SHALL BE FULLY RESPONSIBLE TO CONTROL CONSTRUCTION SUCH THAT SEDIMENTATION SHALL NOT AFFECT REGULATORY PROTECTED AREAS, WHETHER SUCH SEDIMENTATION IS CAUSED BY WATER, WIND, OR DIRECT DEPOSIT.
4. CONTRACTOR SHALL PERFORM CONSTRUCTION SEQUENCING SUCH THAT EARTH MATERIALS ARE EXPOSED FOR A MINIMUM OF TIME BEFORE THEY ARE COVERED, SEEDED, OR OTHERWISE STABILIZED TO PREVENT EROSION.
5. UPON COMPLETION OF CONSTRUCTION AND ESTABLISHMENT OF PERMANENT GROUND COVER, CONTRACTOR SHALL REMOVE AND DISPOSE OF EROSION CONTROL MEASURES AND CLEAN SEDIMENT AND DEBRIS FROM ENTIRE DRAINAGE AND SEWER SYSTEMS.

Existing Conditions Information

1. BASE PLAN: THE PROPERTY LINES SHOWN WERE DETERMINED BY AN ACTUAL FIELD SURVEY CONDUCTED BY VALLEY LAND SERVICES, LLC, AND FROM PLANS OF RECORD. THE TOPOGRAPHY AND PHYSICAL FEATURES ARE BASED ON AN ACTUAL FIELD SURVEY PERFORMED ON THE GROUND BY VALLEY LAND SERVICES, LLC, DURING JULY, 2022.
   A. DELINEATION OF THE WETLANDS AND PLACEMENT OF THE FLAGS WAS PERFORMED BY: VHB ON SEPTEMBER 1, 2022 AS DOCUMENTED IN THE REPORT PREPARED BY VHB DATED OCTOBER 4, 2023.
   B. FLAGS MARKING THE WETLANDS WERE LOCATED BY: VHB
2. TOPOGRAPHY: ELEVATIONS ARE BASED ON NAVD88.
3. GEOTECHNICAL DATA INCLUDING TEST PIT AND BORING LOCATIONS AND ELEVATIONS WERE OBTAINED BY GEI GEOTECHNICAL ENGINEERS.

Document Use

1. THESE PLANS AND CORRESPONDING CADD DOCUMENTS ARE INSTRUMENTS OF PROFESSIONAL SERVICE, AND SHALL NOT BE USED, IN WHOLE OR IN PART, FOR ANY PURPOSE OTHER THAN FOR WHICH IT WAS CREATED WITHOUT THE EXPRESSED, WRITTEN CONSENT OF VHB. ANY UNAUTHORIZED USE, REUSE, MODIFICATION OR ALTERATION, INCLUDING AUTOMATED CONVERSION OF THIS DOCUMENT SHALL BE AT THE USER'S SOLE RISK WITHOUT LIABILITY OR LEGAL EXPOSURE TO VHB.
2. CONTRACTOR SHALL NOT RELY SOLELY ON ELECTRONIC VERSIONS OF PLANS, SPECIFICATIONS, AND DATA FILES THAT ARE OBTAINED FROM THE DESIGNERS, BUT SHALL VERIFY LOCATION OF PROJECT FEATURES IN ACCORDANCE WITH THE PAPER COPIES OF THE PLANS AND SPECIFICATIONS THAT ARE SUPPLIED AS PART OF THE CONTRACT DOCUMENTS.
3. SYMBOLS AND LEGENDS OF PROJECT FEATURES ARE GRAPHIC REPRESENTATIONS AND ARE NOT NECESSARILY SCALED TO THEIR ACTUAL DIMENSIONS OR LOCATIONS ON THE DRAWINGS. THE CONTRACTOR SHALL REFER TO THE DETAIL SHEET DIMENSIONS, MANUFACTURERS' LITERATURE, SHOP DRAWINGS AND FIELD MEASUREMENTS OF SUPPLIED PRODUCTS FOR LAYOUT OF THE PROJECT FEATURES.

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860.807.4300

21-23 River Rd Redevelopment

21 River Road
Wilton, Connecticut

No.	Revision	Date	Appvd.

Designed by NP/KE — Checked by MRG

Issued for: Local Approvals — Date: April 23, 2024

Not Approved for Construction

Drawing Title: **Legend, Abbreviations and General Notes**

Drawing Number: **C-1.0**

STATE OF CONNECTICUT · MARK R. GEIGER · No. 27233 · LICENSED PROFESSIONAL ENGINEER

Sheet 01 of 11

Project Number: 20849.00

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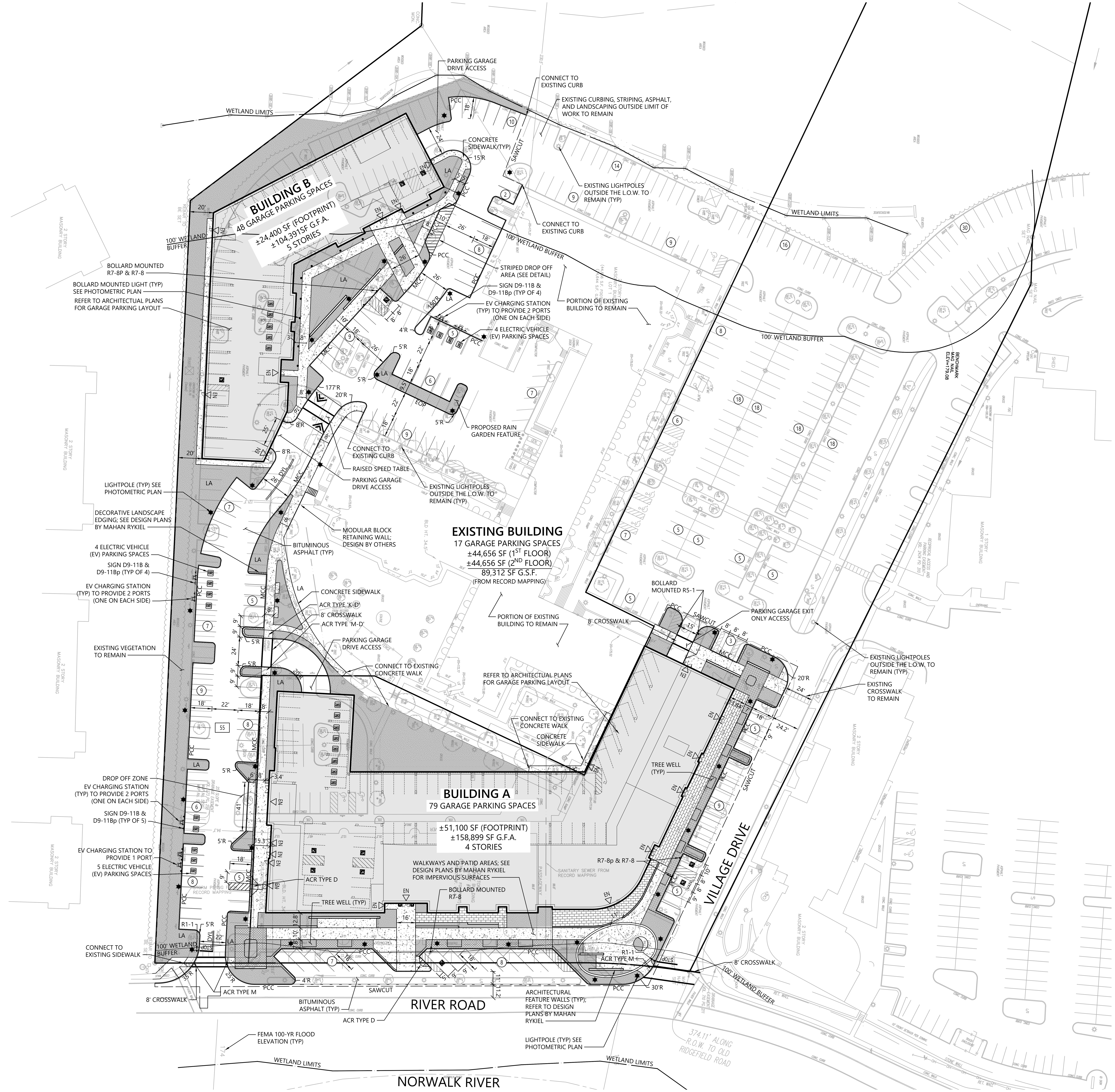
Sign Summary

M.U.T.C.D. Number	Specification Width	Specification Height	Desc.
R1-1	30"	30"	STOP
R5-1	30"	30"	DO NOT ENTER
R7-8	12"	18"	RESERVED PARKING
R7-8P	12"	6"	VAN ACCESSIBLE
W11-2	30"	30"	
W16-7P	24"	12"	

Legend

- Hardscape
- Landscape
- Proposed Building
- Concrete

NOTE: REFER TO LANDSCAPE PLAN BY MAHAN RYKIEL FOR FINAL SURFACE TREATMENT AND DETAILS.



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Not Approved for Construction

Drawing Title: **Layout and Materials Plan**

Drawing Number: C-2.0

Sheet 02 of 11

Project Number 20849.00

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Parking Summary Chart*

Description	Spaces Required **	Spaces Provided
STANDARD SPACES	721	825
STANDARD ACCESSIBLE SPACES ***	15	30
VAN ACCESSIBLE SPACES ***	3	3
TOTAL SPACES	739	858

* PARKING REQUIREMENT IS REFLECTIVE OF THE TOTALITY OF LOTS 25, 25.1 AND 25.4

** BASED ON THE NEW FORM-BASED CODE, SEC. E.6 PARKING STANDARDS (a)[3]: "...ALLOWS UP TO A 30% REDUCTION IN THE REQUIRED PARKING FOR THE JOINT USE OF PARKING SPACES BY 2 OR MORE ESTABLISHMENTS..."

TOTAL SPACES REQ'D:
1,055 PARKING SPACES REQ'D (SEE PARKING REQUIREMENT CALCULATION IN SPREADSHEET BELOW)
1,055 x 0.7 = 739 SPACES.

*** ADA REQ'D, BASED OFF 858 PROVIDED * 2% = 18 TOTAL, INCL. 1 VAN FOR EVERY 6.

LOADING REQUIREMENT FOR ONLY LOTS 25.1 & 25.4 (EXCLUDING LOT 25 I.E. STOP & SHOP PLAZA):

RETAIL & RESTAURANT:
3,000 TO 12,500 SF GFA = 1
12,501 TO 30,000 SF GFA = 2
OVER 30,000 SF = 3 + 1 PER ADD'L 20,000 SF GFA

TOTAL RETAIL/ RESTAURANT PROPOSED = ±12,000 SF
TOTAL EXISTING RETAIL/ REST TO REMAIN = 0 SF
GRAND TOTAL RETAIL / RESTAURANT= 12,000 SF

TOTAL LOADING RETAIL/ REST. = 1 SPACE

OFFICE
UP TO 40,000 SF GFA = 1 UNLESS WAIVED BY COMMISSION
40,001 TO 125,000 SF GFA = 1

TOTAL OFFICE TO REMAIN = 117,296 SF
TOTAL LOADING OFFICE = 1 SPACE

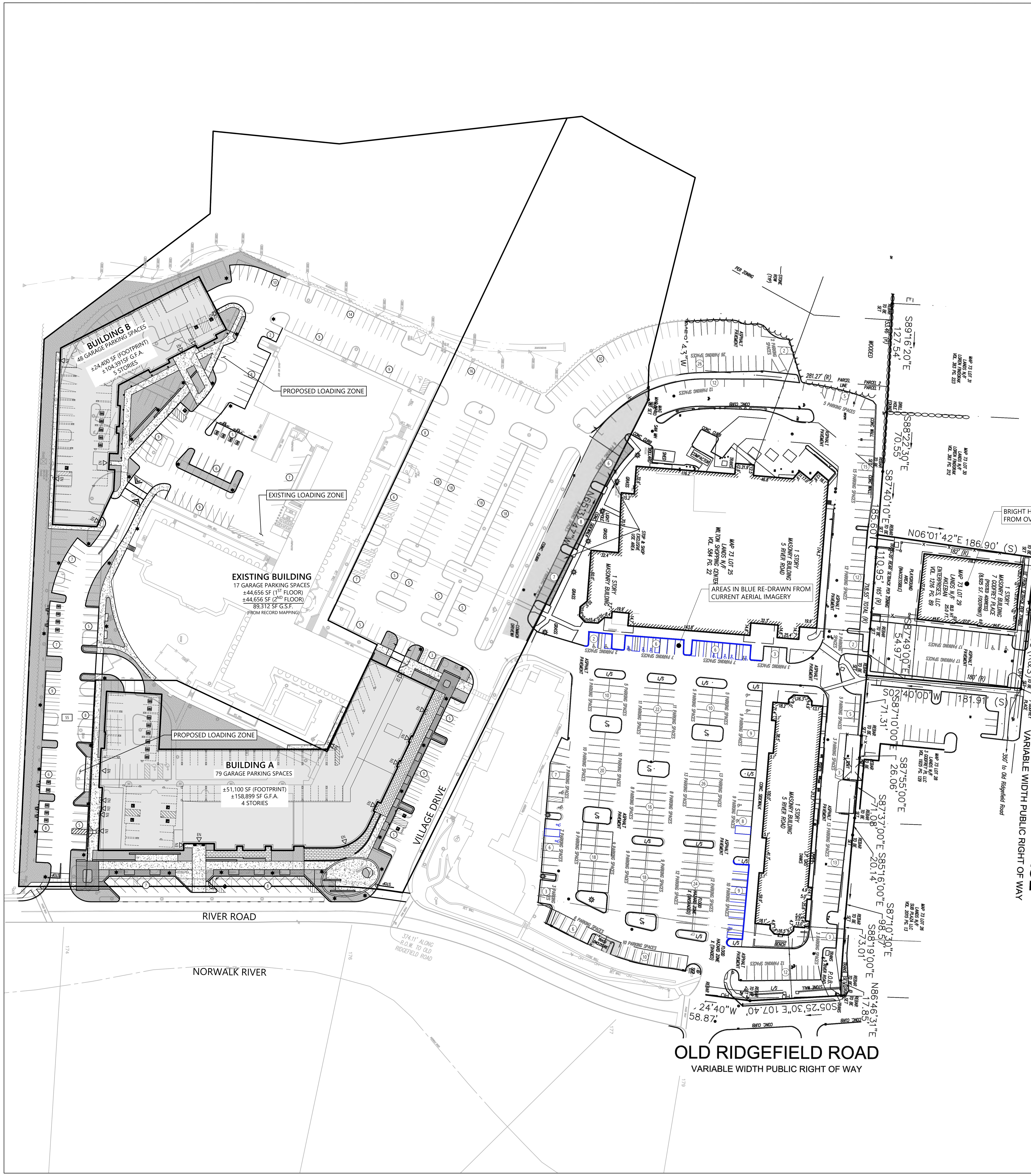
GRAND TOTAL LOADING REQUIRED = 2 SPACES
GRAND TOTAL LOADING PROVIDED = 3 SPACES

PARKING REQUIREMENT CALCULATION SPREADSHEET:

Suite ID	DBA	Suite GLA	Type	Parking/SF	Spots Required
WILTON RIVER PARK (MAP 73, LOT 25)					
1	Stop & Shop	46764	Retail	3/1000	141
3	The Vital Stretch	1383	Medical	4/1000	6
4	Craft 14 Kitchen & Bar	2232	Restaurant	8/1000	18
5	Ancona's Wines & Liquors	2153	Retail	3/1000	7
6	CT Fitness Lab	3201	Retail	3/1000	10
8	Tim La Bant Restaurant	1219	Restaurant	8/1000	10
9	Happy Wok	1174	Restaurant	8/1000	10
10	Great Clips	921	Retail	3/1000	3
11	Cactus Rose Cantina	2584	Restaurant	8/1000	21
12	Shaolin Studios	1322	Retail	3/1000	4
13	Campus Jewelers	955	Retail	3/1000	3
14	Assumed Office	1384	Office	3/1000	5
15	Assumed Office	794	Office	3/1000	3
16	Sola Salon Studios	4100	Retail	3/1000	13
17	Fit Body Boot Camp	2112	Retail	8/1000	7
18	Wilton Reflexology	916	Medical	4/1000	4
19	Kumon Math & Reading Center	1101	Retail	3/1000	4
20	Happy Hands Art & Pottery	1115	Retail	3/1000	4
21	Town Green Cleaners	931	Retail	3/1000	3
22	The UPS Store	1308	Retail	3/1000	4
23	Sweet Pierre's	449	Retail	3/1000	2
24	Press Burger	1670	Restaurant	8/1000	14
25	Sobol	903	Restaurant	8/1000	8
26	Your CBD Store	990	Retail	3/1000	3
27	Assumed Office	1505	Office	3/1000	5
28	Assumed Office	376	Office	3/1000	2
29	Vision Search Partners	1237	Office	3/1000	4
30	Baywater Associates	226	Office	3/1000	1
31	Assumed Office	1771	Office	3/1000	6
32	Sweet Pierre's	444	Retail	3/1000	2
				TOTAL:	327
WILTON CAMPUS (MAP 73, LOTS 25.4 & 25.1)					
	PROPOSED RESTAURANTS (BLDG A)	12,000	Restaurant	8/1000	96
	BLDG A RESIDENTIAL	100 Units	Dwelling	1.55/Unit	155
	BLDG B RESIDENTIAL	72 Units	Dwelling	1.55/Unit	112
1	Assumed Office	1000	Office	3/1000	3
2	Blue Buffalo Storage	500	Office	3/1000	2
3	Assumed Office	2699	Office	3/1000	9
4	Blue Buffalo Storage	2218	Office	3/1000	7
5	Assumed Office	3083	Office	3/1000	10
6	Assumed Office	10906	Office	3/1000	33
7	Kimco	1652	Office	3/1000	5
8	Assumed Office	3457	Office	3/1000	11
9	Assumed Office	5773	Office	3/1000	18
10	Assumed Office	3512	Office	3/1000	11
11	Assumed Office	1408	Office	3/1000	5
12	Assumed Office	2090	Office	3/1000	7
16	Regus	9288	Office	3/1000	28
17	Assumed Office	2545	Office	3/1000	8
18	BCH America, Inc.	1116	Office	3/1000	4
19	Casper Company, LLC	1274	Office	3/1000	4
20	Stanwich Partners, LLC	500	Office	3/1000	2
21	Assumed Office	2798	Office	3/1000	9
22	Laser Body Renewal LLC	1545	Medical	4/1000	7
24	Blue Buffalo Enterprises, Inc.	50804	Office	3/1000	153
25	Assumed Office	6899	Office	3/1000	21
27		14248	Office	3/1000	X
28	Starbucks Coffee	1886	Retail	3/1000	X
29		1366	Office	3/1000	X
30		552	Office	3/1000	X
31		3134	Office	3/1000	X
32	Snappy Gator	1058	Retail	3/1000	X
33		8981	Office	3/1000	X
34		2394	Office	3/1000	X
35		7499	Office	3/1000	X
36		18315	Office	3/1000	X
37	Absolute Investment Advisors	1142	Office	3/1000	X
38	Fairfield Chemical	11043	Office	3/1000	X
39	Assumed Office	1504	Office	3/1000	5
41	Snappy Gator (Storage)	500	Office	3/1000	2
42	Assumed Office	225	Office	3/1000	1
				TOTAL:	728
			GRAND TOTAL BOTH SITES:		1055

GREEN	Proposed Use
(yellow)	Available square footage **assumed** office for parking calculation purposes
(orange)	Area to be removed from "Building A" from Wilton Campus (Not included in total parking calculations)

*Note: List of areas and uses provided by KIMCO
** Total square footage of all existing tenant space in Wilton Center = 188,914 SF (not reflective of proposed changes)



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21-23 River Rd Redevelopment

21 River Road
Wilton, Connecticut

No.	Revision	Date	Appvd.

Designed by NP/KE — Checked by MRG

Issued for: Local Approvals — Date: April 23, 2024

Not Approved for Construction

Drawing Title
Overall Parking Plan

STATE OF CONNECTICUT
MARK R. GROCKI
No. 27233
LICENSED PROFESSIONAL ENGINEER

Drawing Number
C-2.1

Sheet 03 of 11

Project Number
20849.00

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FORM-BASE CODE: Development Regulations, Section E.5.(B).

		Requirement	Proposed*
Property Area - Large Lot, Section B.(18)		1.5 Acres	Lot 25.1 = 5.44, Lot 25.4 = 6.76 Total Area Combined = 12.2ac
Building Coverage, Section E.5.(B)[1]		65%	23%
Lot Impervious Coverage, Section E.5.(b)[2]		80%	59.7%
Building Setbacks, Section E.5.(b)[3]			
	Front	Per Build-To-Line	See Frontage Tables
	Rear	20 Feet	>20 Feet
	Side	None	None
Gross Floor Area			
	Existing to Remain	Not Applicable	115,067 SF
	Building A	Not Applicable	158,899 SF
	Building B	Not Applicable	104,391 SF
	Total	Not Applicable	378,357 SF
Floor Area Ratio		Not Applicable	0.72
Civic Space Area (SHOWN ON PLAN HATCHED:)		0.5 Acres	0.53 Acres
Civic Space Frontage Occupancy			
	Building A	60%	74.8%
	Building B	60%	72.6%

* THE PROPOSED INFORMATION PROVIDED IS BASED ON THE COMBINATION OF TWO (2) LOTS: 25.1 AND 25.4

FORM-BASE CODE: River Road, Public Right-Of-Way, Primary Mixed-Use Street Frontage (FR-1)

These Standards Apply To The Easterly Face Of Building A Fronting On River Road

Standard		Requirement	Proposed	Comments
Build-To-Line, Table E.2., Note 1		25'+	31'	Commission may increase to accommodate angled parking along frontage. Measured to Property Line.
Build-To-Zone, Table F.1., Note 6, WC-1 Storefront Or WC-2 Professional		5'-20'	11' - 20'	Commission may increase to 20' on Large Lots. Per Section 29-6.G.1.C.(2): Commission may modify to Permit WC-1 or WC-2 Frontage Types
Sidewalks, Table E.2.		8'	10'	
Building Height, Table E.3. Including Ground Level Retail/Commercial				
	Minimum	2 Stories, 28 Feet	3 Stories, 41'-6"	
	Maximum	4 Stories, 54 Feet	4 Stories, 50'-4"	
	Bonus, Section E.5.(c)[1](i) < 25% of fourth story	5 Stories, 64 Feet	4 Stories + Lofts, 59'-10"	Commission may grant for a beneficial architectural feature that emphasizes a corner.
	Maximum in Build-to Zone	48 Feet	41'-6"	
Building Stepback for Large Lots, Section E.4.(b).a.		Average of 10'	Average of 10'	
Minimum Frontage Occupancy, Table F.4.		60%	68%	

FORM-BASE CODE: "Village Drive", Private Right-Of-Way, Mixed-Use Neighborhood Street Frontage (FR-3)

These Standards Apply To The Northerly Face Of Building A Fronting On The Shared Site Driveway, Given A Ceremonial Name Of "Village Drive"

Standard		Requirement	Proposed	Comments
Build-To-Line, Table E.2.		15'	15'	Measured to curb line.
Build-To-Zone, Table F.1., Note 6, WC-1 Storefront Or WC-2 Professional		5'-20'	5' - 11'	Commission may increase to 20' on Large Lots.
Sidewalks, Table E.2.		8'	8'	
Building Height, Table E.3. Including Ground Level Retail/Commercial				
	Minimum	2 Stories, 28 Feet	3 Stories, 40'-6"	
	Maximum	4 Stories, 54 Feet	4 Stories, 50'-4"	
	Bonus, Section E.5.(c)[1](i) < 25% of fourth story	5 Stories, 64 Feet	4 Stories + Loft, 59'-10"	Commission may grant for a beneficial architectural feature that emphasizes a corner.
	Maximum in Build-to Zone	48 Feet	40'-6"	
Building Stepback for Large Lots, Section E.4.(b).a.		Average of 10'	Average of 10'	
Minimum Frontage Occupancy, Table F.4.		50%	100%	

FORM-BASE CODE: Private Pedestrian Right-Of-Way: Pedestrian Pathway Street Frontage (FR-5)

These Standards Apply To The Northerly Face Of Building B Located In The Rear Of The Property.

Standard		Requirement	Proposed	Comments
Build-To-Line, Table E.2.		Not Applicable	Not Applicable	
Build-To-Zone, Table F.1., Easement, WC-10		Not Applicable	Not Applicable	
Sidewalks, Table E.2.		10'	10'	
Building Height, Table E.3. Including Ground Level Retail/Commercial				
	Minimum	2 Stories, 28 Feet	3 Stories, 33'-10"	
	Maximum	4 Stories, 54 Feet	4 Stories, 44'-6"	
	Bonus, Section E.5.(c)[1](ii) < 50% of fourth story	5 Stories, 64 Feet	5 Stories, 56'-8"	Commission may grant for a building 100 feet from a Street Frontage where a public benefit has been shown.
	Maximum in Build-to Zone	48 Feet	33'-10"	
Building Stepback at 4th story for Large Lots, Section E.4.(b).a.		Average 10'	Average 10'	
Building Stepback at 5th story for Large Lots, Section E.4.(b).b.		At Least 10'	10'	
Minimum Frontage Occupancy, Table F.4.		None	Not Applicable	

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21-23 River Rd Redevelopment

21 River Road
Wilton, Connecticut

No.	Revision	Date	Appvd.

Designed by NP/KE
Checked by MRG
Issued for Local Approvals
Date April 23, 2024

Not Approved for Construction

Drawing Title
Bulk Zoning Summary Plan
Value
Value

Drawing Number C-2.2

Sheet 04 of 11

Project Number 20849.00

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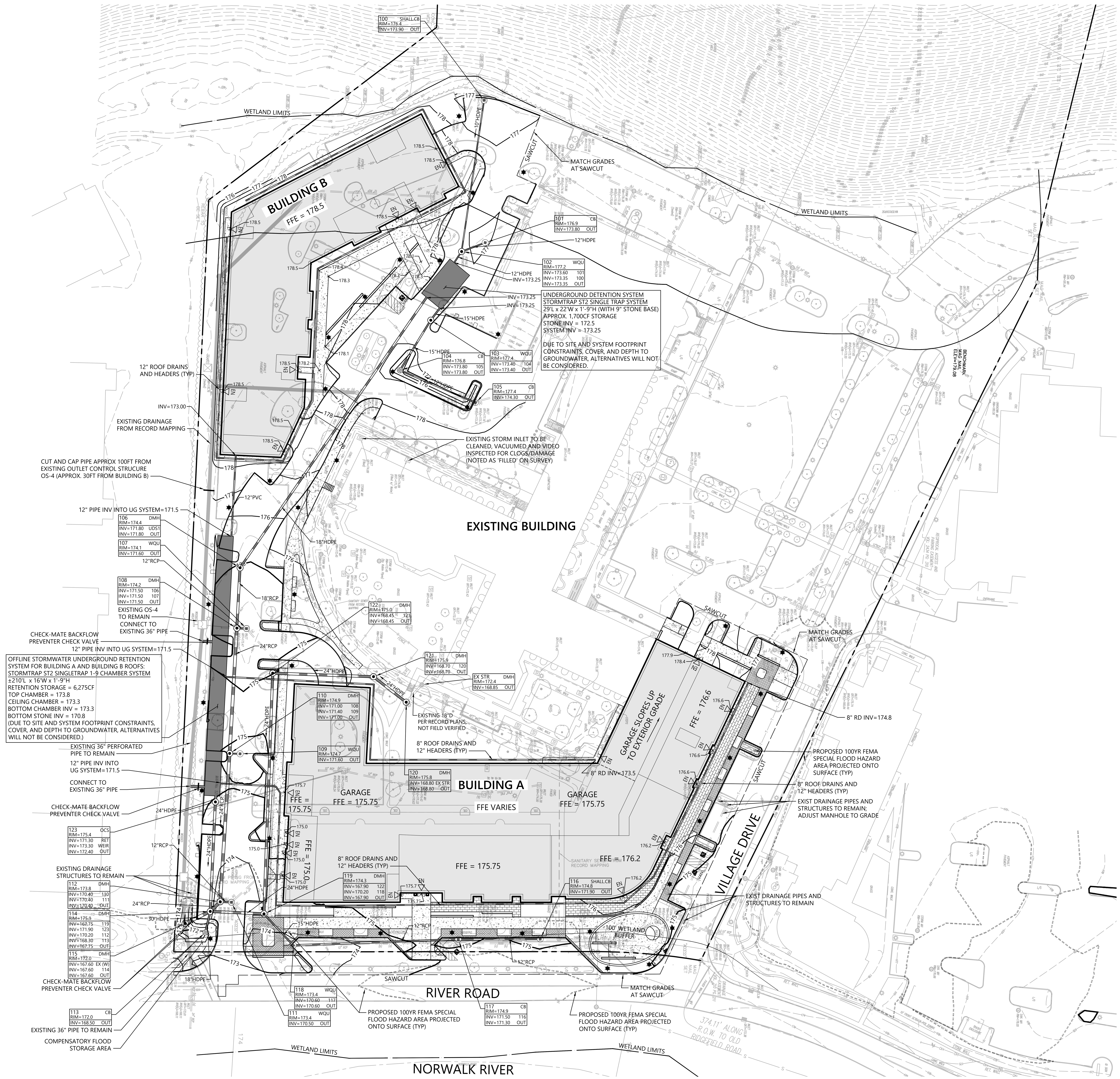

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Issued for Local Approvals	Date April 23, 2024

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Drawing Title
Grading and Drainage Plan

Drawing Number
C-3.0

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Sheet 5 of 11

Project Number
20849.00

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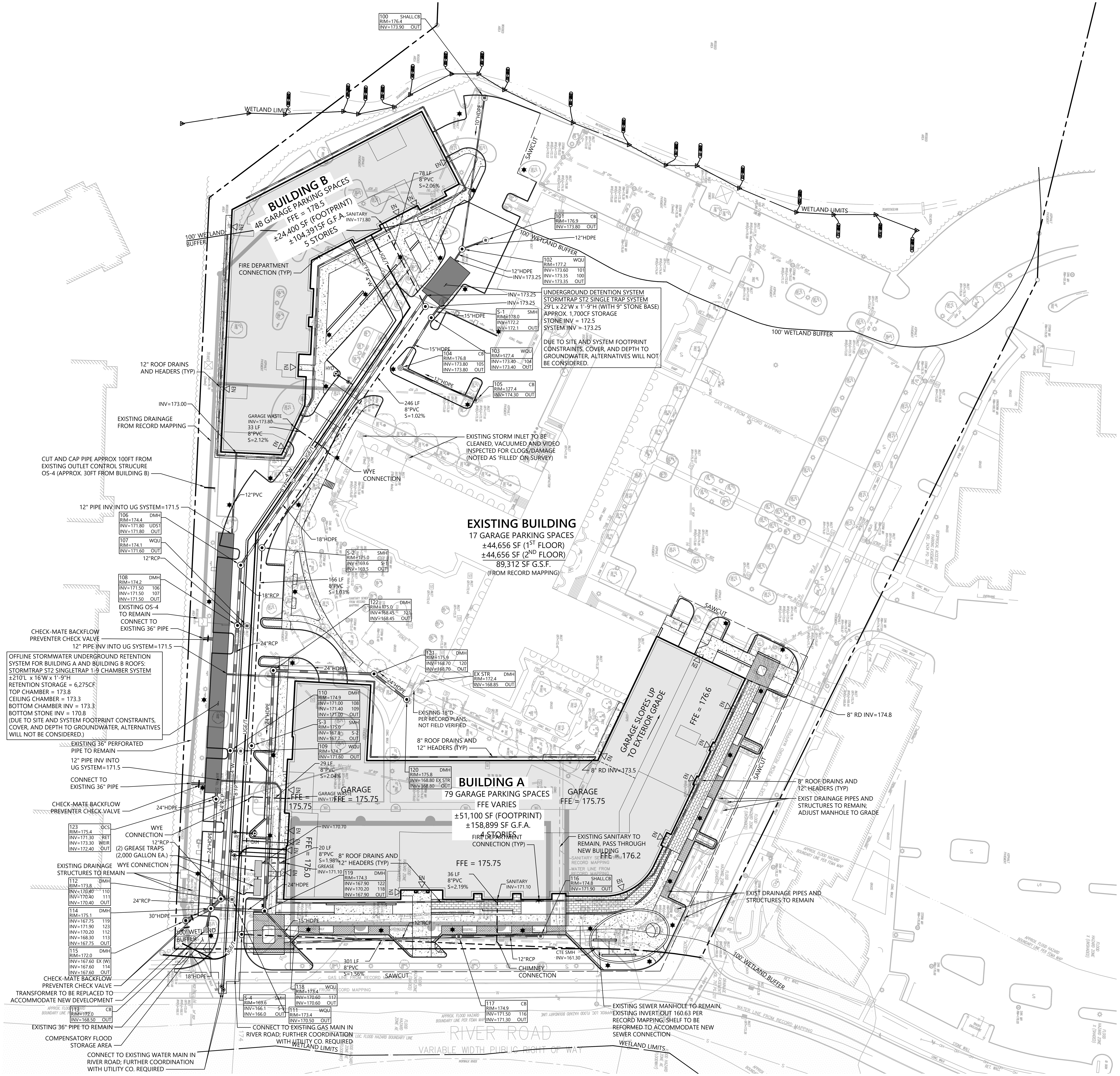

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Drawing Title
Utility Plan

Drawing Number
C-4.0

Sheet 06 of 11

Project Number
20849.00

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Site S&E Narrative:

THE PROPOSED PROJECT CONSISTS OF DEMOLISHING A PORTION OF AN EXISTING BUILDING AND RECONSTRUCTING IN PLACE AND CONSTRUCTING ANOTHER SEPARATE BUILDING WITH ASSOCIATED PARKING, DRIVEWAYS AND UNDERGROUND UTILITIES.
THE APPROXIMATELY 12 ACRE SITE WILL BE DEVELOPED IN A SINGLE PHASE PROJECT. APPROXIMATELY 5 ACRES WILL BE DISTURBED DURING CONSTRUCTION.
TO CONTROL SEDIMENT EROSION DURING EARTH FILLING OPERATIONS, THE CONTRACTOR SHALL EMPLOY TECHNIQUES OUTLINED IN THE CONSTRUCTION SEQUENCE AND EROSION CONTROL NOTES TO ENSURE THAT EROSION DOES NOT OCCUR AND THAT SEDIMENT IS NOT TRANSPORTED OFF.
THE EARTHWORK IS PLANNED TO START SPRING 2025 AND BE COMPLETED SPRING 2026.
THE EROSION AND SEDIMENTATION CONTROLS SHALL BE EMPLOYED BY THE CONTRACTOR DURING THE EARTHWORK AND CONSTRUCTION PHASES OF THE PROJECT IN ACCORDANCE WITH THE CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL.
REFER TO THE DRAINAGE/STORMWATER MANAGEMENT REPORT FOR MORE INFORMATION.

Temporary Erosion and Sedimentation Control Maintenance (throughout construction)

THE SITE CONTRACTOR WILL BE RESPONSIBLE FOR IMPLEMENTING EACH CONTROL SHOWN ON THE SEDIMENTATION AND EROSION CONTROL PLAN.

THE SITE CONTRACTOR WILL INSPECT ALL SEDIMENT AND EROSION CONTROL STRUCTURES PERIODICALLY AND AFTER EACH RAINFALL EVENT. RECORDS OF THE INSPECTIONS WILL BE PREPARED AND MAINTAINED ON-SITE BY THE CONTRACTOR.

SILT SHALL BE REMOVED FROM BEHIND BARRIERS IF GREATER THAN 6-INCHES DEEP OR AS NEEDED.

DAMAGED OR DETERIORATED ITEMS WILL BE REPAIRED IMMEDIATELY AFTER IDENTIFICATION.

THE UNDERSIDE OF HAY BALES SHOULD BE KEPT IN CLOSE CONTACT WITH THE EARTH AND RESET AS NECESSARY.

SEDIMENT THAT IS COLLECTED IN STRUCTURES SHALL BE DISPOSED OF PROPERLY AND COVERED IF STORED ON-SITE.

INSPECT THE TEMPORARY SEDIMENT TRAP AT LEAST ONCE A WEEK AND WITHIN 24 HOURS OF A RAINFALL EVENT TO DETERMINE THE CONDITIONS OF THE BASINS DURING CONSTRUCTION. CLEAN OUT SEDIMENT BASINS WHEN ACCUMULATION REACHES 12". SEDIMENT LEVELS SHALL BE MARKED WITHIN THE SEDIMENT STORAGE AREA BY STAKES. DO NOT ALLOW ACCUMULATED SEDIMENTS TO FLUSH INTO WETLAND AREAS.

EROSION CONTROL STRUCTURES SHALL REMAIN IN PLACE UNTIL ALL DISTURBED EARTH HAS BEEN SECURELY STABILIZED. AFTER REMOVAL OF STRUCTURES, DISTURBED AREAS SHALL BE REGRADED AND STABILIZED AS SOON AS PRACTICAL.

MAINTAIN THE CONSTRUCTION ENTRANCE IN A CONDITION WHICH WILL PREVENT TRACKING AND WASHING OF SEDIMENTS ONTO PAVED SURFACES.

Construction Sequence

1. THE SITE CONTRACTOR SHALL BE FULLY RESPONSIBLE TO CONTROL CONSTRUCTION SUCH THAT SEDIMENTATION SHALL NOT AFFECT ROADS/HIGHWAYS AND THEIR DRAINAGE SYSTEM, NEIGHBORING PROPERTIES, AND REGULATORY PROTECTED AREAS, WHETHER SUCH SEDIMENTATION IS CAUSED BY WATER, WIND, OR DIRECT DEPOSIT. PRIOR TO CONSTRUCTION, THE APPLICANT SHALL PROVIDE THE TOWN OF WILTON WITH THE NAME OF CONTACT AND 24 HOUR CONTACT INFORMATION.
2. CONTRACTOR SHALL ADHERE TO CONNECTICUT GUIDELINES FOR EROSION AND SEDIMENT CONTROL.
3. FLAG THE LIMITS OF CONSTRUCTION NECESSARY TO FACILITATE THE PRECONSTRUCTION MEETING.
4. HOLD PRECONSTRUCTION MEETING. (REMEMBER TO CALL BEFORE YOU DIG 1-800-922-4455).
5. NOTIFY THE TOWN OF WILTON AGENT, ZONING ENFORCEMENT OFFICER AND ENGINEERING DEPARTMENT, 48 HOURS PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION ACTIVITY.
6. INSTALL STABILIZED VEHICLE CONSTRUCTION EXIT.
7. PRIOR TO INSTALLING SURFACE WATER CONTROLS SUCH AS TEMPORARY DIVERSION SWALES, INSPECT EXISTING CONDITIONS TO ENSURE DISCHARGE LOCATIONS ARE STABLE. IF NOT STABLE, REVIEW DISCHARGE CONDITIONS WITH THE DESIGN ENGINEER AND IMPLEMENT ADDITIONAL STABILIZATION MEASURES PRIOR TO INSTALLING SURFACE WATER CONTROLS.
8. INSTALL EROSION AND SEDIMENT CONTROLS IN ACCORDANCE WITH THE E&S PLAN FOR THE SITE INCLUDING SILTFENCE BARRIERS AND SILT SAC.
9. COMPLETE CLEARING AND GRUBBING.
10. ESTABLISH ROUGH GRADE ON THE SITE.
11. CONSTRUCT BUILDING AND UNDERGROUND UTILITIES. INSTALL SILT SAC SEDIMENT TRAPS IN ALL NEW CATCH BASINS.
12. INSTALL PAVEMENT BASE & FIRST COURSE OF BITUMINOUS CONCRETE.
13. INSTALL LANDSCAPING & LOAM AND SEED ALL DISTURBED AREAS.
14. AFTER SITE IS STABILIZED REMOVE TEMPORARY EROSION AND SEDIMENT CONTROLS.
15. LOAM AND SEED ALL DISTURBED AREAS.
16. WHEN ALL OTHER WORK HAS BEEN COMPLETED, REPAIR AND SWEEP ALL PAVED AREAS FOR THE FINAL COURSE OF PAVING. INSPECT THE DRAINAGE SYSTEM AND CLEAN AS NEEDED.
17. INSTALL FINAL COURSE OF PAVEMENT.

Erosion and Sedimentation Control Tecniques

THE FOLLOWING EROSION AND SEDIMENTATION CONTROLS SHALL BE EMPLOYED BY THE CONTRACTOR DURING THE EARTHWORK AND CONSTRUCTION PHASES OF THE PROJECT IN ACCORDANCE WITH THE CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION 2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL.

SILT FENCING
IN AREAS WHERE HIGH RUNOFF VELOCITIES OR HIGH SEDIMENT LOADS ARE EXPECTED, HAY BALE BARRIERS WILL BE BACKED UP WITH SILT FENCING. THIS SEMI-PERMEABLE BARRIER MADE OF A SYNTHETIC POROUS FABRIC WILL PROVIDE ADDITIONAL PROTECTION. THE SILT FENCES AND HAY BALE BARRIER WILL BE REPLACED AS DETERMINED BY PERIODIC FIELD INSPECTIONS.

STRAW BALE BARRIERS
STRAW BALE BARRIERS WILL BE PLACED TO TRAP SEDIMENT TRANSPORTED BY RUNOFF BEFORE IT REACHES THE DRAINAGE SYSTEM OR LEAVES THE CONSTRUCTION SITE. BALES WILL BE SET AT LEAST FOUR INCHES INTO THE EXISTING GROUND TO MINIMIZE UNDERCUTTING BY RUNOFF.

CATCH BASIN PROTECTION
NEWLY CONSTRUCTED AND EXISTING CATCH BASINS WILL BE PROTECTED WITH SILT SACKS THROUGHOUT CONSTRUCTION.

GRAVEL AND CONSTRUCTION ENTRANCE/EXIT
A TEMPORARY CRUSHED-STONE CONSTRUCTION ENTRANCE/EXIT WILL BE CONSTRUCTED. A CROSS SLOPE WILL BE PLACED IN THE ENTRANCE TO DIRECT RUNOFF TO THE SEDIMENT TRAP.

VEGETATIVE SLOPE STABILIZATION
STABILIZATION OF OPEN SOIL SURFACES WILL BE IMPLEMENTED WITHIN 14 DAYS AFTER GRADING OR CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, UNLESS THERE IS SUFFICIENT SNOW COVER TO PROHIBIT IMPLEMENTATION. VEGETATIVE SLOPE STABILIZATION WILL BE USED TO MINIMIZE EROSION ON SLOPES OF 3:1 OR FLATTER. ANNUAL GRASSES, SUCH AS ANNUAL RYE, WILL BE USED TO ENSURE RAPID GERMINATION AND PRODUCTION OF ROOTMASS. PERMANENT STABILIZATION WILL BE COMPLETED WITH THE PLANTING OF PERENNIAL GRASSES OR LEGUMES. ESTABLISHMENT OF TEMPORARY AND PERMANENT VEGETATIVE COVER MAY BE ESTABLISHED BY HYDRO-SEEDING OR SODDING. A SUITABLE TOPSOIL, GOOD SEEDBED PREPARATION, AND ADEQUATE LIME, FERTILIZER AND WATER WILL BE PROVIDED FOR EFFECTIVE ESTABLISHMENT OF THESE VEGETATIVE STABILIZATION METHODS. MULCH WILL ALSO BE USED AFTER PERMANENT SEEDING TO PROTECT SOIL FROM THE IMPACT OF FALLING RAIN AND TO INCREASE THE CAPACITY OF THE SOIL TO ABSORB WATER.

STOCKPILE MANAGEMENT
SIDESLOPES OF STOCKPILED MATERIAL SHALL BE NO STEEPER THAN 2:1. STOCKPILES NOT USED WITHIN 30 DAYS NEED TO BE SEEDED AND MULCHED IMMEDIATELY AFTER FORMATION OF THE STOCKPILE. HAYBALES AND SILT FENCE ARE TO BE PLACED AROUND THE STOCKPILE AREA APPROXIMATELY 10 FEET FROM THE TOW OF SLOPE.

DUST CONTROL
PERIODICALLY MOISTEN EXPOSED SURFACES ON UNPAVED TRAVELWAYS TO KEEP THE TRAVELWAY DAMP AND REDUCE DUST.

Post Construction Stormwater Management

THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR ENSURING THAT STORMWATER MANAGEMENT SYSTEMS BE INSPECTED AND MAINTAINED. THE FOLLOWING PLAN COMPONENTS SHALL BE ADHERED TO:

SOURCE CONTROL
A COMPREHENSIVE SOURCE CONTROL PROGRAM WILL BE IMPLEMENTED AT THE SITE, WHICH INCLUDES REGULAR PAVEMENT SWEEPING AT A MINIMUM 2 TIMES PER YEAR, CATCH BASIN CLEANING, AND MAINTENANCE AND CLEARING OF LITTER FROM PARKING AREAS AND PERIMETER LANDSCAPED AREAS. CLEAN ALL CATCH BASINS AND STRUCTURES TWICE ANNUALLY TO REMOVE ACCUMULATED SAND, SEDIMENT, AND FLOATABLE PRODUCTS OR AS NEEDED BASED ON USE.

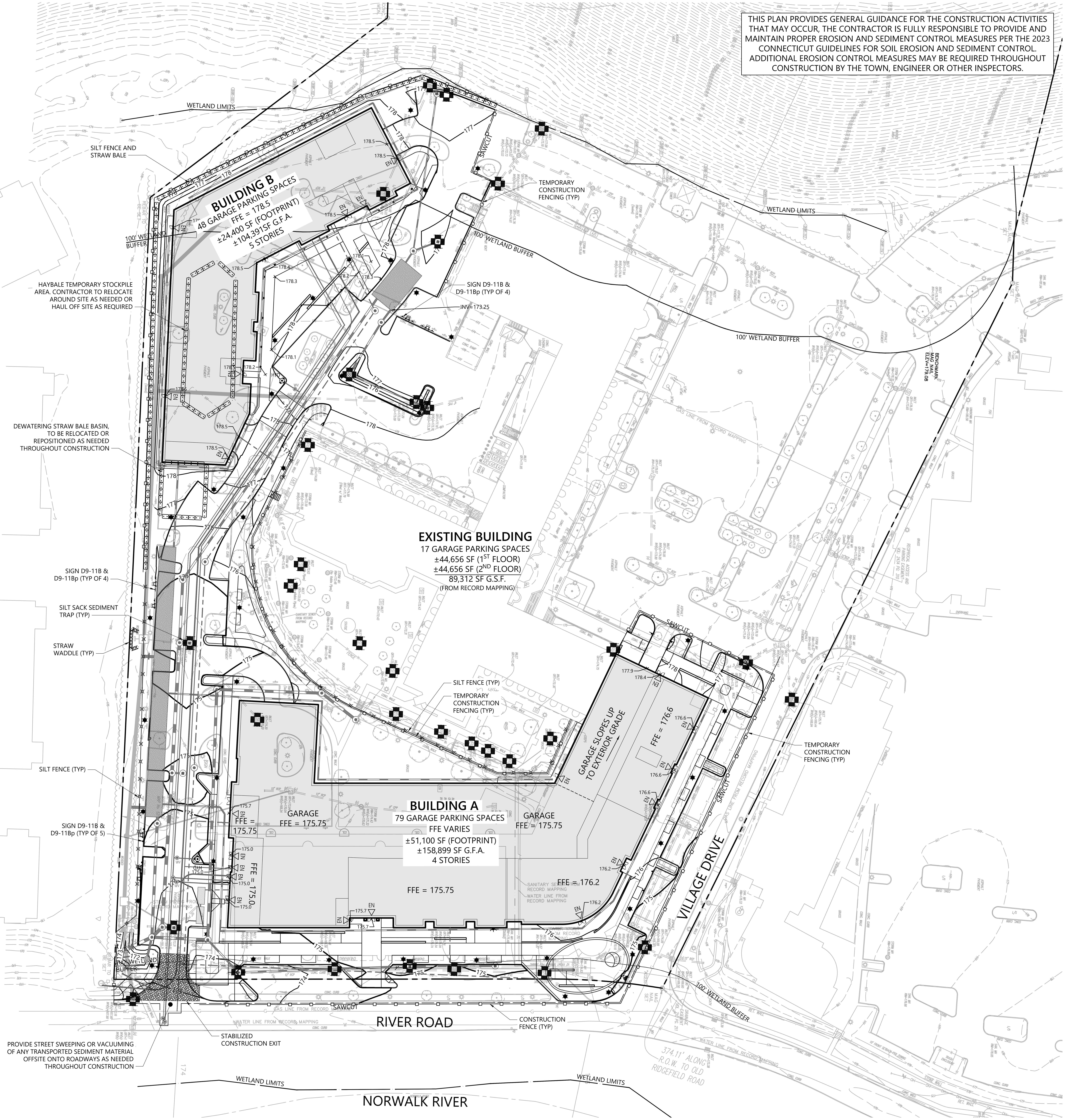
DEEP SUMP CATCH BASINS
CATCH BASINS AT THE SITE ARE TO BE CONSTRUCTED WITH SUMPS (MINIMUM 4-FEET) TO TRAP DEBRIS AND SEDIMENTS. CATCH BASINS WILL BE CLEANED TWICE PER YEAR.

SUBSURFACE STORAGE SYSTEM
THE SUBSURFACE STORAGE SYSTEM IS AN UNDERGROUND STORAGE SYSTEM TO BE USED FOR SURFACE AND ROOF RUNOFF. INSPECT THE UNDERGROUND STORAGE SYSTEM ANNUALLY, IN THE SPRING. NECESSARY REPAIRS WILL BE PERFORMED IMMEDIATELY UPON IDENTIFICATION. THE PROJECT IS REQUIRED TO STORE 1" OF RUNOFF FROM THE PROPOSED ROOFS AND THE PROJECT WILL PROVIDE 6,000 CF OF REQUIRED STORAGE.

SNOW SHELF
INSPECT SNOW SHELVES ONCE ANNUALLY, IN THE SPRING, FOR ACCUMULATED SEDIMENT. NECESSARY SEDIMENT REMOVAL, EARTH REPAIR, AND/OR RESEEDING WILL BE PERFORMED IMMEDIATELY UPON IDENTIFICATION.

HYDRODYNAMIC SEPARATOR WATER QUALITY UNIT
A HYDRODYNAMIC SEPARATOR WATER QUALITY UNIT WILL BE USED TO TREAT STORMWATER BEFORE IT REACHES THE DISCHARGE POINT. THIS ALLOWS SUSPENDED SEDIMENTS TO BE REMOVED AND REDUCES SEDIMENTATION ACCUMULATION. INSPECT THE WATER QUALITY UNIT FOR ACCUMULATED SEDIMENT AND DEBRIS. NECESSARY SEDIMENT AND/OR DEBRIS REMOVAL WILL BE PERFORMED IMMEDIATELY UPON IDENTIFICATION.

ALL E&S CONTROL MEASURES WILL BE INSPECTED WEEKLY AND AFTER RAINFALL OF 0.5 INCHES IN 24 HOURS.



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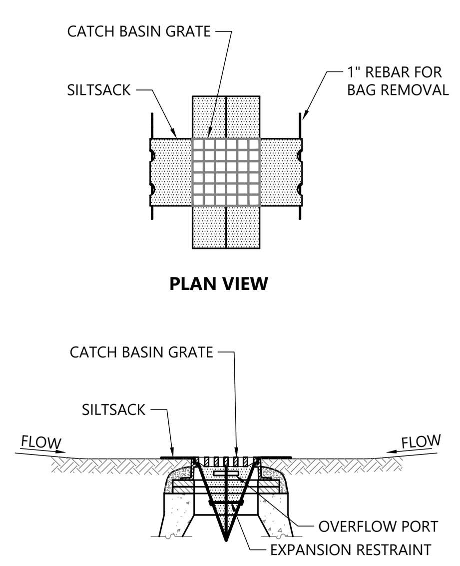
Drawing Title
Erosion and Sedimentation Control Plan

Drawing Number: C-5

Sheet 07 of 11

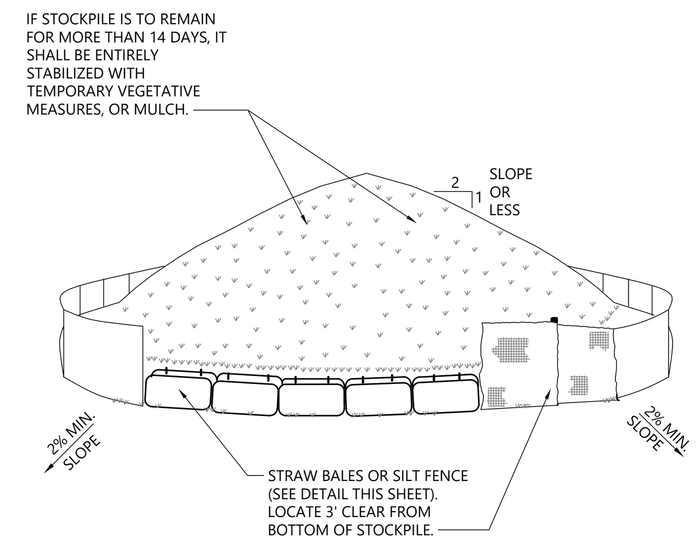
Project Number: 20849.00



NOTES

1. INSTALL SILTSACK IN ALL CATCH BASINS WHERE INDICATED ON THE PLAN BEFORE COMMENCING WORK OR IN PAVED AREAS AFTER BINDER COURSE IS PLACED AND STRAW BALES HAVE BEEN REMOVED.
2. GRATE TO BE PLACED OVER SILTSACK.
3. SILTSACK SHALL BE INSPECTED PERIODICALLY AND AFTER ALL STORM EVENTS AND CLEANING OR REPLACEMENT SHALL BE PERFORMED PROMPTLY AS NEEDED. MAINTAIN UNTIL UPSTREAM AREAS HAVE BEEN PERMANENTLY STABILIZED

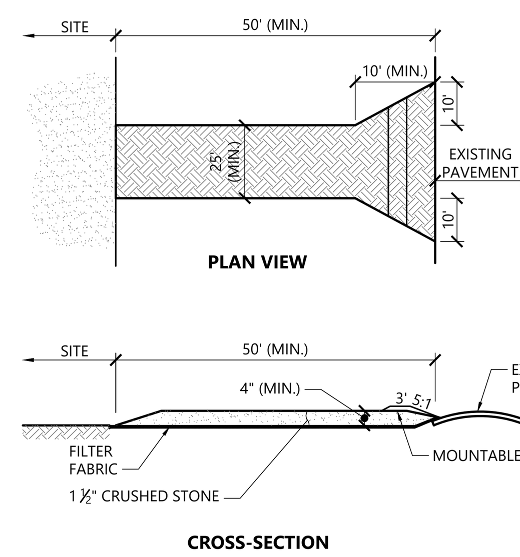
Siltsack Sediment Trap
1/20
N.T.S. Source: VHB LD_674



NOTES

1. AREA CHOSEN FOR STOCKPILING OPERATIONS SHALL BE DRY AND STABLE.
2. MAXIMUM SLOPE OF STOCKPILE SHALL BE 1:2.
3. UPON COMPLETION OF SOIL STOCKPILING, EACH PILE SHALL BE SURROUNDED WITH EITHER SILT FENCING OR STRAW BALES.
4. CONTRACTOR SHALL INSPECT INSTALLATIONS EVERY 7 DAYS MINIMUM AND/OR AS REQUIRED AND AFTER ANY RAINFALL EVENT OF 1/2" OR GREATER AND MAKE NECESSARY REPAIRS AS NEEDED.

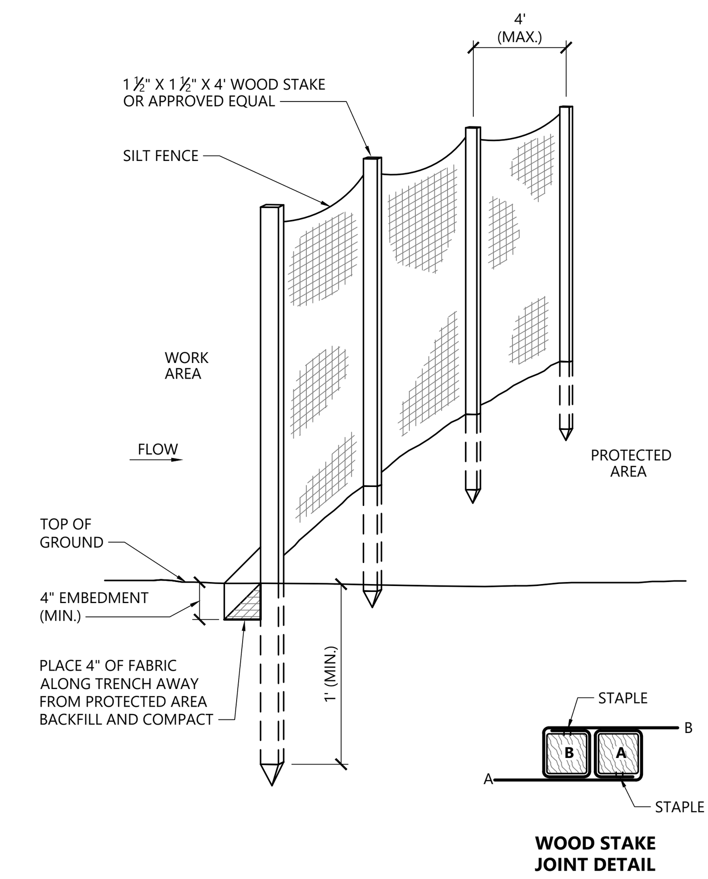
Material Stockpile Area Detail
N.T.S.



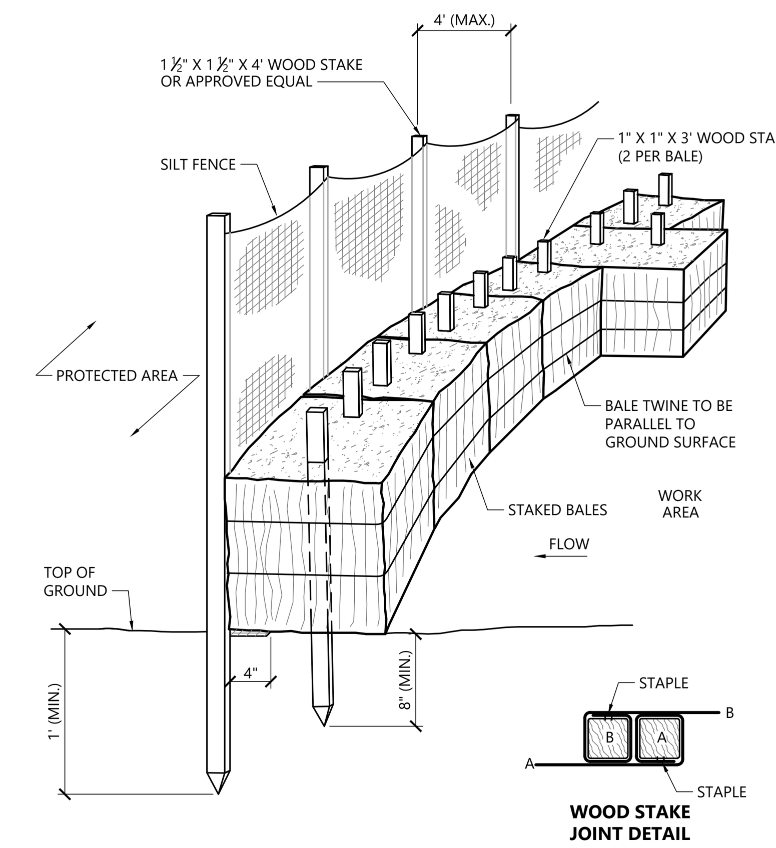
NOTES

1. EXIT WIDTH SHALL BE A TWENTY-FIVE (25) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
2. THE EXIT SHALL BE MAINTAINED IN A CONDITION WHICH SHALL 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 OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY. BERM SHALL BE PERMITTED. PERIODIC INSPECTION AND MAINTENANCE SHALL BE PROVIDED AS NEEDED.
3. STABILIZED CONSTRUCTION EXIT SHALL BE REMOVED PRIOR TO FINAL FINISH MATERIALS BEING INSTALLED.

Stabilized Construction Exit
1/16
N.T.S. Source: VHB LD_682



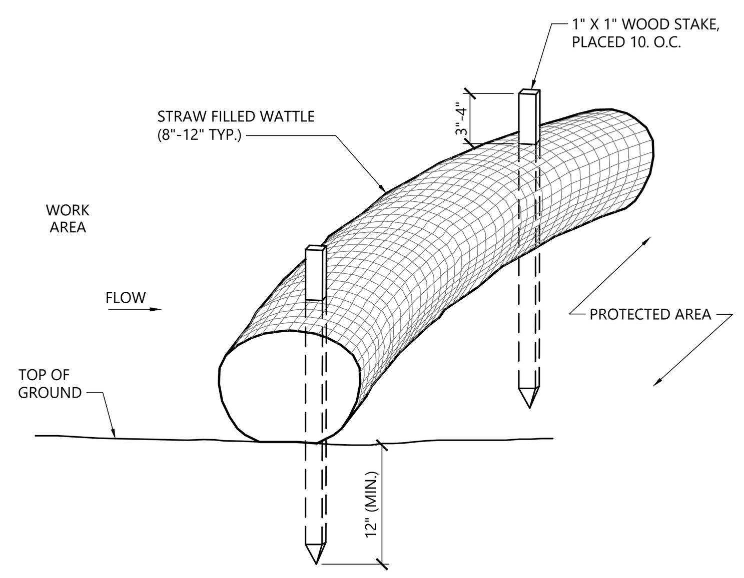
Silt Fence Barrier
1/16
N.T.S. Source: VHB LD_650



NOTES

PLACE ONE BALE PERPENDICULAR ALONG BALE BARRIER (100' O.C.).

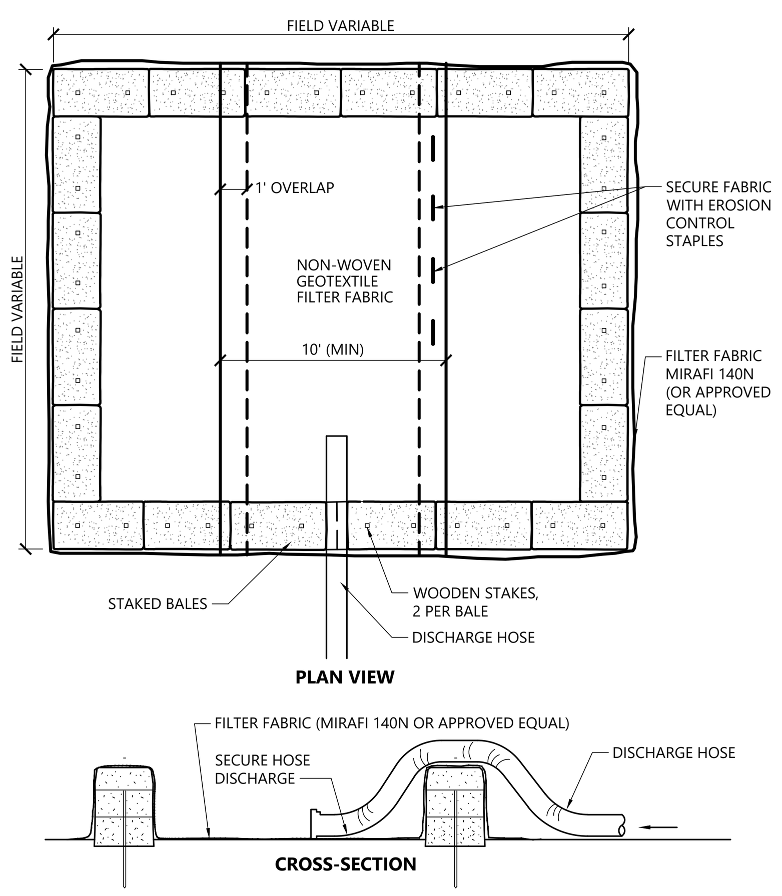
Silt Fence / Straw Bale Barrier
1/16
N.T.S. Source: VHB LD_657



NOTES

1. STRAW WATTLE SHALL BE AS MANUFACTURED BY EARTHSAVER OR APPROVED EQUAL.
2. STRAW WATTLES SHALL OVERLAP A MINIMUM OF 12 INCHES.
3. STRAW WATTLE SHALL BE INSPECTED PERIODICALLY AND AFTER ALL STORM EVENTS, AND REPAIR OR REPLACEMENT SHALL BE PERFORMED PROMPTLY AS NEEDED.
4. TEMPORARY STRAW WATTLES TO BE REMOVED BY CONTRACTOR. ALL OTHERS TO REMAIN IN PLACE UNLESS DIRECTED OTHERWISE BY ENGINEER.
5. IF NON BIODEGRADABLE NETTING IS USED THE NETTING SHALL BE COLLECTED AND DISPOSED OF OFFSITE.

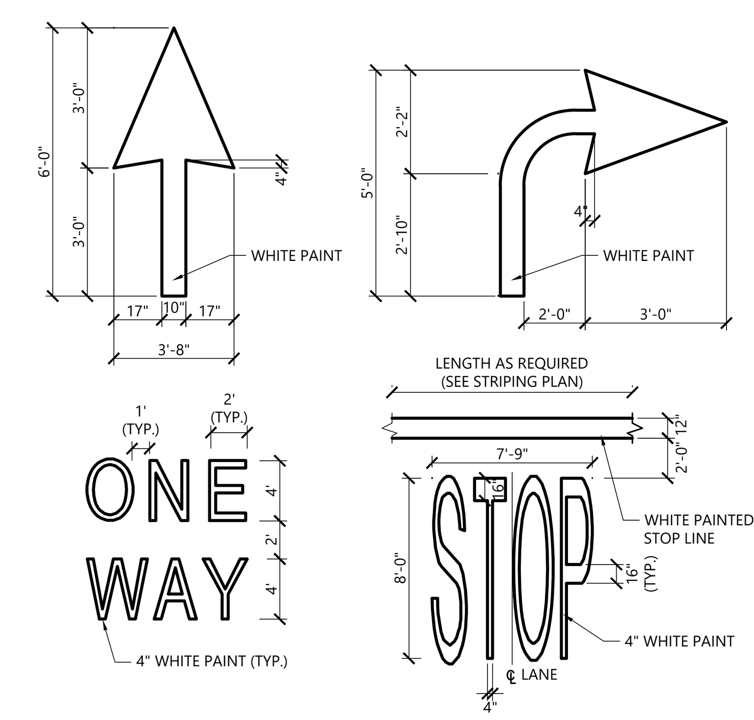
Straw Wattle - Erosion Control Barrier
1/20
N.T.S. Source: VHB LD_659



NOTES

1. NUMBER OF BALES MAY VARY DEPENDING ON SITE CONDITIONS.
2. THE BASIN TO BE SIZED TO PREVENT DISCHARGE WATER FROM OVERTOPPING BASIN.

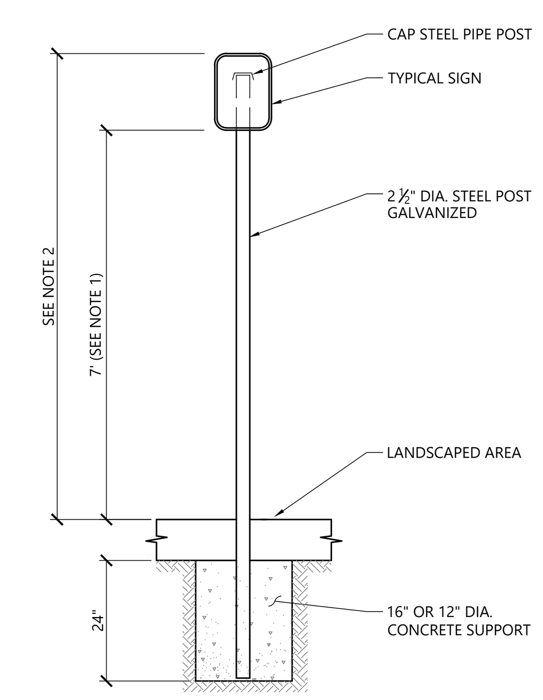
Dewatering Straw Bale Basin
1/16
N.T.S. Source: VHB LD_690



NOTES

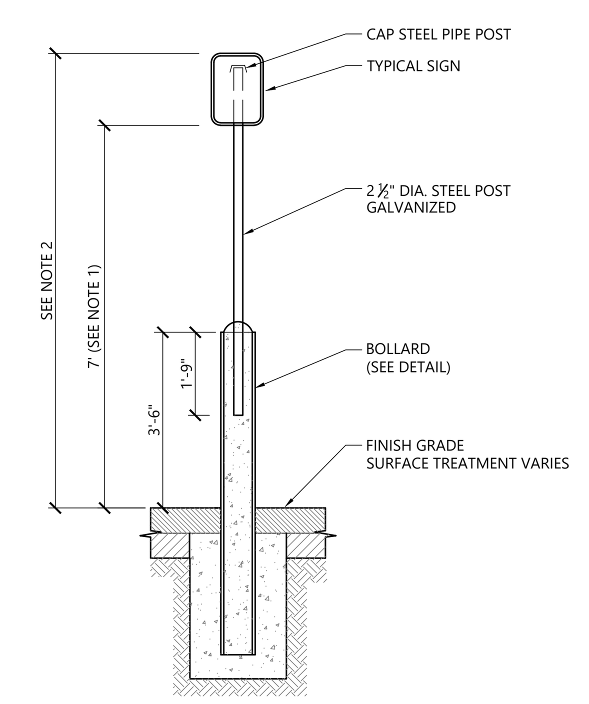
1. PAVEMENT MARKINGS TO BE INSTALLED FOR ON SITE WORK IN LOCATIONS SHOWN.

Painted Pavement Markings - On Site
1/16
N.T.S. Source: VHB LD_554



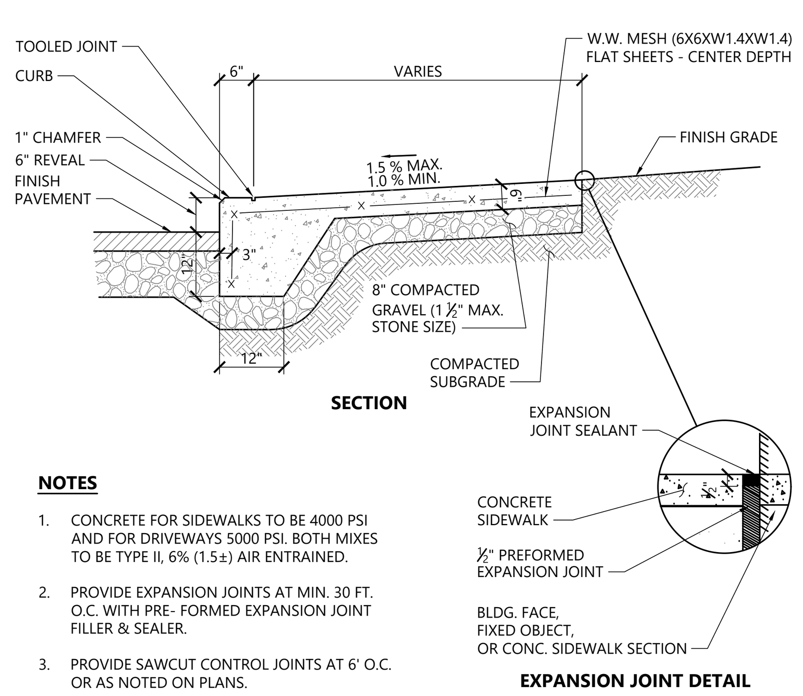
1. THIS DIMENSION SHALL BE A MINIMUM OF 5' FOR ACCESSIBLE SIGNAGE.
2. THIS DIMENSION SHALL BE A MAXIMUM OF 8' FOR ACCESSIBLE SIGNAGE

Sign Post - Type 'A'
3/19
N.T.S. Source: VHB REV LD_701



1. THIS DIMENSION SHALL BE A MINIMUM OF 5' FOR ACCESSIBLE SIGNAGE.
2. THIS DIMENSION SHALL BE A MAXIMUM OF 8' FOR ACCESSIBLE SIGNAGE

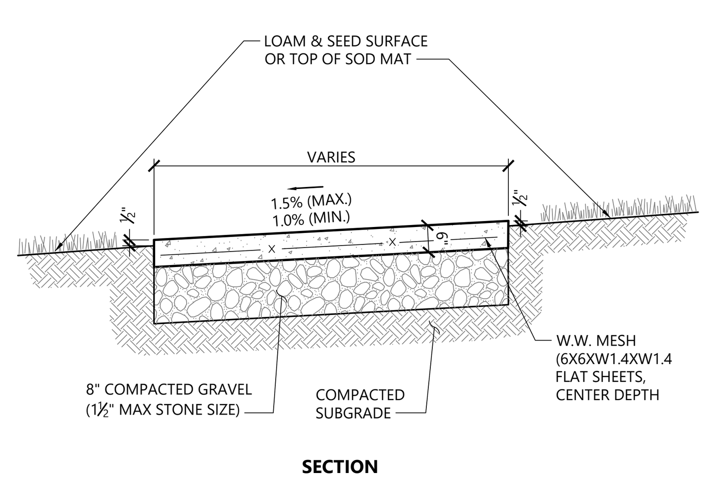
Bollard Mounted Sign
2/20
N.T.S. Source: VHB REV LD_703



NOTES

1. CONCRETE FOR SIDEWALKS TO BE 4000 PSI AND FOR DRIVEWAYS 5000 PSI. BOTH MIXES TO BE TYPE II, 6% (1.5±) AIR ENTRAINED.
2. PROVIDE EXPANSION JOINTS AT MIN. 30 FT. O.C. WITH PRE- FORMED EXPANSION JOINT FILLER & SEALER.
3. PROVIDE SAWCUT CONTROL JOINTS AT 6' O.C. OR AS NOTED ON PLANS.
4. PROVIDE BROOM FINISH IN DIRECTION PERPENDICULAR TO CURB.
5. ALL EXPOSED CONCRETE SURFACES SHALL BE SEALED WITH A SILANE-SILOXANE PRODUCT.

Monolithic Concrete Curb (MCC) & Sidewalk
3/20
N.T.S. Source: VHB LD 421



NOTES

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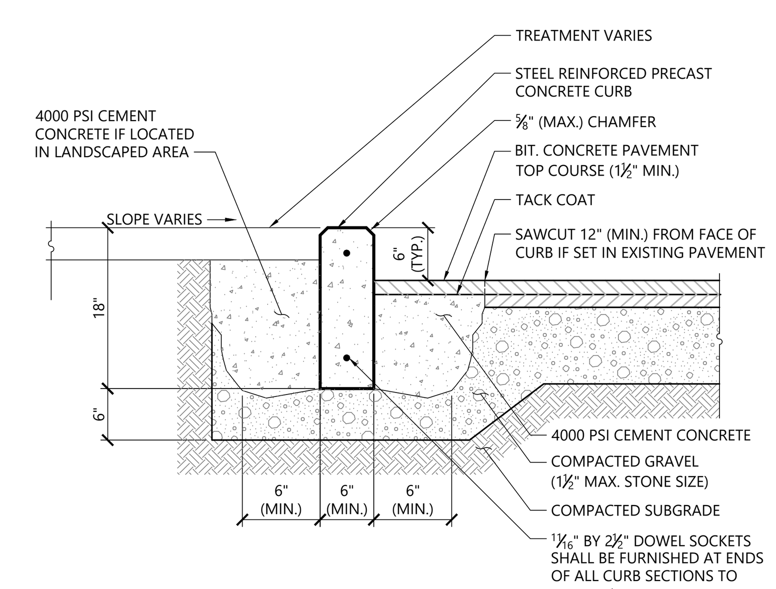
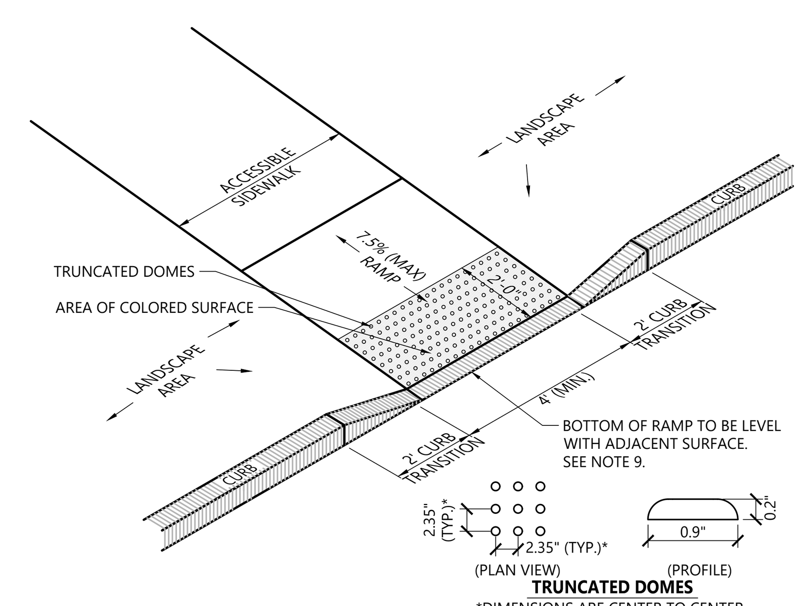
2. PROVIDE EXPANSION JOINTS AT MIN. 30 FT. O.C. WITH PRE- FORMED EXPANSION JOINT FILLER & SEALER.
3. PROVIDE SAWCUT CONTROL JOINTS AT 6' O.C. OR AS NOTED ON PLANS.
4. PROVIDE MEDIUM BROOM FINISH IN DIRECTION PERPENDICULAR TO CURB.
5. ALL EXPOSED CONCRETE SURFACES SHALL BE SEALED WITH A SILANE-SILOXANE PRODUCT.

Concrete Sidewalk in Landscape Area
3/21
N.T.S. Source: VHB LD_426



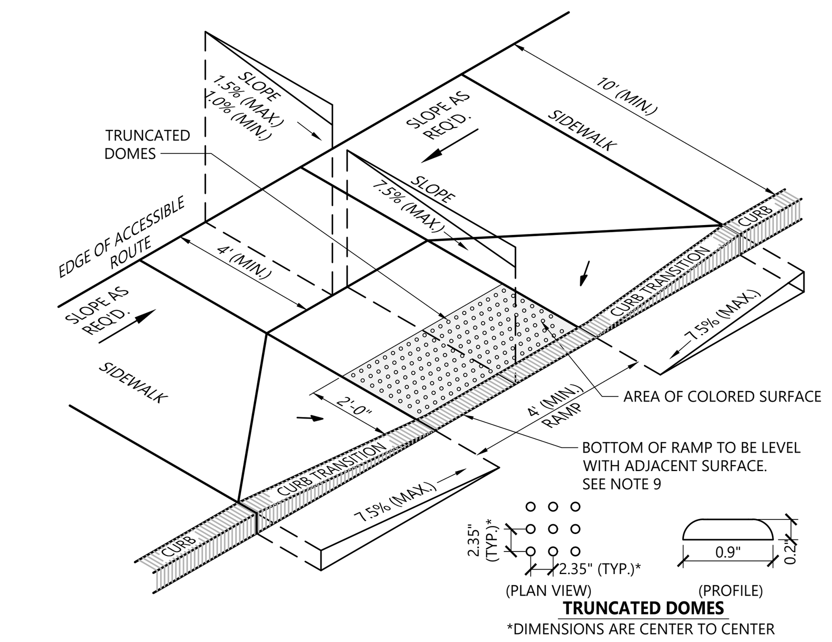
Precast Concrete Curb (PCC)
3/20
N.T.S. Source: VHB LD 404



NOTES

1. THE MAXIMUM ALLOWABLE SIDEWALK AND CURB RAMP CROSS SLOPES SHALL BE 1.5 (1% MIN.).
2. THE MAXIMUM ALLOWABLE SLOPE OF ACCESSIBLE ROUTE EXCLUDING CURB RAMPS SHALL BE 5%.
3. THE MAXIMUM ALLOWABLE SLOPE OF ACCESSIBLE ROUTE AT CURB RAMPS SHALL BE 7.5%.
4. A MINIMUM OF 3 FEET CLEAR SHALL BE MAINTAINED AT ANY PERMANENT OBSTACLE IN ACCESSIBLE ROUTE (I.E., HYDRANTS, UTILITY POLES, TREE WELLS, SIGNS, ETC.).
5. CURB TREATMENT VARIES, SEE PLANS FOR CURB TYPE.
6. RAMP, CURB AND ADJACENT PAVEMENTS SHALL BE GRADED TO PREVENT PONDING.
7. SEE TYPICAL SIDEWALK SECTION FOR RAMP CONSTRUCTION.
8. WHERE ACCESSIBLE ROUTES ARE LESS THAN 5' IN WIDTH (EXCLUDING CURBING) A 5' x 5' PASSING AREA SHALL BE PROVIDED AT INTERVALS NOT TO EXCEED 200 FEET.
9. ELIMINATE CURBING (OTHER THAN VERTICAL CURBING, WHICH SHALL BE SET FLUSH) WHERE IT ABUTS ROADWAYS.
10. DETECTABLE WARNINGS SHALL CONTRAST VISUALLY WITH ADJOINING SURFACES.
11. DETECTABLE WARNINGS SHALL BE INSTALLED PERPENDICULAR TO THE ACCESSIBLE ROUTE.

Accessible Curb Ramp (ACR) Type 'M-D'
12/20
N.T.S. Source: VHB LD 512



NOTES

1. THE MAXIMUM ALLOWABLE SIDEWALK AND CURB RAMP CROSS SLOPES SHALL BE 1.5 (1% MIN.).
2. THE MAXIMUM ALLOWABLE SLOPE OF ACCESSIBLE ROUTE EXCLUDING CURB RAMPS SHALL BE 5%.
3. THE MAXIMUM ALLOWABLE SLOPE OF ACCESSIBLE ROUTE AT CURB RAMPS SHALL BE 7.5%.
4. A MINIMUM OF 3 FEET CLEAR SHALL BE MAINTAINED AT ANY PERMANENT OBSTACLE IN ACCESSIBLE ROUTE (I.E., HYDRANTS, UTILITY POLES, TREE WELLS, SIGNS, ETC.).
5. CURB TREATMENT VARIES, SEE PLANS FOR CURB TYPE.
6. RAMP, CURB AND ADJACENT PAVEMENTS SHALL BE GRADED TO PREVENT PONDING.
7. SEE TYPICAL SIDEWALK SECTION FOR RAMP CONSTRUCTION.
8. WHERE ACCESSIBLE ROUTES ARE LESS THAN 5' IN WIDTH (EXCLUDING CURBING) A 5' x 5' PASSING AREA SHALL BE PROVIDED AT INTERVALS NOT TO EXCEED 200 FEET.
9. ELIMINATE CURBING AT RAMP WHERE IT ABUTS ROADWAY, EXCEPT WHERE VERTICAL CURBING IS INDICATED ON THE DRAWINGS TO BE INSTALLED AND SET FLUSH.
10. DETECTABLE WARNINGS SHALL CONTRAST VISUALLY WITH ADJOINING SURFACES.
11. DETECTABLE WARNINGS SHALL BE INSTALLED PERPENDICULAR TO THE ACCESSIBLE ROUTE.

Accessible Curb Ramp (ACR) Type 'D-D'
12/20
N.T.S. Source: VHB LD 503

vhb.com

vhb

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Suite 200
Wethersfield, CT 06109
860.807.4300

21-23 River Rd Redevelopment

21 River Road
Wilton, Connecticut

No.	Revision	Date	Appvd.

Designed by: NP/KE
Checked by: MRG
Issued for: Local Approvals
Date: April 23, 2024

Not Approved for Construction

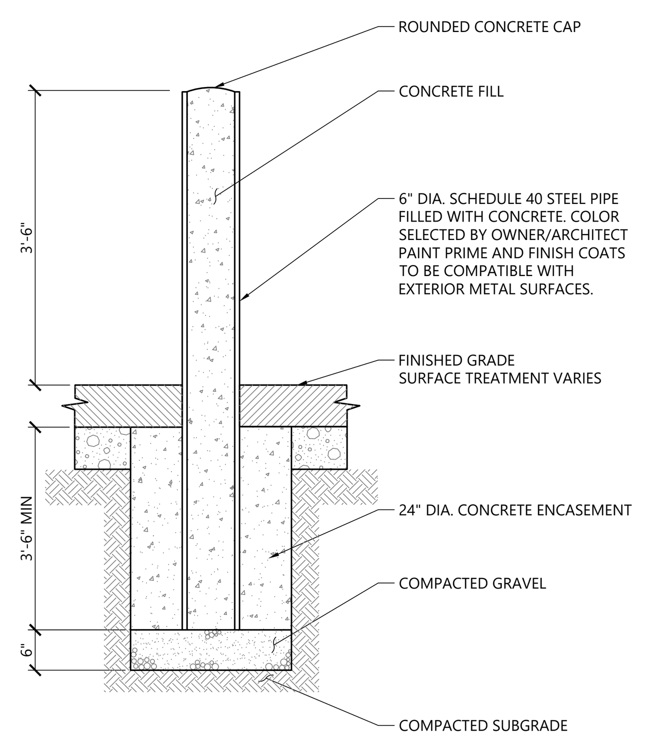
Drawing Title
Site Details 1

Drawing Number
C-6.0

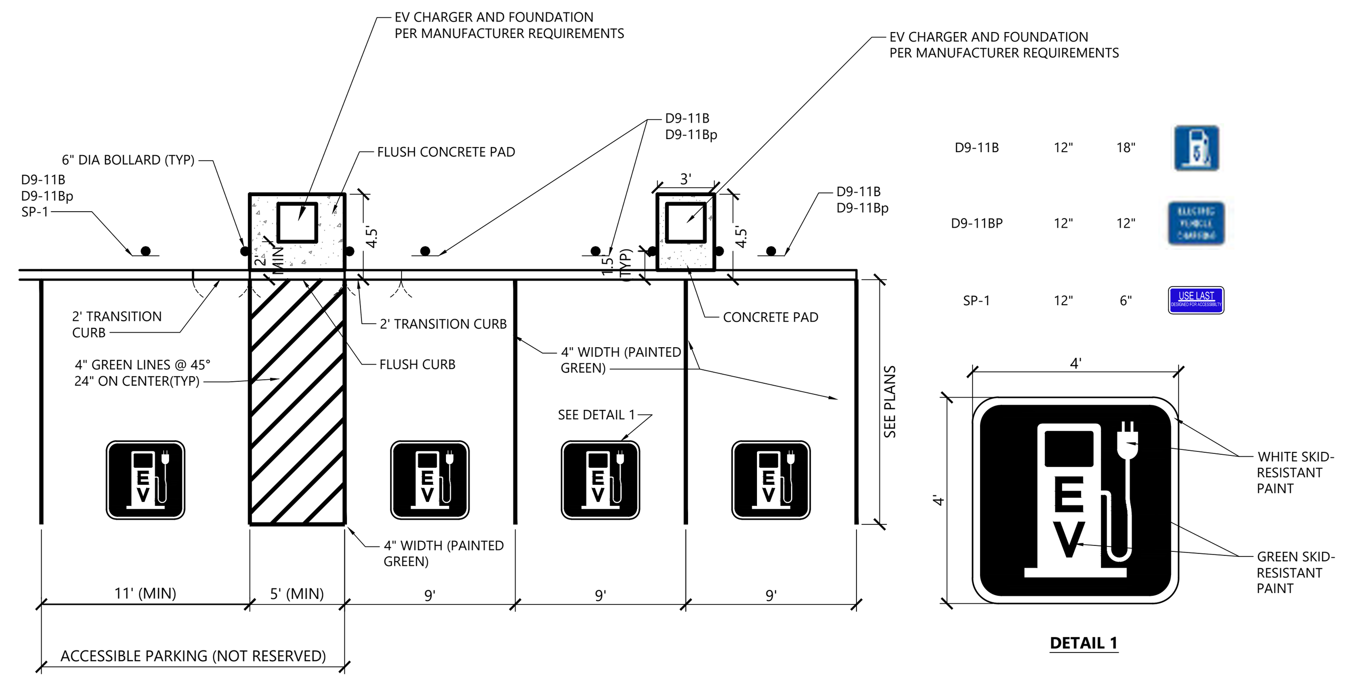
Sheet 08 of 11

Project Number
20849.00

\\vhb.com\gbl\proj\WhitePlains\20849.00 Wilton Cntr Redevelop\cad\ld\Planset\06_20849.00DT.dwg



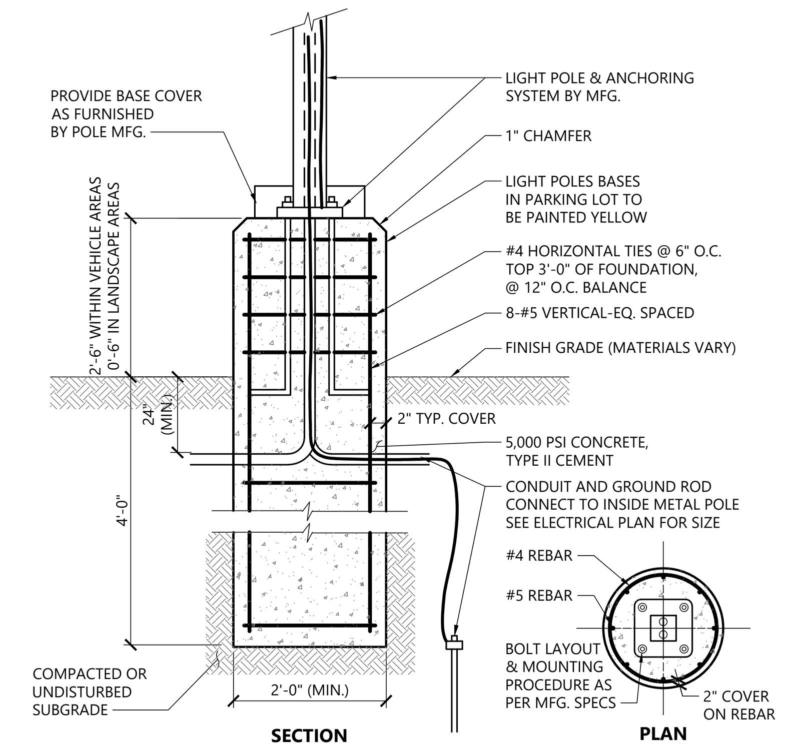
Bollard
12/19
N.T.S. Source: VHB LD_700



NOTES

1. ALL DIMENSION TO CENTER OF STRIPING.
2. ALL SLOPES THROUGH OUT THE ACCESSIBLE PARKING AND AISLE SHALL NOT EXCEED 1.5%

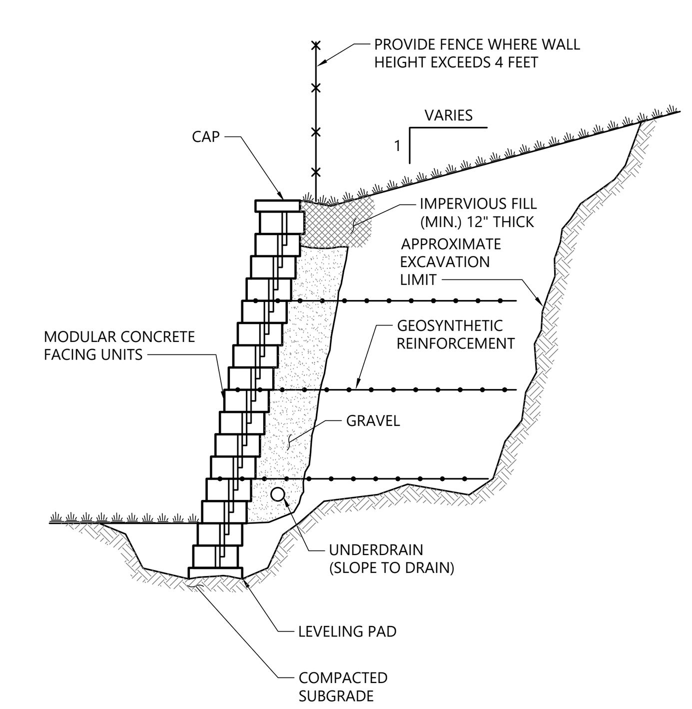
ELECTRIC VEHICLE CHARGING SPACES
11/22
N.T.S. Source: VHB REV LD_



NOTES

LIGHT POLE FOUNDATION DESIGN IS SUBJECT TO CHANGE BASED ON FINAL POLE AND FIXTURE SELECTION AND GEOTECHNICAL SITE INVESTIGATION.

Light Pole Foundation Detail (Up to 15' Pole)
5/23
N.T.S. Source: VHB LD_310A

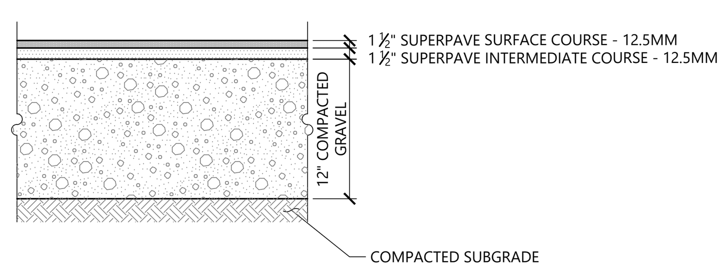


NOTES

DETAIL PROVIDED FOR GENERAL INFORMATION ONLY. STAMPED FINAL DESIGN OF MODULAR WALL SYSTEM TO BE PROVIDED BY CONTRACTOR BASED ON GEOTECHNICAL ENGINEER'S RECOMMENDATIONS.

Modular Retaining Wall
10/20
N.T.S. Source: VHB LD_750

vhb.com
vhb
100 Great Meadow Road
Suite 200
Wethersfield, CT 06109
860.807.4300

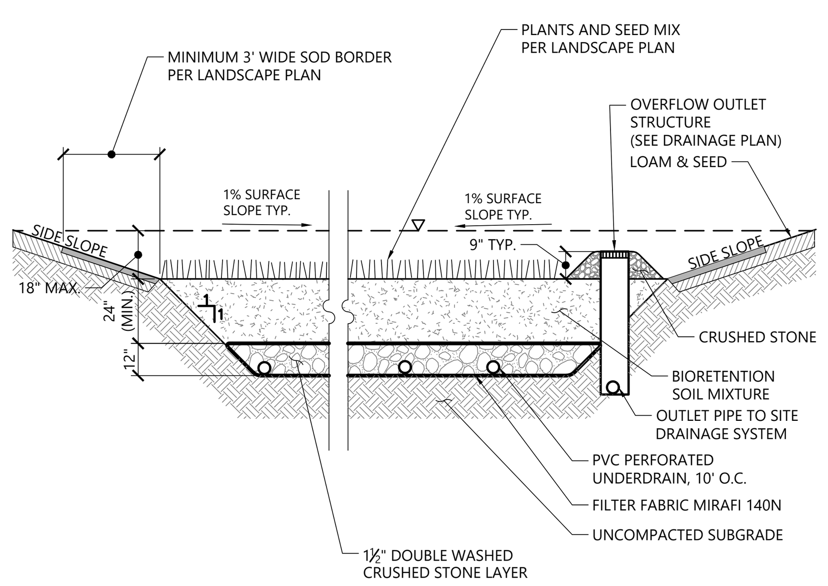


STANDARD DUTY FLEXIBLE PAVEMENT

NOTES

PAVEMENT SECTIONS ARE SUBJECT TO CHANGE AND WILL BE BASED ON THE RESULTS OF FURTHER GEOTECHNICAL INVESTIGATIONS.

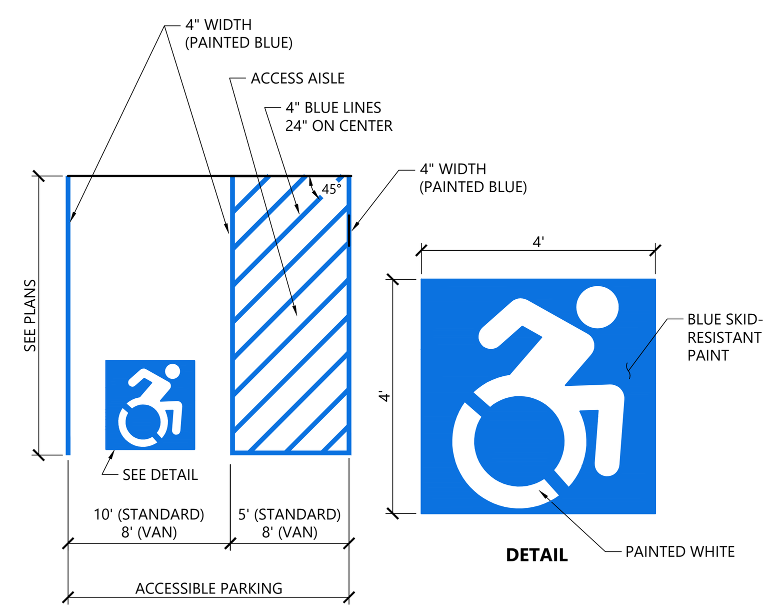
Bituminous Concrete Pavement Sections
7/22
N.T.S. Source: VHB REV LD_430



NOTES

1. INSTALL UNDERDRAINS AT 10 FEET ON CENTER. CONNECT TO DRAINS PER PLAN.
2. SIDE SLOPES SHALL BE 3:1 MAX. 2% MIN.

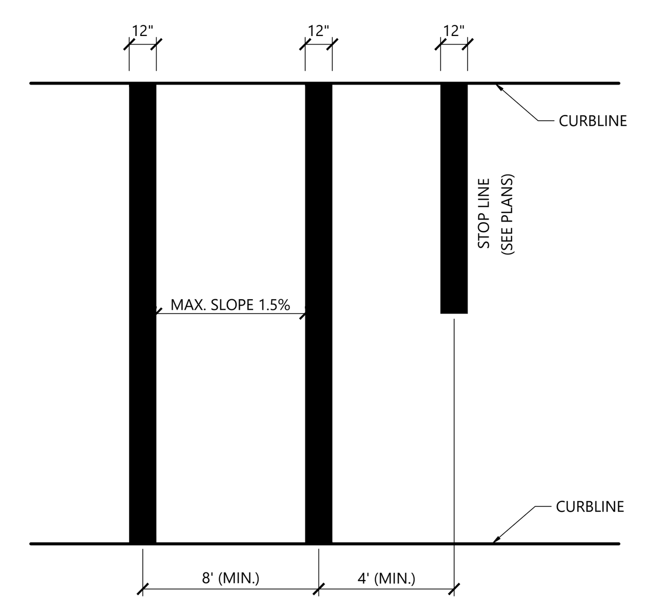
Rain Garden
3/20
N.T.S. Source: VHB REV LD_199



NOTES

1. ALL DIMENSIONS TO EDGES OF 4" PAVEMENT STRIPING.
2. 8' STALL WIDTH REFERS TO 8' CLEAR BETWEEN INSIDE EDGES OF PAVEMENT MARKINGS.
3. ALL SLOPES THROUGHOUT THE ACCESSIBLE PARKING AND AISLE AREAS SHALL NOT EXCEED 1.5%.
4. THE ACCESSIBLE SYMBOL DEPICTED ABOVE DOES NOT COMPLY WITH THE AMERICANS WITH DISABILITIES ACT (ADA) AND IS SHOWN FOR COMPLIANCE WITH STATE AND LOCAL REGULATIONS ONLY.

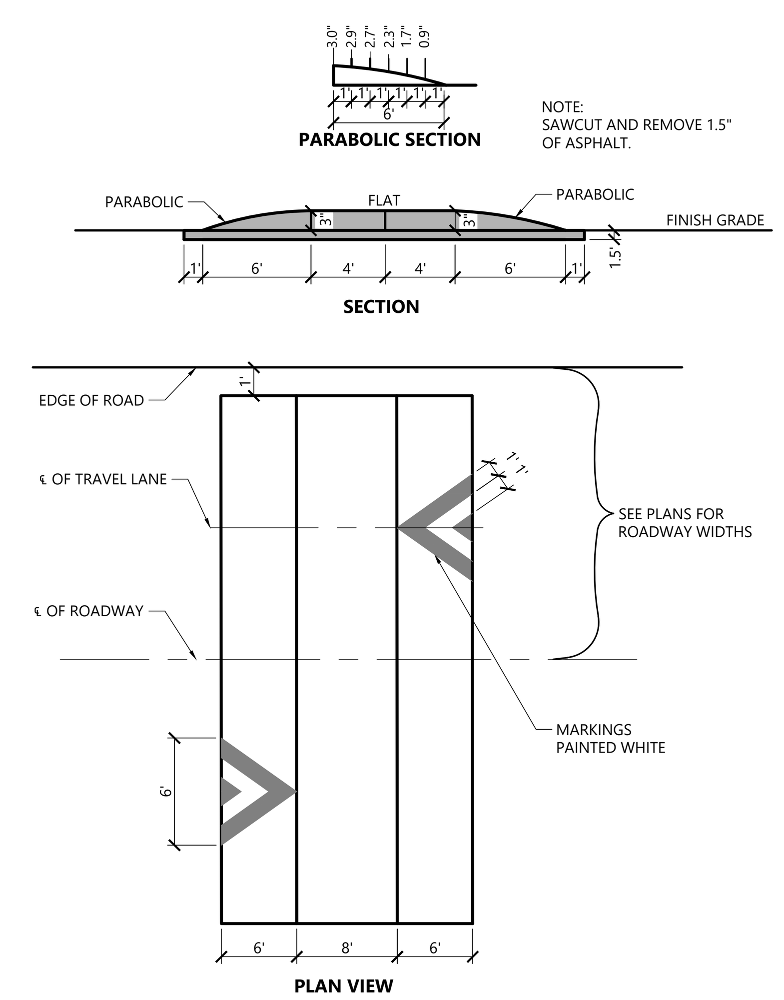
Accessible Parking Space
12/19
N.T.S. Source: VHB REV LD_552D



NOTES

1. TWELVE INCH (12") LINES SHALL BE APPLIED IN ONE APPLICATION. NO COMBINATION OF LINES (TWO - 6 INCH LINES) WILL BE ACCEPTED.
2. CROSS WALK SIDESLOPE SHALL NOT EXCEED 1.5%.

Crosswalk
12/19
N.T.S. Source: VHB LD_553B



Speed Table
12/19
N.T.S. Source: VHB LD_705

21-23 River Rd Redevelopment

21 River Road
Wilton, Connecticut

No.	Revision	Date	Appvd.

Designed by NP/KE — Checked by MRG
Issued for: Local Approvals — Date: April 23, 2024

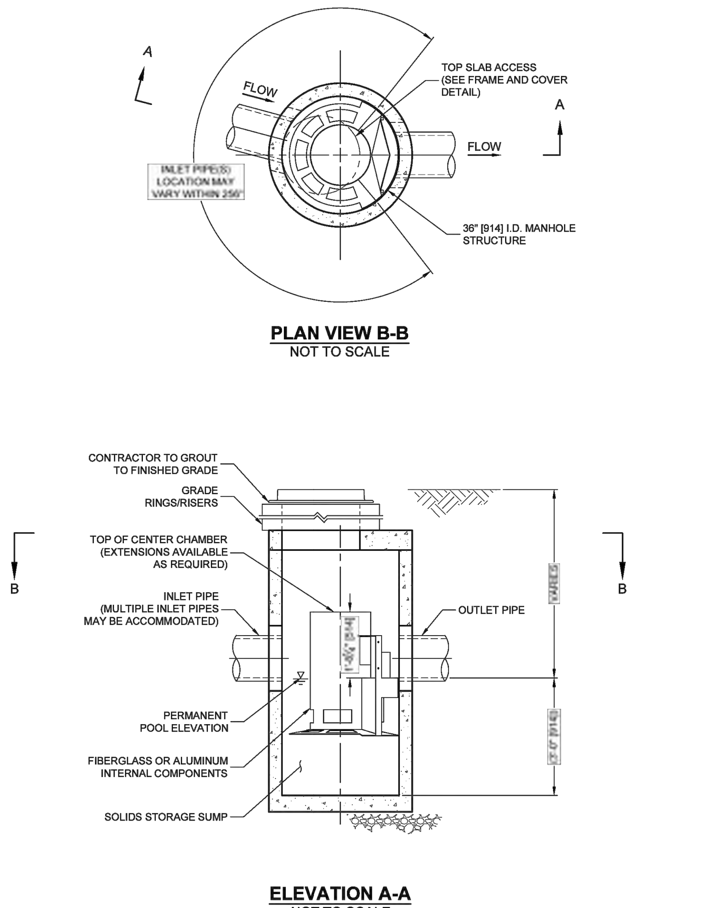
Not Approved for Construction

Drawing Title
Site Details 2

Drawing Number
C-6.1

Sheet 09 of 11

Project Number
20849.00

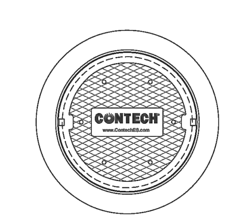


PLAN VIEW B-B
NOT TO SCALE

ELEVATION A-A
NOT TO SCALE

CASCADE separator™

CASCADE SEPARATOR DESIGN NOTES
CS-3 RATED TREATMENT CAPACITY IS 1.01 CFS, OR PER LOCAL REGULATIONS. THE STANDARD CS-3 CONFIGURATION IS SHOWN. ALTERNATE CONFIGURATIONS ARE AVAILABLE AND ARE LISTED BELOW. SOME CONFIGURATIONS MAY BE COMBINED TO SUIT SITE REQUIREMENTS.
CONFIGURATION DESCRIPTION
GRATED INLET ONLY (NO INLET PIPE)
GRATED INLET WITH INLET PIPE OR PIPES
CURB INLET ONLY (NO INLET PIPE)
CURB INLET WITH INLET PIPE OR PIPES



FRAME AND COVER
(DIAMETER VARIES)
NOT TO SCALE

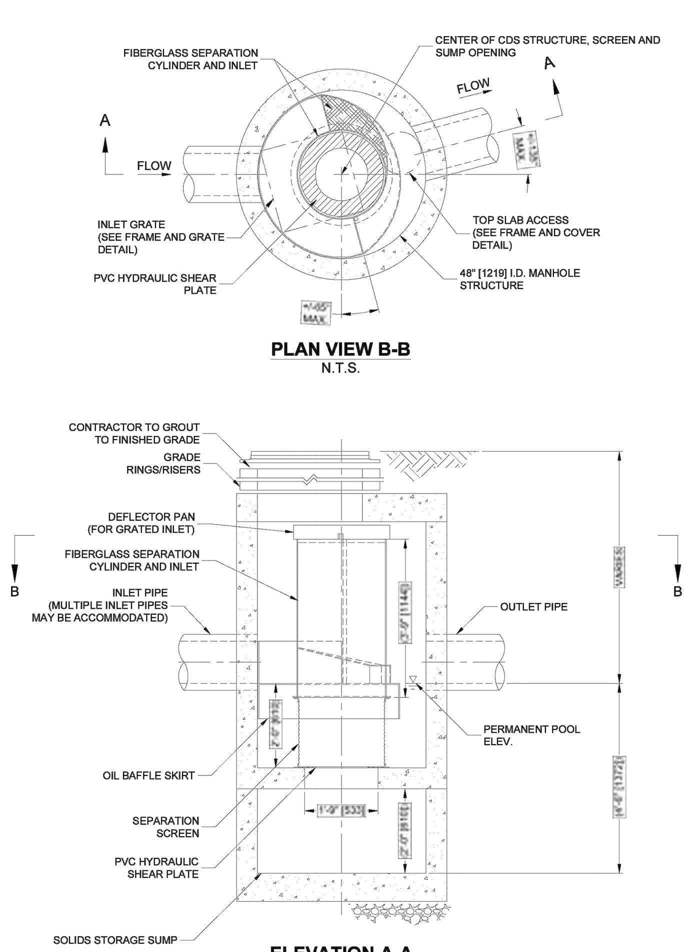
SITE SPECIFIC DATA REQUIREMENTS			
STRUCTURE ID			
WATER QUALITY FLOW RATE (cfs [L/s])			
PEAK FLOW RATE (cfs [L/s])			
RETURN PERIOD OF PEAK FLOW (yrs)			
RIM ELEVATION			
PIPE DATA:	INVERT	MATERIAL	DIAMETER
INLET PIPE 1			
INLET PIPE 2			
OUTLET PIPE			
NOTES / SPECIAL REQUIREMENTS:			

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.ContechES.com
3. CASCADE SEPARATOR WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
4. CASCADE SEPARATOR STRUCTURE SHALL MEET AASHTO HS20 LOAD RATING, ASSUMING EARTH COVER OF 0' - 2' [610], AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.
5. CASCADE SEPARATOR STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C478 AND AASHTO LOAD FACTOR DESIGN METHOD.
6. ALTERNATE UNITS ARE SHOWN IN MILLIMETERS [mm].

INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CASCADE SEPARATOR MANHOLE STRUCTURE.
C. CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.
D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET AND OUTLET PIPE(S). MATCH PIPE INVERTS WITH ELEVATIONS SHOWN. ALL PIPE CENTERLINES TO MATCH PIPE OPENING CENTERLINES.
E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

CONTECH ENGINEERED SOLUTIONS LLC
www.contechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

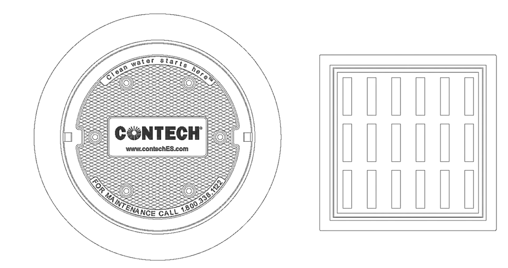
CS-3
CASCADE SEPARATOR
STANDARD DETAIL



PLAN VIEW B-B
N.T.S.

ELEVATION A-A
N.T.S.

CDS2015-4G DESIGN NOTES
CDS2015-4G RATED TREATMENT CAPACITY IS 1.4 CFS, OR PER LOCAL REGULATIONS. THE STANDARD CDS2015-4G CONFIGURATION IS SHOWN. ALTERNATE CONFIGURATIONS ARE AVAILABLE AND ARE LISTED BELOW. SOME CONFIGURATIONS MAY BE COMBINED TO SUIT SITE REQUIREMENTS.
CONFIGURATION DESCRIPTION
GRATED INLET ONLY (NO INLET PIPE)
GRATED INLET WITH INLET PIPE OR PIPES
CURB INLET ONLY (NO INLET PIPE)
CURB INLET WITH INLET PIPE OR PIPES



FRAME AND COVER
(DIAMETER VARIES)
N.T.S.

FRAME AND GRATE
(24" SQUARE)
N.T.S.

SITE SPECIFIC DATA REQUIREMENTS			
STRUCTURE ID			
WATER QUALITY FLOW RATE (CFS OR L/s)			*
PEAK FLOW RATE (CFS OR L/s)			*
RETURN PERIOD OF PEAK FLOW (YRS)			*
SCREEN APERTURE (2400 OR 4700)			*
PIPE DATA:	I.E.	MATERIAL	DIAMETER
INLET PIPE 1	*	*	*
INLET PIPE 2	*	*	*
OUTLET PIPE	*	*	*
RIM ELEVATION			*
ANTI-FLOTATION BALLAST		WIDTH	HEIGHT
		*	*
NOTES/SPECIAL REQUIREMENTS:			
* PER ENGINEER OF RECORD			

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.ContechES.com
3. CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
4. STRUCTURE SHALL MEET AASHTO HS20 LOAD RATING, ASSUMING EARTH COVER OF 0' - 2', AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO..
5. IF REQUIRED, PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.
6. CDS STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-478 AND AASHTO LOAD FACTOR DESIGN METHOD.

INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CDS MANHOLE STRUCTURE.
C. CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.
D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET AND OUTLET PIPE(S). MATCH PIPE INVERTS WITH ELEVATIONS SHOWN. ALL PIPE CENTERLINES TO MATCH PIPE OPENING CENTERLINES.
E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

CONTECH ENGINEERED SOLUTIONS LLC
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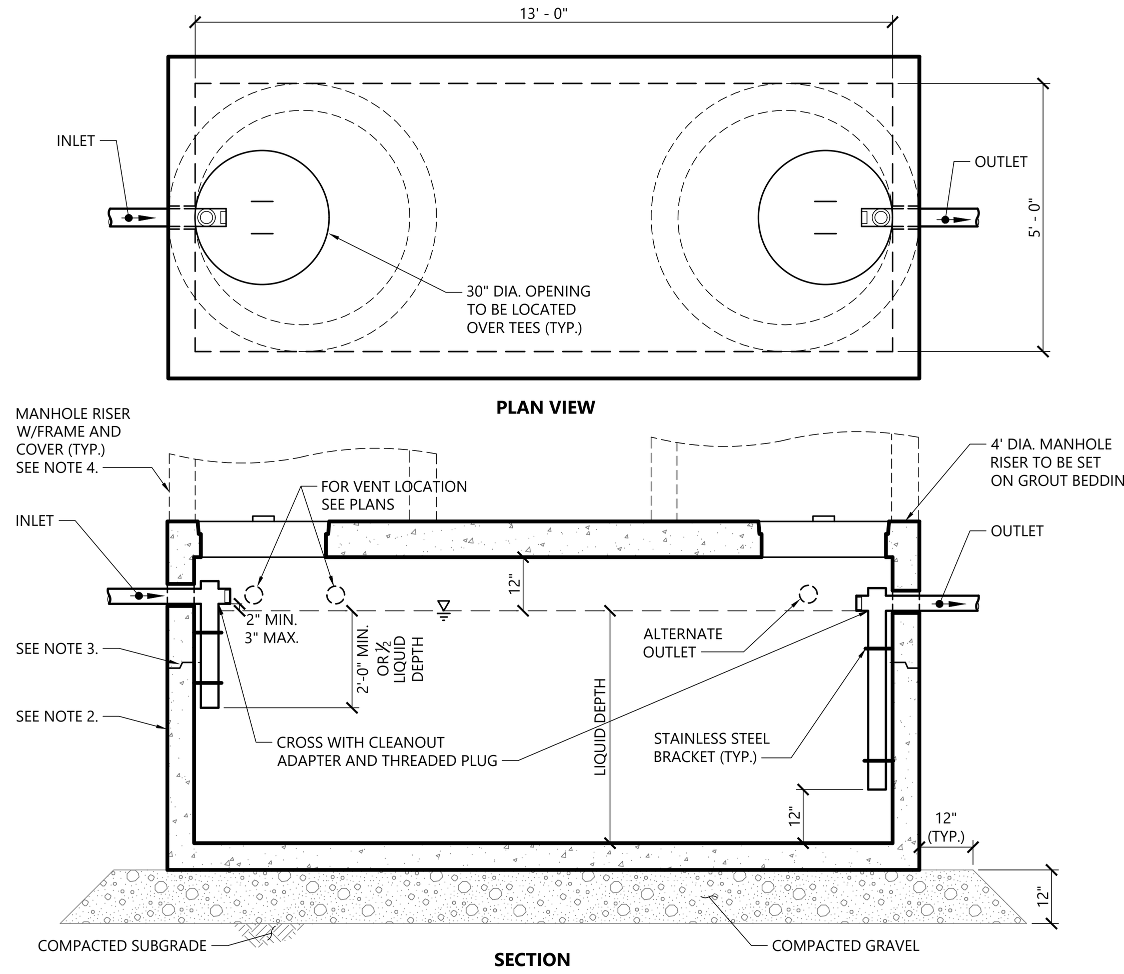
800-338-1122 513-645-7000 513-645-7993 FAX

CDS2015-4G
ONLINE CDS
STANDARD DETAIL



GREASE TRAP

SIZE (GAL.)	LIQUID DEPTH
2,000	4'-4"
2,500	5'-4"
3,000	6'-5"
3,500	7'-6"

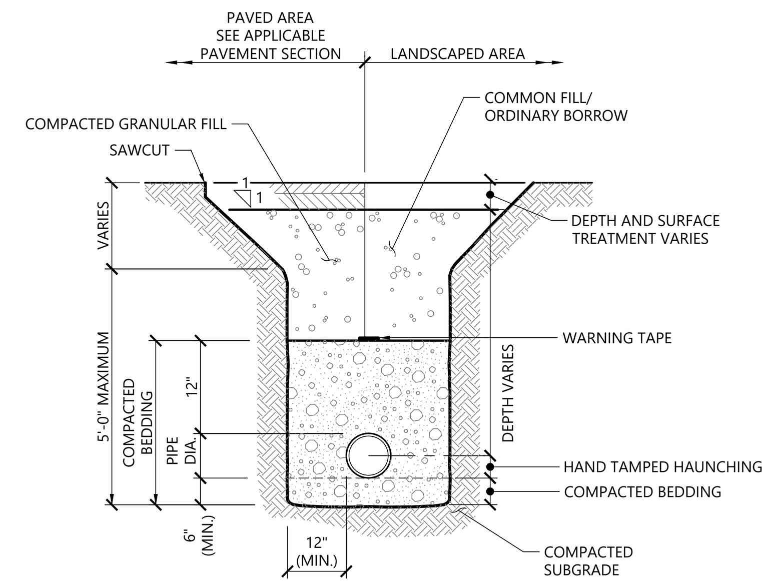
NOTES

1. STRUCTURE SHALL BE DESIGNED FOR HS-20 LOADING.
2. EXTERIOR SURFACES SHALL BE GIVEN TWO COATS OF BITUMINOUS WATER-PROOFING MATERIAL.
3. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PREFORMED BUTYL RUBBER.
4. STANDARD 30-INCH SEWER MANHOLE FRAME AND COVER SHALL BE LOCATED OVER CROSSES AND SET IN FULL MORTAR BED. ADJUST TO GRADE WITH SEWER BRICK AND MORTAR (2 BRICK COURSES TYPICALLY, 5 BRICK COURSES MAXIMUM)
5. PIPING SHALL BE SCH 40 PVC WITH SOLVENT WELDED JOINTS. INTERNAL PIPE DIAMETER SHALL BE SAME SIZE AS OUTLET PIPE.
6. FINAL DESIGN OF GREASE TRAP TO BE BY PLUMBING ENGINEER.
7. THE INSTALLATION OF GREASE TRAP, THE PIPING TO AND 10 FEET BEYOND IS BY PLUMBER.

Precast Concrete Grease Trap (GT)

12/19

N.T.S. Source: VHB LD_210



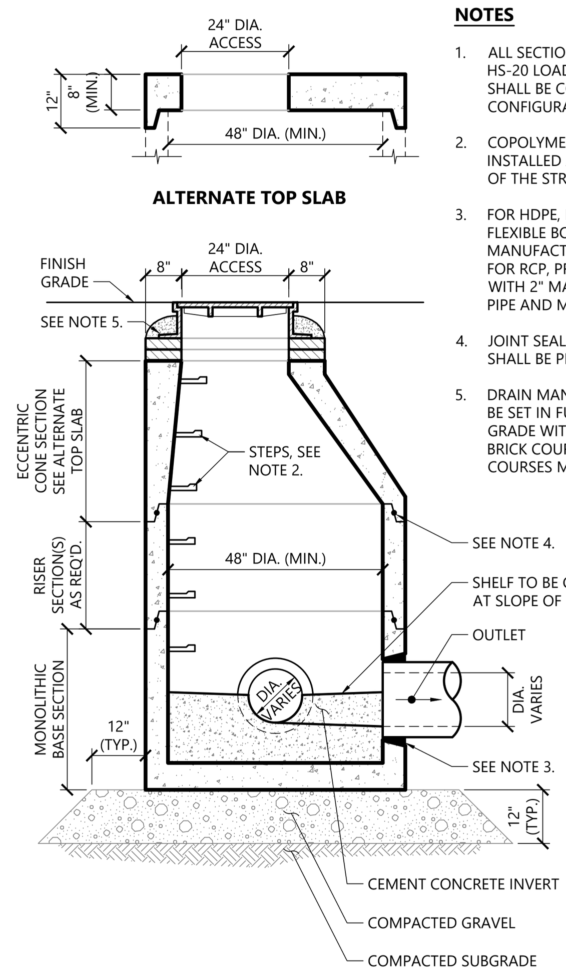
NOTES

1. WHERE UTILITY TRENCHES ARE CONSTRUCTED THROUGH DETENTION BASIN BERMS OR OTHER SUCH SPECIAL SECTIONS, PLACE TRENCH BACKFILL WITH MATERIALS SIMILAR TO THE SPECIAL SECTION REQUIREMENTS.
2. USE METALLIC TRACING/WARNING TAPE OVER ALL PIPES.
3. COMPACTED GRANULAR FILL MAY CONSIST OF GRAVEL, CRUSHED STONE, SAND, OR OTHER MATERIAL AS APPROVED BY ENGINEER.

Utility Trench

11/19

N.T.S. Source: VHB LD_300



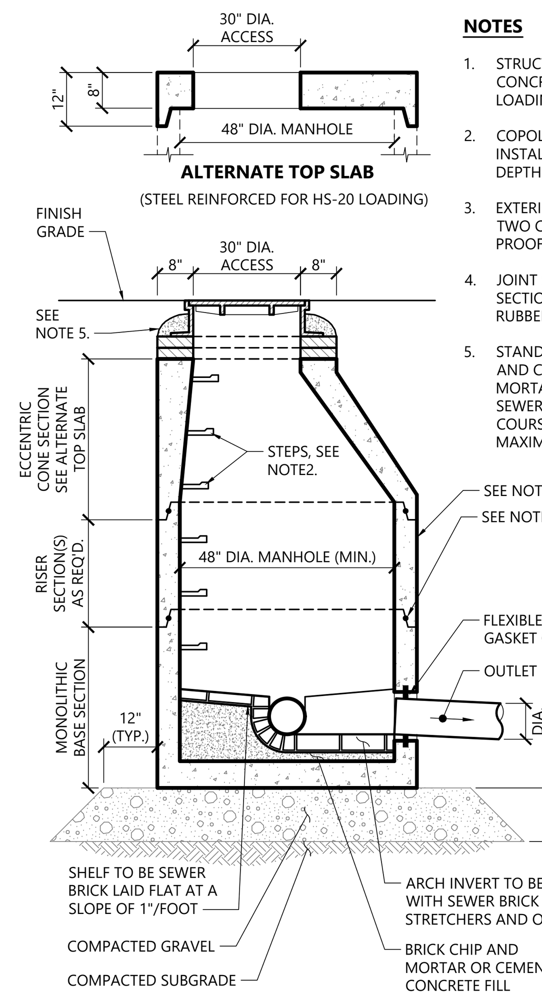
NOTES

1. ALL SECTIONS SHALL BE DESIGNED FOR HS-20 LOADING. DIAMETER OF STRUCTURES SHALL BE COORDINATED WITH PIPE CONFIGURATIONS.
2. COPOLYMER MANHOLE STEPS SHALL BE INSTALLED AT 12" O.C. FOR THE FULL DEPTH OF THE STRUCTURE.
3. FOR HDPE, PVC, AND DI PIPE, PROVIDE FLEXIBLE BOOT CONNECTION INSTALLED PER MANUFACTURER'S RECOMMENDATIONS. FOR RCP, PROVIDE OPENINGS FOR PIPES WITH 2" MAX. CLEARANCE TO OUTSIDE OF PIPE AND MORTAR CONNECTIONS.
4. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PREFORMED BUTYL RUBBER.
5. DRAIN MANHOLE FRAME AND COVER SHALL BE SET IN FULL MORTAR BED. ADJUST TO GRADE WITH CLAY BRICK AND MORTAR (2 BRICK COURSES TYPICALLY, 5 BRICK COURSES MAXIMUM)

Drain Manhole (DMH)

11/19

N.T.S. Source: VHB LD_115



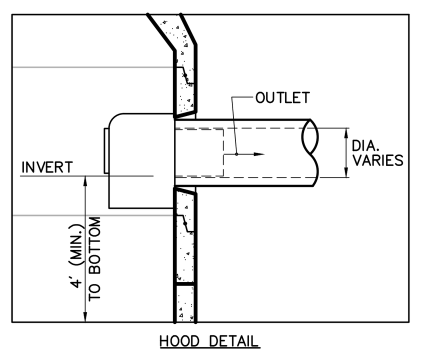
NOTES

1. STRUCTURES SHALL BE PRECAST CONCRETE, DESIGNED FOR HS-20 LOADING.
2. COPOLYMER MANHOLE STEPS SHALL BE INSTALLED AT 12" O.C. FOR THE FULL DEPTH OF THE STRUCTURE.
3. EXTERIOR SURFACES SHALL BE GIVEN TWO COATS OF BITUMINOUS WATER-PROOFING MATERIAL.
4. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PREFORMED BUTYL RUBBER.
5. STANDARD SEWER MANHOLE FRAME AND COVER SHALL BE SET IN FULL MORTAR BED. ADJUST TO GRADE WITH SEWER BRICK AND MORTAR (2 BRICK COURSES TYPICALLY, 5 BRICK COURSES MAXIMUM)

Sanitary Sewer Manhole (SMH)

1/16

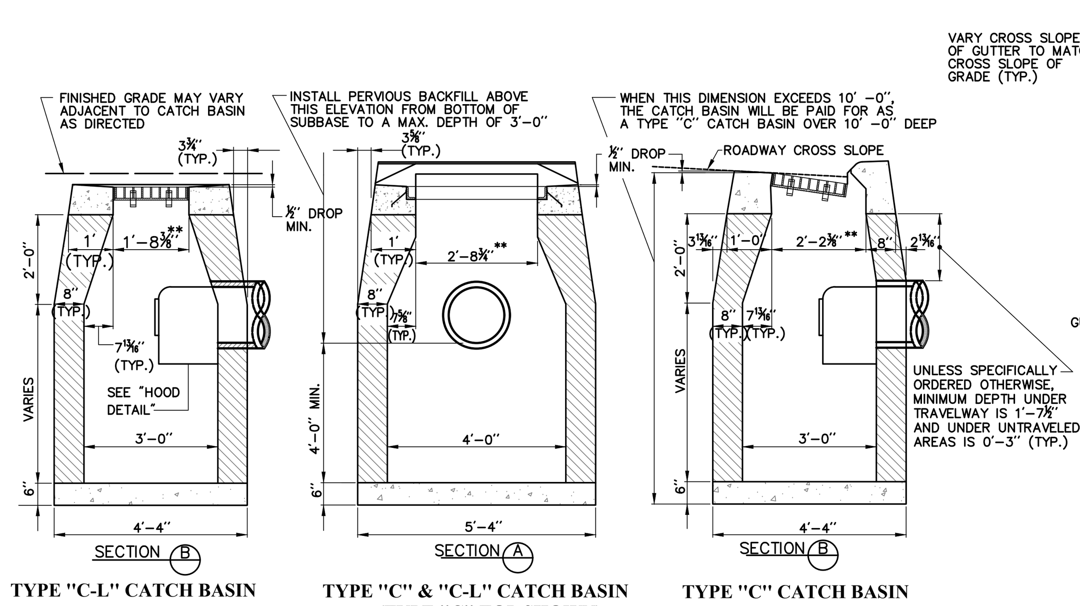
N.T.S. Source: VHB LD_200

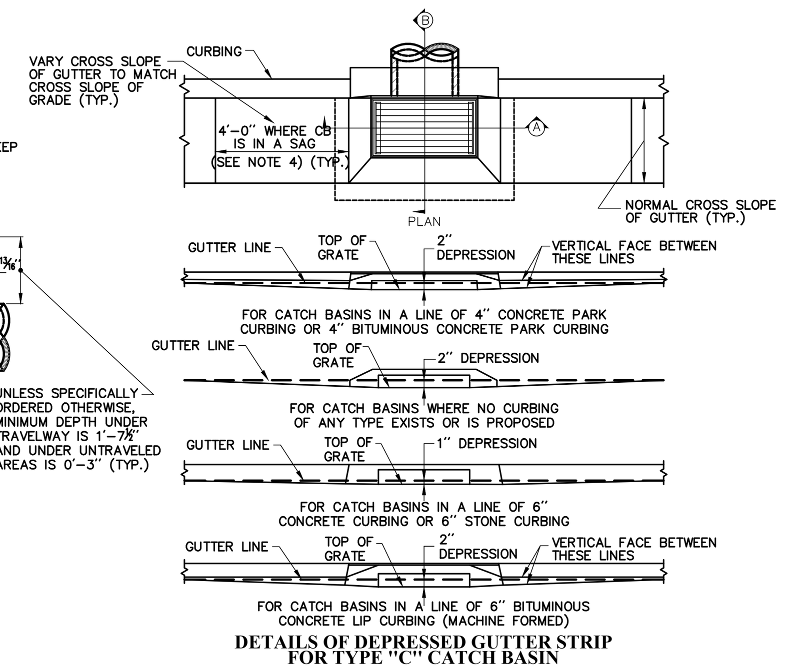


NOTE:
HOODS TO BE INSTALLED ON OUTLET PIPE ONLY. STRUCTURES WITH MULTIPLE INLETS TO HAVE HOOD ON OUTLET PIPE ONLY.

Notes:

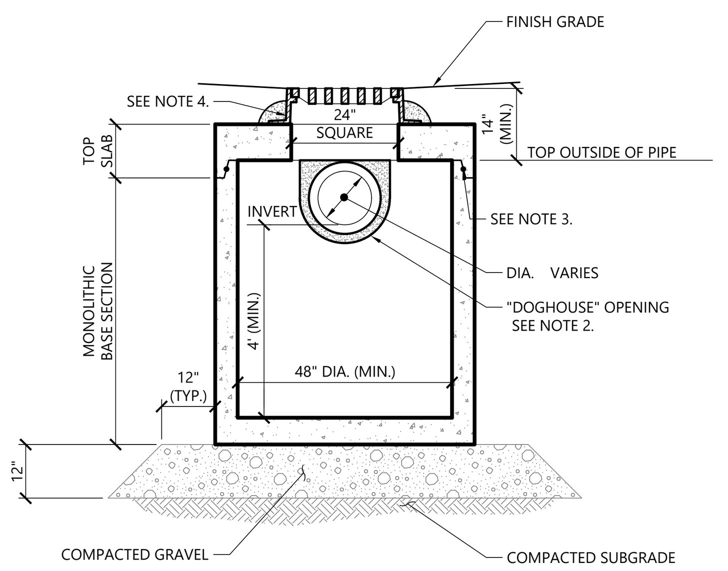
1. USE APPROPRIATE CONCRETE TOP FOR CURBING SHOWN ON PLANS. IF CURBING IS NOT SPECIFIED ON THE PLANS, IT SHALL BE CONSTRUCTED AS DIRECTED BY THE ENGINEER.
2. USE 6'–0" ON UPGRADE SIDE OF CONTINUOUS GRADE AND 1'–0" ON DOWNGRADE SIDE OF CONTINUOUS GRADE OR AS DIRECTED.
3. UNLESS OTHERWISE APPROVED, PRECAST UNITS SHALL BE USED.
4. IF MASONRY UNITS ARE REQUIRED, THE BASIN SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE OVER ALL DIMENSIONS SHOWN HERE AND SECTION 5.07 OF THE STATE OF CONNECTICUT'S STANDARD SPECIFICATIONS. CORBELLING SHALL BE PERMITTED TO A MAXIMUM OF 3". NO PROJECTION SHALL EXTEND INSIDE THE LIMITS NOTED BY **.
5. WALL THICKNESS OF ALL CB'S OVER 10' DEEP SHALL BE INCREASED TO 12" THICK. INSIDE DIMENSION SHALL REMAIN THE SAME. (12" THICKNESS WILL START AFTER THE FIRST 10').
6. TO CONVEY SUBSURFACE DRAINAGE, OPENINGS SHALL BE FORMED IN THE FOUR WALLS AT OR IMMEDIATELY ABOVE THE BOTTOM OF THE PERVIOUS BACKFILL.
7. MINIMUM CONCRETE COMPRESSIVE STRENGTH OF F'c = 4000 PSI SHALL BE OBTAINED PRIOR TO SHIPPING.
8. LATEST STATE OF CONNECTICUT'S STANDARD SPECIFICATIONS AND SUPPLEMENTALS SHALL GOVERN.





Miscellaneous Connecticut Detail Type "C" & "C-L" Catch Basins

N.T.S.



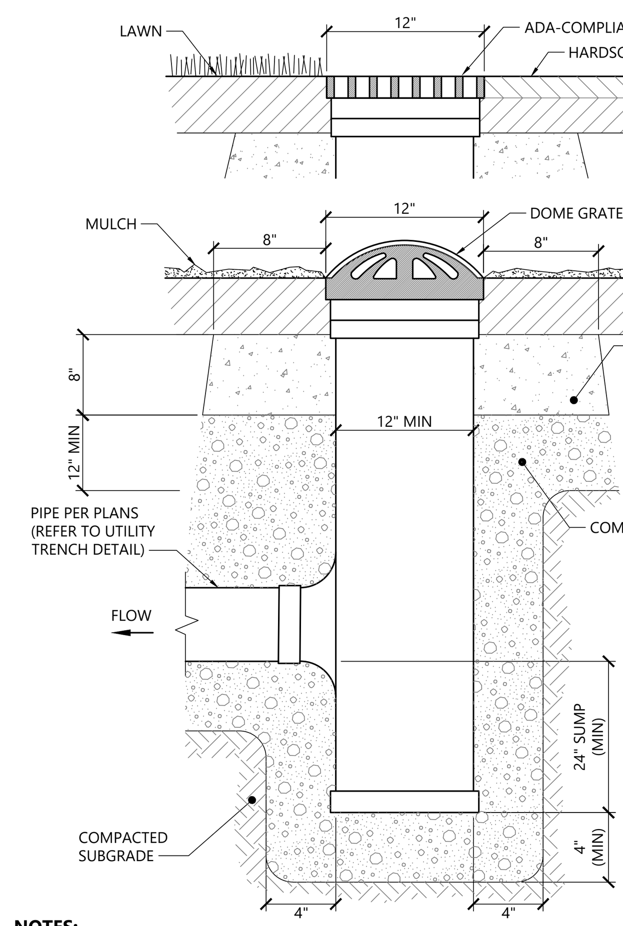
NOTES

1. ALL SECTIONS SHALL BE DESIGNED FOR HS-20 LOADING.
2. PROVIDE DOGHOUSE OPENING FOR PIPES WITH 2" MAX. CLEARANCE TO OUTSIDE OF PIPE. TOP SLAB SHALL NOT REST DIRECTLY ON PIPE. GROUT ALL PIPE CONNECTIONS (NON-SHRINK GROUT).
3. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PREFORMED BUTYL RUBBER.
4. CATCH BASIN FRAME AND GRATE (4"DEPTH) SHALL BE SET IN FULL MORTAR BED.
5. ADJUST TO FINISH GRADE WITH CLAY BRICK AND MORTAR AS REQUIRED.

Catch Basin (CB) Shallow Cover

1/16

N.T.S. Source: BY OTHERS Source: VHB LD_104



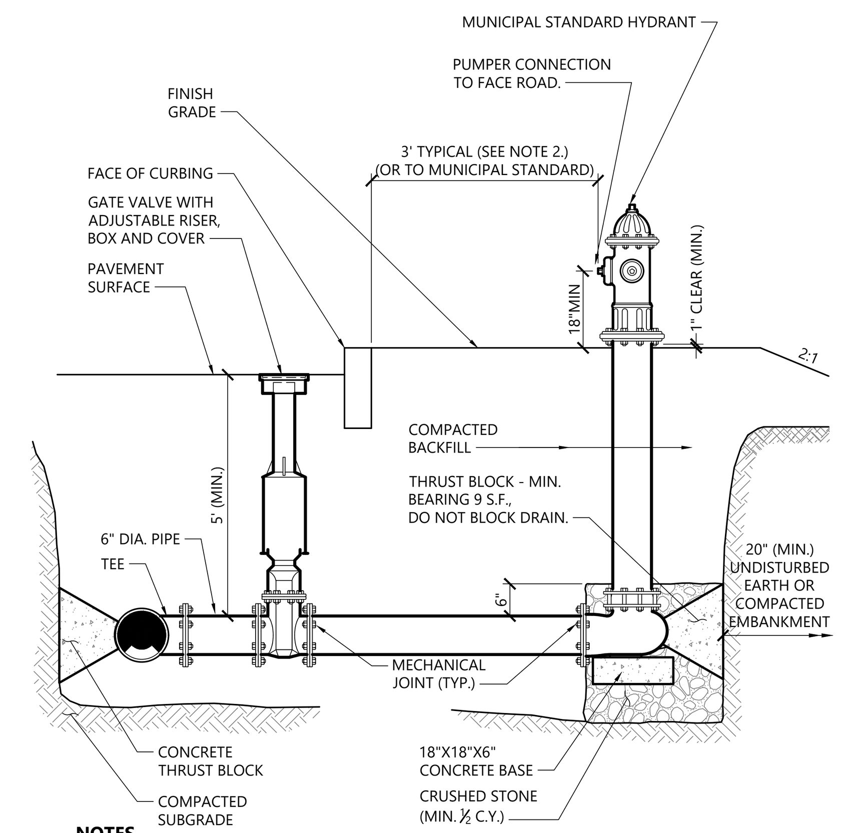
NOTES:

1. AREA DRAINS SHALL BE NYLOPLAST 12" DIAMETER DRAIN BASIN, OR APPROVED EQUAL.
2. GRATES SHALL BE NYLOPLAST 12" PEDESTRIAN MODEL 1299CGP OR 12" DOME GRATE MODEL 1299CGD (OR APPROVED EQUAL).

Area Drain (AD) Type 1

12/19

N.T.S. Source: VHB LD_193



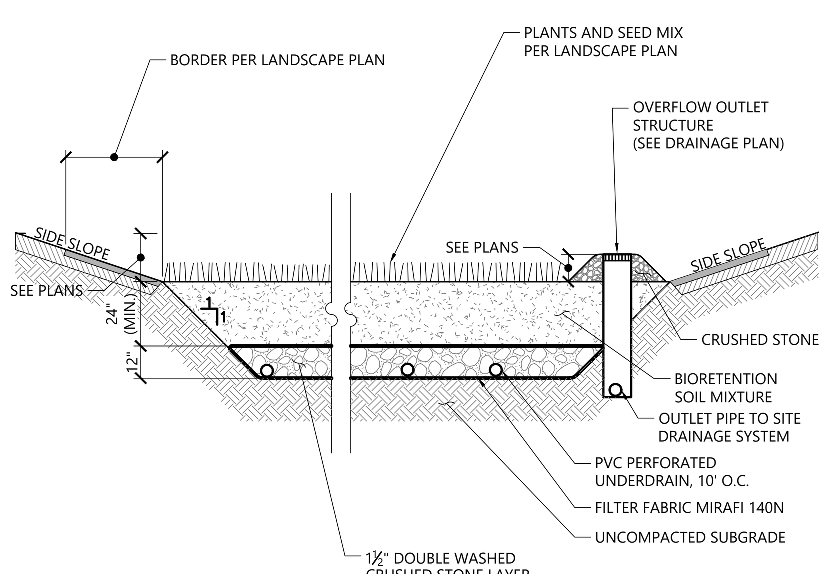
NOTES

1. CONCRETE THRUST BLOCKS TO BE USED ONLY WHERE THEY CAN BEAR ON UNDISTURBED EARTH AS SHOWN. USE CLAMPS AND TIE RODS OR OTHER ACCEPTABLE METHOD OF JOINT RESTRAINT WHERE SOIL CONDITIONS PROHIBIT THE USE OF THRUST BLOCKS.
2. HYDRANT IN SIDEWALK AREAS TO BE LOCATED TO PROVIDE MINIMUM CLEAR SIDEWALK PASSAGE WIDTH OF 3 FEET AT HYDRANT.
3. A 36-INCH CLEAR SPACE SHALL BE MAINTAINED AROUND THE CIRCUMFERENCE OF THE HYDRANT UNLESS OTHERWISE APPROVED BY AUTHORITY HAVING JURISDICTION.

Hydrant Construction

12/19

N.T.S. Source: VHB LD_250



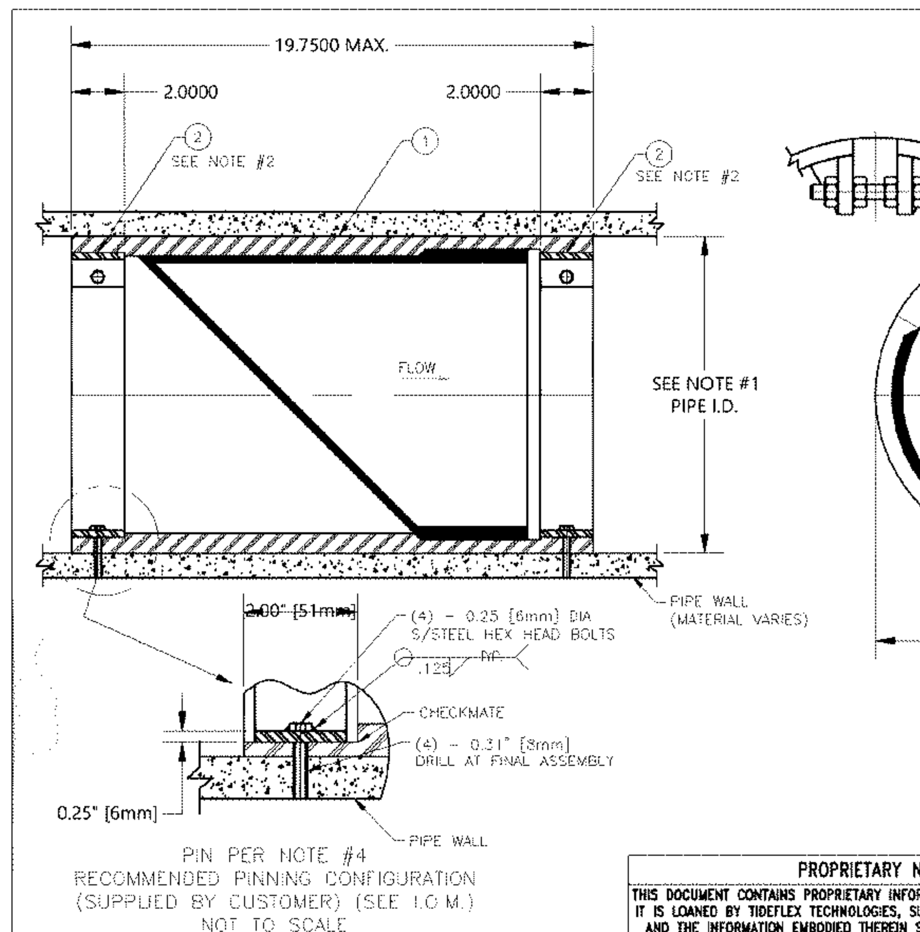
NOTES

1. INSTALL UNDERDRAINS AT 10 FEET ON CENTER. CONNECT TO DRAINS PER PLAN.
2. SIDE SLOPES SHALL BE 3:1 MAX. 2% MIN.

Rain Garden

3/20

N.T.S. Source: VHB LD_199



ITEM	QTY.	DESCRIPTION	MAT'L
1	1	CHECKMATE CHECK VALVE	MUST BE SUPPLIED
2	1	CLAMP	MUST BE SUPPLIED

NOTES:

1. PIPE INSIDE DIAMETER – MUST BE SUPPLIED
2. CLAMP INSTALLED IN UPSTREAM OR DOWNSTREAM CUFF DEPENDING ON INSTALLATION ORIENTATION
3. MAXIMUM ALLOWABLE BACK PRESSURE – 40.0 FEET
4. IT IS RECOMMENDED TO BOLT OR PIN CHECKMATE TO PIPE AS SHOWN, 4 PLACES 90° APART

PRELIMINARY DRAWING
NOT FOR APPROVAL PURPOSES

CUSTOMER: XXXX
ORDER No: XXXX

PROPRIETARY NOTICE

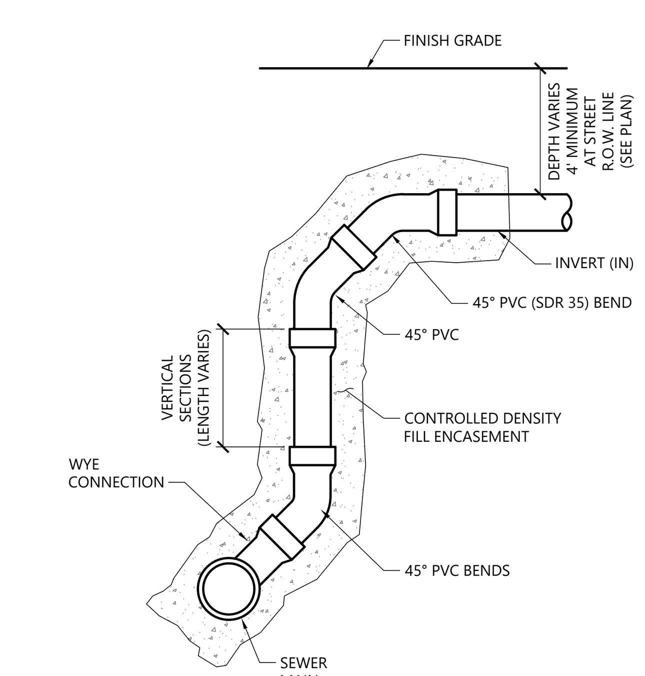
OPPORTUNITY No: XXXXX SALES ORDER No: TXX-XXXX

Tide Technologies
A Division of Red Valve Company, Inc.
600 N. BELL AVE.
CARNEGIE, PA. 15106
info@tideflex.com
412.279.0044
fax 412.279.5410

IT PRODUCT: CHECKMATE CHECK VALVE
IT PART No:
DR. BY: KEC DATE: 4-23-15 CHKD. BY: DATE: REV
CAD SCALE: FULL
PLOT SCALE: NTS DWG No: TTS-XXXX

Tide Checkmate Check Valve

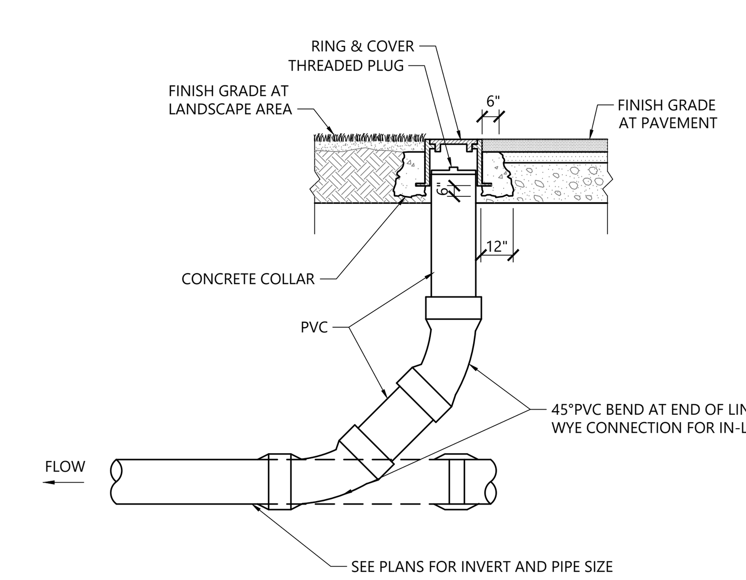
N.T.S. Source: Tide Technologies



Sewer Service Chimney

12/19

N.T.S. Source: VHB LD 221



Cleanout (CO)

12/19

N.T.S. Source: VHB LD 303

vhb.com
100 Great Meadow Road
Suite 200
Wethersfield, CT 06109
860.807.4300

21-23 River Rd Redevelopment

21 River Road
Wilton, Connecticut

No.	Revision	Date	Appvd.

Designed by NP/KE Checked by MRG
Issued for Local Approvals Date April 23, 2024

Not Approved for Construction

Drawing Title
Site Details 3

STATE OF CONNECTICUT
No. 27233
LICENSED PROFESSIONAL ENGINEER

Drawing Number
C-6.2

Sheet 10 of 11

Project Number
20849.00

STRUCTURAL DESIGN LOADING CRITERIA

LIVE LOADING: AASHTO HS-20 HIGHWAY LOADING
GROUND WATER TABLE: BELOW INVERT OF SYSTEM
SOIL BEARING PRESSURE: 4000PSF
SOIL DENSITY: 120 PCF
EQUIVALENT UNSATURATED LATERAL ACTIVE EARTH PRESSURE: 35 PSF / FT.
EQUIVALENT SATURATED LATERAL ACTIVE EARTH PRESSURE: 80 PSF/FT. (IF WATER TABLE PRESENT)
APPLICABLE CODES: ASTM C857, ACI-318
BACKFILL TYPE: SEE SHEET 4.0 FOR BACKFILL OPTIONS

STORMTRAP SYSTEM INFORMATION

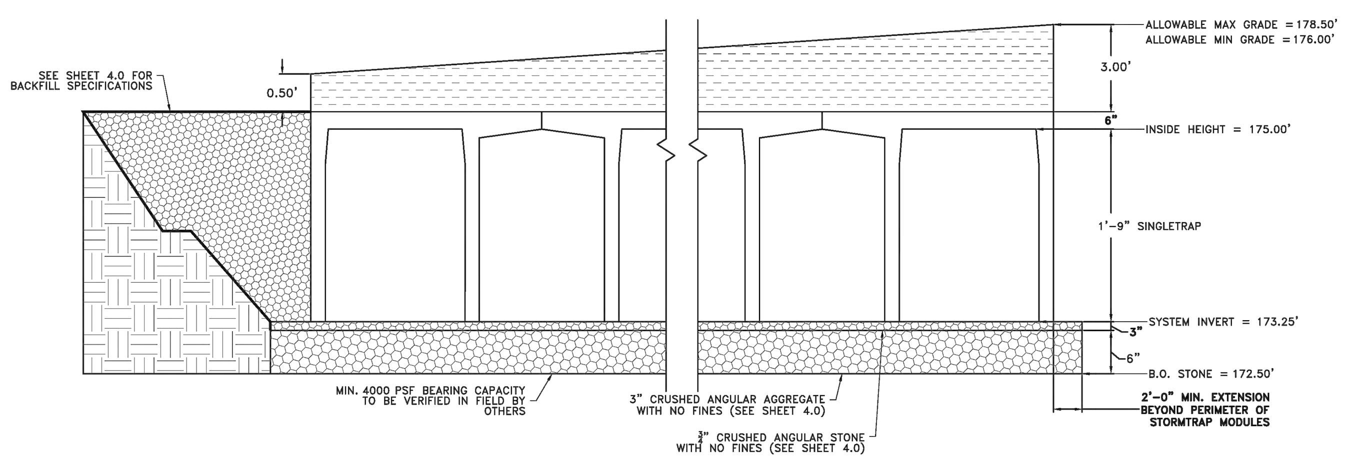
UNIT HEADROOM: 1'-9" SINGLETRAP
TOTAL STORAGE PROV: 1,727.62 CUBIC FEET
STORMTRAP SYSTEM STORAGE PROV: 1,224.90 CUBIC FEET
STONE BASE STORAGE PROV: 324.33 CUBIC FEET
STONE ENVELOPE STORAGE PROV: 178.39 CUBIC FEET

STAGE STORAGE

STORAGE HEIGHT	STAGE STORAGE ELEVATION	TOTAL STORAGE PROVIDED	STORAGE IN UNITS
0.00	173.25	324.33	0
0.25	173.50	524.80	174.99
0.50	173.75	725.27	349.97
0.75	174.00	925.74	524.96
1.00	174.25	1,126.21	699.94
1.25	174.50	1,326.68	874.93
1.50	174.75	1,527.15	1,049.91
1.75	175.00	1,727.62	1,224.90

SITE SPECIFIC DESIGN CRITERIA

1. STORMTRAP UNITS SHALL BE MANUFACTURED AND INSTALLED ACCORDING TO SHOP DRAWINGS APPROVED BY THE INSTALLING CONTRACTOR AND ENGINEER OF RECORD. THE SHOP DRAWINGS SHALL INDICATE SIZE AND LOCATION OF ROOF OPENINGS AND INLET/ OUTLET PIPE TYPES, SIZES, INVERT ELEVATIONS AND SIZE OF OPENINGS.
2. COVER RANGE: MIN. 0.50' MAX. 3.00' CONSULT STORMTRAP FOR ADDITIONAL COVER OPTIONS.
3. ALL DIMENSIONS AND SOIL CONDITIONS, INCLUDING BUT NOT LIMITED TO GROUNDWATER AND SOIL BEARING CAPACITY ARE REQUIRED TO BE VERIFIED IN THE FIELD BY OTHERS PRIOR TO STORMTRAP INSTALLATION.
4. FOR STRUCTURAL CALCULATIONS THE GROUND WATER TABLE IS ASSUMED TO BE BELOW INVERT OF SYSTEM IF WATER TABLE IS DIFFERENT THAN ASSUMED, CONTACT STORMTRAP.



1'-9" SINGLETRAP

StormTrap
1287 WINDHAM PARKWAY ROMEOVILLE, IL 60446
P:815-941-4549 / F:331-318-5347
ENGINEER INFORMATION: VHB, 100 Great Meadow Road, Suite 200, Wethersfield, CT, 860-807-4300
PROJECT INFORMATION: 21-23 River Road, West Basin, Wilton, CT
CURRENT ISSUE DATE: 04/18/2024
ISSUED FOR: PRELIMINARY

REV.	DATE:	ISSUED FOR:	DWN BY:
2	04/18/2024	PRELIMINARY	SG
1	04/11/2024	PRELIMINARY	LR

SCALE: NTS
SHEET TITLE: SINGLETRAP DESIGN CRITERIA
SHEET NUMBER: 1.1

STRUCTURAL DESIGN LOADING CRITERIA

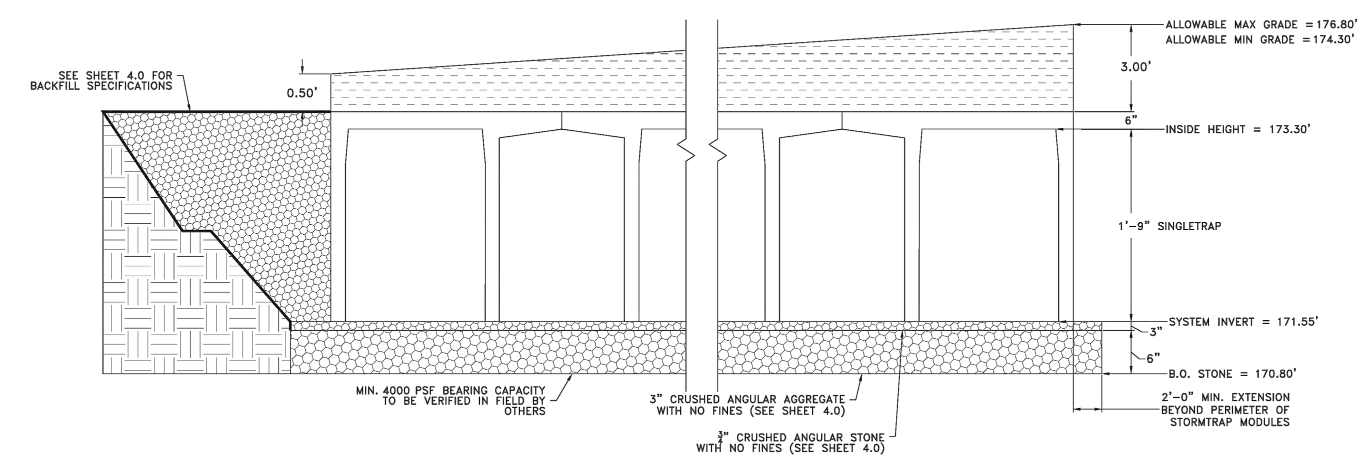
LIVE LOADING: AASHTO HS-20 HIGHWAY LOADING
GROUND WATER TABLE: BELOW INVERT OF SYSTEM
SOIL BEARING PRESSURE: 4000PSF
SOIL DENSITY: 120 PCF
EQUIVALENT UNSATURATED LATERAL ACTIVE EARTH PRESSURE: 35 PSF / FT.
EQUIVALENT SATURATED LATERAL ACTIVE EARTH PRESSURE: 80 PSF/FT. (IF WATER TABLE PRESENT)
APPLICABLE CODES: ASTM C857, ACI-318
BACKFILL TYPE: SEE SHEET 4.0 FOR BACKFILL OPTIONS

STORMTRAP SYSTEM INFORMATION

UNIT HEADROOM: 1'-9" SINGLETRAP
TOTAL STORAGE PROV: 6,275.49 CUBIC FEET
STORMTRAP SYSTEM STORAGE PROV: 4,426.31 CUBIC FEET
STONE BASE STORAGE PROV: 1,177.25 CUBIC FEET
STONE ENVELOPE STORAGE PROV: 671.93 CUBIC FEET

SITE SPECIFIC DESIGN CRITERIA

1. STORMTRAP UNITS SHALL BE MANUFACTURED AND INSTALLED ACCORDING TO SHOP DRAWINGS APPROVED BY THE INSTALLING CONTRACTOR AND ENGINEER OF RECORD. THE SHOP DRAWINGS SHALL INDICATE SIZE AND LOCATION OF ROOF OPENINGS AND INLET/ OUTLET PIPE TYPES, SIZES, INVERT ELEVATIONS AND SIZE OF OPENINGS.
2. COVER RANGE: MIN. 0.50' MAX. 3.00' CONSULT STORMTRAP FOR ADDITIONAL COVER OPTIONS.
3. ALL DIMENSIONS AND SOIL CONDITIONS, INCLUDING BUT NOT LIMITED TO GROUNDWATER AND SOIL BEARING CAPACITY ARE REQUIRED TO BE VERIFIED IN THE FIELD BY OTHERS PRIOR TO STORMTRAP INSTALLATION.
4. FOR STRUCTURAL CALCULATIONS THE GROUND WATER TABLE IS ASSUMED TO BE BELOW INVERT OF SYSTEM IF WATER TABLE IS DIFFERENT THAN ASSUMED, CONTACT STORMTRAP.



1'-9" SINGLETRAP

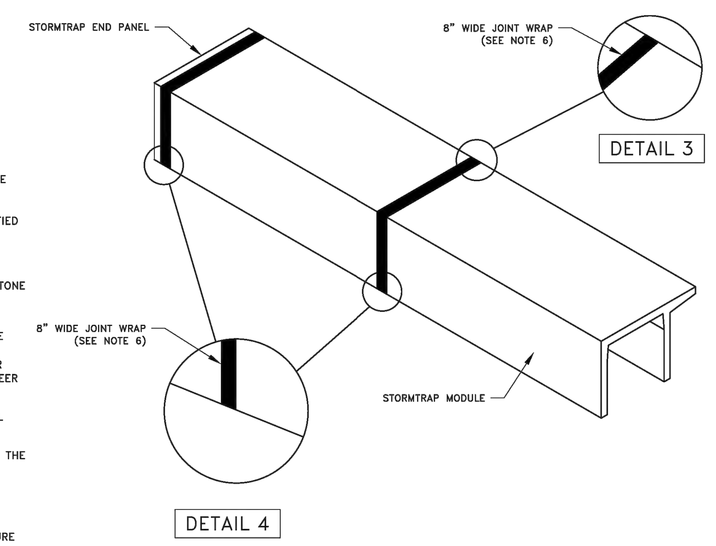
StormTrap
ENGINEER INFORMATION: VHB, 100 Great Meadow Road, Suite 200, Wethersfield, CT, 860-807-4300
PROJECT INFORMATION: 21-23 River Road, East Basin, Wilton, CT
CURRENT ISSUE DATE: 04/11/2024
ISSUED FOR: PRELIMINARY

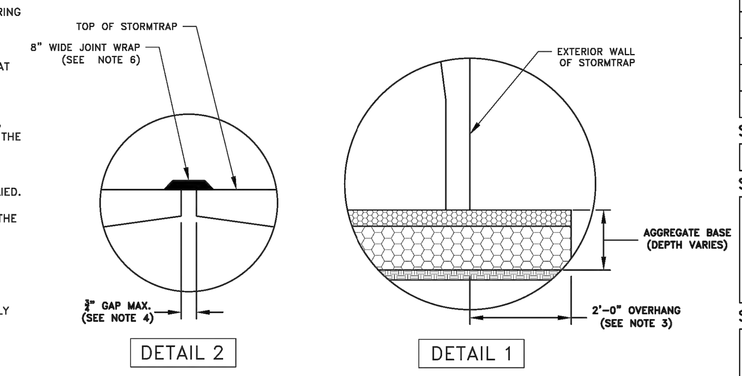
REV.	DATE:	ISSUED FOR:	DWN BY:
1	04/11/2024	PRELIMINARY	LR

SCALE: NTS
SHEET TITLE: SINGLETRAP DESIGN CRITERIA
SHEET NUMBER: 1.1

STORMTRAP INSTALLATION SPECIFICATION

1. STORMTRAP SHALL BE INSTALLED IN ACCORDANCE WITH ASTM C891 (STANDARD PRACTICE FOR INSTALLATION OF UNDERGROUND PRECAST CONCRETE UTILITY STRUCTURES). THE FOLLOWING ADDITIONS AND/OR EXCEPTIONS ARE PROVIDED FOR EMPHASIS. THE MENTION OF THESE ITEMS DOES NOT PRECLUDE THE INSTALLING CONTRACTOR FROM FOLLOWING ASTM C891 IN ITS ENTIRETY AND IMPLEMENTING ALL APPROPRIATE MEASURES. THE INSTALLING CONTRACTOR OWNS AND IS RESPONSIBLE FOR THE STORMTRAP SYSTEM UPON REMOVAL OF THE MODULES FROM THE DELIVERY TRUCK THROUGH "FINAL CONSTRUCTION". FINAL CONSTRUCTION IS ACHIEVED WHEN ALL MODULES ARE SET, FULLY BACKFILLED, AND WHEN FINAL FINISHED GRADES ARE REACHED. THE CONTRACTOR IS RESPONSIBLE FOR ANY COUNTERMEASURES NECESSARY TO RESIST UPLIFT/BUOYANCY BEFORE "FINAL CONSTRUCTION" IS ACHIEVED.
2. IT IS THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR TO ENSURE THAT PROPER/ADEQUATE EQUIPMENT IS USED TO SET/INSTALL THE MODULES.
3. THE AGGREGATE FOUNDATION HAS BEEN DESIGNED BASED ON THE FOLLOWING ASSUMPTIONS. THESE ASSUMPTIONS WILL NEED TO BE VERIFIED BY A GEOTECHNICAL ENGINEER WHICH WILL NEED TO BE EMPLOYED BY THE OWNER.
3.1. A QUALIFIED GEOTECHNICAL ENGINEER WILL BE EMPLOYED, BY OWNER, TO PROVIDE ASSISTANCE IN EVALUATING THE EXISTING SOIL CONDITIONS BELOW THE PROPOSED ENGINEERED STONE FOUNDATION. IF A STONE FOUNDATION DESIGN IS TO BE USED, THE BEARING PRESSURE OF THE SOILS BELOW THE STONE WILL NEED TO MEET OR EXCEED ALLOWABLE CAPACITY. IF THIS IS NOT POSSIBLE, THE STONE FOUNDATION MAY NOT BE AN OPTION FOR THIS LOCATION.
3.2. A QUALIFIED GEOTECHNICAL ENGINEER WILL BE EMPLOYED, BY OWNER, TO EVALUATE A SOURCE OF STONE AGGREGATES THAT WILL BE PLACED ON PROPERLY COMPACTED SOILS (SEE SHEET 1.1 FOR SOIL BEARING CAPACITY REQUIREMENTS). THE AGGREGATE BASE COURSE FOR WHICH THE STORMTRAP SYSTEM WILL BEAR DIRECTLY ON SHALL CONSIST OF A 3" THICK BED OF ¾" DIAMETER ANGULAR STONE, WELL COMPACTED AND SEATED, WITH NO FINES. AND A 6" THICK BED OF 3" ANGULAR AGGREGATE (SEE SHEET 4.0 FOR FURTHER DESCRIPTION/EXPLANATION). PLEASE NOTE THAT THESE ARE ONLY MINIMUM RECOMMENDATIONS AND A QUALIFIED GEOTECHNICAL ENGINEER SHALL BE USED TO DETERMINE THE EXACT REQUIREMENTS FOR THE LOCATIONS THAT THE STORMTRAP SYSTEM IS TO BE LOCATED.
3.3. THE CONTRACTOR SHALL REMOVE ANY AND ALL EXPANDABLE OR COLLAPSIBLE SOILS AT THE DIRECTION OF A QUALIFIED GEOTECHNICAL ENGINEER.
3.4. THE AGGREGATE FOUNDATION SHALL BE INSTALLED SUCH THAT THE AGGREGATE EXTENDS A MINIMUM OF 2'-0" PAST THE OUTSIDE OF THE SYSTEM (SEE DETAIL 1).
3.5. THE ¾" AGGREGATE SHALL BE COMPACTED USING A VIBRATING ROLLER WITH ITS' FULL DYNAMIC FORCE APPLIED TO ACHIEVE A FLAT SURFACE.
3.6. DISK, DRY AND COMPACT THE TOP 8" OF THE SUBGRADE SOILS TO 95% OF THE STANDARD DRY DENSITY AND 110% OPTIMUM MOISTURE CONTENT.
3.7. AGGREGATE SHALL BE GRADED WITHIN +/- ¼" OF THE GRADE SHOWN ON THE PLANS.
3.8. MINIMUM SOIL BEARING CAPACITY LISTED ON SHEET 1.1 SHALL BE VERIFIED IN FIELD BY OTHERS.
4. THE STORMTRAP MODULES SHALL BE PLACED SUCH THAT THE MAXIMUM SPACE BETWEEN ADJACENT MODULES DOES NOT EXCEED ¾" (SEE DETAIL 2). IF THE SPACE EXCEEDS ¾", THE MODULES SHALL BE RESET WITH APPROPRIATE ADJUSTMENT MADE TO LINE AND GRADE TO BRING THE SPACE INTO SPECIFICATION.
5. STORMTRAP MODULES ARE NOT WATERTIGHT. IF A WATERTIGHT SOLUTION IS REQUIRED, CONTACT STORMTRAP FOR RECOMMENDATIONS. THE WATERTIGHT APPLICATION IS TO BE PROVIDED AND IMPLEMENTED BY THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE TO ENSURE THAT THE SELECTED WATERTIGHT SOLUTION PERFORMS AS SPECIFIED BY THE MANUFACTURER.
6. ALL EXTERIOR ROOF AND EXTERIOR VERTICAL WALL JOINTS BETWEEN ADJACENT STORMTRAP MODULES SHALL BE SEALED WITH 8" WIDE PRE-FORMED, COLD-APPLIED, SELF-ADHERING ELASTOMERIC RESIN, BONDED TO A WOVEN, HIGHLY PUNCTURE RESISTANT POLYMER WRAP, CONFORMING TO ASTM C891 AND SHALL BE INTEGRATED WITH PRIMER SEALANT AS APPROVED BY STORMTRAP (SEE DETAILS 2, 3, & 4). THE JOINT WRAP DOES NOT PROVIDE A WATERTIGHT SEAL. THE SOLE PURPOSE OF THE JOINT WRAP IS TO PROVIDE A SILT AND SOIL TIGHT SYSTEM. THE ADHESIVE EXTERIOR JOINT WRAP SHALL BE INSTALLED ACCORDING TO THE FOLLOWING INSTALLATION INSTRUCTIONS:
6.1. USE A BRUSH OR WET CLOTH TO THOROUGHLY CLEAN THE OUTSIDE SURFACE AT THE POINT WHERE THE JOINT WRAP IS TO BE APPLIED.
6.2. A RELEASE PAPER PROTECTS THE ADHESIVE SIDE OF THE JOINT WRAP. PLACE THE ADHESIVE TAPE (ADHESIVE SIDE DOWN) AROUND THE STRUCTURE, REMOVING THE RELEASE PAPER AS YOU GO. PRESS THE JOINT WRAP FIRMLY AGAINST THE STORMTRAP MODULE SURFACE WHEN APPLYING.
7. IF THE CONTRACTOR NEEDS TO CANCEL ANY SHIPMENTS, THEY MUST DO SO 48 HOURS PRIOR TO THEIR SCHEDULED ARRIVAL AT THE JOB SITE. IF CANCELED AFTER THAT TIME, PLEASE CONTACT THE PROJECT MANAGER.
8. IF THE STORMTRAP MODULE(S) IS DAMAGED IN ANY WAY PRIOR, DURING, OR AFTER INSTALL, STORMTRAP, MUST BE CONTACTED IMMEDIATELY TO ASSESS THE DAMAGE AND TO DETERMINE WHETHER OR NOT THE MODULE(S) WILL NEED TO BE REPLACED. IF ANY MODULE ARRIVES AT THE JOBSITE DAMAGED DO NOT UNLOAD IT; CONTACT STORMTRAP, IMMEDIATELY. ANY DAMAGE NOT REPORTED BEFORE THE TRUCK IS UNLOADED WILL BE THE CONTRACTOR'S RESPONSIBILITY.
9. STORMTRAP MODULES CANNOT BE ALTERED IN ANY WAY AFTER MANUFACTURING WITHOUT WRITTEN CONSENT FROM STORMTRAP.





StormTrap
ENGINEER INFORMATION: VHB, 100 Great Meadow Road, Suite 200, Wethersfield, CT, 860-807-4300
PROJECT INFORMATION: 21-23 River Road, Wilton, CT
CURRENT ISSUE DATE: 04/18/2024
ISSUED FOR: PRELIMINARY

REV.	DATE:	ISSUED FOR:	DWN BY:
2	04/18/2024	PRELIMINARY	SG
1	04/11/2024	PRELIMINARY	LR

SCALE: NTS
SHEET TITLE: SINGLETRAP INSTALLATION SPECIFICATION
SHEET NUMBER: 3.0

ZONE CHART

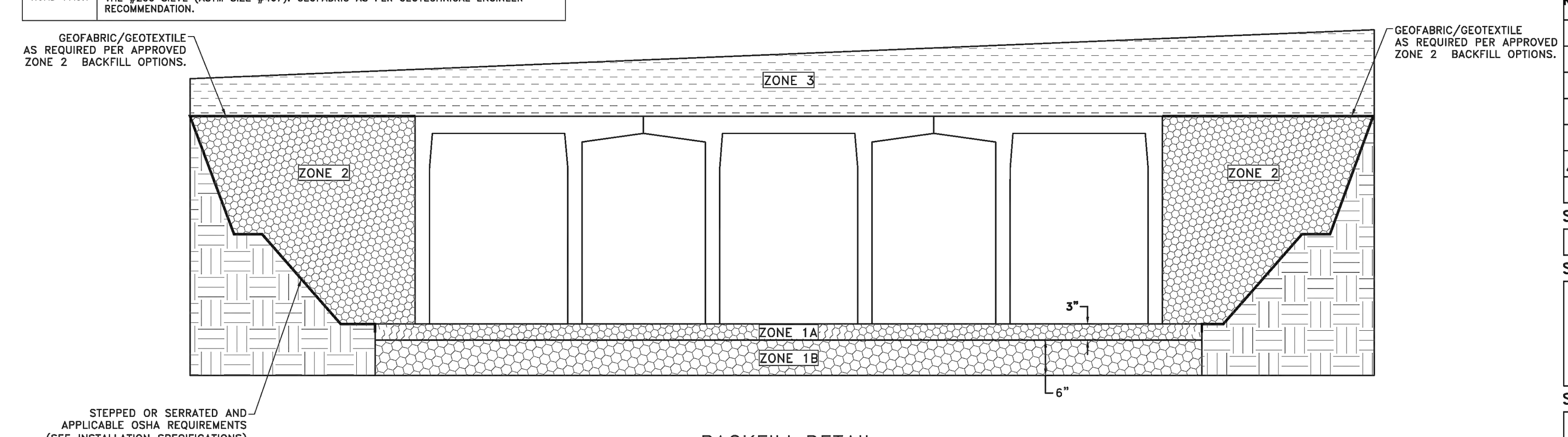
ZONES	ZONE DESCRIPTIONS	REMARKS
ZONE 1A	FOUNDATION AGGREGATE	#3 (¾") STONE ANGULAR AGGREGATE (SEE NOTE 4 FOR DESCRIPTION)
ZONE 1B	FOUNDATION AGGREGATE (INFILTRATION NOT ALLOWED)	3" RECYCLED CRUSHED CONCRETE (SEE NOTES 5 & 6 FOR DESCRIPTION)
	FOUNDATION AGGREGATE (INFILTRATION ALLOWED)	3" STONE AGGREGATE (SEE NOTE 5)
ZONE 2	BACKFILL	UNIFIED SOILS CLASSIFICATION (GW, GP, SW, SP) OR SEE BELOW FOR APPROVED BACKFILL OPTIONS
ZONE 3	FINAL COVER OVERTOP	MATERIALS NOT TO EXCEED 120 PCF

APPROVED ZONE 2 BACKFILL OPTIONS

OPTION	REMARKS
¾" STONE AGGREGATE	THE STONE AGGREGATE SHALL CONSIST OF CLEAN AND FREE DRAINING ANGULAR MATERIAL. THE SIZE OF THIS MATERIAL SHALL HAVE 100% PASSING THE 1" SIEVE WITH 0% TO 5% PASSING THE #8 SIEVE. THIS MATERIAL SHALL BE SEPARATED FROM NATIVE MATERIAL USING GEOFABRIC AS REQUIRED BY THE GEOTECHNICAL ENGINEER (ASTM SIZE #57) AS DETERMINED BY THE GEOTECHNICAL ENGINEER.
SAND	IMPORTED PURE SAND IS PERMITTED TO BE USED AS BACKFILL IF IT IS CLEAN AND FREE DRAINING. THE SAND USED FOR BACKFILLING SHALL HAVE LESS THAN 40% PASSING #40 SIEVE AND LESS THAN 5% PASSING #200 SIEVE. THIS MATERIAL SHALL BE SEPARATED FROM NATIVE MATERIAL USING GEOFABRIC AROUND THE PERIMETER OF THE SAND BACKFILL.
CRUSHED CONCRETE AGGREGATE	CLEAN, FREE DRAINING CRUSHED CONCRETE AGGREGATE MATERIAL CAN BE USED AS BACKFILL FOR STORMTRAP'S MODULES. THE SIZE OF THIS MATERIAL SHALL HAVE 100% PASSING THE 1" SIEVE WITH 0% TO 5% PASSING THE #8 SIEVE. THIS MATERIAL SHALL BE SEPARATED FROM NATIVE MATERIAL USING GEOFABRIC AROUND THE PERIMETER OF THE BACKFILL.
ROAD PACK	STONE AGGREGATE 100% PASSING THE 1-1/2" SIEVE WITH LESS THAN 12% PASSING THE #200 SIEVE (ASTM SIZE #467). GEOFABRIC AS PER GEOTECHNICAL ENGINEER RECOMMENDATION.

STORMTRAP ZONE INSTALLATION SPECIFICATION/PROCEDURE

1. THE FILL PLACED AROUND THE STORMTRAP MODULES MUST BE DEPOSITED ON BOTH SIDES AT THE SAME TIME AND TO APPROXIMATELY THE SAME ELEVATION. AT NO TIME SHALL THE FILL BEHIND ONE SIDE WALL BE MORE THAN 2'-0" HIGHER THAN THE FILL ON THE OPPOSITE SIDE. BACKFILL SHALL EITHER BE COMPACTED AND/OR VIBRATED TO ENSURE THAT BACKFILL AGGREGATE/STONE MATERIAL IS WELL SEATED AND PROPERLY INTER LOCKED. CARE SHALL BE TAKEN TO PREVENT ANY WEDGING ACTION AGAINST THE STRUCTURE, AND ALL SLOPES WITHIN THE AREA TO BE BACKFILLED MUST BE STEPPED OR SERRATED TO PREVENT WEDGING ACTION. CARE SHALL ALSO BE TAKEN AS NOT TO DISRUPT THE JOINT WRAP FROM THE JOINT DURING THE BACKFILL PROCESS. BACKFILL MUST BE FREE-DRAINING MATERIAL. SEE ZONE 2 BACKFILL CHART ON THIS PAGE FOR APPROVED BACKFILL OPTIONS. IF NATIVE EARTH IS SUSCEPTIBLE TO MIGRATION, CONFIRM WITH GEOTECHNICAL ENGINEER AND PROVIDE PROTECTION AS REQUIRED (PROVIDED BY OTHERS). ALL MODULES MUST BE SET AND ALL SIDES MUST BE FULLY BACKFILLED BEFORE TRAVEL OVERTOP THE SYSTEM IS PERMITTED. SEE NOTE 2 FOR EXCEPTIONS AND LIMITATIONS.
2. THE FILL PLACED OVERTOP THE SYSTEM SHALL BE PLACED IN MINIMUM 6" LIFTS. AT NO TIME SHALL MACHINERY OR VEHICLES GREATER THAN THE DESIGN LIVE LOAD LISTED ON SHEET 1.0 TRAVEL OVERTOP THE SYSTEM. IF TRAVEL OVER THE SYSTEM OCCURS BEFORE THE MINIMUM DESIGN COVER IS ACHIEVED, IT MAY BE NECESSARY TO REDUCE THE ULTIMATE LOAD/BURDEN OF THE OPERATING MACHINERY SO AS TO NOT EXCEED THE DESIGN CAPACITY OF THE SYSTEM. VEHICLES AND MACHINERY USED TO PLACE FILL MATERIAL ON TOP OF THE SYSTEM SHALL TRAVEL PARALLEL TO THE LONGITUDINAL AXIS OF THE STORMTRAP MODULES WHENEVER POSSIBLE.
3. THE VIBRATORY FUNCTION OF ANY ROLLER, COMPACTOR, VEHICLE, ETC. SHALL NOT BE USED OVERTOP THE SYSTEM WITHOUT PRIOR APPROVAL FROM STORMTRAP. IN SOME CASES, HAND COMPACTION MAY BE NECESSARY TO ENSURE THAT THE ALLOWABLE DESIGN LOADING IS NOT EXCEEDED.
4. FREE DRAINING ANGULAR AGGREGATE – 80% AGGREGATE RETAINED ON ⅜" SIEVE MAJORITY OF AGGREGATE SIZE BETWEEN ⅜" AND 1" ONLY 5% OF MATERIAL PASSING #8 SIEVE.
5. FREE DRAINING, NO FINES, 3" ANGULAR AGGREGATE – MAJORITY OF STONE SIZE IN BETWEEN 1½" AND 3" – VERY SIMILAR TO AASHTO (#1, #2, #3, & #24) STONE AGGREGATE GRADATION.
6. CRUSHED CONCRETE AGGREGATE IS KNOWN TO REACT WITH WATER AND CAN INCREASE THE PH VALUE OF THE GROUND WATER. PRIOR TO USING CRUSHED CONCRETE AGGREGATE IN ZONE 1B IT IS IMPERATIVE THAT THE USE OF SUCH MATERIAL SHALL BE VERIFIED BY THE EOR AND/OR THE PROJECT GEOTECHNICAL ENGINEER.



BACKFILL DETAIL

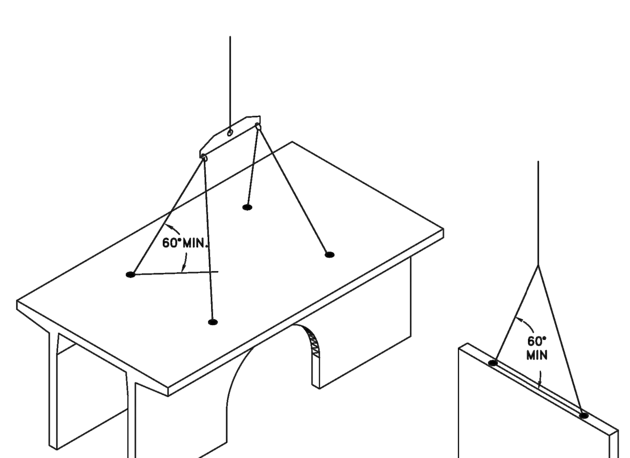
StormTrap
ENGINEER INFORMATION: VHB, 100 Great Meadow Road, Suite 200, Wethersfield, CT, 860-807-4300
PROJECT INFORMATION: 21-23 River Road, Wilton, CT
CURRENT ISSUE DATE: 04/18/2024
ISSUED FOR: PRELIMINARY

REV.	DATE:	ISSUED FOR:	DWN BY:
2	04/18/2024	PRELIMINARY	SG
1	04/11/2024	PRELIMINARY	LR

SCALE: NTS
SHEET TITLE: SINGLETRAP BACKFILL SPECIFICATION
SHEET NUMBER: 4.0

STORMTRAP MODULE LIFTING SPECIFICATION

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT ALL (4) CHAINS/CABLES ARE SECURED PROPERLY TO THE LIFTING ANCHORS AND IN EQUAL TENSION WHEN LIFTING THE STORMTRAP MODULE.
2. MINIMUM 7'-0" CHAIN/CABLE LENGTH TO BE USED TO LIFT STORMTRAP MODULES (SUPPLIED BY CONTRACTOR).
3. CONTRACTOR TO ENSURE MINIMUM LIFTING ANGLE IS 60° FROM TOP SURFACE OF STORMTRAP MODULE. SEE DETAIL.
4. IT IS UNDERSTOOD AND AGREED THAT AT ALL TIMES DURING WHICH HOISTING AND RIGGING EQUIPMENT IS BEING SUPPLIED TO THE PURCHASER, OPERATOR OF SUCH EQUIPMENT SHALL BE IN CHARGE OF HIS ENTIRE EQUIPMENT AND SHALL AT ALL TIMES BE THE AGENT OF THE SAFETY AND PROPERTY OF ANY SUGGESTION TO HIM FROM THE SELLER, ITS AGENTS OR EMPLOYEES. PURCHASER AGREES TO SAVE, INDEMNIFY AND HOLD HARMLESS SELLER FROM ALL LOSS, CLAIMS, DEMANDS OR CAUSES OF ACTION, WHICH MAY ARISE FROM THE EXISTENCE OR OPERATION OF SAID EQUIPMENT.

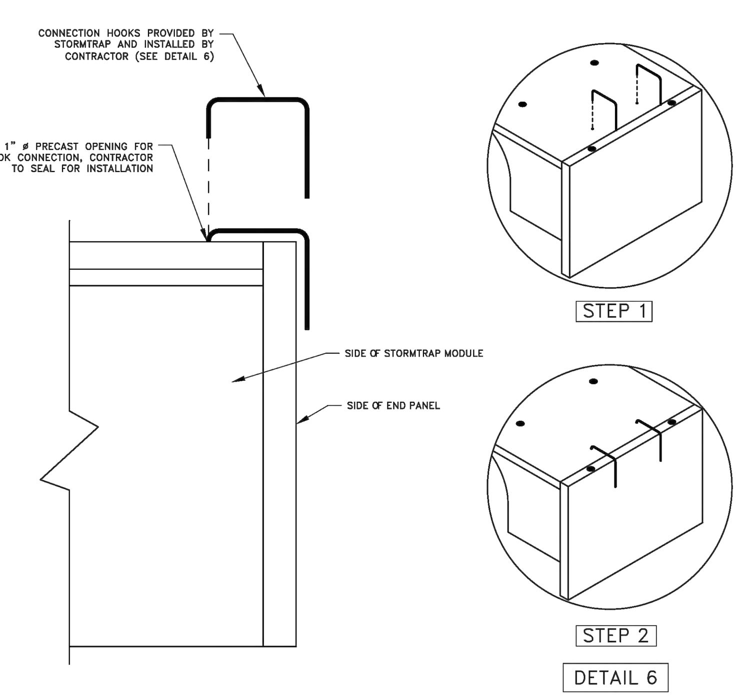


MODULE LIFTING DETAIL

END PANEL LIFTING DETAIL

END PANEL ERECTION/INSTALLATION SPECIFICATION

1. END PANELS WILL BE SUPPLIED TO CLOSE OFF OPEN ENDS OF ROWS.
2. PANELS SHALL BE INSTALLED IN A TILT UP FASHION DIRECTLY ADJACENT TO OPEN END OF MODULE (REFER TO SHEET 2.0 FOR END PANEL LOCATIONS).
3. CONNECTION HOOKS WILL BE SUPPLIED WITH END PANELS TO SECURELY CONNECT PANEL TO ADJACENT STORMTRAP MODULE (SEE PANEL CONNECTION ELEVATION VIEW).
4. ONCE CONNECTION HOOK IS ATTACHED, LIFTING CLUTCHES MAY BE REMOVED.
5. JOINT WRAP SHALL BE PLACED AROUND PERIMETER JOINT PANEL (SEE SHEET 3.0).



PANEL CONNECTION ELEVATION VIEW

StormTrap
ENGINEER INFORMATION: VHB, 100 Great Meadow Road, Suite 200, Wethersfield, CT, 860-807-4300
PROJECT INFORMATION: 21-23 River Road, Wilton, CT
CURRENT ISSUE DATE: 04/18/2024
ISSUED FOR: PRELIMINARY

REV.	DATE:	ISSUED FOR:	DWN BY:
2	04/18/2024	PRELIMINARY	SG
1	04/11/2024	PRELIMINARY	LR

SCALE: NTS
SHEET TITLE: SINGLETRAP INSTALLATION SPECIFICATION
SHEET NUMBER: 3.1

ACCESS OPENING SPECIFICATION

1. A TYPICAL ACCESS OPENING FOR THE STORMTRAP SYSTEM ARE 2'-0" IN DIAMETER. ACCESS OPENINGS LARGER THAN 4'-0" IN DIAMETER NEED TO BE APPROVED BY STORMTRAP. ALL OPENINGS MUST RETAIN AT LEAST 2'-0" OF CLEARANCE FROM THE END OF THE STORMTRAP MODULE UNLESS NOTED OTHERWISE. ALL ACCESS OPENINGS TO BE LOCATED ON INSIDE LEG UNLESS OTHERWISE SPECIFIED. SEE SHEET 2.0 FOR SIZES AND LOCATIONS.
2. UNLESS OTHERWISE SPECIFIED, PLASTIC COATED STEEL STEPS PRODUCED BY M.A. INDUSTRIES PART #PS3-PFC OR APPROVED EQUAL (SEE STEP DETAIL) ARE PROVIDED INSIDE ANY MODULE WHERE DEEMED NECESSARY. THE HIGHEST STEP IN THE MODULE IS TO BE PLACED A DISTANCE OF 1'-0" FROM THE INSIDE EDGE OF THE STORMTRAP MODULES. ALL ENSUING STEPS SHALL BE PLACED AT A DISTANCE BETWEEN 10" MIN AND 14" MAX BETWEEN THEN. STEPS MAY BE MOVED OR ALTERED TO AVOID OPENINGS OR OTHER IRREGULARITIES IN THE MODULE.
3. STORMTRAP LIFTING INSERTS MAY BE RELOCATED TO AVOID INTERFERENCE WITH ACCESS OPENINGS OR THE CENTER OF GRAVITY OF THE MODULE AS NEEDED.
4. STORMTRAP ACCESS OPENINGS MAY BE RELOCATED TO AVOID INTERFERENCE WITH INLET AND/OR OUTLET PIPE OPENINGS SO PLACEMENT OF STEPS IS ATTAINABLE.
5. ACCESS OPENINGS SHOULD BE LOCATED IN ORDER TO MEET THE APPROPRIATE MUNICIPAL REQUIREMENTS. STORMTRAP RECOMMENDS AT LEAST TWO ACCESS OPENINGS PER SYSTEM FOR ACCESS AND VENTILATION.
6. USE PRECAST ADJUSTING RINGS AS NEEDED TO MEET GRADE. STORMTRAP RECOMMENDS FOR COVER OVER 2' TO USE PRECAST BARREL OR CONE SECTIONS. (PROVIDED BY OTHERS)

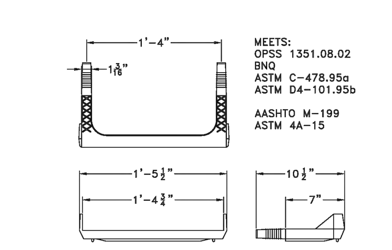
PIPE OPENING SPECIFICATION

1. MINIMUM EDGE DISTANCE FOR AN OPENING ON THE OUTSIDE WALL SHALL BE NO LESS THAN 1'-0".
2. CONNECTING PIPES MAY BE INSTALLED WITH A 1'-0" CONCRETE COLLAR AND AN AGGREGATE CRADLE (AS REQUIRED) FOR AT LEAST ONE PIPE LENGTH (SEE PIPE CONNECTION DETAIL). A STRUCTURAL GRADE CONCRETE OR HIGH STRENGTH, NON-SHRINK GROUT WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3000 PSI MAY BE USED.
3. THE ANNULAR SPACE BETWEEN THE PIPE AND THE HOLE SHALL BE FILLED WITH HIGH STRENGTH NON-SHRINK GROUT.

PIPE INSTALLATION INSTRUCTIONS

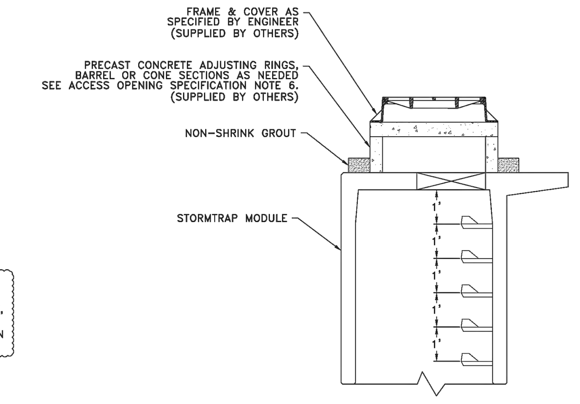
1. CLEAN AND LIGHTLY LUBRICATE ALL OF THE PIPE TO BE INSERTED INTO STORMTRAP.
2. IF PIPE IS CUT, CARE SHOULD BE TAKEN TO ALLOW NO SHARP EDGES. BEVEL AND LUBRICATE LEAD END OF PIPE.
3. ALIGN CENTER OF PIPE TO CORRECT ELEVATION AND INSERT INTO OPENING.

NOTE: ALL ANCILLARY PRODUCTS/SPECIFICATIONS RECOMMENDED AND SHOWN ON THIS SHEET INCLUDING BUT NOT LIMITED TO CONCRETE COLLARS, AGGREGATE CRADLES, GRADE RINGS, RISER SECTIONS, ETC., ARE RECOMMENDATIONS ONLY AND SUBJECT TO CHANGE PER THE INSTALLING CONTRACTOR AND/OR PER LOCAL MUNICIPAL CODE/REQUIREMENTS.

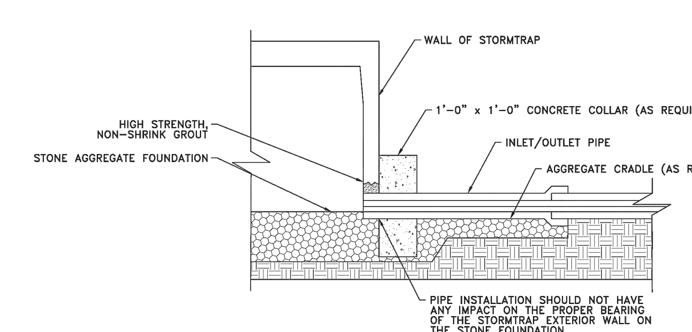


STEP DETAIL

*** NOTICE *** 03-25-2022
DUE TO CURRENT INCONSISTENCIES IN THE 16" STEP SUPPLY, STORMTRAP MAY SUBSTITUTE THE 16" STEP WITH THE CLOSEST ALTERNATIVE LENGTH STEP UNTIL THE SUPPLY CHAIN ISSUE IS RESOLVED.



RISER/STAIR DETAIL



PIPE CONNECTION DETAIL WHEN PIPE INVERT IS AT INVERT OF STORMTRAP SYSTEM

StormTrap
ENGINEER INFORMATION: VHB, 100 Great Meadow Road, Suite 200, Wethersfield, CT, 860-807-4300
PROJECT INFORMATION: 21-23 River Road, Wilton, CT
CURRENT ISSUE DATE: 04/11/2024
ISSUED FOR: PRELIMINARY

REV.	DATE:	ISSUED FOR:	DWN BY:
1	04/11/2024	PRELIMINARY	LR

SCALE: NTS
SHEET TITLE: PIPE / ACCESS OPENING SPECIFICATION
SHEET NUMBER: 5.0

vhb.com
vhb
100 Great Meadow Road
Suite 200
Wethersfield, CT 06109
860.807.4300

21-23 River Rd Redevelopment

21 River Road
Wilton, Connecticut

No.	Revision	Date	Appvd.

Designed by NP/KE — Checked by MRG
Issued for: Local Approvals — Date: April 23, 2024

Not Approved for Construction

Drawing Title: Site Details 4

Drawing Number: C-6.3

Sheet 11 of 11

STATE OF CONNECTICUT — No. 27233 — LICENSED PROFESSIONAL ENGINEER

Project Number 20849.00

VICINITY MAP NOT TO SCALE

SITE DATA

1. PROPERTY IS KNOWN AS MAP #73, LOT 25.1 & MAP #73, LOT 25.4 IN THE TOWN OF WILTON, FAIRFIELD COUNTY, CONNECTICUT.

2. LOT AREA 25.1 = 236,792 S.F. OR 5.4360 AC.
LOT AREA 25.4 = 294,581 S.F. OR 6.7627 AC.

3. NO CHANGES IN STREET RIGHT OF WAY LINES EITHER COMPLETED OR PROPOSED KNOWN TO THIS SURVEYOR. NO OBSERVABLE EVIDENCE OF RECENT STREET OR SIDEWALK CONSTRUCTION OR REPAIRS.

4. VERTICAL DATUM = NAVD 88. BENCHMARK – MAG NAIL, ELEV.=179.08

5. LOCATION OF ALL UNDERGROUND UTILITIES ARE APPROXIMATE. ALL LOCATIONS AND SIZES ARE BASED ON UTILITY MARK-OUTS, ABOVE GROUND STRUCTURES THAT WERE VISIBLE & ACCESSIBLE IN THE FIELD, AND THE MAPS LISTED IN THE REFERENCES AVAILABLE AT THE TIME OF THE SURVEY. AVAILABLE AS-BUILT PLANS AND UTILITY MARK-OUT DOES NOT ENSURE MAPPING OF ALL UNDERGROUND UTILITIES AND STRUCTURES. BEFORE ANY EXCAVATION IS TO BEGIN, ALL UNDERGROUND UTILITIES SHOULD BE VERIFIED AS TO THEIR LOCATION, SIZE AND TYPE BY THE PROPER UTILITY COMPANIES.

6. THIS PLAN WAS PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT. THIS PROPERTY MAY BE SUBJECT TO RESTRICTIONS, COVENANTS AND/OR EASEMENTS, WRITTEN OR IMPLIED.

7. THE EXISTENCE OF UNDERGROUND STORAGE TANKS, IF ANY, WAS NOT KNOWN AT THE TIME OF THIS SURVEY.

8. TOPOGRAPHIC INFORMATION SHOWN HEREON TAKEN FROM GROUND SURVEY PERFORMED BY VALLEY LAND SERVICES, LLC. DATE OF FIELD SURVEY = 7-5-2022.

9. THIS PLAN IS VALID ONLY WHEN SIGNED IN COLORED INK AND EMBOSSED WITH A RAISED IMPRESSION SEAL AND WAS PREPARED IN ACCORDANCE WITH THE MINIMUM STANDARD OF ACCURACY OF THE STATE IN WHICH THE PROJECT IS LOCATED.

10. THE WORD "CERTIFY" OR "CERTIFICATE" AS SHOWN AND USED HEREON MEANS AN EXPRESSION OF PROFESSIONAL OPINION REGARDING THE FACTS OF THIS SURVEY AND DOES NOT CONSTITUTE A WARRANTY OR GUARANTEE, EXPRESSED OR IMPLIED.

12. PARKING PROVIDED –
–REGULAR = 480 SPACES
–UNDERGROUND = 17 SPACES
–HANDICAP = 10 SPACES
TOTAL SPACES PROVIDED = 507

13. THIS SURVEY CONFORMS TO A CLASS A-2 SURVEY AND HAS BEEN PREPARED IN ACCORDANCE WITH THE "RECOMMENDED STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT" AS ADOPTED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS, INC., ON OCTOBER 26, 2018.

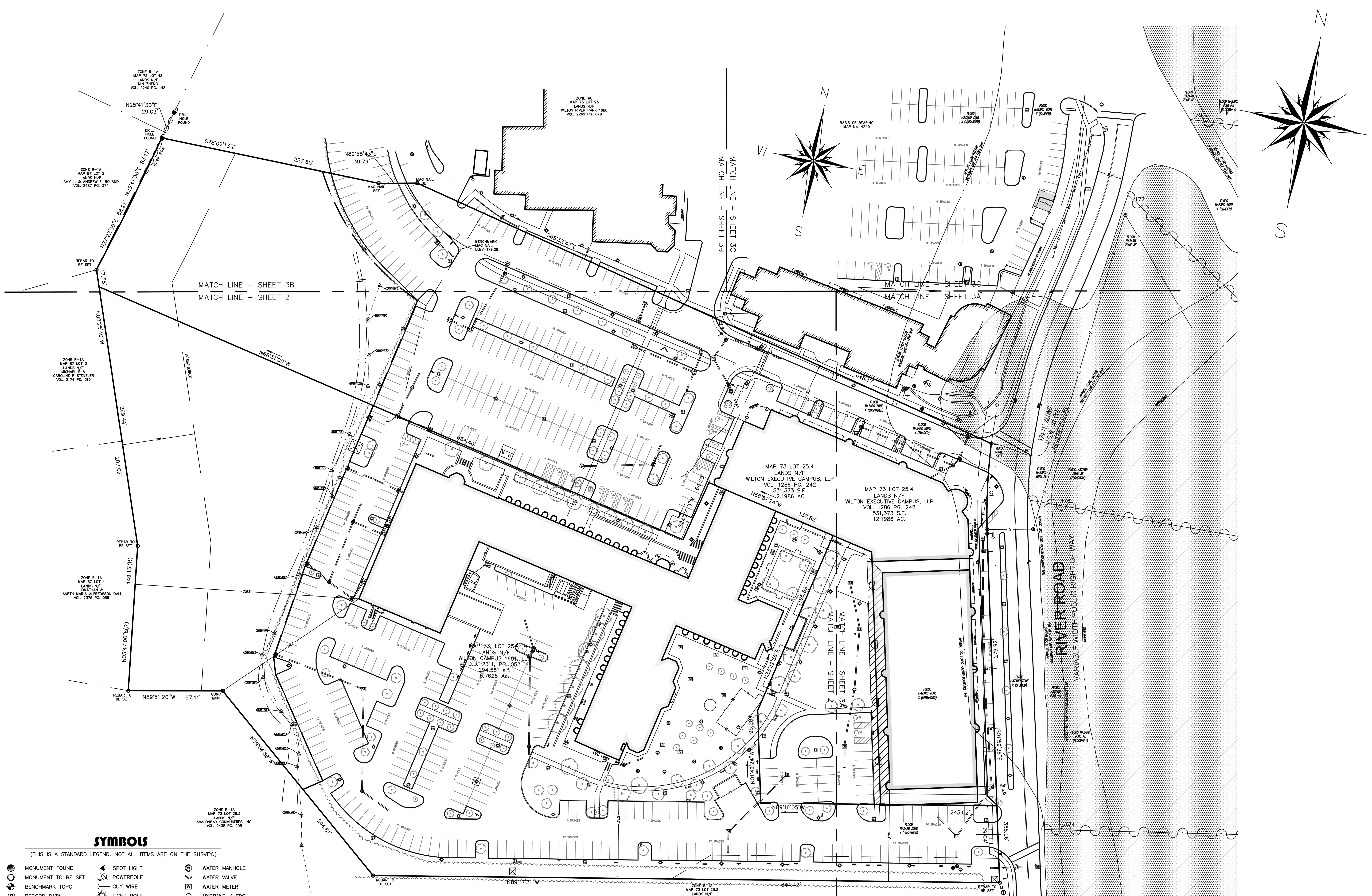
14. THE TYPE OF SURVEY PERFORMED IS A PROPERTY SURVEY.

15. BOUNDARY DETERMINATION IS BASED UPON A DEPENDENT RESURVEY AND THIS SURVEY IS SUBJECT TO SUCH FACTS AS AN INDEPENDENT RESURVEY MAY DISCLOSE.

16. WETLANDS AS SHOWN ARE BASED ON DATA SUPPLIED BY VHB ENGINEERS UTILIZING A TRIMBLE R1 MODEL 99133 GPS UNIT RECORDED ON 9-1-2022.

FLOOD NOTE

BY GRAPHICAL REPRESENTATION ONLY THIS PROPERTY IS LOCATED IN FLOOD HAZARD ZONES X (UNSHADED AND SHADED) AS SHOWN ON FLOOD INSURANCE RATE MAP, COMMUNITY PANEL No. 090020 0383 F WHICH HAS AN EFFECTIVE DATE OF JUNE 18, 2010, MAP No. 09001C0383F AND IS AND IS NOT IN A SPECIAL FLOOD HAZARD AREA. FIELD SURVEYING WAS NOT PERFORMED TO DETERMINE THIS ZONE. AN ELEVATION CERTIFICATE MAY BE NEEDED TO VERIFY THIS DETERMINATION OR APPLY FOR AN AMENDMENT FROM THE FEDERAL EMERGENCY MANAGEMENT AGENCY. (NAVD 88)



CURVE TABLE						
Curve No.	Radius	Length	Tangent	Ch Brg	Ch Dist.	Delta
C1	560.00'	92.79'	46.50'	S02°45'13"W	92.69'	09°29'38"

SYMBOLS

(THIS IS A STANDARD LEGEND. NOT ALL ITEMS ARE ON THE SURVEY.)

MONUMENT FOUND	SPOT LIGHT	WATER MANHOLE
MONUMENT TO BE SET	PWP POWERPOLE	WV WATER VALVE
BENCHMARK TOPO	GUY WIRE	W WATER METER
(R) RECORD DATA	LIGHT POLE	HYDRANT / FDC
(S) SURVEYED DATA	STREET LIGHT POLE	GAS MANHOLE
R/W RIGHT OF WAY	ELEC. TRANSFORMER	GV GAS VALVE
SBL SET BACK LINE	A/C AIR CONDITIONER	G GAS METER
RCP REINFORCED CONC PIPE	E ELEC. MANHOLE	UG UNDERGROUND GAS MARKER
CMP CORRUGATED METAL PIPE	E ELECTRIC METER	T TELEPHONE MANHOLE
PVC PLASTIC PIPE	C CABLE BOX	PAY PHONE
HDPE HIGH DENSITY POLYETHYLENE PIPE	UC UNDERGROUND CABLE MARKER	T TELEPHONE BOX
CIP CAST IRON PIPE	TS TRAFFIC POLES	UT UNDERGROUND TELEPHONE MARKER
DIP DUCTILE IRON PIPE	TRAFFIC SIGNAL	F.P. FLAG POLE
L/S LANDSCAPING	L TRAFFIC MANHOLE	BOLLARD
DECIDUOUS TREE	T-S TRAFFIC SIGNAL BOX	B.H. BORE HOLE
EVERGREEN TREE	S SEWER MANHOLE	MW MONITORING WELL
U.G. UNDER GROUND	C/O CLEAN OUT	MB MAIL BOX
— C — CABLE TELEVISION LINE	D STORM DRAIN MANHOLE	SIGN
— E — ELECTRICAL LINE	SI STORM INLET	MC METAL TANK COVER
— G — GAS LINE	CURB INLET	A AIR COMPRESSOR
— T — TELEPHONE LINE	SI ROUND STORM INLET	STONE ROW
— W — WATER LINE	U UNKNOWN MANHOLE	
—OH— OVERHEAD ELECTRIC WIRE		

SURVEYOR'S CERTIFICATION

I HEREBY CERTIFY THAT THIS SURVEY HAS BEEN PERFORMED IN THE FIELD UNDER MY SUPERVISION, AND TO THE BEST OF MY KNOWLEDGE, BELIEF, AND INFORMATION, THAT THIS SURVEY HAS BEEN PERFORMED IN ACCORDANCE WITH CURRENTLY ACCEPTED ACCURACY STANDARDS. THAT THE PROPERTY LINES AND RELATIONSHIP OF BUILDINGS AND OTHER STRUCTURES TO THE PROPERTY LINES AND THE LAND INDICATED HEREON IS CORRECT, AND THAT THERE ARE NO ENCROACHMENTS OF BUILDINGS OR STRUCTURES ONTO SAID LAND EXCEPT AS SHOWN.

THE OFFSETS SHOWN ARE NOT TO BE USED FOR THE CONSTRUCTION OF ANY STRUCTURE, FENCE, PERMANENT ADDITION, ETC.

STATE OF CONNECTICUT JACK W. SHOEMAKER No. 70323 LICENSED LAND SURVEYOR

DIGITALLY SIGNED BY:
JACK W. SHOEMAKER
DATE: 02/29/2024

NOT VALID UNTIL SEALED

JACK W. SHOEMAKER DATE

CONNECTICUT PROFESSIONAL LAND SURVEYOR 70323

THIS CERTIFICATION IS MADE TO ONLY NAMED PARTIES FOR PURCHASE AND/OR MORTGAGE OF HEREIN DELINEATED PROPERTY BY THE NAMED PURCHASER. NO RESPONSIBILITY OR LIABILITY IS ASSUMED BY SURVEYOR FOR THE USE OF SURVEY FOR ANY OTHER PURPOSE INCLUDING, BUT NOT LIMITED TO, USE OF SURVEY AFFIDAVIT, RESALE OF PROPERTY, OR TO ANY OTHER PERSON NOT LISTED IN CERTIFICATION, EITHER DIRECTLY OR INDIRECTLY.

TYPE OF SURVEY: BOUNDARY & TOPOGRAPHIC SURVEY

VALLEY LAND SERVICES, LLC
4383 HECKTOWN ROAD
BETHLEHEM, PA 18020
Phone (610) 365-2907 Fax (610) 365-2958
NJ Certificate of Authorization: 24GA28154900

SITE ADDRESS: 11, 15, 21 RIVER ROAD
TOWN OF WILTON
FAIRFIELD COUNTY, CONNECTICUT

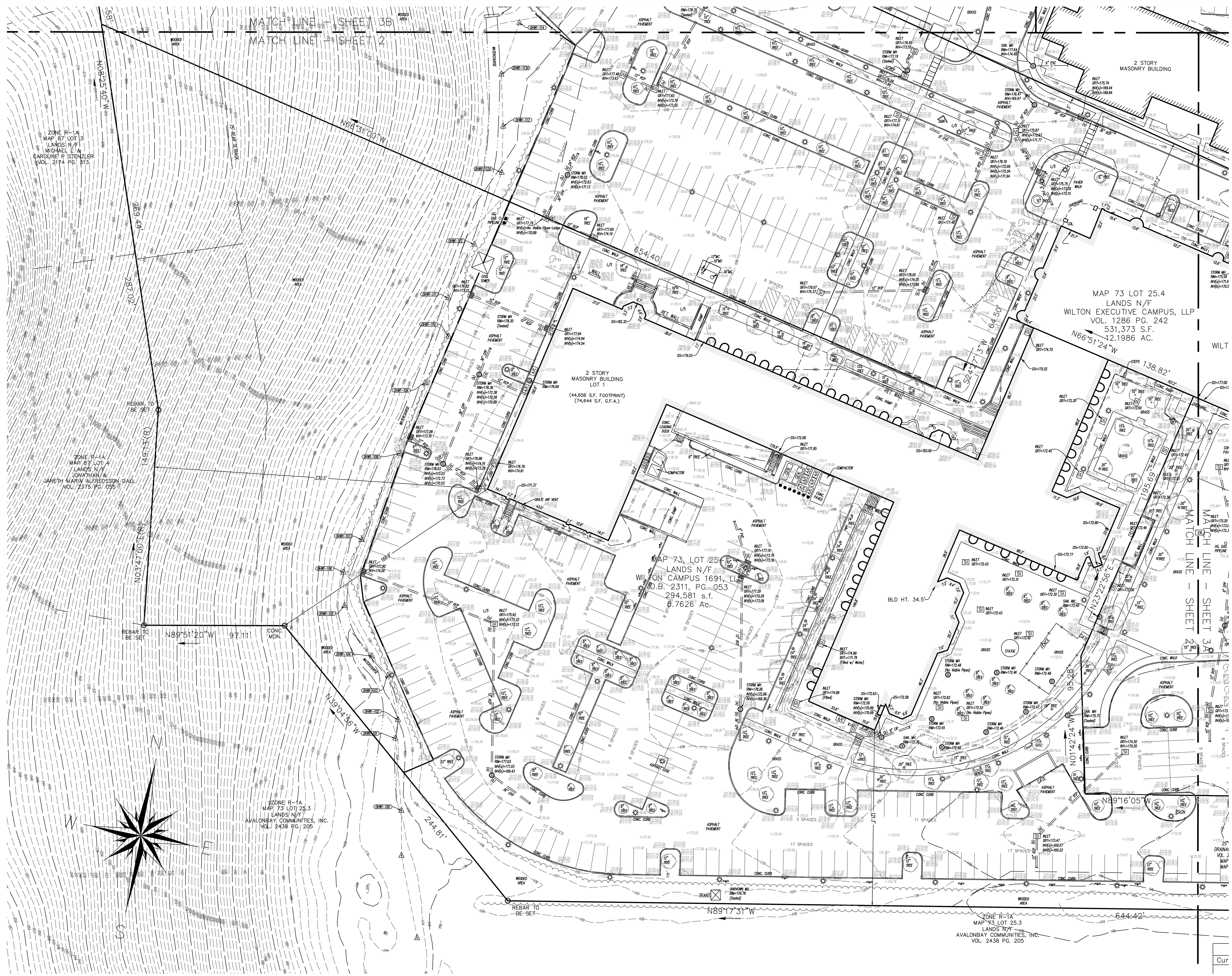
CLIENT: KIMCO REALTY

JOB NO: V220183	DRAWN BY: CVT	APPROVED BY: CCB

DATE: JULY 12, 2022
REVISIONS:

No.	DATE	DESCRIPTION
1	10-04-23	ADDED WETLANDS

0' 50' 100' 150'
SCALE: 1" = 50'



SYMBOLS

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MONUMENT FOUND
MONUMENT TO BE SET
BENCHMARK TOPO
(R) RECORD DATA
(S) SURVEYED DATA
R/W RIGHT OF WAY
SBL SET BACK LINE
RCP REINFORCED CONC PIPE
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HDPE HIGH DENSITY POLYETHYLENE PIPE
CIP CAST IRON PIPE
DIP DUCTILE IRON PIPE
L/S LANDSCAPING
DECIDUOUS TREE
EVERGREEN TREE
U.G. UNDER GROUND
— C — CABLE TELEVISION LINE
— E — ELECTRICAL LINE
— G — GAS LINE
— T — TELEPHONE LINE
— W — WATER LINE
—OH— OVERHEAD ELECTRIC WIRE

SPOT LIGHT
PWP POWERPOLE
GUY WIRE
LIGHT POLE
STREET LIGHT POLE
ELEC. TRANSFORMER
A/C AIR CONDITIONER
E ELEC. MANHOLE
E ELECTRIC METER
C CABLE BOX
UC UNDERGROUND CABLE MARKER
TS TRAFFIC POLES
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L TRAFFIC MANHOLE
T-S TRAFFIC SIGNAL BOX
S SEWER MANHOLE
C/O CLEAN OUT
D STORM DRAIN MANHOLE
SI STORM INLET
CURB INLET
SI ROUND STORM INLET
U UNKNOWN MANHOLE

W WATER MANHOLE
WV WATER VALVE
W WATER METER
HYDRANT / FDC
G GAS MANHOLE
GV GAS VALVE
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F.P. FLAG POLE
BOLLARD
B.H. BORE HOLE
MW MONITORING WELL
MB MAIL BOX
SIGN
MC METAL TANK COVER
A AIR COMPRESSOR
STONE ROW

FLOOD NOTE

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SURVEYOR'S CERTIFICATION

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STATE OF CONNECTICUT JACK W. SHOEMAKER No. 70323 LICENSED LAND SURVEYOR

DIGITALLY SIGNED BY:
JACK W. SHOEMAKER
DATE: 02/29/2024

NOT VALID UNTIL SEALED

JACK W. SHOEMAKER DATE

CONNECTICUT PROFESSIONAL LAND SURVEYOR 70323

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JOB NO: V220183 | DRAWN BY: CVT | APPROVED BY: CCB

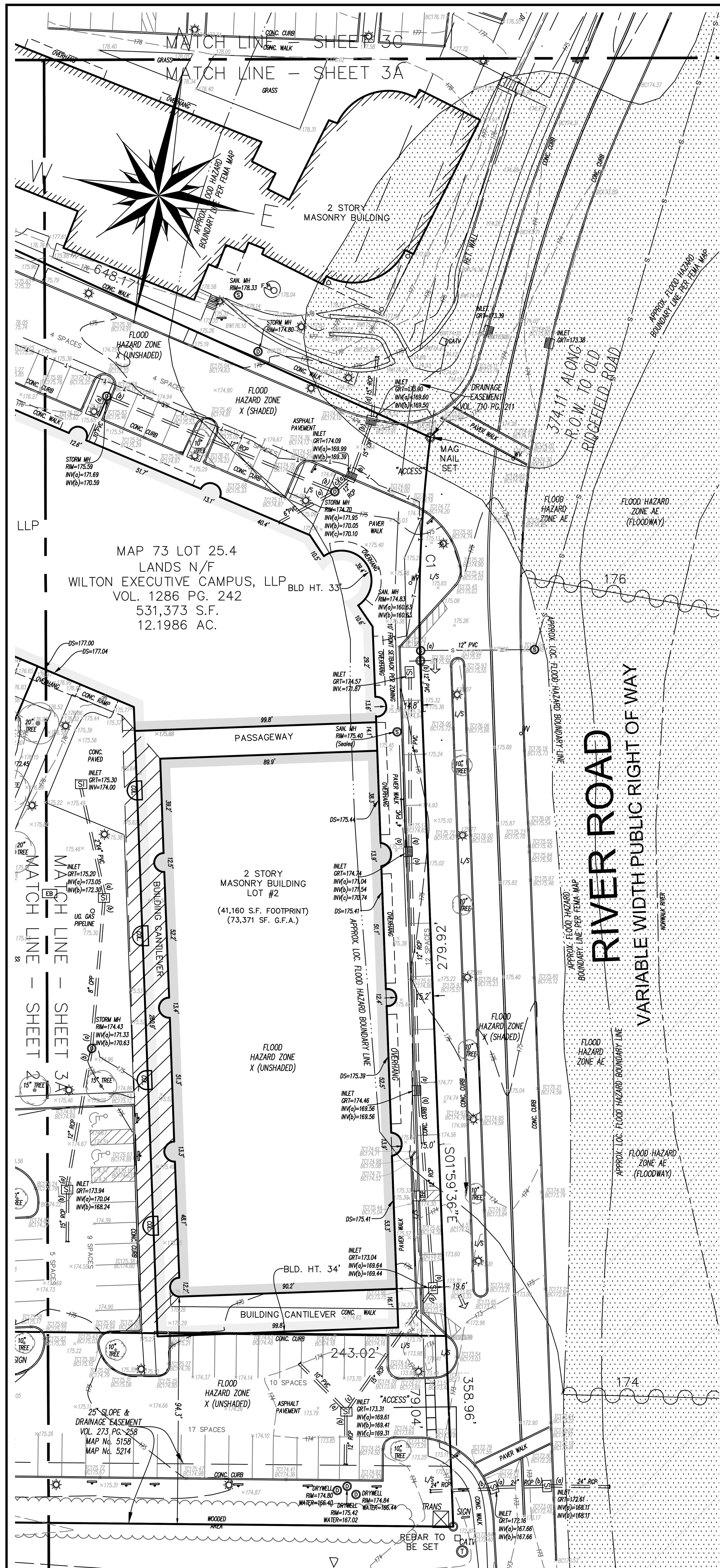
DATE: JULY 12, 2022

REVISIONS:

No.	DATE	DESCRIPTION
1	10-04-23	ADDED WETLANDS

0' 30' 60' 90'

SCALE: 1" = 30'



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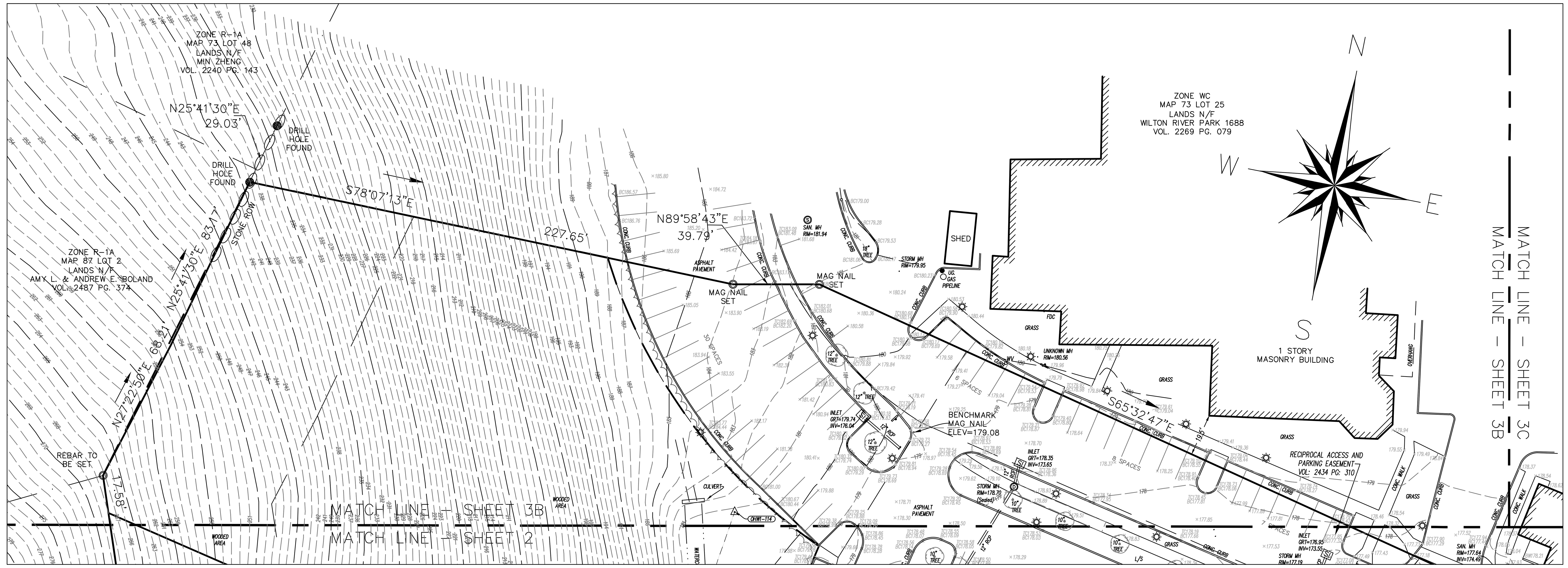

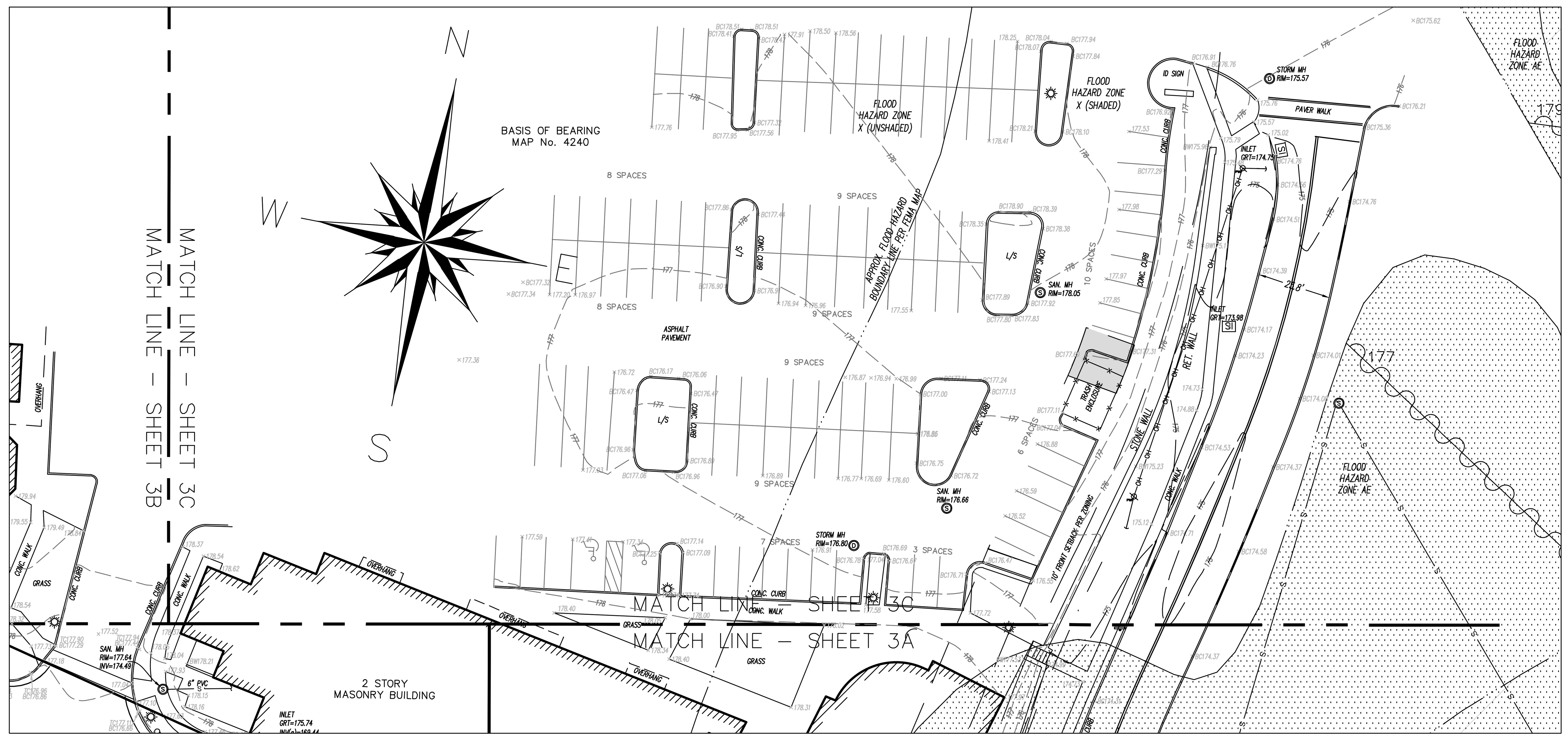

SYMBOLS

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	MONUMENT FOUND		SPOT LIGHT		WATER MANHOLE
	MONUMENT TO BE SET	PWP	POWERPOLE	WV	WATER VALVE
	BENCHMARK TOPO		GUY WIRE	W	WATER METER
(R)	RECORD DATA		LIGHT POLE		HYDRANT / FDC
(S)	SURVEYED DATA		STREET LIGHT POLE	G	GAS MANHOLE
R/W	RIGHT OF WAY		ELEC. TRANSFORMER	GV	GAS VALVE
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	DECIDUOUS TREE	T-S	TRAFFIC SIGNAL BOX	B.H.	BORE HOLE
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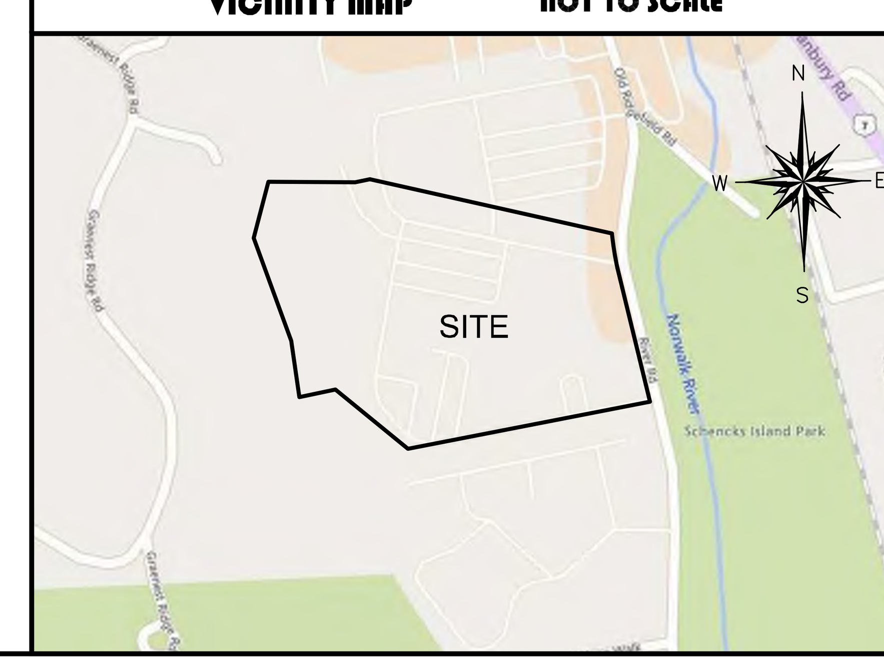
VICINITY MAP NOT TO SCALE



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STATE OF CONNECTICUT · JACK W. SHOEMAKER · No. 70323 · LICENSED LAND SURVEYOR

DIGITALLY SIGNED BY:
JACK W. SHOEMAKER
DATE: 02/29/2024

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JACK W. SHOEMAKER DATE

CONNECTICUT PROFESSIONAL LAND SURVEYOR 70323

THIS CERTIFICATION IS MADE TO ONLY NAMED PARTIES FOR PURCHASE AND/OR MORTGAGE OF HEREIN DELINEATED PROPERTY BY THE NAMED PURCHASER. NO RESPONSIBILITY OR LIABILITY IS ASSUMED BY SURVEYOR FOR THE USE OF SURVEY FOR ANY OTHER PURPOSE INCLUDING, BUT NOT LIMITED TO, USE OF SURVEY AFFIDAVIT, RESALE OF PROPERTY, OR TO ANY OTHER PERSON NOT LISTED IN CERTIFICATION, EITHER DIRECTLY OR INDIRECTLY.

TYPE OF SURVEY: BOUNDARY & TOPOGRAPHIC SURVEY

VALLEY LAND SERVICES, LLC
VALLEY LAND SERVICES, LLC
4383 HECKTOWN ROAD
BETHLEHEM, PA 18020
Phone (610) 365–2907 Fax (610) 365–2958
NJ Certificate of Authorization: 24GA28154900

SITE ADDRESS: 11, 15, 21 RIVER ROAD
TOWN OF WILTON
FAIRFIELD COUNTY, CONNECTICUT

CLIENT: KIMCO REALTY

JOB NO: V220183 | DRAWN BY: CVT | APPROVED BY: CCB

DATE: JULY 12, 2022

REVISIONS:

No.	DATE	DESCRIPTION
1	10-04-23	ADDED WETLANDS

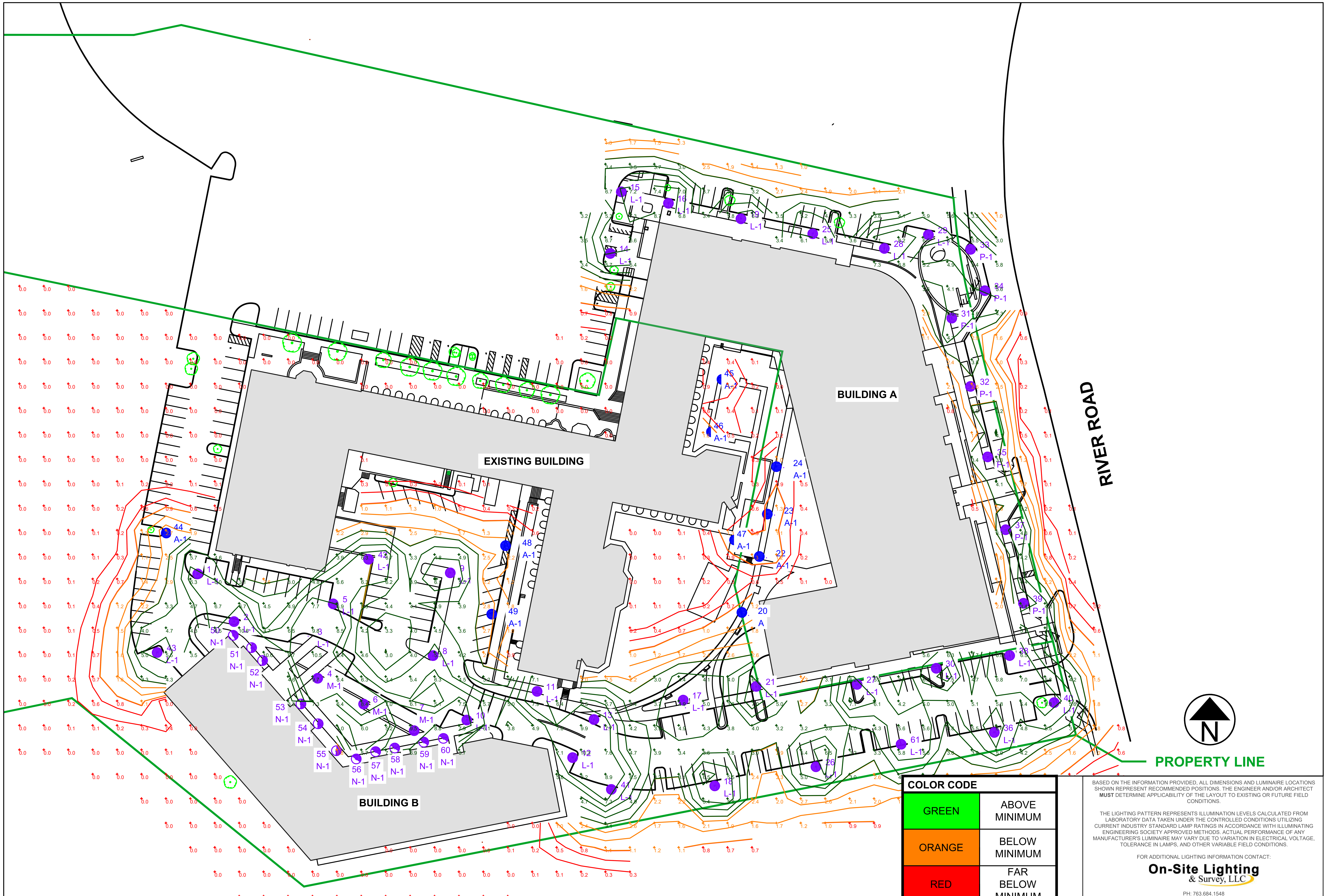
0' 30' 60' 90'
SCALE: 1" = 30'

SHEET 3 OF 3

3

WILTON CAMPUS PROPOSED PHOTOMETRIC PLAN

SCALE: NTS



COLOR CODE	
GREEN	ABOVE MINIMUM
ORANGE	BELOW MINIMUM
RED	FAR BELOW MINIMUM

BASED ON THE INFORMATION PROVIDED, ALL DIMENSIONS AND LUMINAIRE LOCATIONS SHOWN REPRESENT RECOMMENDED POSITIONS. THE ENGINEER AND/OR ARCHITECT **MUST** DETERMINE APPLICABILITY OF THE LAYOUT TO EXISTING OR FUTURE FIELD CONDITIONS.

THE LIGHTING PATTERN REPRESENTS ILLUMINATION LEVELS CALCULATED FROM LABORATORY DATA TAKEN UNDER THE CONTROLLED CONDITIONS UTILIZING CURRENT INDUSTRY STANDARD LAMP RATINGS IN ACCORDANCE WITH ILLUMINATING ENGINEERING SOCIETY APPROVED METHODS. ACTUAL PERFORMANCE OF ANY MANUFACTURER'S LUMINAIRE MAY VARY DUE TO VARIATION IN ELECTRICAL VOLTAGE, TOLERANCE IN LAMPS, AND OTHER VARIABLE FIELD CONDITIONS.

FOR ADDITIONAL LIGHTING INFORMATION CONTACT:

On-Site Lighting & Survey, LLC

PH: 763.684.1548

On-Site Lighting & Survey, LLC

COMPANY INFO

1111 HIGHWAY 25 NORTH
SUITE 201
BUFFALO MN 55313

PH:763.684.1548
FAX:763.682.9048

KIMCO REALTY

PROJECT INFO

WILTON CAMPUS

15 RIVER ROAD
WILTON, CT 06897

ENGINEER INFO

ENGINEER SEAL

REVISIONS

#	DATE	INIT	DESCRIPTION
1	04.08.2024	DMW	ADDED BOLLARDS, POLE LOCATIONS
2	04.16.2024	DMW	SPECIFICATION CHANGE

SHEET DESCRIPTION: PROPOSED PHOTOMETRIC PLAN

PROJECT #: 116910

04.04.2024

DESIGN LEVEL: 3

AGI: D.M.WARZECKA

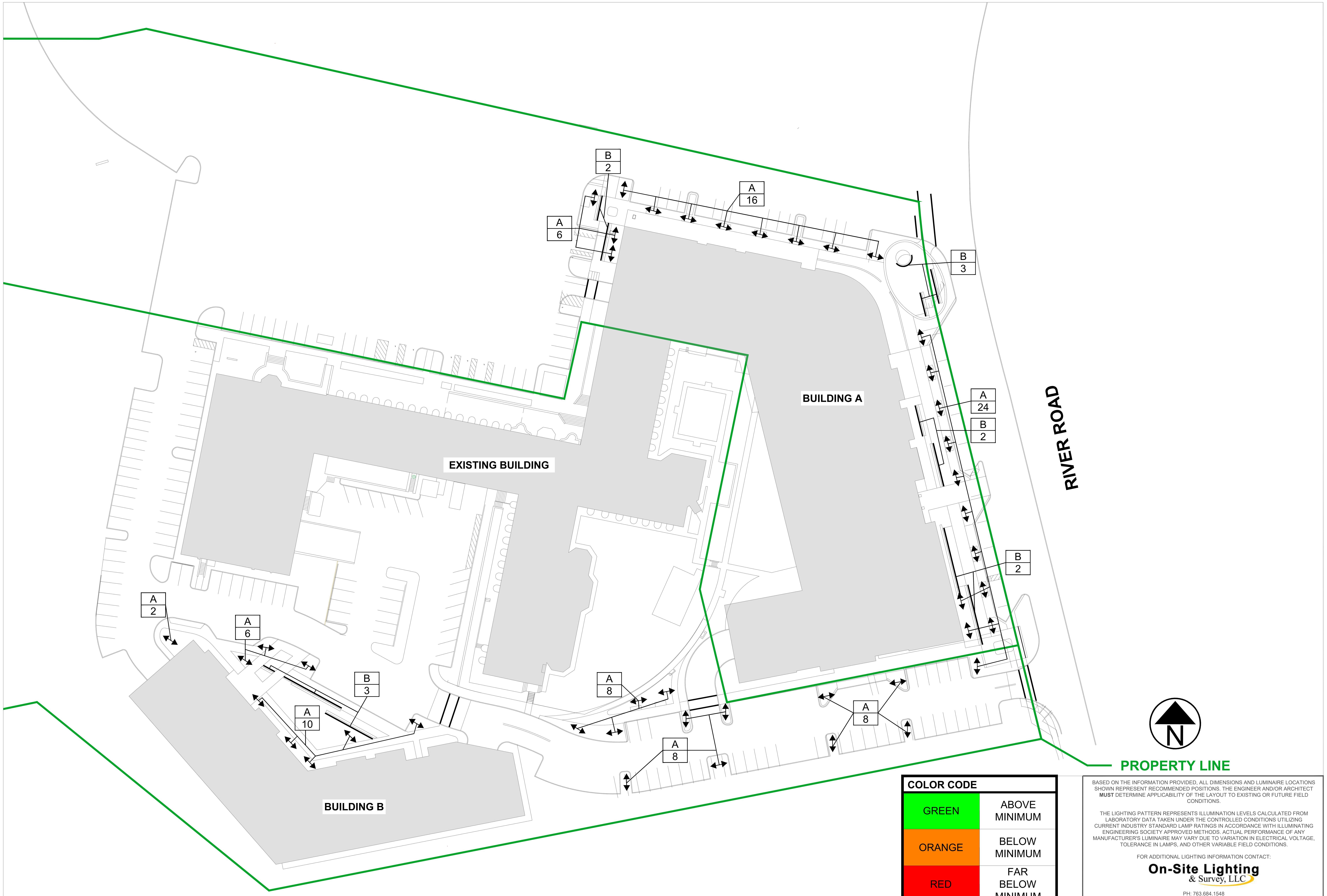
CAD: D.M.WARZECKA

SHEET #: SL200

REV #: 2

WILTON CAMPUS PROPOSED LANDSCAPE LIGHTING PLAN

SCALE: NTS



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FOR ADDITIONAL LIGHTING INFORMATION CONTACT:

On-Site Lighting
& Survey, LLC

PH: 763.684.1548

On-Site Lighting
& Survey, LLC

COMPANY INFO

1111 HIGHWAY 25 NORTH
SUITE 201
BUFFALO MN 55313

PH:763.684.1548
FAX:763.682.9048

KIMCO REALTY

PROJECT INFO

WILTON CAMPUS

15 RIVER ROAD
WILTON, CT 06897

ENGINEER INFO

ENGINEER SEAL

REVISIONS

#	DATE	INIT	DESCRIPTION
1	04.08.2024	DMW	ADDED BOLLARDS, POLE LOCATIONS
2	04.16.2024	DMW	SPECIFICATION CHANGE

SHEET DESCRIPTION: PROPOSED LANDSCAPE LIGHTING PLAN

PROJECT #: 116910

04.04.2024

DESIGN LEVEL: 3

AGI: D.M.WARZECKA

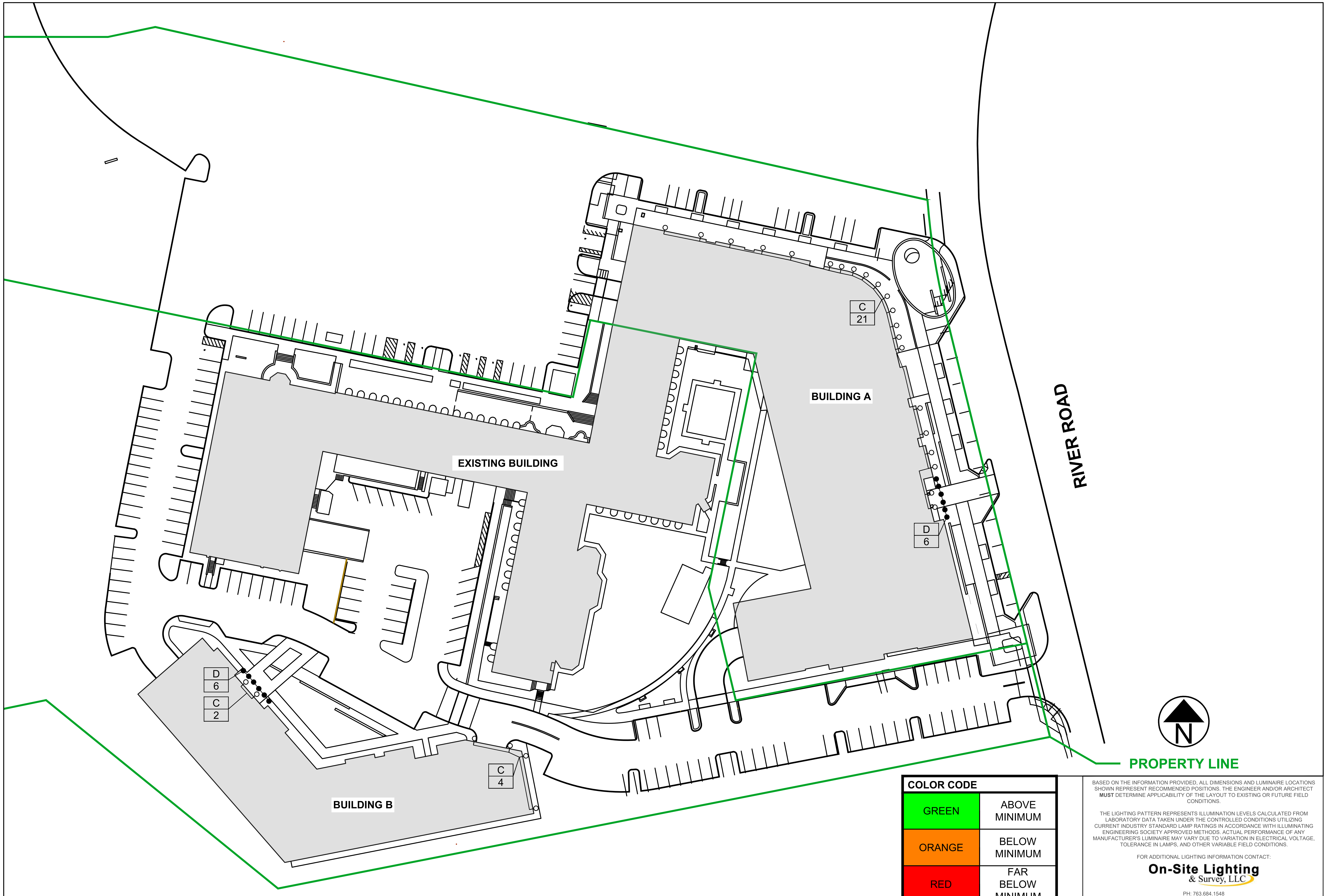
CAD: D.M.WARZECKA

SHEET#: SL201

REV #: 2

WILTON CAMPUS PROPOSED BUILDING MOUNTS LEVEL 1

SCALE: NTS



COLOR CODE	
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FOR ADDITIONAL LIGHTING INFORMATION CONTACT:

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PH: 763.684.1548

On-Site Lighting & Survey, LLC

COMPANY INFO

1111 HIGHWAY 25 NORTH
SUITE 201
BUFFALO MN 55313

PH:763.684.1548
FAX:763.682.9048

KIMCO REALTY

PROJECT INFO

WILTON CAMPUS

15 RIVER ROAD
WILTON, CT 06897

ENGINEER INFO

ENGINEER SEAL

REVISIONS

#	DATE	INIT	DESCRIPTION
1	04.08.2024	DMW	ADDED BOLLARDS, POLE LOCATIONS
2	04.16.2024	DMW	SPECIFICATION CHANGE

SHEET DESCRIPTION: PROPOSED BUILDING MOUNT PLAN

PROJECT #: 116910

04.04.2024

DESIGN LEVEL: 3

AGI: D.M.WARZECKA

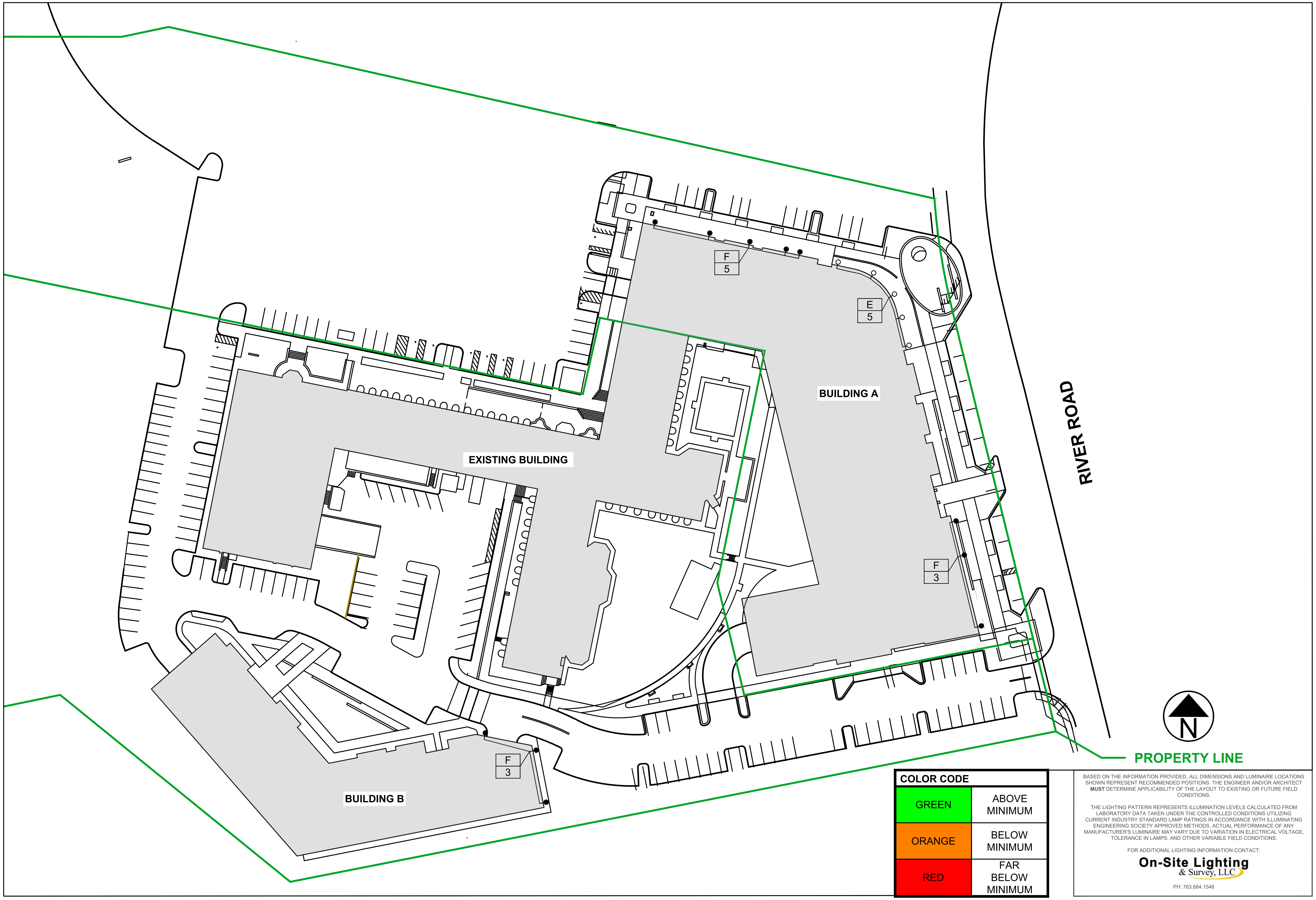
CAD: D.M.WARZECKA

SHEET #: SL202

REV #: 2

WILTON CAMPUS PROPOSED BUILDING MOUNTS LEVEL 2

SCALE: NTS



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KIMCO REALTY

PROJECT INFO

WILTON CAMPUS

15 RIVER ROAD
WILTON, CT 06897

ENGINEER INFO

ENGINEER SEAL

REVISIONS

#	DATE	INIT	DESCRIPTION
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2	04.16.2024	DMW	SPECIFICATION CHANGE

SHEET DESCRIPTION

PROPOSED BUILDING MOUNT PLAN

PROJECT #: 116910

04.04.2024

DESIGN LEVEL: 3

AGI: D.M.WARZECKA

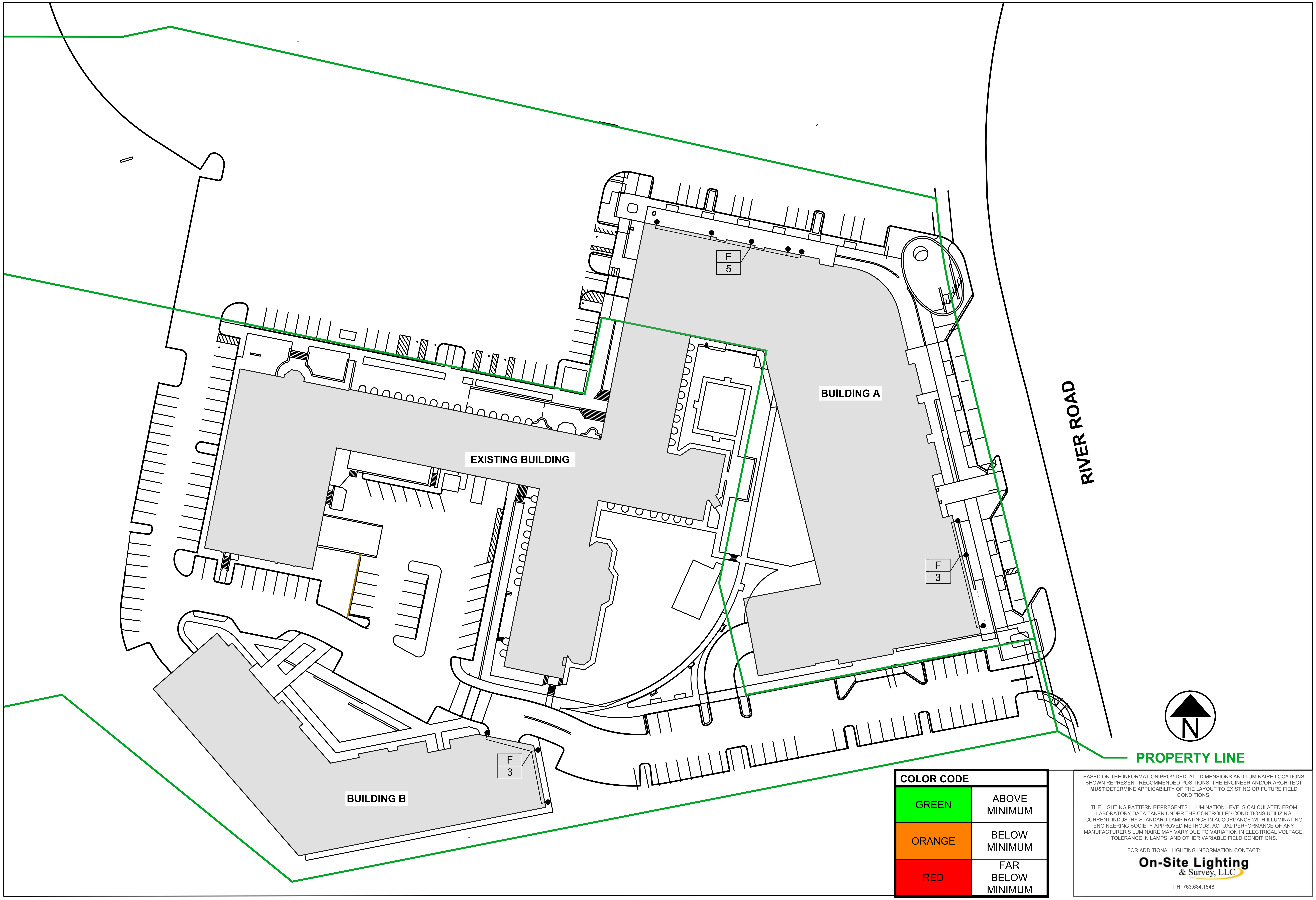
CAD: D.M.WARZECKA

SHEET#: SL203

REV #: 2

WILTON CAMPUS PROPOSED BUILDING MOUNTS LEVEL 3

SCALE: NTS



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FAX:763.682.9048

KIMCO REALTY

PROJECT INFO

WILTON CAMPUS

15 RIVER ROAD
WILTON, CT 06897

ENGINEER INFO

ENGINEER SEAL

REVISIONS

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2	04.16.2024	DMW	SPECIFICATION CHANGE

SHEET DESCRIPTION: PROPOSED BUILDING MOUNT PLAN

PROJECT #: 116910

04.04.2024

DESIGN LEVEL: 3

AGI: D.M.WARZECKA

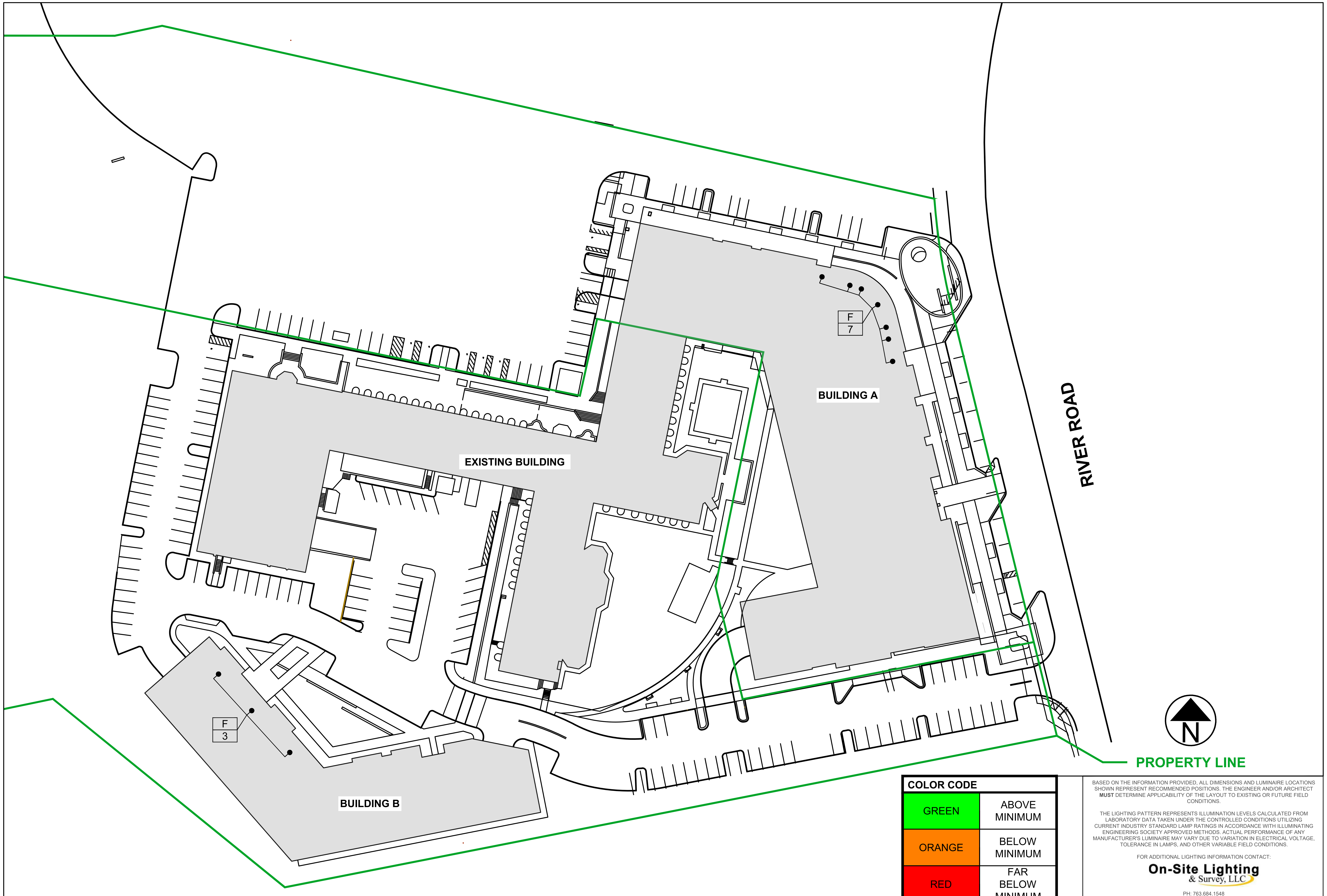
CAD: D.M.WARZECKA

SHEET#: SL204

REV #: 2

WILTON CAMPUS PROPOSED BUILDING MOUNTS LEVEL 4

SCALE: NTS



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BUFFALO MN 55313

PH:763.684.1548
FAX:763.682.9048

KIMCO REALTY

PROJECT INFO

WILTON CAMPUS

15 RIVER ROAD
WILTON, CT 06897

ENGINEER INFO

ENGINEER SEAL

REVISIONS

#	DATE	INIT	DESCRIPTION
1	04.08.2024	DMW	ADDED BOLLARDS, POLE LOCATIONS
2	04.16.2024	DMW	SPECIFICATION CHANGE

SHEET DESCRIPTION

PROPOSED BUILDING MOUNT PLAN

PROJECT #: 116910

04.04.2024

DESIGN LEVEL: 3

AGI: D.M.WARZECKA

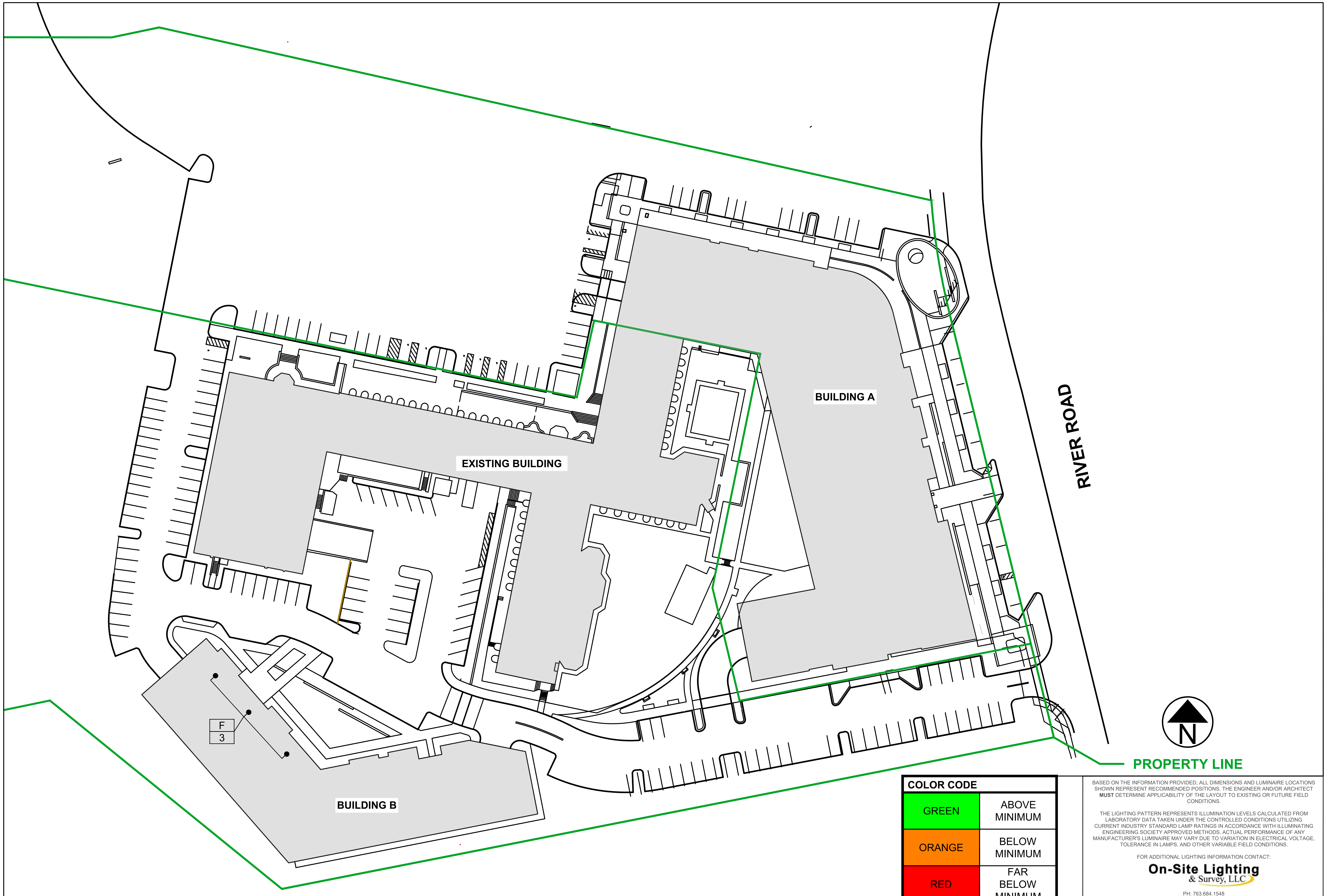
CAD: D.M.WARZECKA

SHEET #: SL205

REV #: 2

WILTON CAMPUS PROPOSED BUILDING MOUNTS LEVEL 5

SCALE: NTS



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SUITE 201
BUFFALO MN 55313

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FAX:763.682.9048

KIMCO REALTY

PROJECT INFO

WILTON CAMPUS

15 RIVER ROAD
WILTON, CT 06897

ENGINEER INFO

ENGINEER SEAL

REVISIONS

#	DATE	INIT	DESCRIPTION
1	04.08.2024	DMW	ADDED BOLLARDS, POLE LOCATIONS
2	04.16.2024	DMW	SPECIFICATION CHANGE

SHEET DESCRIPTION

PROPOSED BUILDING MOUNT PLAN

PROJECT #: 116910

04.04.2024

DESIGN LEVEL: 3

AGI: D.M.WARZECKA

CAD: D.M.WARZECKA

SHEET #: SL206

REV #: 2

WILTON CAMPUS PROPOSED SCHEDULES

BUILDING MOUNT SCHEDULE PROPOSED

QTY	LABEL	MANUFACTURER	CATALOG NUMBER/ DESCRIPTION
88	A	COOPER LIGHTING	TCRS5S-BK
12	B	BL LIGHTING	BL flexFORM D1-4000k-IP68-2811
27	C	CONTECH LIGHTING	CYL6340K-X-WXPL-B
12	D	GREEN CREATIVE	LES9040-X-MD-WET-BL
5	E	CONTECH LIGHTING	CYL8240K-X-UDXWW-B
35	F	CONTECH LIGHTING	CY3T140K-X-AWXS-B

LUMINAIRE SCHEDULE

Symbol	Qty	Label	Arrangement	LLF	Description	BUG Rating
	10	A-1	SINGLE	0.600	EXISTING 100W MH T-5 20'-0 MTG HT	B1-U3-G1
	30	L-1	SINGLE	0.900	NEW BASE, POLE, & AREA FIXT 191W LED T5W 20'-0 MTG HT (4000K/25984 LUMENS) LSI MPP-LED-25L-SIL-5W-40-70CRI	B5-U4-G3
	3	M-1	SINGLE	0.900	NEW BASE, POLE, & AREA FIXT 149W LED T5W 20'-0 MTG HT (4000K/10685 LUMENS) LSI MPP-LED-20L-SIL-5W-40-70CRI	B4-U4-G3
	11	N-1	SINGLE	0.900	NEW LOCATION BOLLARD 29W LED 3'-8 MTG HT (4000K/2320 LUMENS) LSI MRB-LED-30L-ACR-A-40	B1-U2-G1
	7	P-1	SINGLE	0.900	NEW BASE, POLE, & AREA FIXT 67W LED T2 20'-0 MTG HT (4000K/10685 LUMENS) LSI MPP-LED-10L-SIL-2-40-70CRI	B2-U3-G2

CALCULATION SUMMARY

Label	Avg	Max	Min	Avg/Min	Max/Min	# Pts	%PtsRange
SITE AT GRADE	1.97	10.6	0.0	N.A.	N.A.	880	N.A.
BUILDING A PARKING	3.60	8.2	0.5	7.20	16.40	28	67.9
MAIN PARKING	4.99	10.3	2.2	2.27	4.68	93	92.5

LPD AREA SUMMARY

Label	Area	Total Watts	LPD	Perimeter
SITE	362349	6607	0.018	2912

COLOR CODE

GREEN	ABOVE MINIMUM
ORANGE	BELOW MINIMUM
RED	FAR BELOW MINIMUM

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FOR ADDITIONAL LIGHTING INFORMATION CONTACT:

On-Site Lighting & Survey, LLC

PH: 763.684.1548

On-Site Lighting & Survey, LLC

COMPANY INFO

1111 HIGHWAY 25 NORTH
SUITE 201
BUFFALO MN 55313

PH:763.684.1548
FAX:763.682.9048

KIMCO REALTY

PROJECT INFO

WILTON CAMPUS

15 RIVER ROAD
WILTON, CT 06897

ENGINEER INFO

ENGINEER SEAL

REVISIONS

#	DATE	INIT	DESCRIPTION
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SHEET DESCRIPTION: PROPOSED SCHEDULES

PROJECT #: 116910

04.04.2024

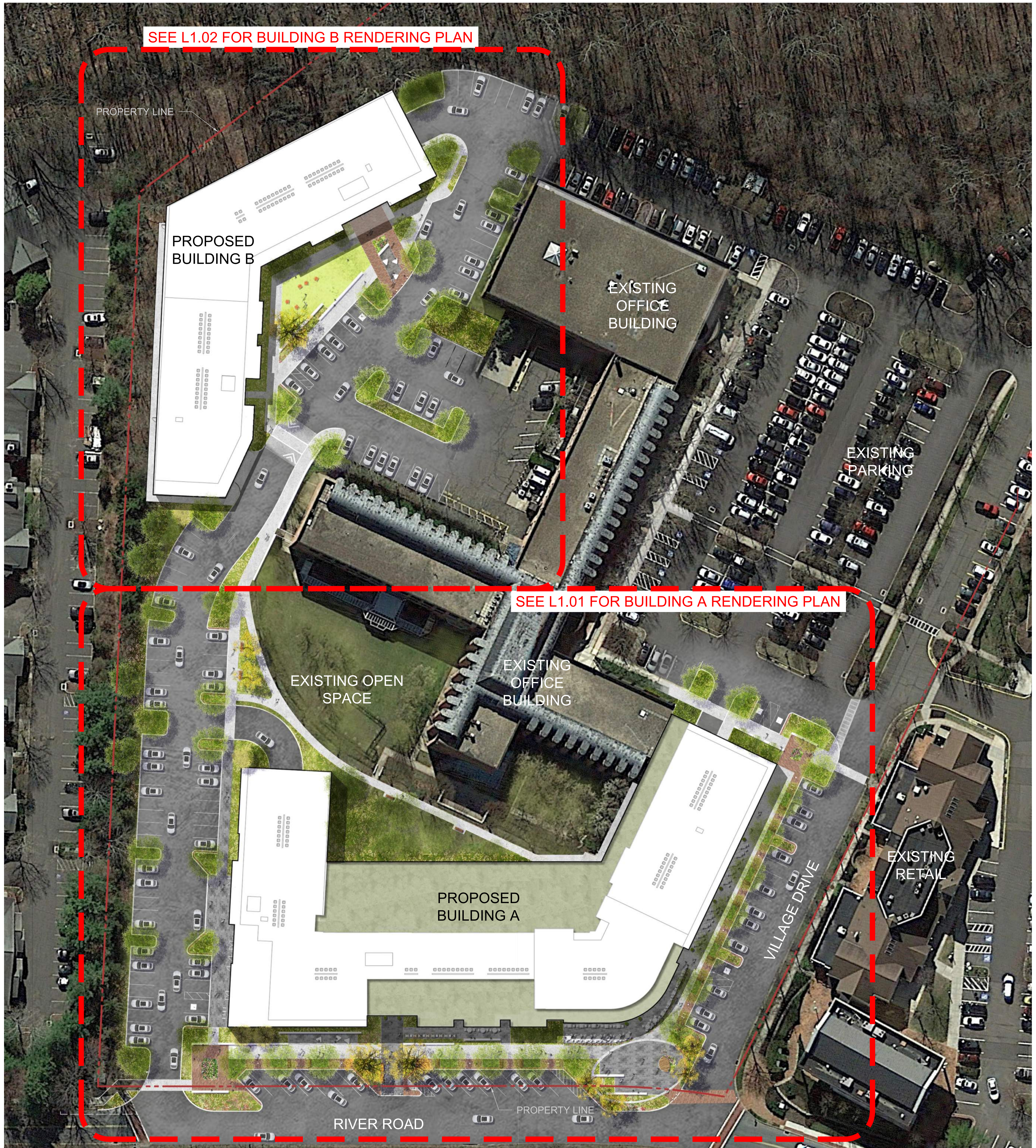
DESIGN LEVEL: 3

AGI: D.M.WARZECKA

CAD: D.M.WARZECKA

SHEET#: SL207

REV #: 2



1 OVERALL SITE RENDERING

1"=40'-0"

0 20' 40' 80'

N

MAHAN RYKIEL
ASSOCIATES INC
Whitehall Mill 3300 Clipper Mill Road
Suite 200 Baltimore, MD 21211 410.235.6001

Wilton Campus 1691

5-21 River Road, Wilton, CT

Client
WILTON CAMPUS 1691, LLC
15 River Road, Suite 15
Wilton, CT 06897

Architect
CUBE3
56 High Street
North Andover, MA 01845

Civil Engineer
VHB
1775 Greensboro Station Pl Ste 200
McLean, VA 22102

SEAL

ISSUED FOR		DATE
1	VDDAC SUBMISSION	03/28/2024
2	LOCAL APPROVALS	04/23/2024

PROJECT NO. 23018

SCALE : As Shown

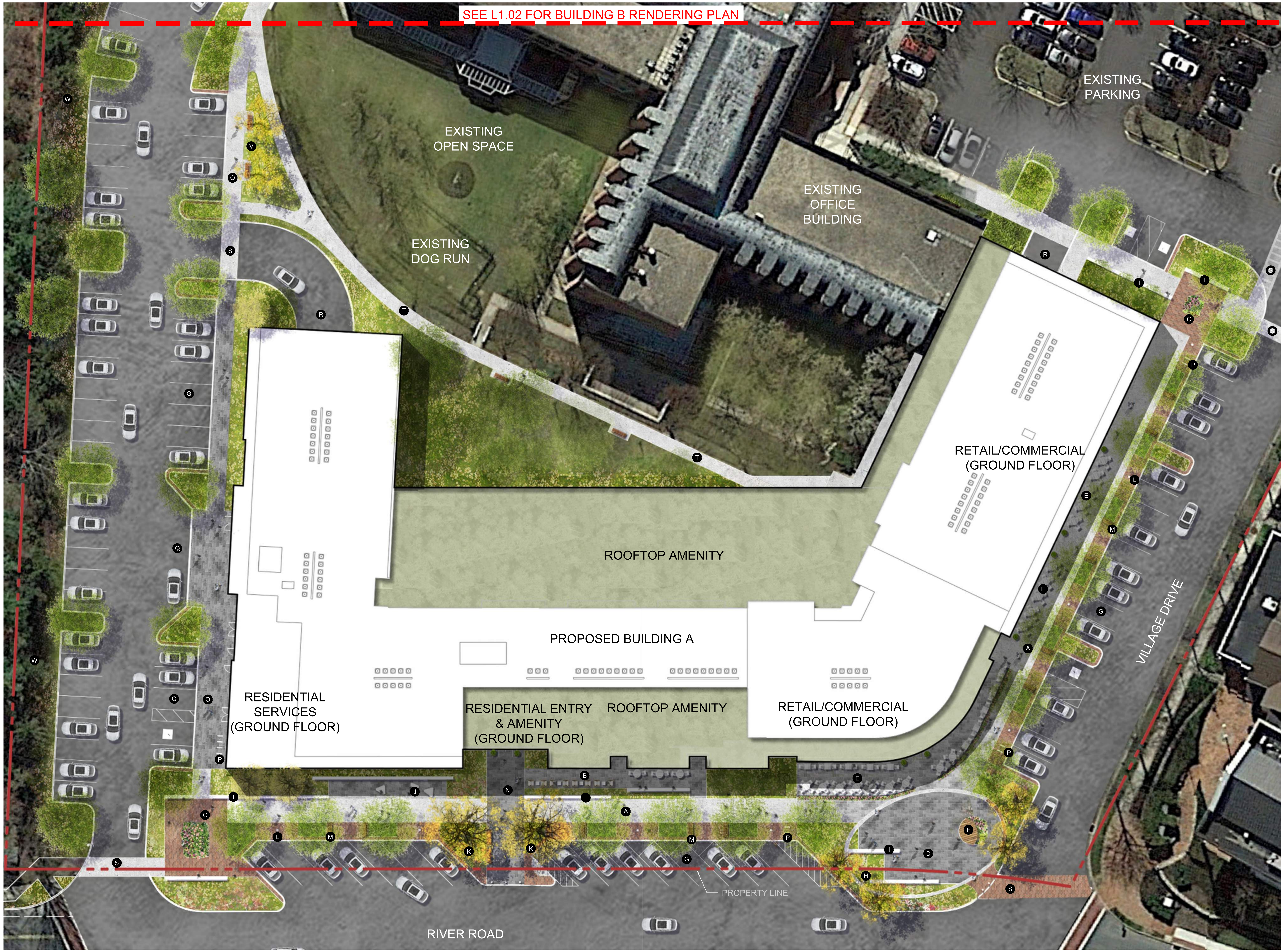
DRAWN BY : SW

REVIEWED BY : MR

L1.00

Overall Site Rendering

NOT FOR CONSTRUCTION



LEGEND

- A EXPANDED STREETSCAPE WITH TREES, SEATING AND AMENITIES
- B RESIDENTIAL AMENITY SPACES (PRIVATE)
- C GATEWAY COMMUNITY SPACE WITH FOCAL FEATURE & SEAT WALLS
- D PLAZA/EVENT SPACE
- E POTENTIAL OUTDOOR DINING AREAS
- F BENCH/STAGE FEATURE
- G PUBLIC PARKING
- H PLAZA ACCENT AREA
- I LINEAR SEAT WALLS/FEATURES
- J FOCAL POINT SEATING ELEMENTS
- K RIVER ROAD STREETSCAPE PLANTING
- L STREET LIGHTS (SEE LIGHTING)
- M BENCHES/CONVERSATION AREAS
- N RESIDENTIAL LOBBY ARRIVAL
- O OPEN SPACE WALK/CONNECTION TO BUILDING B
- P BIKE RACKS
- Q SERVICE/DROP-OFF AREA
- R PARKING ENTRY
- S CROSSWALK
- T OPEN SPACE WALK
- U LANDSCAPE AREA
- V PROPOSED BENCHES
- W EXISTING LANDSCAPE BUFFER TO REMAIN

1 BUILDING A RENDERING ENLARGEMENT PLAN - GROUNDFLOOR
1"=20'-0"

0 10' 20' 40'

KEY PLAN
N.T.S.

MAHAN RYKIEL
ASSOCIATES INC
Whitehall Mill 3300 Clipper Mill Road
Suite 200 Baltimore, MD 21211 410.235.6001

Wilton Campus 1691
5-21 River Road, Wilton, CT

Client
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15 River Road, Suite 15
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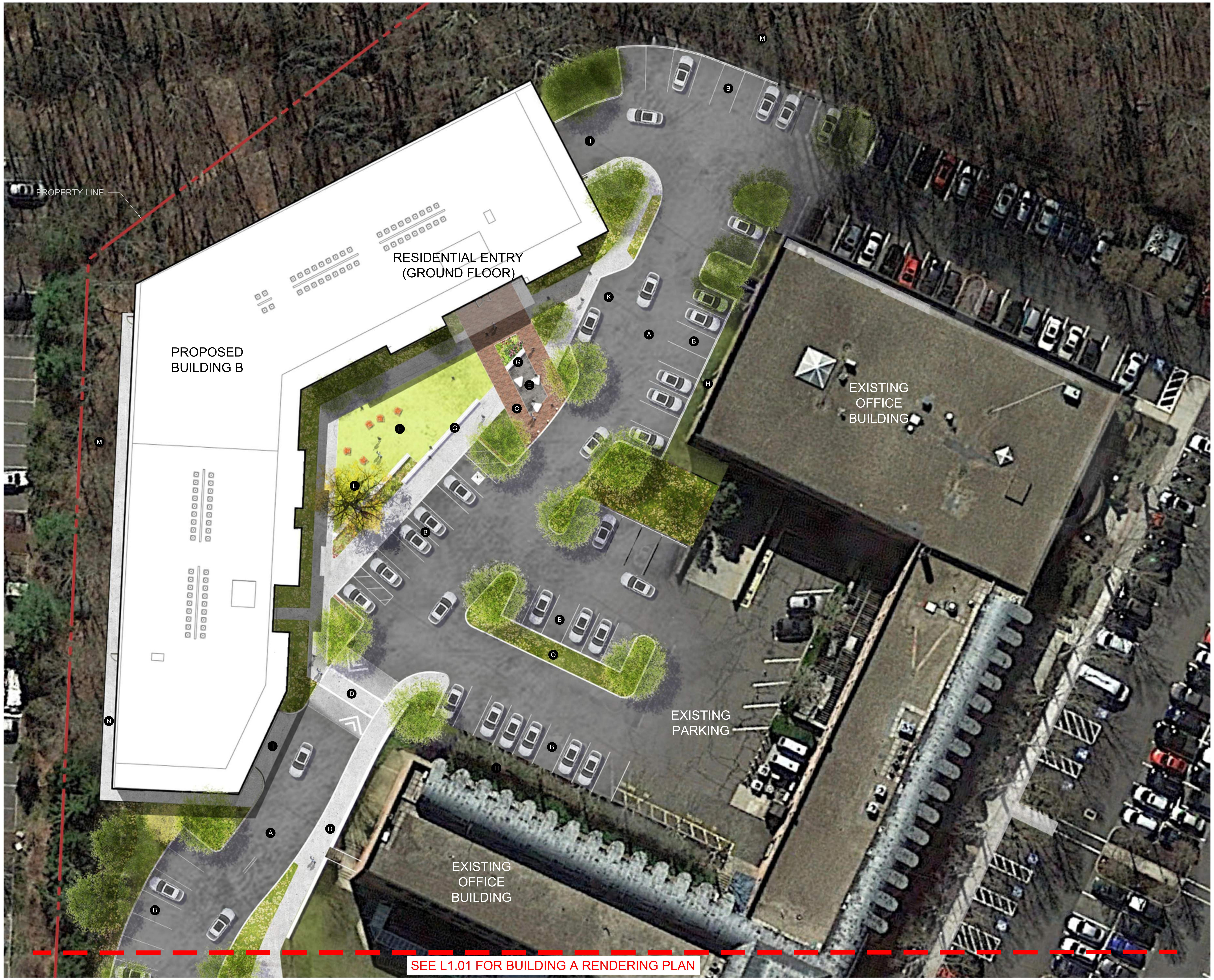
ISSUED FOR		DATE
1	VDDAC SUBMISSION	03/28/2024
2	LOCAL APPROVALS	04/23/2024

PROJECT NO. 23018
SCALE : As Shown
DRAWN BY : SW
REVIEWED BY : MR

L1.01
Building A Rendering Plan

NOT FOR CONSTRUCTION

MAHAN RYKIEL
ASSOCIATES INC
Whitehall Mill 3300 Clipper Mill Road
Suite 200 Baltimore, MD 21211 410.235.6001

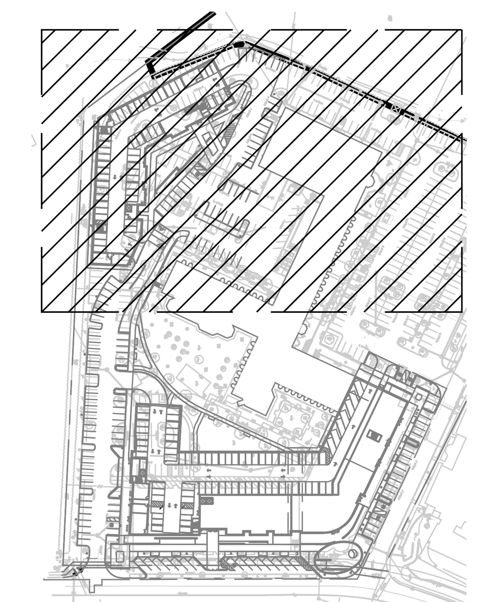


1 BUILDING B RENDERING ENLARGEMENT PLAN - GROUNDFLOOR
1"=20'-0"

0 10' 20' 40'

LEGEND

- A REALIGNED SITE DRIVEWAY
- B PROPOSED/REALIGNED PARKING
- C RESIDENTIAL ARRIVAL PLAZA
- D OPEN SPACE WALKWAY/CROSSWALK TO RIVER ROAD
- E SEATING ELEMENTS
- F LAWN AREA
- G LINEAR SEAT WALLS/FEATURES
- H EXISTING LANDSCAPE AREA
- I PARKING ENTRY
- J FOCAL POINT TREE
- K DELIVERY DROP-OFF ZONE
- L RAISED CROSSWALK
- M EXISTING LANDSCAPE BUFFER TO REMAIN
- N EGRESS PATHWAY
- O RAIN GARDEN



KEY PLAN
N.T.S.

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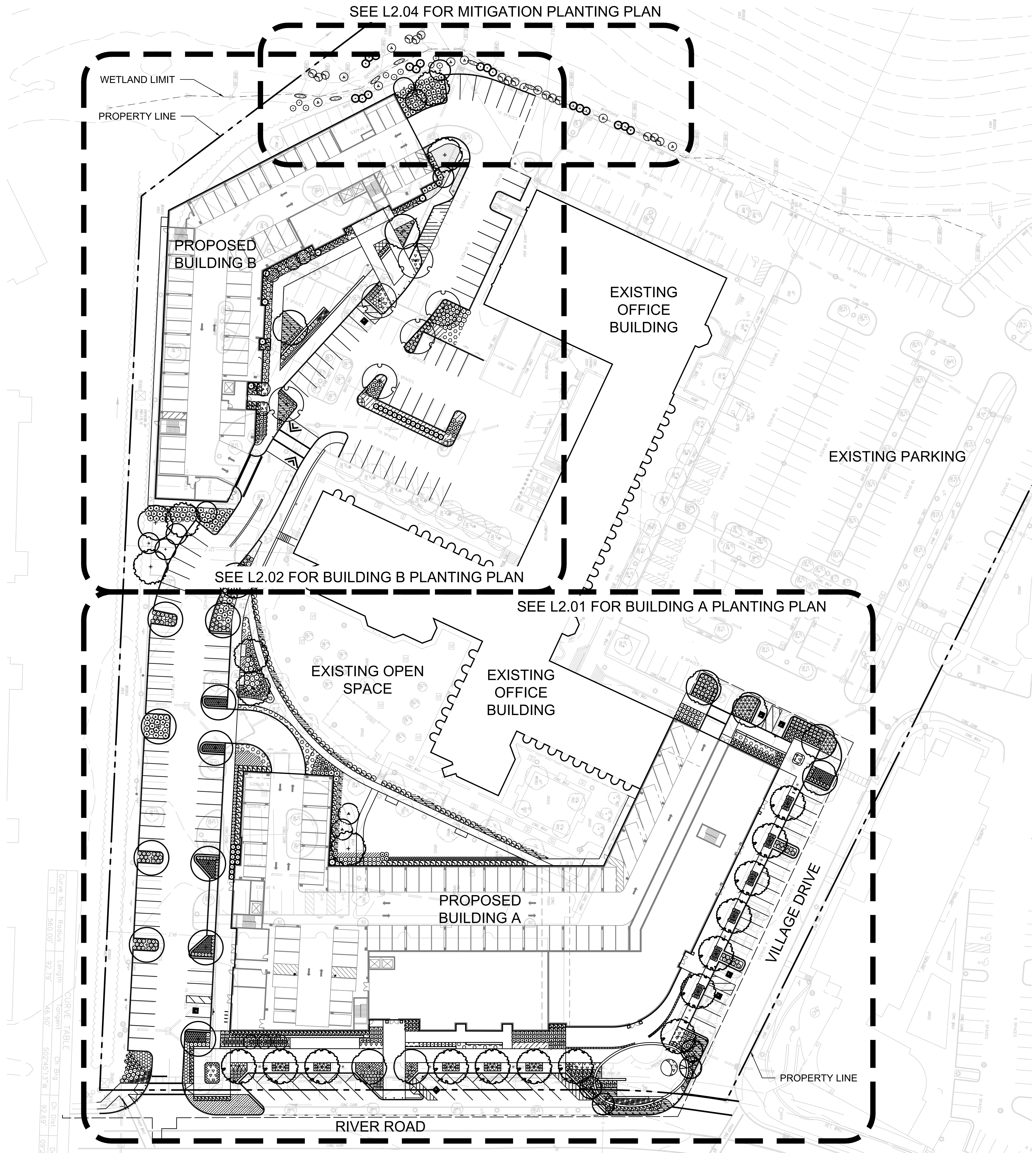
PROJECT NO. 23018
SCALE : As Shown
DRAWN BY : SW
REVIEWED BY : MR

L1.02
Building B Rendering Plan

NOT FOR CONSTRUCTION



1 OVERALL PLANTING PLAN

1"=40'-0"

0 20' 40' 80'

N

MAHAN **RYKIEL**
ASSOCIATES INC
Whitehall Mill 3300 Clipper Mill Road
Suite 200 Baltimore, MD 21211 410.235.6001

Wilton Campus 1691
5-21 River Road, Wilton, CT

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15 River Road, Suite 15
Wilton, CT 06897

Architect
CUBE3
56 High Street
North Andover, MA 01845

Civil Engineer
VHB
1775 Greensboro Station Pl Ste 200
McLean, VA 22102

SEAL

ISSUED FOR		DATE
1	VDDAC SUBMISSION	03/28/2024
2	LOCAL APPROVALS	04/23/2024

PROJECT NO. 23018

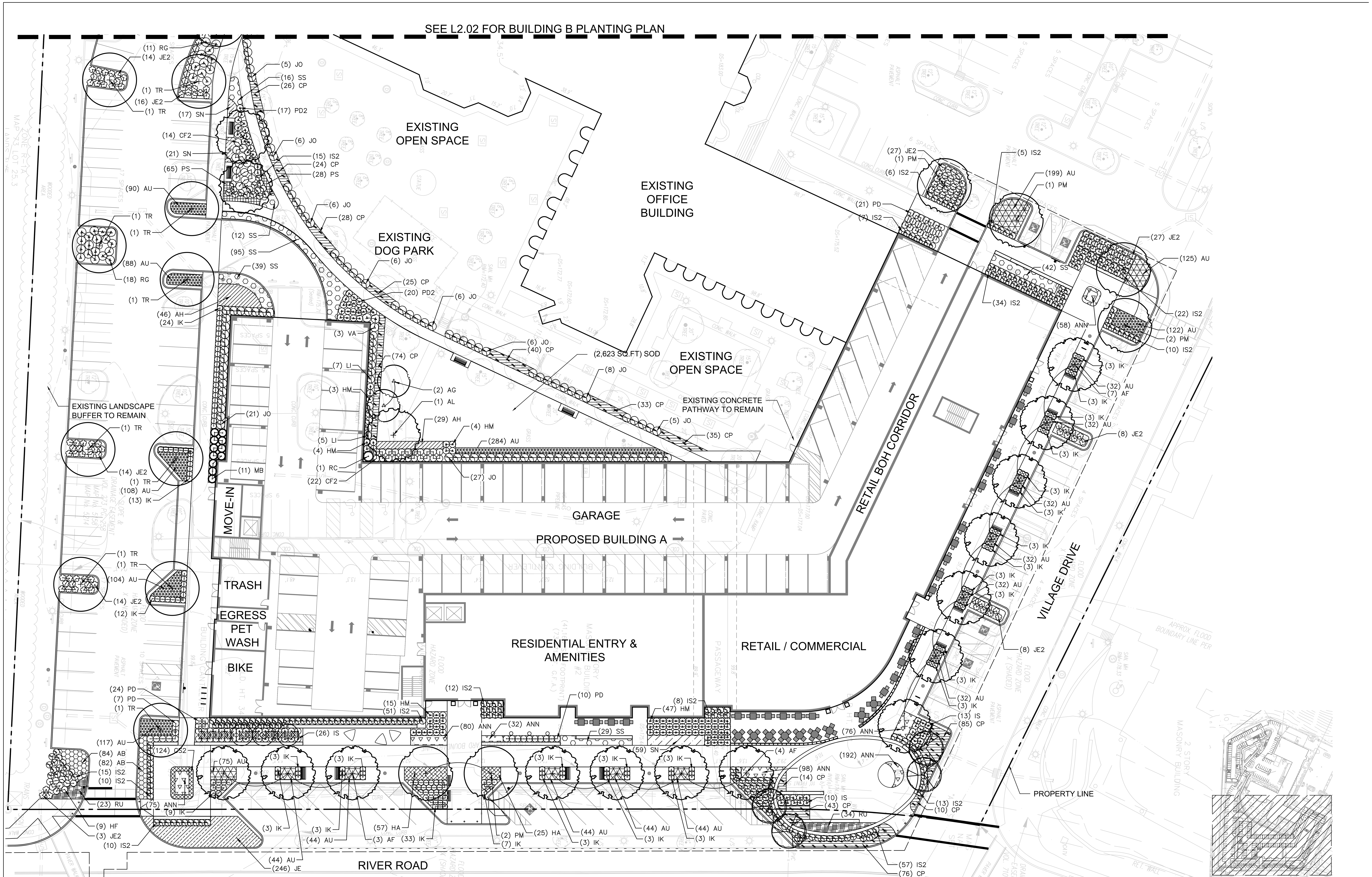
SCALE : As Shown

DRAWN BY : SW

REVIEWED BY : MR

L2.00
Overall Planting Plan

NOT FOR CONSTRUCTION



1 BUILDING A PLANTING ENLARGEMENT PLAN - GROUNDFLOOR

1"=20'-0"

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SEAL

ISSUED FOR	DATE
1 VDDAC SUBMISSION	03/28/2024
2 LOCAL APPROVALS	04/23/2024

PROJECT NO. 23018
SCALE : As Shown
DRAWN BY : SW
REVIEWED BY : MR

L2.01
Building A Planting Plan

NOT FOR CONSTRUCTION

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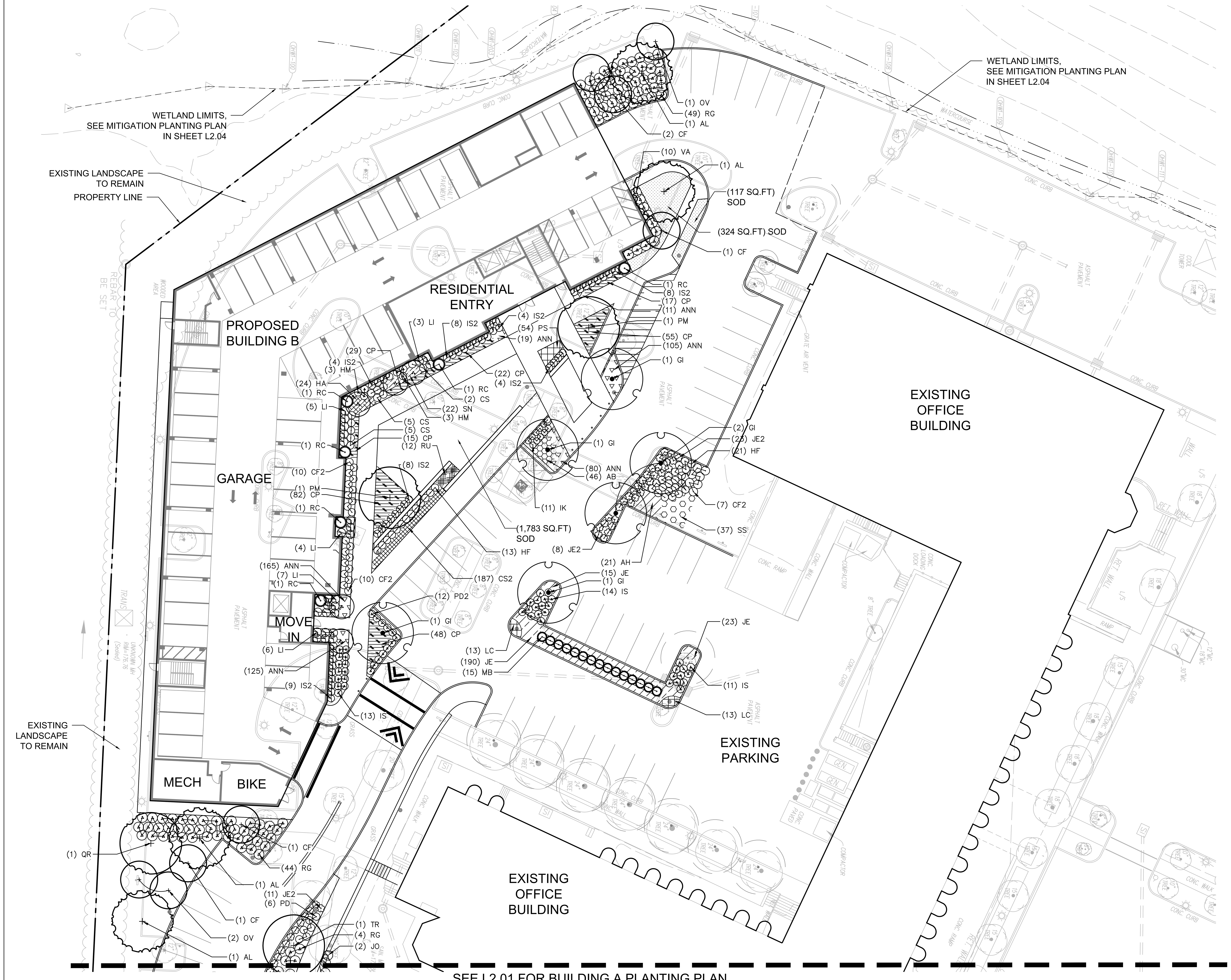
5-21 River Road, Wilton, CT



1 BUILDING B PLANTING ENLARGEMENT PLAN - GROUNDFLOOR
1"=20'-0"
0 10' 20' 40'

KEY PLAN
N.T.S.

Client
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PROJECT NO. 23018
SCALE : As Shown
DRAWN BY : SW
REVIEWED BY : MR

L2.02
Building B Planting Plan

LANDSCAPE SHEET INDEX

NOT FOR CONSTRUCTION

MAHAN RYKIEL
ASSOCIATES INC
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Suite 200 Baltimore, MD 21211 410.235.6001

Wilton Campus 1691
5-21 River Road, Wilton, CT

PLANT SCHEDULE

CODE	QTY	BOTANICAL / COMMON NAME	SIZE	CONTAINER
ORNAMENTAL TREES				
AG	2	Amelanchier x grandiflora `Autumn Brilliance` / Autumn Brilliance Apple Serviceberry	8`-10` Ht.	B&B
CF	5	Cornus florida / Flowering Dogwood	2"-2.5" Cal.	B&B
OV	3	Ostrya virginiana / American Hophornbeam	2.0"-2.5" Cal.	B&B
SHADE TREES				
AF	14	Acer rubrum 'Frank Jr.' / Redpointe® Maple	3"-3.5" Cal.	B&B
AL	5	Acer saccharum 'Legacy' / Legacy Sugar Maple	3"-3.5" Cal.	B&B
GI	6	Gleditsia triacanthos inermis `Skycole` / Skyline® Honey Locust	3"-3.5" Cal.	B&B
PM	8	Platanus x acerifolia 'Morton Circle' / Exclamation!™ London Plane Tree	3"-3.5" Cal.	B&B
QR	1	Quercus rubra / Northern Red Oak	3"-3.5" Cal.	B&B
TR	11	Tilia americana 'Redmond' / Redmond American Linden	3"-3.5" Cal.	B&B
SHRUBS				
CS	12	Clethra alnifolia 'Sixteen Candles' / Sixteen Candles Summersweet	2`-3` Ht.	B&B/Cont.
CF2	63	Cornus sericea 'Farrow' / Arctic Fire® Red Twig Dogwood	2`-3` Ht.	B&B/Cont.
HM	79	Hydrangea quercifolia `Munchkin` / Munchkin Oakleaf Hydrangea	3`-4` Ht.	B&B/Cont.
HF	43	Hypericum frondosum 'Sunburst' / Sunburst St. John's Wort	2`-3` Ht.	B&B/Cont.
IK	175	Ilex glabra 'Gem Box' / Gem Box Inkberry Holly	18" - 24" Spd.	Cont.
IS2	320	Ilex glabra 'Shamrock' / Shamrock Inkberry Holly	2`-3` Ht.	B&B/Cont.
IS	87	Itea virginica 'Sprich' / Little Henry® Sweetspire	2`-3` Ht.	B&B/Cont.
JE2	173	Juniperus communis 'Effusa' / Effusa Common Juniper	18" - 24" Spd.	Cont.
JO	98	Juniperus virginiana 'Grey Owl' / Grey Owl Eastern Redcedar	2`-3` Ht.	B&B/Cont.
LI	37	Leucothoe axillaris 'Sarah's Choice' / Sarah's Choice Dog-Hobble	2`-3` Ht.	B&B/Cont.
MB	26	Myrica pensylvanica 'Bobzam' / Bobee™ Northern Bayberry	3`-4` Ht.	B&B/Cont.
PD2	49	Physocarpus opulifolius 'Donna May' / Little Devil™ Dwarf Ninebark	2`-3` Ht.	B&B/Cont.
PD	68	Potentilla fruticosa 'Fargo' / Dakota Sunspot® Bush Cinquefoil	2`-3` Ht.	B&B/Cont.
RC	7	Rhododendron carolinianum / Carolina Rhododendron	3`-4` Ht.	B&B/Cont.
RG	126	Rhus aromatica 'Gro-Low' / Gro-Low Fragrant Sumac	2`-3` Spd.	B&B/Cont.
VA	13	Viburnum dentatum 'Christom' / Blue Muffin® Arrowwood Viburnum	3`-4` Ht.	B&B/Cont.

CODE	QTY	BOTANICAL / COMMON NAME	SIZE	CONTAINER	SPACING
GROUND COVERS					
AH	96	Amsonia hubrichtii / Arkansas Bluestar	#1	Cont.	24" o.c.
AB	212	Amsonia x 'Blue Ice' / Blue Ice Bluestar	#1	Cont.	15" o.c.
ANN	2,998	Annuals / Annua Plants	#1	Cont.	6" o.c.
AU	1,724	Arctostaphylos uva-ursi / Kinnikinnick	#1	Cont.	12" o.c.
CP	781	Carex pensylvanica / Pennsylvania Sedge	#1	Cont.	18" o.c.
CS2	311	Chrysogonum virginianum 'Superstar' / Superstar Green-and-Gold	#SP4	Cont.	10" o.c.
HA	106	Heuchera villosa 'Autumn Bride' / Autumn Bride Hairy Alumroot	#1	Cont.	18" o.c.
JE	474	Juncus effusus / Soft Rush	#1	Cont.	18" o.c.
LC	26	Lobelia cardinalis / Cardinal Flower	#1	Cont.	18" o.c.
PS	147	Phlox subulata / Creeping Phlox	#1	Cont.	12" o.c.
RU	69	Rudbeckia x 'American Gold Rush' / American Gold Rush Coneflower	#1	Cont.	24" o.c.
SS	270	Schizachyrium scoparium 'The Blues' / The Blues Little Bluestem	#1	Cont.	24" o.c.
SN	119	Symphyotrichum novae-angliae / New England Aster	#1	Cont.	18" o.c.

LANDSCAPE NOTES:

1. CONTACT 'CALL BEFORE YOU DIG' AT 1-800-922-4455 TO HAVE UNDERGROUND UTILITY LINES MARKED BY THEM PRIOR TO START OF ANY EXCAVATION WORK.
2. EXACT LOCATION OF PROPOSED PLANTINGS AND SPECIES TYPES MAY VARY FROM THE PLAN BASED ON ACTUAL FIELD CONDITIONS.
3. SPRAY NEW PLANTINGS IMMEDIATELY AFTER INSTALLATION WITH A WHITE-TAILED DEER REPELLENT AND CONTINUE AS NEEDED TO MAINTAIN PLANTS FREE OF SIGNIFICANT DEER BROWSING.
4. PLNAT SPECIES SEBSTITIUTIONS MAY BE MADE WITH THE APPROVAL OF THE PROJECT LANDSCAPE ARCHITECT AND TOWN OF WILTON PRIOR TO PLANTING. SUBSTITUTED PLANTS SHALL BE AT AN EQUAL OR GREATER SIZE AS NOTED USING A SIMILAR TYPE PLANT.
5. MULCH AREAS AROUND NEW TREES AND SHRUBS WITH A 3" THICK LAYER OF SHREDDED CEDAR BARK MULCH. NEW TREES SHALL EACH HAVE A 5' MIN. DIA. MULCHED BED AND NEW SHRUBS SHALL EACH HAVE A MINIMUM 3' DIAMETER MULCHED BED. AREAS WITHIN 4" OF TREE TRUNKS SHALL BE MINTAINED FREE OF MULCH.
6. PLANTING METHODS SHALL BE IN ACCORDANCE WITH THE 'AMERICAN STANDARDS FOR NURSERY STOCK', LATEST EDITION, AS PUBLISHED BY THE AMERICAN NURSERY & LANDSCAPE ASSOCIATION.
7. THE CONTRACTOR SHALL VERIFY WITH THE PROJECT ENGINEER THAT THE NEW PLANTINGS DO NOT INTERFERE WITH EXISTING AND/OR PROPOSED UTILITIES, SIGHT LINES, AND/OR STRUCTURES.
8. THE PLAN FOR PLANTING PURPOSES ONLY. SEE PLANS BY OTHERS FOR ADDITIONAL INFORMATION.
9. SEED LAWN AREAS WITH A HIGH-QUALITY TRIPLE FESCUE TURF MIX. SEED AREAS AT THE METHODS AND RATE RECOMMENDED BY THE MANUFACTURER. LIGHTLY MULCH SEEDED AREA WITH WEEK-FREE CLEAN HAY. A NURSE CROP SHALL BE ADDED TO THE SEED MIX ON SLOPES OF EXCESS OF 10%. LIGHTY RAKE OR ROLL GROUND SURFACE ATER SOWING.

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SEAL

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PROJECT NO.
23018

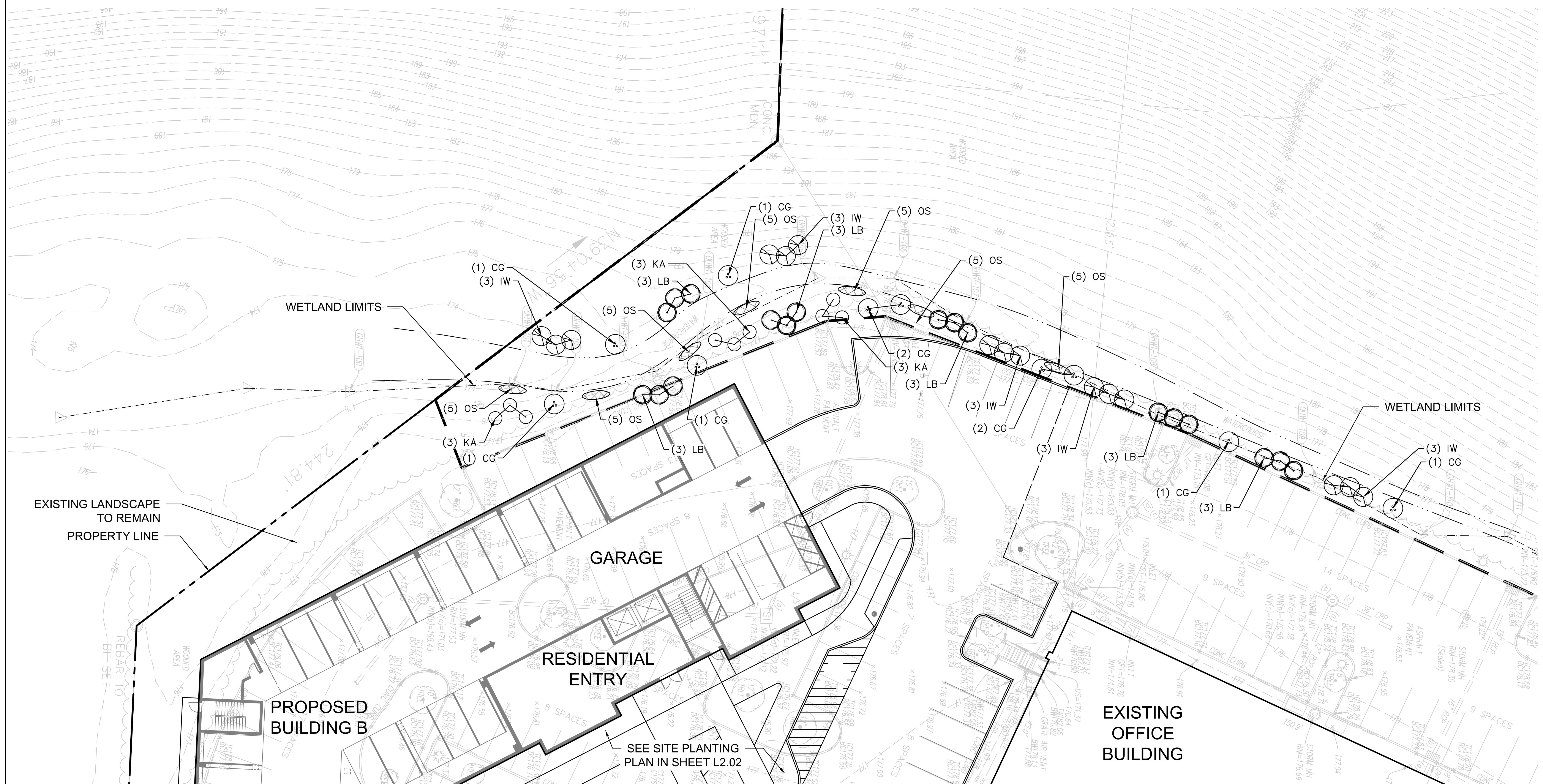
SCALE :
As Shown

DRAWN BY :
SW

REVIEWED BY :
MR

L2.03
Plant Schedule

NOT FOR CONSTRUCTION



1 MITIGATION PLANTING PLAN

1"=20'-0"

0 10' 20' 40'

PLANT SCHEDULE

CODE	QTY	BOTANICAL / COMMON NAME	SIZE	ROOT		REMARKS
WETLAND SHRUBS						
CG	10	Cornus racemosa / Gray Dogwood	2'-3'	Cont.		FAC, 10' O.C.
IW	15	Ilex verticillata / Winterberry	2'-3'	Cont.		FACW, 5' O.C.
KA	9	Kalmia angustifolia / Sheep Laurel	2'-3'	Cont.		FAC, 6' O.C.
LB	18	Lindera benzoin / Spicebush	2'-3'	Cont.		FACW, 5' O.C.
SYMBOL	QTY	BOTANICAL / COMMON NAME	SIZE	CONTAINER	SPACING	REMARKS
WETLAND GROUNDCOVER						
	35	Onoclea sensibilis / Sensitive Fern	QT.	Cont.	24" o.c.	

LANDSCAPE NOTES:

1. THE PLANT SPECIES AND DESIGN ON THIS MITIGATION PLANTING PLAN WERE SELECTED AND REVIEWED BY VHB WETLAND AND SOIL SCIENTISTS.

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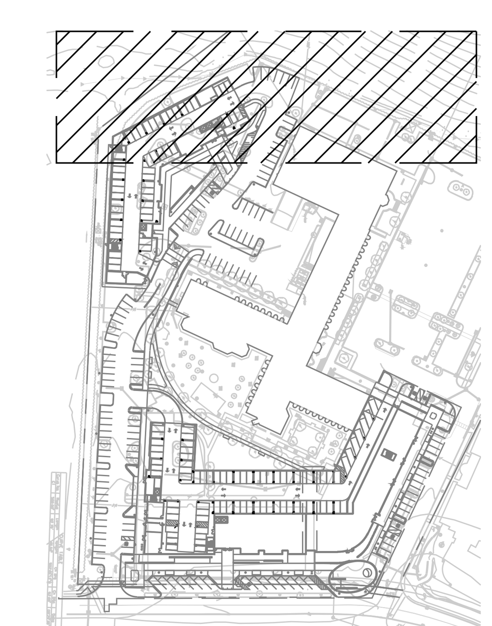


KEY PLAN
N.T.S.

PROJECT NO. 23018
SCALE : As Shown
DRAWN BY : SW
REVIEWED BY : MR

L2.04
Mitigation Planting Plan

NOT FOR CONSTRUCTION

STORMWATER MANAGEMENT REPORT

Wilton Center Redevelopment

21-23 River Road
Wilton, CT

PREPARED FOR

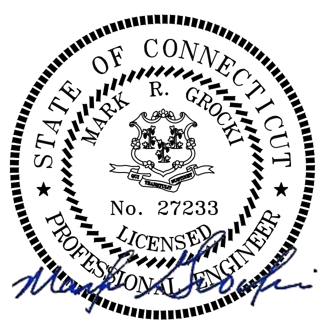
Wilton Campus 1691, LLC
500 North Broadway, Suite 201
Jericho, NY 11753

PREPARED BY

vhb

100 Great Meadow Road
Suite 200
Wethersfield, CT, 06109

APRIL 2024



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Stormwater Report Narrative

Project Description

The Applicant, Wilton Campus 1691,LLC, is proposing to redevelop a portion of the site located at 21 River Road in Wilton, CT. The project will include the demolition of the existing building along River Road and construct a four-story, ±51,000 square foot (sf) building footprint with 97 residential apartment units on the second, third and fourth floors, and ±12,000 sf of commercial use on the first floor. The project also includes the construction of a five-story, ±24,000 sf stand-alone building footprint with 72 residential apartment units at the rear of the site. This adds a total of 169 residential units between the two buildings. The remaining building onsite will be retained with its existing use of office and retail space. Improved landscaping, utility infrastructure, parking, and significant stormwater management improvements will be proposed to support the redevelopment.

Site Description

The project site, as shown on Figure 1, is located within the Norwalk River Valley on the west side of River Road at 15-21 River Road in the Town of Wilton, Connecticut. The site is bounded by Wilton River Park Plaza to the north, River Road to the east, the Avalon apartment complex to the south, and dense wooded hillside to the west. Access to the site will utilize the existing curb cuts on the north and south ends of the property.

Wetlands

There are two separate wetland systems located on or adjacent to the project site. Wetlands associated with the Norwalk River are located on the eastern side of River Road. Though not directly within the limit of work, the 100ft upland review buffer associated with the river extends into the proposed development. A second wetland system associated with a small watercourse is located at the toe of slope along the western edge of the currently developed site. Work is proposed within the 100' upland review area to this westerly wetland system, predominately within already disturbed areas for existing parking fields. The westerly wetland system and watercourse itself will remain unaltered and be protected.

A Wetland & Watercourse Delineation Report was prepared on October 4, 2023, describing the wetland resources delineated within the project site. An additional Functions and Values report was compiled describing the minimal to no impact to the adjacent wetland systems as well as proposed mitigation measures are included with this development program. These reports are included under separate cover.

According to the Natural Resources Conservation Service (NRCS), surface soils on the Site include primarily urban land classified as Hydrologic Soil Groups (HSG) D. Based on the soil evaluation included in Appendix A, the Site is not considered to be within an area of rapid infiltration (soils with a saturated hydraulic conductivity greater than 2.4 inches per hour).

Geotechnical investigation reported varying infiltration rates including one test area that was inconclusive due to an obstruction. Conservatively a rate of 1 in/hr was used for proposed modeling purposes. See Appendix D for geotechnical findings.

Existing Drainage Conditions

Under existing conditions, the Site is primarily developed with one large mixed use building containing office, retail, and restaurant space. The site is fairly flat with paved parking and ancillary landscaping surrounding the centralized building. There are numerous catch basins and yard drains dispersed through the site that primarily connect to an existing undersized infiltration conveyance system located along the southern property line. Per record drawings and conversations with the property manager, there does not appear to be any interior or exterior footing drains for the existing building area, but no excavations or exploratory investigations have been done at this time. There are two (2) sump pumps in the existing building, one in the west wing (area to remain) and one in the south wing (area to be demolished). Both sump pumps are connected to the existing storm drainage system (see Appendix A for mapping).

The site has 3 main drainage discharge points broken up into 4 drainage areas:

<u>Drainage area 1a & 1b:</u> The majority of the southern portion of the site (Drainage Area 1a and 1b, approximately 5.7ac) drains to on-site catch basins and into a closed drainage system. The western most portion of the southern area drains to a centralized curb-less vegetated rain garden with overflow area drain. Captured runoff from both areas flow through a series of 36" perforated pipes surrounded in stone along the southern property line. The system is approximately 700 feet in length and contains a chain of outlet control structures which assist in promoting infiltration of the captured runoff. The system, while effective in providing a low impact design feature, is undersized retaining less than the 1" water quality volume, thus the perforated pipes primarily serving as a conveyance measure for stormwater. Stormwater from larger storm events, or stormwater that is not infiltrated, is conveyed to an offline water quality unit prior to connecting to the closed drainage network in River Road. The size or adequacy of this existing water quality unit is unknown but is assumed to likely be undersized when considering the increased intensities of recent rainfall events and NOAA data. Stormwater ultimately discharges directly across the street into the Norwalk River (Design Point 1).

<u>Drainage area 2:</u> Drainage area 2 comprises the northern portion of the site and primarily encompasses existing building and parking fields to remain. The parking and landscape improvements along Village Drive is also included in this area. In total drainage area 2 consists of approximately 3.6 acres (primarily impervious area). Runoff captured by onsite catch basins flow to River Road through a series of pipes and structures. There is no record of any treatment for

stormwater for this drainage area. Similarly, stormwater from Design Point 2 ultimately discharges directly into the Norwalk River.

Drainage Area 3: Drainage area 3 is comprised mostly of the steep western hillside and the portion of the existing site immediately west of the existing parking lot curbline. Note that no runoff from the existing parking lot or development discharges to this drainage area or its design point. This area drains to a watercourse located just off the western curbline and flows to the south. The area is mostly wooded with grass along the curbline of the parking area. The wetland system associated with this drainage area is to remain and be protected. Stormwater runoff from this area is conveyed offsite to the southwest via the existing watercourse (Design Point 3).

Design points 1 and 2 denote the closed drainage system in River Road which flow to the Norwalk River. Design Point 3 is a disconnected watercourse that flows to the west. Table 2 below provides a summary of the existing conditions hydrologic data.

Table 2 Existing Conditions Hydrologic Data

Drainage Area	Discharge Location	Design Point	Area (Acres)	Curve Number	Time of Concentration (min)
1a	Norwalk River (South)	DP1	2.8	94	5
1b	Norwalk River (South)	DP1	2.9	93	5
2	Norwalk River (North)	DP2	3.6	97	5
3	Watercourse (West)	DP3	3.1	77	10.9

Proposed Drainage Conditions

Under proposed conditions the site will mimic existing drainage conditions. A portion of the large, centralized building fronting River Road will be demolished and replaced with a structure with a similar sized footprint. Grades surrounding the site will remain relatively flat with a new residential building located along the southwestern property line. Wetlands and the existing watercourse will not be altered and will remain protected.

Through conversations with Town staff, the site as proposed, is designed to retain the volume from 1" of stormwater runoff for the entire new proposed roof areas. Only the proposed building roof drains will connect to a new retention system. The remainder of the site stormwater runoff will bypass the retention system, and pass through hydrodynamic water quality units to provide treatment, prior to connecting to the existing drainage system within River Road. A portion of the existing 36" perforated pipe retention system is proposed to remain (approx. 350LF). Although these existing pipes are not accounted for as part of the provided volume to satisfy the retention for the 1" volume, they are proposed to connect to the new underground concrete chamber system. Through geotechnical investigations, it was found that the bottom of these existing 36" pipes to remain are within seasonal high groundwater, thus, limiting their effectiveness at retention/infiltration. However, by keeping a portion of the existing system and implementing a "new" supplemental system, allows for the preservation of the existing swale and vegetation along the southern property border. The newer system was placed at a higher elevation than the existing system as geotechnical investigations found seasonal high groundwater at approximately 7.5 feet below existing grade. In order to keep a minimum 2-3foot separation between the underground retention system and groundwater, the elevation of the proposed system needed to be raised. In addition, a backflow preventor is proposed to prevent floodwaters from the Norwalk River from entering the system (see FEMA section below for further discussion on floodplain).

A rain garden is proposed north of Building B in a centralized curb-less island designed to capture overland flow and infiltrate the Stormwater runoff from the surrounding area. An elevated area drain will capture overflow that is not infiltrated and direct it to the closed on-site drainage system.

The proposed site will result in an increase of approximately 6,000sf of impervious area. A small underground detention system is proposed in the western portion of the site near Building B to aid in the reduction of peak flow rates at the discharge point in River Road. As previously stated, a conservative infiltration rate of 1.0 in/hr was accounted for in the hydrologic calculations and analysis.

Figure 3 illustrates the proposed "post construction" drainage conditions for the project. As shown, the Site is divided into 7 drainage areas that discharge treated stormwater to the 3 existing Design Points. Table 3 below provides a summary of the proposed conditions hydrologic data.

Table 3 Proposed Conditions Hydrologic Data

Drainage Area	Discharge Location	Design Point	Area (Acres)	Curve Number	Time of Concentration (min)
1a	Norwalk River (South)	DP1	1.2	93	5
1b	Norwalk River (South)	DP1	0.6	98	5
1c	Norwalk River (South)	DP1	2.9	92	5
1d	Norwalk River (South)	DP1	1.2	98	5
2	Norwalk River (North)	DP2	3.4	96	5
3	Watercourse (West)	DP3	3.1	77	10.9

<u>Drainage Area 1:</u> This area will be broken into 4 segments 1a, 1b, 1c, and 1d, all of which connect within the site limits and discharge through the system in River Road to the Norwalk River (Design Point 1).

- Area 1a comprises the southwestern portion of the site. This portion of the site drains to either the rain garden or is collected with deep sump and hooded catch basins (where feasible). (Note, to be conservative with peak discharge flow rates and area limitations of the rain garden, the rain garden was not modeled).

- Area 1b is the entire roof of Building B which is connected to the offline retention system along the southern property line.

- Area 1c consists of the existing office building and landscaped courtyard area immediately south to remain along with the new parking area within the limit of work (with the exception of the new proposed parking area along Village Drive). This area is collected entirely by deep sump and hooded catch basins and treated by hydrodynamic water quality units prior to connecting to the closed drainage system in River Road and ultimately discharging to the Norwalk River (Design Point 1).

- Area 1d is the entire roof of Building A which is connected to the offline retention system along the southern property line.

Drainage Area 2: The area comprising drainage area 2 is primarily comprised of the existing building and existing parking area at the northern portion of the site. The proposed parking and improvements along Village Road and exiting the proposed parking garage are included in this drainage area. This area is collected by the existing drainage infrastructure and flows to a northern connection point in River Road discharging to the Norwalk River. The area going to this northern connection point is decreased under proposed conditions and therefore peak flows for all storm events have been reduced.

Drainage Area 3: Similar to existing conditions, drainage area 3 is comprised mostly of the steep western hillside and remaining land just off the curbing of the western parking lot or area behind Building B. This area drains to a watercourse located just off the western curbline and flows to the south (Design Point 3). The area is mostly wooded with some grass area adjacent to the parking area. The drainage area was only slightly modified due to the new building and parking area proposed. The on-site wetland system associated with this drainage area is to remain and be protected. A Wetland Mitigation Planting Plan is proposed (further detailed in the site in the site plans and wetland reports, under separate cover).

Environmentally Sensitive and Low Impact Development (LID) Techniques

Low Impact Development (LID) techniques and stormwater Best Management Practices (BMPs) implemented into the site design minimized disturbance to existing trees and vegetation with the priority at staying within existing project impervious limits. In addition, a rain garden was designed to capture runoff from a portion of the site located directly north of proposed Building B. Stormwater runoff is proposed to flow overland to the rain garden: a centralized curb-less island depressed with a raised overflow drain. Runoff is encouraged to infiltrate back into the ground and any overflow will be captured and connected to the close drainage system within the site.

As previously described herein, additional LID techniques include: catch basins with deep sumps and hooded outlets, and a new onsite retention system that is appropriately sized to capture the 1" rainfall event from the proposed roofs onsite. This system will connect to a portion of the existing retention system to provide additional volume (although the existing system to remain is not modeled due to groundwater presence, making for a conservative design approach).

Hydrologic Analysis

The rainfall-runoff response of the Site under existing and proposed conditions was evaluated for storm events with recurrence intervals of 2, 10, 25 and 100-years. Rainfall volumes used for this analysis were based on the National Weather Service NOAA, Atlas 14 data for the town of Wilton and are 3.55, 5.42, 6.59, and 8.39 inches respectively. Runoff coefficients for the pre- and post-development conditions, as previously shown in Tables 2 and 3 respectively, were determined using NRCS Technical Release 55 (TR-55) methodology as provided in HydroCAD. Drainage areas used in the analyses were described in previous sections and shown on Figures 2 and 3. The HydroCAD model is based on the NRCS Technical Release 20 (TR-20) Model for Project Formulation Hydrology. The results of the analysis, as summarized in Table 4 below, indicate that there is no increase in peak discharge rates between the existing and proposed conditions for all three discharge points.

Computations and supporting information regarding the hydrologic modeling are included in Appendix G.

Table 4 Peak Discharge Rates (cfs*)

Design Point	2-year	10-year	25-year	100-year
DP1: Norwalk River South				
Existing	21.7	32.3	38.7	47.5
Proposed	21.7	32.0	38.1	47.5
DP2: Norwalk River North				
Existing	14.3	20.8	24.9	31.0
Proposed	13.5	19.7	23.5	29.3
DP3: Norwalk River North				
Existing	4.6	8.9	11.7	16.0
Proposed	4.6	8.9	11.6	15.9

The hydrologic analysis only models the small detention/infiltration system adjacent to Building B. The larger retention system along the southern portion of the site (capturing and retaining the 1" volume from roof runoff) was not modeled in the hydrologic analysis for peak flow attenuation because this system is strictly sized for retaining that 1" volume from the roofs. It is an offline system, therefore for any larger storm events 2-year, 10-year, etc., which exceed the 1" rainfall volume, will bypass the retention system to the outlet. Therefore, any larger storm events entering will be released at a similar rate, thus not providing peak flow reduction. Modeling of this system is not necessary.

Hydraulic Analysis

The closed drainage system was designed for the 25-year storm event.

Drainage pipes were sized using Manning's Equation for full-flow capacity and the Rational Method. Additionally, the performance of the system was analyzed using StormCAD, a HEC-22 based program.

FEMA

The effective FEMA Flood Insurance Rate Map (FIRM) 09001C0383F dated June 18, 2010, as well as the associated FEMA Flood Insurance Study (FIS) for Fairfield County CT, includes Norwalk River in the vicinity of the site. Mapping shows portions of the site within the 1% (100year) and 0.2% (500yr) Annual Chance Flood Special Hazard Area (SFHAs) and the Norwalk River includes a Regulatory Floodway. VHB prepared a more detailed map of the site using the base flood elevations based on the site survey. It was found the 1% Annual Flood extends into River Road and Village Drive and up against the existing building on River Road (See Appendix B).

Compensatory Flood Storage

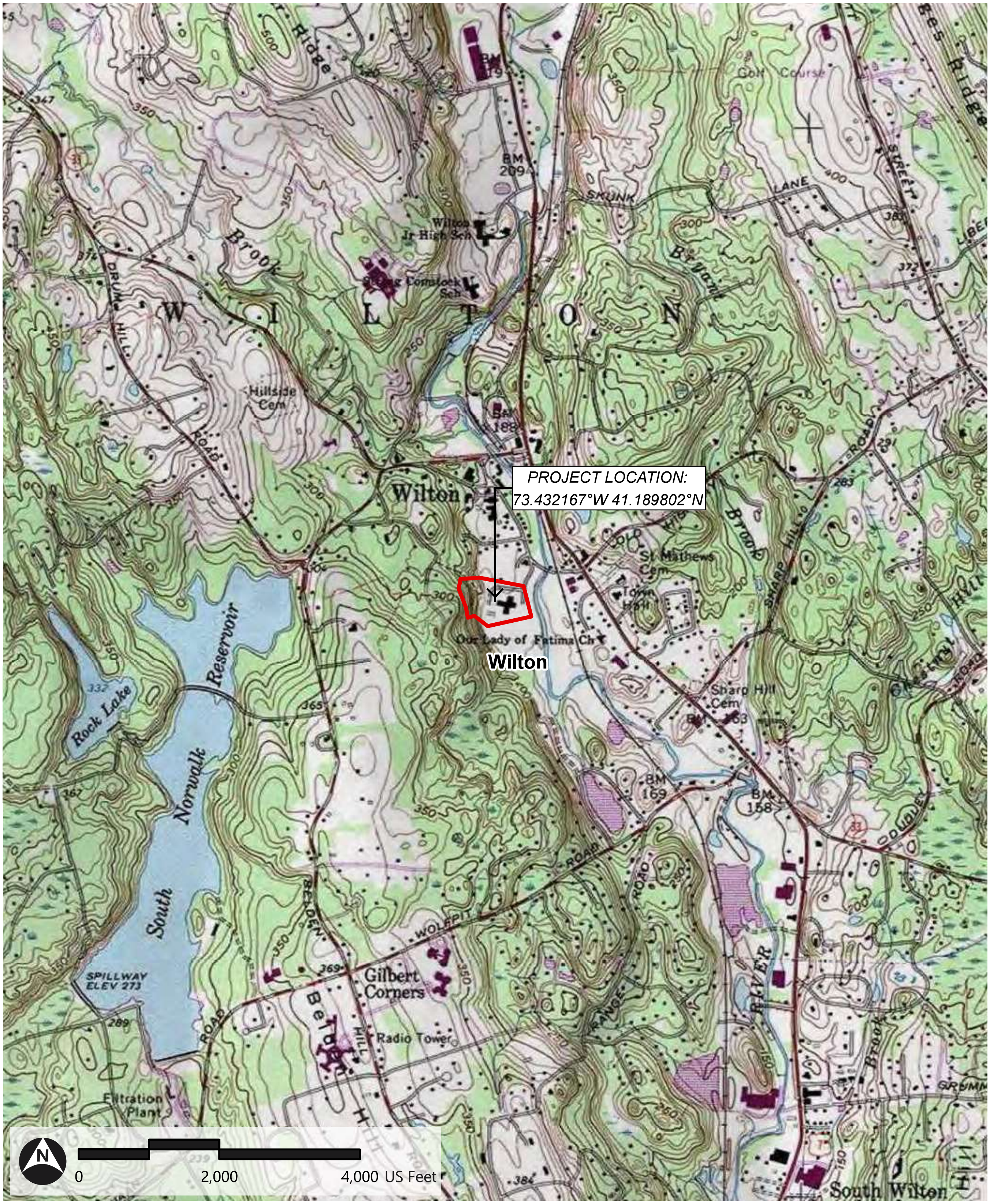
Due to the site being within a FEMA 100year special flood hazard area with varying base flood elevations, any filling within the Flood Zone will need to be compensated for under the proposed conditions. As documented within the Compensatory Flood Storage calculations in the Appendix, the proposed site provides adequate flood volume storage as under existing conditions, satisfying the FEMA compensatory flood volume requirement (see Appendix B).

The proposed development improves site conditions by pulling the new building further back from River Road and allowing for proper grading along the frontage to protect the building. As a result, the new Building A's finish floor elevations are raised up and out of the potential 100year flood water elevations.

Figure 1 Site Locus Map

Figure 1: USGS Site Location Map

Wilton Campus Development | Wilton, Connecticut



Project Location
Town Boundary

Source: USGS, VHB

Path: \\vhb.com\gis\proj\WhitePlains\20849.00 Wilton Cntr Redevelop\Project\Wilton Site.aprx (lburbank, 9/15/2022)

Figure 2 Existing Drainage Area

\\vhb.com\gbl\proj\WhitePlains\20849.00 Wilton Cntr Redevelop\tech\Drainage\EX-Drainge Figure.dwg

Legend

SYMBOLS

X	DESIGN POINT
X	DRAINAGE AREA DESIGNATION
X	POND

LINETYPES

- DRAINAGE AREA BOUNDARY
- TIME OF CONCENTRATION FLOW LINE
- SOIL TYPE BOUNDARY
- WETLAND BOUNDARY

SCS SOIL CLASSIFICATIONS

307	URBAN LAND, HSG D
306	UDORTHENTS-URBAN LAND COMPLEX, HGS B
102	POOTATUCK FINE SANDY LAOM, HGS A/D

0 60 120 Feet

Existing Drainage Conditions

Figure

Wilton Center
21 River Road, Wilton, CT

April 2024

Figure 3 Proposed Drainage Area

\\vhb.com\gbl\proj\WhitePlains\20849.00 Wilton Cntr Redevelop\tech\Drainage\PR-Drainge Figure.dwg

Legend

SYMBOLS

X — DESIGN POINT

X — DRAINAGE AREA DESIGNATION

X — POND

LINETYPES

DRAINAGE AREA BOUNDARY

TIME OF CONCENTRATION FLOW LINE

SOIL TYPE BOUNDARY

WETLAND BOUNDARY

SCS SOIL CLASSIFICATIONS

307 — URBAN LAND, HSG D

306 — UDORTHENTS-URBAN LAND COMPLEX, HGS B

102 — POOTATUCK FINE SANDY LAOM, HGS A/D

vhb

Proposed Drainage Conditions

Figure 3

Wilton Center
21 River Road, Wilton, CT

April 2024

Appendix A

- NRCS Soil Survey Information
- Record Site Mapping

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NRCS Soil Survey Information

Map Scale: 1:2,800 if printed on A landscape (11" x 8.5") sheet.

Meters: 0, 40, 80, 160, 240

Feet: 0, 100, 200, 400, 600

N

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: State of Connecticut, Western Part
Survey Area Data: Version 1, Sep 15, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Oct 21, 2022—Oct 27, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
62D	Canton and Charlton fine sandy loams, 15 to 35 percent slopes, extremely stony	B	4.7	14.6%
73E	Charlton-Chatfield complex, 15 to 45 percent slopes, very rocky	B	2.2	6.8%
102	Pootatuck fine sandy loam	A/D	6.3	19.4%
306	Udorthents-Urban land complex	B	2.6	8.1%
307	Urban land	D	12.9	39.7%
701A	Ninigret fine sandy loam, 0 to 3 percent slopes	B/D	0.0	0.1%
703B	Haven silt loam, 3 to 8 percent slopes	B	2.6	7.9%
W	Water		1.1	3.4%
Totals for Area of Interest			**32.4**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

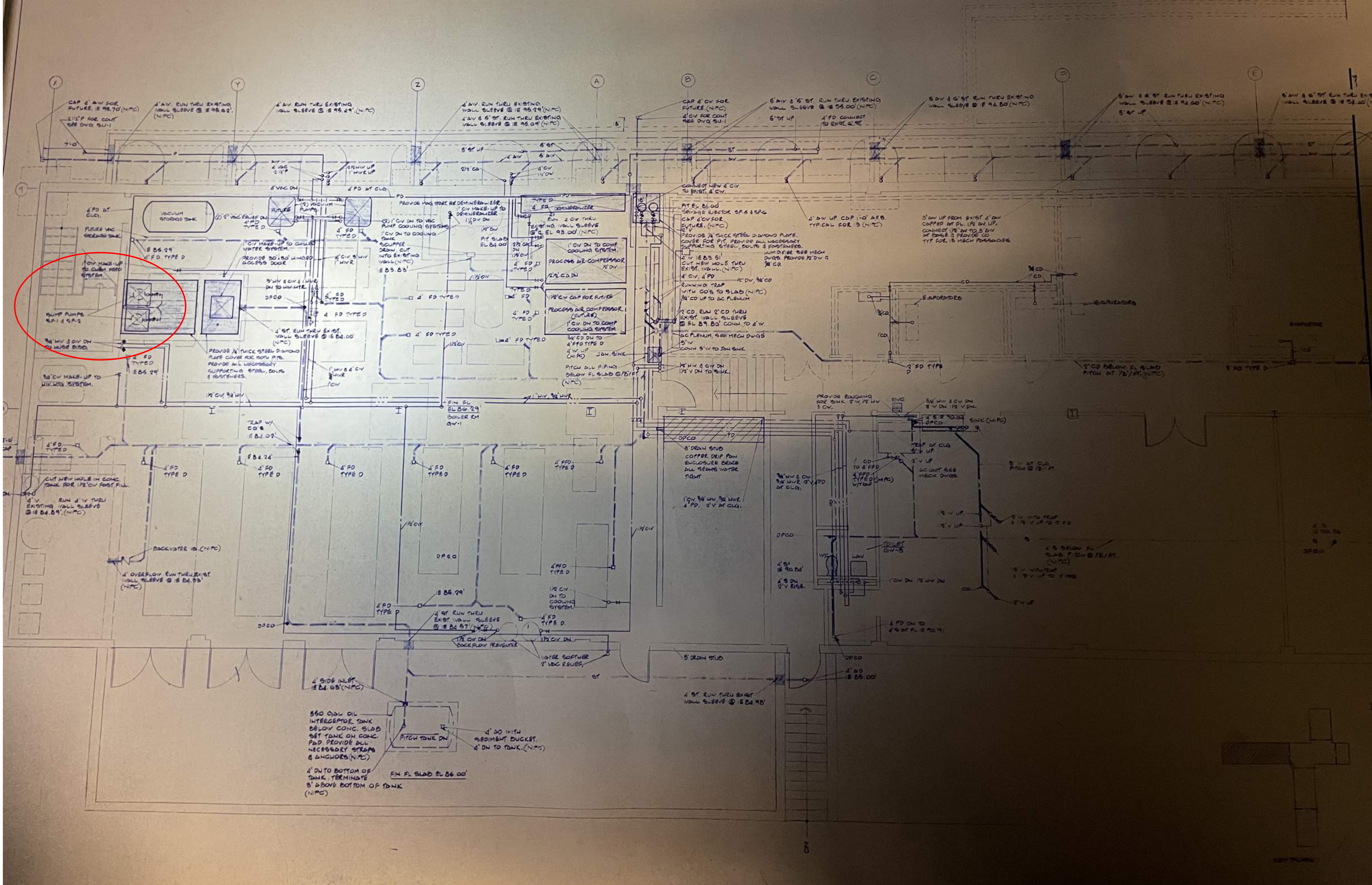
Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Record Site Mapping



RECORD BUILDING PLAN

Resolution #799-17P
a. "According to Section 8-3.(i) of the Connecticut General Statutes, all work in connection with this Site Development Plan shall be completed within five years after the approval of the plan. Said five-year period shall expire on July 15, 2004."

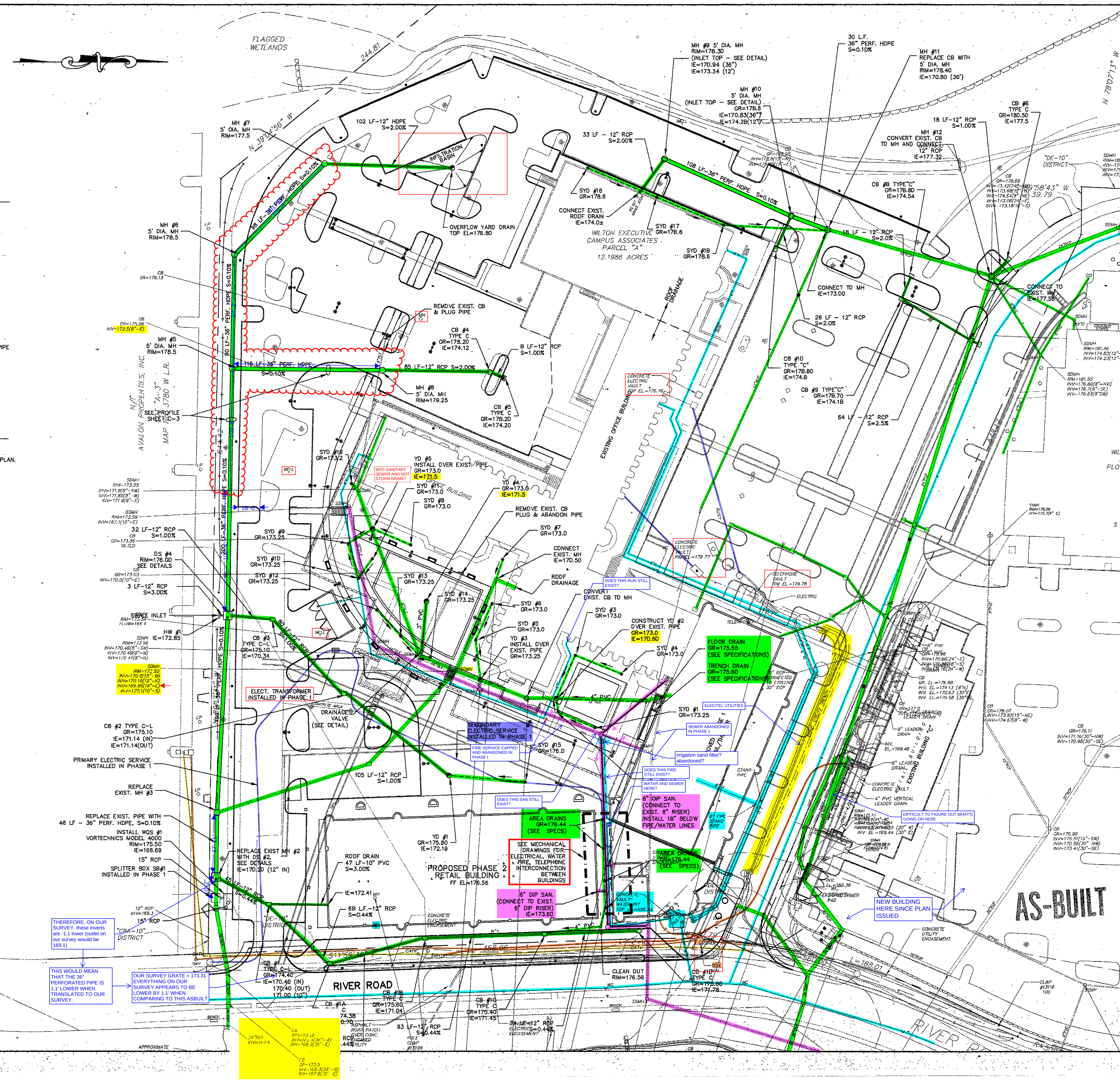
b. "For conditions of approval for Special Permit, see Resolution #0799-17P."

LEGEND:

- MH — STORM DRAIN MANHOLE
- CB — STORM DRAIN CATCH BASIN
- YD — YARD DRAIN
- SYD — SPECIAL YARD DRAIN
- OS — OUTLET STRUCTURE
- HW — HEAD WALL
- HDPE — HIGH DENSITY POLYETHYLENE PIPE
- PERF. HDPE — PERFORATED HIGH DENSITY POLYETHYLENE PIPE
- RCP — REINFORCED CONCRETE PIPE
- PVC — POLYVINYL CHLORIDE PIPE

NOTES:

1. SPECIAL YARD DRAIN PIPING (SYD) TO BE 8" HDPE AT MINIMUM SLOPE OF 1.0% UNLESS NOTED OTHERWISE ON PLAN.



REVISIONS
1.
2.
3.
4.
5.

Drawing Title: DRAINAGE AND UTILITY PLAN

Project: WILTON COMMERCIAL CENTER RIVER ROAD WILTON CONNECTICUT PHASE 2

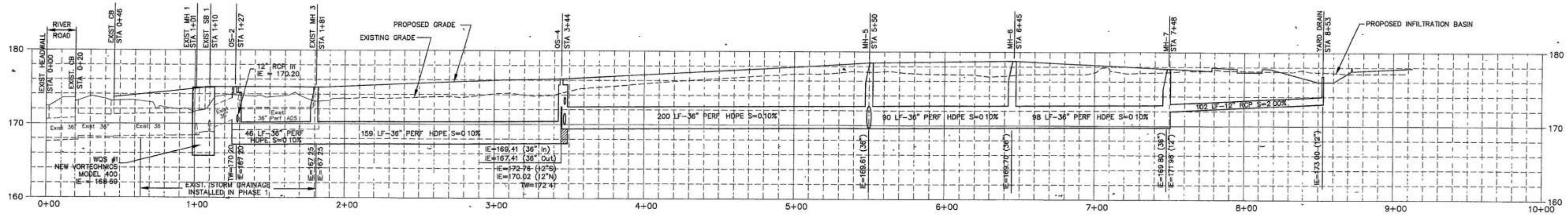
ALLAN DAVIS ASSOCIATES, INC.
488 Main Avenue Norwalk, Connecticut (203) 849-0895

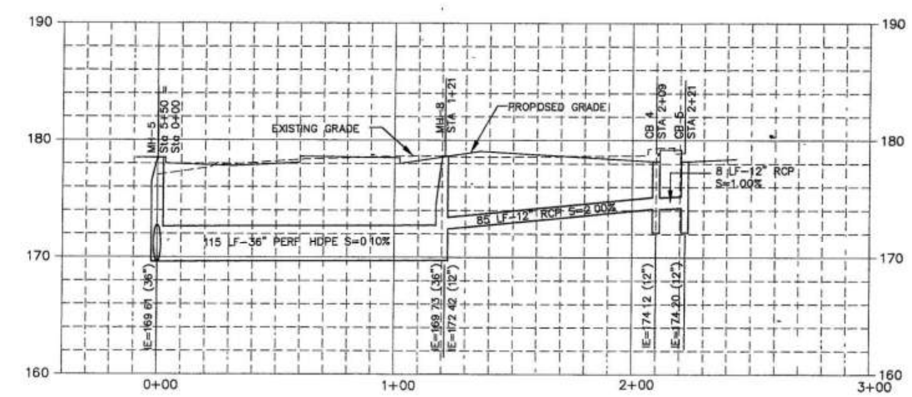
JACK CURTIS & ASSOCIATES
Site Planners Landscape Architects

O+A ARCHITECTS
2452 BLACK ROCK TPK. FAIRFIELD, CT 06432

Project: 98032
Date: 12-22-99
Scale: 1" = 30'

C-2





AS-BUILT

Resolution #799–17P
a "According to Section 8–3.(i) of the Connecticut General Statutes, all work in connection with this Site Development Plan shall be completed within five years after the approval of the plan Said five–year period shall expire on July 15, 2004."

b "For conditions of approval for Special Permit, see Resolution #0799–17P."

REVISIONS	
1.	8/9/99
2.	
3.	
4.	
5.	

PRPGRESS STUDY

Drawing Title:
STORM DRAINAGE PROFILES

Project:
WILTON COMMERCIAL CENTER
RIVER ROAD
WILTON CONNECTICUT
PHASE 2

ALLAN DAVIS ASSOCIATES, INC
488 Main Avenue
Norwalk, Connecticut
(203) 849–0898

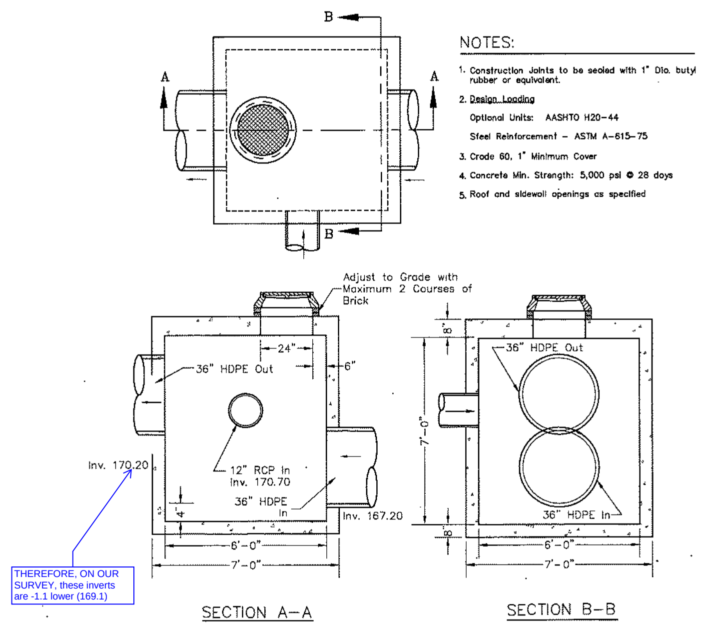
JACK CURTIS & ASSOCIATES
SITE PLANNERS
LANDSCAPE ARCHITECTS
500 ... HILL ROAD
MONROE, CONNECTICUT 06468
PHONE 2034520797
FAX 2032684506

O+A ARCHITECTS
2452 BLACK ROCK TPK
FAIRFIELD, CT 06432
TEL. 374–6662

architects

Project	98032
Date	12–22–99
Scale.	1"=30' H. 1"=6' V.

C–3

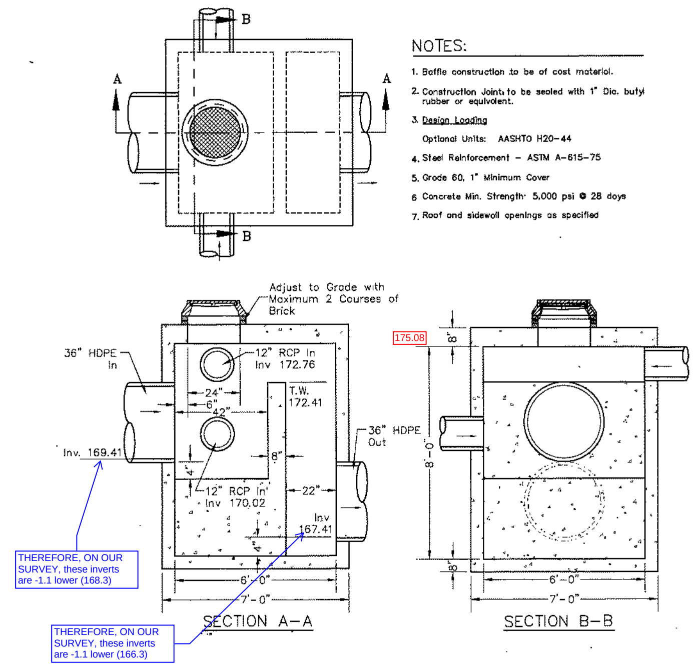


NOTES:

1. Construction Joints to be sealed with 1" Dia. butyl rubber or equivalent.
2. Design Loading
   Optional Units: AASHTO H20–44
   Steel Reinforcement – ASTM A–615–75
3. Grade 60, 1" Minimum Cover
4. Concrete Min. Strength: 5,000 psi @ 28 days
5. Roof and sidewall openings as specified

OUTLET STRUCTURE OS–2

N.T.S. SW–000

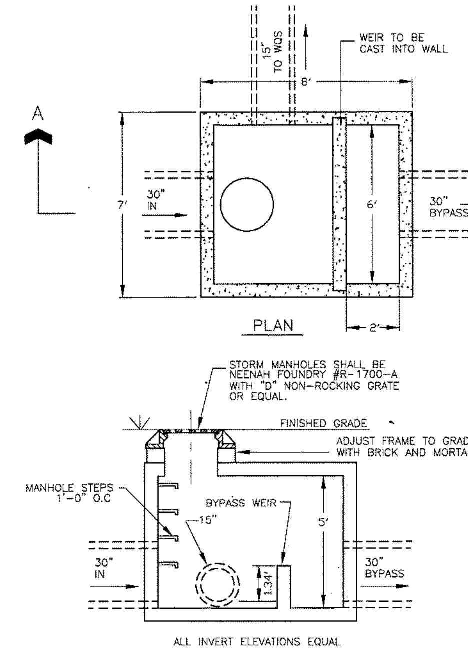


NOTES:

1. Baffle construction to be of cast material.
2. Construction Joints to be sealed with 1" Dia. butyl rubber or equivalent.
3. Design Loading
   Optional Units: AASHTO H20–44
4. Steel Reinforcement – ASTM A–615–75
5. Grade 60, 1" Minimum Cover
6. Concrete Min. Strength: 5,000 psi @ 28 days
7. Roof and sidewall openings as specified

OUTLET STRUCTURE OS–4

N.T.S. SW–000



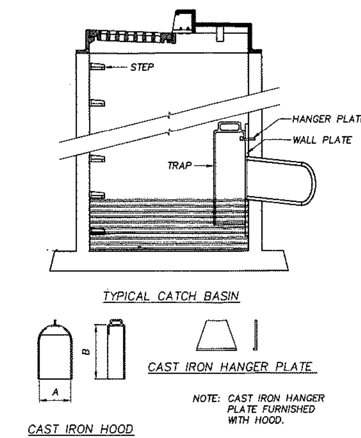
NOTES:

1. SPLITTER BOX STRUCTURES MAY BE PRECAST OR CAST IN PLACE. STRUCTURES SHALL BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER FOR HS-20 LOADING
2. SEE UTILITY PLAN FOR INVERT & RIM ELEVATIONS.

SPLITTER BOX 1
(INSTALLED IN PHASE 1)

N.T.S.

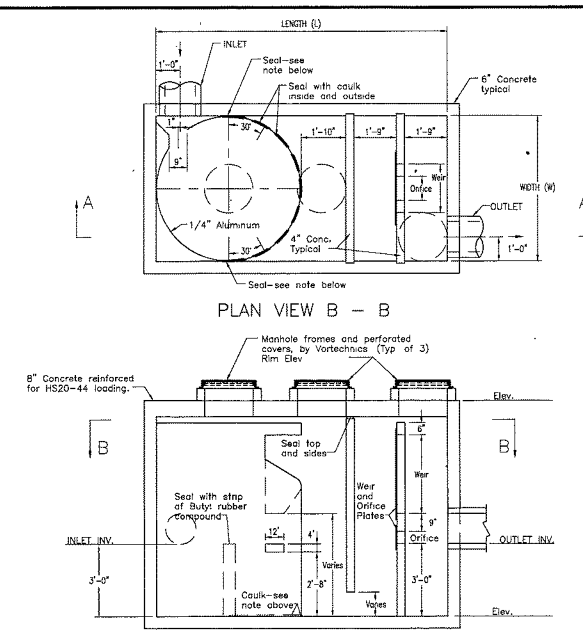
DIMENSIONS IN INCHES			PIPE SIZE
A	B	C	
9 1/2	16	4 3/4	6
11 1/2	20 1/2	5 1/2	8
13 1/4	23 1/2	6 1/2	10
15 3/4	26	7 1/2	12
18	27	9	15
20	27	10	18
25 1/4	30	11 1/4	21
30	35 3/4	15	24



NOTE: CAST IRON HANGER PLATE FURNISHED WITH HOOD.

CATCH BASIN TRAP DETAIL

N.T.S. SW–035



Vortechs™ Model	Grit Chamber Diameter/Area ft / ft²	Treated Flow cfs	Sediment Storage yds³	Oil Storage gals	Approx Size L x W ft
1000	3/7	1.6	.75	270	9 x 3
2000	4/13	2.8	1.25	350	10 x 4
3000	5/20	4.5	1.75	500	11 x 5
WQS#1 4000	6/28	6.0	2.5	700	12 x 6
5000	7/38	8.5	3.25	900	13 x 7
7000	8/50	11.0	4.0	1,200	14 x 8
9000	9/64	14.0	4.75	1,500	15 x 9
11000	10/79	17.5	5.5	1,800	16 x 10
16000	12/113	25.0	7.0	2,500	18 x 12

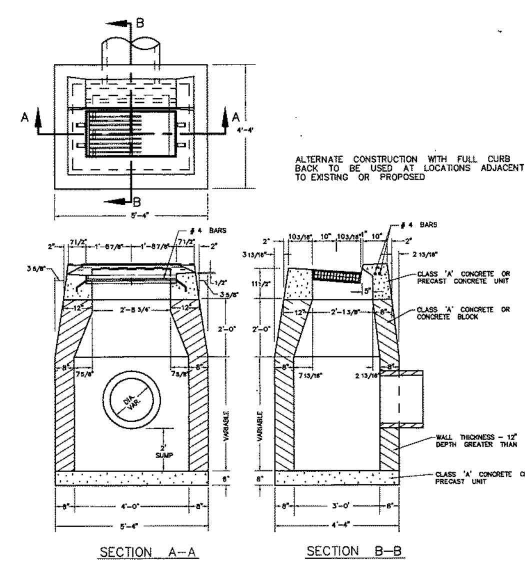
This CADD file is for the purpose of specifying stormwater treatment equipment to be furnished by Vortechnics, Inc. and may only be transferred to other documents exactly as provided by Vortechnics. Title block information, excluding the Vortechnics logo and the Vortechs™ Stormwater Treatment System designation and patent number, may be deleted if necessary. Revisions to any part of this CADD file without prior coordination with Vortechnics shall be considered unauthorized use of proprietary information.

Vortechnics
41 Evergreen Drive
Portland, ME 04103
Tel 207-878-3662
Fax. 207-878-8507

GENERAL DETAIL
VORTECHS™ STORMWATER TREATMENT SYSTEM U.S. Patent No 5,759,415
TYPICAL SIZING CRITERIA

PROPRIETARY INFORMATION – NOT TO BE USED FOR CONSTRUCTION PURPOSES

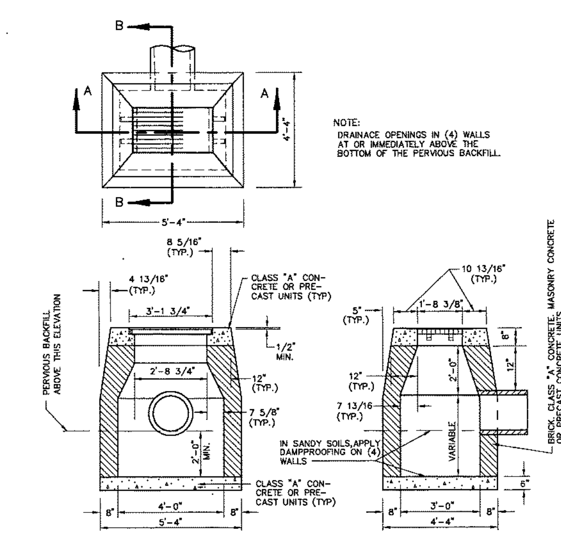
DATE: 6/04/98	SCALE. NONE	FILE NAME typtabl	DRAWN BY NDG	CHECKED BY: TRA



CONNECTICUT DEPARTMENT OF TRANSPORTATION

TYPE "C" CATCH BASIN

N.T.S. SW–003



TYPE "C–L" CATCH BASIN

N.T.S. SW–014

Resolution #799–17P

a. "According to Section 8–3.(i) of the Connecticut General Statutes, all work in connection with this Site Development Plan shall be completed within five years after the approval of the plan. Said five–year period shall expire on July 15, 2004."

b. "For conditions of approval for Special Permit, see Resolution #0799–17P."

REVISIONS
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2.
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4.
5.

PROGRESS STUDY

Drawing Title: DRAINAGE AND UTILITY DETAILS

Project: WILTON COMMERCIAL CENTER
RIVER ROAD
WILTON CONNECTICUT
PHASE 2

ADA
ALLAN DAVIS ASSOCIATES, INC.
488 Main Avenue
Norwalk, Connecticut
(203) 849–0898

JACK CURTIS & ASSOCIATES
SITE PLANNERS
LANDSCAPE ARCHITECTS
500 PURDY HILL ROAD
MONROE, CONNECTICUT 06468
PHONE 2034520797
FAX 2032684506

O+A ARCHITECTS
2452 BLACK ROCK TPK.
FAIRFIELD, CT 06432
TEL. 374–6882

architects

Project: 98032

Date: 12–22–99

Scale: N.T.S.

C–5

Appendix B

- FEMA Floodway Map
- Flood Storage Computations

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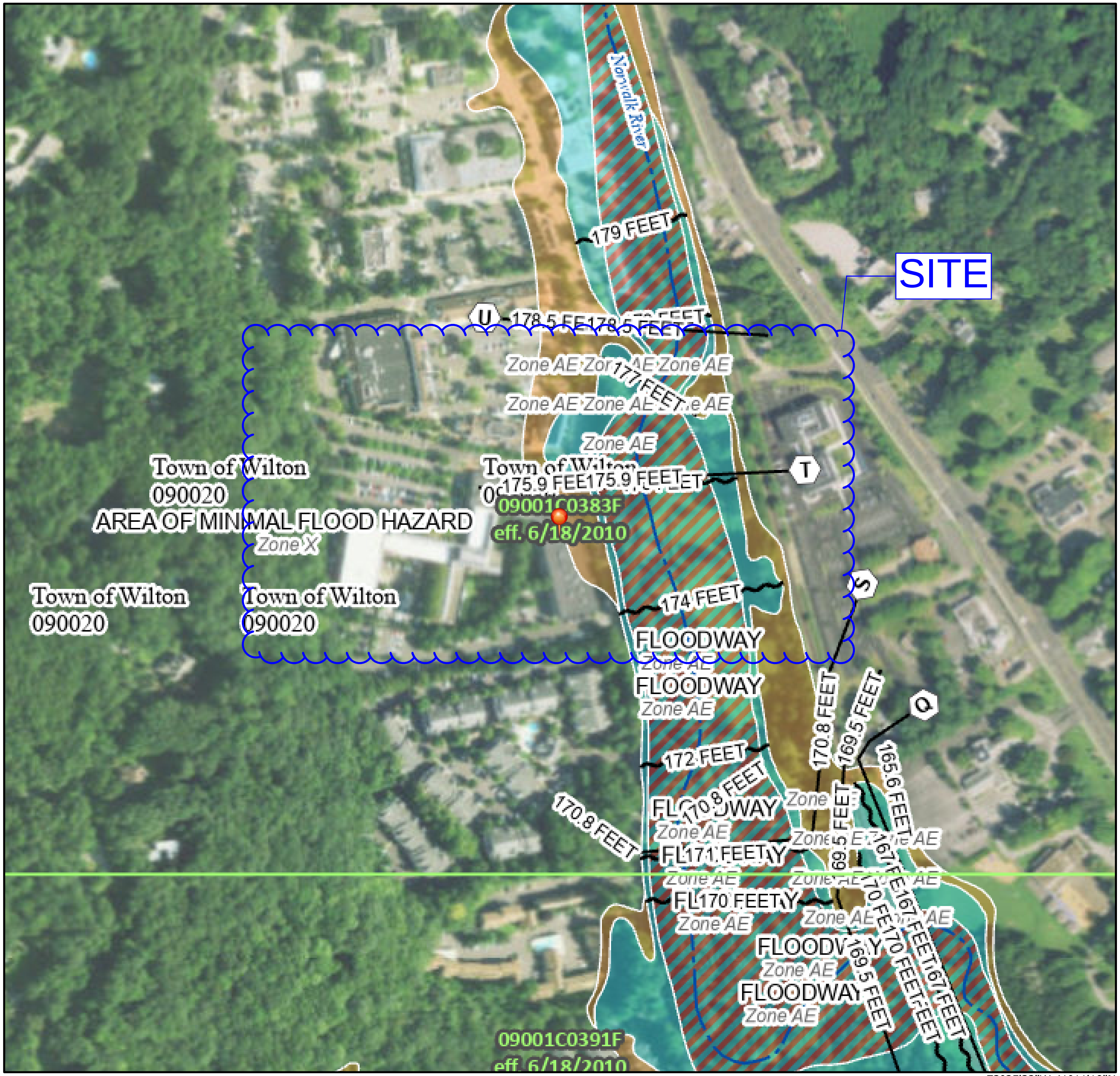
FEMA Floodway Map

National Flood Hazard Layer FIRMette

FEMA

73°26'9"W 41°11'37"N



73°25'32"W 41°11'10"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- B 20.2 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
- 8 Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

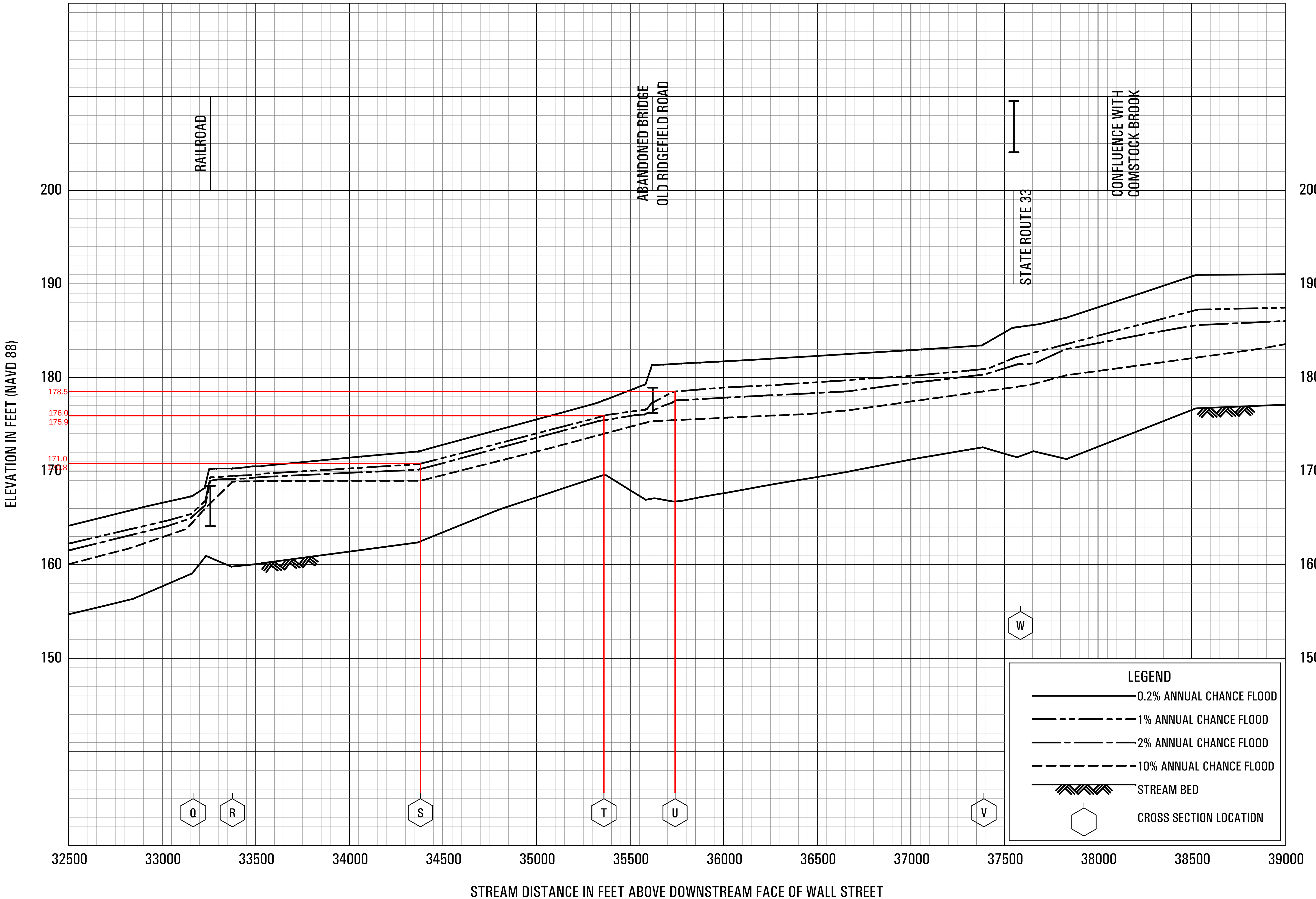
N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 9/21/2023 at 6:33 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.



FLOOD PROFILES

NORWALK RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

FAIRFIELD COUNTY, CT

(ALL JURISDICTIONS)

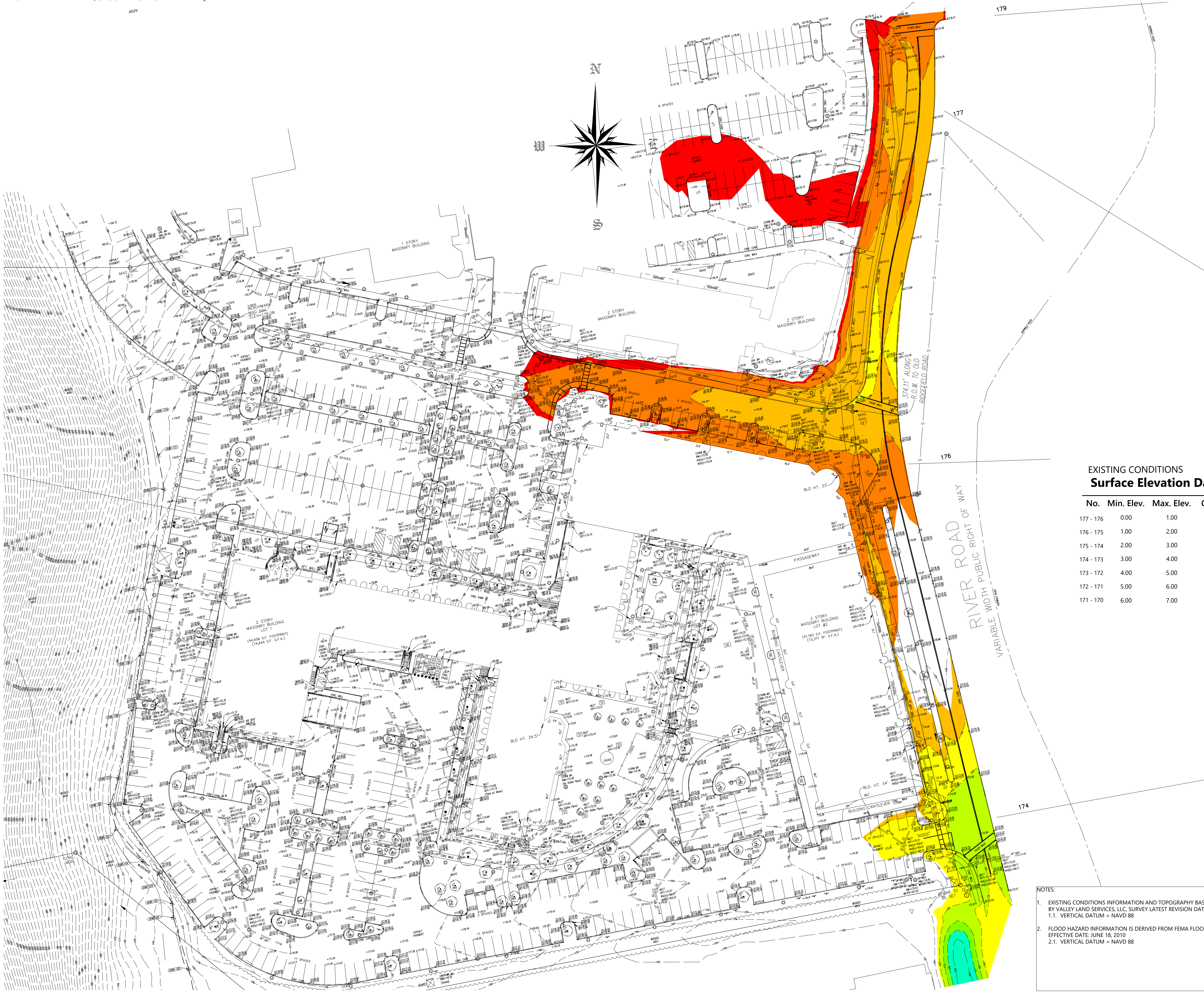
Flood Storage Computations

Title:	Existing VS Proposed Flood Storage Volume
Site Address:	21-23 River Rd, Wilton, CT
VHB Job No:	20849.00
Date:	4/16/2024

	Existing		Proopsed	
Elevation Range	Volume (CY)	Cumuliative	Volume (CY)	Cumulative
177 - 176	2434	5,898	2488	6,046
176 - 175	1880	3,464	1901	3,558
175 - 174	983	1,584	1036	1,657
174 - 173	419	601	428	621
173 - 172	107	182	118	193
172 - 171	48	75	48	75
171 - 170	27	27	27	27

Delta (CY)	Cumuliative Delta (CY)
54	148
21	94
53	73
9	20
11	11
0	0
0	0

\\vhb.com\gbl\proj\WhitePlains\20849.00 Wilton Cntr Redevelop\cad\ld\Planmisc\Flood\20849.00-Flood.dwg



EXISTING CONDITIONS
Surface Elevation Data

No.	Min. Elev.	Max. Elev.	Color	Volume
177 - 176	0.00	1.00		2434
176 - 175	1.00	2.00		1880
175 - 174	2.00	3.00		983
174 - 173	3.00	4.00		419
173 - 172	4.00	5.00		107
172 - 171	5.00	6.00		48
171 - 170	6.00	7.00		27

0 20 40 80 Feet

NOTES:

1. EXISTING CONDITIONS INFORMATION AND TOPOGRAPHY BASED OFF SURVEY PROVIDED BY VALLEY LAND SERVICES, LLC, SURVEY LATEST REVISION DATE: 10/4/2023
   1.1. VERTICAL DATUM = NAVD 88

2. FLOOD HAZARD INFORMATION IS DERIVED FROM FEMA FLOOD STUDY 09001C0383F, EFFECTIVE DATE: JUNE 18, 2010
   2.1. VERTICAL DATUM = NAVD 88

vhb.com

vhb

100 Great Meadow Road
Suite 200
Wethersfield, CT 06109
860.807.4300

Wilton Center Redevelopment

15-21 River Road
Wilton, Connecticut

No.	Revision	Date	Appvd.

Designed by MB
Checked by MRG

Issued for Review
Date 10/20/2023

Not Approved For Construction

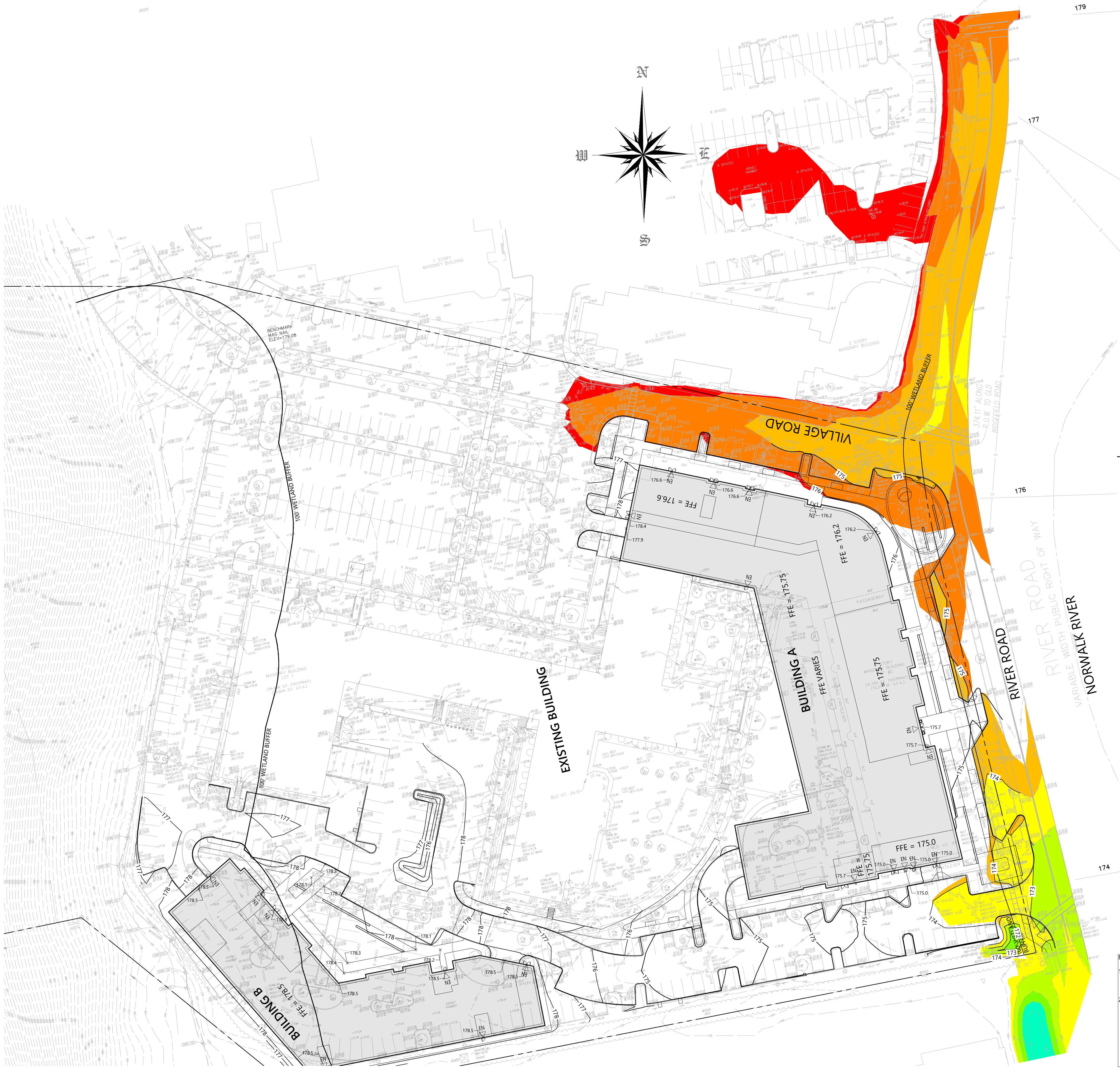
Drawing Title
Existing Conditions
FEMA 100YR
Base Flood Elevation Map

Drawing Number
F-1.0

Sheet 1 of 1

Project Number
20849.00

Saved Tuesday, April 16, 2024 5:08:06 PM MGROCKI Plotted Tuesday, April 16, 2024 5:09:47 PM Mark Grocki



PROPOSED CONDITIONS

Surface Elevation Data

No.	Min. Elev.	Max. Elev.	Color	Volume
177 - 176	0.00	1.00		2488
176 - 175	1.00	2.00		1901
175 - 174	2.00	3.00		1036
174 - 173	3.00	4.00		428
173 - 172	4.00	5.00		118
172 - 171	5.00	6.00		48
171 - 170	6.00	7.00		27

0 20 40 80 Feet

NOTES:

1. EXISTING CONDITIONS INFORMATION AND TOPOGRAPHY BASED OFF SURVEY PROVIDED BY VALLEY LAND SERVICES, LLC, SURVEY LATEST REVISION DATE: 10/4/2023
   1.1. VERTICAL DATUM = NAVD 88

2. FLOOD HAZARD INFORMATION IS DERIVED FROM FEMA FLOOD STUDY 09001C0383F, EFFECTIVE DATE: JUNE 18, 2010
   2.1. VERTICAL DATUM = NAVD 88

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100 Great Meadow Road
Suite 200
Wethersfield, CT 06109
860.807.4300

Wilton Center Redevelopment

15-21 River Road
Wilton, Connecticut

No.	Revision	Date	Appvd.

Designed by MB — Checked by MRG

Issued for: Review — Date: 10/20/2023

Not Approved For Construction

Drawing Title

Proposed Conditions FEMA 100YR Base Flood Elevation Map

Drawing Number

F-2.0

Sheet 1 of 1

Project Number 20849.00

Appendix C

- Water Quality Volumes
- Retention sizing
- Water Quality Unit Sizing
- Water Quality TSS
- StormCAD: Schematic
- StormCAD: Conduit Table (25-year storm event)

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Water Quality Volumes

Water Quality Volume Calculations

Project: Wilton Center Redevelopment By: KEE Date: 4/4/24
Location: 21 River Road, Wilton, CT Checked: MRG Date: 4/4/24

Basin Name	Building A (new roof only)	Building B			
Rainfall, P	1.00 in.	1.00 in.			a
Area, A	1.17 ac	0.56 ac			b
Impervious Cover Area	1.17 ac	0.56 ac			c
% Impervious, I	100 %	100 %			
Volumetric Runoff Coeff., R	0.950	0.950			d
Water Quality Volume, WQV	0.093 ac-ft	0.044 ac-ft			e
	4,045 cf	1,928 cf			
			5,973 Total (cf)		

[a] First one inch of rainfall; 2004 Connecticut Stormwater Quality Manual and per Town of Wilton

[b] Area tributary to the stormwater management basin

[c] Impervious cover area tributary to the stormwater management basin

[d] R=0.05+0.009*I; Section 7.4.1 from 2004 Connecticut Stormwater Quality Manual

[e] WQV=P*R*A/12; Section 7.4.1 from 2004 Connecticut Stormwater Quality Manual

Retention Sizing

Summary for Pond 10P: OFFLINE RETENTION SYSTEM - UG Chambers - Building A&B

4' underground concrete chambers OFFLINE for 1" WQV retention. System on plan will show slightly smaller since we will be able to reuse the 350' portion of the existing 36" perforated pipe that is within the existing swale under existing mature vegetation.

[43] Hint: Has no inflow (Outflow=Zero)

Volume	Invert	Avail.Storage	Storage Description
#1	170.80'	6,275 cf	**StormTrap** Listed below Inside #2
#2	170.80'	0 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 6,275 cf Overall - 6,275 cf Embedded = 0 cf
		6,275 cf	Total Available Storage

Elevation (feet)	Cum.Store (cubic-feet)
170.80	0
171.05	392
171.30	785
171.55	1,177
171.80	1,906
172.05	2,634
172.30	3,362
172.55	4,091
172.80	4,819
173.05	5,547
173.30	6,275

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
170.80	2,510	0	0
173.30	2,510	6,275	6,275

Device	Routing	Invert	Outlet Devices
#1	Discarded	170.80'	**1.000 in/hr Exfiltration over Horizontal area** Phase-In= 0.01'
#2	Primary	173.30'	**6.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Discarded OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
└─**1=Exfiltration** (Controls 0.00 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
└─**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Water Quality Unit Sizing

Computations

Project:	Wilton Center Redevelopment	Project #	20849
Location:	21 River Road, Wilton, CT		
Calculated by:	KEE	Date:	4/17/2024
Checked by:	MRG	Date:	4/17/2024
Title	Water Quality Flow Calculations		

102

Area Impervious:	0.261	Acres
Total Area [A]:	0.326	Acres
I:	80.00	%
R:	0.77	
WQV:	0.02	Ac-ft
Q:	0.77	Inches
CN:	98	
P:	1.00	inch
I_a:	0.041	
T_c:	5.00	minutes
q_u:	700.00	
WQF:	0.27	CFS

103

Area Impervious:	0.570	Acres
Total Area [A]:	0.801	Acres
I:	71.22	%
R:	0.69	
WQV:	0.05	Ac-ft
Q:	0.69	Inches
CN:	97	
P:	1.00	inch
I_a:	0.062	
T_c:	5.00	minutes
q_u:	700.00	
WQF:	0.61	CFS

107

Area Impervious:	0.383	Acres
Total Area [A]:	0.504	Acres
I:	75.99	%
R:	0.73	
WQV:	0.03	Ac-ft
Q:	0.73	Inches
CN:	97	
P:	1.00	inch
I_a:	0.062	
T_c:	5.00	minutes
q_u:	700.00	
WQF:	0.40	CFS

109

Area Impervious:	0.078	Acres
Total Area [A]:	0.092	Acres
I:	84.78	%
R:	0.81	
WQV:	0.01	Ac-ft
Q:	0.81	Inches
CN:	98	
P:	1.00	inch
I_a:	0.041	
T_c:	5.00	minutes
q_u:	700.00	
WQF:	0.08	CFS

111

Area Impervious:	0.167	Acres
Total Area [A]:	0.182	Acres
I:	91.76	%
R:	0.88	
WQV:	0.01	Ac-ft
Q:	0.88	Inches
CN:	99	
P:	1.00	inch
I_a:	0.041	
T_c:	5.00	minutes
q_u:	700.00	
WQF:	0.17	CFS

118

Area Impervious:	0.300	Acres
Total Area [A]:	0.356	Acres
I:	84.35	%
R:	0.81	
WQV:	0.02	Ac-ft
Q:	0.81	Inches
CN:	98	
P:	1.00	inch
I_a:	0.041	
T_c:	5.00	minutes
q_u:	700.00	
WQF:	0.32	CFS

Water Quality TSS

Estimated Net Annual Solids Load Reduction
Based on the Rational Rainfall Method

CONTECH ENGINEERED SOLUTIONS

CASCADE separator™

21-23 RIVER RD REDEVELOPMENT
WILTON, CT
WQU 102

AREA	0.33	acres	**CASCADE MODEL**	CS-3	
WEIGHTED C	0.78		**PARTICLE SIZE**	110	microns
TC	5.00	minutes	**RAINFALL STATION**	34	

Rainfall Intensity[1] (in/hr)	Percent Rainfall Volume[1]	Hydraulic Loading Rate (gpm/ft2)	Removal Efficiency (%)	Incremental Removal (%)
0.02	9.7%	0.32	100.0	9.7
0.04	9.7%	0.65	100.0	9.7
0.06	9.8%	0.97	100.0	9.8
0.08	7.7%	1.29	100.0	7.7
0.10	8.0%	1.61	100.0	8.0
0.12	5.4%	1.94	100.0	5.4
0.14	4.7%	2.26	100.0	4.7
0.16	5.5%	2.58	100.0	5.5
0.18	3.5%	2.91	100.0	3.5
0.20	4.1%	3.23	100.0	4.1
0.25	6.5%	4.04	100.0	6.5
0.30	5.5%	4.84	100.0	5.5
0.35	4.0%	5.65	100.0	4.0
0.40	2.0%	6.46	100.0	2.0
0.45	2.1%	7.27	100.0	2.1
0.50	2.0%	8.07	100.0	2.0
0.75	5.1%	12.11	100.0	5.1
1.00	2.5%	16.15	96.7	2.4
1.50	1.8%	24.22	89.1	1.6
2.00	0.5%	32.29	81.5	0.4
				99.6
			Removal Efficiency Adjustment[2] =	6.5%
			Predicted % Annual Rainfall Treated =	93.5%
			Predicted Net Annual Load Removal Efficiency =	**93.2%**

1 - Based on 10 years of hourly precipitation data from NCDC station 806, Bridgeport WSO ARPT, Fairfield County, CT

2 - Reduction due to use of 60-minute data for a site that has a time of concentration less than 30-minutes.

Estimated Net Annual Solids Load Reduction
Based on the Rational Rainfall Method

CONTECH ENGINEERED SOLUTIONS

CASCADE separator™

21-23 RIVER RD REDEVELOPMENT
WILTON, CT
WQU 103

AREA	0.80	acres	**CASCADE MODEL**	CS-3	
WEIGHTED C	0.73		**PARTICLE SIZE**	110	microns
TC	5.00	minutes	**RAINFALL STATION**	34	

Rainfall Intensity[1] (in/hr)	Percent Rainfall Volume[1]	Hydraulic Loading Rate (gpm/ft2)	Removal Efficiency (%)	Incremental Removal (%)
0.02	9.7%	0.74	100.0	9.7
0.04	9.7%	1.48	100.0	9.7
0.06	9.8%	2.22	100.0	9.8
0.08	7.7%	2.97	100.0	7.7
0.10	8.0%	3.71	100.0	8.0
0.12	5.4%	4.45	100.0	5.4
0.14	4.7%	5.19	100.0	4.7
0.16	5.5%	5.93	100.0	5.5
0.18	3.5%	6.67	100.0	3.5
0.20	4.1%	7.42	100.0	4.1
0.25	6.5%	9.27	100.0	6.5
0.30	5.5%	11.12	100.0	5.5
0.35	4.0%	12.98	99.7	4.0
0.40	2.0%	14.83	98.0	1.9
0.45	2.1%	16.69	96.2	2.1
0.50	2.0%	18.54	94.5	1.9
0.75	5.1%	27.81	85.8	4.4
1.00	2.5%	37.08	77.0	1.9
1.50	1.8%	55.62	59.6	1.1
2.00	0.5%	63.50	44.7	0.2
				97.5
			Removal Efficiency Adjustment[2] =	6.5%
			Predicted % Annual Rainfall Treated =	93.5%
			Predicted Net Annual Load Removal Efficiency =	**91.0%**

1 - Based on 10 years of hourly precipitation data from NCDC station 806, Bridgeport WSO ARPT, Fairfield County, CT

2 - Reduction due to use of 60-minute data for a site that has a time of concentration less than 30-minutes.

CDS ESTIMATED NET ANNUAL SOLIDS LOAD REDUCTION
BASED ON THE RATIONAL RAINFALL METHOD

21-23 RIVER RD REDEVELOPMENT
WILTON, CT

Area	**0.50 ac**	Unit Site Designation	**WQU 107**
Weighted C	**0.76**	Rainfall Station #	**34**
t_c	**5 min**		
CDS Model	**2015-4**	CDS Treatment Capacity	**1.4 cfs**

Rainfall Intensity[1] (in/hr)	Percent Rainfall Volume[1]	Cumulative Rainfall Volume	Total Flowrate (cfs)	Treated Flowrate (cfs)	Incremental Removal (%)
0.02	9.7%	9.7%	0.01	0.01	9.4
0.04	9.7%	19.4%	0.02	0.02	9.3
0.06	9.8%	29.2%	0.02	0.02	9.4
0.08	7.7%	36.9%	0.03	0.03	7.3
0.10	8.0%	44.9%	0.04	0.04	7.7
0.12	5.4%	50.3%	0.05	0.05	5.2
0.14	4.7%	55.0%	0.05	0.05	4.4
0.16	5.5%	60.5%	0.06	0.06	5.2
0.18	3.5%	63.9%	0.07	0.07	3.2
0.20	4.1%	68.0%	0.08	0.08	3.8
0.25	6.5%	74.5%	0.10	0.10	6.0
0.30	5.5%	80.0%	0.11	0.11	5.0
0.35	4.0%	84.0%	0.13	0.13	3.6
0.40	2.0%	86.0%	0.15	0.15	1.8
0.45	2.1%	88.1%	0.17	0.17	1.9
0.50	2.0%	90.2%	0.19	0.19	1.8
0.75	5.1%	95.3%	0.29	0.29	4.3
1.00	2.5%	97.8%	0.38	0.38	1.9
1.50	1.8%	99.5%	0.57	0.57	1.2
2.00	0.5%	100.0%	0.76	0.76	0.3
					92.8
				Removal Efficiency Adjustment[2] =	6.5%
				Predicted % Annual Rainfall Treated =	93.5%
				Predicted Net Annual Load Removal Efficiency =	**86.4%**

1 - Based on 10 years of hourly precipitation data from NCDC station 806, Bridgeport WSO ARPT, Fairfield County, CT
2 - Reduction due to use of 60-minute data for a site that has a time of concentration less than 30-minutes.

CDS ESTIMATED NET ANNUAL SOLIDS LOAD REDUCTION
BASED ON THE RATIONAL RAINFALL METHOD

21-23 RIVER RD REDEVELOPMENT
WILTON, CT

Area	**0.09 ac**	Unit Site Designation	**WQU 109**
Weighted C	**0.81**	Rainfall Station #	**34**
t_c	**5 min**		
CDS Model	**2015-4**	CDS Treatment Capacity	**1.4 cfs**

Rainfall Intensity[1] (in/hr)	Percent Rainfall Volume[1]	Cumulative Rainfall Volume	Total Flowrate (cfs)	Treated Flowrate (cfs)	Incremental Removal (%)
0.02	9.7%	9.7%	0.00	0.00	9.4
0.04	9.7%	19.4%	0.00	0.00	9.4
0.06	9.8%	29.2%	0.00	0.00	9.5
0.08	7.7%	36.9%	0.01	0.01	7.4
0.10	8.0%	44.9%	0.01	0.01	7.8
0.12	5.4%	50.3%	0.01	0.01	5.3
0.14	4.7%	55.0%	0.01	0.01	4.5
0.16	5.5%	60.5%	0.01	0.01	5.3
0.18	3.5%	63.9%	0.01	0.01	3.3
0.20	4.1%	68.0%	0.01	0.01	3.9
0.25	6.5%	74.5%	0.02	0.02	6.3
0.30	5.5%	80.0%	0.02	0.02	5.3
0.35	4.0%	84.0%	0.03	0.03	3.9
0.40	2.0%	86.0%	0.03	0.03	1.9
0.45	2.1%	88.1%	0.03	0.03	2.0
0.50	2.0%	90.2%	0.04	0.04	1.9
0.75	5.1%	95.3%	0.06	0.06	4.8
1.00	2.5%	97.8%	0.07	0.07	2.3
1.50	1.8%	99.5%	0.11	0.11	1.6
2.00	0.5%	100.0%	0.15	0.15	0.4
					96.4
				Removal Efficiency Adjustment[2] =	6.5%
				Predicted % Annual Rainfall Treated =	93.5%
				Predicted Net Annual Load Removal Efficiency =	**89.9%**

1 - Based on 10 years of hourly precipitation data from NCDC station 806, Bridgeport WSO ARPT, Fairfield County, CT
2 - Reduction due to use of 60-minute data for a site that has a time of concentration less than 30-minutes.

CDS ESTIMATED NET ANNUAL SOLIDS LOAD REDUCTION BASED ON THE RATIONAL RAINFALL METHOD

21-23 RIVER RD REDEVELOPMENT
WILTON, CT

Area	0.18 ac	Unit Site Designation	WQU 111
Weighted C	0.85	Rainfall Station #	34
t_c	5 min		
CDS Model	2015-4	CDS Treatment Capacity	1.4 cfs

Rainfall Intensity[1] (in/hr)	Percent Rainfall Volume[1]	Cumulative Rainfall Volume	Total Flowrate (cfs)	Treated Flowrate (cfs)	Incremental Removal (%)
0.02	9.7%	9.7%	0.00	0.00	9.4
0.04	9.7%	19.4%	0.01	0.01	9.4
0.06	9.8%	29.2%	0.01	0.01	9.5
0.08	7.7%	36.9%	0.01	0.01	7.4
0.10	8.0%	44.9%	0.02	0.02	7.8
0.12	5.4%	50.3%	0.02	0.02	5.2
0.14	4.7%	55.0%	0.02	0.02	4.5
0.16	5.5%	60.5%	0.02	0.02	5.3
0.18	3.5%	63.9%	0.03	0.03	3.3
0.20	4.1%	68.0%	0.03	0.03	3.9
0.25	6.5%	74.5%	0.04	0.04	6.2
0.30	5.5%	80.0%	0.05	0.05	5.2
0.35	4.0%	84.0%	0.05	0.05	3.8
0.40	2.0%	86.0%	0.06	0.06	1.9
0.45	2.1%	88.1%	0.07	0.07	2.0
0.50	2.0%	90.2%	0.08	0.08	1.9
0.75	5.1%	95.3%	0.12	0.12	4.7
1.00	2.5%	97.8%	0.15	0.15	2.2
1.50	1.8%	99.5%	0.23	0.23	1.5
2.00	0.5%	100.0%	0.31	0.31	0.4
					95.4
				Removal Efficiency Adjustment[2] =	6.5%
				Predicted % Annual Rainfall Treated =	93.5%
				Predicted Net Annual Load Removal Efficiency =	**89.0%**

1 - Based on 10 years of hourly precipitation data from NCDC station 806, Bridgeport WSO ARPT, Fairfield County, CT
2 - Reduction due to use of 60-minute data for a site that has a time of concentration less than 30-minutes.

CDS ESTIMATED NET ANNUAL SOLIDS LOAD REDUCTION BASED ON THE RATIONAL RAINFALL METHOD

21-23 RIVER RD REDEVELOPMENT
WILTON, CT

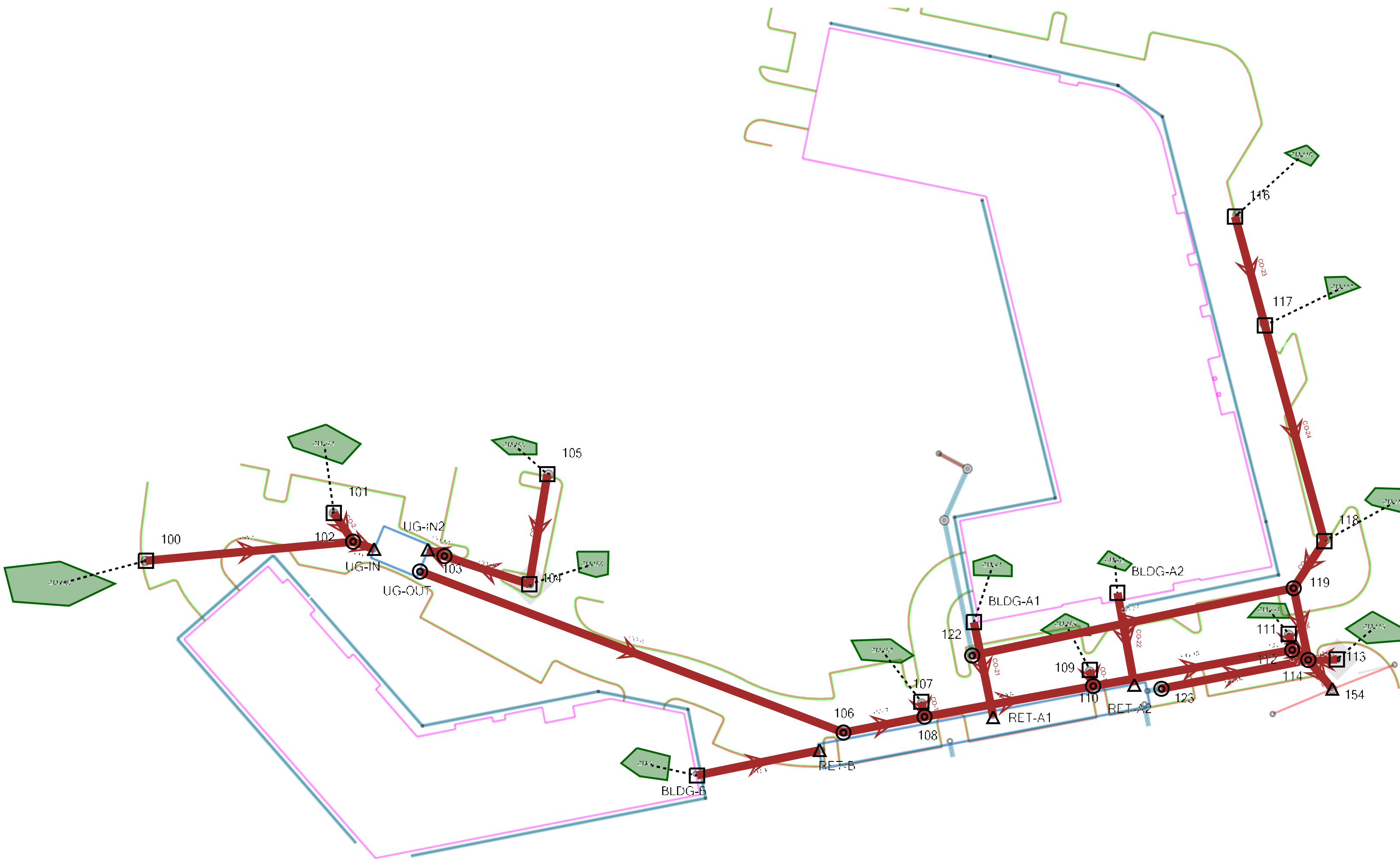
Area	**0.36 ac**	Unit Site Designation	**WQU 118**
Weighted C	**0.81**	Rainfall Station #	**34**
t_c	**5 min**		
CDS Model	**2015-4**	CDS Treatment Capacity	**1.4 cfs**

Rainfall Intensity[1] (in/hr)	Percent Rainfall Volume[1]	Cumulative Rainfall Volume	Total Flowrate (cfs)	Treated Flowrate (cfs)	Incremental Removal (%)
0.02	9.7%	9.7%	0.01	0.01	9.4
0.04	9.7%	19.4%	0.01	0.01	9.4
0.06	9.8%	29.2%	0.02	0.02	9.5
0.08	7.7%	36.9%	0.02	0.02	7.4
0.10	8.0%	44.9%	0.03	0.03	7.7
0.12	5.4%	50.3%	0.03	0.03	5.2
0.14	4.7%	55.0%	0.04	0.04	4.4
0.16	5.5%	60.5%	0.05	0.05	5.2
0.18	3.5%	63.9%	0.05	0.05	3.3
0.20	4.1%	68.0%	0.06	0.06	3.9
0.25	6.5%	74.5%	0.07	0.07	6.1
0.30	5.5%	80.0%	0.09	0.09	5.1
0.35	4.0%	84.0%	0.10	0.10	3.7
0.40	2.0%	86.0%	0.11	0.11	1.8
0.45	2.1%	88.1%	0.13	0.13	1.9
0.50	2.0%	90.2%	0.14	0.14	1.8
0.75	5.1%	95.3%	0.22	0.22	4.4
1.00	2.5%	97.8%	0.29	0.29	2.1
1.50	1.8%	99.5%	0.43	0.43	1.3
2.00	0.5%	100.0%	0.57	0.57	0.3
					93.9
				Removal Efficiency Adjustment[2] =	6.5%
				Predicted % Annual Rainfall Treated =	93.5%
				Predicted Net Annual Load Removal Efficiency =	**87.5%**

1 - Based on 10 years of hourly precipitation data from NCDC station 806, Bridgeport WSO ARPT, Fairfield County, CT
2 - Reduction due to use of 60-minute data for a site that has a time of concentration less than 30-minutes.

StormCAD: Schematic

Scenario: Base



StormCAD: Conduit Table (25-year Storm Event)

Scenario: Base
Current Time Step: 0 h
FlexTable: Conduit Table

Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Length (Scaled) (ft)	Slope (Calculated) (ft/ft)	Diameter (in)	Manning's n	Flow (cfs)	Velocity (ft/s)	Depth (Out) (ft)	Capacity (Full Flow) (cfs)	Flow / Capacity (Design) (%)	Hydraulic Grade Line (In) (ft)	Hydraulic Grade Line (Out) (ft)	Cover (Start) (ft)	Cover (Stop) (ft)
100	173.90	102	173.35	130.7	0.004	10.0	0.013	0.94	2.78	0.62	1.42	65.9	174.39	173.97	1.77	3.12
101	173.80	102	173.60	21.7	0.009	12.0	0.013	1.28	4.04	0.42	3.42	37.5	174.28	174.02	2.00	2.70
102	173.35	UG-IN	173.20	14.1	0.017	12.0	0.013	2.12	5.74	0.51	4.60	46.0	173.97	173.71	2.95	3.20
BLDG-B	173.00	RET-B	171.50	78.7	0.019	12.0	0.013	4.37	7.08	0.73	4.92	88.9	173.88	172.23	4.50	2.50
UG-OUT	173.25	106	171.80	284.8	0.005	18.0	0.013	6.55	4.78	0.99	7.50	87.4	174.34	172.79	2.85	1.10
106	171.80	108	171.20	51.9	0.012	18.0	0.013	6.55	6.63	1.36	11.30	58.0	172.79	172.56	1.10	1.50
108	171.20	110	170.90	107.7	0.003	24.0	0.013	9.84	4.24	1.27	11.94	82.5	172.56	172.17	1.00	2.00
112	170.40	114	170.20	11.9	0.017	24.0	0.013	11.56	8.78	1.01	29.34	39.4	171.62	171.21	1.40	2.50
114	167.75	154	167.60	23.7	0.006	30.0	0.013	31.76	7.58	1.92	32.65	97.3	169.73	169.52	4.45	1.90
107	171.40	108	171.20	9.6	0.024	12.0	0.013	3.30	4.20	1.36	5.56	59.3	172.63	172.56	1.70	2.00
111	170.50	112	170.40	10.4	0.011	12.0	0.013	1.34	1.71	1.22	3.66	36.7	171.63	171.62	1.80	2.40
105	174.30	104	173.80	70.2	0.007	12.0	0.013	1.47	3.81	0.90	3.01	48.9	174.81	174.70	2.00	2.00
104	173.80	103	173.40	53.1	0.008	15.0	0.013	4.96	5.29	0.89	5.78	85.8	174.70	174.29	1.75	2.75
103	173.40	UG-IN2	173.25	14.3	0.012	15.0	0.013	4.91	6.13	0.80	6.94	70.8	174.30	174.05	2.75	2.90
110	170.90	112	170.40	127.1	0.004	24.0	0.013	10.39	4.93	1.22	14.19	73.2	172.17	171.62	2.00	1.40
109	171.60	110	171.40	10.3	0.022	12.0	0.013	0.64	4.58	0.77	5.31	12.1	172.16	172.17	2.00	2.50
113	168.50	114	168.30	18.0	0.011	18.0	0.013	0.40	2.97	1.43	11.08	3.6	169.73	169.73	2.00	4.90
BLDG-A1	171.80	RET-A1	171.50	57.6	0.005	15.0	0.013	4.57	4.33	0.87	4.66	98.0	172.79	172.37	2.70	2.25
BLDG-A2	171.80	RET-A2	171.50	56.5	0.005	15.0	0.013	4.57	4.37	0.87	4.71	97.0	172.78	172.37	2.70	2.35
116	171.90	117	171.50	71.1	0.006	12.0	0.013	0.87	3.04	0.39	2.67	32.5	172.29	171.89	1.80	2.30
117	171.30	118	170.60	140.9	0.005	12.0	0.013	1.33	3.24	0.61	2.51	52.9	171.82	171.21	2.50	1.70
118	170.60	119	170.20	35.4	0.011	15.0	0.013	2.32	5.05	0.50	6.87	33.8	171.21	170.70	1.45	2.85
119	167.90	114	167.75	46.1	0.003	24.0	0.013	10.47	4.58	1.98	12.90	81.1	169.81	169.73	4.40	4.95
122	168.45	119	167.90	206.4	0.003	24.0	0.013	8.17	4.02	1.91	11.68	70.0	170.03	169.81	4.55	4.40
123	172.40	114	172.00	94.0	0.004	24.0	0.013	12.33	5.26	1.26	14.76	83.6	173.80	173.26	1.00	0.70

\\vhb\gbl\proj\WhitePlains\20849.00 Wilton Cntr Redevelop\tech\Drainage\StormCAD\20849_STormCAD.stsw

Appendix D

› Geotechnical Report

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Geotechnical Report

GEI Consultants

April 18, 2024

Consulting Engineers and Scientists

Nicholas Brown
KIMCO Realty
500 North Broadway, Suite 201
Jericho, NY 11753

Reference: **Site Infiltration Testing Results**
21-23 River Road Redevelopment
Wilton, CT

Dear Mr. Brown:

This letter report presents the results of GEI's recent test boring investigations and infiltration testing at the site.

Project Understanding

We understand proposed development on the referenced property is to consist of two (2) new multi-use buildings constructed over the footprint of the existing retail and commercial campus. Site grades are expected to remain largely consistent between the current and new developments.

To date, we have been provided with the *"Grading and Drainage Plan, C-3.0,"*, dated 04/18/24, by VHB. We understand at this time that site stormwater management is to be accomplished using a series of underground detention chambers installed beneath the current (and future) parking areas along the south side of the property.

Test Borings

The boring locations were laid out from the provided site plan using approximate measurements from site features and handheld GPS. Approximate boring locations relative to the site plan are shown on Figure 1.

Five (5) soil test borings (VB-1 through VB-5) were performed at the site on April 3, 2024, by Cisco Geotechnical, LLC, under subcontract to GEI, using a GeoProbe rig. The appropriate one-call utility location service (Call Before You Dig) was contacted prior to our arrival. Each boring location was also pre-scanned for utilities using geophysical methods. Boring logs are attached.

Borings were first advanced using augering techniques through asphalt to at or near the requested infiltration testing depth. Infiltration testing was then conducted at most locations using the procedures referenced below. Following completion of this testing, soil samples were obtained using a continuous macrocore sampler to up to 5 feet below the testing interval. Each boring was logged and photographed by a GEI representative.

All borings were backfilled with drill cuttings upon completion and patched at the surface using

GEI Consultants, Inc.
455 Winding Brook Drive, Suite 201
Glastonbury, CT 06033
860.368.5300

cold-patch asphalt.

Elevations referenced in this report and on the attached boring logs were estimated from the provided topographic plan of the property.

In-place Permeability Testing

Downhole falling-head infiltration testing was conducted within all borings, with exception of VB-3, at depths of 4.2 to 5.0 feet below existing grade. In borings VB-3 and VB-4, infiltration testing was initially unsuccessful at depth due to proximity of the groundwater table. A second test was then conducted at shallower depth at VB-4 in an offset boring.

Following advancement of the boring to the testing depth, approximately 12 inches of filter sand was installed within the borehole and a 2-inch PVC casing suitably embedded. Falling-head testing was then conducted, the results of which are attached.

Subsurface Conditions

The referenced property lies on a broad sand and gravel outwash plain extending westward from the Norwalk River and adjacent River Road.

Soils encountered during the investigation were generally classified as silty gravelly sand to sandy gravel with about 10 to 20 percent non-plastic fines and about 30 to 55 percent gravel to cobbles. Materials were also noted within the sampler to be locked in a tight matrix.

Groundwater Conditions

Groundwater was directly measured in borings VB-3 and VB-4 at depths of 8.0 feet and 7.5 feet, respectively. At the other locations, groundwater measurements were influenced by the addition of water for infiltration testing, but were interpreted from soil and sampler conditions to be at similar depths. We note that this investigation was conducted during an exceedingly wet seasonal pattern.

The groundwater conditions affecting this facility are expected to be highly reflective of seasonal patterns and, in particular, water levels in the Norwalk River. Groundwater measurements made at different times and different locations may be significantly different than the measurements taken as part of this investigation.

Subsurface Drainage Design

Infiltration testing results, where not influenced by obstructions or other outlying features (as noted on the testing results), varied between 0.95 and 5.04 inches/hour. In boring VB-2, in our opinion, introduction of water during the first test appears to have opened a preferential water path and influenced the second run. Boring VB-1 appears to have encountered a dormant utility at the testing depth, which caused restriction of downward infiltration.

Based on the results of the borings, proposed stormwater management features would likely be founded in relatively uniform, moderately well-draining sands and gravels. The investigation program included in-place permeability testing within four (4) of the test borings, the results of which are attached. Based on these results, we recommend assuming a field-measured infiltration rate of **2.0 inches/hour** for design.

Per CT DEEP regulations, a factor of safety of 2.0 should be applied to the field-measured value for stormwater calculations.

Closure

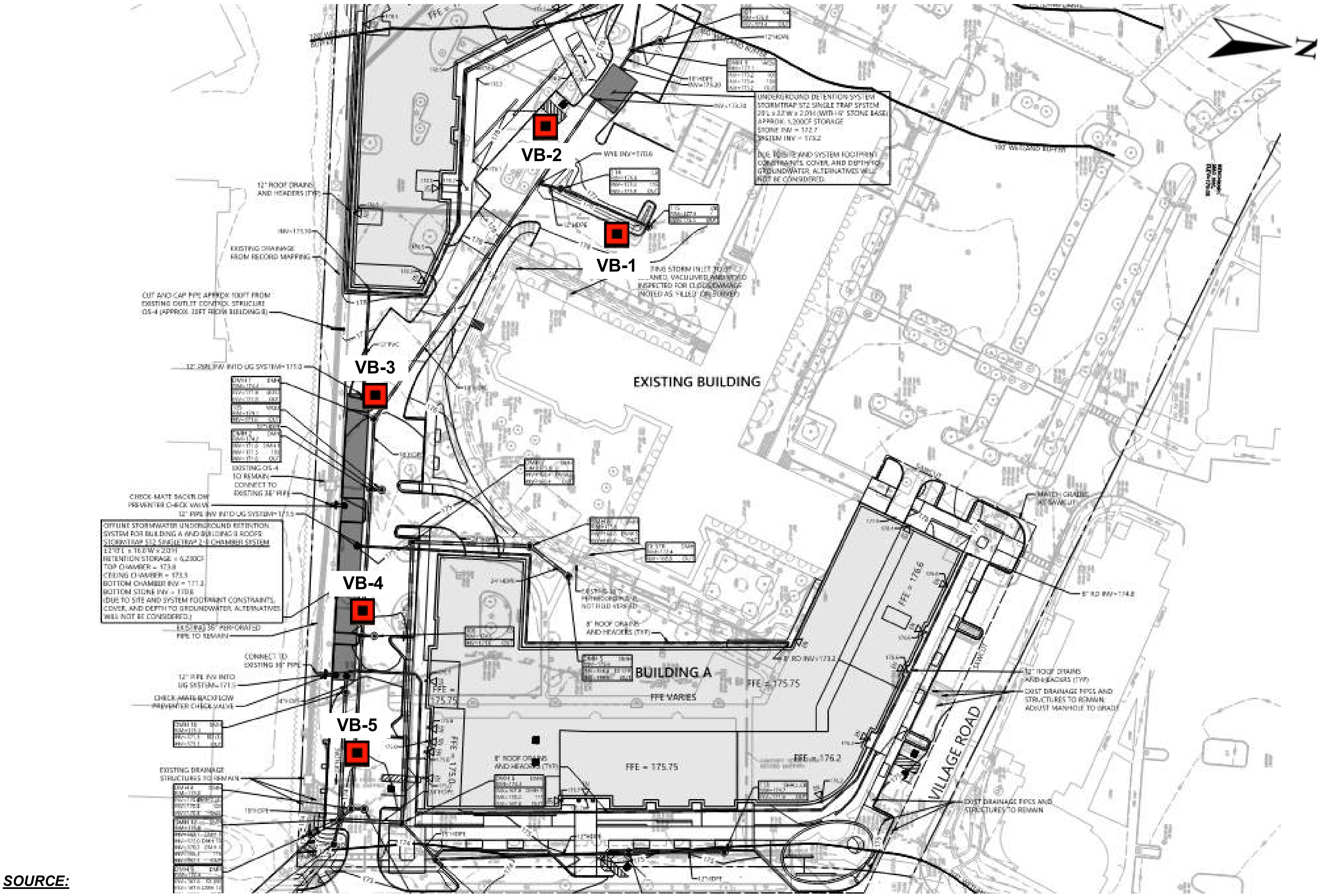
We look forward to our continued efforts in moving this project forward. Please call Matt at (860) 368-5301 should you have any questions or require any clarifications.

Sincerely,
GEI CONSULTANTS, INC.

Matthew Glunt, P.E.
Senior Geotechnical Engineer

Thomas Rezzani, E.I.T.
Geotechnical Professional

Enclosure: Exploration Location Plan
Boring Logs
Infiltration Testing Results



SOURCE:

Base map - "C-3.0", *GRADING AND DRAINAGE PLAN*, VHB, 04/18/24.

LEGEND:

■ Approximate Test Pit Location

GEI Consultants

EXPLORATION LOCATION PLAN
21-23 RIVER ROAD
WILTON, CT

GEI PROJECT NO: **2403682**

FIGURE NO. 1

BORING INFORMATION

LOCATION: See Boring Location Plan.

GROUND SURFACE EL. (ft): 178 | **DATE START/END:** 4/3/2024 - 4/3/2024

VERTICAL DATUM: | **DRILLING COMPANY:** Cisco Environmental

TOTAL DEPTH (ft): 8.0 | **DRILLER NAME:** J. Knapp

LOGGED BY: T. Rezzani | **RIG TYPE:** 7822DT

BORING VB-1

DRILLING INFORMATION

HAMMER TYPE: N/A | **CASING I.D./O.D.:** NA/ NA | **CORE BARREL TYPE:** N/A

AUGER I.D./O.D.: 3.25 inch / 6.5 inch | **DRILL ROD O.D.:** NM | **CORE BARREL I.D./O.D.** NA / NA

DRILLING METHOD: Geoprobe

WATER LEVEL DEPTHS (ft): ⊻ 7.5 4/3/2024 GW level interpreted

ABBREVIATIONS:
Pen. = Penetration Length
Rec. = Recovery Length
RQD = Rock Quality Designation = Length of Sound Cores>4 in / Pen.,%
WOR = Weight of Rods
WOH = Weight of Hammer
S = Split Spoon Sample
C = Core Sample
U = Undisturbed Sample
SC = Sonic Core
DP = Direct Push Sample
HSA = Hollow-Stem Auger
Qp = Pocket Penetrometer Strength
Sv = Pocket Torvane Shear Strength
LL = Liquid Limit
PI = Plasticity Index
PID = Photoionization Detector
I.D./O.D. = Inside Diameter/Outside Diameter
NA, NM = Not Applicable, Not Measured
Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample No.	Sample Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
							SAND & GRAVEL	DRILL CUTTINGS (0-4.0'): SILTY SAND WITH GRAVEL (SM); ~65% F-C sand, ~20% F-C gravel, ~15% NP fines, brown, moist.
	5	S1	3 to 8	60/49		Filter sand introduced @ 3.0-4.2 ft. Infiltration test @ 4.2 ft.		S1 (4.0-8.0') WIDELY GRADED GRAVEL WITH SILT AND SAND (GW-GM); ~55% F-C gravel, ~35% F-C sand, ~10% NP fines, brown, wet (test water).
170	10							Planned Extent. Backfilled with drill cuttings and cold patch asphalt.

NOTES:

PROJECT NAME: 21-23 River Rd Redevelopment

CITY/STATE: Wilton, Connecticut

GEI PROJECT NUMBER: 2403682

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PHOTOGRAPHIC RECORD – 21-23 River Rd – Project No. 2403682

VB- 1 (3.0 to 8.0 FT)
Photographer: T. Rezzani
Note Filter Sand at top of sample

BORING INFORMATION

LOCATION: See Boring Location Plan.

GROUND SURFACE EL. (ft): 178

VERTICAL DATUM:

TOTAL DEPTH (ft): 9.0

LOGGED BY: T. Rezzani

DATE START/END: 4/3/2024 - 4/3/2024

DRILLING COMPANY: Cisco Environmental

DRILLER NAME: J. Knapp

RIG TYPE: 7822DT

BORING VB-2

DRILLING INFORMATION

HAMMER TYPE: N/A

AUGER I.D./O.D.: 3.25 inch / 6.5 inch

CASING I.D./O.D.: NA/ NA

DRILL ROD O.D.: NM

CORE BARREL TYPE: N/A

CORE BARREL I.D./O.D. NA / NA

DRILLING METHOD: Geoprobe

WATER LEVEL DEPTHS (ft): ⊻ 7.5 4/3/2024 GW level interpreted

ABBREVIATIONS:

Pen. = Penetration Length
Rec. = Recovery Length
RQD = Rock Quality Designation = Length of Sound Cores>4 in / Pen.,%
WOR = Weight of Rods
WOH = Weight of Hammer
S = Split Spoon Sample
C = Core Sample
U = Undisturbed Sample
SC = Sonic Core
DP = Direct Push Sample
HSA = Hollow-Stem Auger
Qp = Pocket Penetrometer Strength
Sv = Pocket Torvane Shear Strength
LL = Liquid Limit
PI = Plasticity Index
PID = Photoionization Detector
I.D./O.D. = Inside Diameter/Outside Diameter
NA, NM = Not Applicable, Not Measured
Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample No.	Sample Depth (ft)	Pen./Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
							SAND & GRAVEL	DRILL CUTTINGS (0-5.0'): SILTY SAND WITH GRAVEL (SM); ~70% F-C sand, ~15% F-C gravel, ~15% NP fines, frequent cobbles, brown dry.
	5	S1	4 to 9	60/39		Filter sand introduced @ 4.0-5.0 ft. Infiltration test @ 5.0 ft.		S1 (5.0-9.0'): SILTY SAND WITH GRAVEL (SM); ~45% F-C sand, ~35% F-C gravel, ~20% NP fines, brown, wet (test water).
170								
	10							Planned Extent. Backfilled with drill cuttings and cold patch asphalt.

NOTES:

PROJECT NAME: 21-23 River Rd Redevelopment

CITY/STATE: Wilton, Connecticut

GEI PROJECT NUMBER: 2403682

GEI Consultants

GEI Consultants, Inc.

PHOTOGRAPHIC RECORD – 21-23 River Rd – Project No. 2403682

VB- 2 (4.0 to 9.0 FT)
Photographer: T. Rezzani
Note Filter Sand at top of sample

GEI Consultants

BORING INFORMATION		BORING VB-3 PAGE 1 of 1
LOCATION: See Boring Location Plan.		
GROUND SURFACE EL. (ft): 175	DATE START/END: 4/3/2024 - 4/3/2024	
VERTICAL DATUM:	DRILLING COMPANY: Cisco Environmental	
TOTAL DEPTH (ft): 13.0	DRILLER NAME: J. Knapp	
LOGGED BY: T. Rezzani	RIG TYPE: 7822DT	

DRILLING INFORMATION

HAMMER TYPE: N/A	CASING I.D./O.D.: NA/ NA	CORE BARREL TYPE: N/A
AUGER I.D./O.D.: 3.25 inch / 6.5 inch	DRILL ROD O.D.: NM	CORE BARREL I.D./O.D. NA / NA

DRILLING METHOD: Geoprobe

WATER LEVEL DEPTHS (ft): ⊻ 8.0 4/3/2024

ABBREVIATIONS:

Pen. = Penetration Length	S = Split Spoon Sample	Qp = Pocket Penetrometer Strength	NA, NM = Not Applicable, Not Measured
Rec. = Recovery Length	C = Core Sample	Sv = Pocket Torvane Shear Strength	Blows per 6 in.: 140-lb hammer falling
RQD = Rock Quality Designation = Length of Sound Cores>4 in / Pen.,%	U = Undisturbed Sample	LL = Liquid Limit	30 inches to drive a 2-inch-O.D.
WOR = Weight of Rods	SC = Sonic Core	PI = Plasticity Index	split spoon sampler.
WOH = Weight of Hammer	DP = Direct Push Sample	PID = Photoionization Detector	
	HSA = Hollow-Stem Auger	I.D./O.D. = Inside Diameter/Outside Diameter	

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
	0						SAND & GRAVEL	DRILL CUTTINGS (0-8.0'): WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~50% F-C sand, ~40% F-C gravel, ~10% NP fines, brown, dry to moist.
	3					Rig chatter (cobbles)		
170	5							
	8	S1	8 to 13	60/51				S1 (8.0-13.0'): WIDELY GRADED GRAVEL WITH SILT AND SAND (GW-GM); ~55% F-C gravel, ~35% F-C sand, ~10% NP fines, with cobbles, brown, wet.
	10							
	13							Planned Extent. Backfilled with drill cuttings and cold patch asphalt.

NOTES:

PROJECT NAME: 21-23 River Rd Redevelopment

CITY/STATE: Wilton, Connecticut

GEI PROJECT NUMBER: 2403682

GEI Consultants

GEI Consultants, Inc.

PHOTOGRAPHIC RECORD – 21-23 River Rd – Project No. 2403682

VB- 3 (8.0 to 13.0 FT)
<u>Photographer:</u> T. Rezzani

GEI Consultants

BORING INFORMATION

LOCATION: See Boring Location Plan.

GROUND SURFACE EL. (ft): 174

VERTICAL DATUM:

TOTAL DEPTH (ft): 13.0

LOGGED BY: T. Rezzani

DATE START/END: 4/3/2024 - 4/3/2024

DRILLING COMPANY: Cisco Environmental

DRILLER NAME: J. Knapp

RIG TYPE: 7822DT

BORING VB-4

DRILLING INFORMATION

HAMMER TYPE: N/A

AUGER I.D./O.D.: 3.25 inch / 6.5 inch

CASING I.D./O.D.: NA/ NA

DRILL ROD O.D.: NM

CORE BARREL TYPE: N/A

CORE BARREL I.D./O.D. NA / NA

DRILLING METHOD: Geoprobe

WATER LEVEL DEPTHS (ft): ⊻ 7.5 4/3/2024

ABBREVIATIONS:
Pen. = Penetration Length
Rec. = Recovery Length
RQD = Rock Quality Designation = Length of Sound Cores>4 in / Pen.,%
WOR = Weight of Rods
WOH = Weight of Hammer
S = Split Spoon Sample
C = Core Sample
U = Undisturbed Sample
SC = Sonic Core
DP = Direct Push Sample
HSA = Hollow-Stem Auger
Qp = Pocket Penetrometer Strength
Sv = Pocket Torvane Shear Strength
LL = Liquid Limit
PI = Plasticity Index
PID = Photoionization Detector
I.D./O.D. = Inside Diameter/Outside Diameter
NA, NM = Not Applicable, Not Measured
Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample No.	Sample Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
	0						SAND & GRAVEL	DRILL CUTTINGS (0-8.0'): WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~50% F-C sand, ~40% F-C gravel, ~10% NP fines, brown, dry.
170								
	5					Filter sand introduced @ 4.0-5.0 ft. (offset hole) Infiltration test @ 5.0 ft. (offset hole)		
	8	S1	8 to 13	60/49				S1 (8.0-13.0'): WIDELY GRADED GRAVEL WITH SILT AND SAND (GW-GM); ~55% F-C gravel, ~35% F-C sand, ~10% NP fines, with cobbles, brown, wet.
	10							
	13							Planned Extent. Backfilled with drill cuttings and cold patch asphalt.
160								

NOTES:

PROJECT NAME: 21-23 River Rd Redevelopment

CITY/STATE: Wilton, Connecticut

GEI PROJECT NUMBER: 2403682

GEI Consultants

GEI Consultants, Inc.

PHOTOGRAPHIC RECORD – 21-23 River Rd – Project No. 2403682

VB- 4 (8.0 to 13.0 FT)
Photographer: T. Rezzani

GEI Consultants

BORING INFORMATION

LOCATION: See Boring Location Plan.

GROUND SURFACE EL. (ft): 174.5 **DATE START/END:** 4/3/2024 - 4/3/2024

VERTICAL DATUM: **DRILLING COMPANY:** Cisco Environmental

TOTAL DEPTH (ft): 8.5 **DRILLER NAME:** J. Knapp

LOGGED BY: T. Rezzani **RIG TYPE:** 7822DT

BORING VB-5

DRILLING INFORMATION

HAMMER TYPE: N/A **CASING I.D./O.D.:** NA/ NA **CORE BARREL TYPE:** N/A

AUGER I.D./O.D.: 3.25 inch / 6.5 inch **DRILL ROD O.D.:** NM **CORE BARREL I.D./O.D.** NA / NA

DRILLING METHOD: Geoprobe

WATER LEVEL DEPTHS (ft): ⊻ 7.5 4/3/2024 GW level interpreted

ABBREVIATIONS:

Pen. = Penetration Length
Rec. = Recovery Length
RQD = Rock Quality Designation = Length of Sound Cores>4 in / Pen.,%
WOR = Weight of Rods
WOH = Weight of Hammer
S = Split Spoon Sample
C = Core Sample
U = Undisturbed Sample
SC = Sonic Core
DP = Direct Push Sample
HSA = Hollow-Stem Auger
Qp = Pocket Penetrometer Strength
Sv = Pocket Torvane Shear Strength
LL = Liquid Limit
PI = Plasticity Index
PID = Photoionization Detector
I.D./O.D. = Inside Diameter/Outside Diameter
NA, NM = Not Applicable, Not Measured
Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample Information: Sample No.	Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
							SAND & GRAVEL	DRILL CUTTINGS (0-5.0'): SILTY SAND WITH GRAVEL (SM); ~55% F-C sand, ~30% F-C gravel, ~15% NP fines, light brown, dry.
170	5	S1	4 to 8.5	54/27		Filter sand introduced @ 4.0-5.0 ft. Infiltration test @ 5.0 ft.		S1 (5.0-8.5'): WIDELY GRADED GRAVEL WITH SILT AND SAND (GW); ~55% F-C gravel, ~35% F-C sand, ~10% NP fines, with cobbles, brown, wet (test water).
	10							Sampler refusal at 8.5 ft. Backfilled with drill cuttings and cold patch asphalt.
160								

NOTES:

PROJECT NAME: 21-23 River Rd Redevelopment

CITY/STATE: Wilton, Connecticut

GEI PROJECT NUMBER: 2403682

GEI Consultants

GEI Consultants, Inc.

PHOTOGRAPHIC RECORD – 21-23 River Rd – Project No. 2403682

VB- 5 (4.0 to 8.5 FT)
Photographer: T. Rezzani
Note Filter Sand at top of sample

21-23 River Road
Wilton, CT
Borehole Permeability Calculations
Boring VB-1

WELL CALCULATIONS

$$k'_v = \frac{d^2(\frac{\pi}{11}\frac{k'_v}{k_v}\frac{D}{m} + L)}{D^2(t_2 - t_1)} \ln \frac{H_1}{H_2}$$

("Soil in casing in uniform soil," Lambe and Whitman, 1969.)

Diameter, sand pack	15.875	D (cm)	Depth of Test	4.2 FT
Diam., PVC	5.08	d (cm)	Depth to GW	7.5 ft (interpreted)
PVC Stick Up	91	*L (cm)*		
Test Length	35.6	L (cm)	Soil Descr.	WIDELY GRADED GRAVEL WITH SILT AND SAND (GW-SM); ~55% F-C gravel, 35% F-C sand, ~10% NP fines, brown (FILL).
k'_v/k_v	1	*Assumed*		

Test 1

Height H (cm)	Time t (seconds)	Vertical Perm. k_v (cm/sec)	Vertical Perm. **k_v (in/hr)
0.00	0		
67.06	15	#DIV/0!	#DIV/0!
82.30	30	5.61E-02	79.45
88.39	45	1.96E-02	27.72
94.49	60	1.83E-02	25.87
94.49	120	0.00E+00	0.00

Test 2

Height H (cm)	Time t (seconds)	Vertical Perm. k_v (cm/sec)	Vertical Perm. **k_v (in/hr)
0.00	0		
60.96	15	#DIV/0!	#DIV/0!
82.30	30	8.21E-02	116.42
85.34	45	9.95E-03	14.11
88.39	60	9.60E-03	13.61
91.44	120	2.32E-03	3.29
91.44	300	0.00E+00	0.00

*****TEST INFLUENCED BY OBSTRUCTION***

21-23 River Road
Wilton, CT
Borehole Permeability Calculations
Boring VB-2

WELL CALCULATIONS

$$k'_v = \frac{d^2(\frac{\pi}{11}\frac{k'_v}{k_v}\frac{D}{m} + L)}{D^2(t_2 - t_1)} \ln\frac{H_1}{H_2}$$

("Soil in casing in uniform soil," Lambe and Whitman, 1969.)

Diameter, sand pack	15.875	D (cm)	Depth of Test	5.0 FT
Diam., PVC	5.08	d (cm)	Depth to GW	7.5 ft (interpreted)
PVC Stick Up	61	*L (cm)*		
Test Length	30.5	L (cm)	Soil Descr.	SILTY SAND WITH GRAVEL (SM); ~45% F-C sand, ~35% F-C gravel, ~20% NP fines, brown.
k'_v/k_v	1	*Assumed*		

Test 1

Height H (cm)	Time t (seconds)	Vertical Perm. k_v (cm/sec)	Vertical Perm. k_v (in/hr)
0.00	0		
131.06	30	1.73E-02	24.50
137.16	45	1.09E-02	15.40
140.21	60	5.25E-03	7.45
143.26	75	5.14E-03	7.29
146.30	90	5.03E-03	7.13
146.61	105	4.97E-04	0.71
		AVERAGE	**5.04**

Test 2

Height H (cm)	Time t (seconds)	Vertical Perm. k_v (cm/sec)	Vertical Perm. k_v (in/hr)
0.00	0		
131.06	30	8.61E-02	121.96
146.30	45	2.63E-02	37.27
152.40	60	9.76E-03	13.83
		AVERAGE	**25.55**

*****Preferential path; outlier.***

21-23 River Road
Wilton, CT
Borehole Permeability Calculations
Boring VB-4

WELL CALCULATIONS

$$k'_v = \frac{d^2(\frac{\pi}{11}\frac{k'_v}{k_v}\frac{D}{m} + L)}{D^2(t_2 - t_1)} \ln\frac{H_1}{H_2}$$

("Soil in casing in uniform soil," Lambe and Whitman, 1969.)

Diameter, sand pack	15.875	D (cm)	Depth of Test	5.0 FT
Diam., PVC	5.08	d (cm)	Depth to GW	7.5 ft
PVC Stick Up	69	*L (cm)*		
Test Length	30.5	L (cm)	Soil Descr.	WIDELY GRADED GRAVEL WITH SILT AND SAND (GW-GM); ~55% F-C gravel, ~35% F-C sand, ~10% NP fines, with cobbles, moist.
k'_v/k_v	1	*Assumed*		

Test 1

Height H (cm)	Time t (seconds)	Vertical Perm. k_v (cm/sec)	Vertical Perm. k_v (in/hr)
0.00	0		
82.30	30	1.84E-02	26.07
112.78	45	7.53E-02	106.74
115.82	60	6.37E-03	9.03
117.35	120	7.81E-04	1.11
118.87	180	7.71E-04	1.09
120.40	300	3.81E-04	0.54
121.92	360	7.52E-04	1.07
		AVERAGE	**0.95**

Test 2

Height H (cm)	Time t (seconds)	Vertical Perm. k_v (cm/sec)	Vertical Perm. k_v (in/hr)
0.00	0		
85.34	30	1.77E-02	25.11
88.39	45	8.39E-03	11.89
88.39	60	0.00E+00	0.00
89.92	120	1.02E-03	1.45
91.44	180	1.00E-03	1.42
94.49	240	1.96E-03	2.78
96.01	300	9.56E-04	1.36
96.32	360	1.89E-04	0.27
		AVERAGE	**1.45**

21-23 River Road
Wilton, CT
Borehole Permeability Calculations
Boring VB-5

WELL CALCULATIONS

$$k'_v = \frac{d^2(\frac{\pi}{11}\frac{k'_v}{k_v}\frac{D}{m} + L)}{D^2(t_2 - t_1)} \ln \frac{H_1}{H_2}$$

("Soil in casing in uniform soil," Lambe and Whitman, 1969.)

Diameter, sand pack	15.875	D (cm)	Depth of Test	5.0 FT
Diam., PVC	5.08	d (cm)	Depth to GW	7.5 ft (interpreted)
PVC Stick Up	69	*L (cm)*		
Test Length	30.5	L (cm)	Soil Descr.	SILTY SAND WITH GRAVEL (SM); ~45% F-C sand, ~30% F-C gravel, ~25% NP fines, brown.
k'_v/k_v	1	*Assumed*		

Test 1

Height H (cm)	Time t (seconds)	Vertical Perm. k_v (cm/sec)	Vertical Perm. k_v (in/hr)
0.00	0		
70.10	30	1.06E-02	15.06
73.15	120	1.70E-03	2.40
79.25	180	4.78E-03	6.78
83.82	240	3.35E-03	4.75
88.39	300	3.17E-03	4.50
91.44	360	2.03E-03	2.87
		AVERAGE	**4.26**

Test 2

Height H (cm)	Time t (seconds)	Vertical Perm. k_v (cm/sec)	Vertical Perm. k_v (in/hr)
0.00	0		
68.58	30	5.37E-03	7.61
70.10	60	2.63E-03	3.72
73.15	120	2.54E-03	3.60
77.72	180	3.62E-03	5.13
79.25	240	1.16E-03	1.64
82.30	300	2.26E-03	3.20
85.34	360	2.17E-03	3.08
		AVERAGE	**3.40**

Appendix E

›Erosion and Sedimentation Control Measures

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Erosion and Sedimentation Control Measures

The following erosion and sedimentation controls are for use during the earthwork and construction phases of the project. The following controls are provided as recommendations for the site contractor.

Silt Fencing

Silt fence sill be installed on the down gradient side of the project as shown on the plans. In areas where high runoff velocities or high sediment loads are expected, straw barriers will be installed up-gradient of silt fencing. This semi-permeable barrier made of a synthetic porous fabric will provide additional protection. The silt fences and hay bale barrier will be replaced as determined by periodic field inspections.

Catch Basin Protection

Newly constructed and existing catch basins will be protected with silt sacks throughout construction.

Gravel and Construction Entrance/Exit

A temporary crushed-stone construction entrance/exit will be constructed. A cross slope will be placed in the entrance to direct runoff to a protected catch basin inlet or settling area.

Vegetative Slope Stabilization

Stabilization of open soil surfaces will be implemented within 14 days after grading or construction activities have temporarily or permanently ceased, unless there is sufficient snow cover to prohibit implementation. Vegetative slope stabilization will be used to minimize erosion on slopes of 3:1 or flatter. Annual grasses, such as annual rye, will be used to ensure rapid germination and production of root mass. Permanent stabilization will be completed with the planting of perennial grasses or legumes. Establishment of temporary and permanent vegetative cover may be established by hydro-seeding or sodding. A suitable topsoil, good seedbed preparation, and adequate lime, fertilizer and water will be provided for effective establishment of these vegetative stabilization methods. Mulch will also be used after permanent seeding to protect soil from the impact of falling rain and to increase the capacity of the soil to absorb water.

Maintenance

- The contractor or subcontractor will be responsible for implementing each control shown on the Sedimentation and Erosion Control Plan. In accordance with EPA regulations, the contractor must sign a copy of a certification to verify that a plan has been prepared and that permit regulations are understood.

- The on-site contractor will inspect all sediment and erosion control structures periodically and after each rainfall event. Records of the inspections will be prepared and maintained on-site by the contractor.

- Silt shall be removed from behind barriers if greater than 6-inches deep or as needed.

- Damaged or deteriorated items will be repaired immediately after identification.

- Sediment that is collected in structures shall be disposed of properly and covered if stored on-site.

- Erosion control structures shall remain in place until all disturbed earth has been securely stabilized. After removal of structures, disturbed areas shall be regraded and stabilized as necessary.

The sedimentation and erosion control plan is included in project plan set; a reduced version and Erosion Control Maintenance checklist is included here for quick reference.

Proposed Development– Wilton, CT – 21 River Road

Best Management Practices – Maintenance/ Evaluation Checklist

Construction Practices

Best Management Practice	Inspection Frequency	Date Inspected	Inspector	Minimum Maintenance and Key Items to Check	Cleaning/Repair Needed ☐yes ☐no (List Items)	Date of Cleaning/Repair	Performed by
Silt Fencing	Once per week or after a 1″ or greater storm event						
Catch Basin Protection	Once per week or after a 1″ or greater storm event						
Stabilized Construction Exit	Once per week or after a 1″ or greater storm event						
Temporary Sediment Basin	Once per week or after a 1″ or greater storm event						
Vegetated Slope Stabilization	Once per week or after a 1″ or greater storm event						

Stormwater Control Manager ____________________

Appendix F

› Long Term Stormwater and Operation and Maintenance Measures

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Long Term Stormwater and Operation and Maintenance Measures

Project Information

Site

Project Name:	Wilton Center Redevelopment
Address or Locus:	21-23 River Road
City, State & Zip:	Wilton, CT 06897

Developer

Client Name:	Wilton Campus 1691, LLC
Client Address:	500 North Broadway, Suite 201
Client City, State & Zip:	Jericho, NY 11753
Client Telephone No.:	
Client Cell Phone:	
Client E-Mail:	NBrown@kimcorealty.com

Site Supervisor

Site Manager Name:	
Site Manager Address:	
Site Manager City, State & Zip:	
Site Manager Telephone No.:	
Site Manager Cell Phone:	
Site Manager E-Mail:	

Long Term Stormwater Maintenance Measures –

The following maintenance program is proposed to ensure the continued effectiveness of the structural water quality controls previously described:

- Inspect stormwater basins once annually, in the spring, for cracking or erosion of side slopes, embankments, and accumulated sediment. Necessary sediment removal, earth repair, and/or reseeding will be performed immediately upon identification.
- Inspect sediment traps/forebays monthly for erosion of side slopes and accumulated sediment. Necessary sediment removal, earth repair and/or reseeding shall be performed immediately upon identification. Clean traps/ forebays approximately four times per year or as needed.
- Clean all catch basins once annually to remove accumulated sand, sediment, and floatable products or as needed based on use.
- Paved areas will be swept, at a minimum, two (2) times per year.
- Routinely pick up and remove litter from the parking areas, islands and perimeter landscape areas in addition to regular pavement sweeping.
- Routinely inspect all dumpster and compactor locations for spills. Remove all trash litter from the enclosure and dispose of properly.

Pavement Systems

Standard Asphalt Pavement

- Sweep or vacuum standard asphalt pavement areas at least two times per year with a commercial cleaning unit and properly dispose of removed material.
- Recommended sweeping schedule:
  - Oct/Nov
  - Apr/May
- More frequent sweeping of paved surfaces will result in less accumulation in catch basins, less cleaning of subsurface structures, and less disposal costs.
- Check dumpster areas frequently for spillage and/or pavement staining and clean as necessary.

Structural Stormwater Management Devices

Catch Basins

- All catch basins shall be inspected and cleaned a minimum of at least once per year.
- Sediment (if more than six inches deep) and/or floatable pollutants shall be pumped from the basin and disposed of at an approved offsite facility in accordance with all applicable regulations.

- Any structural damage or other indication of malfunction will be reported to the site manager and repaired as necessary
- During colder periods, the catch basin grates must be kept free of snow and ice.
- During warmer periods, the catch basin grates must be kept free of leaves, litter, sand, and debris.

Subsurface Detention & Retention Systems

- The subsurface detention and retention systems will be inspected at least once each year by removing the manhole/access port covers and determining the thickness of sediment that has accumulated in the sediment removal row.
- If sediment is more than six inches deep, it must be suspended via flushing with clean water and removed using a vactor truck.
- Manufacturer's specifications and instructions for cleaning the sediment removal row should be consulted.
- Emergency overflow pipes will be examined at least once each year and verified that no blockage has occurred.
- System will be observed after rainfalls to see if it is properly draining.

Structural Water Quality Devices

- FOLLOW MANUFACTURER'S INSTRUCTIONS ON O&M REQUIREMENTS AND METHODOLOGY
- Inspect devices monthly for the first three months after construction.
- After initial three month period, all water quality units are to be inspected at least four times per year and cleaned a minimum of at least once per year or when sediment reaches 8" in depth.
- Follow manufacturer instructions for inspection and cleaning and contact manufacturer if system is malfunctioning.

Roof Drain Leaders

- Perform routine roof inspections quarterly.
- Keep roofs clean and free of debris.
- Keep roof drainage systems clear.
- Keep roof access limited to authorized personnel.
- Clean inlets draining to the subsurface bed twice per year as necessary.

Appendix G

- HydroCAD: Existing Conditions
- HydroCAD: Proposed Conditions

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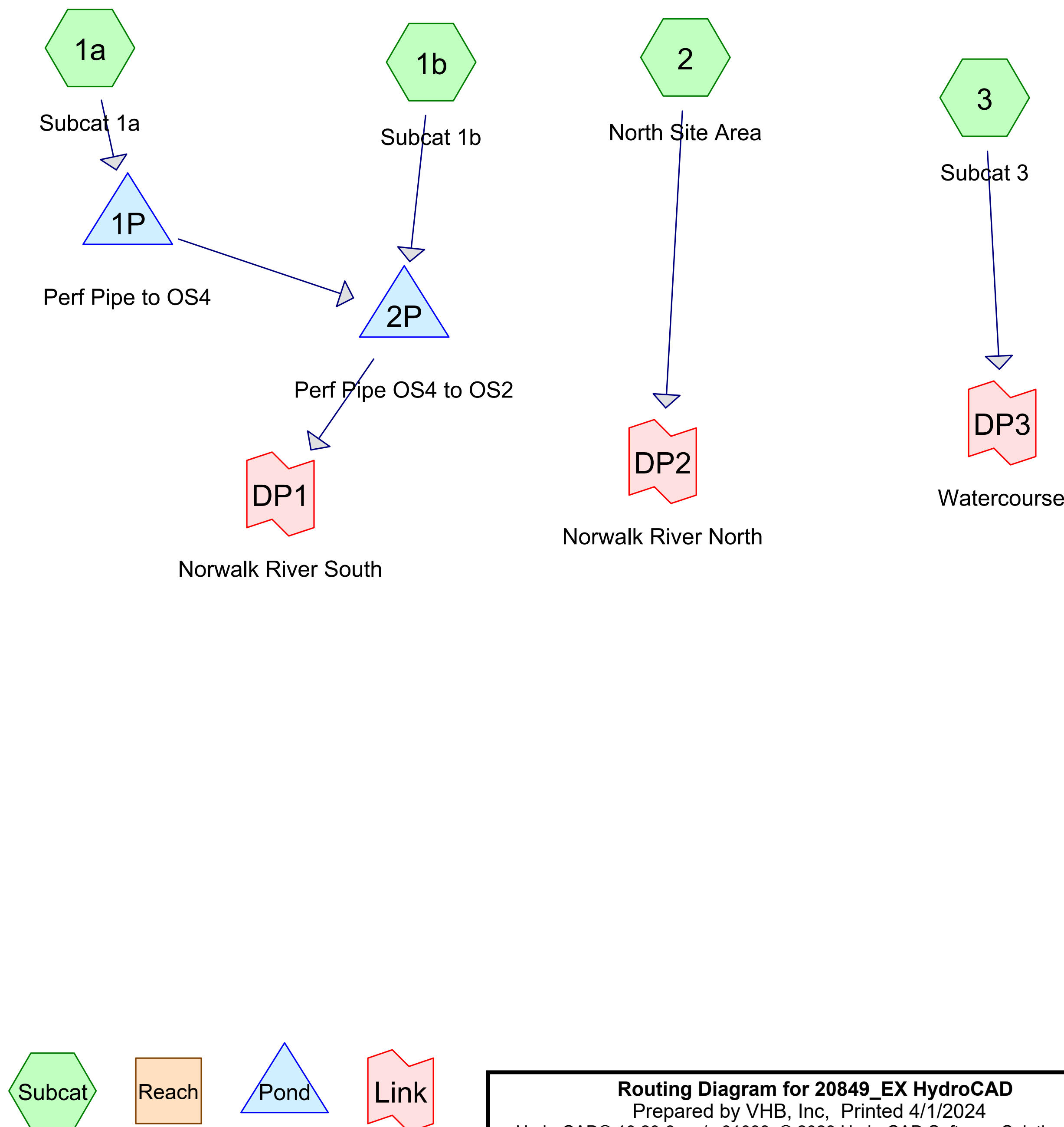
HydroCAD: Existing Conditions



Routing Diagram for 20849_EX HydroCAD
Prepared by VHB, Inc, Printed 4/1/2024
HydroCAD® 10.20-3c s/n 01038 © 2023 HydroCAD Software Solutions LLC

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-yr	CT-WILTON 24-hr S1	2-yr	Default	24.00	1	3.55	2
2	10-yr	CT-WILTON 24-hr S1	10-yr	Default	24.00	1	5.42	2
3	25-yr	CT-WILTON 24-hr S1	25-yr	Default	24.00	1	6.59	2
4	100-yr	CT-WILTON 24-hr S1	100-yr	Default	24.00	1	8.39	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.497	89	<50% Grass cover, Poor, HSG D (1a, 1b, 2, 3)
1.400	80	>75% Grass cover, Good, HSG D (1a, 1b, 2, 3)
7.286	98	Unconnected pavement, HSG D (1a, 1b, 2, 3)
2.930	77	Woods, Good, HSG D (3)
0.268	79	Woods/grass comb., Good, HSG D (1a, 1b, 3)
12.380	**90**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
12.380	HSG D	1a, 1b, 2, 3
0.000	Other	
12.380		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.000	0.497	0.000	0.497	<50% Grass cover, Poor	1a, 1b, 2, 3
0.000	0.000	0.000	1.400	0.000	1.400	>75% Grass cover, Good	1a, 1b, 2, 3
0.000	0.000	0.000	7.286	0.000	7.286	Unconnected pavement	1a, 1b, 2, 3
0.000	0.000	0.000	2.930	0.000	2.930	Woods, Good	3
0.000	0.000	0.000	0.268	0.000	0.268	Woods/grass comb., Good	1a, 1b, 3
0.000	**0.000**	**0.000**	**12.380**	**0.000**	**12.380**	**TOTAL AREA**	

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)	Node Name
1	2P	170.20	169.10	25.0	0.0440	0.013	0.0	36.0	0.0	

Time span=0.00-30.00 hrs, dt=0.02 hrs, 1501 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1a: Subcat 1a Runoff Area=2.817 ac 74.88% Impervious Runoff Depth=2.88"
Tc=5.0 min CN=94 Runoff=10.84 cfs 0.677 af

Subcatchment1b: Subcat 1b Runoff Area=2.892 ac 71.97% Impervious Runoff Depth=2.78"
Tc=5.0 min CN=93 Runoff=10.85 cfs 0.671 af

Subcatchment2: North Site Area Runoff Area=3.564 ac 86.82% Impervious Runoff Depth=3.09"
Tc=5.0 min CN=96 Runoff=14.31 cfs 0.919 af

Subcatchment3: Subcat 3 Runoff Area=3.108 ac 0.04% Impervious Runoff Depth=1.47"
Flow Length=865' Tc=10.9 min CN=77 Runoff=4.58 cfs 0.380 af

Pond 1P: Perf Pipe to OS4 Peak Elev=173.09' Storage=5,663 cf Inflow=10.84 cfs 0.677 af
Discarded=0.04 cfs 0.076 af Primary=10.82 cfs 0.495 af Outflow=10.86 cfs 0.571 af

Pond 2P: Perf Pipe OS4 to OS2 Peak Elev=172.07' Storage=2,312 cf Inflow=21.67 cfs 1.166 af
Discarded=0.01 cfs 0.031 af Primary=21.65 cfs 1.089 af Outflow=21.66 cfs 1.120 af

Link DP1: Norwalk River South Inflow=21.65 cfs 1.089 af
Primary=21.65 cfs 1.089 af

Link DP2: Norwalk River North Inflow=14.31 cfs 0.919 af
Primary=14.31 cfs 0.919 af

Link DP3: Watercourse Inflow=4.58 cfs 0.380 af
Primary=4.58 cfs 0.380 af

Total Runoff Area = 12.380 ac Runoff Volume = 2.647 af Average Runoff Depth = 2.57"
41.15% Pervious = 5.094 ac 58.85% Impervious = 7.286 ac

Summary for Subcatchment 1a: Subcat 1a

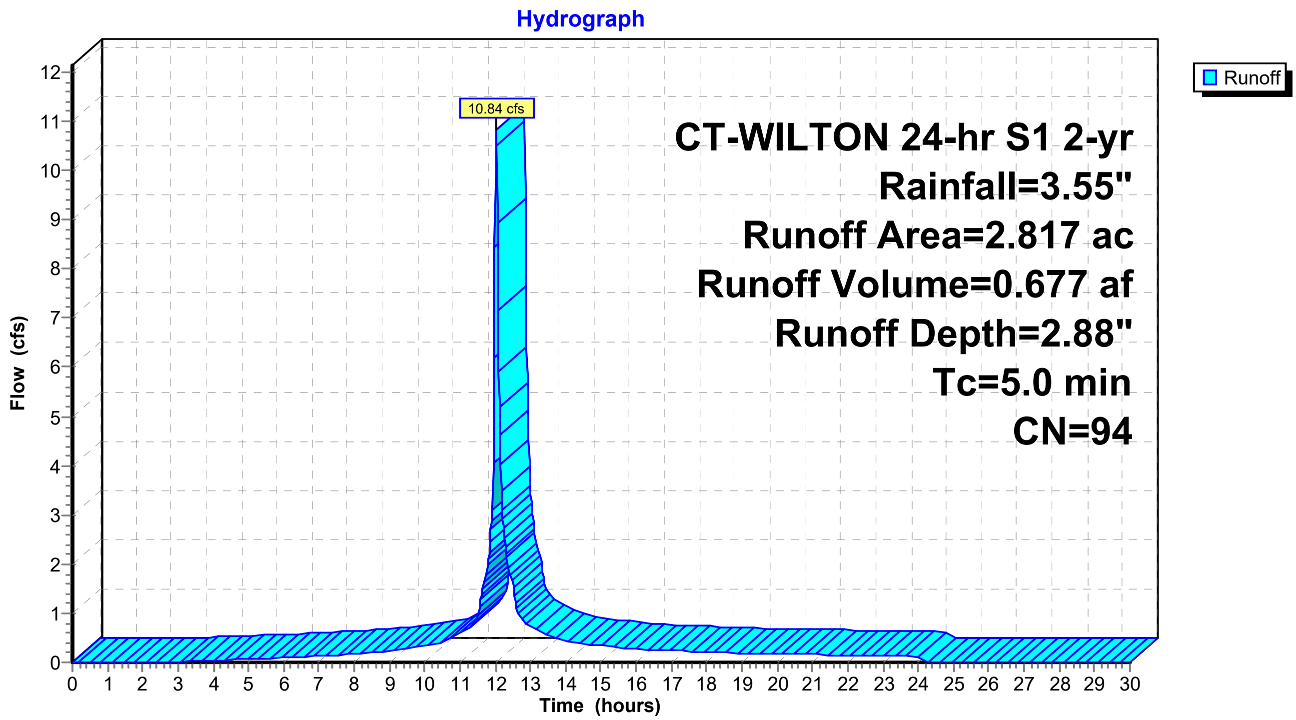
Runoff = 10.84 cfs @ 12.02 hrs, Volume= 0.677 af, Depth= 2.88"
Routed to Pond 1P : Perf Pipe to OS4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs
CT-WILTON 24-hr S1 2-yr Rainfall=3.55"

Area (ac)	CN	Description
0.121	89	<50% Grass cover, Poor, HSG D
0.375	80	>75% Grass cover, Good, HSG D
2.109	98	Unconnected pavement, HSG D
0.212	79	Woods/grass comb., Good, HSG D
2.817	94	Weighted Average
0.708		25.12% Pervious Area
2.109		74.88% Impervious Area
2.109		100.00% Unconnected

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

Subcatchment 1a: Subcat 1a



Summary for Subcatchment 1b: Subcat 1b

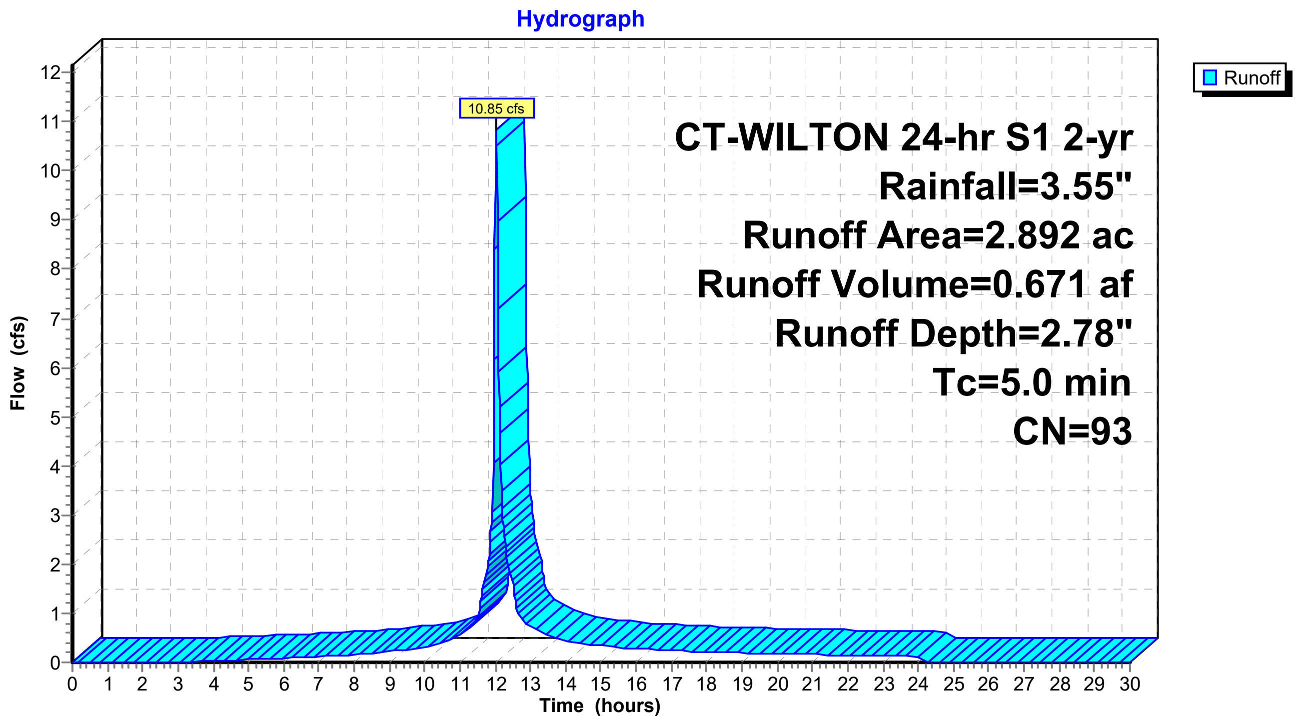
Runoff = 10.85 cfs @ 12.02 hrs, Volume= 0.671 af, Depth= 2.78"
Routed to Pond 2P : Perf Pipe OS4 to OS2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs
CT-WILTON 24-hr S1 2-yr Rainfall=3.55"

Area (ac)	CN	Description
0.056	89	<50% Grass cover, Poor, HSG D
0.723	80	>75% Grass cover, Good, HSG D
2.081	98	Unconnected pavement, HSG D
0.031	79	Woods/grass comb., Good, HSG D
2.892	93	Weighted Average
0.811		28.03% Pervious Area
2.081		71.97% Impervious Area
2.081		100.00% Unconnected

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

Subcatchment 1b: Subcat 1b



Summary for Subcatchment 2: North Site Area

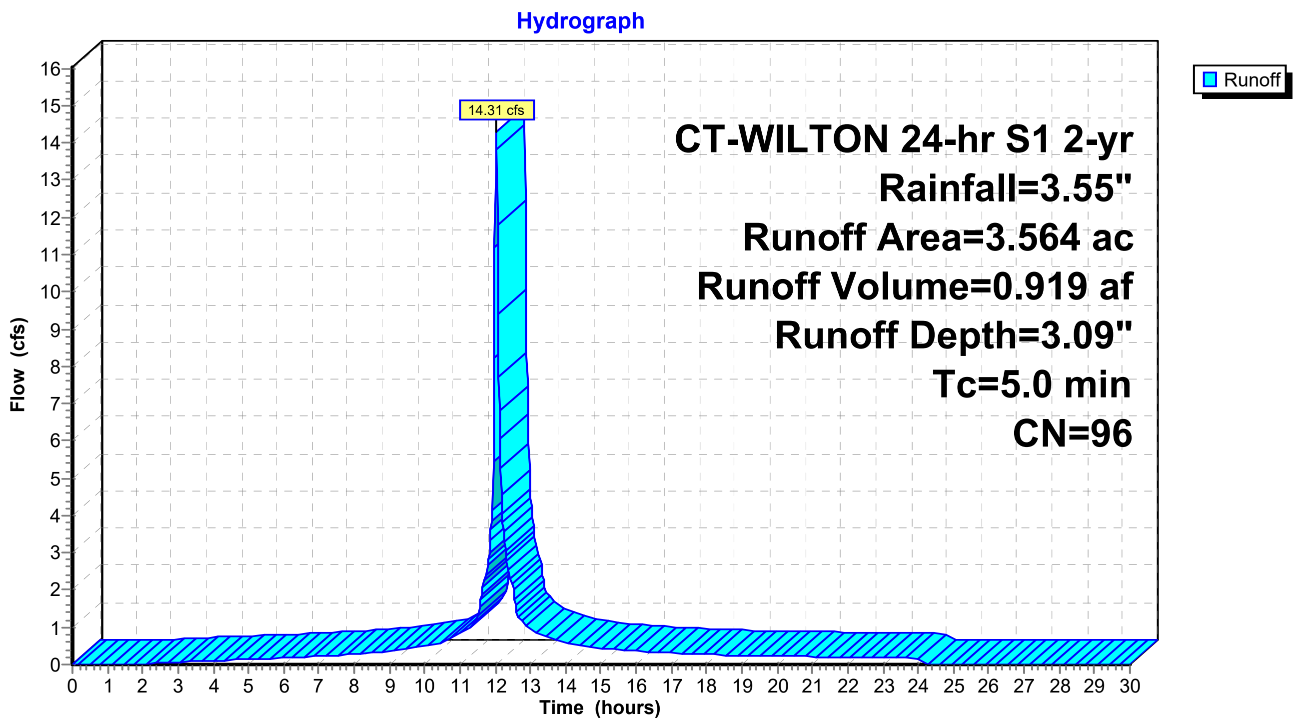
Runoff = 14.31 cfs @ 12.02 hrs, Volume= 0.919 af, Depth= 3.09"
Routed to Link DP2 : Norwalk River North

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs
CT-WILTON 24-hr S1 2-yr Rainfall=3.55"

Area (ac)	CN	Description
0.281	89	<50% Grass cover, Poor, HSG D
0.189	80	>75% Grass cover, Good, HSG D
3.094	98	Unconnected pavement, HSG D
3.564	96	Weighted Average
0.470		13.18% Pervious Area
3.094		86.82% Impervious Area
3.094		100.00% Unconnected

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

Subcatchment 2: North Site Area



Summary for Subcatchment 3: Subcat 3

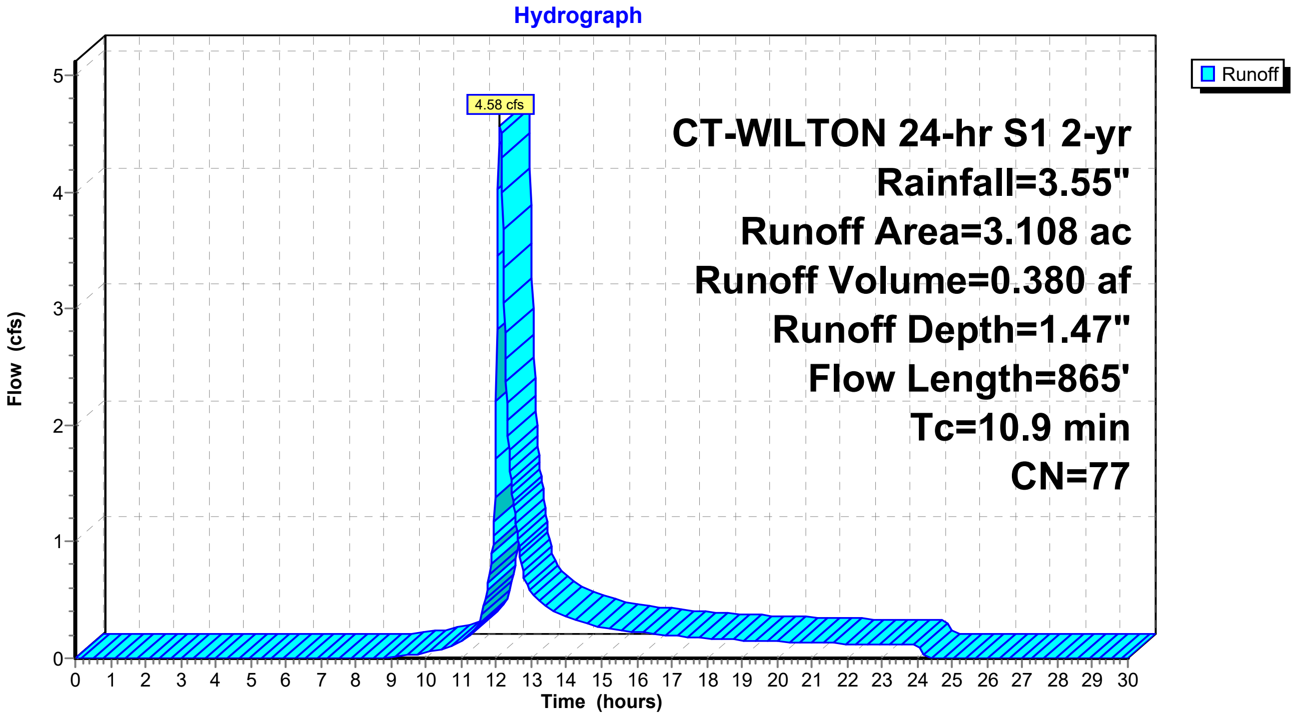
Runoff = 4.58 cfs @ 12.10 hrs, Volume= 0.380 af, Depth= 1.47"
Routed to Link DP3 : Watercourse

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs
CT-WILTON 24-hr S1 2-yr Rainfall=3.55"

Area (ac)	CN	Description
0.040	89	<50% Grass cover, Poor, HSG D
0.112	80	>75% Grass cover, Good, HSG D
0.001	98	Unconnected pavement, HSG D
2.930	77	Woods, Good, HSG D
0.025	79	Woods/grass comb., Good, HSG D
3.108	77	Weighted Average
3.107		99.96% Pervious Area
0.001		0.04% Impervious Area
0.001		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.7	50	0.2300	0.11		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.55"
1.3	215	0.3255	2.85		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.9	600	0.0117	5.16	82.54	**Channel Flow,** Area= 16.0 sf Perim= 11.0' r= 1.45' n= 0.040
10.9	865	Total			

Subcatchment 3: Subcat 3



Summary for Pond 1P: Perf Pipe to OS4

Inflow Area = 2.817 ac, 74.88% Impervious, Inflow Depth = 2.88" for 2-yr event
Inflow = 10.84 cfs @ 12.02 hrs, Volume= 0.677 af
Outflow = 10.86 cfs @ 12.02 hrs, Volume= 0.571 af, Atten= 0%, Lag= 0.0 min
Discarded = 0.04 cfs @ 12.02 hrs, Volume= 0.076 af
Primary = 10.82 cfs @ 12.02 hrs, Volume= 0.495 af
Routed to Pond 2P : Perf Pipe OS4 to OS2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs / 2
Peak Elev= 173.09' @ 12.02 hrs Surf.Area= 3,067 sf Storage= 5,663 cf

Plug-Flow detention time= 150.5 min calculated for 0.570 af (84% of inflow)
Center-of-Mass det. time= 74.1 min (865.4 - 791.3)

Volume	Invert	Avail.Storage	Storage Description
#1	169.41'	2,743 cf	**36.0" Round Pipe Storage** Inside #2 L= 388.0' S= 0.0010 '/'
#2	168.91'	1,622 cf	**72.0" W x 42.0" H Box Stone** L= 388.0' S= 0.0010 '/' 8,148 cf Overall - 2,743 cf Embedded = 5,405 cf x 30.0% Voids
#3	169.61'	813 cf	**36.0" Round Pipe Storage** Inside #4 L= 115.0' S= 0.0010 '/'
#4	169.11'	481 cf	**72.0" W x 42.0" H Box Stone** L= 115.0' S= 0.0010 '/' 2,415 cf Overall - 813 cf Embedded = 1,602 cf x 30.0% Voids
#5	172.40'	5,249 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)
		10,906 cf	Total Available Storage

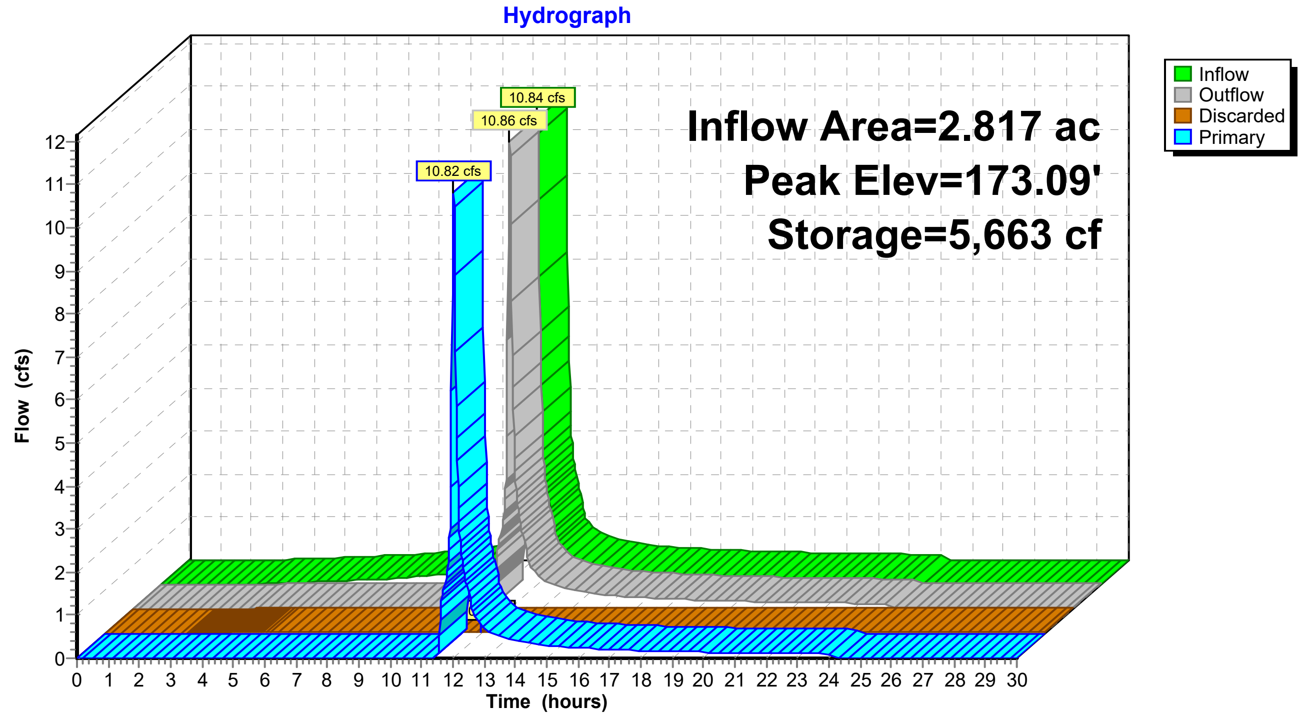
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
172.40	1	1.0	0	0	1
173.00	10	15.0	3	3	19
174.00	2,050	300.0	734	737	7,165
175.00	7,550	570.0	4,511	5,249	25,863

Device	Routing	Invert	Outlet Devices
#1	Primary	172.41'	**72.0" W x 32.0" H Vert. Weir Plate** C= 0.600 Limited to weir flow at low heads
#2	Discarded	168.91'	**0.500 in/hr Exfiltration over Surface area** Phase-In= 0.01'

Discarded OutFlow Max=0.04 cfs @ 12.02 hrs HW=173.09' (Free Discharge)
2=Exfiltration (Exfiltration Controls 0.04 cfs)

Primary OutFlow Max=10.72 cfs @ 12.02 hrs HW=173.09' (Free Discharge)
1=Weir Plate (Orifice Controls 10.72 cfs @ 2.64 fps)

Pond 1P: Perf Pipe to OS4



Summary for Pond 2P: Perf Pipe OS4 to OS2

Inflow Area = 5.709 ac, 73.41% Impervious, Inflow Depth = 2.45" for 2-yr event
Inflow = 21.67 cfs @ 12.02 hrs, Volume= 1.166 af
Outflow = 21.66 cfs @ 12.02 hrs, Volume= 1.120 af, Atten= 0%, Lag= 0.0 min
Discarded = 0.01 cfs @ 12.02 hrs, Volume= 0.031 af
Primary = 21.65 cfs @ 12.02 hrs, Volume= 1.089 af
Routed to Link DP1 : Norwalk River South

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs / 2
Peak Elev= 172.07' @ 12.02 hrs Surf.Area= 1,236 sf Storage= 2,312 cf

Plug-Flow detention time= 44.5 min calculated for 1.119 af (96% of inflow)
Center-of-Mass det. time= 22.0 min (839.0 - 817.0)

Volume	Invert	Avail.Storage	Storage Description
#1	167.20'	1,449 cf	**36.0" Round Pipe Storage** Inside #2 L= 205.0' S= 0.0010 '/'
#2	166.70'	857 cf	**72.0" W x 42.0" H Box Stone** L= 205.0' S= 0.0010 '/' 4,305 cf Overall - 1,449 cf Embedded = 2,856 cf x 30.0% Voids
#3	170.20'	5,259 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)
		7,565 cf	Total Available Storage

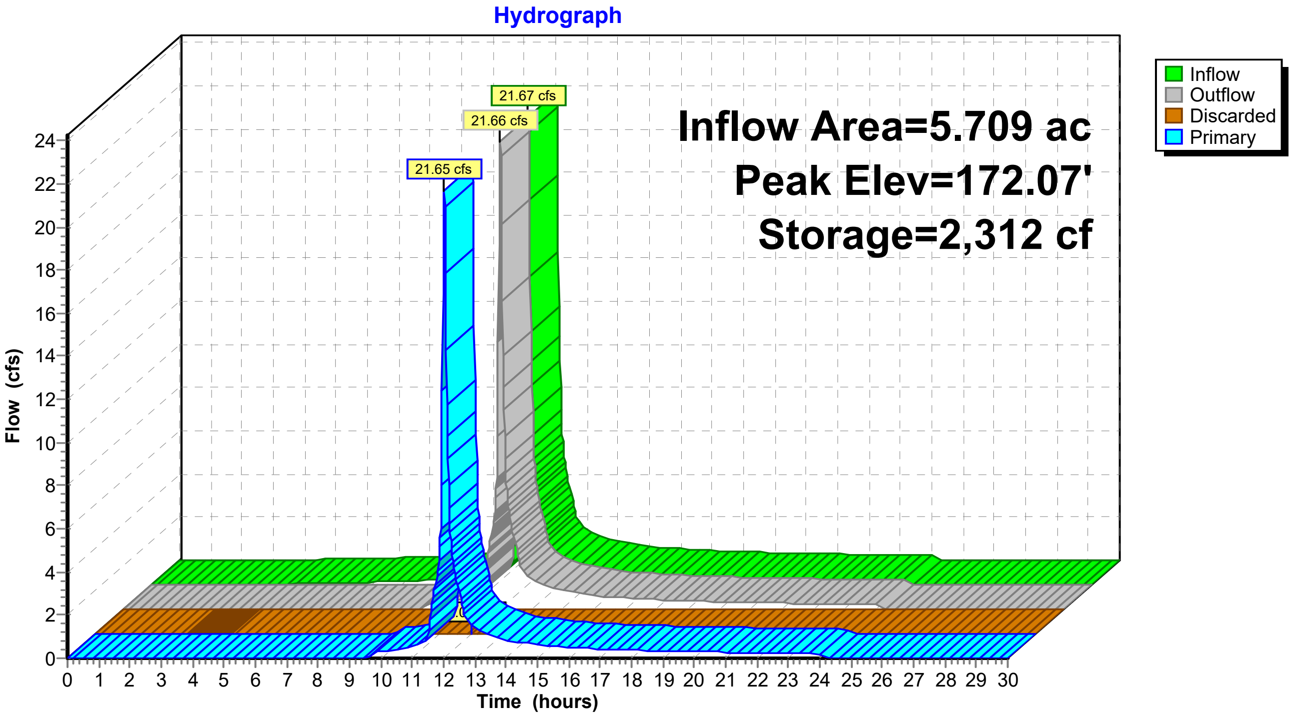
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
170.20	1	1.0	0	0	1
173.00	10	15.0	13	13	30
174.00	2,050	300.0	734	748	7,175
175.00	7,550	570.0	4,511	5,259	25,873

Device	Routing	Invert	Outlet Devices
#1	Discarded	166.70'	**0.500 in/hr Exfiltration over Surface area** Phase-In= 0.01'
#2	Primary	170.20'	**36.0" Round Culvert** L= 25.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 170.20' / 169.10' S= 0.0440 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf

Discarded OutFlow Max=0.01 cfs @ 12.02 hrs HW=172.06' (Free Discharge)
└─**1=Exfiltration** (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=21.46 cfs @ 12.02 hrs HW=172.06' (Free Discharge)
└─**2=Culvert** (Inlet Controls 21.46 cfs @ 4.65 fps)

Pond 2P: Perf Pipe OS4 to OS2

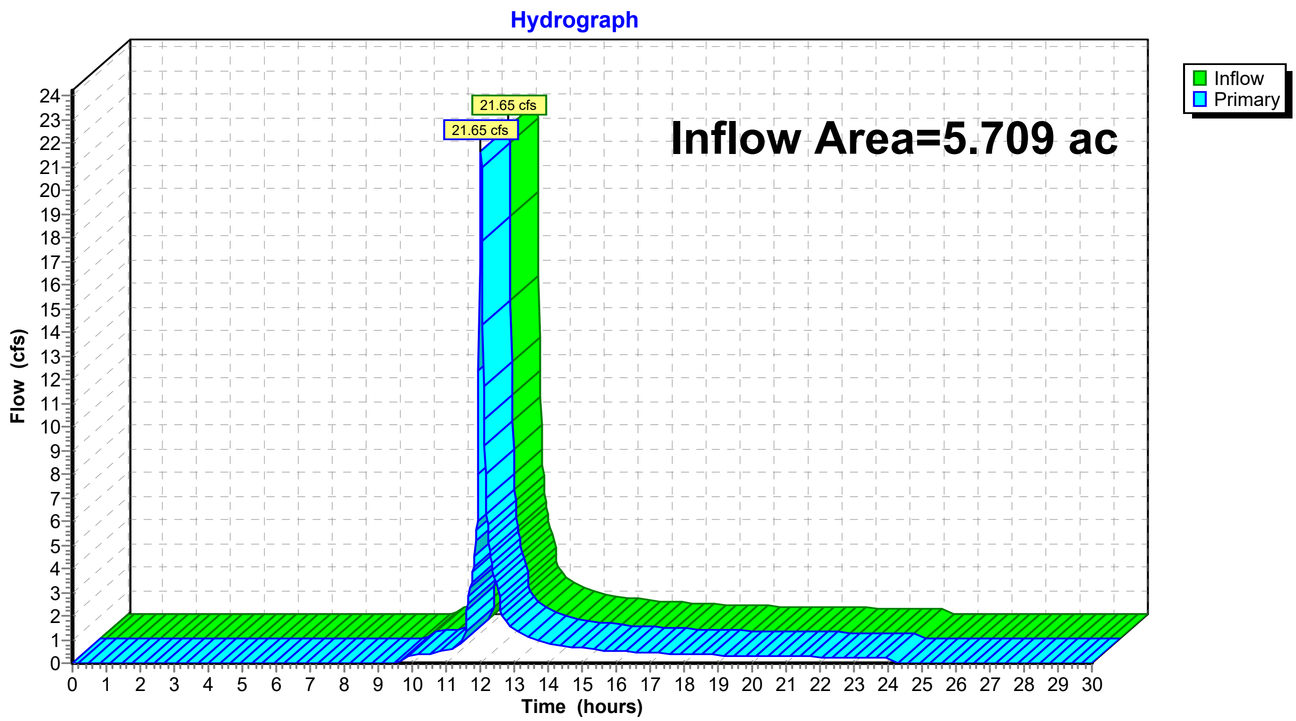


Summary for Link DP1: Norwalk River South

Inflow Area = 5.709 ac, 73.41% Impervious, Inflow Depth = 2.29" for 2-yr event
Inflow = 21.65 cfs @ 12.02 hrs, Volume= 1.089 af
Primary = 21.65 cfs @ 12.02 hrs, Volume= 1.089 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 2L

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs

Link DP1: Norwalk River South

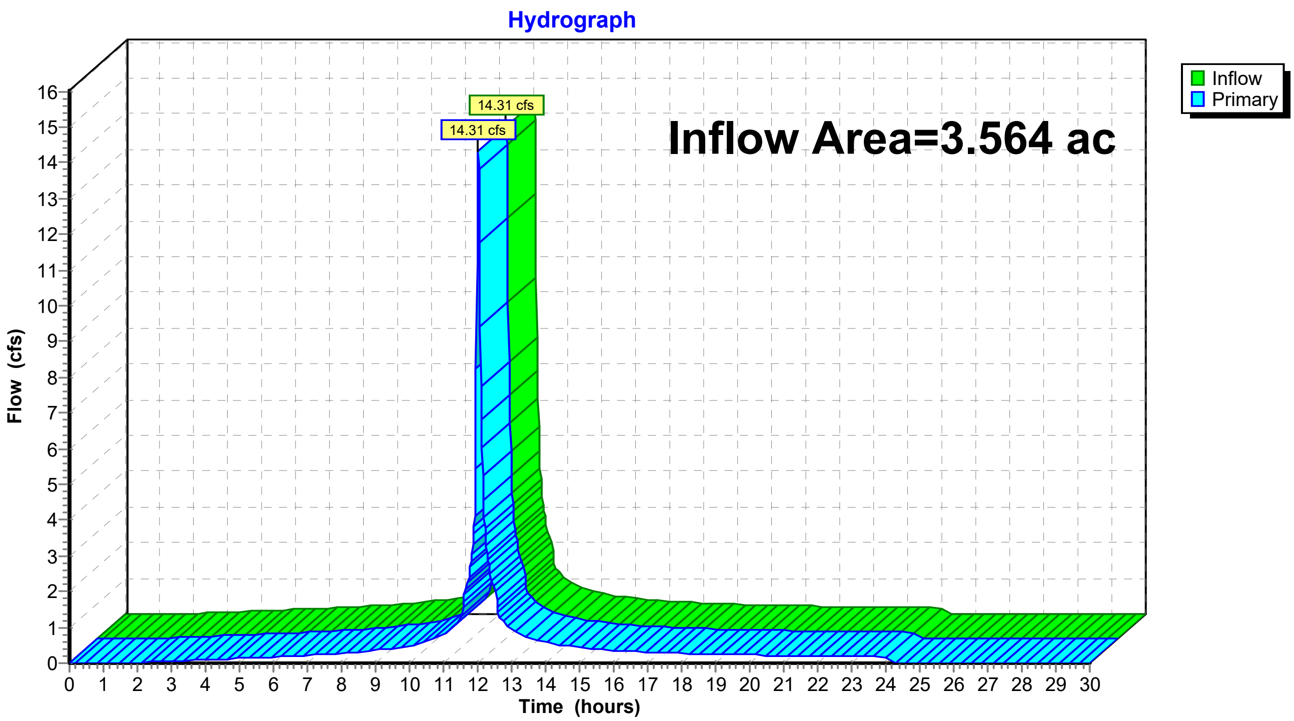


Summary for Link DP2: Norwalk River North

Inflow Area = 3.564 ac, 86.82% Impervious, Inflow Depth = 3.09" for 2-yr event
Inflow = 14.31 cfs @ 12.02 hrs, Volume= 0.919 af
Primary = 14.31 cfs @ 12.02 hrs, Volume= 0.919 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 2L

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs

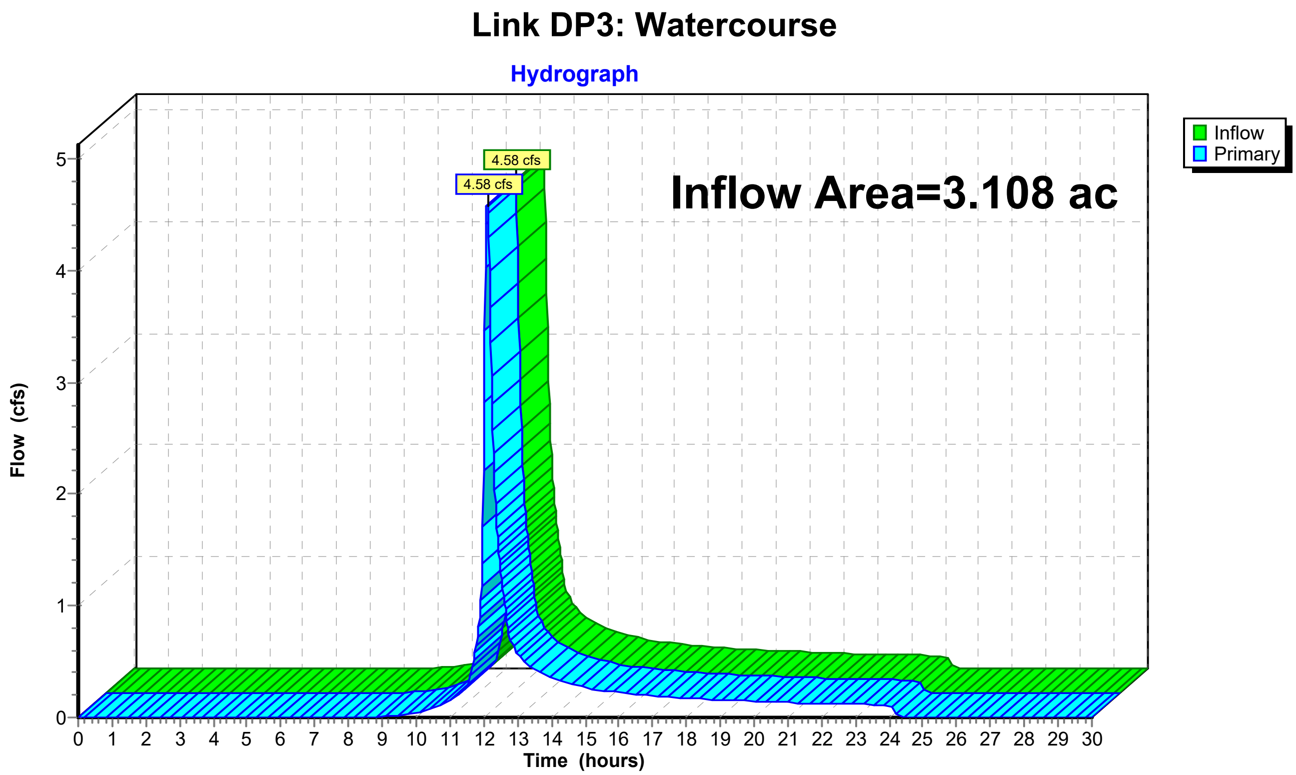
Link DP2: Norwalk River North



Summary for Link DP3: Watercourse

Inflow Area =	3.108 ac,	0.04% Impervious, Inflow Depth = 1.47"	for 2-yr event	
Inflow =	4.58 cfs @	12.10 hrs, Volume=	0.380 af	
Primary =	4.58 cfs @	12.10 hrs, Volume=	0.380 af,	Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs



Time span=0.00-30.00 hrs, dt=0.02 hrs, 1501 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1a: Subcat 1a Runoff Area=2.817 ac 74.88% Impervious Runoff Depth=4.72"
Tc=5.0 min CN=94 Runoff=16.11 cfs 1.109 af

Subcatchment1b: Subcat 1b Runoff Area=2.892 ac 71.97% Impervious Runoff Depth=4.61"
Tc=5.0 min CN=93 Runoff=16.32 cfs 1.111 af

Subcatchment2: North Site Area Runoff Area=3.564 ac 86.82% Impervious Runoff Depth=4.95"
Tc=5.0 min CN=96 Runoff=20.84 cfs 1.470 af

Subcatchment3: Subcat 3 Runoff Area=3.108 ac 0.04% Impervious Runoff Depth=2.98"
Flow Length=865' Tc=10.9 min CN=77 Runoff=8.92 cfs 0.771 af

Pond 1P: Perf Pipe to OS4 Peak Elev=173.29' Storage=5,690 cf Inflow=16.11 cfs 1.109 af
Discarded=0.04 cfs 0.080 af Primary=15.96 cfs 0.921 af Outflow=16.00 cfs 1.001 af

Pond 2P: Perf Pipe OS4 to OS2 Peak Elev=172.61' Storage=2,316 cf Inflow=32.28 cfs 2.032 af
Discarded=0.01 cfs 0.033 af Primary=32.25 cfs 1.954 af Outflow=32.26 cfs 1.986 af

Link DP1: Norwalk River South Inflow=32.25 cfs 1.954 af
Primary=32.25 cfs 1.954 af

Link DP2: Norwalk River North Inflow=20.84 cfs 1.470 af
Primary=20.84 cfs 1.470 af

Link DP3: Watercourse Inflow=8.92 cfs 0.771 af
Primary=8.92 cfs 0.771 af

Total Runoff Area = 12.380 ac Runoff Volume = 4.461 af Average Runoff Depth = 4.32"
41.15% Pervious = 5.094 ac 58.85% Impervious = 7.286 ac

Summary for Subcatchment 1a: Subcat 1a

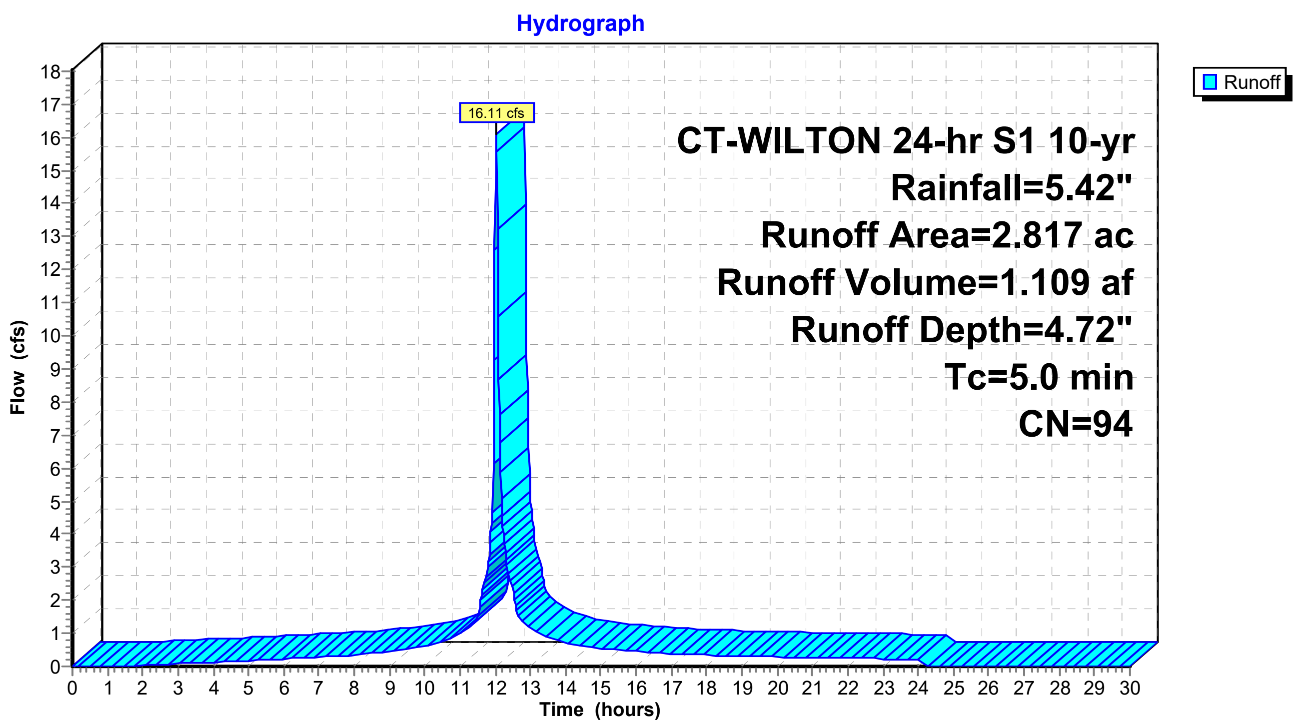
Runoff = 16.11 cfs @ 12.02 hrs, Volume= 1.109 af, Depth= 4.72"
Routed to Pond 1P : Perf Pipe to OS4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs
CT-WILTON 24-hr S1 10-yr Rainfall=5.42"

Area (ac)	CN	Description
0.121	89	<50% Grass cover, Poor, HSG D
0.375	80	>75% Grass cover, Good, HSG D
2.109	98	Unconnected pavement, HSG D
0.212	79	Woods/grass comb., Good, HSG D
2.817	94	Weighted Average
0.708		25.12% Pervious Area
2.109		74.88% Impervious Area
2.109		100.00% Unconnected

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

Subcatchment 1a: Subcat 1a



Summary for Subcatchment 1b: Subcat 1b

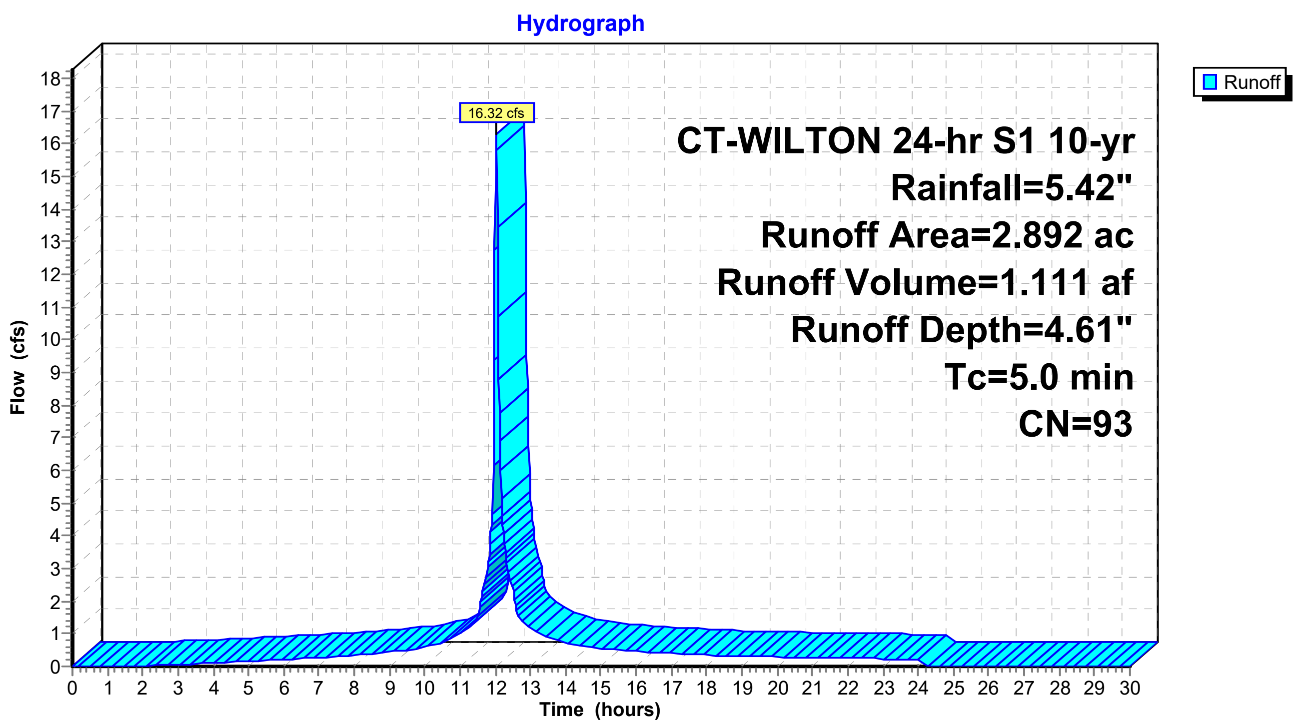
Runoff = 16.32 cfs @ 12.02 hrs, Volume= 1.111 af, Depth= 4.61"
Routed to Pond 2P : Perf Pipe OS4 to OS2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs
CT-WILTON 24-hr S1 10-yr Rainfall=5.42"

Area (ac)	CN	Description
0.056	89	<50% Grass cover, Poor, HSG D
0.723	80	>75% Grass cover, Good, HSG D
2.081	98	Unconnected pavement, HSG D
0.031	79	Woods/grass comb., Good, HSG D
2.892	93	Weighted Average
0.811		28.03% Pervious Area
2.081		71.97% Impervious Area
2.081		100.00% Unconnected

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

Subcatchment 1b: Subcat 1b



Summary for Subcatchment 2: North Site Area

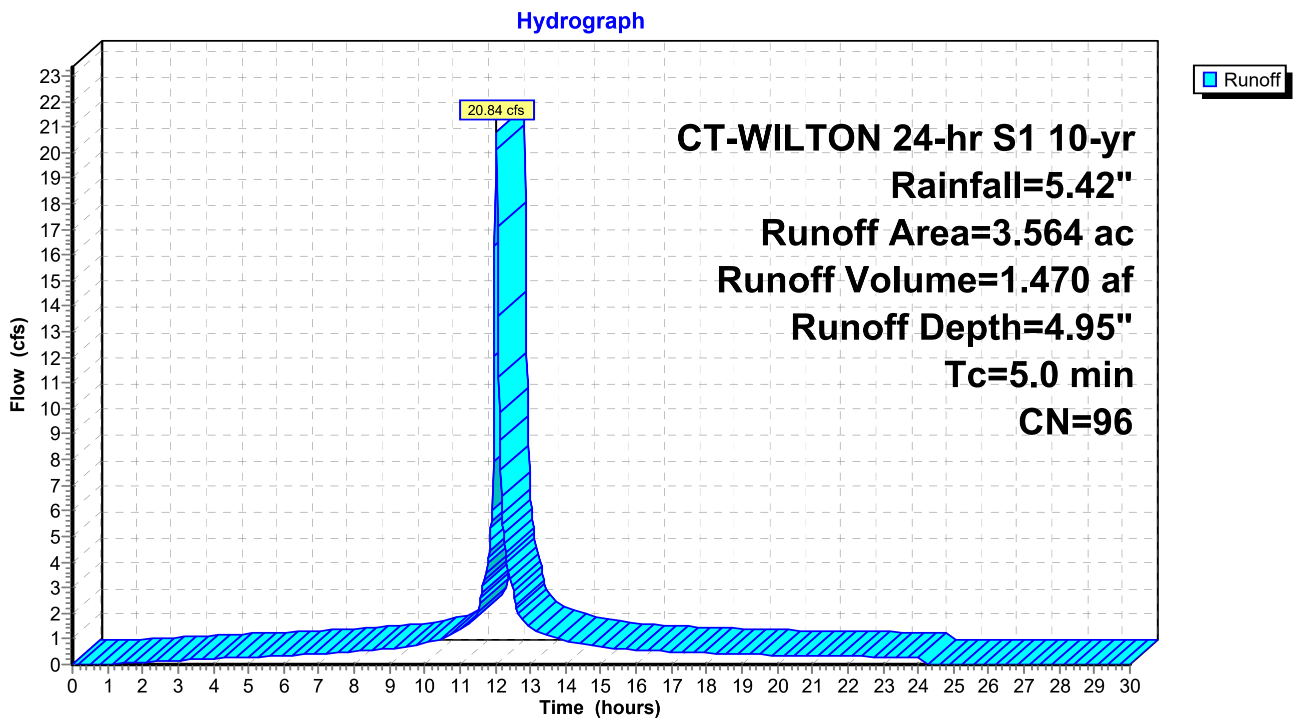
Runoff = 20.84 cfs @ 12.02 hrs, Volume= 1.470 af, Depth= 4.95"
Routed to Link DP2 : Norwalk River North

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs
CT-WILTON 24-hr S1 10-yr Rainfall=5.42"

Area (ac)	CN	Description
0.281	89	<50% Grass cover, Poor, HSG D
0.189	80	>75% Grass cover, Good, HSG D
3.094	98	Unconnected pavement, HSG D
3.564	96	Weighted Average
0.470		13.18% Pervious Area
3.094		86.82% Impervious Area
3.094		100.00% Unconnected

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

Subcatchment 2: North Site Area



Summary for Subcatchment 3: Subcat 3

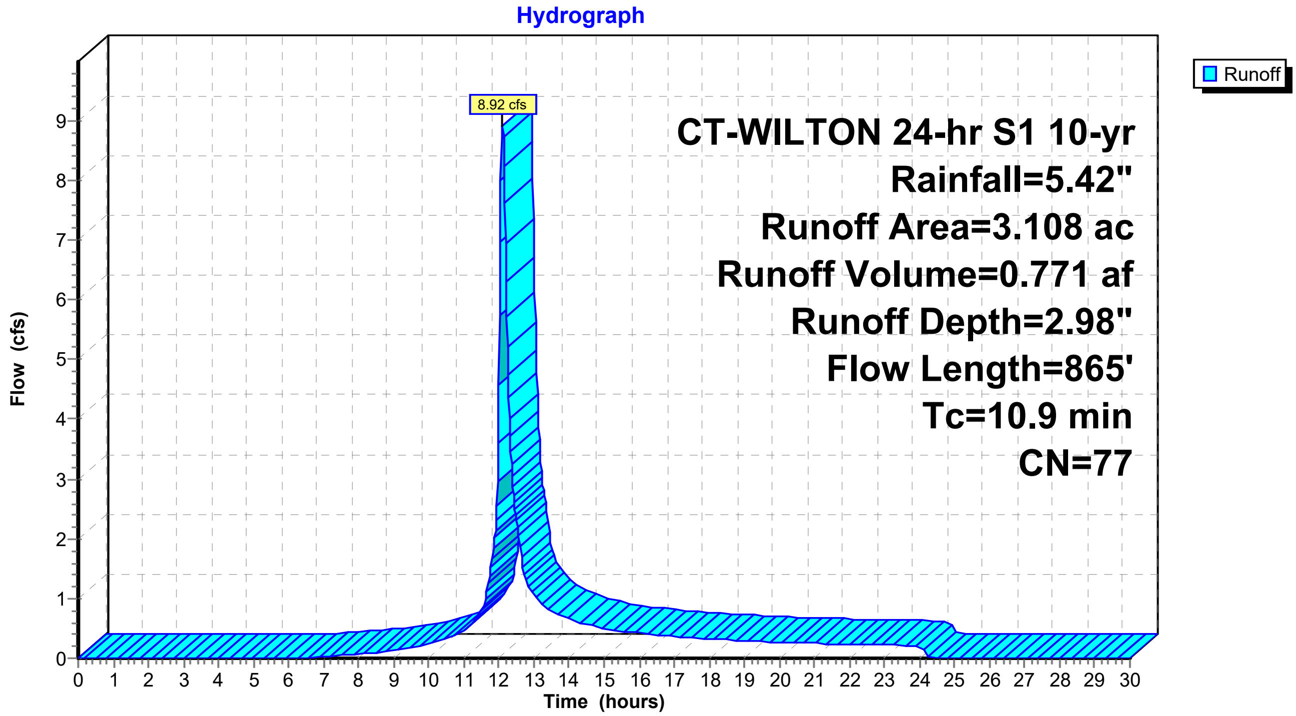
Runoff = 8.92 cfs @ 12.10 hrs, Volume= 0.771 af, Depth= 2.98"
Routed to Link DP3 : Watercourse

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs
CT-WILTON 24-hr S1 10-yr Rainfall=5.42"

Area (ac)	CN	Description
0.040	89	<50% Grass cover, Poor, HSG D
0.112	80	>75% Grass cover, Good, HSG D
0.001	98	Unconnected pavement, HSG D
2.930	77	Woods, Good, HSG D
0.025	79	Woods/grass comb., Good, HSG D
3.108	77	Weighted Average
3.107		99.96% Pervious Area
0.001		0.04% Impervious Area
0.001		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.7	50	0.2300	0.11		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.55"
1.3	215	0.3255	2.85		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.9	600	0.0117	5.16	82.54	**Channel Flow,** Area= 16.0 sf Perim= 11.0' r= 1.45' n= 0.040
10.9	865	Total			

Subcatchment 3: Subcat 3



Summary for Pond 1P: Perf Pipe to OS4

Inflow Area = 2.817 ac, 74.88% Impervious, Inflow Depth = 4.72" for 10-yr event
Inflow = 16.11 cfs @ 12.02 hrs, Volume= 1.109 af
Outflow = 16.00 cfs @ 12.03 hrs, Volume= 1.001 af, Atten= 1%, Lag= 0.1 min
Discarded = 0.04 cfs @ 12.03 hrs, Volume= 0.080 af
Primary = 15.96 cfs @ 12.03 hrs, Volume= 0.921 af
Routed to Pond 2P : Perf Pipe OS4 to OS2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs / 2
Peak Elev= 173.29' @ 12.03 hrs Surf.Area= 3,258 sf Storage= 5,690 cf

Plug-Flow detention time= 114.2 min calculated for 1.001 af (90% of inflow)
Center-of-Mass det. time= 59.5 min (836.7 - 777.2)

Volume	Invert	Avail.Storage	Storage Description
#1	169.41'	2,743 cf	**36.0" Round Pipe Storage** Inside #2 L= 388.0' S= 0.0010 '/'
#2	168.91'	1,622 cf	**72.0" W x 42.0" H Box Stone** L= 388.0' S= 0.0010 '/' 8,148 cf Overall - 2,743 cf Embedded = 5,405 cf x 30.0% Voids
#3	169.61'	813 cf	**36.0" Round Pipe Storage** Inside #4 L= 115.0' S= 0.0010 '/'
#4	169.11'	481 cf	**72.0" W x 42.0" H Box Stone** L= 115.0' S= 0.0010 '/' 2,415 cf Overall - 813 cf Embedded = 1,602 cf x 30.0% Voids
#5	172.40'	5,249 cf	**Custom Stage Data (Irregular)**Listed below (Recalc)
		10,906 cf	Total Available Storage

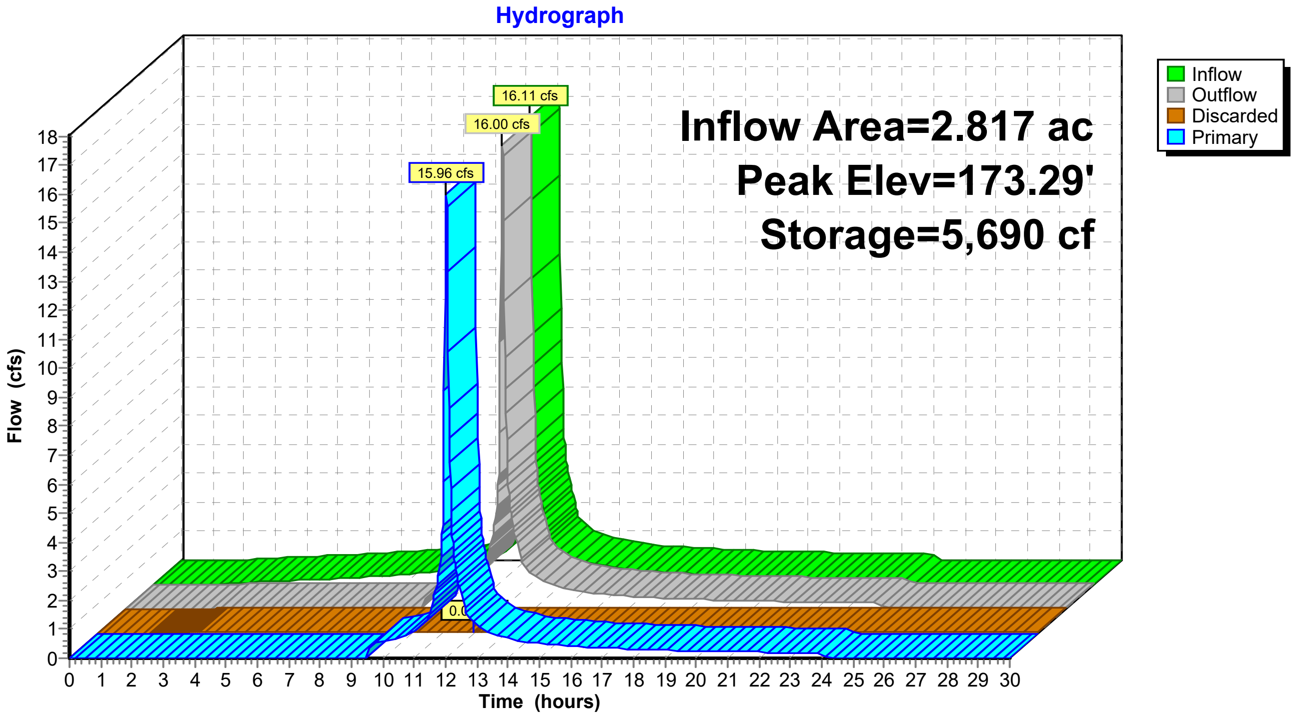
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
172.40	1	1.0	0	0	1
173.00	10	15.0	3	3	19
174.00	2,050	300.0	734	737	7,165
175.00	7,550	570.0	4,511	5,249	25,863

Device	Routing	Invert	Outlet Devices
#1	Primary	172.41'	**72.0" W x 32.0" H Vert. Weir Plate** C= 0.600 Limited to weir flow at low heads
#2	Discarded	168.91'	**0.500 in/hr Exfiltration over Surface area** Phase-In= 0.01'

Discarded OutFlow Max=0.04 cfs @ 12.03 hrs HW=173.29' (Free Discharge)
└─**2=Exfiltration** (Exfiltration Controls 0.04 cfs)

Primary OutFlow Max=15.81 cfs @ 12.03 hrs HW=173.29' (Free Discharge)
└─**1=Weir Plate** (Orifice Controls 15.81 cfs @ 3.01 fps)

Pond 1P: Perf Pipe to OS4



Summary for Pond 2P: Perf Pipe OS4 to OS2

Inflow Area = 5.709 ac, 73.41% Impervious, Inflow Depth = 4.27" for 10-yr event
Inflow = 32.28 cfs @ 12.02 hrs, Volume= 2.032 af
Outflow = 32.26 cfs @ 12.02 hrs, Volume= 1.986 af, Atten= 0%, Lag= 0.0 min
Discarded = 0.01 cfs @ 12.02 hrs, Volume= 0.033 af
Primary = 32.25 cfs @ 12.02 hrs, Volume= 1.954 af
Routed to Link DP1 : Norwalk River South

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs / 2
Peak Elev= 172.61' @ 12.02 hrs Surf.Area= 1,238 sf Storage= 2,316 cf

Plug-Flow detention time= 29.8 min calculated for 1.986 af (98% of inflow)
Center-of-Mass det. time= 15.8 min (817.9 - 802.1)

Volume	Invert	Avail.Storage	Storage Description
#1	167.20'	1,449 cf	**36.0" Round Pipe Storage** Inside #2
			L= 205.0' S= 0.0010 '/'
#2	166.70'	857 cf	**72.0" W x 42.0" H Box Stone**
			L= 205.0' S= 0.0010 '/'
			4,305 cf Overall - 1,449 cf Embedded = 2,856 cf x 30.0% Voids
#3	170.20'	5,259 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)
		7,565 cf	Total Available Storage

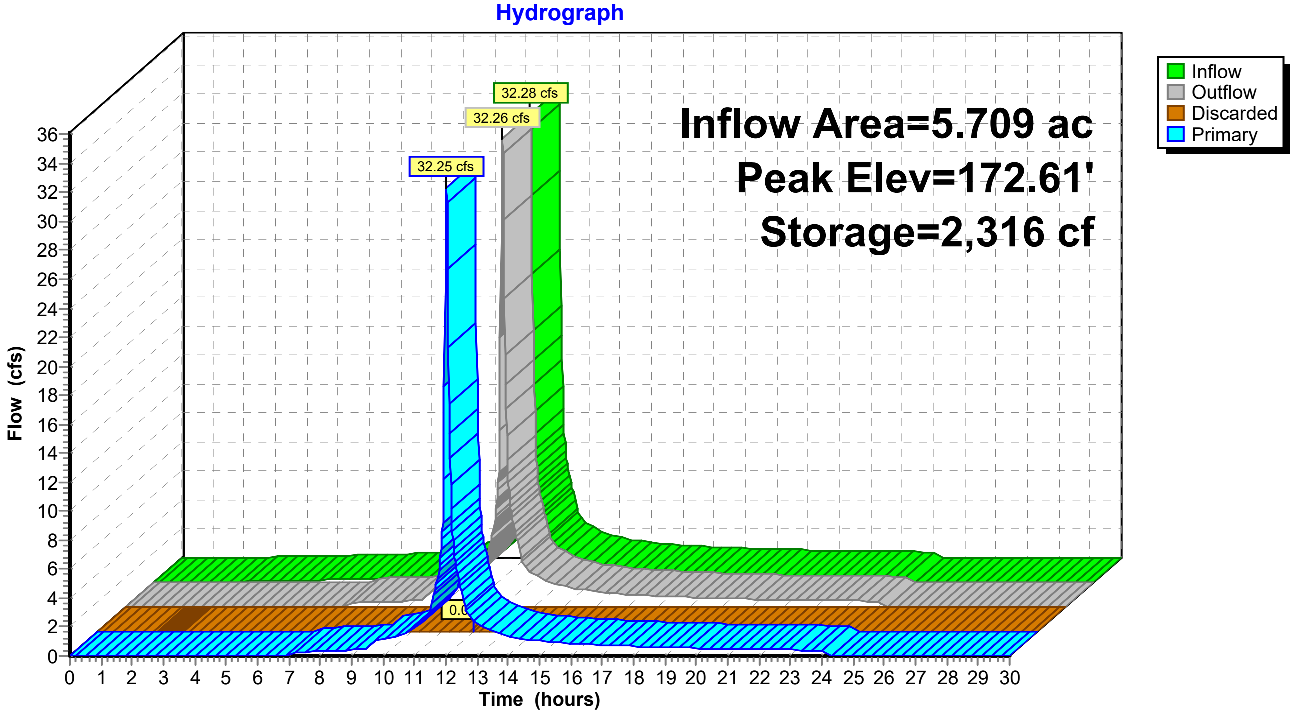
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
170.20	1	1.0	0	0	1
173.00	10	15.0	13	13	30
174.00	2,050	300.0	734	748	7,175
175.00	7,550	570.0	4,511	5,259	25,873

Device	Routing	Invert	Outlet Devices
#1	Discarded	166.70'	**0.500 in/hr Exfiltration over Surface area** Phase-In= 0.01'
#2	Primary	170.20'	**36.0" Round Culvert**
			L= 25.0' CPP, end-section conforming to fill, Ke= 0.500
			Inlet / Outlet Invert= 170.20' / 169.10' S= 0.0440 '/' Cc= 0.900
			n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf

Discarded OutFlow Max=0.01 cfs @ 12.02 hrs HW=172.60' (Free Discharge)
└─**1=Exfiltration** (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=31.96 cfs @ 12.02 hrs HW=172.60' (Free Discharge)
└─**2=Culvert** (Inlet Controls 31.96 cfs @ 5.27 fps)

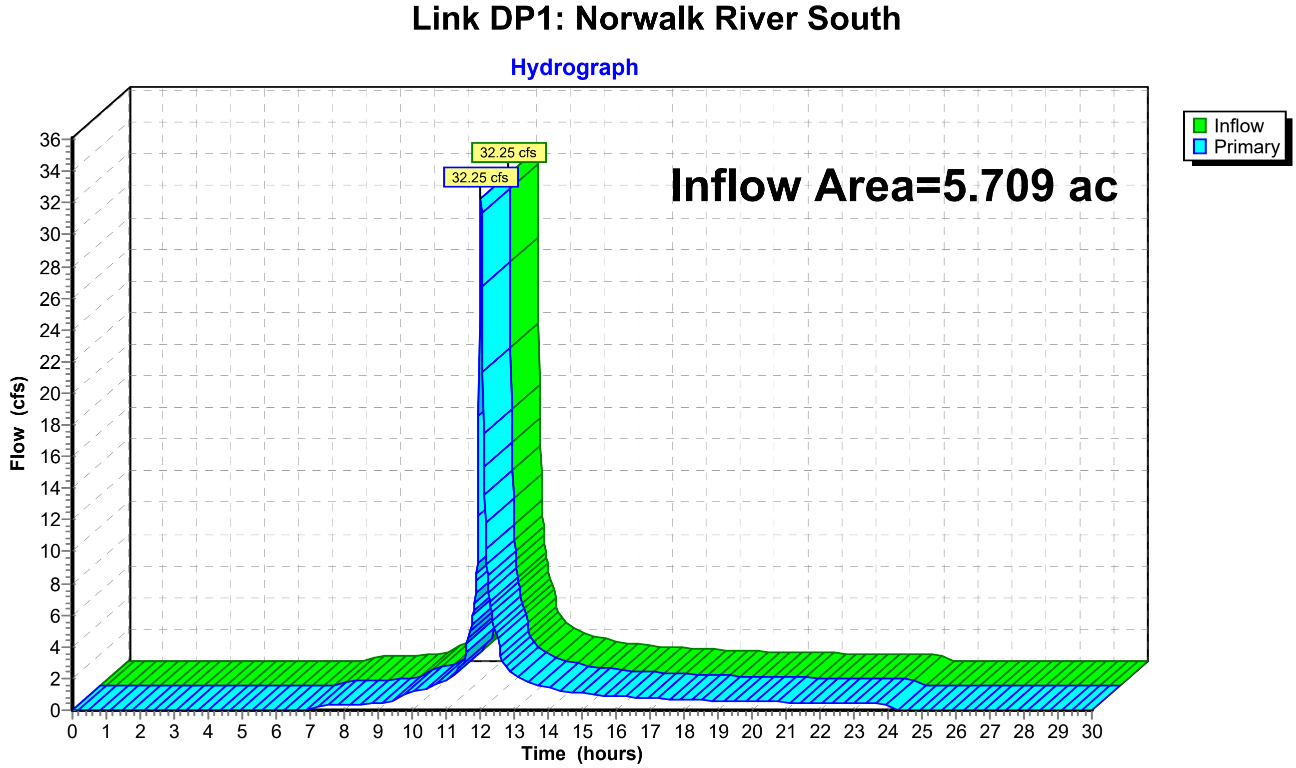
Pond 2P: Perf Pipe OS4 to OS2



Summary for Link DP1: Norwalk River South

Inflow Area = 5.709 ac, 73.41% Impervious, Inflow Depth = 4.11" for 10-yr event
Inflow = 32.25 cfs @ 12.02 hrs, Volume= 1.954 af
Primary = 32.25 cfs @ 12.02 hrs, Volume= 1.954 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 2L

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs

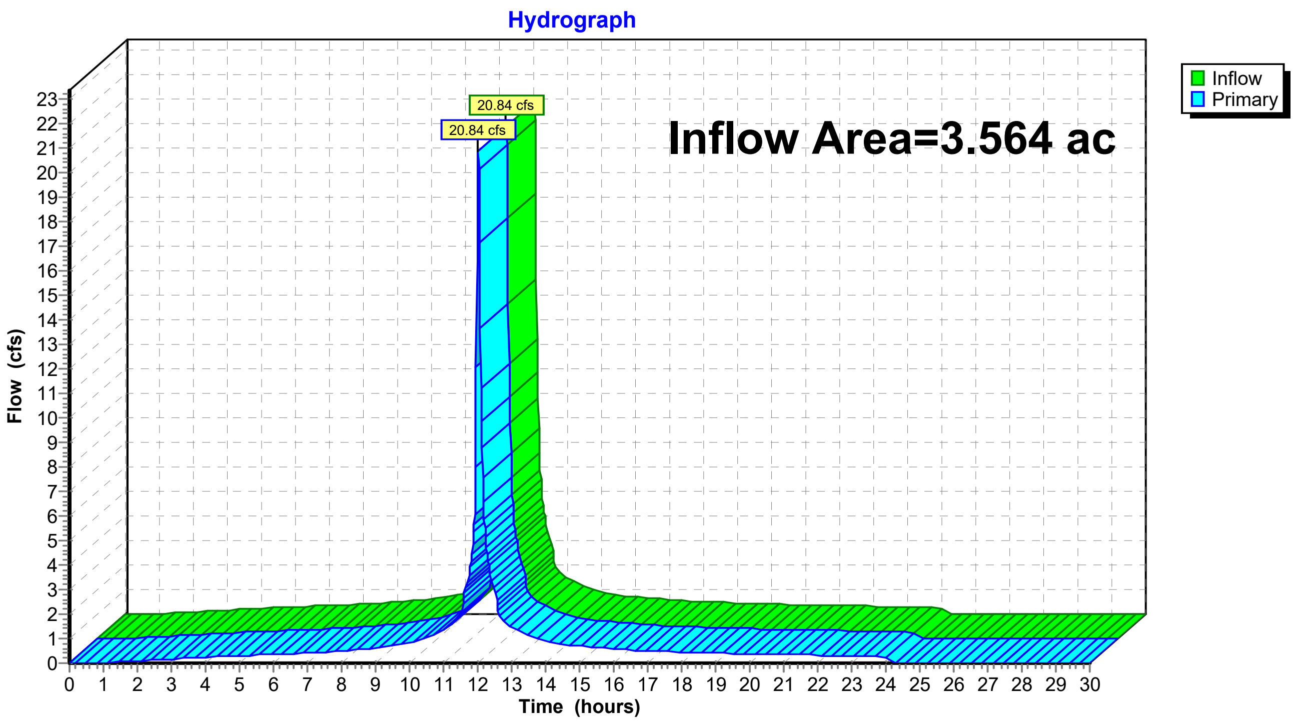


Summary for Link DP2: Norwalk River North

Inflow Area = 3.564 ac, 86.82% Impervious, Inflow Depth = 4.95" for 10-yr event
Inflow = 20.84 cfs @ 12.02 hrs, Volume= 1.470 af
Primary = 20.84 cfs @ 12.02 hrs, Volume= 1.470 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 2L

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs

Link DP2: Norwalk River North

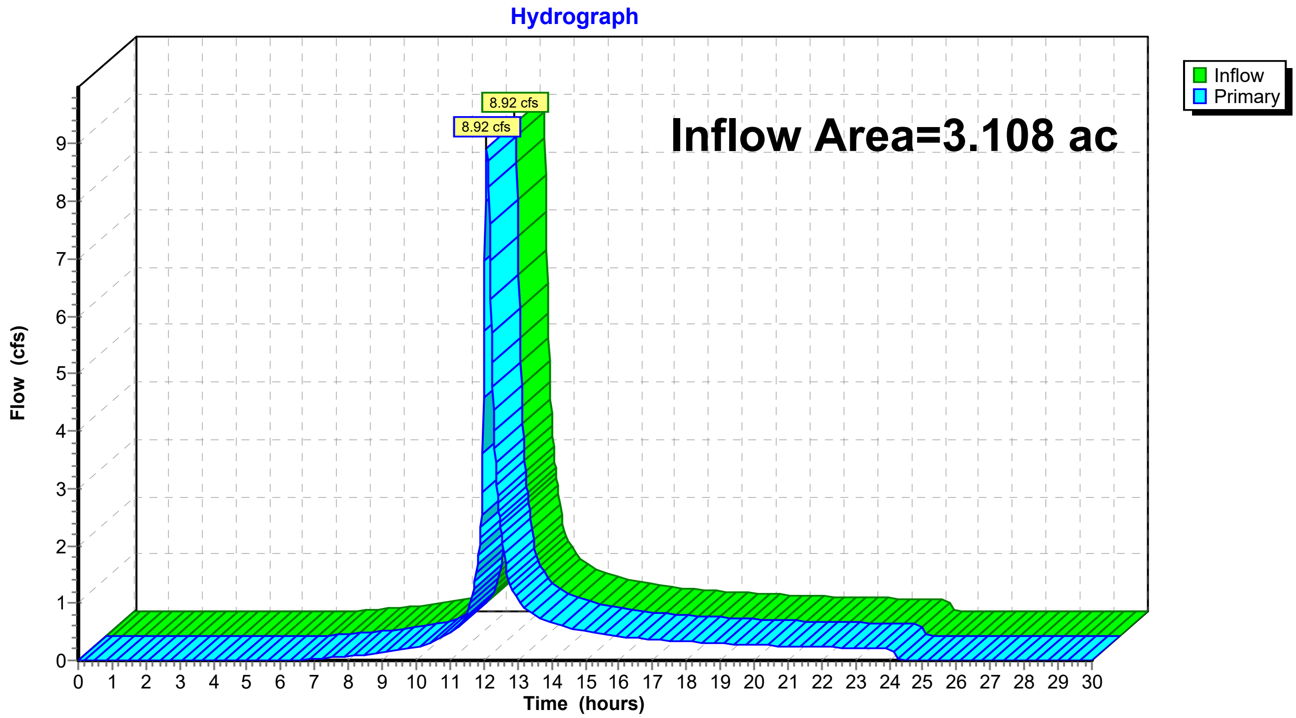


Summary for Link DP3: Watercourse

Inflow Area =	3.108 ac,	0.04% Impervious,	Inflow Depth = 2.98"	for 10-yr event	
Inflow =	8.92 cfs @	12.10 hrs,	Volume=	0.771 af	
Primary =	8.92 cfs @	12.10 hrs,	Volume=	0.771 af,	Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs

Link DP3: Watercourse



Time span=0.00-30.00 hrs, dt=0.02 hrs, 1501 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1a: Subcat 1a Runoff Area=2.817 ac 74.88% Impervious Runoff Depth=5.88"
Tc=5.0 min CN=94 Runoff=19.33 cfs 1.381 af

Subcatchment1b: Subcat 1b Runoff Area=2.892 ac 71.97% Impervious Runoff Depth=5.77"
Tc=5.0 min CN=93 Runoff=19.65 cfs 1.389 af

Subcatchment2: North Site Area Runoff Area=3.564 ac 86.82% Impervious Runoff Depth=6.12"
Tc=5.0 min CN=96 Runoff=24.85 cfs 1.816 af

Subcatchment3: Subcat 3 Runoff Area=3.108 ac 0.04% Impervious Runoff Depth=4.00"
Flow Length=865' Tc=10.9 min CN=77 Runoff=11.69 cfs 1.036 af

Pond 1P: Perf Pipe to OS4 Peak Elev=173.40' Storage=5,726 cf Inflow=19.33 cfs 1.381 af
Discarded=0.04 cfs 0.081 af Primary=19.12 cfs 1.192 af Outflow=19.16 cfs 1.273 af

Pond 2P: Perf Pipe OS4 to OS2 Peak Elev=172.97' Storage=2,319 cf Inflow=38.75 cfs 2.582 af
Discarded=0.01 cfs 0.033 af Primary=38.71 cfs 2.502 af Outflow=38.72 cfs 2.535 af

Link DP1: Norwalk River South Inflow=38.71 cfs 2.502 af
Primary=38.71 cfs 2.502 af

Link DP2: Norwalk River North Inflow=24.85 cfs 1.816 af
Primary=24.85 cfs 1.816 af

Link DP3: Watercourse Inflow=11.69 cfs 1.036 af
Primary=11.69 cfs 1.036 af

Total Runoff Area = 12.380 ac Runoff Volume = 5.622 af Average Runoff Depth = 5.45"
41.15% Pervious = 5.094 ac 58.85% Impervious = 7.286 ac

Summary for Subcatchment 1a: Subcat 1a

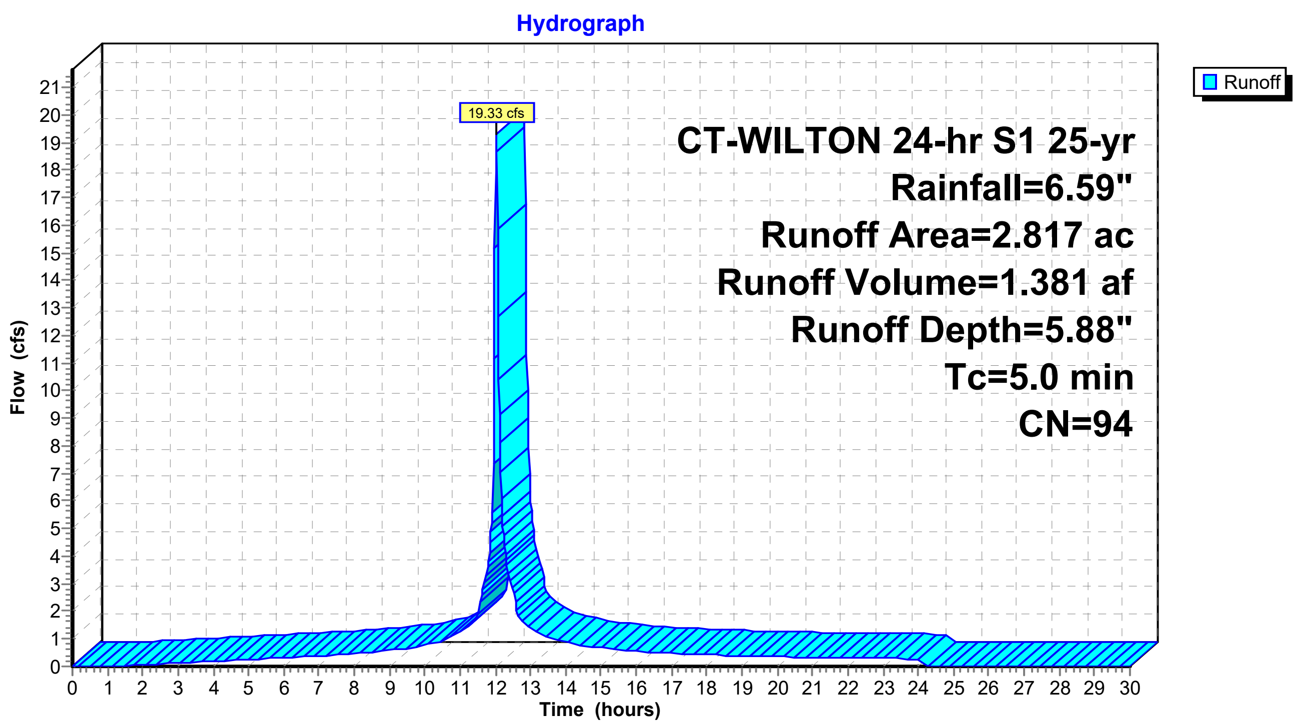
Runoff = 19.33 cfs @ 12.02 hrs, Volume= 1.381 af, Depth= 5.88"
Routed to Pond 1P : Perf Pipe to OS4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs
CT-WILTON 24-hr S1 25-yr Rainfall=6.59"

Area (ac)	CN	Description
0.121	89	<50% Grass cover, Poor, HSG D
0.375	80	>75% Grass cover, Good, HSG D
2.109	98	Unconnected pavement, HSG D
0.212	79	Woods/grass comb., Good, HSG D
2.817	94	Weighted Average
0.708		25.12% Pervious Area
2.109		74.88% Impervious Area
2.109		100.00% Unconnected

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

Subcatchment 1a: Subcat 1a



Summary for Subcatchment 1b: Subcat 1b

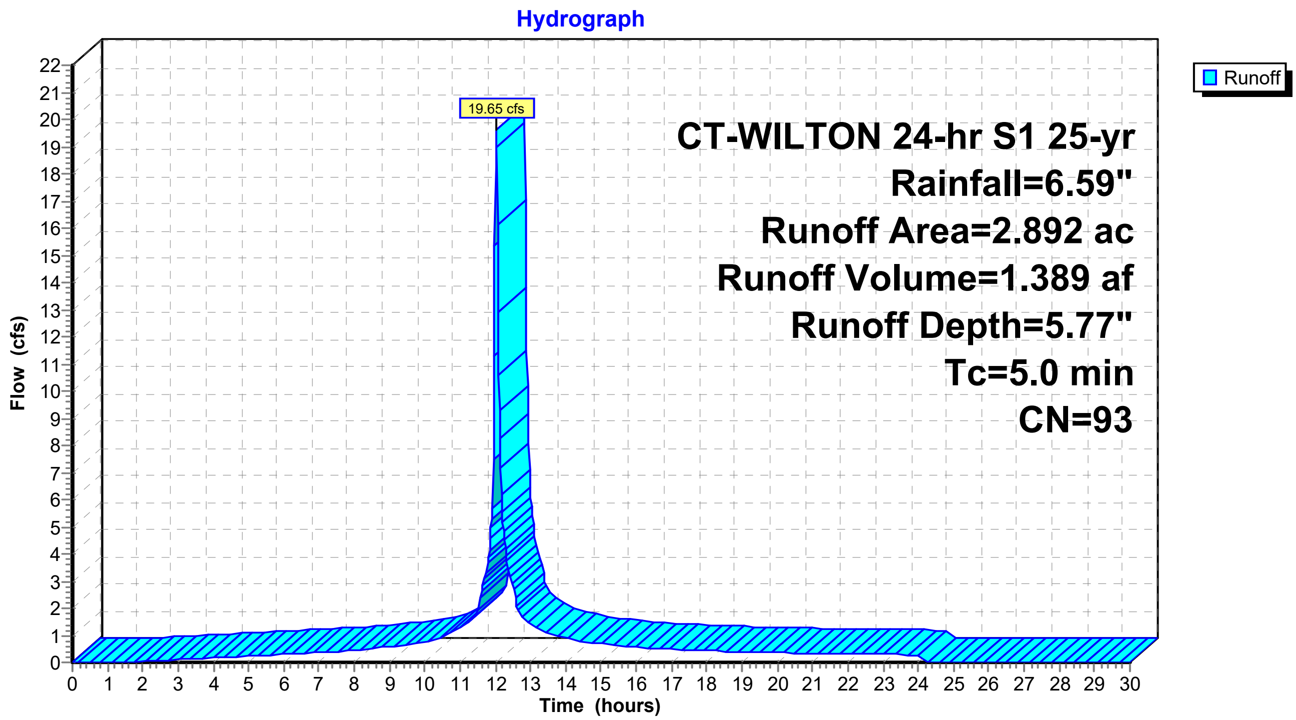
Runoff = 19.65 cfs @ 12.02 hrs, Volume= 1.389 af, Depth= 5.77"
Routed to Pond 2P : Perf Pipe OS4 to OS2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs
CT-WILTON 24-hr S1 25-yr Rainfall=6.59"

Area (ac)	CN	Description
0.056	89	<50% Grass cover, Poor, HSG D
0.723	80	>75% Grass cover, Good, HSG D
2.081	98	Unconnected pavement, HSG D
0.031	79	Woods/grass comb., Good, HSG D
2.892	93	Weighted Average
0.811		28.03% Pervious Area
2.081		71.97% Impervious Area
2.081		100.00% Unconnected

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

Subcatchment 1b: Subcat 1b



Summary for Subcatchment 2: North Site Area

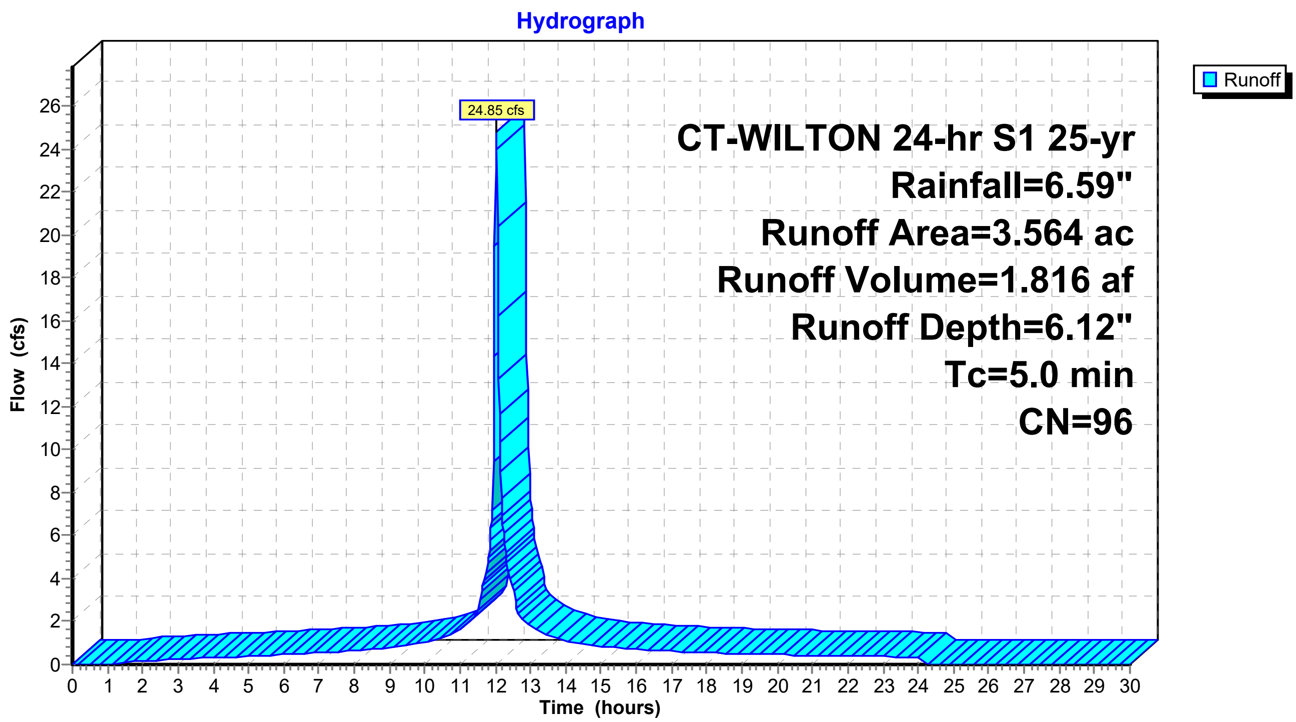
Runoff = 24.85 cfs @ 12.02 hrs, Volume= 1.816 af, Depth= 6.12"
Routed to Link DP2 : Norwalk River North

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs
CT-WILTON 24-hr S1 25-yr Rainfall=6.59"

Area (ac)	CN	Description
0.281	89	<50% Grass cover, Poor, HSG D
0.189	80	>75% Grass cover, Good, HSG D
3.094	98	Unconnected pavement, HSG D
3.564	96	Weighted Average
0.470		13.18% Pervious Area
3.094		86.82% Impervious Area
3.094		100.00% Unconnected

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

Subcatchment 2: North Site Area



Summary for Subcatchment 3: Subcat 3

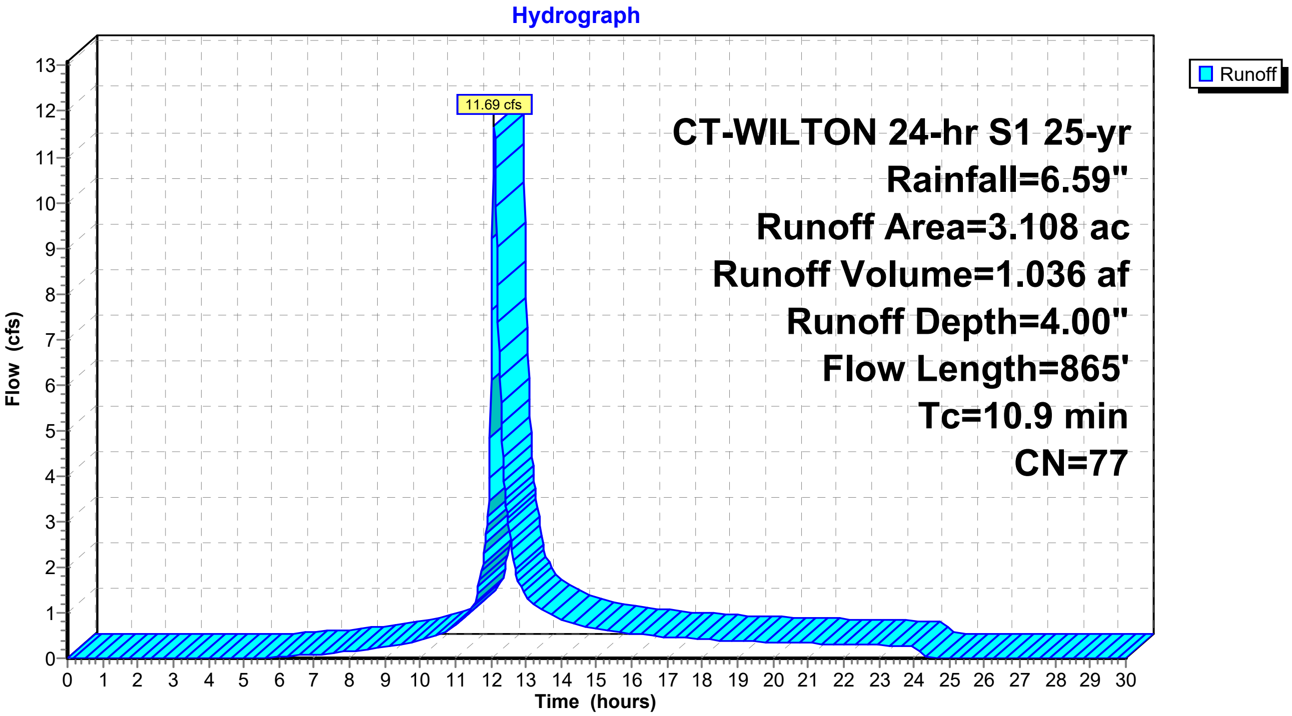
Runoff = 11.69 cfs @ 12.10 hrs, Volume= 1.036 af, Depth= 4.00"
Routed to Link DP3 : Watercourse

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs
CT-WILTON 24-hr S1 25-yr Rainfall=6.59"

Area (ac)	CN	Description
0.040	89	<50% Grass cover, Poor, HSG D
0.112	80	>75% Grass cover, Good, HSG D
0.001	98	Unconnected pavement, HSG D
2.930	77	Woods, Good, HSG D
0.025	79	Woods/grass comb., Good, HSG D
3.108	77	Weighted Average
3.107		99.96% Pervious Area
0.001		0.04% Impervious Area
0.001		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.7	50	0.2300	0.11		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.55"
1.3	215	0.3255	2.85		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.9	600	0.0117	5.16	82.54	**Channel Flow,** Area= 16.0 sf Perim= 11.0' r= 1.45' n= 0.040
10.9	865	Total			

Subcatchment 3: Subcat 3



Summary for Pond 1P: Perf Pipe to OS4

Inflow Area = 2.817 ac, 74.88% Impervious, Inflow Depth = 5.88" for 25-yr event
Inflow = 19.33 cfs @ 12.02 hrs, Volume= 1.381 af
Outflow = 19.16 cfs @ 12.03 hrs, Volume= 1.273 af, Atten= 1%, Lag= 0.2 min
Discarded = 0.04 cfs @ 12.03 hrs, Volume= 0.081 af
Primary = 19.12 cfs @ 12.03 hrs, Volume= 1.192 af
Routed to Pond 2P : Perf Pipe OS4 to OS2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs / 2
Peak Elev= 173.40' @ 12.03 hrs Surf.Area= 3,427 sf Storage= 5,726 cf

Plug-Flow detention time= 98.4 min calculated for 1.273 af (92% of inflow)
Center-of-Mass det. time= 52.9 min (823.9 - 771.0)

Volume	Invert	Avail.Storage	Storage Description
#1	169.41'	2,743 cf	**36.0" Round Pipe Storage** Inside #2 L= 388.0' S= 0.0010 '/'
#2	168.91'	1,622 cf	**72.0" W x 42.0" H Box Stone** L= 388.0' S= 0.0010 '/' 8,148 cf Overall - 2,743 cf Embedded = 5,405 cf x 30.0% Voids
#3	169.61'	813 cf	**36.0" Round Pipe Storage** Inside #4 L= 115.0' S= 0.0010 '/'
#4	169.11'	481 cf	**72.0" W x 42.0" H Box Stone** L= 115.0' S= 0.0010 '/' 2,415 cf Overall - 813 cf Embedded = 1,602 cf x 30.0% Voids
#5	172.40'	5,249 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)
		10,906 cf	Total Available Storage

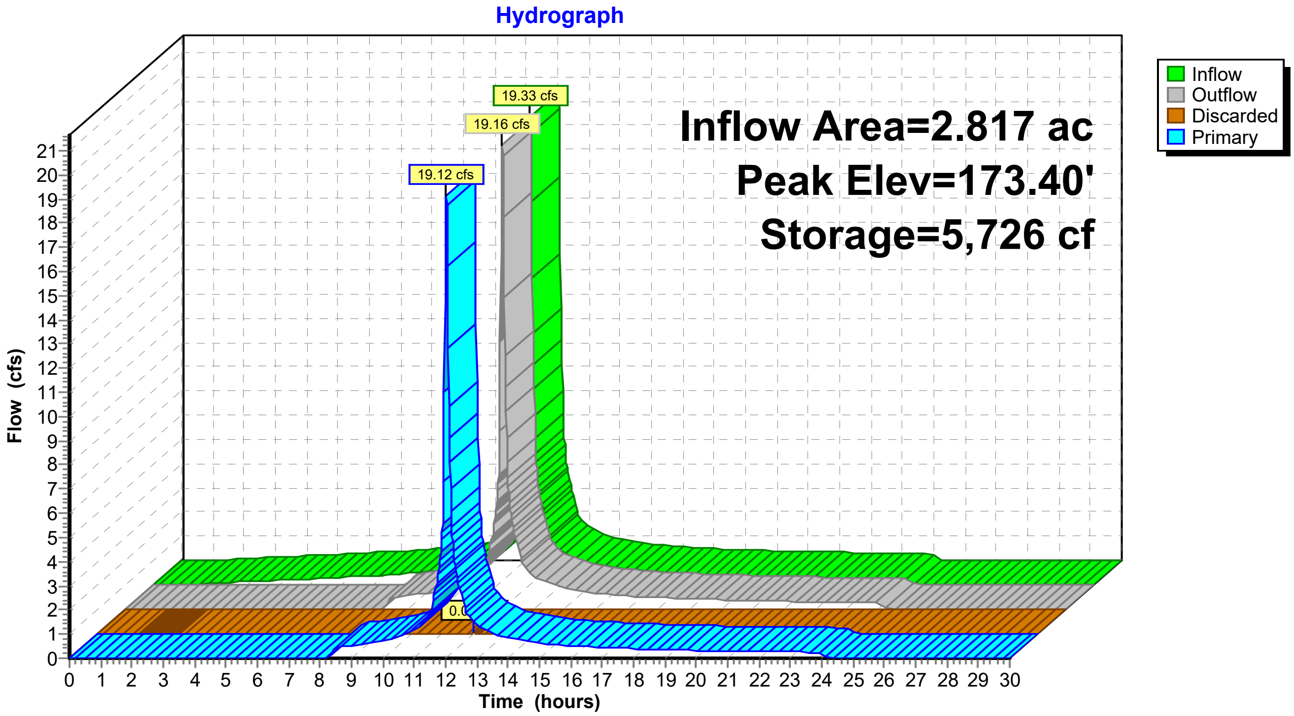
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
172.40	1	1.0	0	0	1
173.00	10	15.0	3	3	19
174.00	2,050	300.0	734	737	7,165
175.00	7,550	570.0	4,511	5,249	25,863

Device	Routing	Invert	Outlet Devices
#1	Primary	172.41'	**72.0" W x 32.0" H Vert. Weir Plate** C= 0.600 Limited to weir flow at low heads
#2	Discarded	168.91'	**0.500 in/hr Exfiltration over Surface area** Phase-In= 0.01'

Discarded OutFlow Max=0.04 cfs @ 12.03 hrs HW=173.40' (Free Discharge)
└─**2=Exfiltration** (Exfiltration Controls 0.04 cfs)

Primary OutFlow Max=18.91 cfs @ 12.03 hrs HW=173.40' (Free Discharge)
└─**1=Weir Plate** (Orifice Controls 18.91 cfs @ 3.19 fps)

Pond 1P: Perf Pipe to OS4



Summary for Pond 2P: Perf Pipe OS4 to OS2

Inflow Area = 5.709 ac, 73.41% Impervious, Inflow Depth = 5.43" for 25-yr event
Inflow = 38.75 cfs @ 12.03 hrs, Volume= 2.582 af
Outflow = 38.72 cfs @ 12.03 hrs, Volume= 2.535 af, Atten= 0%, Lag= 0.0 min
Discarded = 0.01 cfs @ 12.03 hrs, Volume= 0.033 af
Primary = 38.71 cfs @ 12.03 hrs, Volume= 2.502 af
Routed to Link DP1 : Norwalk River South

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs / 2
Peak Elev= 172.97' @ 12.03 hrs Surf.Area= 1,240 sf Storage= 2,319 cf

Plug-Flow detention time= 24.6 min calculated for 2.534 af (98% of inflow)
Center-of-Mass det. time= 13.4 min (807.6 - 794.2)

Volume	Invert	Avail.Storage	Storage Description
#1	167.20'	1,449 cf	**36.0" Round Pipe Storage** Inside #2 L= 205.0' S= 0.0010 '/'
#2	166.70'	857 cf	**72.0" W x 42.0" H Box Stone** L= 205.0' S= 0.0010 '/' 4,305 cf Overall - 1,449 cf Embedded = 2,856 cf x 30.0% Voids
#3	170.20'	5,259 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)
		7,565 cf	Total Available Storage

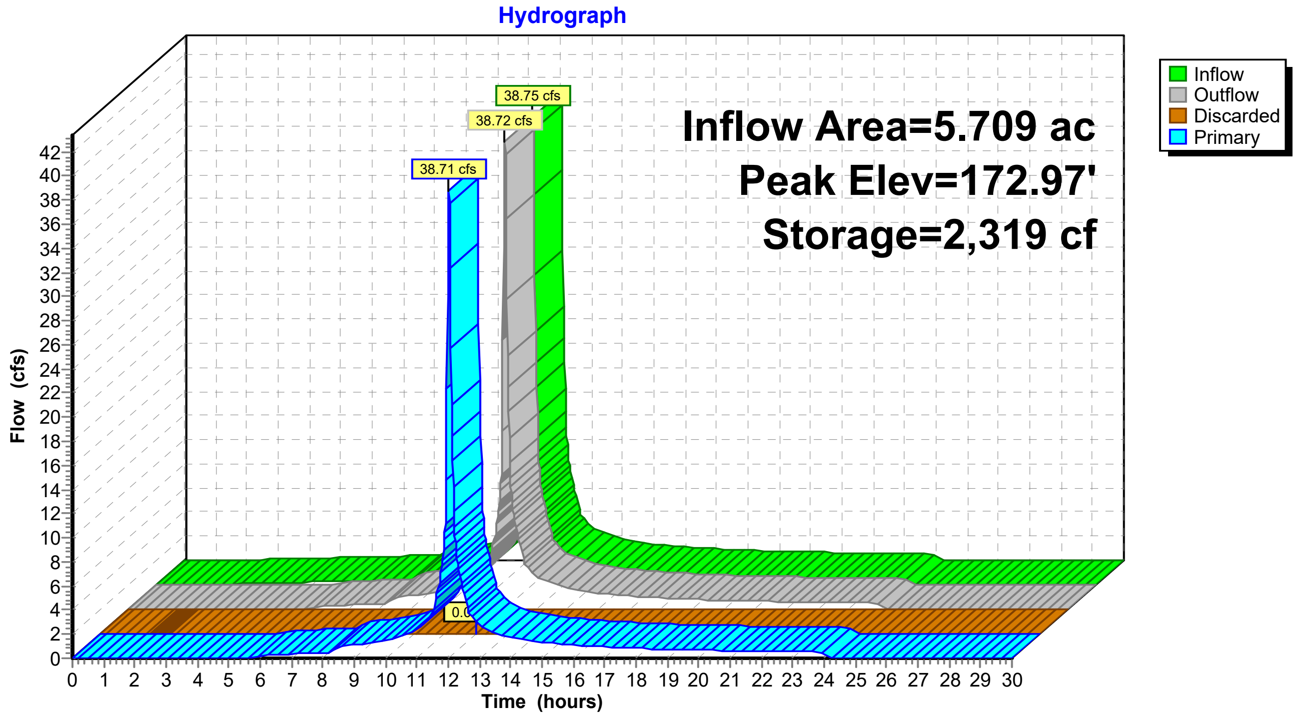
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
170.20	1	1.0	0	0	1
173.00	10	15.0	13	13	30
174.00	2,050	300.0	734	748	7,175
175.00	7,550	570.0	4,511	5,259	25,873

Device	Routing	Invert	Outlet Devices
#1	Discarded	166.70'	**0.500 in/hr Exfiltration over Surface area** Phase-In= 0.01'
#2	Primary	170.20'	**36.0" Round Culvert** L= 25.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 170.20' / 169.10' S= 0.0440 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf

Discarded OutFlow Max=0.01 cfs @ 12.03 hrs HW=172.95' (Free Discharge)
└─**1=Exfiltration** (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=38.35 cfs @ 12.03 hrs HW=172.95' (Free Discharge)
└─**2=Culvert** (Inlet Controls 38.35 cfs @ 5.65 fps)

Pond 2P: Perf Pipe OS4 to OS2

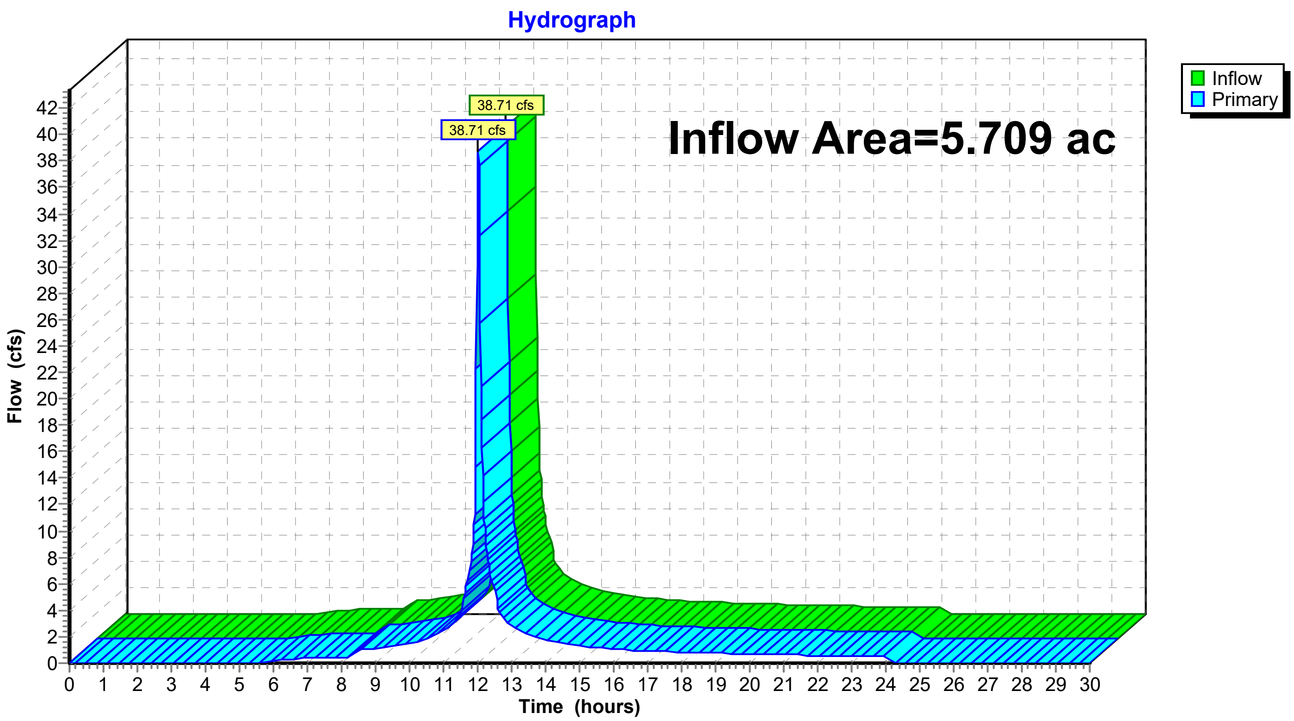


Summary for Link DP1: Norwalk River South

Inflow Area = 5.709 ac, 73.41% Impervious, Inflow Depth = 5.26" for 25-yr event
Inflow = 38.71 cfs @ 12.03 hrs, Volume= 2.502 af
Primary = 38.71 cfs @ 12.03 hrs, Volume= 2.502 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 2L

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs

Link DP1: Norwalk River South

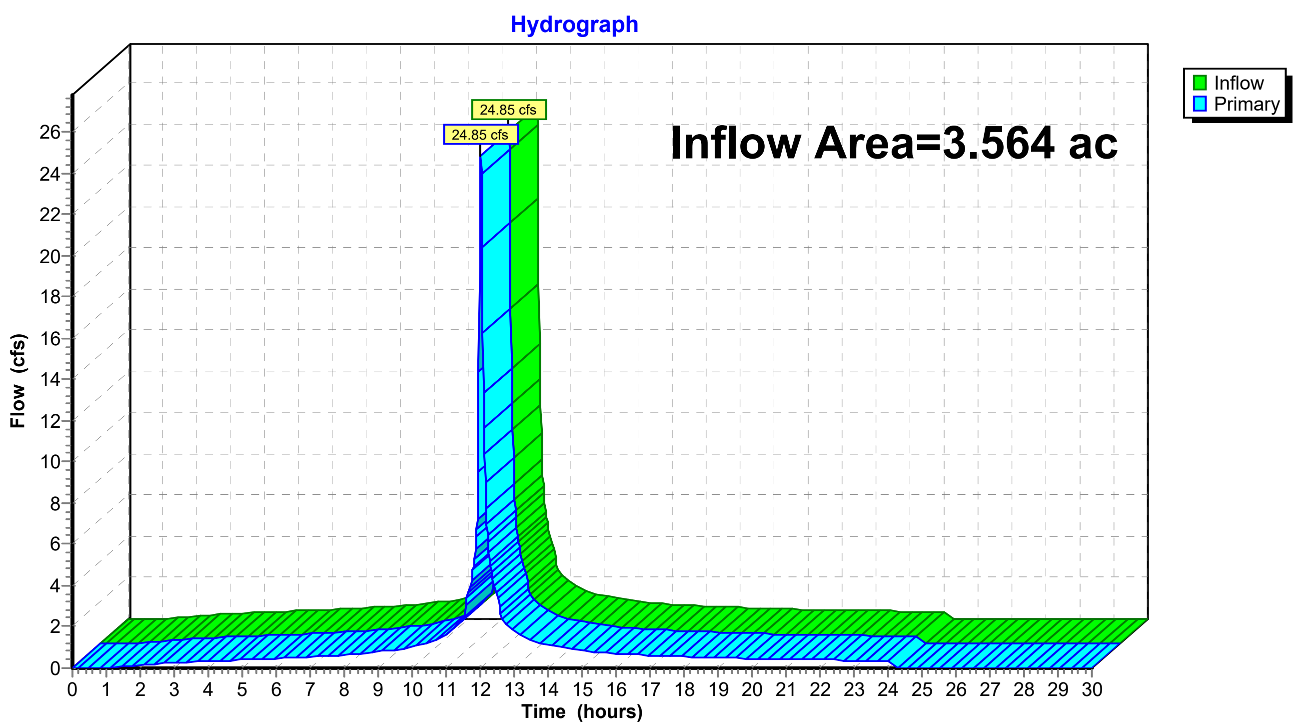


Summary for Link DP2: Norwalk River North

Inflow Area = 3.564 ac, 86.82% Impervious, Inflow Depth = 6.12" for 25-yr event
Inflow = 24.85 cfs @ 12.02 hrs, Volume= 1.816 af
Primary = 24.85 cfs @ 12.02 hrs, Volume= 1.816 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 2L

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs

Link DP2: Norwalk River North

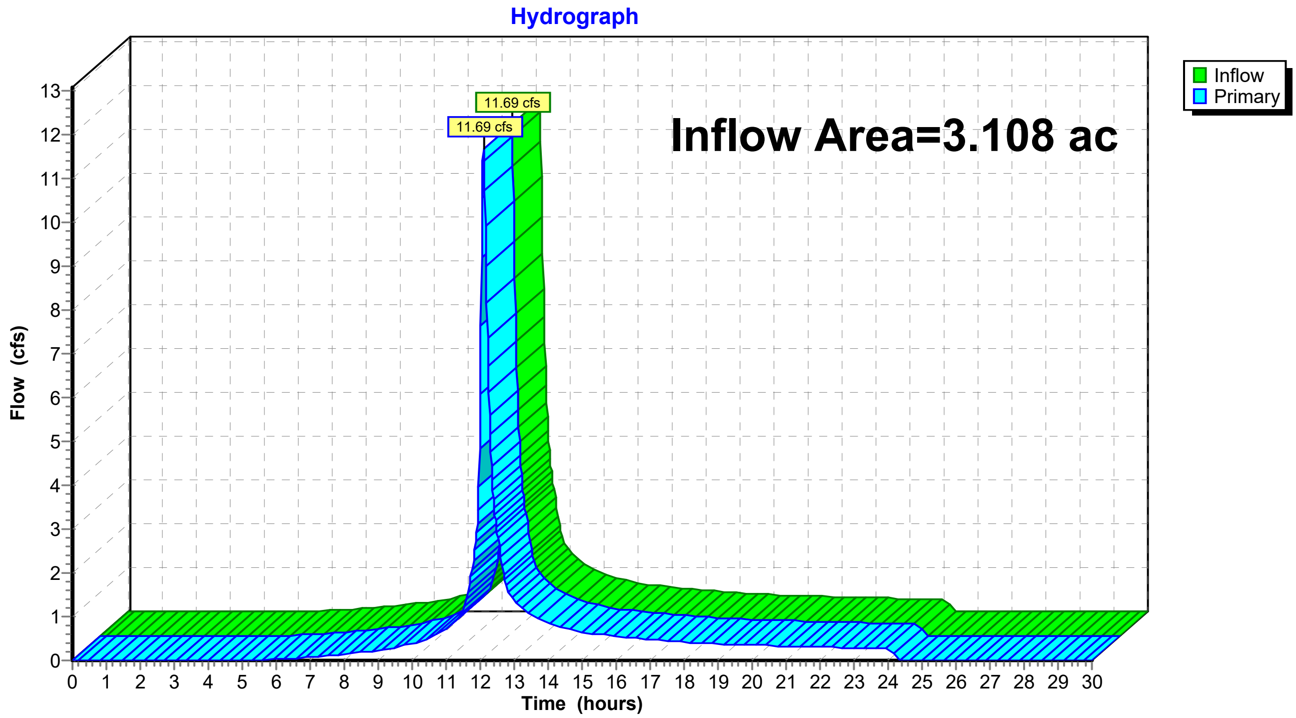


Summary for Link DP3: Watercourse

Inflow Area = 3.108 ac, 0.04% Impervious, Inflow Depth = 4.00" for 25-yr event
Inflow = 11.69 cfs @ 12.10 hrs, Volume= 1.036 af
Primary = 11.69 cfs @ 12.10 hrs, Volume= 1.036 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs

Link DP3: Watercourse



Time span=0.00-30.00 hrs, dt=0.02 hrs, 1501 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1a: Subcat 1a Runoff Area=2.817 ac 74.88% Impervious Runoff Depth=7.67"
Tc=5.0 min CN=94 Runoff=24.25 cfs 1.800 af

Subcatchment1b: Subcat 1b Runoff Area=2.892 ac 71.97% Impervious Runoff Depth=7.55"
Tc=5.0 min CN=93 Runoff=24.73 cfs 1.819 af

Subcatchment2: North Site Area Runoff Area=3.564 ac 86.82% Impervious Runoff Depth=7.91"
Tc=5.0 min CN=96 Runoff=31.00 cfs 2.349 af

Subcatchment3: Subcat 3 Runoff Area=3.108 ac 0.04% Impervious Runoff Depth=5.63"
Flow Length=865' Tc=10.9 min CN=77 Runoff=15.98 cfs 1.459 af

Pond 1P: Perf Pipe to OS4 Peak Elev=173.56' Storage=5,815 cf Inflow=24.25 cfs 1.800 af
Discarded=0.04 cfs 0.082 af Primary=23.88 cfs 1.611 af Outflow=23.92 cfs 1.693 af

Pond 2P: Perf Pipe OS4 to OS2 Peak Elev=173.64' Storage=2,539 cf Inflow=48.56 cfs 3.430 af
Discarded=0.02 cfs 0.034 af Primary=47.46 cfs 3.343 af Outflow=47.48 cfs 3.377 af

Link DP1: Norwalk River South Inflow=47.46 cfs 3.343 af
Primary=47.46 cfs 3.343 af

Link DP2: Norwalk River North Inflow=31.00 cfs 2.349 af
Primary=31.00 cfs 2.349 af

Link DP3: Watercourse Inflow=15.98 cfs 1.459 af
Primary=15.98 cfs 1.459 af

Total Runoff Area = 12.380 ac Runoff Volume = 7.428 af Average Runoff Depth = 7.20"
41.15% Pervious = 5.094 ac 58.85% Impervious = 7.286 ac

Summary for Subcatchment 1a: Subcat 1a

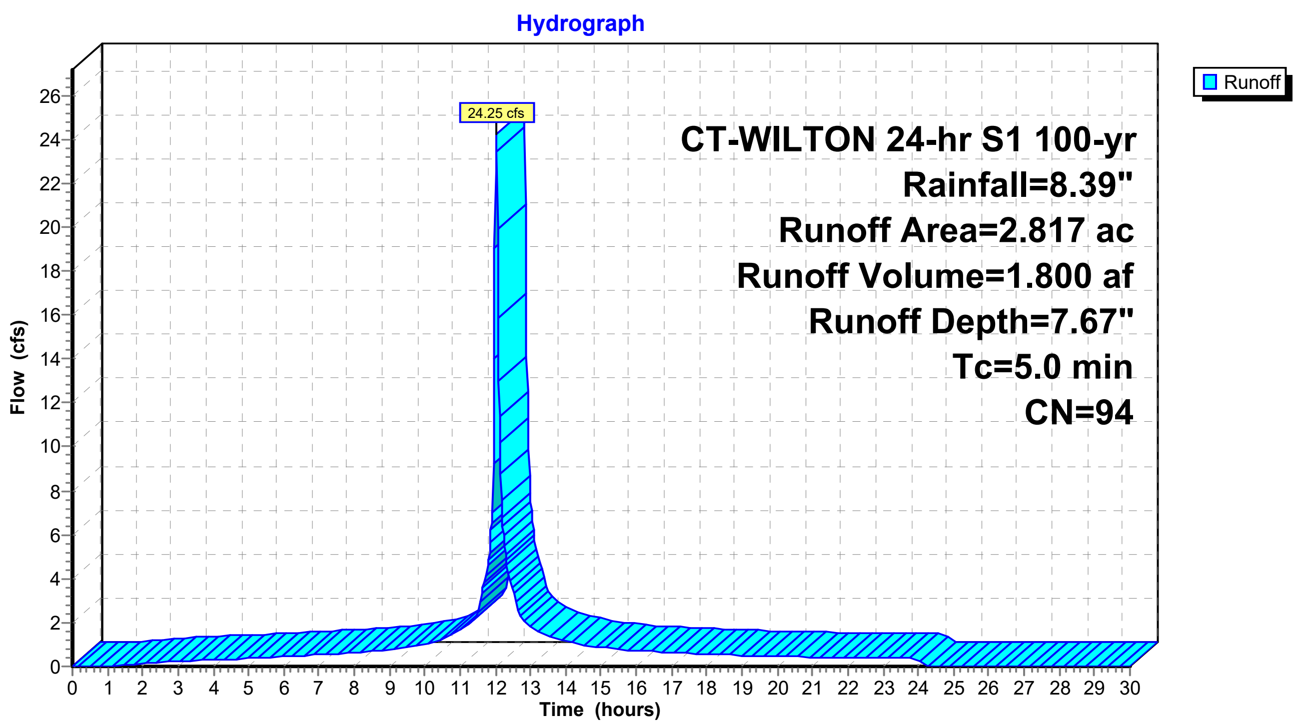
Runoff = 24.25 cfs @ 12.02 hrs, Volume= 1.800 af, Depth= 7.67"
Routed to Pond 1P : Perf Pipe to OS4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs
CT-WILTON 24-hr S1 100-yr Rainfall=8.39"

Area (ac)	CN	Description
0.121	89	<50% Grass cover, Poor, HSG D
0.375	80	>75% Grass cover, Good, HSG D
2.109	98	Unconnected pavement, HSG D
0.212	79	Woods/grass comb., Good, HSG D
2.817	94	Weighted Average
0.708		25.12% Pervious Area
2.109		74.88% Impervious Area
2.109		100.00% Unconnected

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

Subcatchment 1a: Subcat 1a



Summary for Subcatchment 1b: Subcat 1b

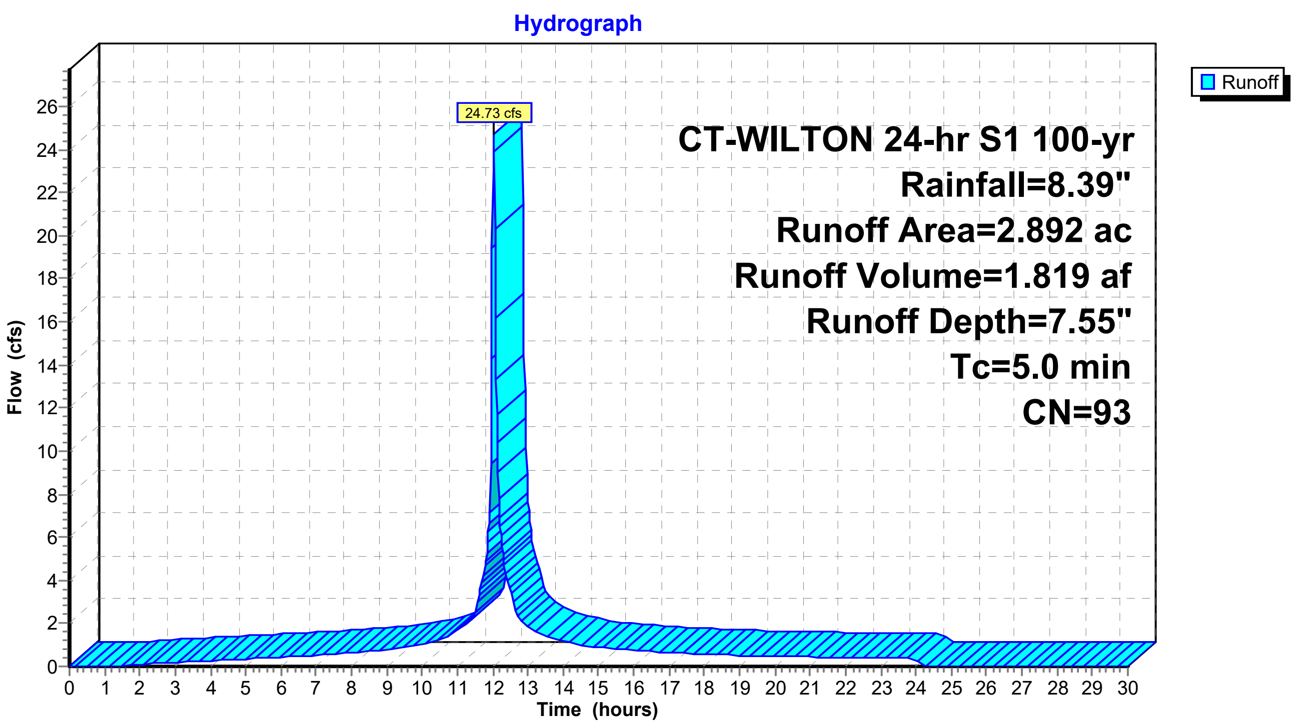
Runoff = 24.73 cfs @ 12.02 hrs, Volume= 1.819 af, Depth= 7.55"
Routed to Pond 2P : Perf Pipe OS4 to OS2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs
CT-WILTON 24-hr S1 100-yr Rainfall=8.39"

Area (ac)	CN	Description
0.056	89	<50% Grass cover, Poor, HSG D
0.723	80	>75% Grass cover, Good, HSG D
2.081	98	Unconnected pavement, HSG D
0.031	79	Woods/grass comb., Good, HSG D
2.892	93	Weighted Average
0.811		28.03% Pervious Area
2.081		71.97% Impervious Area
2.081		100.00% Unconnected

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

Subcatchment 1b: Subcat 1b



Summary for Subcatchment 2: North Site Area

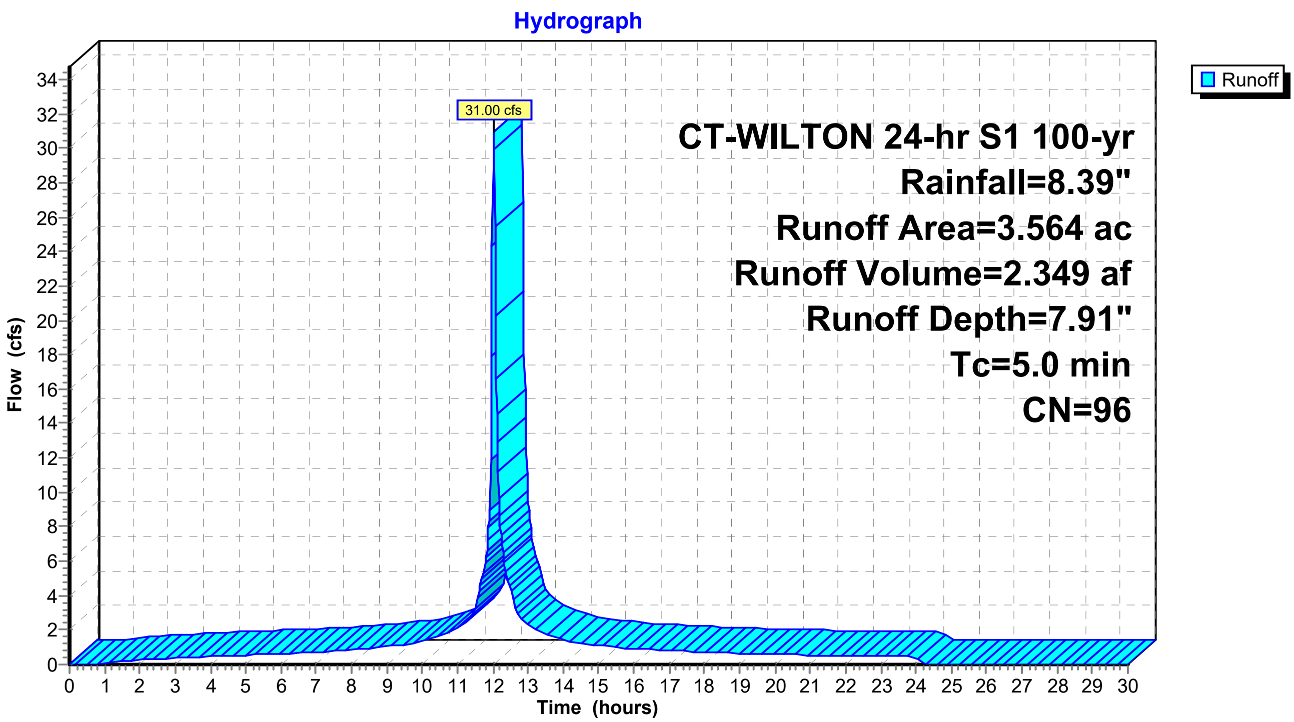
Runoff = 31.00 cfs @ 12.02 hrs, Volume= 2.349 af, Depth= 7.91"
Routed to Link DP2 : Norwalk River North

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs
CT-WILTON 24-hr S1 100-yr Rainfall=8.39"

Area (ac)	CN	Description
0.281	89	<50% Grass cover, Poor, HSG D
0.189	80	>75% Grass cover, Good, HSG D
3.094	98	Unconnected pavement, HSG D
3.564	96	Weighted Average
0.470		13.18% Pervious Area
3.094		86.82% Impervious Area
3.094		100.00% Unconnected

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

Subcatchment 2: North Site Area



Summary for Subcatchment 3: Subcat 3

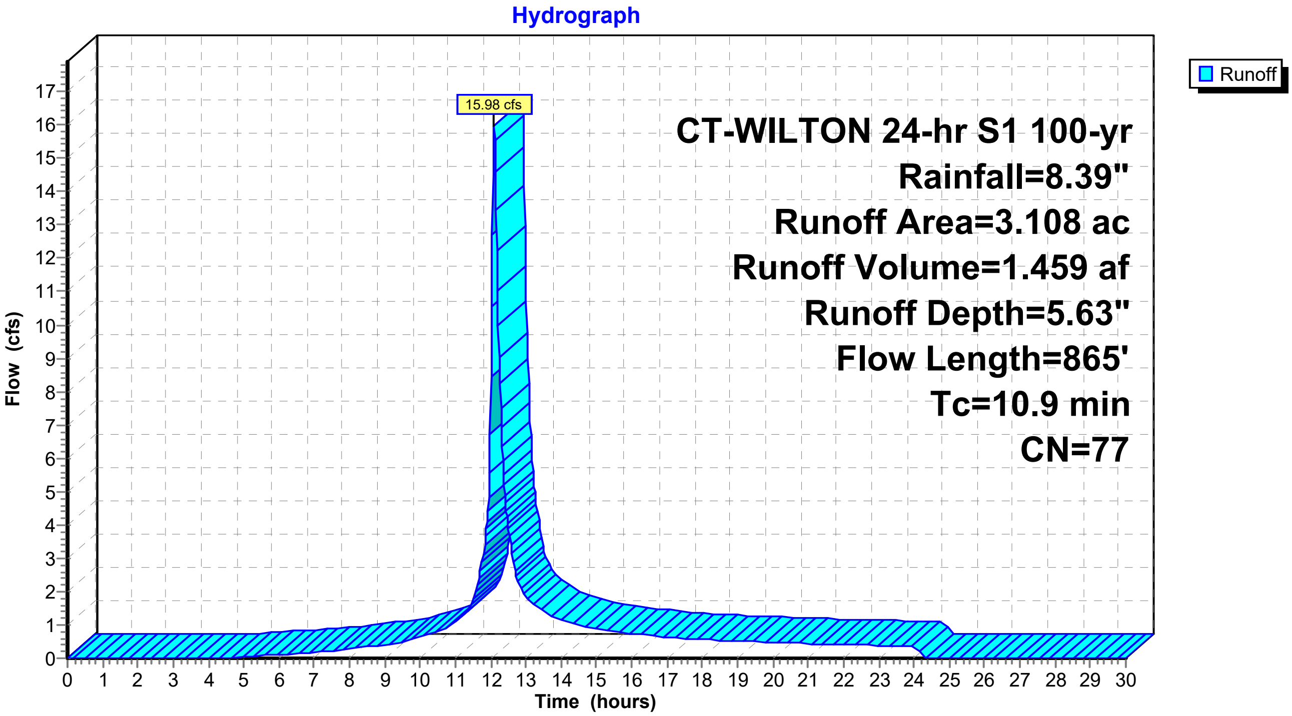
Runoff = 15.98 cfs @ 12.10 hrs, Volume= 1.459 af, Depth= 5.63"
Routed to Link DP3 : Watercourse

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs
CT-WILTON 24-hr S1 100-yr Rainfall=8.39"

Area (ac)	CN	Description
0.040	89	<50% Grass cover, Poor, HSG D
0.112	80	>75% Grass cover, Good, HSG D
0.001	98	Unconnected pavement, HSG D
2.930	77	Woods, Good, HSG D
0.025	79	Woods/grass comb., Good, HSG D
3.108	77	Weighted Average
3.107		99.96% Pervious Area
0.001		0.04% Impervious Area
0.001		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.7	50	0.2300	0.11		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.55"
1.3	215	0.3255	2.85		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.9	600	0.0117	5.16	82.54	**Channel Flow,** Area= 16.0 sf Perim= 11.0' r= 1.45' n= 0.040
10.9	865	Total			

Subcatchment 3: Subcat 3



Summary for Pond 1P: Perf Pipe to OS4

Inflow Area = 2.817 ac, 74.88% Impervious, Inflow Depth = 7.67" for 100-yr event
Inflow = 24.25 cfs @ 12.02 hrs, Volume= 1.800 af
Outflow = 23.92 cfs @ 12.03 hrs, Volume= 1.693 af, Atten= 1%, Lag= 0.4 min
Discarded = 0.04 cfs @ 12.03 hrs, Volume= 0.082 af
Primary = 23.88 cfs @ 12.03 hrs, Volume= 1.611 af
Routed to Pond 2P : Perf Pipe OS4 to OS2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs / 2
Peak Elev= 173.56' @ 12.03 hrs Surf.Area= 3,743 sf Storage= 5,815 cf

Plug-Flow detention time= 81.3 min calculated for 1.692 af (94% of inflow)
Center-of-Mass det. time= 44.9 min (808.8 - 763.9)

Volume	Invert	Avail.Storage	Storage Description
#1	169.41'	2,743 cf	**36.0" Round Pipe Storage** Inside #2 L= 388.0' S= 0.0010 '/'
#2	168.91'	1,622 cf	**72.0" W x 42.0" H Box Stone** L= 388.0' S= 0.0010 '/' 8,148 cf Overall - 2,743 cf Embedded = 5,405 cf x 30.0% Voids
#3	169.61'	813 cf	**36.0" Round Pipe Storage** Inside #4 L= 115.0' S= 0.0010 '/'
#4	169.11'	481 cf	**72.0" W x 42.0" H Box Stone** L= 115.0' S= 0.0010 '/' 2,415 cf Overall - 813 cf Embedded = 1,602 cf x 30.0% Voids
#5	172.40'	5,249 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)
		10,906 cf	Total Available Storage

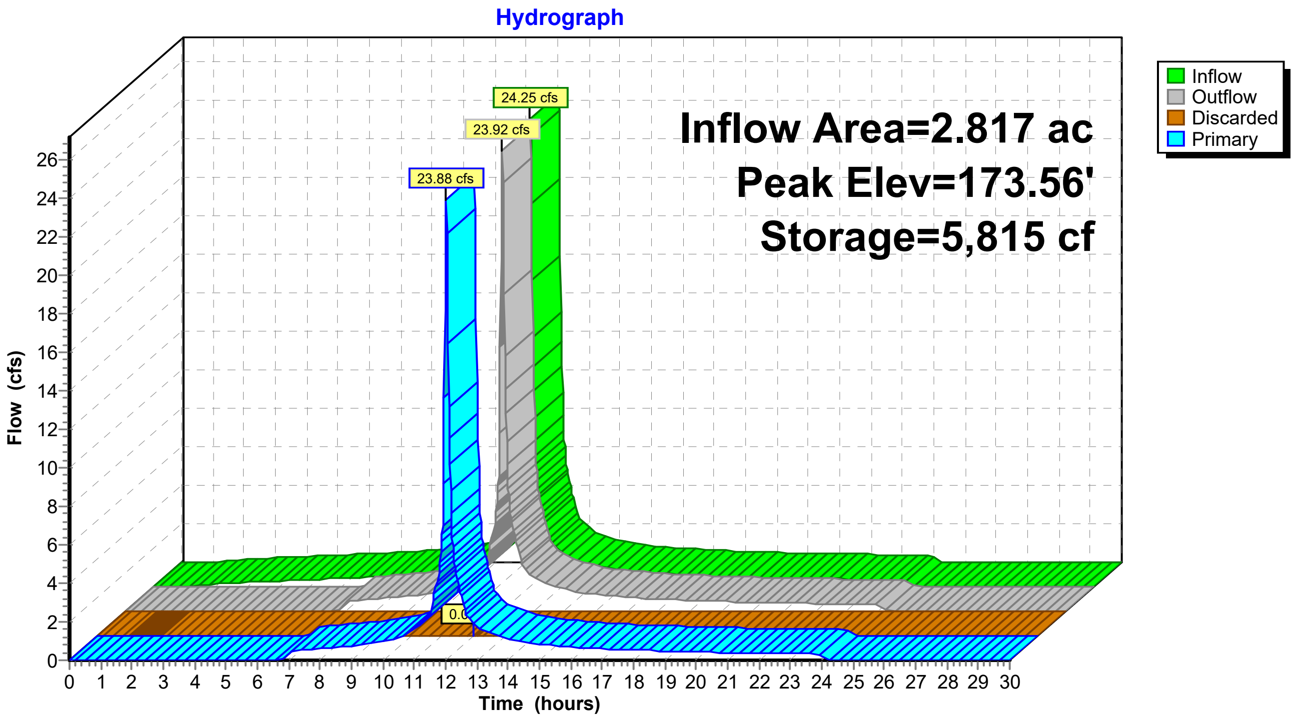
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
172.40	1	1.0	0	0	1
173.00	10	15.0	3	3	19
174.00	2,050	300.0	734	737	7,165
175.00	7,550	570.0	4,511	5,249	25,863

Device	Routing	Invert	Outlet Devices
#1	Primary	172.41'	**72.0" W x 32.0" H Vert. Weir Plate** C= 0.600 Limited to weir flow at low heads
#2	Discarded	168.91'	**0.500 in/hr Exfiltration over Surface area** Phase-In= 0.01'

Discarded OutFlow Max=0.04 cfs @ 12.03 hrs HW=173.56' (Free Discharge)
└─**2=Exfiltration** (Exfiltration Controls 0.04 cfs)

Primary OutFlow Max=23.62 cfs @ 12.03 hrs HW=173.56' (Free Discharge)
└─**1=Weir Plate** (Orifice Controls 23.62 cfs @ 3.44 fps)

Pond 1P: Perf Pipe to OS4



Summary for Pond 2P: Perf Pipe OS4 to OS2

Inflow Area = 5.709 ac, 73.41% Impervious, Inflow Depth = 7.21" for 100-yr event
Inflow = 48.56 cfs @ 12.03 hrs, Volume= 3.430 af
Outflow = 47.48 cfs @ 12.04 hrs, Volume= 3.377 af, Atten= 2%, Lag= 0.5 min
Discarded = 0.02 cfs @ 12.04 hrs, Volume= 0.034 af
Primary = 47.46 cfs @ 12.04 hrs, Volume= 3.343 af
Routed to Link DP1 : Norwalk River South

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs / 2
Peak Elev= 173.64' @ 12.04 hrs Surf.Area= 2,147 sf Storage= 2,539 cf

Plug-Flow detention time= 20.6 min calculated for 3.375 af (98% of inflow)
Center-of-Mass det. time= 10.9 min (795.3 - 784.4)

Volume	Invert	Avail.Storage	Storage Description
#1	167.20'	1,449 cf	**36.0" Round Pipe Storage** Inside #2 L= 205.0' S= 0.0010 '/'
#2	166.70'	857 cf	**72.0" W x 42.0" H Box Stone** L= 205.0' S= 0.0010 '/' 4,305 cf Overall - 1,449 cf Embedded = 2,856 cf x 30.0% Voids
#3	170.20'	5,259 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)
		7,565 cf	Total Available Storage

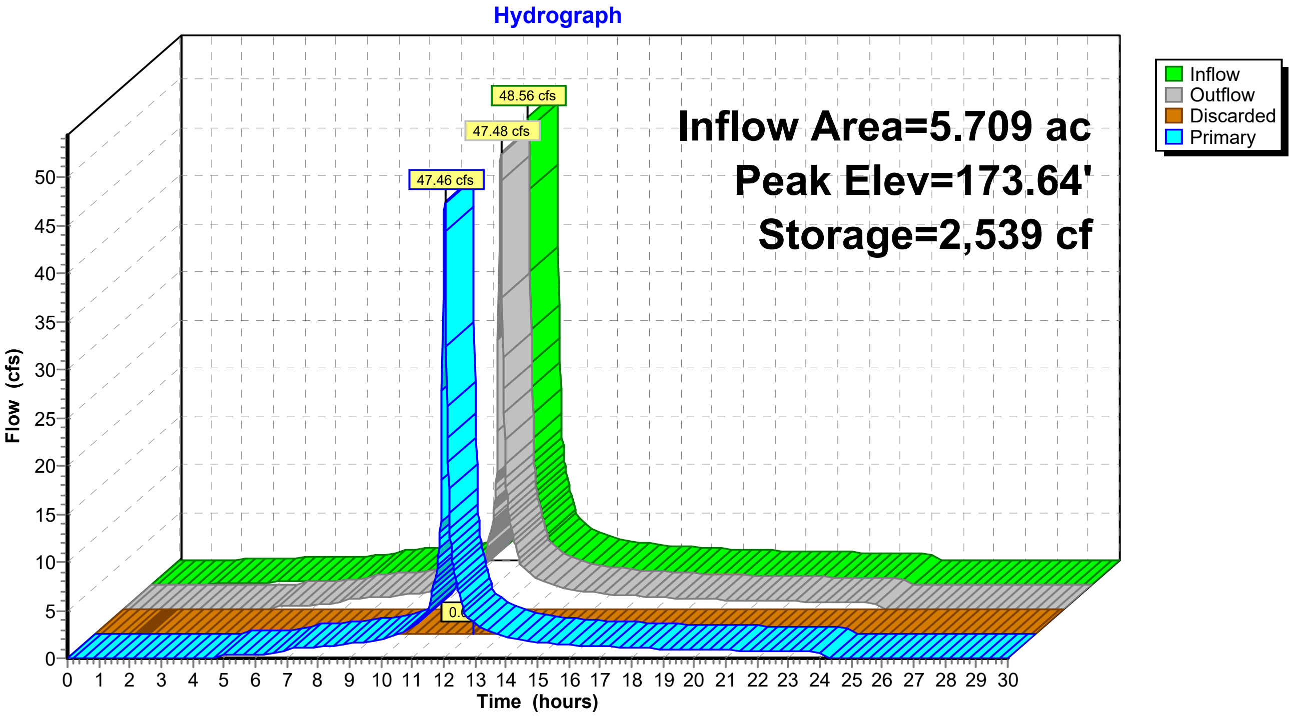
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
170.20	1	1.0	0	0	1
173.00	10	15.0	13	13	30
174.00	2,050	300.0	734	748	7,175
175.00	7,550	570.0	4,511	5,259	25,873

Device	Routing	Invert	Outlet Devices
#1	Discarded	166.70'	**0.500 in/hr Exfiltration over Surface area** Phase-In= 0.01'
#2	Primary	170.20'	**36.0" Round Culvert** L= 25.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 170.20' / 169.10' S= 0.0440 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf

Discarded OutFlow Max=0.02 cfs @ 12.04 hrs HW=173.62' (Free Discharge)
└─**1=Exfiltration** (Exfiltration Controls 0.02 cfs)

Primary OutFlow Max=47.11 cfs @ 12.04 hrs HW=173.62' (Free Discharge)
└─**2=Culvert** (Inlet Controls 47.11 cfs @ 6.66 fps)

Pond 2P: Perf Pipe OS4 to OS2

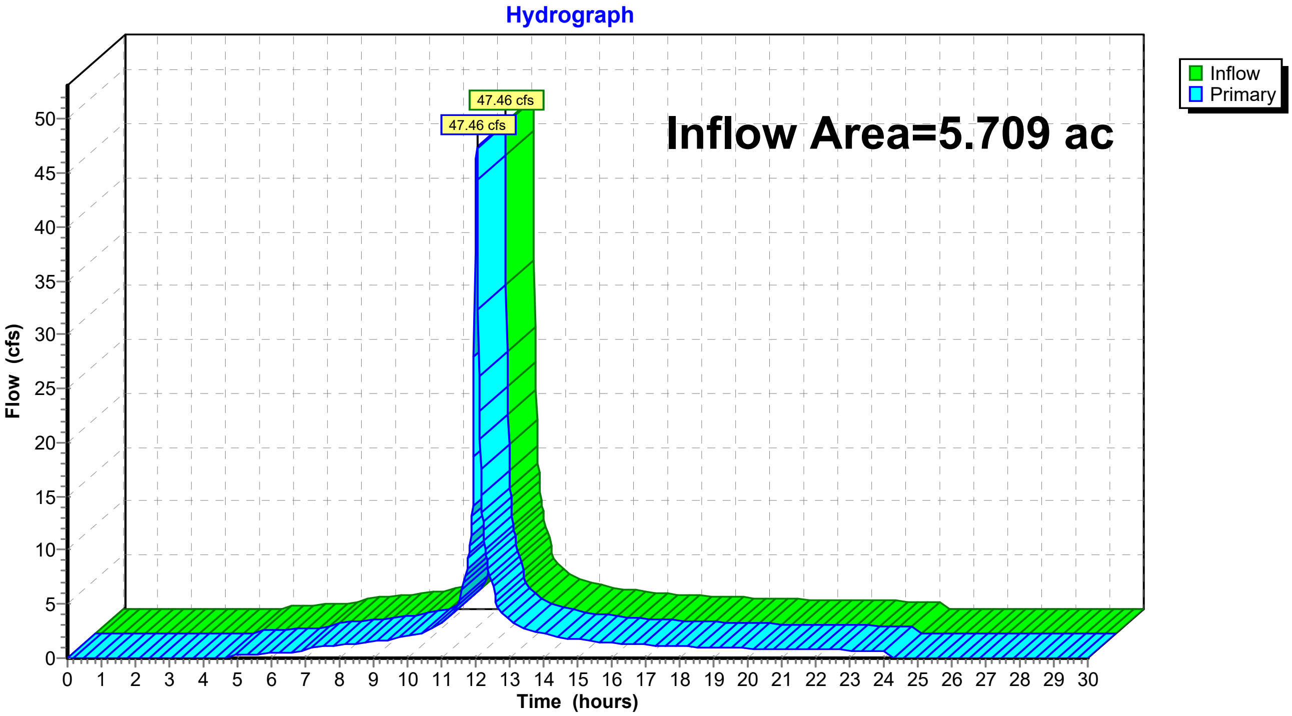


Summary for Link DP1: Norwalk River South

Inflow Area = 5.709 ac, 73.41% Impervious, Inflow Depth = 7.03" for 100-yr event
Inflow = 47.46 cfs @ 12.04 hrs, Volume= 3.343 af
Primary = 47.46 cfs @ 12.04 hrs, Volume= 3.343 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 2L

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs

Link DP1: Norwalk River South

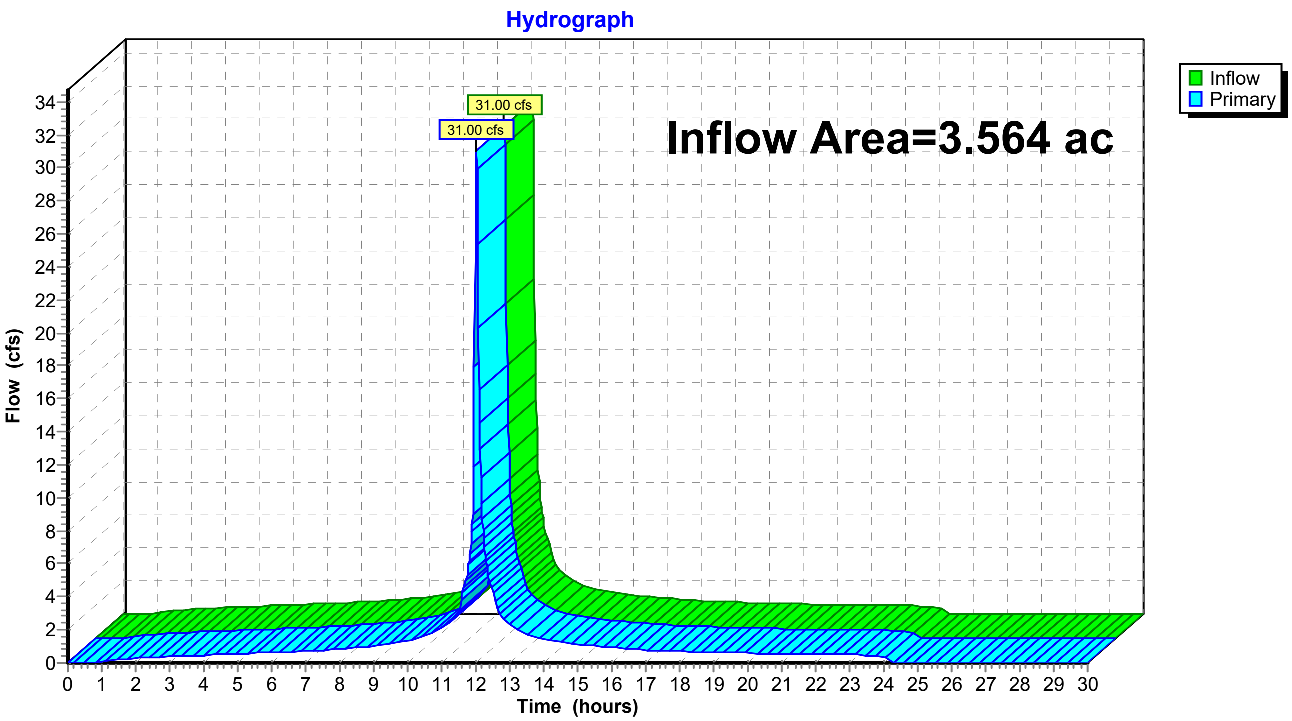


Summary for Link DP2: Norwalk River North

Inflow Area = 3.564 ac, 86.82% Impervious, Inflow Depth = 7.91" for 100-yr event
Inflow = 31.00 cfs @ 12.02 hrs, Volume= 2.349 af
Primary = 31.00 cfs @ 12.02 hrs, Volume= 2.349 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 2L

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs

Link DP2: Norwalk River North

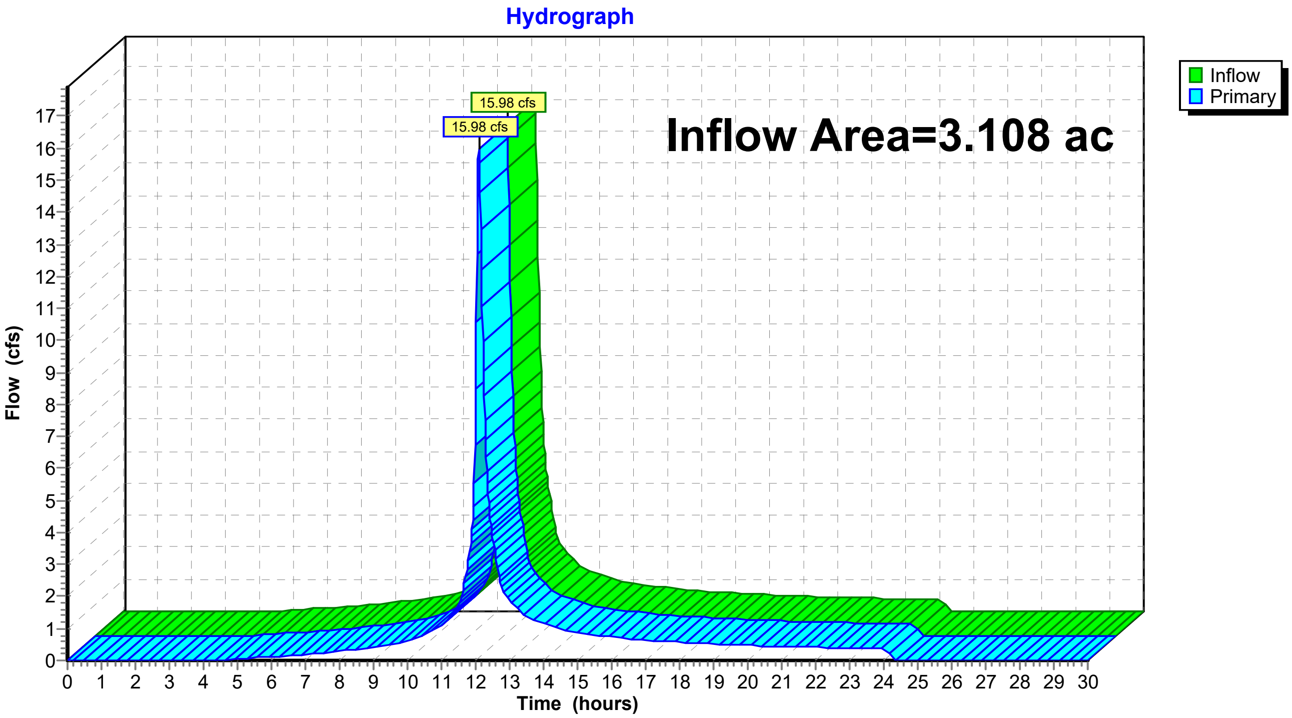


Summary for Link DP3: Watercourse

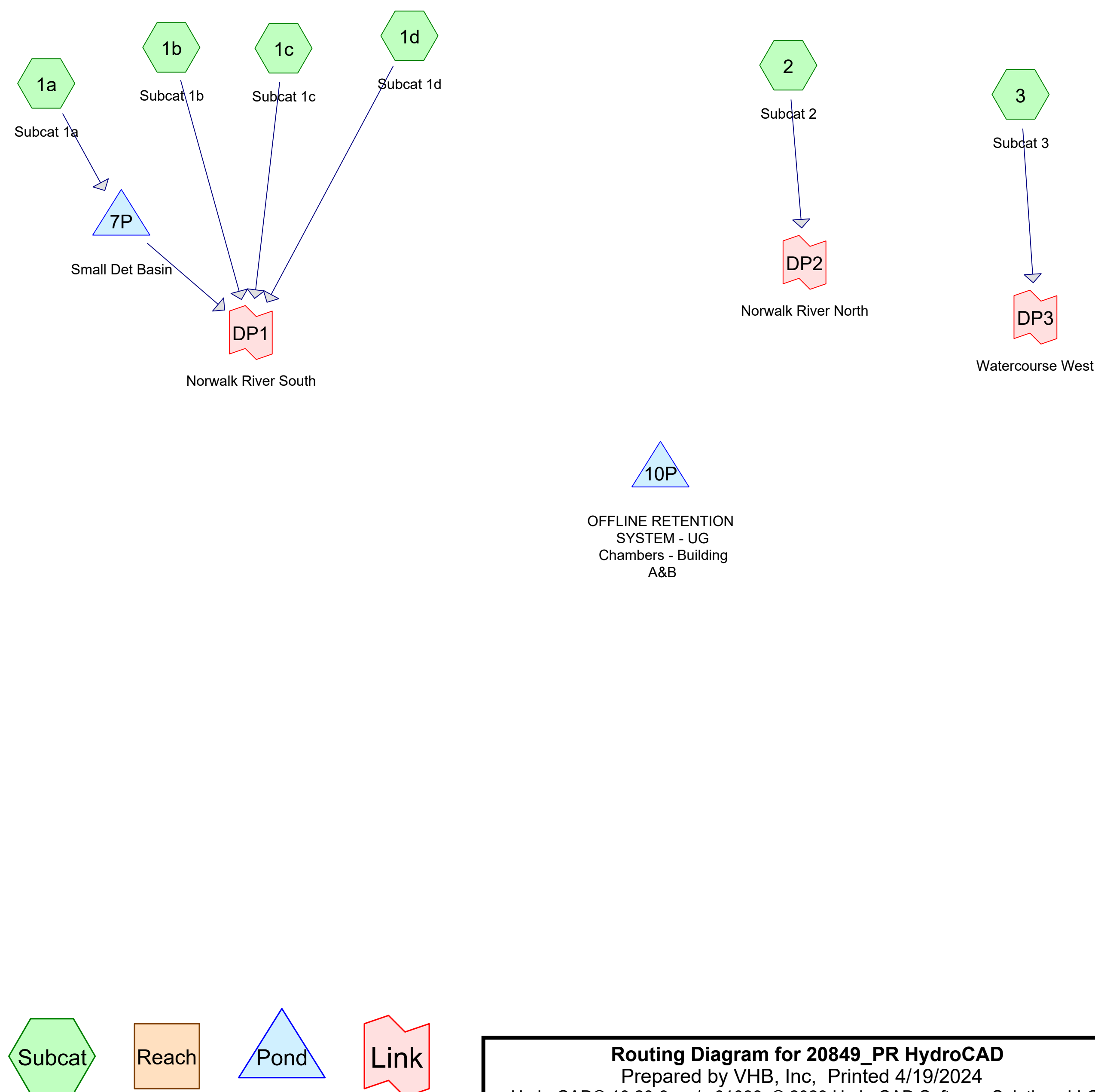
Inflow Area =	3.108 ac,	0.04% Impervious,	Inflow Depth = 5.63"	for 100-yr event	
Inflow =	15.98 cfs @	12.10 hrs,	Volume=	1.459 af	
Primary =	15.98 cfs @	12.10 hrs,	Volume=	1.459 af,	Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs

Link DP3: Watercourse



HydroCAD: Proposed Conditions



Routing Diagram for 20849_PR HydroCAD
Prepared by VHB, Inc, Printed 4/19/2024
HydroCAD® 10.20-3c s/n 01038 © 2023 HydroCAD Software Solutions LLC

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-yr	CT-WILTON 24-hr S1	2-yr	Default	24.00	1	3.55	2
2	10-yr	CT-WILTON 24-hr S1	10-yr	Default	24.00	1	5.42	2
3	25-yr	CT-WILTON 24-hr S1	25-yr	Default	24.00	1	6.59	2
4	100-yr	CT-WILTON 24-hr S1	100-yr	Default	24.00	1	8.39	2

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.284	89	<50% Grass cover, Poor, HSG D (1a, 2, 3)
1.628	80	>75% Grass cover, Good, HSG D (1a, 1b, 1c, 1d, 2, 3)
7.428	98	Unconnected pavement, HSG D (1a, 1b, 1c, 1d, 2, 3)
2.918	77	Woods, Good, HSG D (3)
0.123	79	Woods/grass comb., Good, HSG D (1c)
12.381	**90**	**TOTAL AREA**

Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
12.381	HSG D	1a, 1b, 1c, 1d, 2, 3
0.000	Other	
12.381		**TOTAL AREA**

Ground Covers (selected nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.000	0.284	0.000	0.284	<50% Grass cover, Poor	1a, 2, 3
0.000	0.000	0.000	1.628	0.000	1.628	>75% Grass cover, Good	1a, 1b, 1c, 1d, 2, 3
0.000	0.000	0.000	7.428	0.000	7.428	Unconnected pavement	1a, 1b, 1c, 1d, 2, 3
0.000	0.000	0.000	2.918	0.000	2.918	Woods, Good	3
0.000	0.000	0.000	0.123	0.000	0.123	Woods/grass comb., Good	1c
0.000	**0.000**	**0.000**	**12.381**	**0.000**	**12.381**	**TOTAL AREA**	

Summary for Subcatchment 1a: Subcat 1a

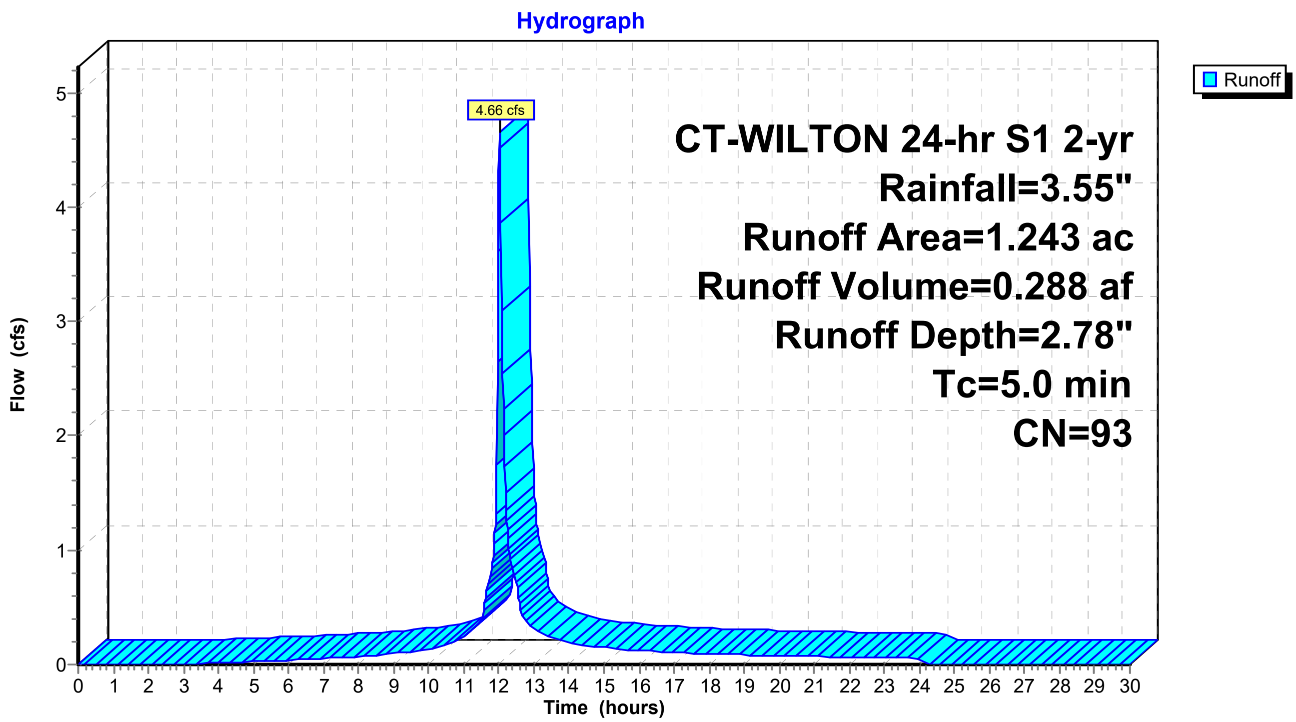
Runoff = 4.66 cfs @ 12.02 hrs, Volume= 0.288 af, Depth= 2.78"
Routed to Pond 7P : Small Det Basin

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs
CT-WILTON 24-hr S1 2-yr Rainfall=3.55"

Area (ac)	CN	Description
0.002	89	<50% Grass cover, Poor, HSG D
0.348	80	>75% Grass cover, Good, HSG D
0.894	98	Unconnected pavement, HSG D
1.243	93	Weighted Average
0.349		28.11% Pervious Area
0.894		71.89% Impervious Area
0.894		100.00% Unconnected

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

Subcatchment 1a: Subcat 1a



Summary for Subcatchment 1b: Subcat 1b

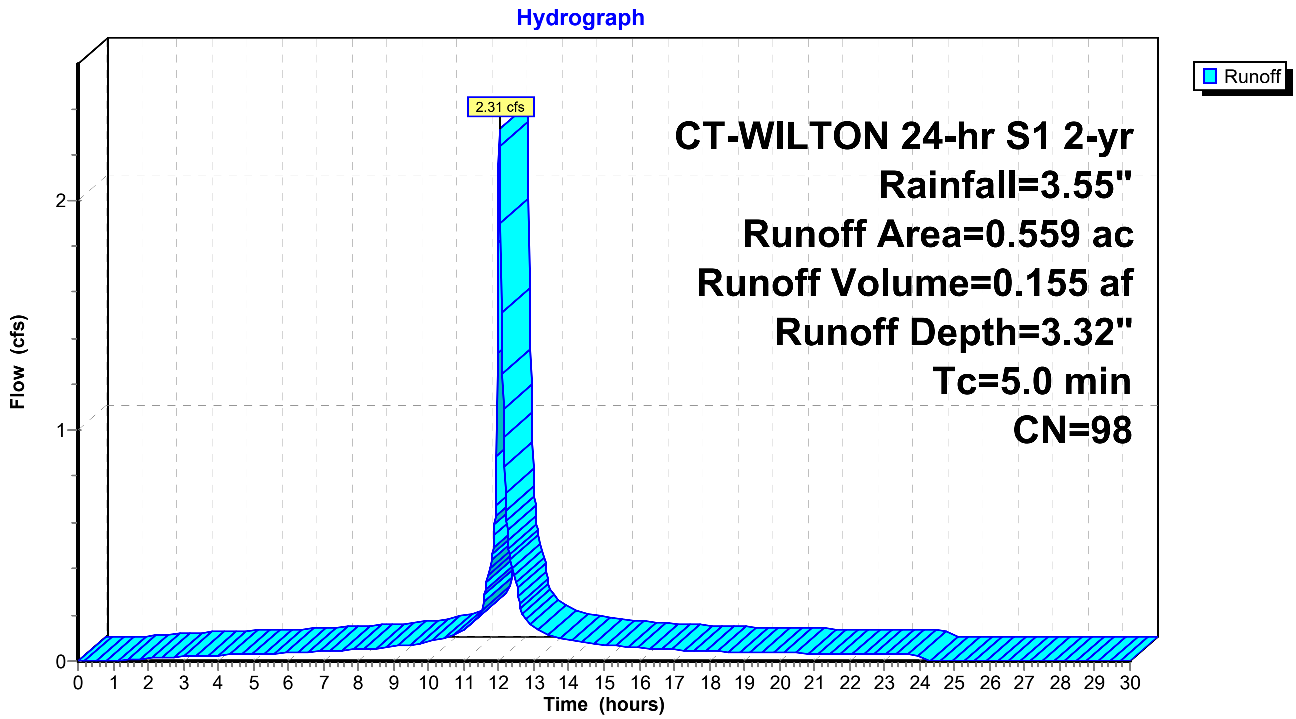
Runoff = 2.31 cfs @ 12.02 hrs, Volume= 0.155 af, Depth= 3.32"
Routed to Link DP1 : Norwalk River South

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs
CT-WILTON 24-hr S1 2-yr Rainfall=3.55"

Area (ac)	CN	Description
0.000	80	>75% Grass cover, Good, HSG D
0.559	98	Unconnected pavement, HSG D
0.559	98	Weighted Average
0.000		0.01% Pervious Area
0.559		99.99% Impervious Area
0.559		100.00% Unconnected

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

Subcatchment 1b: Subcat 1b



Summary for Subcatchment 1c: Subcat 1c

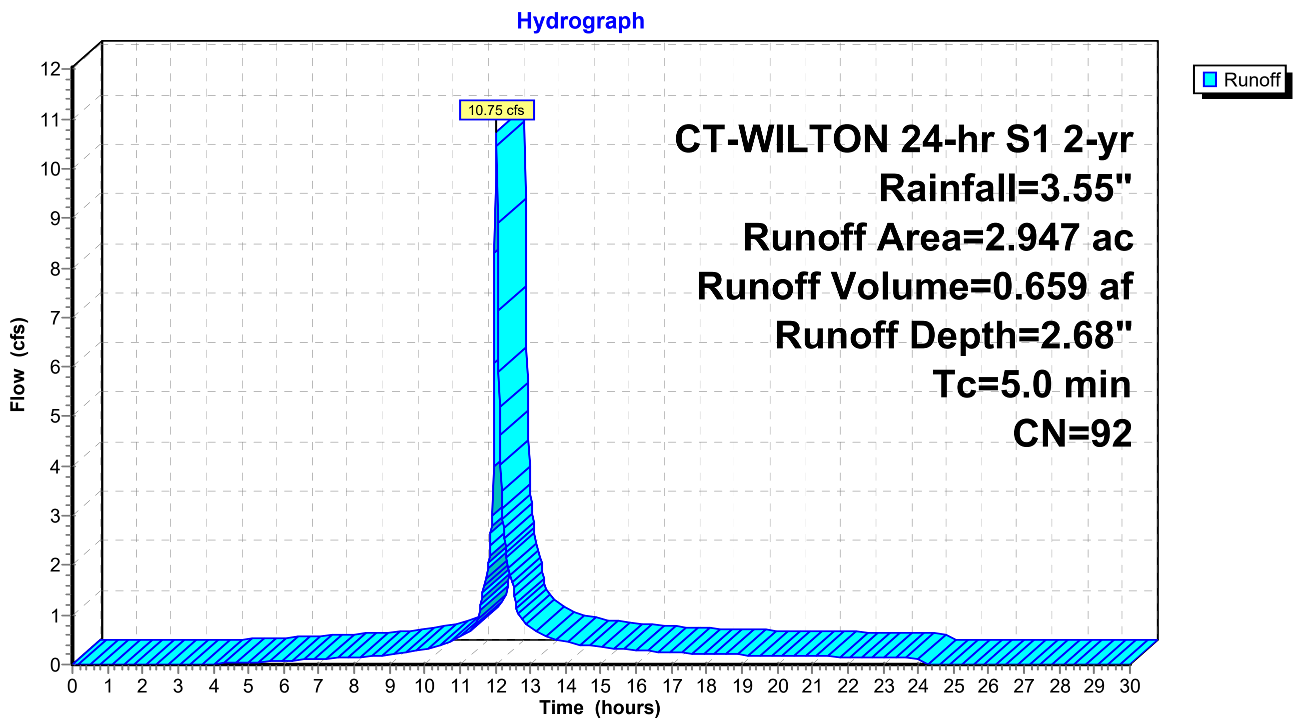
Runoff = 10.75 cfs @ 12.02 hrs, Volume= 0.659 af, Depth= 2.68"
Routed to Link DP1 : Norwalk River South

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs
CT-WILTON 24-hr S1 2-yr Rainfall=3.55"

Area (ac)	CN	Description
0.914	80	>75% Grass cover, Good, HSG D
1.910	98	Unconnected pavement, HSG D
0.123	79	Woods/grass comb., Good, HSG D
2.947	92	Weighted Average
1.037		35.19% Pervious Area
1.910		64.81% Impervious Area
1.910		100.00% Unconnected

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

Subcatchment 1c: Subcat 1c



Summary for Subcatchment 1d: Subcat 1d

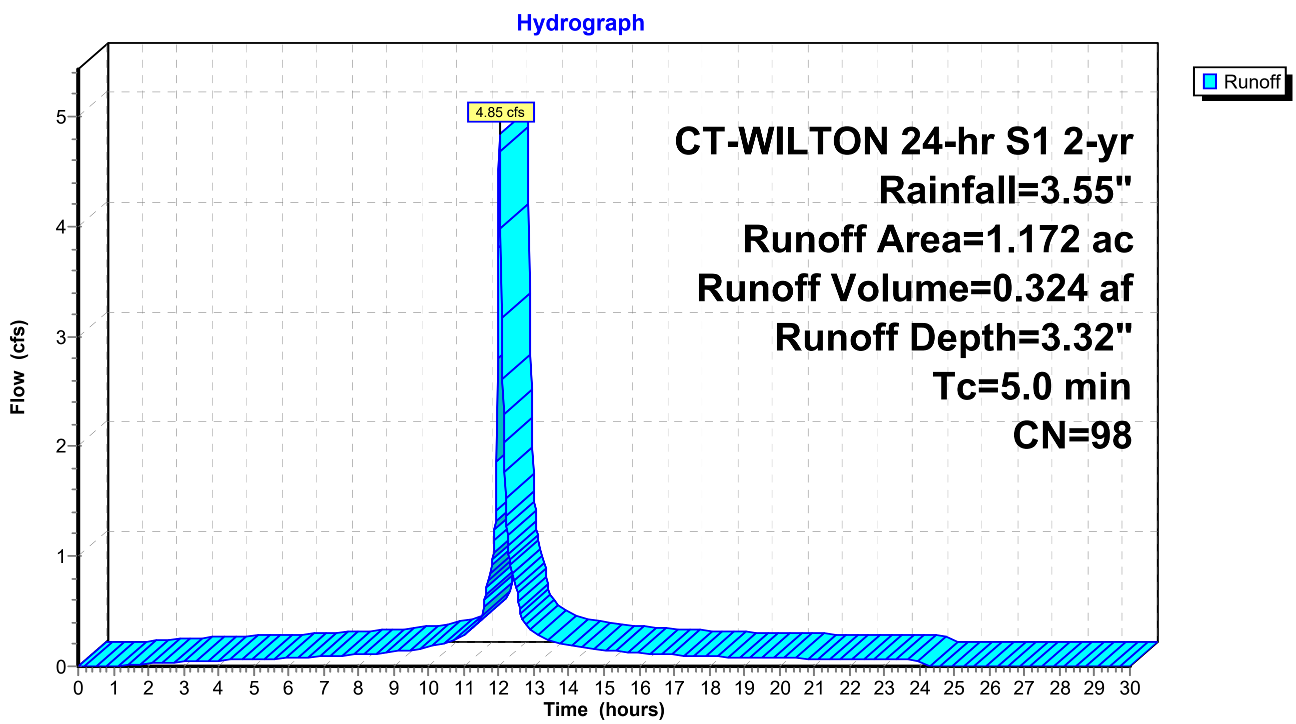
Runoff = 4.85 cfs @ 12.02 hrs, Volume= 0.324 af, Depth= 3.32"
Routed to Link DP1 : Norwalk River South

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs
CT-WILTON 24-hr S1 2-yr Rainfall=3.55"

Area (ac)	CN	Description
0.001	80	>75% Grass cover, Good, HSG D
1.171	98	Unconnected pavement, HSG D
1.172	98	Weighted Average
0.001		0.05% Pervious Area
1.171		99.95% Impervious Area
1.171		100.00% Unconnected

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

Subcatchment 1d: Subcat 1d



Summary for Subcatchment 2: Subcat 2

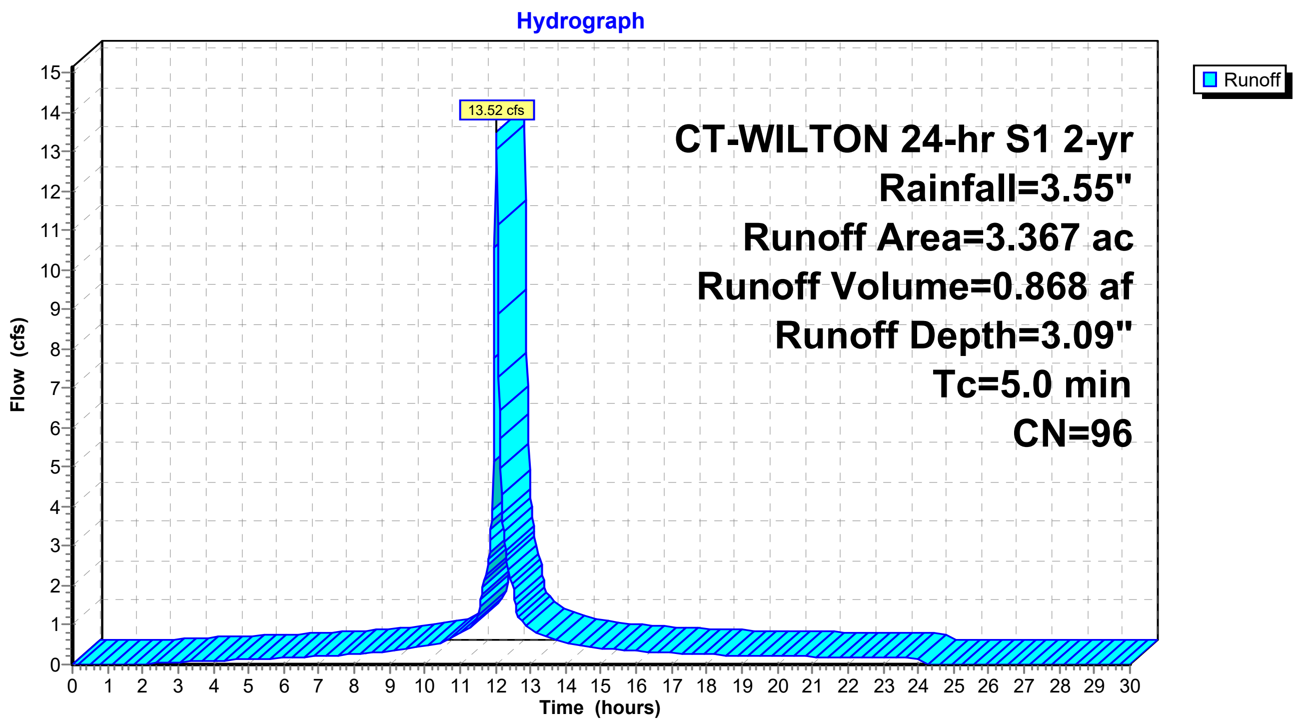
Runoff = 13.52 cfs @ 12.02 hrs, Volume= 0.868 af, Depth= 3.09"
Routed to Link DP2 : Norwalk River North

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs
CT-WILTON 24-hr S1 2-yr Rainfall=3.55"

Area (ac)	CN	Description
0.254	89	<50% Grass cover, Poor, HSG D
0.231	80	>75% Grass cover, Good, HSG D
2.882	98	Unconnected pavement, HSG D
3.367	96	Weighted Average
0.485		14.39% Pervious Area
2.882		85.61% Impervious Area
2.882		100.00% Unconnected

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

Subcatchment 2: Subcat 2



Summary for Subcatchment 3: Subcat 3

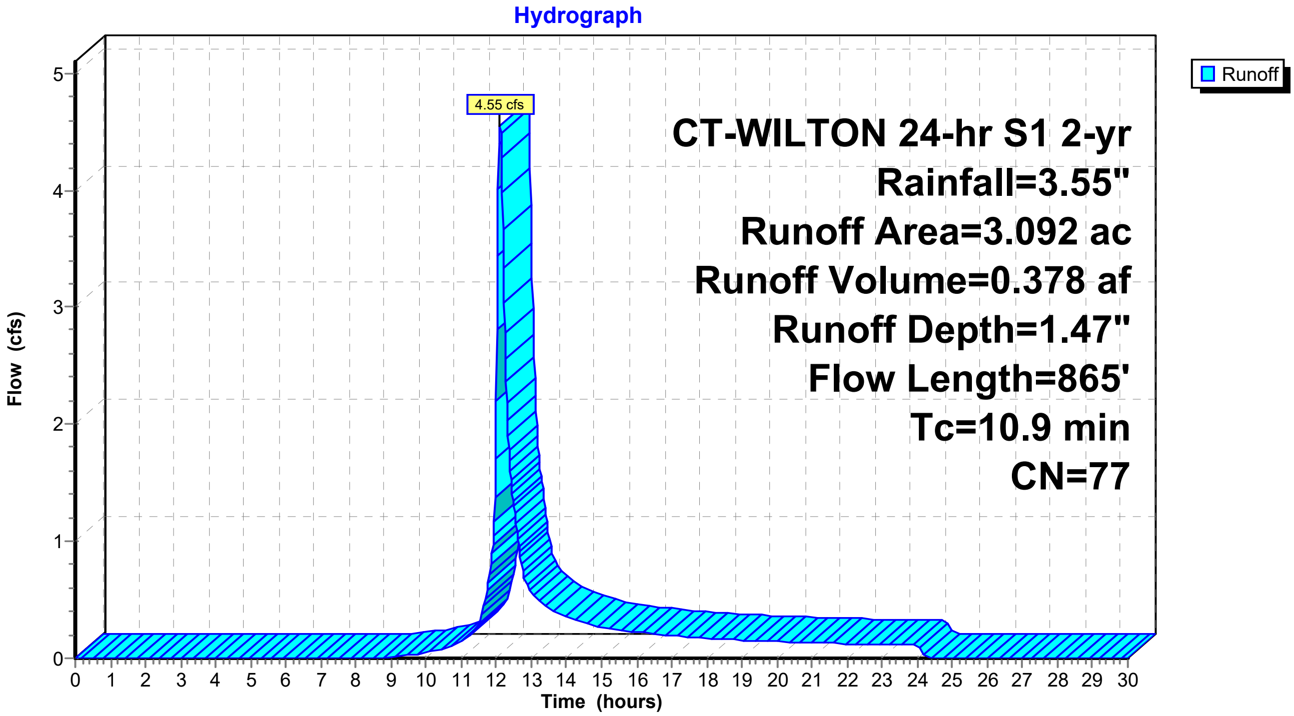
Runoff = 4.55 cfs @ 12.10 hrs, Volume= 0.378 af, Depth= 1.47"
Routed to Link DP3 : Watercourse West

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs
CT-WILTON 24-hr S1 2-yr Rainfall=3.55"

Area (ac)	CN	Description
0.028	89	<50% Grass cover, Poor, HSG D
0.135	80	>75% Grass cover, Good, HSG D
0.011	98	Unconnected pavement, HSG D
2.918	77	Woods, Good, HSG D
3.092	77	Weighted Average
3.081		99.64% Pervious Area
0.011		0.36% Impervious Area
0.011		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.7	50	0.2300	0.11		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.55"
1.3	215	0.3255	2.85		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.9	600	0.0117	5.16	82.54	**Channel Flow,** Area= 16.0 sf Perim= 11.0' r= 1.45' n= 0.040
10.9	865	Total			

Subcatchment 3: Subcat 3



Summary for Pond 7P: Small Det Basin

Inflow Area = 1.243 ac, 71.89% Impervious, Inflow Depth = 2.78" for 2-yr event
Inflow = 4.66 cfs @ 12.02 hrs, Volume= 0.288 af
Outflow = 4.11 cfs @ 12.05 hrs, Volume= 0.288 af, Atten= 12%, Lag= 1.8 min
Discarded = 0.02 cfs @ 5.82 hrs, Volume= 0.026 af
Primary = 4.09 cfs @ 12.05 hrs, Volume= 0.262 af
Routed to Link DP1 : Norwalk River South

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs
Peak Elev= 173.50' @ 12.05 hrs Surf.Area= 692 sf Storage= 694 cf

Plug-Flow detention time= 6.4 min calculated for 0.288 af (100% of inflow)
Center-of-Mass det. time= 6.3 min (804.4 - 798.1)

Volume	Invert	Avail.Storage	Storage Description
#1	172.50'	1,728 cf	**StormTrap** Listed below Inside #2
#2	172.50'	2 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 1,730 cf Overall - 1,728 cf Embedded = 2 cf
		1,730 cf	Total Available Storage

Elevation (feet)	Cum.Store (cubic-feet)
172.50	0
172.75	108
173.20	216
173.25	324
173.50	525
173.75	725
174.00	926
174.25	1,126
174.50	1,327
174.75	1,527
175.00	1,728

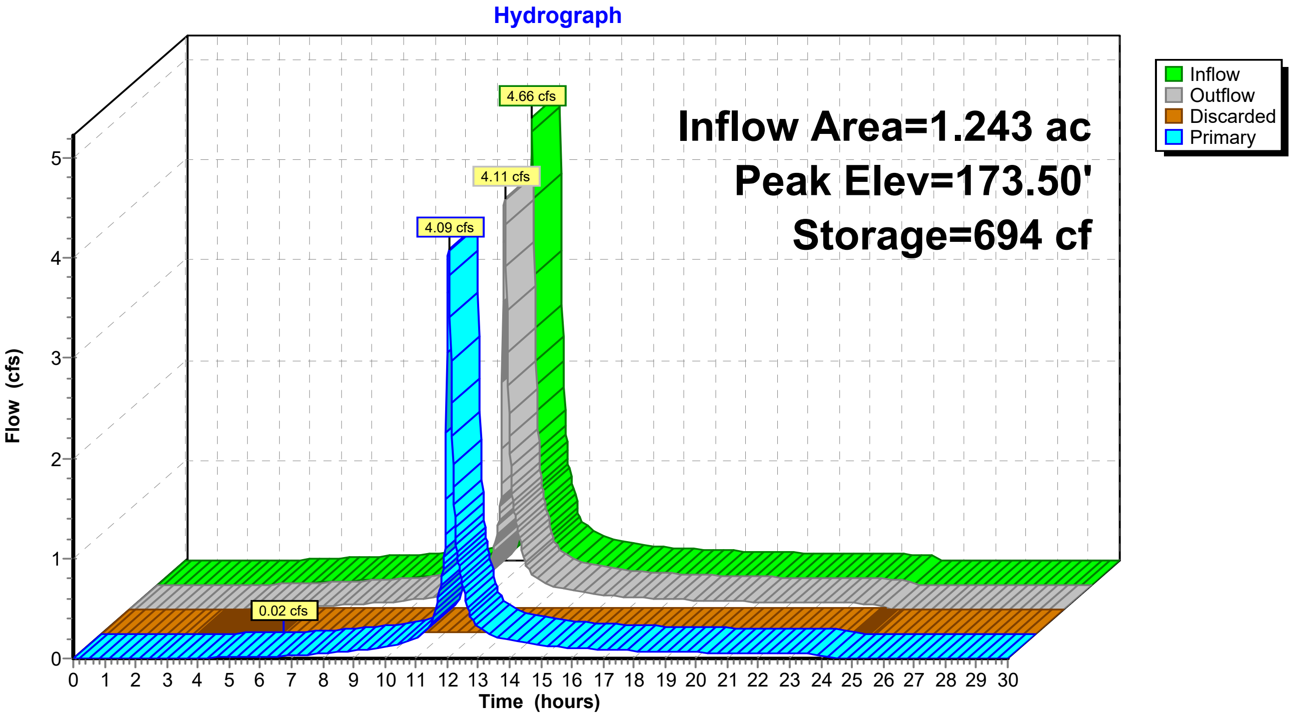
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
172.50	692	0	0
175.00	692	1,730	1,730

Device	Routing	Invert	Outlet Devices
#1	Primary	172.50'	**15.0" W x 9.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	173.00'	**6.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Discarded	172.50'	**1.000 in/hr Exfiltration over Surface area** Phase-In= 0.01'

Discarded OutFlow Max=0.02 cfs @ 5.82 hrs HW=172.53' (Free Discharge)
└─**3=Exfiltration** (Exfiltration Controls 0.02 cfs)

Primary OutFlow Max=4.06 cfs @ 12.05 hrs HW=173.50' (Free Discharge)
├─**1=Orifice/Grate** (Orifice Controls 3.50 cfs @ 3.73 fps)
└─**2=Orifice/Grate** (Orifice Controls 0.56 cfs @ 2.26 fps)

Pond 7P: Small Det Basin



Summary for Pond 10P: OFFLINE RETENTION SYSTEM - UG Chambers - Building A&B

4' underground concrete chambers OFFLINE for 1" WQV retention. System on plan will show slightly smaller since we will be able to reuse the 350' portion of the existing 36" perforated pipe that is within the existing swale under existing mature vegetation.

Volume	Invert	Avail.Storage	Storage Description
#1	170.80'	6,275 cf	**StormTrap** Listed below Inside #2
#2	170.80'	0 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 6,275 cf Overall - 6,275 cf Embedded = 0 cf
		6,275 cf	Total Available Storage

Elevation (feet)	Cum.Store (cubic-feet)
170.80	0
171.05	392
171.30	785
171.55	1,177
171.80	1,906
172.05	2,634
172.30	3,362
172.55	4,091
172.80	4,819
173.05	5,547
173.30	6,275

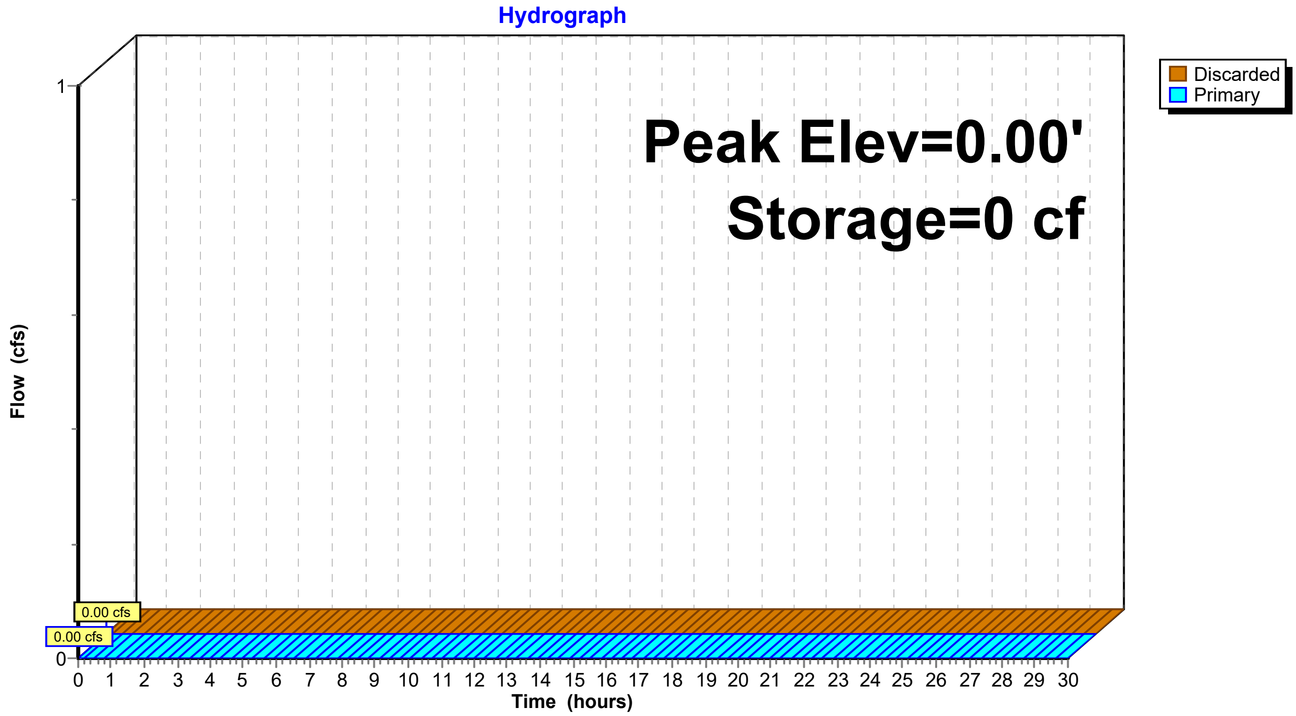
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
170.80	2,510	0	0
173.30	2,510	6,275	6,275

Device	Routing	Invert	Outlet Devices
#1	Discarded	170.80'	**1.000 in/hr Exfiltration over Horizontal area** Phase-In= 0.01'
#2	Primary	173.30'	**6.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Discarded OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
└─**1=Exfiltration** (Controls 0.00 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
└─**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 10P: OFFLINE RETENTION SYSTEM - UG Chambers - Building A&B

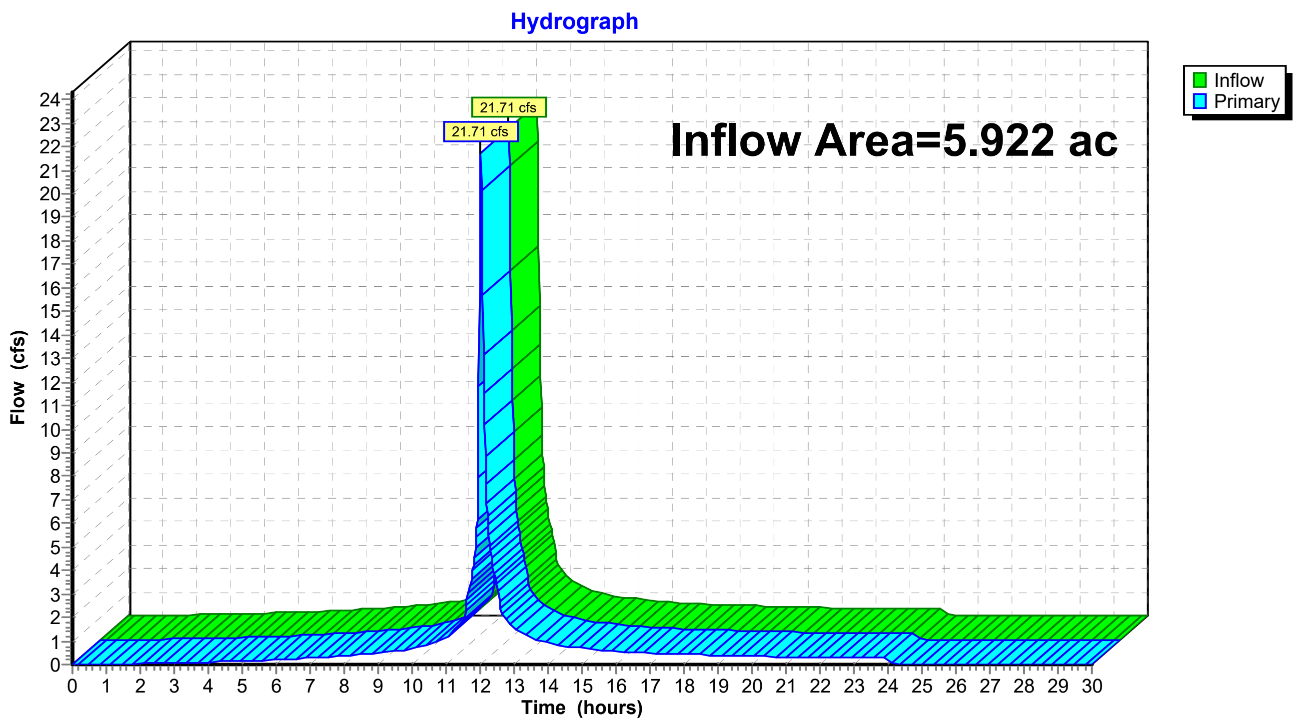


Summary for Link DP1: Norwalk River South

Inflow Area =	5.922 ac,	76.57% Impervious,	Inflow Depth = 2.84"	for 2-yr event
Inflow =	21.71 cfs @	12.03 hrs, Volume=	1.400 af	
Primary =	21.71 cfs @	12.03 hrs, Volume=	1.400 af,	Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs

Link DP1: Norwalk River South

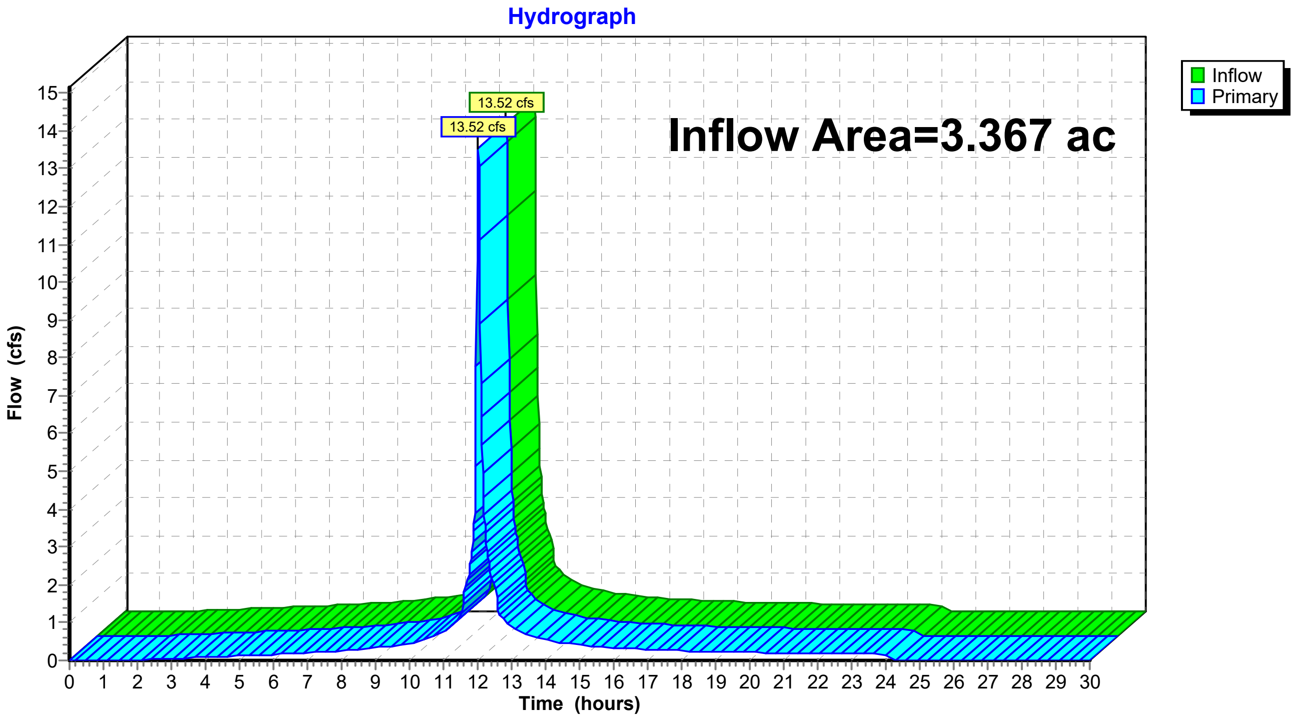


Summary for Link DP2: Norwalk River North

Inflow Area =	3.367 ac,	85.61% Impervious, Inflow Depth =	3.09"	for 2-yr event
Inflow =	13.52 cfs @	12.02 hrs, Volume=	0.868 af	
Primary =	13.52 cfs @	12.02 hrs, Volume=	0.868 af,	Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs

Link DP2: Norwalk River North

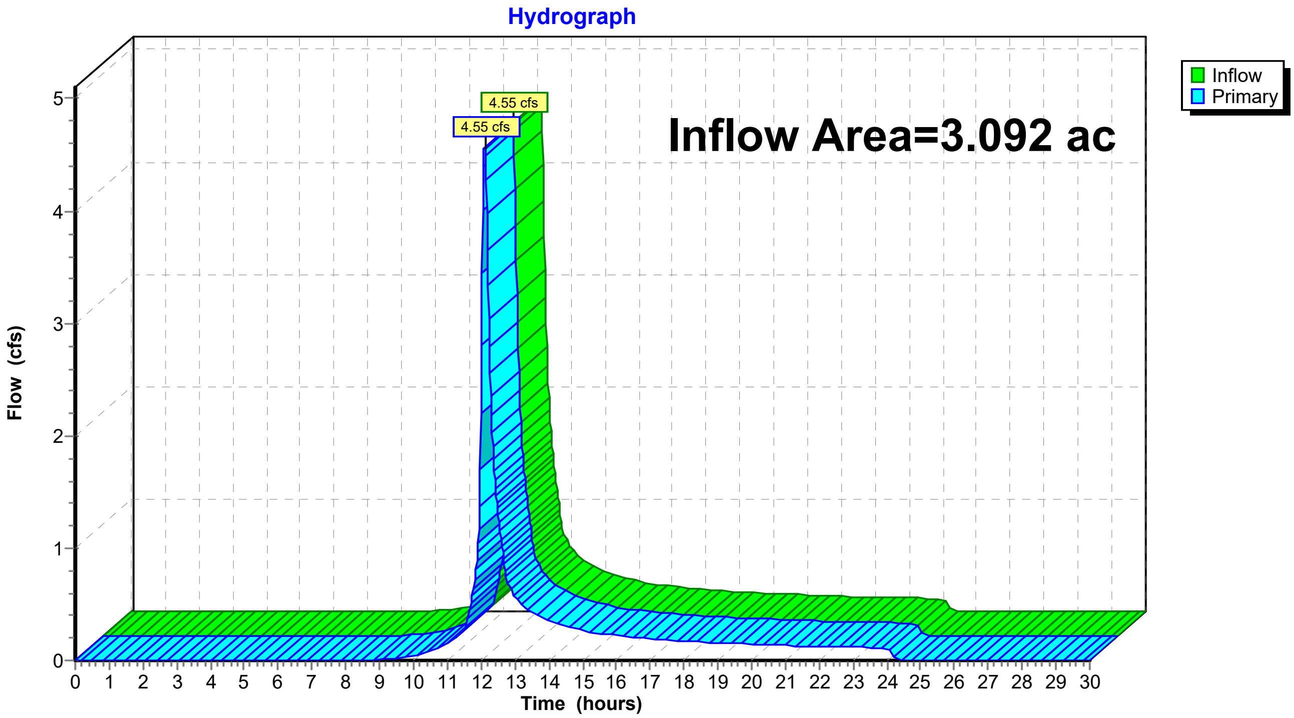


Summary for Link DP3: Watercourse West

Inflow Area =	3.092 ac,	0.36% Impervious,	Inflow Depth = 1.47"	for 2-yr event	
Inflow =	4.55 cfs @	12.10 hrs,	Volume=	0.378 af	
Primary =	4.55 cfs @	12.10 hrs,	Volume=	0.378 af,	Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs

Link DP3: Watercourse West



Summary for Subcatchment 1a: Subcat 1a

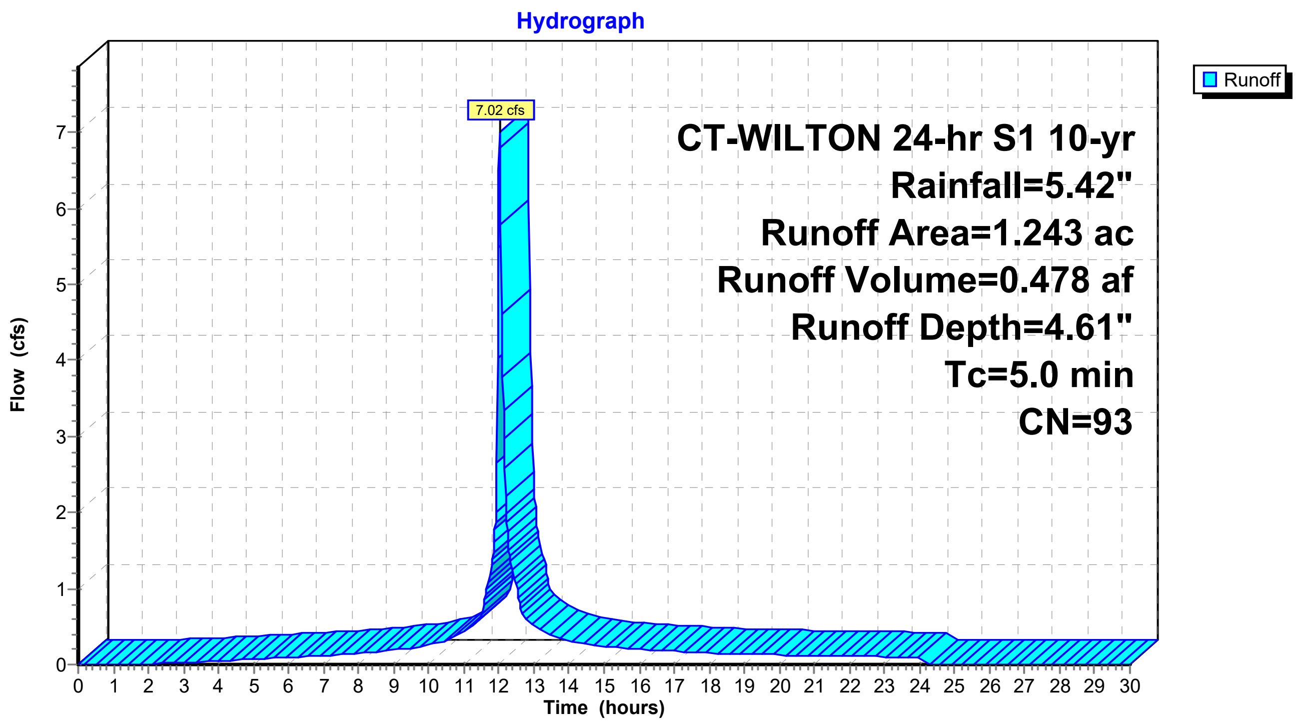
Runoff = 7.02 cfs @ 12.02 hrs, Volume= 0.478 af, Depth= 4.61"
Routed to Pond 7P : Small Det Basin

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs
CT-WILTON 24-hr S1 10-yr Rainfall=5.42"

Area (ac)	CN	Description
0.002	89	<50% Grass cover, Poor, HSG D
0.348	80	>75% Grass cover, Good, HSG D
0.894	98	Unconnected pavement, HSG D
1.243	93	Weighted Average
0.349		28.11% Pervious Area
0.894		71.89% Impervious Area
0.894		100.00% Unconnected

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

Subcatchment 1a: Subcat 1a



Summary for Subcatchment 1b: Subcat 1b

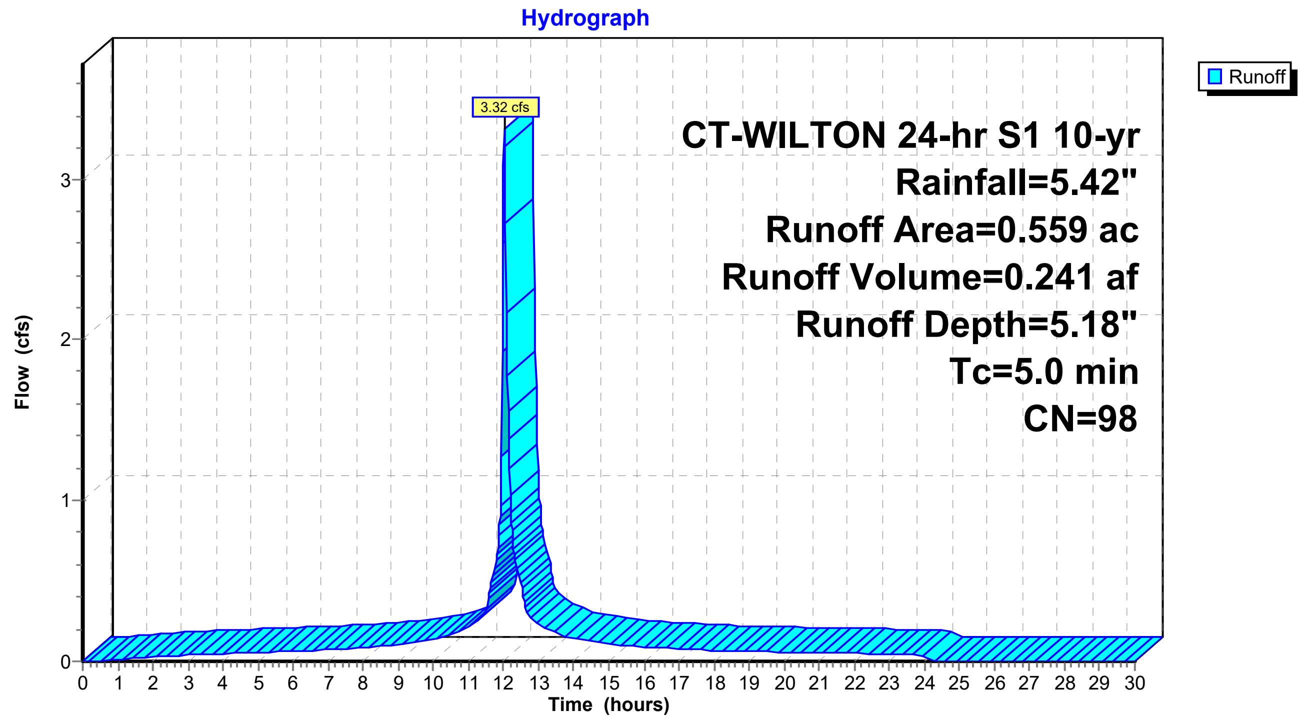
Runoff = 3.32 cfs @ 12.02 hrs, Volume= 0.241 af, Depth= 5.18"
Routed to Link DP1 : Norwalk River South

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs
CT-WILTON 24-hr S1 10-yr Rainfall=5.42"

Area (ac)	CN	Description
0.000	80	>75% Grass cover, Good, HSG D
0.559	98	Unconnected pavement, HSG D
0.559	98	Weighted Average
0.000		0.01% Pervious Area
0.559		99.99% Impervious Area
0.559		100.00% Unconnected

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

Subcatchment 1b: Subcat 1b



Summary for Subcatchment 1c: Subcat 1c

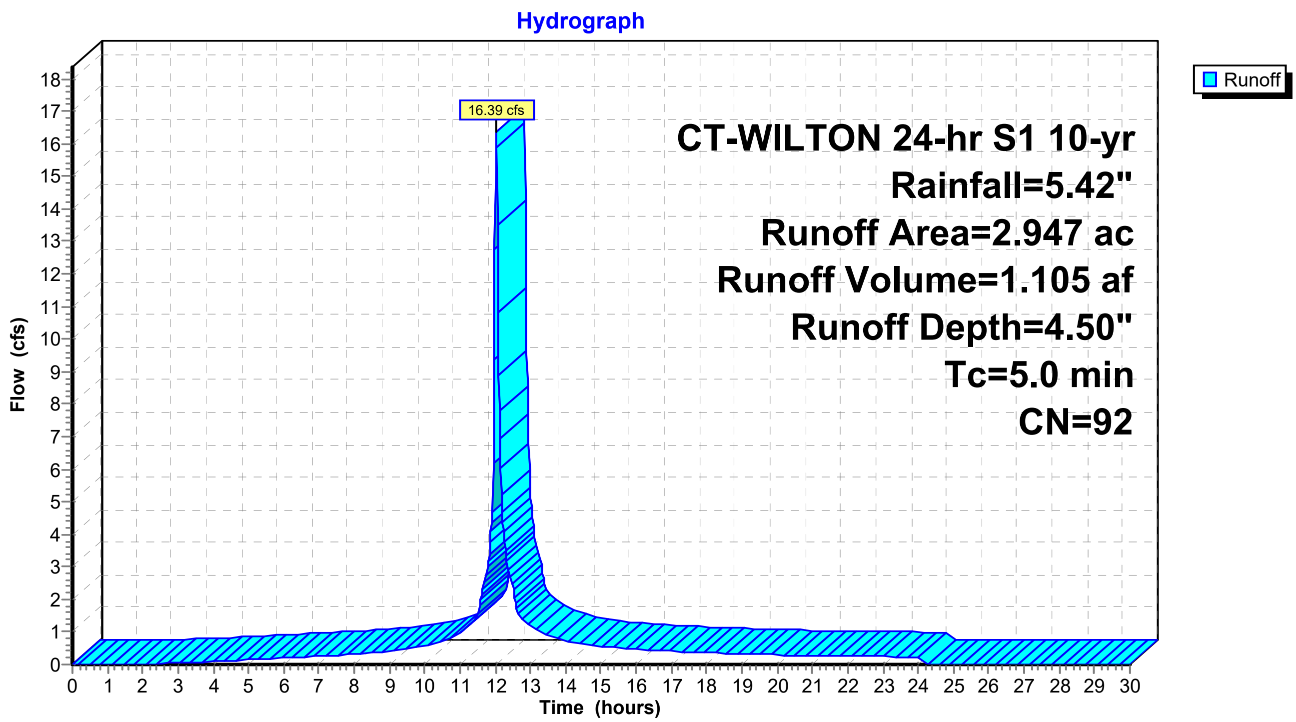
Runoff = 16.39 cfs @ 12.02 hrs, Volume= 1.105 af, Depth= 4.50"
Routed to Link DP1 : Norwalk River South

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs
CT-WILTON 24-hr S1 10-yr Rainfall=5.42"

Area (ac)	CN	Description
0.914	80	>75% Grass cover, Good, HSG D
1.910	98	Unconnected pavement, HSG D
0.123	79	Woods/grass comb., Good, HSG D
2.947	92	Weighted Average
1.037		35.19% Pervious Area
1.910		64.81% Impervious Area
1.910		100.00% Unconnected

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

Subcatchment 1c: Subcat 1c



Summary for Subcatchment 1d: Subcat 1d

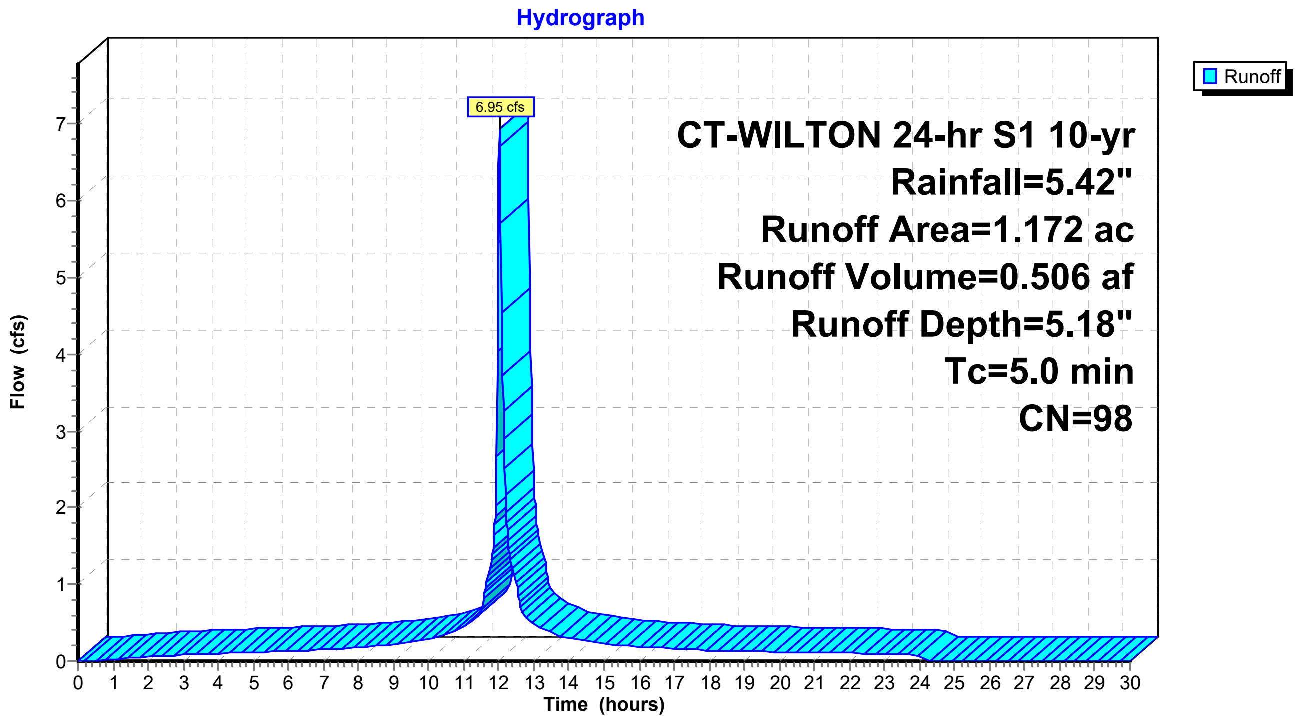
Runoff = 6.95 cfs @ 12.02 hrs, Volume= 0.506 af, Depth= 5.18"
Routed to Link DP1 : Norwalk River South

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs
CT-WILTON 24-hr S1 10-yr Rainfall=5.42"

Area (ac)	CN	Description
0.001	80	>75% Grass cover, Good, HSG D
1.171	98	Unconnected pavement, HSG D
1.172	98	Weighted Average
0.001		0.05% Pervious Area
1.171		99.95% Impervious Area
1.171		100.00% Unconnected

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

Subcatchment 1d: Subcat 1d



Summary for Subcatchment 2: Subcat 2

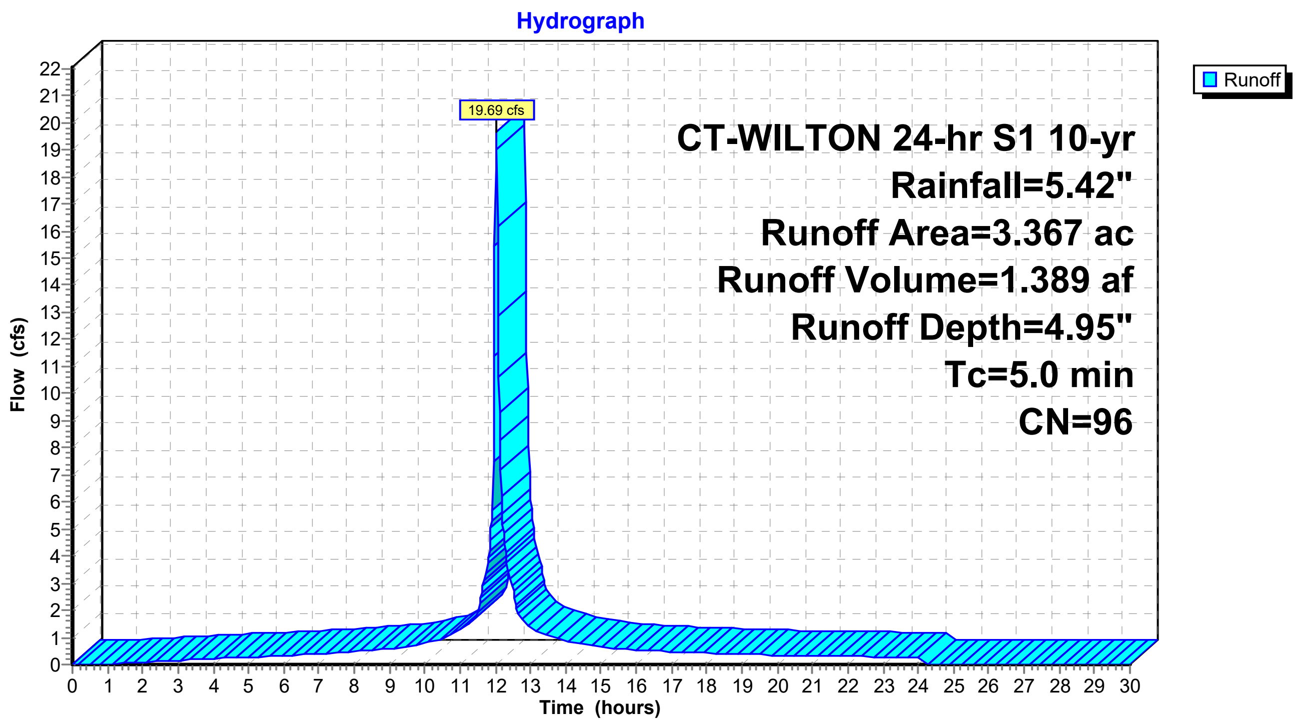
Runoff = 19.69 cfs @ 12.02 hrs, Volume= 1.389 af, Depth= 4.95"
Routed to Link DP2 : Norwalk River North

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs
CT-WILTON 24-hr S1 10-yr Rainfall=5.42"

Area (ac)	CN	Description
0.254	89	<50% Grass cover, Poor, HSG D
0.231	80	>75% Grass cover, Good, HSG D
2.882	98	Unconnected pavement, HSG D
3.367	96	Weighted Average
0.485		14.39% Pervious Area
2.882		85.61% Impervious Area
2.882		100.00% Unconnected

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

Subcatchment 2: Subcat 2



Summary for Subcatchment 3: Subcat 3

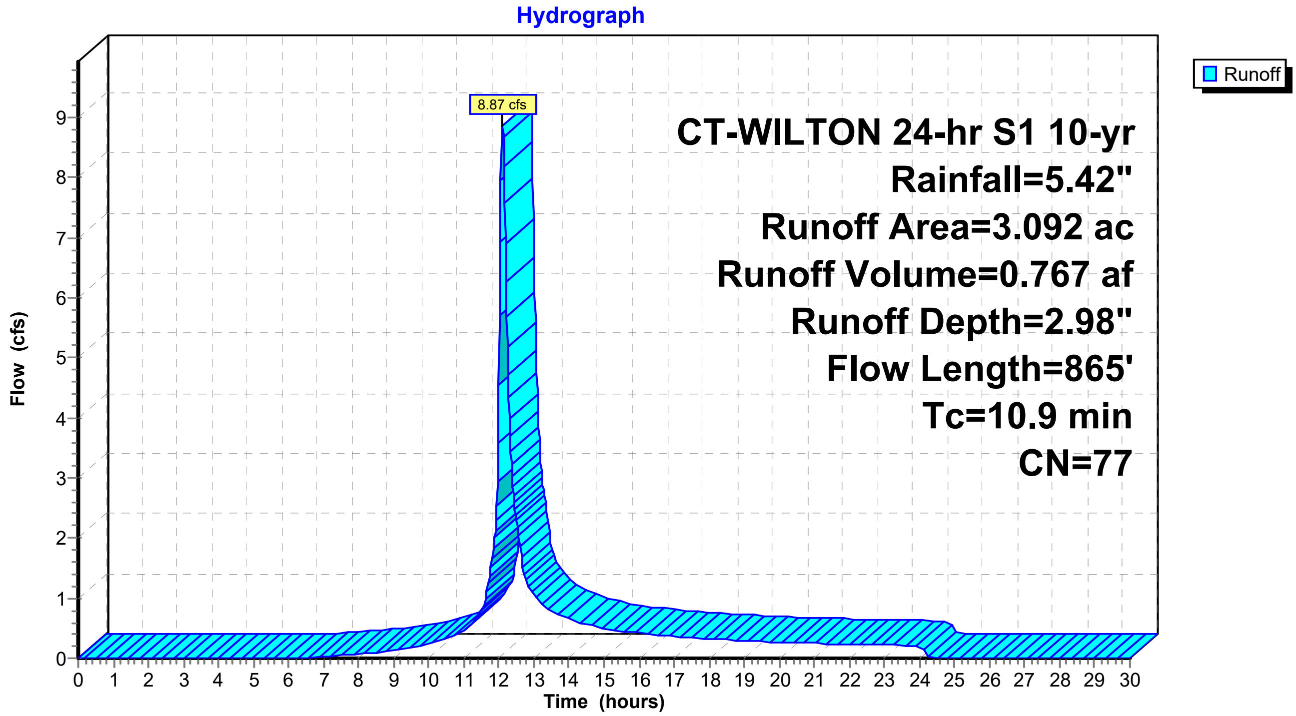
Runoff = 8.87 cfs @ 12.10 hrs, Volume= 0.767 af, Depth= 2.98"
Routed to Link DP3 : Watercourse West

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs
CT-WILTON 24-hr S1 10-yr Rainfall=5.42"

Area (ac)	CN	Description
0.028	89	<50% Grass cover, Poor, HSG D
0.135	80	>75% Grass cover, Good, HSG D
0.011	98	Unconnected pavement, HSG D
2.918	77	Woods, Good, HSG D
3.092	77	Weighted Average
3.081		99.64% Pervious Area
0.011		0.36% Impervious Area
0.011		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.7	50	0.2300	0.11		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.55"
1.3	215	0.3255	2.85		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.9	600	0.0117	5.16	82.54	**Channel Flow,** Area= 16.0 sf Perim= 11.0' r= 1.45' n= 0.040
10.9	865	Total			

Subcatchment 3: Subcat 3



Summary for Pond 7P: Small Det Basin

Inflow Area = 1.243 ac, 71.89% Impervious, Inflow Depth = 4.61" for 10-yr event
Inflow = 7.02 cfs @ 12.02 hrs, Volume= 0.478 af
Outflow = 5.83 cfs @ 12.06 hrs, Volume= 0.478 af, Atten= 17%, Lag= 2.2 min
Discarded = 0.02 cfs @ 3.40 hrs, Volume= 0.029 af
Primary = 5.81 cfs @ 12.06 hrs, Volume= 0.449 af
Routed to Link DP1 : Norwalk River South

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs
Peak Elev= 174.00' @ 12.06 hrs Surf.Area= 692 sf Storage= 1,040 cf

Plug-Flow detention time= 5.8 min calculated for 0.477 af (100% of inflow)
Center-of-Mass det. time= 5.8 min (789.0 - 783.1)

Volume	Invert	Avail.Storage	Storage Description
#1	172.50'	1,728 cf	**StormTrap** Listed below Inside #2
#2	172.50'	2 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 1,730 cf Overall - 1,728 cf Embedded = 2 cf
		1,730 cf	Total Available Storage

Elevation (feet)	Cum.Store (cubic-feet)
172.50	0
172.75	108
173.20	216
173.25	324
173.50	525
173.75	725
174.00	926
174.25	1,126
174.50	1,327
174.75	1,527
175.00	1,728

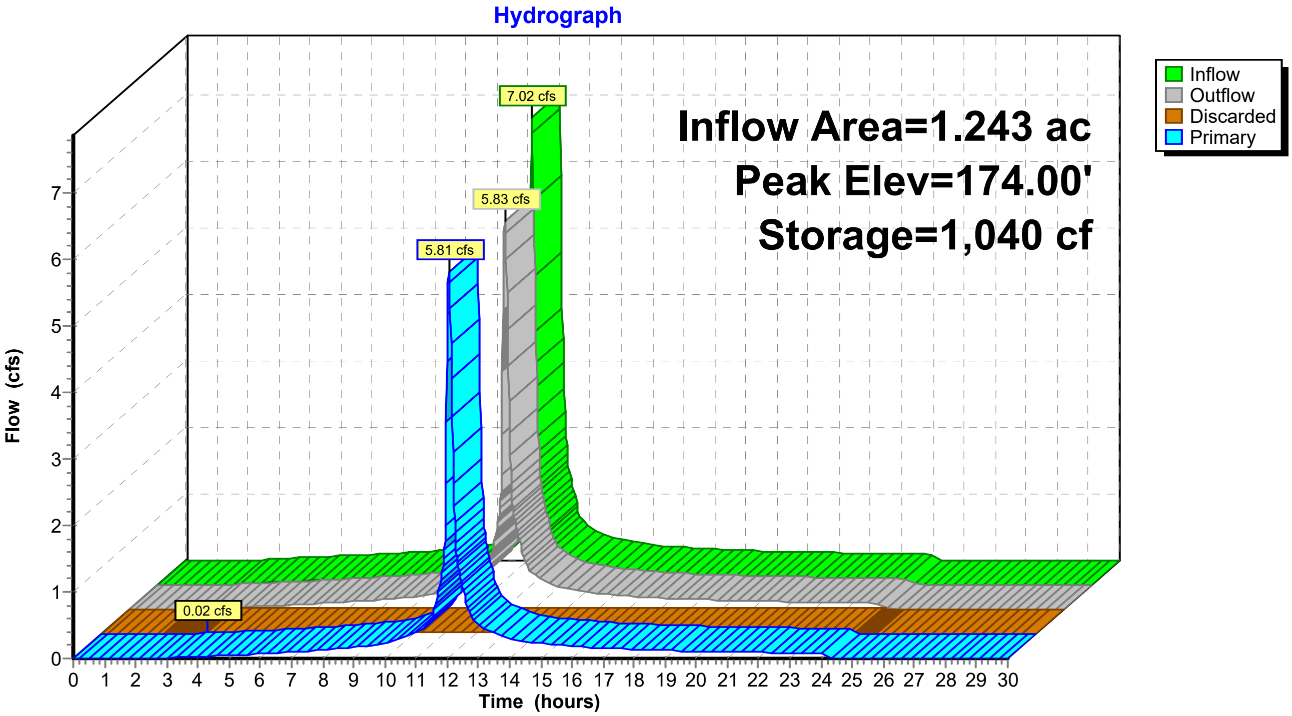
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
172.50	692	0	0
175.00	692	1,730	1,730

Device	Routing	Invert	Outlet Devices
#1	Primary	172.50'	**15.0" W x 9.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	173.00'	**6.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Discarded	172.50'	**1.000 in/hr Exfiltration over Surface area** Phase-In= 0.01'

Discarded OutFlow Max=0.02 cfs @ 3.40 hrs HW=172.53' (Free Discharge)
└─**3=Exfiltration** (Exfiltration Controls 0.02 cfs)

Primary OutFlow Max=5.81 cfs @ 12.06 hrs HW=174.00' (Free Discharge)
├─**1=Orifice/Grate** (Orifice Controls 4.77 cfs @ 5.09 fps)
└─**2=Orifice/Grate** (Orifice Controls 1.04 cfs @ 4.16 fps)

Pond 7P: Small Det Basin



Summary for Pond 10P: OFFLINE RETENTION SYSTEM - UG Chambers - Building A&B

4' underground concrete chambers OFFLINE for 1" WQV retention. System on plan will show slightly smaller since we will be able to reuse the 350' portion of the existing 36" perforated pipe that is within the existing swale under existing mature vegetation.

Volume	Invert	Avail.Storage	Storage Description
#1	170.80'	6,275 cf	**StormTrap** Listed below Inside #2
#2	170.80'	0 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 6,275 cf Overall - 6,275 cf Embedded = 0 cf
		6,275 cf	Total Available Storage

Elevation (feet)	Cum.Store (cubic-feet)
170.80	0
171.05	392
171.30	785
171.55	1,177
171.80	1,906
172.05	2,634
172.30	3,362
172.55	4,091
172.80	4,819
173.05	5,547
173.30	6,275

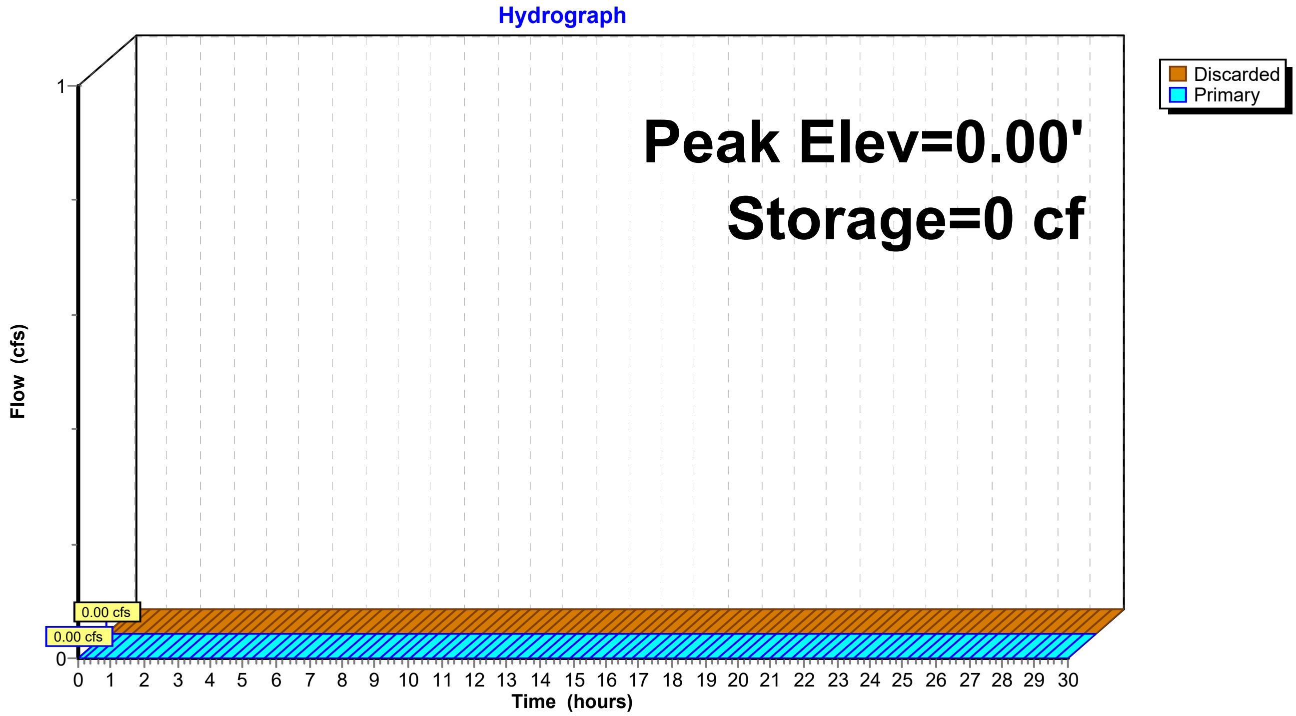
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
170.80	2,510	0	0
173.30	2,510	6,275	6,275

Device	Routing	Invert	Outlet Devices
#1	Discarded	170.80'	**1.000 in/hr Exfiltration over Horizontal area** Phase-In= 0.01'
#2	Primary	173.30'	**6.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Discarded OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.00 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 10P: OFFLINE RETENTION SYSTEM - UG Chambers - Building A&B

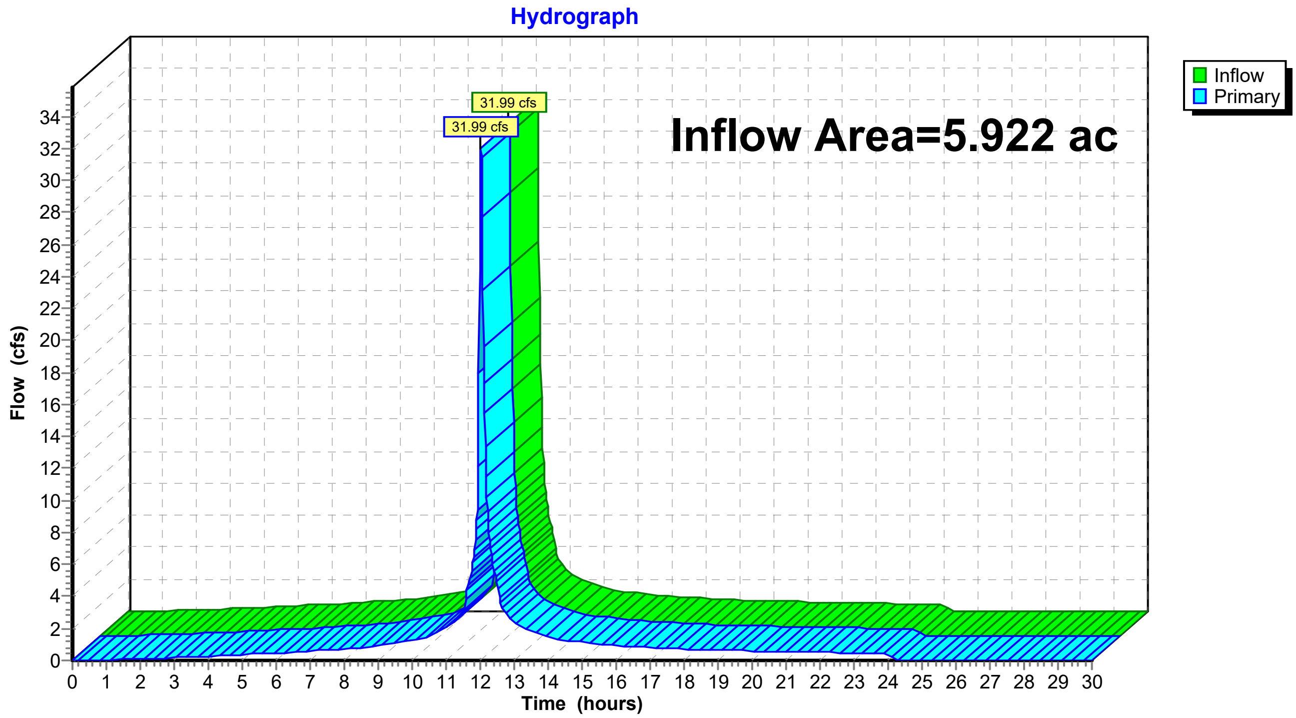


Summary for Link DP1: Norwalk River South

Inflow Area =	5.922 ac,	76.57% Impervious,	Inflow Depth = 4.66"	for 10-yr event	
Inflow =	31.99 cfs @	12.03 hrs,	Volume=	2.302 af	
Primary =	31.99 cfs @	12.03 hrs,	Volume=	2.302 af,	Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs

Link DP1: Norwalk River South

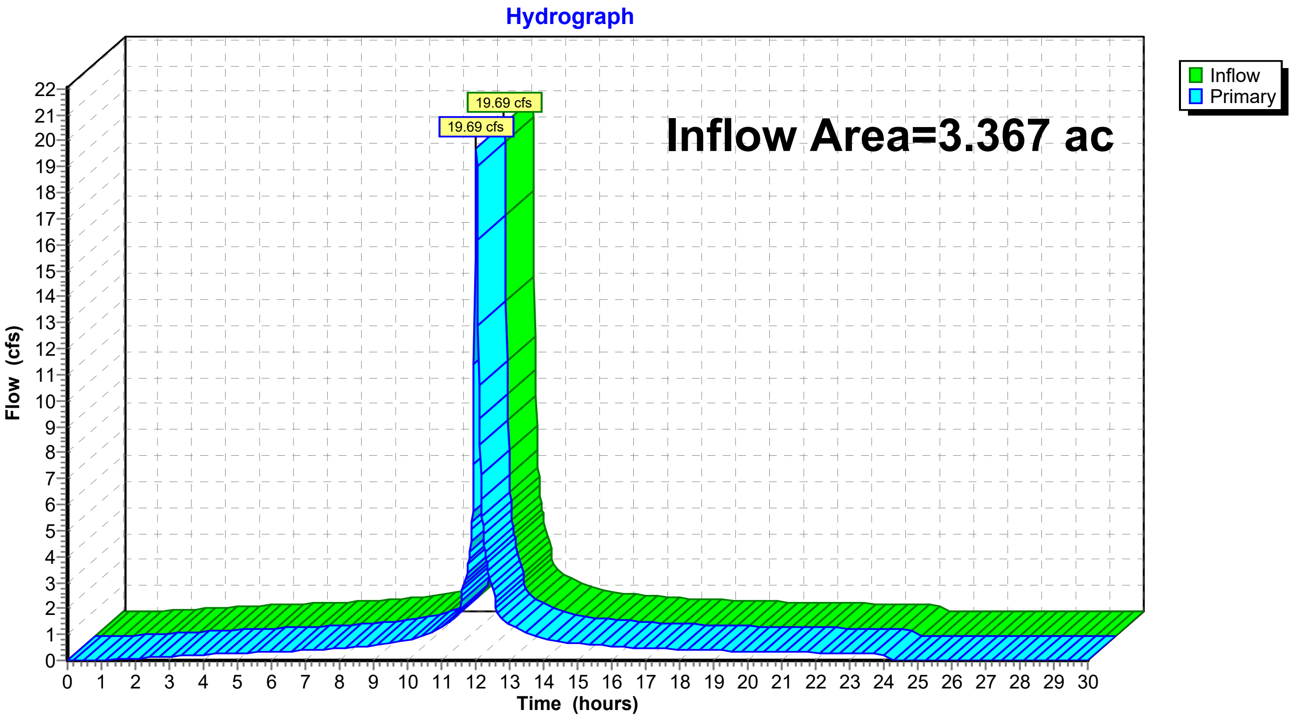


Summary for Link DP2: Norwalk River North

Inflow Area =	3.367 ac,	85.61% Impervious,	Inflow Depth = 4.95"	for 10-yr event
Inflow =	19.69 cfs @	12.02 hrs, Volume=	1.389 af	
Primary =	19.69 cfs @	12.02 hrs, Volume=	1.389 af,	Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs

Link DP2: Norwalk River North

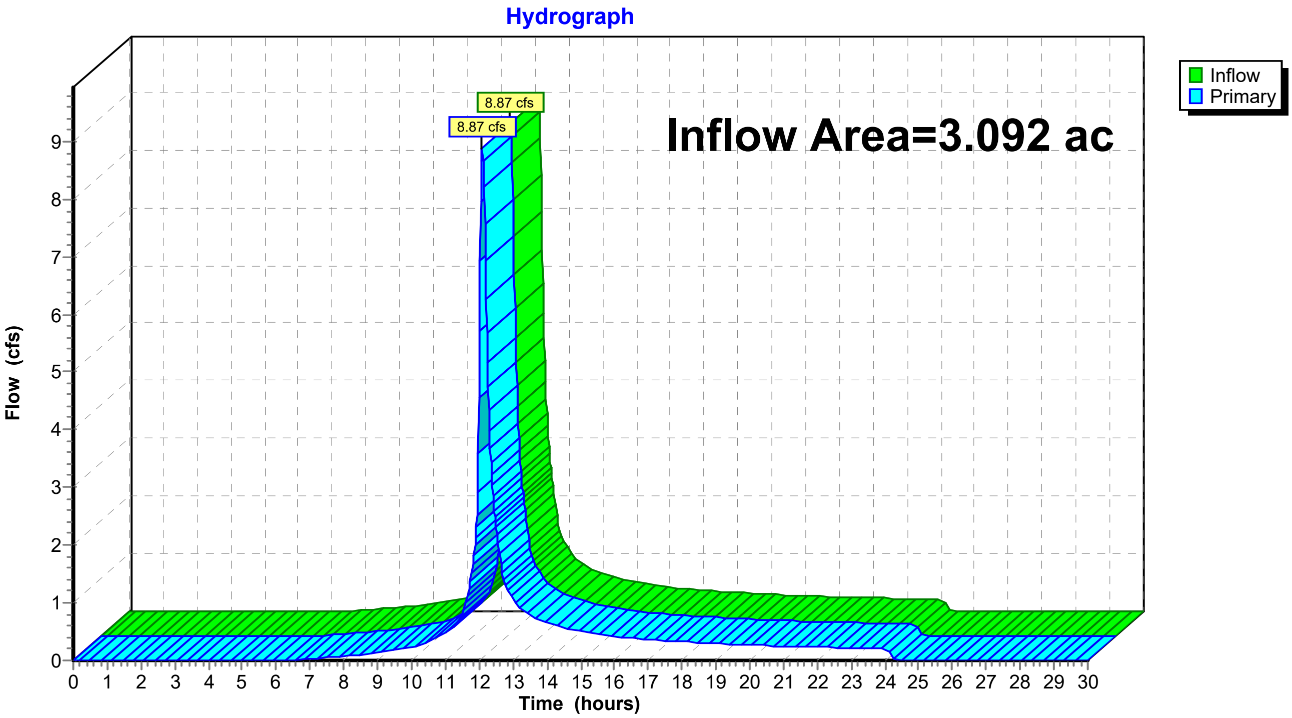


Summary for Link DP3: Watercourse West

Inflow Area =	3.092 ac,	0.36% Impervious,	Inflow Depth = 2.98"	for 10-yr event	
Inflow =	8.87 cfs @	12.10 hrs,	Volume=	0.767 af	
Primary =	8.87 cfs @	12.10 hrs,	Volume=	0.767 af,	Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs

Link DP3: Watercourse West



Summary for Subcatchment 1a: Subcat 1a

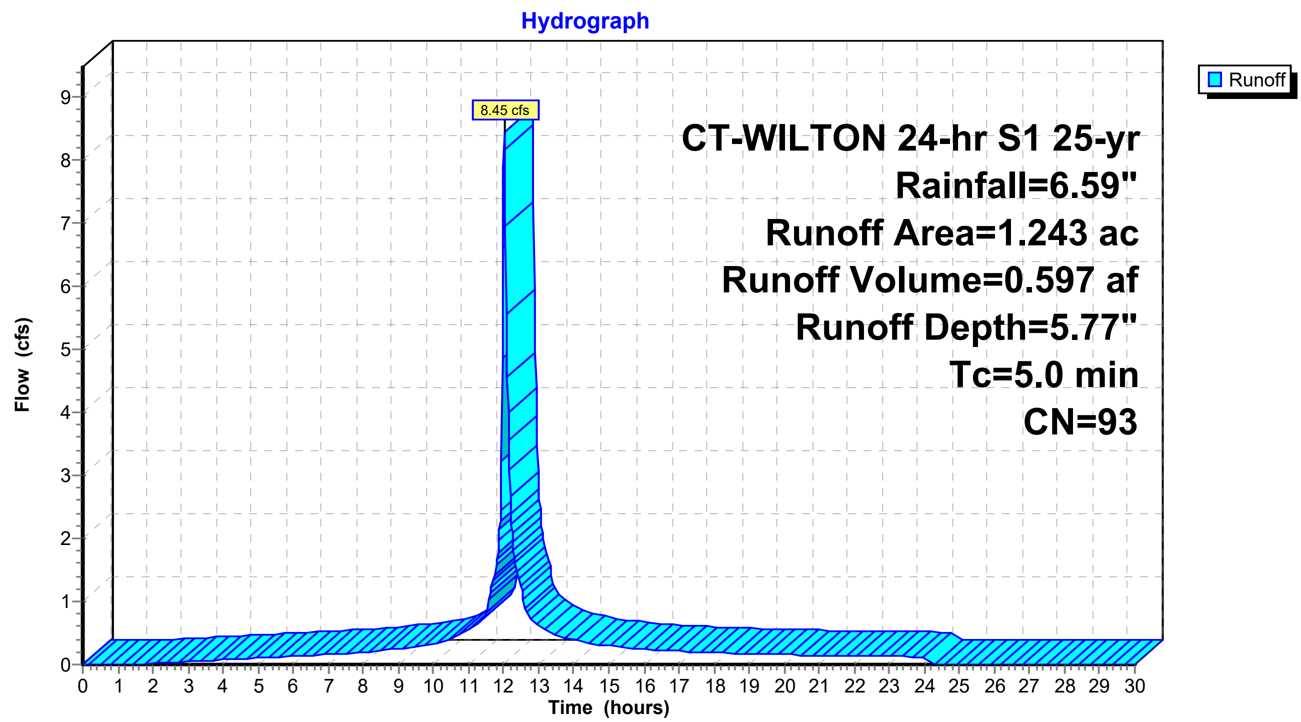
Runoff = 8.45 cfs @ 12.02 hrs, Volume= 0.597 af, Depth= 5.77"
Routed to Pond 7P : Small Det Basin

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs
CT-WILTON 24-hr S1 25-yr Rainfall=6.59"

Area (ac)	CN	Description
0.002	89	<50% Grass cover, Poor, HSG D
0.348	80	>75% Grass cover, Good, HSG D
0.894	98	Unconnected pavement, HSG D
1.243	93	Weighted Average
0.349		28.11% Pervious Area
0.894		71.89% Impervious Area
0.894		100.00% Unconnected

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

Subcatchment 1a: Subcat 1a



Summary for Subcatchment 1b: Subcat 1b

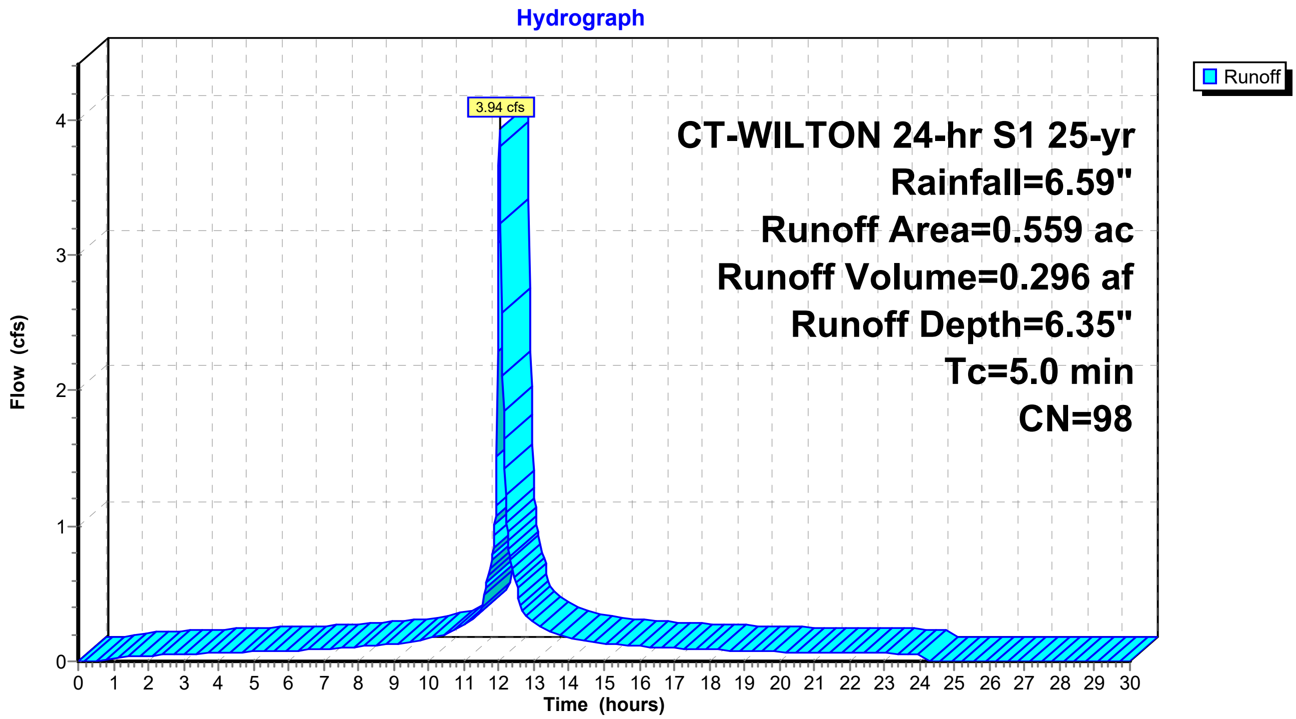
Runoff = 3.94 cfs @ 12.02 hrs, Volume= 0.296 af, Depth= 6.35"
Routed to Link DP1 : Norwalk River South

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs
CT-WILTON 24-hr S1 25-yr Rainfall=6.59"

Area (ac)	CN	Description
0.000	80	>75% Grass cover, Good, HSG D
0.559	98	Unconnected pavement, HSG D
0.559	98	Weighted Average
0.000		0.01% Pervious Area
0.559		99.99% Impervious Area
0.559		100.00% Unconnected

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

Subcatchment 1b: Subcat 1b



Summary for Subcatchment 1c: Subcat 1c

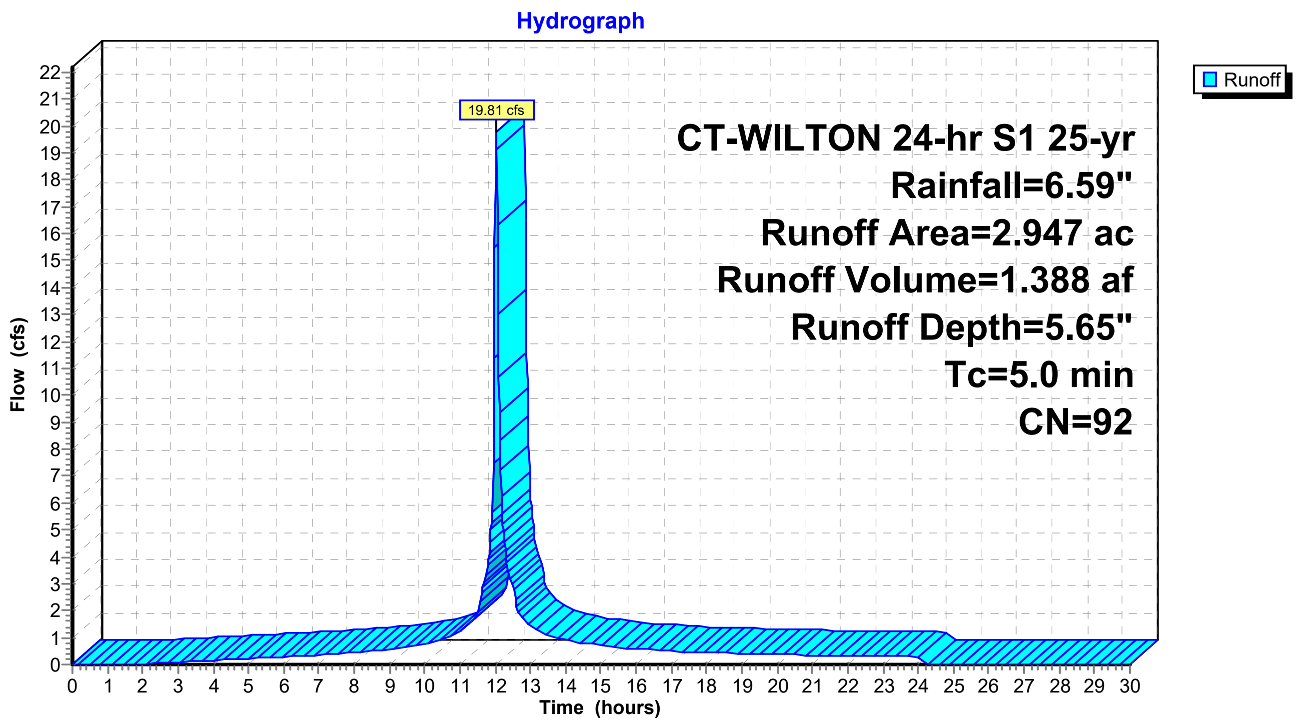
Runoff = 19.81 cfs @ 12.02 hrs, Volume= 1.388 af, Depth= 5.65"
Routed to Link DP1 : Norwalk River South

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs
CT-WILTON 24-hr S1 25-yr Rainfall=6.59"

Area (ac)	CN	Description
0.914	80	>75% Grass cover, Good, HSG D
1.910	98	Unconnected pavement, HSG D
0.123	79	Woods/grass comb., Good, HSG D
2.947	92	Weighted Average
1.037		35.19% Pervious Area
1.910		64.81% Impervious Area
1.910		100.00% Unconnected

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

Subcatchment 1c: Subcat 1c



Summary for Subcatchment 1d: Subcat 1d

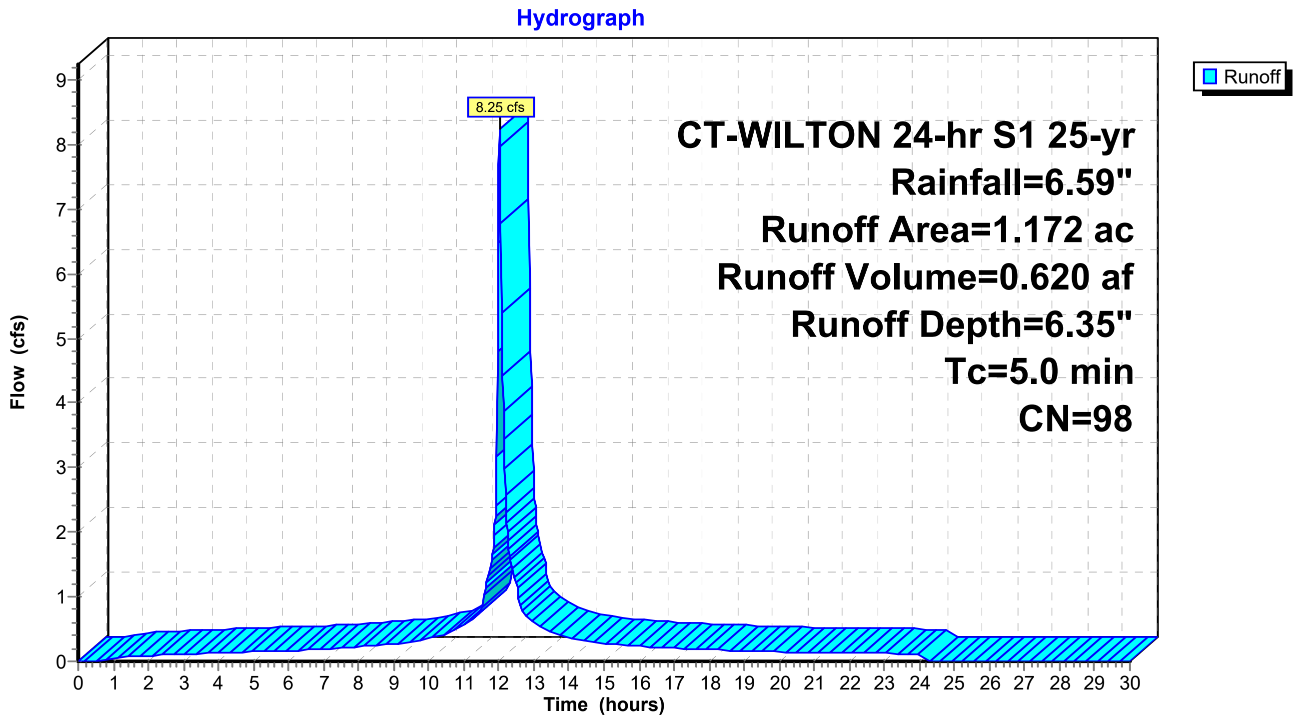
Runoff = 8.25 cfs @ 12.02 hrs, Volume= 0.620 af, Depth= 6.35"
Routed to Link DP1 : Norwalk River South

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs
CT-WILTON 24-hr S1 25-yr Rainfall=6.59"

Area (ac)	CN	Description
0.001	80	>75% Grass cover, Good, HSG D
1.171	98	Unconnected pavement, HSG D
1.172	98	Weighted Average
0.001		0.05% Pervious Area
1.171		99.95% Impervious Area
1.171		100.00% Unconnected

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

Subcatchment 1d: Subcat 1d



Summary for Subcatchment 2: Subcat 2

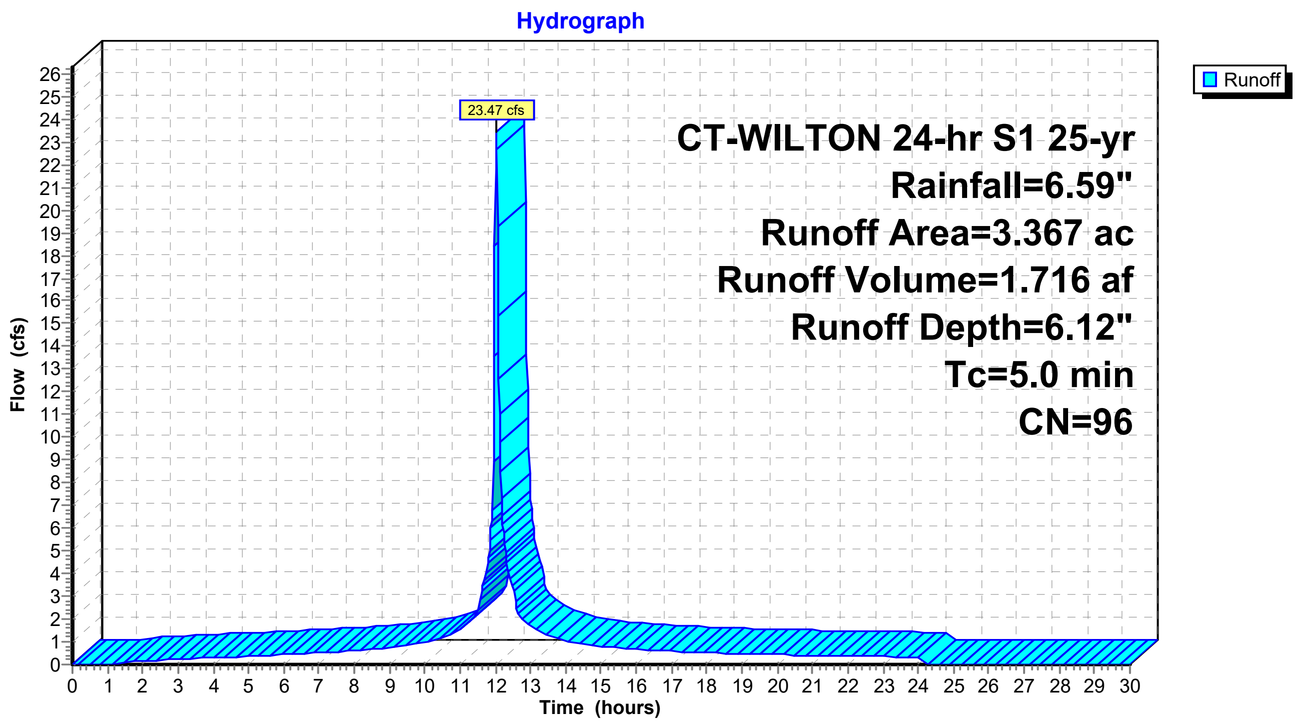
Runoff = 23.47 cfs @ 12.02 hrs, Volume= 1.716 af, Depth= 6.12"
Routed to Link DP2 : Norwalk River North

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs
CT-WILTON 24-hr S1 25-yr Rainfall=6.59"

Area (ac)	CN	Description
0.254	89	<50% Grass cover, Poor, HSG D
0.231	80	>75% Grass cover, Good, HSG D
2.882	98	Unconnected pavement, HSG D
3.367	96	Weighted Average
0.485		14.39% Pervious Area
2.882		85.61% Impervious Area
2.882		100.00% Unconnected

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

Subcatchment 2: Subcat 2



Summary for Subcatchment 3: Subcat 3

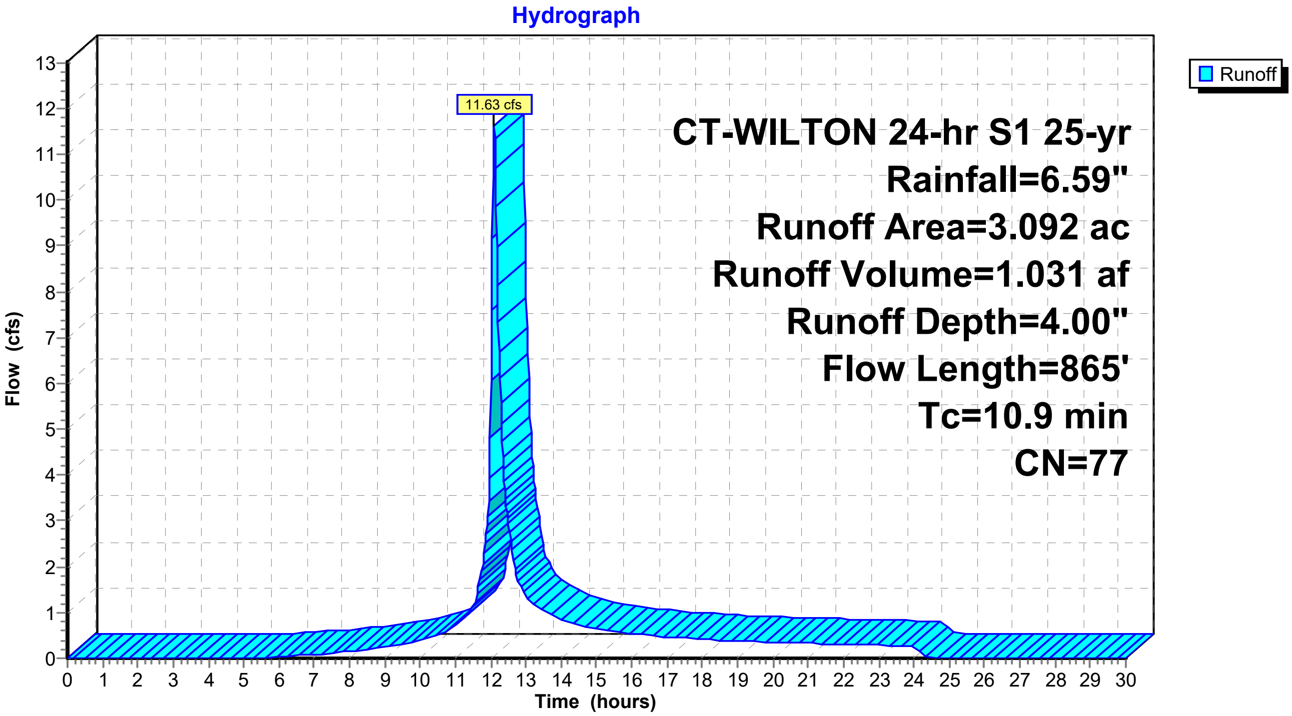
Runoff = 11.63 cfs @ 12.10 hrs, Volume= 1.031 af, Depth= 4.00"
Routed to Link DP3 : Watercourse West

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs
CT-WILTON 24-hr S1 25-yr Rainfall=6.59"

Area (ac)	CN	Description
0.028	89	<50% Grass cover, Poor, HSG D
0.135	80	>75% Grass cover, Good, HSG D
0.011	98	Unconnected pavement, HSG D
2.918	77	Woods, Good, HSG D
3.092	77	Weighted Average
3.081		99.64% Pervious Area
0.011		0.36% Impervious Area
0.011		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.7	50	0.2300	0.11		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.55"
1.3	215	0.3255	2.85		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.9	600	0.0117	5.16	82.54	**Channel Flow,** Area= 16.0 sf Perim= 11.0' r= 1.45' n= 0.040
10.9	865	Total			

Subcatchment 3: Subcat 3



Summary for Pond 7P: Small Det Basin

Inflow Area = 1.243 ac, 71.89% Impervious, Inflow Depth = 5.77" for 25-yr event
Inflow = 8.45 cfs @ 12.02 hrs, Volume= 0.597 af
Outflow = 6.78 cfs @ 12.06 hrs, Volume= 0.597 af, Atten= 20%, Lag= 2.4 min
Discarded = 0.02 cfs @ 2.64 hrs, Volume= 0.030 af
Primary = 6.76 cfs @ 12.06 hrs, Volume= 0.568 af
Routed to Link DP1 : Norwalk River South

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs
Peak Elev= 174.36' @ 12.06 hrs Surf.Area= 692 sf Storage= 1,290 cf

Plug-Flow detention time= 5.6 min calculated for 0.597 af (100% of inflow)
Center-of-Mass det. time= 5.6 min (782.1 - 776.5)

Volume	Invert	Avail.Storage	Storage Description
#1	172.50'	1,728 cf	**StormTrap** Listed below Inside #2
#2	172.50'	2 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 1,730 cf Overall - 1,728 cf Embedded = 2 cf
		1,730 cf	Total Available Storage

Elevation (feet)	Cum.Store (cubic-feet)
172.50	0
172.75	108
173.20	216
173.25	324
173.50	525
173.75	725
174.00	926
174.25	1,126
174.50	1,327
174.75	1,527
175.00	1,728

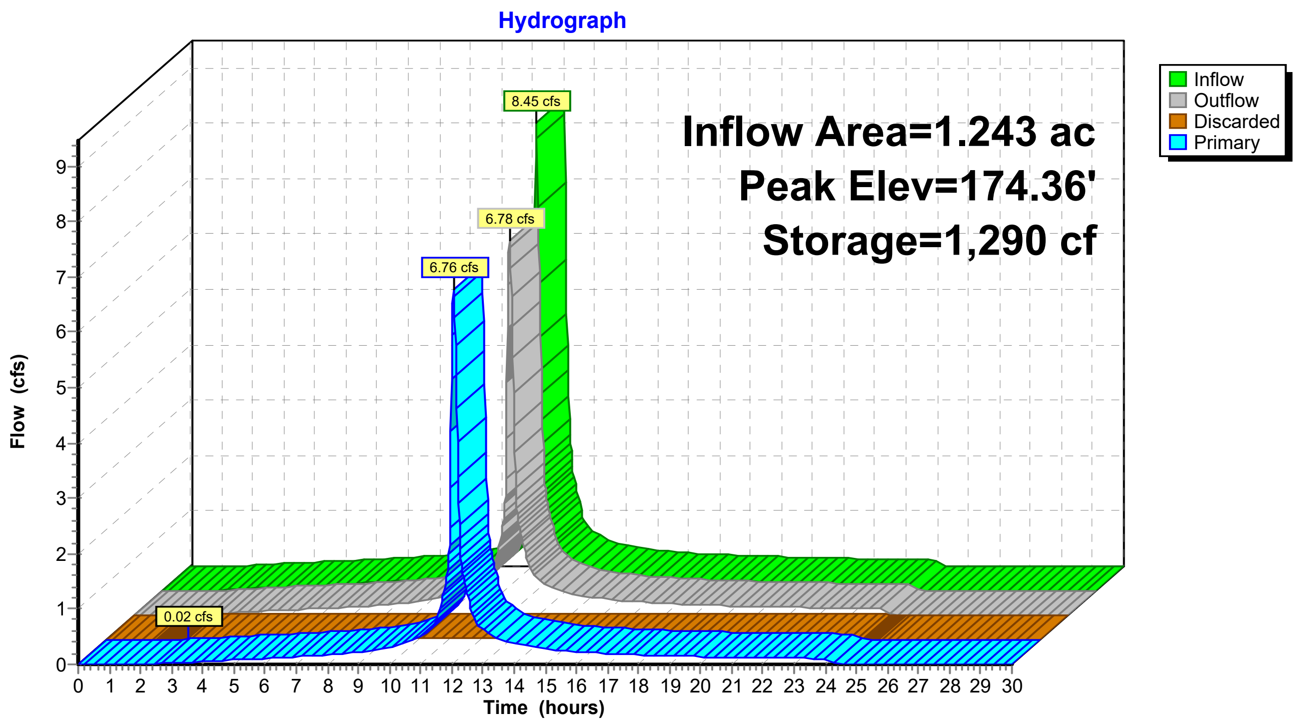
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
172.50	692	0	0
175.00	692	1,730	1,730

Device	Routing	Invert	Outlet Devices
#1	Primary	172.50'	**15.0" W x 9.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	173.00'	**6.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Discarded	172.50'	**1.000 in/hr Exfiltration over Surface area** Phase-In= 0.01'

Discarded OutFlow Max=0.02 cfs @ 2.64 hrs HW=172.53' (Free Discharge)
└**3=Exfiltration** (Exfiltration Controls 0.02 cfs)

Primary OutFlow Max=6.74 cfs @ 12.06 hrs HW=174.36' (Free Discharge)
├**1=Orifice/Grate** (Orifice Controls 5.48 cfs @ 5.84 fps)
└**2=Orifice/Grate** (Orifice Controls 1.26 cfs @ 5.05 fps)

Pond 7P: Small Det Basin



Summary for Pond 10P: OFFLINE RETENTION SYSTEM - UG Chambers - Building A&B

4' underground concrete chambers OFFLINE for 1" WQV retention. System on plan will show slightly smaller since we will be able to reuse the 350' portion of the existing 36" perforated pipe that is within the existing swale under existing mature vegetation.

Volume	Invert	Avail.Storage	Storage Description
#1	170.80'	6,275 cf	**StormTrap** Listed below Inside #2
#2	170.80'	0 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 6,275 cf Overall - 6,275 cf Embedded = 0 cf
		6,275 cf	Total Available Storage

Elevation (feet)	Cum.Store (cubic-feet)
170.80	0
171.05	392
171.30	785
171.55	1,177
171.80	1,906
172.05	2,634
172.30	3,362
172.55	4,091
172.80	4,819
173.05	5,547
173.30	6,275

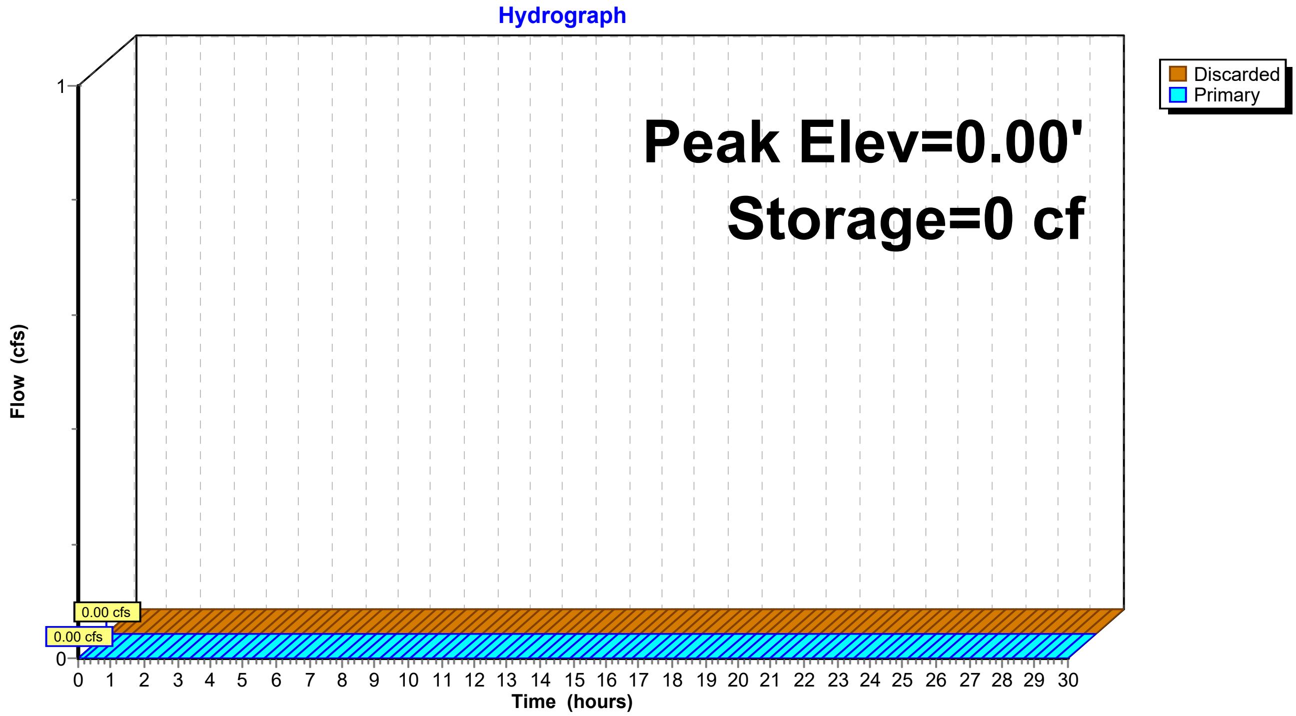
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
170.80	2,510	0	0
173.30	2,510	6,275	6,275

Device	Routing	Invert	Outlet Devices
#1	Discarded	170.80'	**1.000 in/hr Exfiltration over Horizontal area** Phase-In= 0.01'
#2	Primary	173.30'	**6.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Discarded OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
1=Exfiltration (Controls 0.00 cfs)

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

Pond 10P: OFFLINE RETENTION SYSTEM - UG Chambers - Building A&B

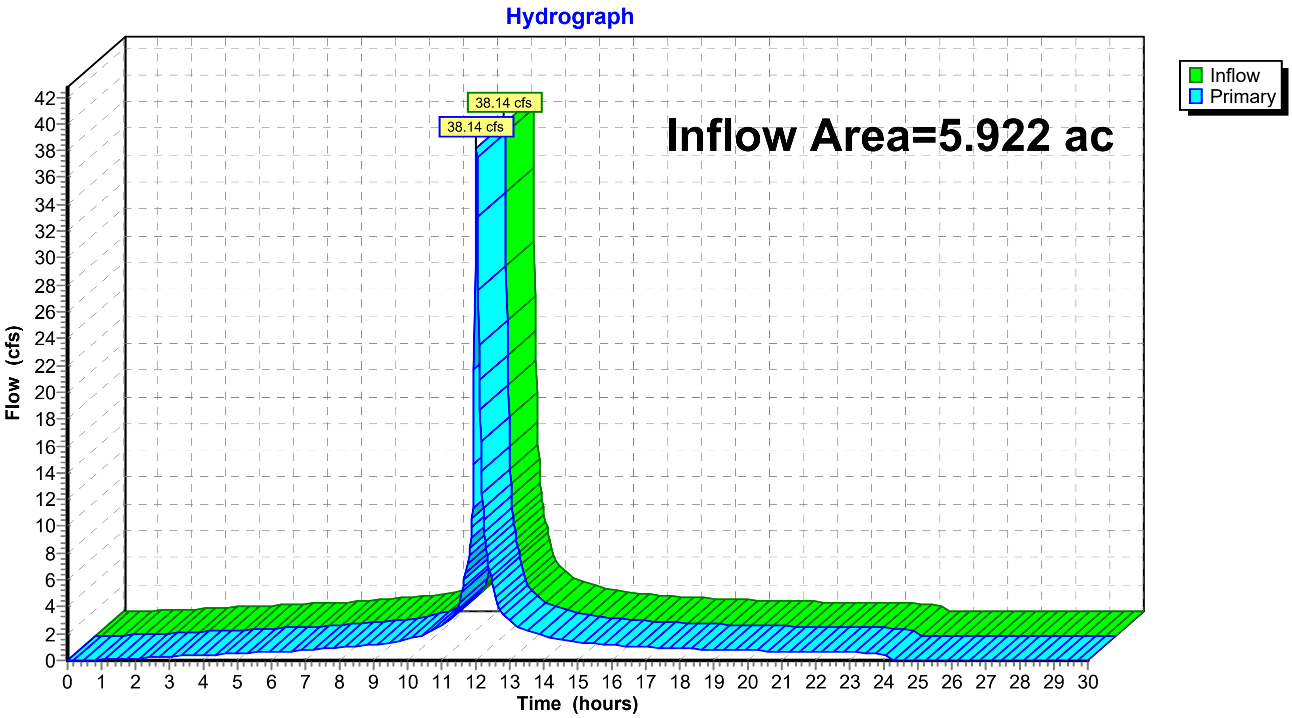


Summary for Link DP1: Norwalk River South

Inflow Area = 5.922 ac, 76.57% Impervious, Inflow Depth = 5.82" for 25-yr event
Inflow = 38.14 cfs @ 12.03 hrs, Volume= 2.872 af
Primary = 38.14 cfs @ 12.03 hrs, Volume= 2.872 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs

Link DP1: Norwalk River South

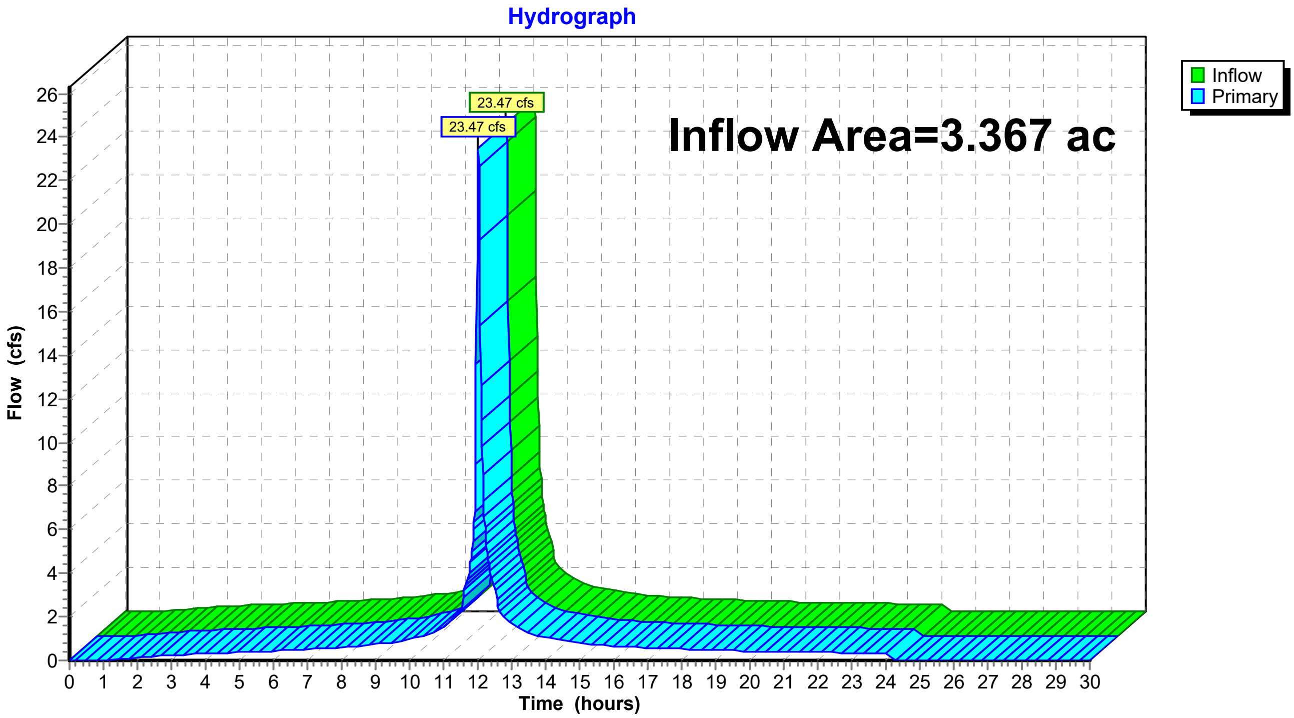


Summary for Link DP2: Norwalk River North

Inflow Area =	3.367 ac, 85.61% Impervious,	Inflow Depth = 6.12"	for 25-yr event	
Inflow =	23.47 cfs @	12.02 hrs, Volume=	1.716 af	
Primary =	23.47 cfs @	12.02 hrs, Volume=	1.716 af,	Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs

Link DP2: Norwalk River North

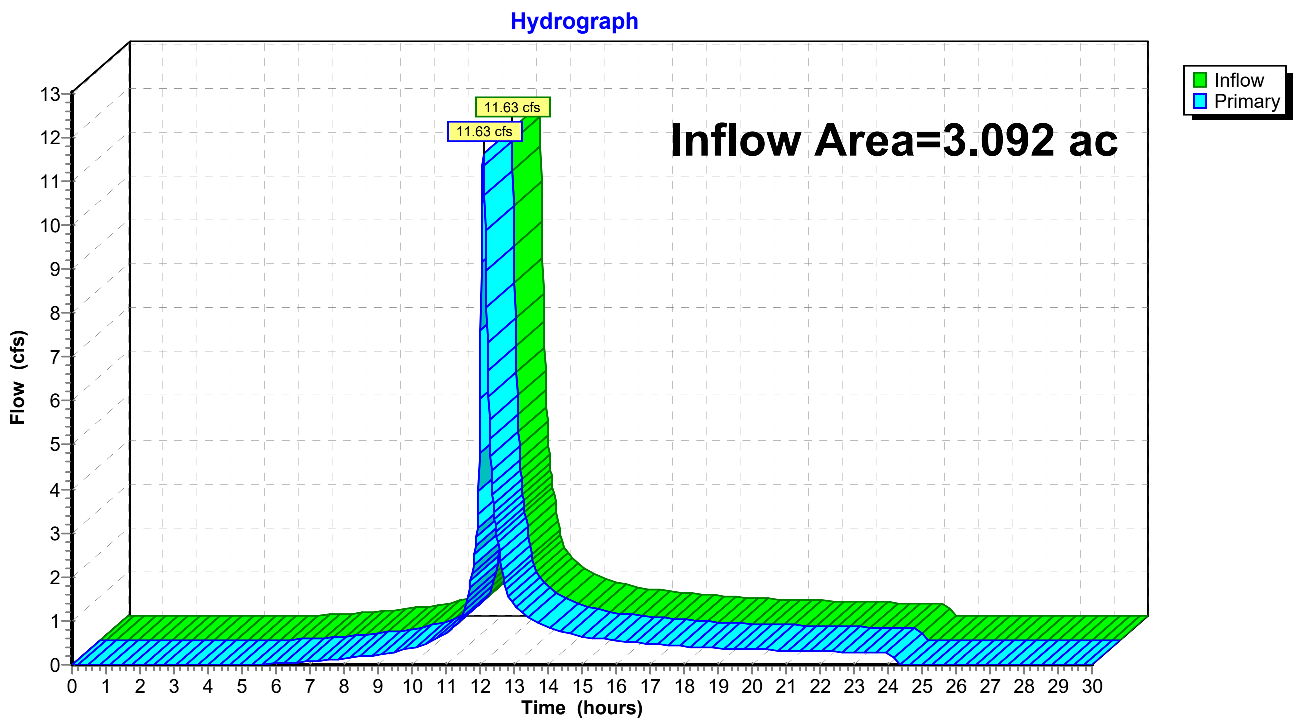


Summary for Link DP3: Watercourse West

Inflow Area =	3.092 ac,	0.36% Impervious,	Inflow Depth = 4.00"	for 25-yr event	
Inflow =	11.63 cfs @	12.10 hrs,	Volume=	1.031 af	
Primary =	11.63 cfs @	12.10 hrs,	Volume=	1.031 af,	Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs

Link DP3: Watercourse West



Summary for Subcatchment 1a: Subcat 1a

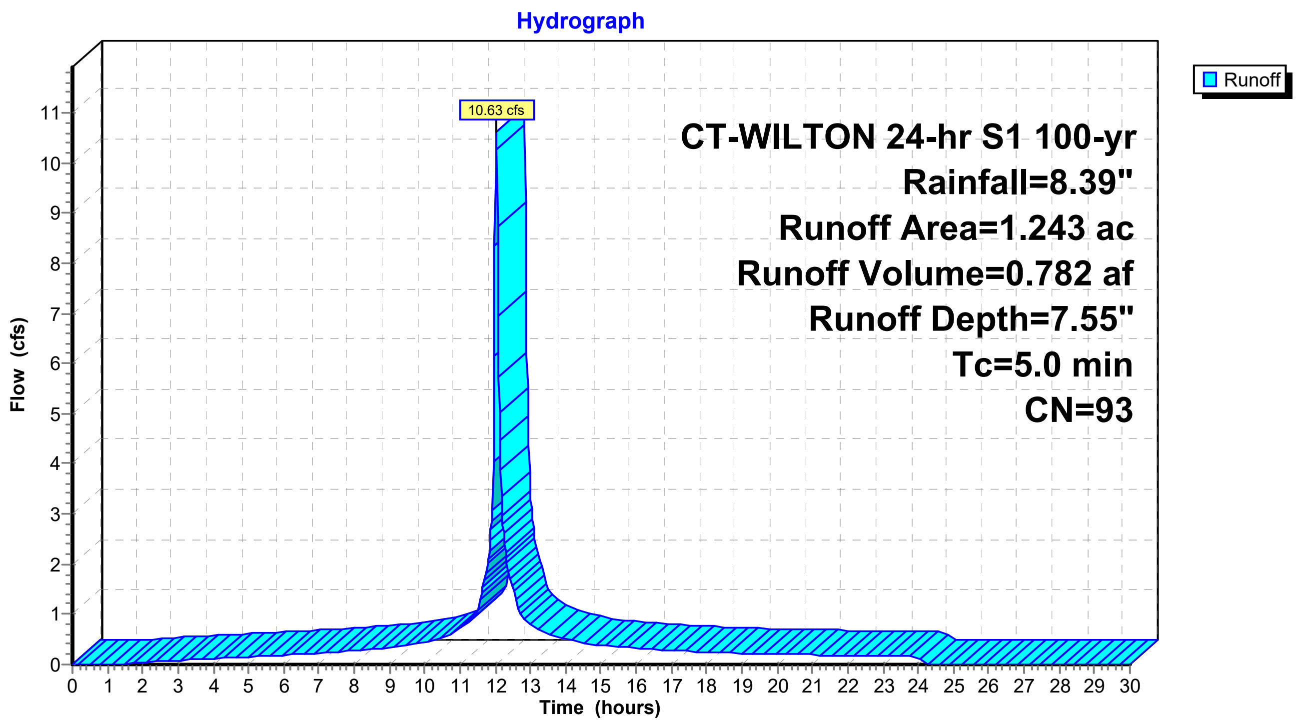
Runoff = 10.63 cfs @ 12.02 hrs, Volume= 0.782 af, Depth= 7.55"
Routed to Pond 7P : Small Det Basin

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs
CT-WILTON 24-hr S1 100-yr Rainfall=8.39"

Area (ac)	CN	Description
0.002	89	<50% Grass cover, Poor, HSG D
0.348	80	>75% Grass cover, Good, HSG D
0.894	98	Unconnected pavement, HSG D
1.243	93	Weighted Average
0.349		28.11% Pervious Area
0.894		71.89% Impervious Area
0.894		100.00% Unconnected

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

Subcatchment 1a: Subcat 1a



Summary for Subcatchment 1b: Subcat 1b

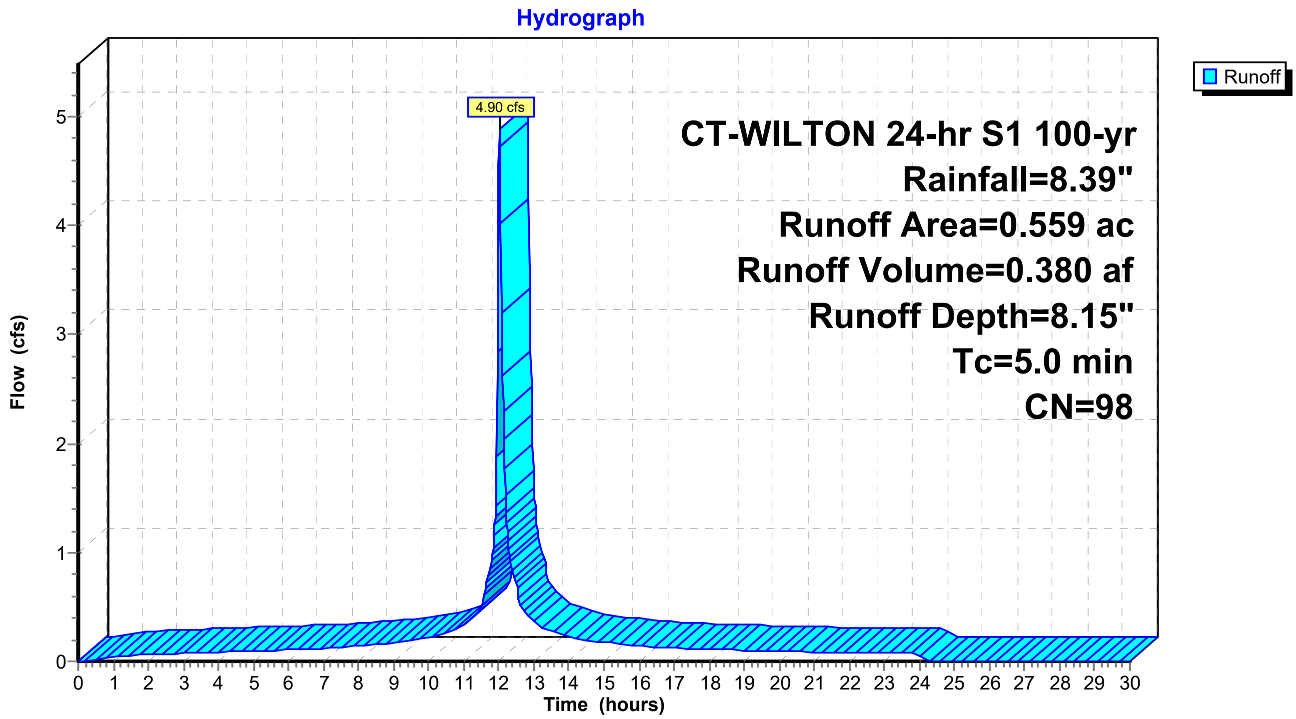
Runoff = 4.90 cfs @ 12.02 hrs, Volume= 0.380 af, Depth= 8.15"
Routed to Link DP1 : Norwalk River South

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs
CT-WILTON 24-hr S1 100-yr Rainfall=8.39"

Area (ac)	CN	Description
0.000	80	>75% Grass cover, Good, HSG D
0.559	98	Unconnected pavement, HSG D
0.559	98	Weighted Average
0.000		0.01% Pervious Area
0.559		99.99% Impervious Area
0.559		100.00% Unconnected

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

Subcatchment 1b: Subcat 1b



Summary for Subcatchment 1c: Subcat 1c

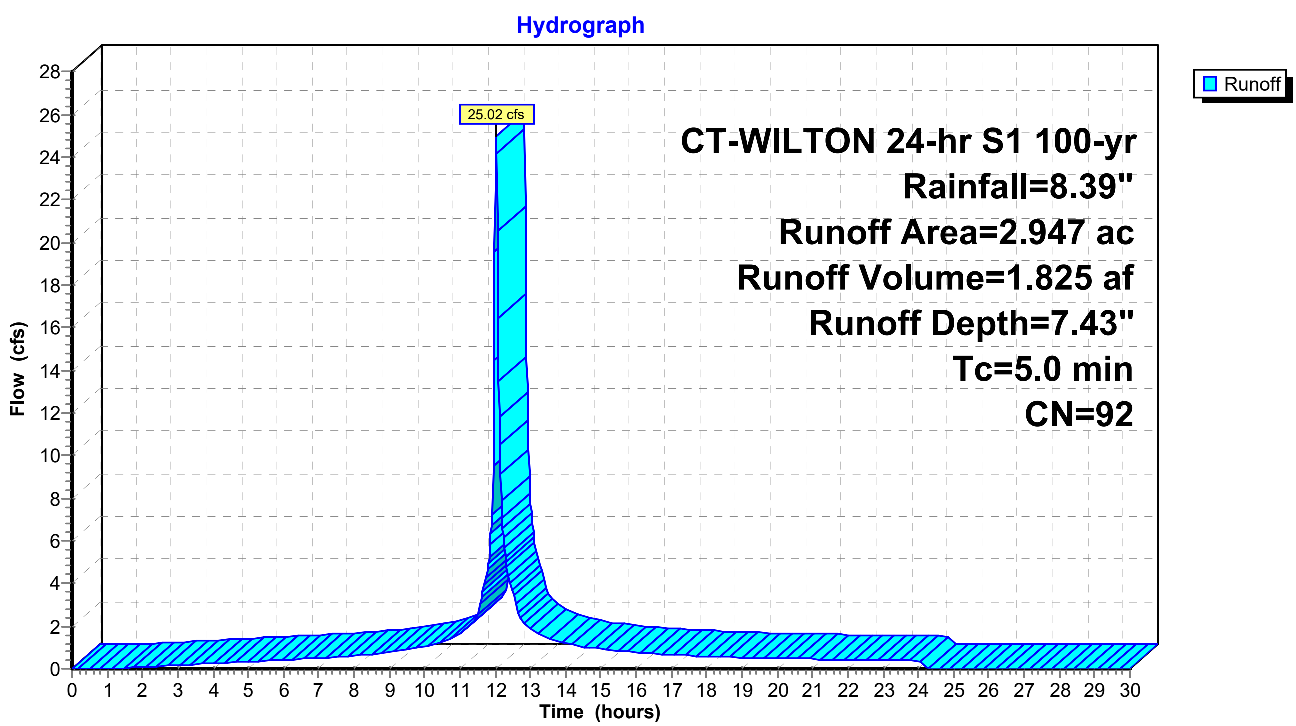
Runoff = 25.02 cfs @ 12.02 hrs, Volume= 1.825 af, Depth= 7.43"
Routed to Link DP1 : Norwalk River South

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs
CT-WILTON 24-hr S1 100-yr Rainfall=8.39"

Area (ac)	CN	Description
0.914	80	>75% Grass cover, Good, HSG D
1.910	98	Unconnected pavement, HSG D
0.123	79	Woods/grass comb., Good, HSG D
2.947	92	Weighted Average
1.037		35.19% Pervious Area
1.910		64.81% Impervious Area
1.910		100.00% Unconnected

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

Subcatchment 1c: Subcat 1c



Summary for Subcatchment 1d: Subcat 1d

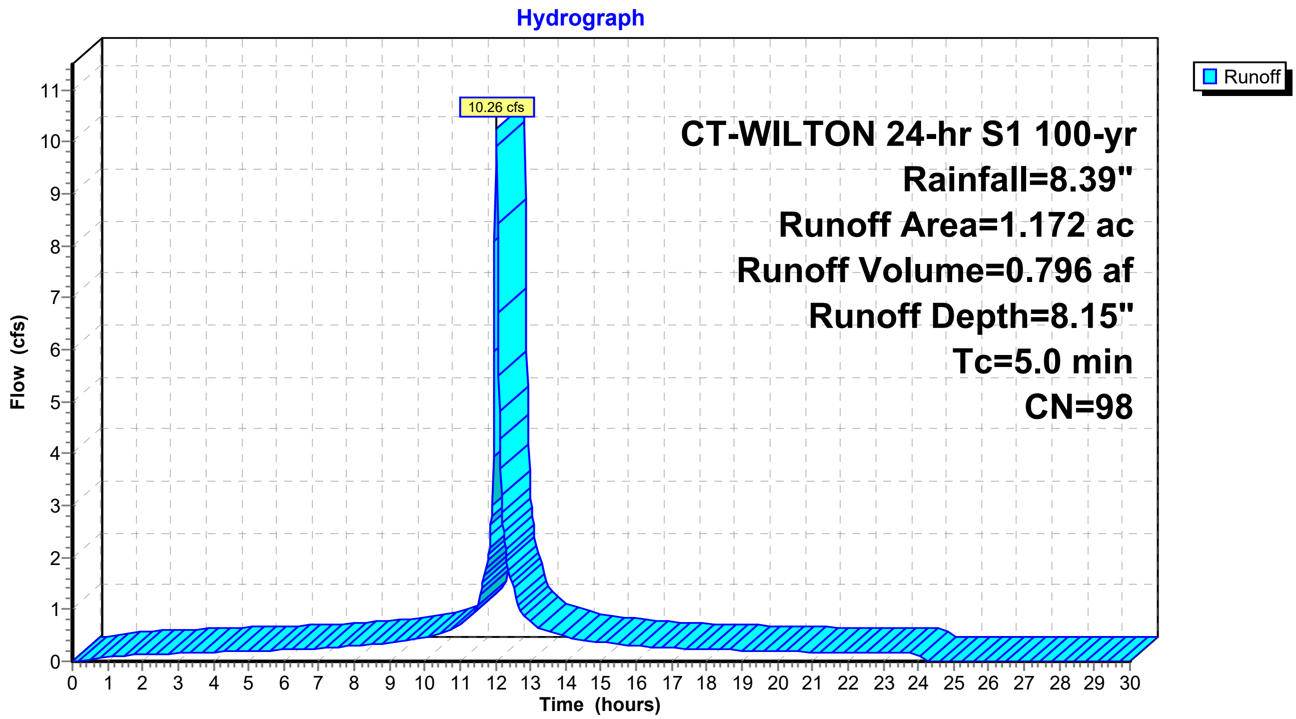
Runoff = 10.26 cfs @ 12.02 hrs, Volume= 0.796 af, Depth= 8.15"
Routed to Link DP1 : Norwalk River South

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs
CT-WILTON 24-hr S1 100-yr Rainfall=8.39"

Area (ac)	CN	Description
0.001	80	>75% Grass cover, Good, HSG D
1.171	98	Unconnected pavement, HSG D
1.172	98	Weighted Average
0.001		0.05% Pervious Area
1.171		99.95% Impervious Area
1.171		100.00% Unconnected

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

Subcatchment 1d: Subcat 1d



Summary for Subcatchment 2: Subcat 2

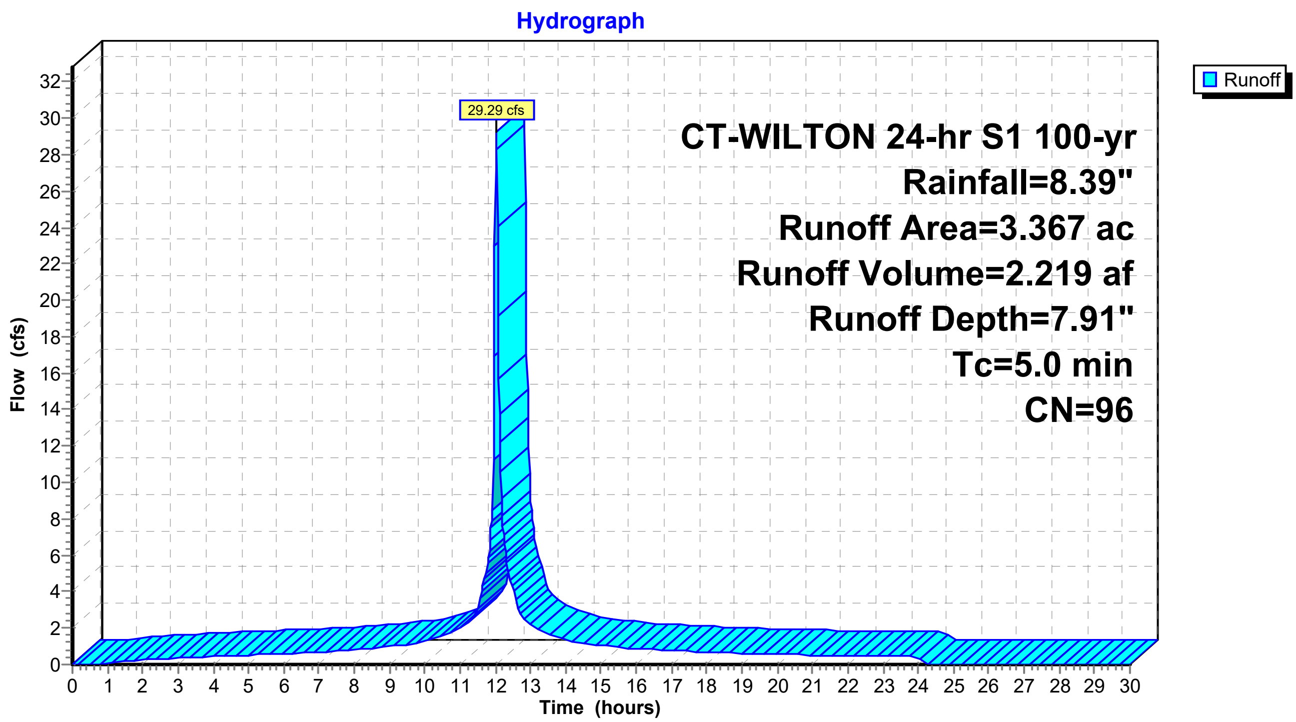
Runoff = 29.29 cfs @ 12.02 hrs, Volume= 2.219 af, Depth= 7.91"
Routed to Link DP2 : Norwalk River North

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs
CT-WILTON 24-hr S1 100-yr Rainfall=8.39"

Area (ac)	CN	Description
0.254	89	<50% Grass cover, Poor, HSG D
0.231	80	>75% Grass cover, Good, HSG D
2.882	98	Unconnected pavement, HSG D
3.367	96	Weighted Average
0.485		14.39% Pervious Area
2.882		85.61% Impervious Area
2.882		100.00% Unconnected

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

Subcatchment 2: Subcat 2



Summary for Subcatchment 3: Subcat 3

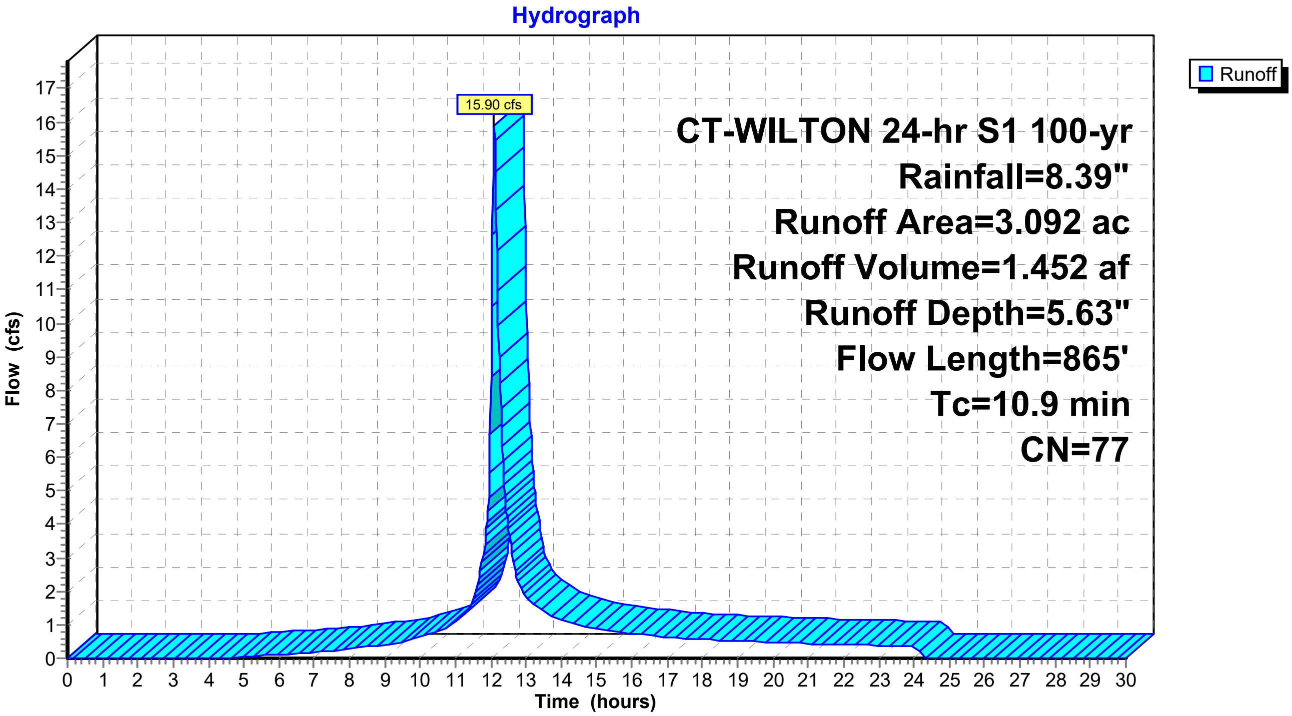
Runoff = 15.90 cfs @ 12.10 hrs, Volume= 1.452 af, Depth= 5.63"
Routed to Link DP3 : Watercourse West

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs
CT-WILTON 24-hr S1 100-yr Rainfall=8.39"

Area (ac)	CN	Description
0.028	89	<50% Grass cover, Poor, HSG D
0.135	80	>75% Grass cover, Good, HSG D
0.011	98	Unconnected pavement, HSG D
2.918	77	Woods, Good, HSG D
3.092	77	Weighted Average
3.081		99.64% Pervious Area
0.011		0.36% Impervious Area
0.011		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.7	50	0.2300	0.11		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.55"
1.3	215	0.3255	2.85		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.9	600	0.0117	5.16	82.54	**Channel Flow,** Area= 16.0 sf Perim= 11.0' r= 1.45' n= 0.040
10.9	865	Total			

Subcatchment 3: Subcat 3



Summary for Pond 7P: Small Det Basin

Inflow Area = 1.243 ac, 71.89% Impervious, Inflow Depth = 7.55" for 100-yr event
Inflow = 10.63 cfs @ 12.02 hrs, Volume= 0.782 af
Outflow = 8.14 cfs @ 12.07 hrs, Volume= 0.782 af, Atten= 23%, Lag= 2.6 min
Discarded = 0.02 cfs @ 1.96 hrs, Volume= 0.030 af
Primary = 8.13 cfs @ 12.07 hrs, Volume= 0.752 af
Routed to Link DP1 : Norwalk River South

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs
Peak Elev= 174.98' @ 12.07 hrs Surf.Area= 692 sf Storage= 1,717 cf

Plug-Flow detention time= 5.3 min calculated for 0.782 af (100% of inflow)
Center-of-Mass det. time= 5.3 min (774.2 - 768.9)

Volume	Invert	Avail.Storage	Storage Description
#1	172.50'	1,728 cf	**StormTrap** Listed below Inside #2
#2	172.50'	2 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 1,730 cf Overall - 1,728 cf Embedded = 2 cf
		1,730 cf	Total Available Storage

Elevation (feet)	Cum.Store (cubic-feet)
172.50	0
172.75	108
173.20	216
173.25	324
173.50	525
173.75	725
174.00	926
174.25	1,126
174.50	1,327
174.75	1,527
175.00	1,728

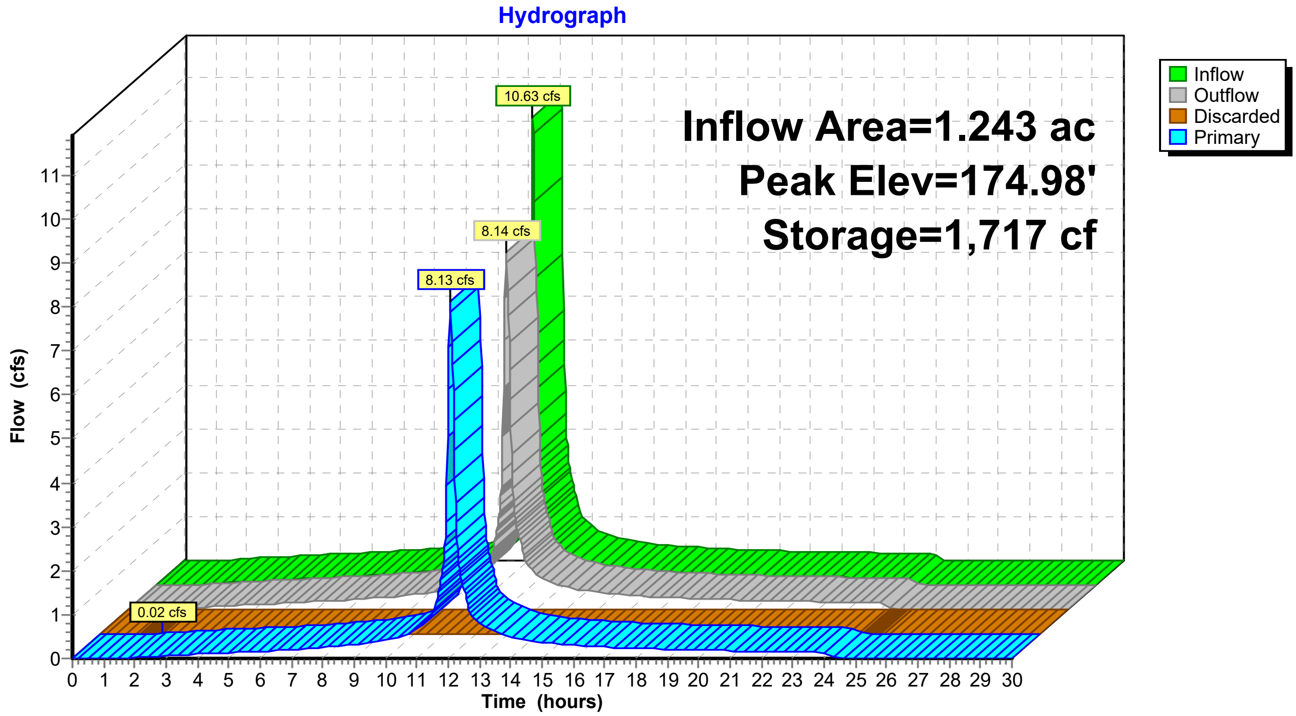
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
172.50	692	0	0
175.00	692	1,730	1,730

Device	Routing	Invert	Outlet Devices
#1	Primary	172.50'	**15.0" W x 9.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	173.00'	**6.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Discarded	172.50'	**1.000 in/hr Exfiltration over Surface area** Phase-In= 0.01'

Discarded OutFlow Max=0.02 cfs @ 1.96 hrs HW=172.53' (Free Discharge)
└─**3=Exfiltration** (Exfiltration Controls 0.02 cfs)

Primary OutFlow Max=8.08 cfs @ 12.07 hrs HW=174.96' (Free Discharge)
├─**1=Orifice/Grate** (Orifice Controls 6.51 cfs @ 6.94 fps)
└─**2=Orifice/Grate** (Orifice Controls 1.57 cfs @ 6.29 fps)

Pond 7P: Small Det Basin



Summary for Pond 10P: OFFLINE RETENTION SYSTEM - UG Chambers - Building A&B

4' underground concrete chambers OFFLINE for 1" WQV retention. System on plan will show slightly smaller since we will be able to reuse the 350' portion of the existing 36" perforated pipe that is within the existing swale under existing mature vegetation.

Volume	Invert	Avail.Storage	Storage Description
#1	170.80'	6,275 cf	**StormTrap** Listed below Inside #2
#2	170.80'	0 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 6,275 cf Overall - 6,275 cf Embedded = 0 cf
		6,275 cf	Total Available Storage

Elevation (feet)	Cum.Store (cubic-feet)
170.80	0
171.05	392
171.30	785
171.55	1,177
171.80	1,906
172.05	2,634
172.30	3,362
172.55	4,091
172.80	4,819
173.05	5,547
173.30	6,275

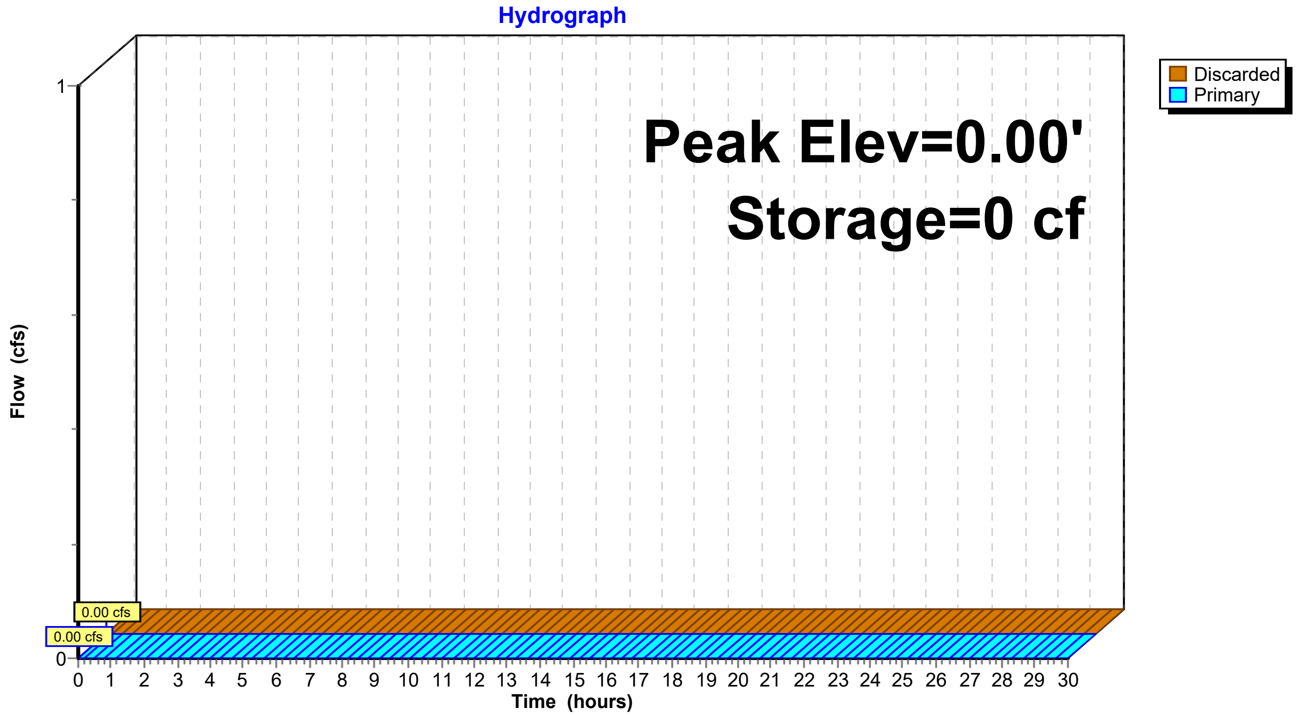
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
170.80	2,510	0	0
173.30	2,510	6,275	6,275

Device	Routing	Invert	Outlet Devices
#1	Discarded	170.80'	**1.000 in/hr Exfiltration over Horizontal area** Phase-In= 0.01'
#2	Primary	173.30'	**6.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Discarded OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
└**1=Exfiltration** (Controls 0.00 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 10P: OFFLINE RETENTION SYSTEM - UG Chambers - Building A&B

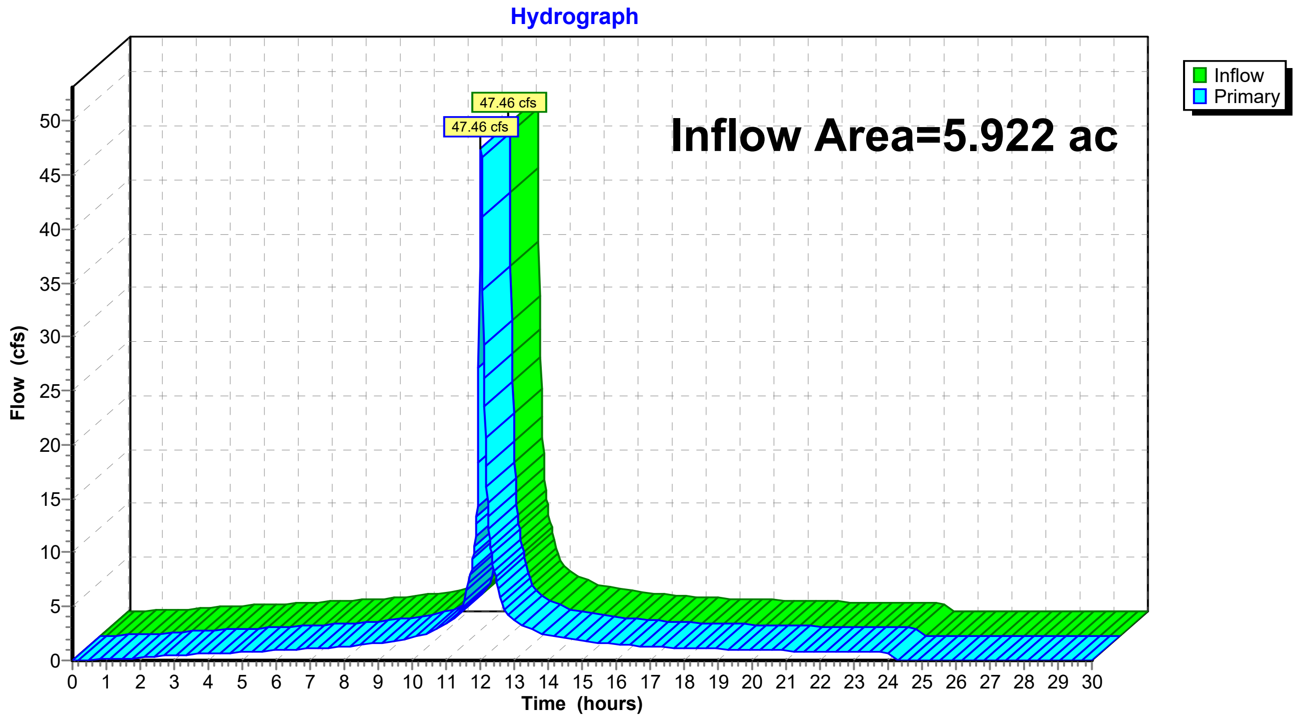


Summary for Link DP1: Norwalk River South

Inflow Area =	5.922 ac,	76.57% Impervious,	Inflow Depth = 7.60"	for 100-yr event
Inflow =	47.46 cfs @	12.03 hrs, Volume=	3.753 af	
Primary =	47.46 cfs @	12.03 hrs, Volume=	3.753 af, Atten= 0%, Lag= 0.0 min	

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs

Link DP1: Norwalk River South

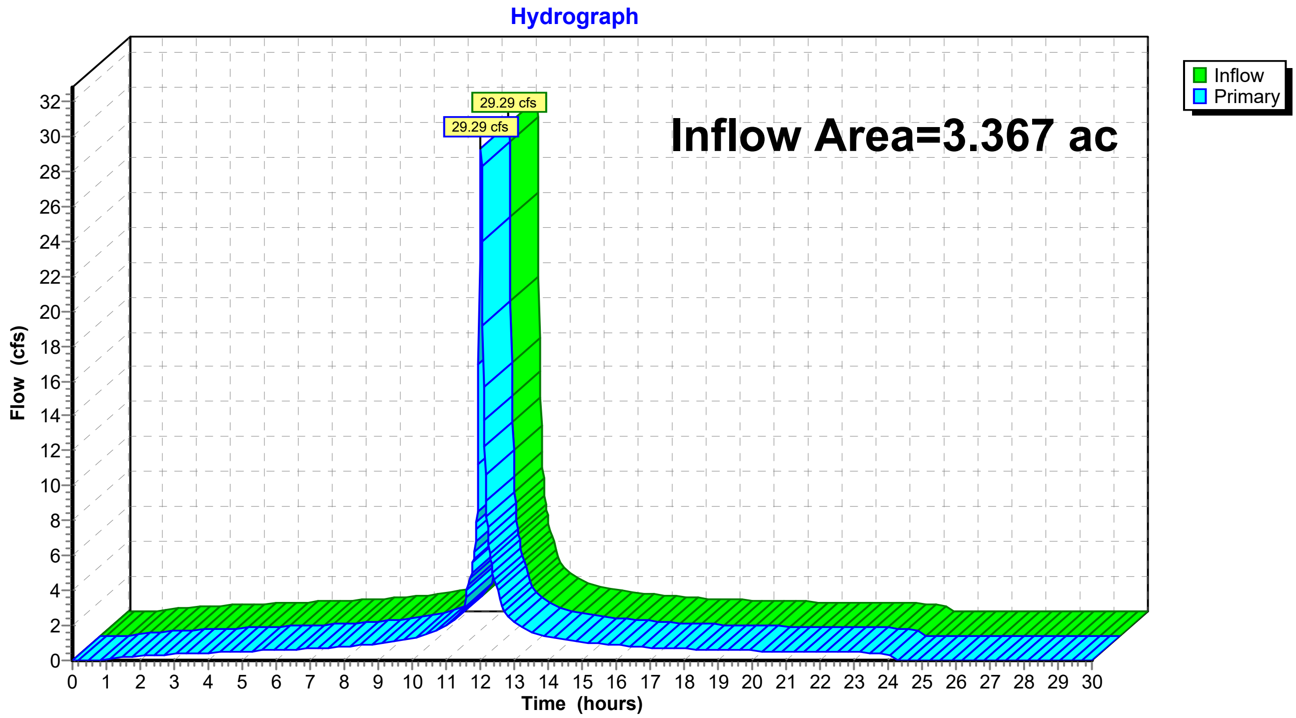


Summary for Link DP2: Norwalk River North

Inflow Area = 3.367 ac, 85.61% Impervious, Inflow Depth = 7.91" for 100-yr event
Inflow = 29.29 cfs @ 12.02 hrs, Volume= 2.219 af
Primary = 29.29 cfs @ 12.02 hrs, Volume= 2.219 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs

Link DP2: Norwalk River North



Summary for Link DP3: Watercourse West

Inflow Area =	3.092 ac,	0.36% Impervious,	Inflow Depth = 5.63"	for 100-yr event
Inflow =	15.90 cfs @	12.10 hrs, Volume=	1.452 af	
Primary =	15.90 cfs @	12.10 hrs, Volume=	1.452 af,	Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.02 hrs

Link DP3: Watercourse West