



MEMORANDUM

CITY OF WATERTOWN, NEW YORK
PLANNING AND COMMUNITY DEVELOPMENT DEPARTMENT
245 WASHINGTON STREET, ROOM 305, WATERTOWN, NY 13601
PHONE: 315-785-7741 – FAX: 315-782-9014

TO: Planning Commission Members

FROM: Michael A. Lumbis, Planning and Community Development Director

PRIMARY REVIEWER: Geoffrey T. Urda

SUBJECT: Site Plan Approval – 1067 Marble Street, VL-1 Marble Street and VL-8 Water Street

DATE: November 30, 2023

Request: Site Plan Approval to construct a 4,500 SF building addition and associated site improvements at 1067 Marble Street, VL-1 Marble Street and VL-8 Water Street, Parcel Numbers **4-27-330.000, 4-27-331.000 and 4-27-301.000**

Applicant: Mark Tompkins of G.Y.M.O. Architecture, Engineering and Land Surveying, D.P.C. on behalf of Stephen Hale of Hale’s Bus Garage, LLC

Proposed Use: Auto Repair

Property Owners: Hale’s Bus Garage, LLC; VL1 Marble Street, LLC; and Robert C. Freeman III

Submitted:	
Property Survey: Yes	Preliminary Architectural Drawings: Yes
Site Plan: Yes	Preliminary Site Engineering Plans: Yes
Vehicle and Pedestrian Circulation Plan: Yes	Construction Time Schedule: Yes
Landscaping and Grading Plan: Yes	Description of Uses, Hours & Traffic Volume: Yes

SEQRA: Unlisted

Jefferson County 239-m Review: Yes

Zoning Information:	
District: Neighborhood Mixed Use	Maximum Lot Coverage: 70 percent
Setback Requirements: F: 0’ Min. 10’ Max or Average, S: 10’, R: 10’	Buffer Zones Required: Yes

Project Overview: The applicant proposes to construct a 4,500 SF building addition and pave approximately 30,000 SF of reconstructed asphalt parking and internal drive aisle area on the collective footprint of three subject parcels. The proposed addition would extend the western end of the existing building by 50 linear feet of façade length and provide four additional interior service bays.

Existing Conditions: The primary subject parcel, 1067 Marble Street (4-27-330.000), contains the existing 25,944 SF garage building and a 3,150 SF accessory structure that is presently vacant office space. The primary building is surrounded by surface parking and there is additional angled bus parking in the rear, northeast corner of the site. There is an approximately 125' wide lawn area in the front of the parcel that separates the parking lot from the street, approximately 30' of which is in the Right-of-Way (ROW).

VL-1 Marble Street (4-27-331.000) is a 1,000 SF vacant parcel that exists almost entirely within the aforementioned 125' wide lawn area, with only its northernmost edge containing pavement.

VL-8 Water Street (4-27-301.000) is a 6.69-acre, mostly vacant parcel that contains the westernmost edge of the existing pavement that surrounds the primary Hale's garage building, as well as the western driveway connecting from Water Street. The applicant proposes significant additional pavement on this parcel, which is discussed in the "Vehicular and Pedestrian Circulation" section immediately below.

Hale's does not yet own VL-1 Marble Street and VL-8 Water Street. The applicant has submitted an attorneys letter stating that Hale's Bus Garage, LLC is in the process of closing on these two parcels. However, the applicant must still submit letters from the owners of those two parcels authorizing the applicant to apply for Site Plan Approval.

The site abuts five residential properties and a doggie day care to the east, all of which front on Eastern Boulevard. Marble Street Park and the City Hydroelectric Plant are directly across Marble Street from the subject parcels. Bimbo Bakeries and Rust Check of Watertown, both of which front on Water Street, share rear parcel boundaries with the subject parcels.

Vehicular and Pedestrian Circulation: There are two existing driveways connecting from Marble Street, one on the primary subject parcel at the east end of the site and one on VL-8 Water Street at the western end of the site. The applicant has submitted a Vehicular and Pedestrian Circulation Plan that depicts a City fire truck circumnavigating the building within the site.

Since the western driveway crosses the lands of VL-8 Water Street to access the primary structure on 1067 Marble Street, the applicant has two options for how to proceed after closing on VL-8 Water Street. The first option would be to assemble VL-8 Marble Street (or a section thereof containing the driveway) with 1067 Marble Street, by way of a new metes and bounds description filed with the County Clerk. Alternatively, if the applicant wishes to keep the parcels separate, the applicant must record an access easement, such that 1067 Marble Street enjoys the benefit of access across the lands of VL-8 Water Street in perpetuity. The applicant should consider including VL-1 Marble Street in any assemblage but is under no obligation to do so.

There is no existing sidewalk on Marble Street. Therefore while the City's Complete Streets Policy emphasizes pedestrian connectivity, it is impractical to require a pedestrian connection to the street. Additionally, while the Black River Trail extension to downtown Watertown is planned to parallel Marble Street, this land use does not benefit in any significant way from a connection with the trail.

Parking: The Neighborhood Mixed Use District allows a maximum of 16 parking spaces by right. The Planning Data table on the C104 drawing does not identify a number of existing parking spaces; only that "no new parking spaces are proposed." It is evident from a site visit that the primary subject parcel contains well over 16 parking spaces. While the excess spaces existed prior to the adoption of the current Zoning Ordinance, and therefore enjoy legal-nonconforming ("grandfathered") status, the applicant shall nonetheless provide a number in the Planning Data table, so that Staff can have that number on record when evaluating any potential future development on the site.

Comprehensive Plan: All the collective lands of the three subject parcels are in the Black River Waterfront future land use character area. The plan describes this future land use character area as follows:

“The Black River is the spine of Watertown and a core part of the City’s identity. As the primary natural asset, it is the basis for economic development, education, recreation, and scenic beauty. The intention of this Character Area is to build on the setting of the river as a reinforcing asset to redevelopment. New development and redevelopment should be oriented around the river in all aspects of design, including preserving views, increased public access where feasible, and integrating green infrastructure or low impact development design (e.g., rain gardens, porous pavers, native plantings, etc.) to treat stormwater runoff before entering the river. Buildings should be placed on the site so that they do not obstruct the public’s enjoyment of the river whether physically or visually. Open space should be integrated and developed for all users regardless of abilities.”

Regarding consistency with the Comprehensive Plan, the automotive repair land use is not what the plan envisions. However, since this is an expansion of an existing building, the current land use is an existing condition. While this land use does not enhance the river in any way, its design and orientation do not obstruct any views of the river, nor does it detract from the public’s enjoyment of the river in any way. It leaves sufficient open space in front of the primary building to maintain the quasi-rural feel of this section of Marble Street. Therefore, from a design perspective, this proposal is in harmony with the Comprehensive Plan.

Zoning: The proposed automotive repair use is an allowed use in the Neighborhood Mixed Use District with a Special Use Permit. However, since the use was legally established prior to the adoption of the current Zoning Ordinance (all three parcels were zoned Light Industry under the prior Zoning), the applicant does not need to obtain a Special Use Permit for this proposed expansion.

The applicant is seeking two Area Variances related to this site plan; one for relief from façade length restrictions and the other for reduced transparency. Per Section 310-21 of the Zoning Ordinance, which contains the form-based dimensions for each Zoning district, the Neighborhood Mixed Use District allows a maximum façade length of 60 linear feet and a minimum 50 percent transparency on the ground floor, front façade. The proposed façade length would be 337 linear feet and the proposed transparency would be only 5.7 percent.

The applicant has submitted both Area Variance requests to the Zoning Board of Appeals, which the ZBA heard at its November 15, 2023 meeting and tabled, pending the Planning Commission’s completion of the SEQRA review, which is discussed in the “SEQR” section below. The ZBA will take both requests from the table at its December 20, 2023 meeting.

There are three other aspects of the site that enjoy legal nonconforming (“grandfathered”) status pursuant to the dimensional requirements of the Neighborhood Mixed Use District. These include exceeding the 100’ maximum lot width, exceeding the 900 SF accessory structure maximum footprint and exceeding the maximum of 25 linear feet of frontage unbuilt.

Landscaping: The applicant proposes to plant twelve new large maturing deciduous trees along the western edge of the paved area at an interval of one large tree every 40 feet to fulfill the exterior parking lot landscaping requirements of Section 310-83 of the Zoning Ordinance. However, while this proposal meets the spatial interval requirement, the Zoning Ordinance also requires that no single species make up more than 15 percent of a site’s planting schedule. For a planting schedule of 12 trees, this yields a requirement of planting at least seven (7) different species to satisfy landscaping requirements.

Currently, the applicant only proposes three different tree species on the Landscaping Plan; *Acer rubrum* (red maple), *Celtis occidentalis* (hackberry), and *Liriodendron tulipifera* (tulip tree). The applicant shall work with Staff to select four (4) additional site-appropriate tree species to diversify the planting schedule as well as selecting the most optimal locations for each species.

Although Red Maple and Hackberry can tolerate varying degrees of soil compaction, Tuliptrees do not tolerate compacted soils well. In the submitted Landscaping Plan, the applicant identifies a Red Maple and Tuliptree immediately and adjacent to the retention pond. Although Red Maple generally displays a moderate tolerance to soil compaction, the applicant currently anticipates compaction levels up to or exceeding 90 percent for areas 25-to-35 feet west of the paved asphalt parking. 90 percent compaction is not suitable for planting trees. Although that level of compaction may be necessary to secure underground structures and to achieve proper grading, trees should be planted in areas that receive a maximum compaction rate of 80-to-85 percent. Therefore, Staff does not recommend planting trees within the limits of disturbance. Trees should be planted west of the silt fencing and outside all disturbed areas as shown on the proposed plans.

Selecting appropriate planting sites and species will significantly improve long-term survival rates, as well as minimize future costs associated with tree removal and replacement as required by the City's Zoning Ordinance. To assist the applicant in selecting compaction tolerant species, the City has provided the following abbreviated list of species exhibiting higher success rates when planted in and adjacent to compacted soil: *Acer rubrum*, *Celtis occidentalis*, *Gleditsia triacanthos* var. *inermis*, *Platanus x acerifolia* 'Exclamation', *Quercus bicolor*, *Quercus macrocarpa*, *Taxodium distichum*, *Tilia americana*.

The applicant shall work with Staff to select the most optimal locations for each species.

The applicant should also protect the existing 12", 20", and 24" diameter deciduous trees located on the east side of the western entrance drive and to avoid parking or storage of construction related equipment or materials. Staff recommends a minimum protection zone to the outer limits of the canopy whenever practical. The applicant shall be prepared to discuss this recommendation.

While the remainder of the parking lot does not meet the interior parking lot landscaping requirements of the Zoning Ordinance, this is an existing condition.

SEQR: This project is considered an Unlisted Action under the State Environmental Quality Review Act (SEQRA). The applicant has submitted a completed Part 1 of a Short Environmental Assessment Form (EAF). The Planning Commission, as Lead Agency, must complete Part 2 of the Short EAF.

Because this proposed action also requires two Area Variance, this requires a coordinated review with the Zoning Board of Appeals, which is an Involved Agency. It is also necessary for the SEQRA review to consider all facets (Site Plan and Variances) as a "whole action."

At its November 15, 2023 meeting, the ZBA adopted a motion stating that it has no objections to the Planning Commission designating itself as Lead Agency. The ZBA also communicated to Staff at that meeting that in its capacity as an Involved Agency, that it had no formal environmental comments to communicate to the Planning Commission regarding the SEQRA review.

The Planning Commission should complete Part 2 of the Short EAF and make its finding pursuant to SEQRA at its December 5, 2023 meeting so that the ZBA is free to vote on both Variances at its December 20, 2023 meeting.

The Planning Commission should then table the Site Plan Approval until its January 2024 meeting, pending the ZBA’s decisions on the requested Area Variances. Even though it will not vote on the Site Plan Approval at its December 5, 2023 meeting, the Planning Commission should still thoroughly discuss the proposed site plan with the applicant and communicate any concerns at that time to give the applicant adequate time to make any revisions prior to the January Planning Commission meeting.

Stormwater and Drainage: The Engineering Department is satisfied with all proposed stormwater drainage as depicted on the Grading and Drainage Plan.

Lighting: The applicant submitted a Photometric Plan. Section 310-84 (C)(2) of the Zoning Ordinance requires that light trespass shall not exceed 0.5 footcandles at the property line. The Photometric Plan depicts up to 2.0 footcandles of spillage across the western property line onto VL-8 Water Street. This will not be an issue if the applicant chooses to assemble the properties after closing on VL-8. However, this will become an issue if they remain separate. The applicant shall be prepared to discuss the property owner’s intentions for parcel assemblage and the implications of light spillage if the lines remain where they are. The Planning Commission is not able to approve a Site Plan that will result in permanent illegal light spillage.

Utilities: The applicant proposes a 2,000 gallon oil/water separator to the north of the building addition. The property owner shall be responsible for hiring a third party to perform annual inspections of this separator, including all records of pump-outs and maintenance and submitting an annual report to the City Engineering Department.

Using an oil/water separator will also require regular pump outs. If the applicant plans to dispose of the contents at the City’s Wastewater Treatment Plant, they will need to apply for an Outside Source Permit from the City Water Department to do so.

Permits: The applicant must obtain the following permits and other documentation, minimally, prior to construction: Building Permit, Water Permit, Sanitary Sewer Permit, Storm Sewer Permit, a Zoning Compliance Certificate and potentially an Outside Source Permit.

Planning Commission Action: Due to the need for the applicant to obtain two Variances from the ZBA, Staff recommends that the Planning Commission table this application.

Summary: The following items should be discussed and/or resolved prior to resubmittal by the applicant:





1. Prior to a Planning Commission vote, Hale’s Bus Garage, LLC shall either close on the properties at VL-1 Marble Street and VL-8 Water Street or submit a letter from the current property owners authorizing Hale’s to apply for Site Plan Approval on their behalf.
2. The applicant shall assemble either assemble VL-8 Water Street, or a portion thereof containing the paved drive aisle, with 1067 Mable Street, by way of a new metes and bounds description filed with the County Clerk or record an access easement guaranteeing access across the lands of VL-8 Water Street to the parking area on 1067 Marble Street.
3. The applicant should strongly consider including VL-1 Water Street in any parcel assemblage.
4. The applicant shall add the existing number of parking spaces on the site to the Planning Data table.

5. The applicant must obtain an Area Variance from the Zoning Board of Appeals granting relief from the 60-foot maximum façade length restriction of the Neighborhood Mixed Use District.
6. The applicant must obtain an Area Variance from the Zoning Board of Appeals granting relief from the 50 percent ground floor, front façade transparency requirement of the Neighborhood Mixed Use District.
7. The applicant shall diversify the tree species in the planting schedule to a minimum of seven (7) distinct species so that no individual species makes up more than 15 percent of the planting schedule and work with Staff to identify and confirm appropriate species and locations.
8. The applicant should establish tree protection around the existing deciduous trees adjacent to the western entrance drive and avoid parking construction vehicles or storing equipment or materials within their canopies.
9. The applicant shall be prepared to discuss light spillage across property lines as it relates to the property owner's intentions for the three subject parcels. The Zoning Ordinance prohibits spillage of more than 0.5 footcandles across any property line.
10. The property owner shall hire a third party to perform annual inspections of the holding tank and submitting an annual report to the City Engineering Department.
11. The Planning Commission must complete Part 2 of the Short EAF and reach a determination pursuant to SEQRA.
12. The applicant must obtain the following permits and other documentation, minimally, prior to construction: Building Permit, Water Permit, Sanitary Sewer Permit, Storm Sewer Permit, a Zoning Compliance Certificate and potentially an Outside Source Permit.


cc: Thomas Maurer, Civil Engineer II
Meredith Griffin, Civil Engineer II
Mark Tompkins, Project Engineer, GYMO Architecture, Engineering and Land Surveying, D.P.C.,
18969 U.S. Route 11, Watertown, NY 13601
Stephen Hale, Hale's Bus Garage, LLC, 37 Kirkland Avenue, Clinton, NY 13323




Legend

-  Black River
-  City Boundary
-  Parcels
-  ROADS

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Author: Web

Date: 11/29/2023

Title:

Above: A satellite view of the subject parcels and their surrounding lands

Site Photos



Above: A view of the existing front façade of the Hale’s bus garage building on the site (looking east).
Below: A view of the western end of the Hale’s bus garage where the applicant proposes to construct the addition (looking north).





Above: A view of the western end of the paved area on the site in the foreground with the proposed footprint of the addition behind it and the existing Hale's bus garage in the background (looking northeast).
Below: A reverse shot of the paved area at the western end of the site with Marble Street in the background (looking southwest).





Above: A view of the existing western façade of the Hale’s bus garage building (looking east)
The proposed building addition would bring the façade 50 feet closer to the camera.

Below: A view of the approximately 125’ lawn area at the front of the site, taken from Marble Street (looking northeast).



November 14, 2023

Mr. Michael Lumbis
Planning & Community Development Director
City of Watertown
245 Washington Street
Watertown, NY 13601

Re: Site Plan Approval – Hale Transportation Building Addition

File: 2023-045

Dear Mr. Lumbis:

On behalf of Hale's Bus Garage, LLC ("Hale"), GYMO Architecture, Engineering, & Land Surveying, D.P.C. ("GYMO") is submitting for site plan approval for the Hale Transportation Building Addition Project.

The project entails the construction of a new +/- 4,500 SF shop addition on their existing facility located at 1067 Marble Street in the City of Watertown (tax parcel number 4-27-330.000). The shop addition will include four service bays, an employee restroom, and a janitor closet. The project will also include improvements to the existing roof drain system, improvements to the existing floor drain system and oil / water separator, improvements to the existing site lighting, replacement of existing overhead doors, adjustments to the existing pavement layout, and construction of a new stormwater management area.

Some work associated with the project is proposed to take place on the adjoining property, VL-8 (tax parcel 4-27-301.000). The VL-8 property is currently in the process of being sold to Hale by Robert C Freeman III. Please refer to the attached letter from the Hale attorney for more information on this sale.

Additionally, please note that Hale is requesting two variances from the Section 310-21 of the City of Watertown Zoning Ordinance Update; one variance to increase the maximum façade length from 60' to 337', and another variance to reduce the required front façade transparency for the building (including both the existing building and proposed addition) from 50% to 5.87%. It is Hale's intention to pursue both the area variances and Site Plan Approval concurrently.

GYMO is submitting eleven (11) collated sets of the following documents regarding the above mentioned project for Site Plan Approval.

- City of Watertown Site Plan Application;
- Letter Regarding Property Sale
- Engineering Report;
- Property Survey Drawing;
- Civil Drawings, (four 24"x36" sets and seven 11"x17" sets);
- Part 1 of Short EAF, and
- Minor Site Plan Application Fee

Patrick J. Scordo, PE
Matthew J. Cervini, PE
Scott W. Soules, AIA
Brandy W. Lucas, MBA
Gregory F. Ashley, PLS
Peter S. Clough
Kevin M. Bamann, PE
Zachary P. Scordo

18969 US Route 11
Watertown, New York 13601

Tel: (315) 788-3900
Fax: (315) 788-0668

E-mail: web@gymodpc.com

Upon completion of your review, GYMO will provide final stamped drawings and plans. If you have any questions or require any additional information, please do not hesitate to contact our office at your earliest convenience.

Sincerely,
GYMO Architecture, Engineering, and Land Surveying, D.P.C.



Mark Tompkins
Project Engineer

Enclosure;

CC: Stephen Hale – Hale’s Bus Garage
Philip Bond Jr. – Hale’s Bus Garage
David Kleps – C2C
Geoff Urda – City of Watertown
Matthew Cervini, PE – GYMO



City of Watertown SITE PLAN APPROVAL APPLICATION FORM

City of Watertown, Planning and Community Development Dept.
245 Washington Street, Room 305, Watertown, NY 13601
Phone: 315-785-7741 Email: planning@watertown-ny.gov

Received:

Please Note: The Site Plan Approval Application form is for projects where the building or parking area coverage of the lot will increase by more than 2,500 square feet.

Please provide responses for all sections and submit all required materials as noted on Page 2. Failure to submit all required information by the submittal deadline may result in Staff **not** placing your request on the agenda for the upcoming Planning Board meeting.

PROPERTY INFORMATION:

PROPOSED PROJECT NAME: Hale Transportation Building Addition
TAX PARCEL NUMBER: 4-27-330.000, 4-27-301.000
PROPERTY ADDRESS: 1067 Marble Street, Watertown NY 13601
ZONING DISTRICT: Neighborhood Mixed Use

APPLICANT INFORMATION:

NAME: Hale's Bus Garage, LLC (Contact Stephen Hale)
ADDRESS: 1067 Marble Street
Watertown NY 13601
PHONE NUMBER: 315-624-7407
E-MAIL ADDRESS: stephen@haletransportationgroup.com

PROPERTY OWNER INFORMATION (if different from applicant):

NAME: _____
ADDRESS: _____

PHONE NUMBER: _____
E-MAIL ADDRESS: _____

ENGINEER/ARCHITECT/LANDSCAPE ARCHITECT INFORMATION:

NAME: GYMO Architecture, Engineering, & Land Surveying, D.P.C (Contact Matt Cervini)
ADDRESS: 18969 US Route 11
Watertown NY 13601
PHONE NUMBER: 315-788-3900
E-MAIL ADDRESS: mcervini@gymodpc.com

REQUIRED MATERIALS:

** The following drawings with the listed information **ARE REQUIRED, NOT OPTIONAL.** If the required information is not included and/or addressed, Planning Staff **will not** process the Site Plan Application.

All of the following drawings **must** be adequately dimensioned, including radii and must use darker line work and text for proposed features than for existing features.

- COVER LETTER:** Must clearly and fully explain the proposed project in sufficient detail.

- BOUNDARY and TOPOGRAPHIC SURVEY:** Depict existing features as of the date of the Site Plan Application. A Professional Land Surveyor licensed and currently registered to practice in the State of New York must perform the survey and create the map. **At least one copy** must contain the surveyor's original PLS wet stamp and an original signature. The rest may be copies thereof. The survey drawing **must** depict and label all of the following:
 - All existing features and utilities on and within 50 feet of the subject property
 - All existing property lines (bearings and distances), margins, acreage, zoning, easements, right-of-ways, existing land use, reputed owner, adjacent reputed owners and tax parcel numbers
 - One-foot contours are with appropriate spot elevations
 - North arrow and graphic scale
 - All elevations are North American Vertical Datum of 1988 (NAVD88).

- DEMOLITION PLAN** (if applicable)
 - Depict and label **all** existing features on and within 50 feet of the subject property and (using darker text) all items proposed for demolition.

- SITE PLAN:** The drawing must clearly label all proposed features as "proposed" and use darker line work and text for all proposed features than for existing features. It must also include a reference to the coordinate system used (NYS NAD83-CF preferred). In addition, the drawing **must** depict and label all of the following:
 - All proposed **above** ground features
 - All proposed easements and right-of-ways
 - Land use, zoning, and tax parcel number
 - Proposed parking and loading spaces, including all required ADA accessible spaces
 - Proposed snow storage areas
 - Refuse Enclosure Area (Dumpster), if applicable. **Please note:** Section 161-19.1 of the Zoning Ordinance states, "No refuse vehicle or refuse container shall be parked or placed within 15 feet of a party line without the written consent of the adjoining owner, if the owner occupies any part of the adjoining property."
 - North arrow and graphic scale

GRADING PLAN: This drawing must depict and label **all** of the following:

- All proposed **below** ground features, including elevations and inverts
- All proposed **above** ground features, including easements and right-of-ways
- One-foot existing contours (shown dashed and labeled with appropriate spot elevations)
- One-foot proposed contours (shown and labeled with appropriate spot elevations)
- Sediment and Erosion control, unless separate drawings are included as part of a Stormwater Pollution Prevention Plan (SWPPP).
- All elevations are North American Vertical Datum of 1988 (NAVD88).

UTILITY PLAN: This drawing must include a note stating, "All water main and service work must be coordinated with the City of Watertown Water Department. The Water Department requirements supersede all other plans and specifications provided." It must also depict and label **all** of the following:

- All proposed above and below ground features
- All existing above and belowground utilities, including water, sanitary water, stormwater, electric, gas, telephone, cable, fiber optic, etc.
- All existing and proposed easements and right-of-ways.

LANDSCAPING PLAN: This drawing must depict and label **all** of the following:

- All proposed **above** ground features
- All proposed trees, shrubs, other plantings and other proposed landscaping additions, keyed to a plant schedule that includes the scientific name, common name, size, quantity, etc. **Please note:** For additional landscaping requirements where nonresidential districts and land uses abut land in any residential district, please refer to Section 310-59, Landscaping of the City's Zoning Ordinance.
- **The Site Plan complies with and meets acceptable guidelines set forth in Appendix A - Landscaping and Buffer Zone Guidelines (August 7, 2007).**

VEHICULAR AND PEDESTRIAN CIRCULATION PLAN

- Depict all vehicular **and** pedestrian traffic circulation, including a delivery or refuse vehicle and a City fire truck entering and exiting the property.
- Sidewalks within the City Right-of-Way **must** meet Public-Right-of-Way (PROWAG) standards.
- **The Site Plan is consistent with and, wherever possible, incorporates principles set forth in Appendix B – City of Watertown Complete Streets Policy (January 17, 2017).**

PHOTOMETRIC PLAN (if applicable): This drawing must depict and label **all** of the following:

- All proposed **above** ground features
- Photometric spot elevations or labeled photometric contours of the property. **Please note:** Light spillage across **all** property lines shall not exceed 0.5 foot-candles.

CONSTRUCTION DETAILS and NOTES:

- Provide all details and notes necessary to complete the project including, but not limited to, landscaping, curbing, catch basins, manholes, water line, pavement, sidewalks, trench, lighting, trash enclosure, etc.
- Provide maintenance and protection and traffic plans and notes for all required work within City streets including driveways, water laterals, sanitary laterals, storm connections, etc.
- The drawings must include the following note: "All work to be performed within the City of Watertown margin will require sign-off from a Professional Engineer, licensed and currently registered to practice in the State of New York, that the work was built according to the approved site plan and applicable City of Watertown standards. Compaction testing will be required for all work to be performed within the City of Watertown margin and must be submitted to the City of Watertown Codes Department."

PRELIMINARY ARCHITECTURAL PLANS (if applicable): These plans must include **all** of the following for proposed buildings: Floor plan drawings, including finished floor elevations, exterior elevations including exterior materials and colors, as well as roof outlines depicting shape, slope and direction.

ENGINEERING REPORT

**** The engineering report at a minimum must include the following:**

- Project location and description
- Existing and proposed sanitary sewer flows and summary
- Water flows and pressure
- Storm Water Pre and Post Construction calculations and summary
- Traffic impacts
- Lighting summary
- Landscaping summary

COMPLETED SEQR ENVIRONMENTAL ASSESSMENT FORM: (Contact us if you need help choosing between the Short EAF and the Full EAF). The Complete EAF is available online at: <http://www.dec.ny.gov/permits/6191.html>

GENERAL INFORMATION

- All items must include a valid stamp and an original signature by a Professional Engineer, Architect, Landscape Architect, or Surveyor licensed and currently registered to practice in the State of New York.
- If required, submit a copy of the Stormwater Pollution Prevention Plan (SWPPP) to the City of Watertown Engineering Department for review to obtain an MS4 SWPPP Acceptance Form.

Post Construction SWPPP Requirements to Complete:

In accordance with City Code Section 260, provide the following:

- *Submit a detailed as-built topographic and boundary survey of the site with all stormwater practices.*
- *Perform and submit results of insitu infiltration testing, updated drainage area maps and hydraulic calculations in a comprehensive Engineering Report based on As-Built Conditions.*
- *Submit a detailed post construction Maintenance Plan for all Stormwater Management Practices (SMP's) and provide a Maintenance Agreement with irrevocable letter of credit for approval. Maintenance Agreement shall be filed at the County Clerk's Office as a deed restriction on the property.*
- ** If required, a copy of all submittals sent to the New York State Department of Environmental Conservation (NYSDEC) for the sanitary sewer extension permit will also be sent to the City of Watertown Engineering Department.
- ** If required, a copy of all submittals sent to the New York State Department of Health (NYSDOH) will also be sent to the City of Watertown Engineering Department.
- ** When NYSDEC or NYSDOH permitting is required, the property owner/applicant shall retain a licensed Professional Engineer to perform inspections of the proposed utility work and to certify the completed works were constructed in substantial conformance with the approved plans and specifications.**
- Signage is not approved as part of this submission. It requires a Sign Permit from the City Code Enforcement Bureau. See Section 310-52.2 of the Zoning Ordinance.
- For non-residential uses, the applicant must include the proposed Hours of Operation.

OPTIONAL MATERIALS:

- PROVIDE AN ELECTRONIC (.DWG) COPY OF THE SITE PLAN WITH AS-BUILT REVISIONS.** This will assist the City in keeping our GIS mapping up-to-date.

SUBMITTAL INSTRUCTIONS:

- Submit 10 complete collated sets of all required materials, addressed to:

Michael A. Lumbis, Planning and Community Development Director
City of Watertown
245 Washington Street, Room 305
Watertown, NY 13601

If the application requires Jefferson County Planning Board review, then the applicant must submit 11 "sets." Planning Staff will inform the applicant if this is necessary.

- Submissions must be collated and properly folded.
- If the applicant is not the property owner, the submission must include a signature authorization form or letter signed by the owner authorizing the applicant to apply on behalf of the owner.
- For any item(s) not checked in the Site Plan Approval Checklist, attach an explanation and comments.
- Provide an electronic copy of the entire submission in the form of a single, combined PDF file of the entire application, including cover letter, plans, reports, and all submitted material.
- Submit the required Application Fee

\$150 for Site Plan Minor

\$250 for Site Plan Major (any proposal to disturb more than 1 acre represents a Site Plan Major)

SIGNATURE

I certify that the information provided above is true to the best of my knowledge.

Applicant's name (please print) Hale's Bus Garage, LLC (Contact Stephen Hale)

Applicant's Signature Stephen E Hale Date: 11-10-23

Meeting Information: The Planning Board normally meets at 6:00 p.m. on the first Tuesday of every month in Council Chambers at City Hall, 245 Washington Street. The application deadline is 14 days prior to the scheduled meeting date. Planning Board action does not represent final approval, as the Planning Board only votes to make a recommendation to City Council, which holds the sole authority to grant Site Plan Approval.

Occasionally, due to holidays or other reasons, meetings may occur on other dates and/or times. The City will announce any changes to meeting dates in advance on its website at www.watertown-ny.gov. Planning Staff *strongly* recommends scheduling a pre-application meeting prior to submitting a Site Plan Application. The entire site plan application process typically takes four-to-six weeks, depending on whether the application requires Jefferson County Planning Board review.

HALE TRANSPORTATION BUILDING ADDITON

1067 MARBLE STREET
CITY OF WATERTOWN
JEFFERSON COUNTY

ENGINEERING REPORT

Job # 2023-045
Date: 11-14-2023

HALE TRANSPORTATION BUILDING ADDITON

PREPARED FOR:

HALE'S BUS GARAGE LLC
1067 MARBLE STREET
WATERTOWN, NY 13601
CONTACT PERSON:
MR. STEPHEN HALE
PH#: (315)-624-7407

1067 MARBLE STREET
CITY OF WATERTOWN
JEFFERSON COUNTY



MATTHEW J CERVINI, P.E.
MANAGING ENGINEER

The above Engineer states that to the best of his knowledge, information and belief, the plans and specifications are in accordance with the applicable requirements of New York State. It is a violation of New York State Law for any person, unless acting under the direction of a licensed professional engineer to alter this document in any way. If altered, such licensee shall affix his or her seal and the notation "altered by" followed by his or her signature, date, and a specific description of alteration

ENGINEERING REPORT

Job # 2023-045
Date: 11-14-2023

GYMO

18969 US Route 11
Watertown, New York 13601
Tel: (315) 788-3900
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1.0 PROJECT DESCRIPTION AND LOCATION

Hale's Bus Garage, LLC ("Hale") is proposing to construct a new +/- 4,500 SF shop addition on their existing facility located at 1067 Marble Street in the City of Watertown. The shop addition will include four service bays, an employee restroom, and a janitor closet. The project will also include improvements to the existing roof drain system, improvements to the existing floor drain system and oil / water separator, improvements to the existing site lighting, replacement of existing overhead doors, adjustments to the existing pavement layout, and construction of a new stormwater management area, as well as other related site improvements.

The existing properties are located at tax parcel numbers 4-27-330.000 (1067 Marble Street) and 4-27-301.000 (VL-8). The two properties directly adjoin each other. The 1067 Marble Street property is currently owned by Hale, and the VL-8 property is currently in the process of being sold to Hale by Robert C Freeman III. The 1067 Marble Street property contains the existing Hale's Bus Garage facility, and the VL-8 property is largely undeveloped, however it does contain a driveway and some pavement areas that serve the existing Hale facility. A portion of the existing asphalt and driveway areas on each property will be demolished and rebuilt to accommodate the new shop addition and associated site amenities. Refer to Existing Conditions Plan C101 in Appendix A for further information on existing site features.

The two properties are located within the Neighborhood Mixed Use District of the City of Watertown Zoning. The use of the shop addition will be consistent with the use of the existing facility, which is currently being used as an auto repair shop in the Neighborhood Mixed Use District.

2.0 EXISTING AND PROPOSED SANITARY SEWER FACILITIES

2.1 Existing Sanitary Sewer Facilities

The existing facility utilizes an existing onsite subsurface sewage disposal system for disposal of sanitary waste generated on site. The system was located by GYMO using Ground Penetrating Radar in September of 2023, and appears to consist of a septic tank, distribution box, and (4) 46' long absorption trenches. Percolation tests were performed near the leach field by GYMO in November of 2023, which showed that the percolation rate of the onsite soils is 42 minutes per inch (MPI). See Existing Conditions Plan C101 in Appendix A for additional information on percolation testing. Per the NYSDEC New York State Design Standards for Intermediate Sized Wastewater Treatment Systems, this results in a design application rate of 0.50 Gal./SF/day. Therefore, the capacity of the existing system should be 184 Gal./day.

$$(4 \text{ trenches}) * (2' \text{ wide trench}) * (46' \text{ long trench}) * (0.50 \text{ Gal./SF/Day}) = 184 \text{ Gal./Day}$$

Floor drains from the existing facility currently drain to an existing oil/water separator located in the proposed shop addition area. There is an outlet pipe in the oil/water separator that goes to an unknown location.

2.2 Proposed Sanitary Sewer Facilities

Proposed sanitary sewer flows for the expanded facility were calculated based on guidelines in the NYSDEC Design Standards For Intermediate Sized Wastewater Treatment Systems and input from Hale. These calculations are provided in the table below.

Proposed Sanitary Flows			
Usage	Demand	Units	Total
Employee	15 GPD/employee*	6**	90 GPD
Bus Lavatories	5 Gallon / Bus**	5**	25 GPD
TOTAL:			115 GPD
<i>*Based on NYSDEC Design Standards for Intermediate Sized Wastewater Treatment Systems</i>			
<i>**Based on information provided by Hale</i>			

As seen in the table above, the proposed sanitary flows for the expanded facility are within the capacity of the existing system. Therefore, no modifications to the existing leach field or construction of new sanitary treatment facilities are proposed. However, the existing septic tank will be pumped as a part of this project to help maximize the life of the existing system.

A grinder pump station is proposed to be installed in the floor of the proposed employee bathroom, and overhead piping routed through the existing facility will convey wastewater to the existing gravity piping that goes to the existing septic tank. Also proposed as part of this project is the construction of a new waste dump station for emptying wastewater tanks on coach buses. Refer to the Overall Mechanical Plan M1 in Appendix A for more information.

The existing oil/water separator discussed in Section 2.1 is proposed to be removed to allow for the foundation for the addition to be constructed. A new 2,000-gallon oil/water separator with no outlet is proposed to be installed north of the proposed shop addition. The tank will act as a holding tank for now, however, in the future the proper outlet tee could be installed so that the tank would act as an oil/water separator and the water could be conveyed to the municipal sanitary system. A high-level alarm will be provided to alert the facility personnel that the tank is reaching its capacity and will need to be pumped.

3.0 EXISTING AND PROPOSED WATER FACILITIES

The existing Hale facility is currently served by municipal water. No new water service facilities are proposed.

4.0 HYDROLOGIC AND HYDRAULIC ANALYSES

4.1 Existing Drainage

The project site encompasses portions of both the 1067 Marble Street property and VL-8 property. The site currently contains the existing Hale’s Transportation building, with associated asphalt drive lanes / parking areas, and lawn areas. Stormwater from the existing building is currently collected by a system of roof drains, which drain the water onto the southern driveway area, which sheet flows across the pavement and goes towards Marble Street. The existing building is a relatively high point on the site, and stormwater generally sheet flows away from the building across pavement areas and lawn areas and is eventually conveyed to a shallow drainage swale on the north side of Marble Street. For additional information, refer to the Existing Drainage Areas Map in Appendix A.

4.2 Proposed Drainage

Because the proposed project will disturb less than 1 acre, a SWPPP is not required and will not be prepared. Consistent with City of Watertown requirements, the project will address stormwater quality and quantity requirements in accordance with NYSDEC SPDES Permit requirements.

Proposed drainage for the site consists of a new roof collection and conveyance system, drainage manholes, HDPE stormwater gravity piping, a dry swale, and a stormwater quantity pond with a riser structure. The piping will be sized to carry, at a minimum, the peak runoff from the 100-year 24-hour storm event.

Drainage patterns for the proposed site conditions largely mimic the existing drainage patterns, except that water from the roof of the existing building and proposed shop addition will now be piped to the proposed stormwater quantity pond for flow attenuation rather than sheet flowing across the driveway areas. The existing building and proposed addition will continue to be a relative high point on the site and induce sheet flow of stormwater away from the building and towards the edges of the asphalt areas. A dry swale along the western edge of the pavement will collect the stormwater runoff and convey the water to the proposed quantity pond. Erosion and sediment impacts on surrounding sites will be minimized through the proper implementation and maintenance of Best Management Practices (BMP's) during and after construction. For more information, see the Proposed Drainage Area Map and Civil Drawings in Appendix A.

4.3 Proposed Storm Water Quantity Management

In accordance with SPDES requirements, there will be no increase of the peak runoff from existing to proposed conditions of the 1, 10, and 100-year 24-hour storm events. The project proposes a modest increase in impervious area within the area of disturbance (a net increase of ±1,750 SF). Hydrologic calculations were performed to assess the existing and proposed hydrologic conditions at three design points, and a stormwater quantity pond was designed to attenuate flows to pre-existing conditions. See the attached Civil Plans for more information on the design of the stormwater quantity pond. For storm water calculations, refer to Appendix B. See below table for existing and anticipated post-development 1, 10, and 100-year peak flow rates from the new development at each design point, and the overall site.

Design Point 1 – Offsite to South (Towards Marble Street)		
Storm Event	Existing Flows (CFS)	Proposed Flows (CFS)
1-yr	3.66	1.59
10-yr	6.28	2.74
100-yr	10.35	4.53

Design Point 2 – Offsite to West		
Storm Event	Existing Flows (CFS)	Proposed Flows (CFS)
1-yr	1.92	1.82
10-yr	3.25	3.22
100-yr	5.34	5.23

Design Point 3 – Offsite to North		
Storm Event	Existing Flows (CFS)	Proposed Flows (CFS)
1-yr	0.45	0.07
10-yr	0.80	0.13
100-yr	1.34	0.22

Overall Stormwater Flows		
Storm Event	Existing Flows (CFS)	Proposed Flows (CFS)
1-yr	5.00	3.07
10-yr	8.61	5.10
100-yr	14.22	8.17

4.4 Proposed Storm Water Quality Management

The project involves both the redevelopment of existing impervious areas, as well as the creation of new impervious areas. The stormwater management objective is to provide water quality treatment for 100% of the newly created impervious areas, and for 25% of the total disturbed existing impervious area. Per the NYS Stormwater Design manual, Runoff Reduction Volume (RRv) criteria apply for newly constructed impervious areas only, and is not applicable for redeveloped impervious areas. Therefore, the goal is to reduce 100% of the WQv from new impervious areas using RRv techniques. These Water Quality Treatment goals will be accomplished through the use of a dry swale with an underdrain along the western edge of the parking lot. For storm water quality calculations, refer to Appendix B. Summary tables of the required and provided WQv and RRv for the site are provided below.

Required Water Quality Treatment			
Drainage Area	Impervious Area (ac)	Required WQv (ac-ft)	Required RRv (ac-ft)
Redevelopment	0.48	0.009	N/A
New Impervious	0.04	0.003	0.003
Total	0.52	0.012	0.003

Provided Water Quality Treatment			
WQV Providing Practice	Impervious Area (ac)	Provided WQv (ac-ft)	Provided RRv (ac-ft)
Dry Swale with Underdrain	0.26	0.019	0.004
Total	0.26	0.019	0.004

5.0 TRAFFIC IMPACTS

According to the ITE Trip Generation Rates – 8th edition, the traffic for the proposed shop addition can be estimated with the “Automobile Care Center” usage. The below table shows how the peak hour of traffic was calculated. For more information on this, see the ITE trip generation sheet in Appendix C.

ITE TRIP GENERATION RATES			
Usage	Units	Peak Hour	Cumulative Total
Automobile Care Center	4 Service Bays	9 Trips	50 Trips

Based on the ITE trip generation rates, the proposed shop addition will have an expected peak hour of 9 trips, or 1 trip every 6.67 minutes ($60/9 = 6.67$). The shop addition is only projected to generate a total of 50 trips throughout the day, and therefore, it is our opinion that the proposed development will not have a significant impact on existing traffic.

No new parking spaces are proposed as a part of the project.

6.0 LIGHTING AND LANDSCAPING

6.1 Lighting

Lighting for the site will be provided by building mounted LED fixtures along the perimeter of the existing building and proposed shop addition. Light fixtures have been selected to meet City of Watertown Lighting standards. Refer to the Utility Plan and Photometrics Plan in Appendix A for additional information.

6.2 Landscaping

Any space in the project site that was not utilized as part of the shop addition or driveway was reclaimed as green space or landscaping areas. Landscaping is proposed along the western edge of the pavement and driveway. Landscaping will be consistent with City of Watertown zoning requirements. Refer to the Landscaping Plan in Appendix A for further information on planting species and locations.

7.0 SUMMARY

The proposed shop addition and associated site improvements are not anticipated to have an adverse effect on the environment. The overall impervious coverage of the two subject properties will only be modestly increased, and storm water runoff generated from the new development will discharge at a rate less than existing levels. The proposed shop addition and site improvements would create an additional 4 service bays Hale, allowing the facility to better serve the Watertown area.



Matthew J. Cervini, P.E.
Managing Engineer



Mark Tompkins
Project Engineer

APPENDIX A:
PLANS

HALE TRANSPORTATION BUILDING ADDITION

1067 MARBLE STREET, WATERTOWN NY, 13601
 CITY OF WATERTOWN, JEFFERSON COUNTY, STATE OF NEW YORK
 DATED: NOVEMBER 14, 2023
SITE PLAN REVIEW

PREPARED BY: GYMO ARCHITECTURE, ENGINEERING & LAND SURVEYING, DPC
 18969 US ROUTE 11 WATERTOWN, NY 13601



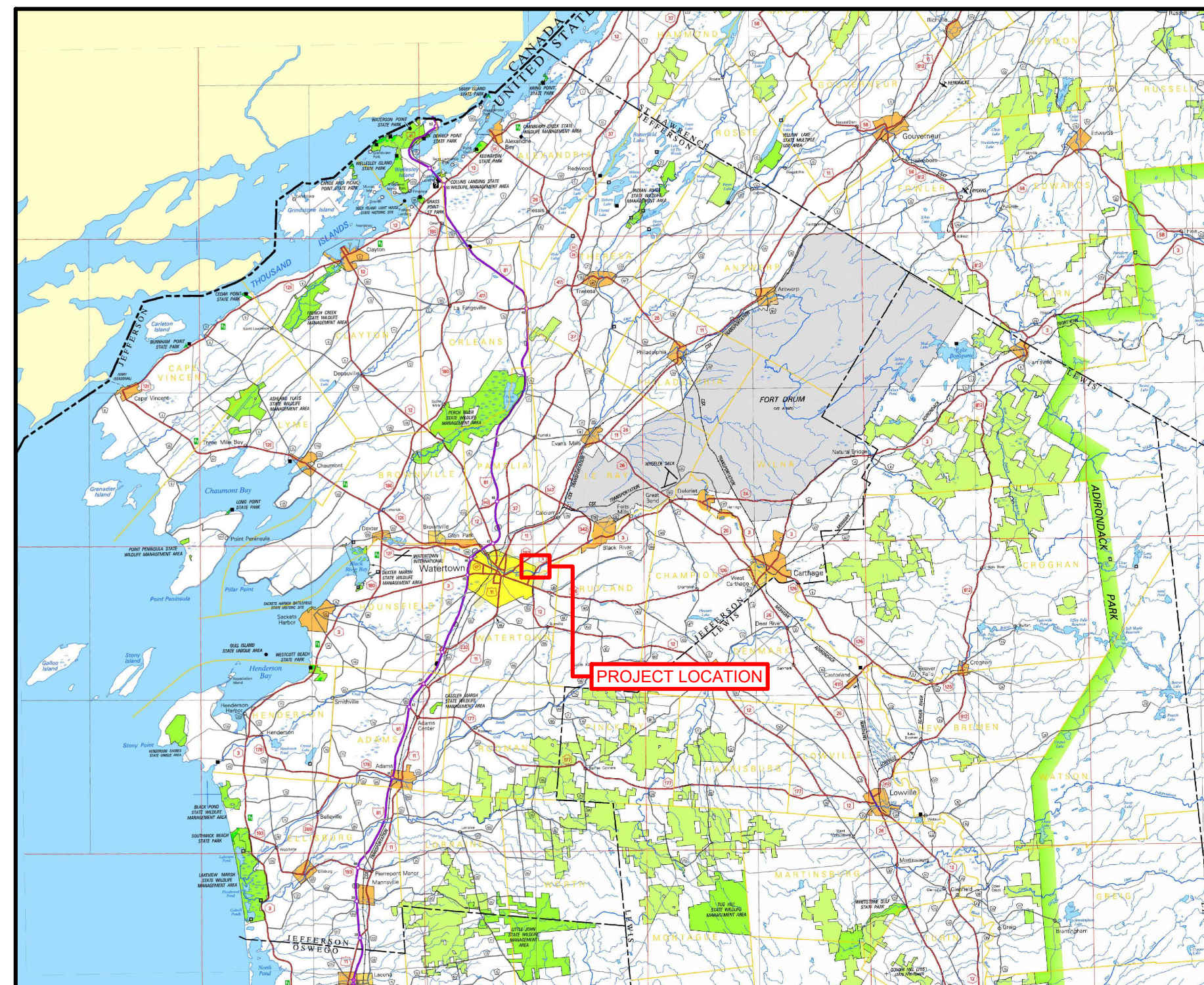
INDEX OF DRAWING:

CIVIL ENGINEERING SHEETS

- COVER SHEET
- G001 - GENERAL NOTES AND ABBREVIATIONS
- C101 - EXISTING CONDITIONS PLAN
- C102 - EROSION AND SEDIMENT CONTROL PLAN
- C103 - DEMOLITION PLAN
- C104 - SITE PLAN
- C105 - UTILITY PLAN
- C106 - GRADING AND DRAINAGE PLAN
- C107 - LANDSCAPING PLAN
- C108 - PHOTOMETRICS PLAN
- C109 - VEHICULAR AND PEDESTRIAN CIRCULATION PLAN
- C501 - DETAILS
- C502 - DETAILS
- C503 - DETAILS

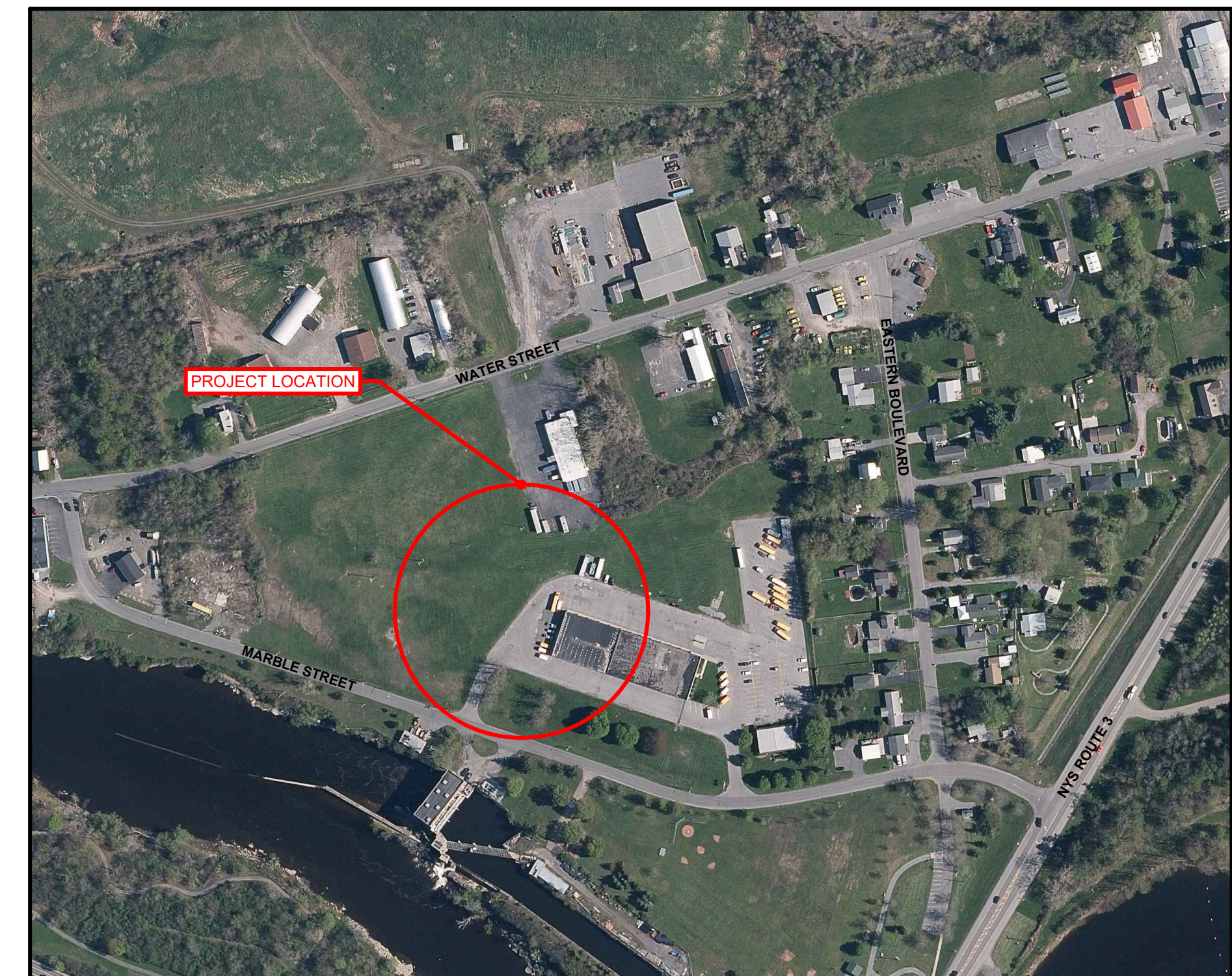
ARCHITECTURAL SHEETS

- A-1 - LAYOUT PLAN
- A-2 - OVERALL PLAN
- A-3 - EXTERIOR ELEVATIONS
- E-1 - OVERALL ELECTRICAL PLAN
- M-1 - OVERALL MECHANICAL PLAN



VICINITY MAP - JEFFERSON COUNTY

NOT TO SCALE



LOCATION MAP

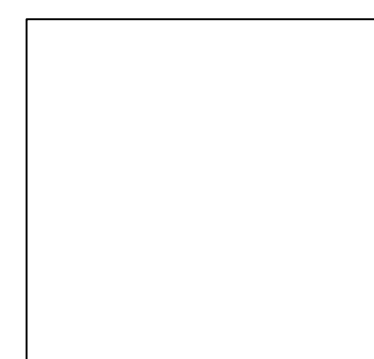
NOT TO SCALE

PREPARED BY:



WWW.GYMODPC.COM
 18969 US Route 11 Watertown, NY 13601
 315-788.3900

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MATTHEW J. CERVINI - PE
 NEW YORK STATE REGISTRATION NO. 080973

PREPARED FOR:

HALE TRANSPORTATION
 HALE TRANSPORTATION - HALE'S BUS GARAGE, LLC
 1067 MARBLE STREET
 WATERTOWN, NY 13601
 CONTACT:
 MR. STEPHEN HALE
 PHONE: (315) 624-7407

2023-045 - NOVEMBER 14, 2023
 HALE TRANSPORTATION BUILDING ADDITION
 CITY OF WATERTOWN, JEFFERSON COUNTY, STATE OF NEW YORK



FOR APPROVALS ONLY
 NOT FOR CONSTRUCTION

PROJECT LOCATION: C:\Users\mattmcg\OneDrive\Documents\Site\Transmittal\Drawings\G001\Drawings\G001.dwg

PROJECT LOCATION: C:\Users\mattmcg\OneDrive\Documents\Site\Transmittal\Drawings\G001\Drawings\G001.dwg

GENERAL CONSTRUCTION NOTES:

- UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND RECORDS, AND THEREFORE THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. THERE MAY BE OTHERS, THE EXISTENCE OF WHICH IS PRESENTLY NOT KNOWN. PRIOR TO CONSTRUCTION CONTACT UNDERGROUND UTILITIES CALL CENTER OF NEW YORK FOR EXACT LOCATION OF ALL UNDERGROUND UTILITIES. (1-800-962-7962). CONTRACTOR IS RESPONSIBLE FOR LOCATING AND WORKING WITH THE APPROPRIATE UTILITY COMPANIES PRIOR TO CONSTRUCTION.
- THE TOPOGRAPHIC AND PLANIMETRIC SURVEY WAS PERFORMED BY GYMO, DPC IN SEPTEMBER OF 2023.
- PARCEL BOUNDARIES ARE BASED ON A SURVEY PERFORMED BY LAFAYE, WHITE & MCGIVERN, L.S., P.C.. FIELD WORK AND SURVEY WERE COMPLETED IN JUNE AND JULY OF 2019.
- ALL OUT-OF-SCOPE AREAS DISTURBED BY THE CONTRACTOR'S OPERATIONS WILL BE RESTORED TO CONDITIONS EQUAL TO OR BETTER THAN THAT PRIOR TO CONSTRUCTION. OUTSIDE OF PROPERTY BOUNDARIES AND EASEMENT AREAS THE CONTRACTOR IS REMINDED TO OBTAIN WRITTEN AUTHORIZATION TO USE PRIVATE PROPERTY AND ASSUMES ALL LIABILITY WHEN ACCESSING THOSE PROPERTIES.
- THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR ALL DAMAGE CAUSED BY HIS OPERATIONS TO EXISTING FACILITIES. ALL DAMAGE TO THE EXISTING FACILITIES SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE, AT NO ADDITIONAL COST.
- THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE CHARACTERISTICS AND EXTENT OF SUBSURFACE SOILS, ROCK, WATER TABLE LEVELS, ETC., PRIOR TO BIDDING.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS, SECURITY, BONDS, FEES, AND PAYMENTS TO OBTAIN SAID PERMITS WHERE APPLICABLE.
- WHEN THE PERFORMANCE OF THE CONTRACTOR'S WORK REQUIRES THE INTERRUPTION OF UTILITY SERVICES, HE/SHE SHALL ISSUE A 48 HOUR PRIOR NOTICE TO THE GOVERNING MUNICIPALITY.
- A SWPPP PLAN IS NOT NECESSARY FOR THIS PROJECT
- SITE CONTRACTOR TO PROVIDE EROSION AND SEDIMENT CONTROL AND DUST CONTROL.
- UPON COMPLETION OF ESTABLISHMENT OF VEGETATION, ALL AREAS RECEIVING RUNOFF FROM THIS SITE SHALL BE CLEANED OF DEBRIS. ONLY AT THIS TIME SHALL THE EROSION AND SEDIMENTATION CONTROL MEASURES BE REMOVED.
- THE CONTRACTOR IS RESPONSIBLE FOR MAKING SURE THAT ALL LOCAL ROADS, DRIVEWAYS, INTERSECTIONS, PARKING LOTS, AND ADJOINING PROPERTIES ARE CLEAR OF DEBRIS AND MUD ON A DAILY BASIS DURING THE ENTIRE CONSTRUCTION PROCESS.
- A LICENSED LAND SURVEYOR SHALL BE RETAINED FOR ALL UTILITY AND FIELD STAKEOUT AND AS-BUILTS AT THE CONTRACTORS EXPENSE.
- CONTRACTOR SHALL MAINTAIN ALL EROSION CONTROL MEASURES THROUGHOUT CONSTRUCTION UNTIL ESTABLISHMENT OF VEGETATIVE COVER. RUN-OFF CONTAINING SEDIMENTS FROM DISTURBED AREAS OF THE SITE SHALL NOT BE ALLOWED DIRECTLY OFF SITE OR INTO NATURAL STREAM CHANNELS.
- ALL EXISTING TREES TO REMAIN SHALL BE PROTECTED BY THE CONTRACTOR. CONSTRUCTION ACTIVITIES ADJACENT TO TREES SHALL BE CONDUCTED TO REDUCE THE IMPACT TO TREES TO THE MAXIMUM EXTENT PRACTICAL. ANY DAMAGE TO EXISTING TREES SHALL BE REPAIRED OR THE TREE REPLACED, AS DIRECTED BY THE OWNER AT THE CONTRACTORS EXPENSE.
- CONTRACTOR SHALL BE RESPONSIBLE FOR CLEARING, GRUBBING, CUTTING AND DISPOSING OF VEGETATION, TREES AND DEBRIS IN A NYSDEC ACCEPTABLE LOCATION.
- DISPOSAL OF ALL CONSTRUCTION DEMOLITION DEBRIS SHALL BE IN ACCORDANCE WITH THE LOCAL CODES AND 6 NYS CRR PART 360, PLUS OTHER APPLICABLE CODES. DISPOSAL SHALL BE AT THE CONTRACTOR'S EXPENSE.
- CONTRACTOR SHALL PERFORM ALL NECESSARY EARTHWORK, INCLUDING THE STRIPPING, STOCKPILING AND REPLACING OF TOPSOIL IN ACCORDANCE WITH THE PLANS. EXCESS MATERIAL SHALL BE REMOVED FROM THE SITE.
- EXCAVATIONS SHALL BE TO DEPTHS SHOWN ON DRAWINGS. ALL UNSTABLE OR UNSUITABLE MATERIAL SHALL BE EXCAVATED AND REMOVED TO SUCH DEPTH AS REQUIRED TO PROVIDE SUFFICIENT BEARING CAPACITY. OVER-EXCAVATED AREAS SHALL BE BACKFILLED WITH SUITABLE MATERIAL.
- COMPACTION OF PIPE BEDDING AND BACKFILL MATERIAL SHALL BE BY MEANS OF HAND-GUIDED POWER DRIVEN OR DRUM-TYPE OR PLATE TAMPERS. BACKFILLING SHOULD PROCEED IN ACCORDANCE WITH LIFT THICKNESS AND COMPACTION REQUIREMENTS AS SHOWN ON THE DRAWINGS. UNLESS OTHERWISE NOTED ON THE DRAWINGS, COMPACTION REQUIREMENTS REFER TO PERCENT OF MAXIMUM DRY DENSITY AS DETERMINED IN ACCORDANCE WITH ASTM STANDARD D-1557 MODIFIED PROCTOR. CARE SHALL BE TAKEN TO SHAPE PIPE BEDDING TO FIT THE LOWER PART OF THE PIPE. BACKFILLING AND COMPACTION SHOULD PROGRESS EVENLY ALONG THE PIPE SIDEWALLS AND TO THE TOP OF THE PIPE BEDDING.
- COMPACTION SHALL BE 90% MAXIMUM DRY DENSITY IN GRASS AREAS, 95% MAXIMUM DRY DENSITY IN TRAFFIC AREAS, AND 98% MAXIMUM DRY DENSITY UNDER AND AROUND STRUCTURES. MAXIMUM DRY DENSITY SHALL BE AS DETERMINED BY ASTM - D1557 MODIFIED PROCTOR. THE CONTRACTOR SHALL HIRE AN INDEPENDENT TESTING AGENCY TO PERFORM TESTING AND PROVIDE THE RESULTS TO THE OWNER FOR REVIEW PRIOR TO FINAL PAYMENT.
- THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES OF DIMENSIONS, ELEVATIONS AND LOCATIONS DURING PRECONSTRUCTION FIELD VERIFICATION. SUCH INFORMATION SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR VERIFICATION OR MODIFICATION OF THE PLANS.
- THE CONTRACTOR SHALL DELIVER TO THE OWNER, AN AS-BUILT SURVEY, SIGNED AND SEALED BY A LAND SURVEYOR OR ENGINEER LICENSED IN THE STATE OF NEW YORK. AS-BUILT RECORD DRAWINGS SHALL INCLUDE, AS A MINIMUM, THE FOLLOWING INFORMATION AS WELL AS ALL REQUIREMENTS OF THE SPECIFICATION:
 - RECORD OF ALL UTILITIES ENCOUNTERED IN TRENCH EXCAVATION. INFORMATION SHALL INCLUDE DIAMETER OF UTILITY, DEPTH OF BURIAL AND LOCATION WITH REFERENCE TO NEAREST STRUCTURE SHOWN ON DRAWINGS. THIS INFORMATION SHALL BE KEPT CURRENT ON A WEEKLY BASIS. FAILURE TO DO SO MAY RESULT IN WITHHOLDING OF PAYMENTS.
 - DISTANCE TIES TO ALL BENDS, VALVES, CORPORATION STOPS, WYES, MANHOLES, CLEAN OUTS, CATCH BASINS, ETC.
 - UTILITY REPAIRS, SIDEWALK, AND DRIVEWAY REPLACEMENTS CENTERLINE.
 - RIM AND INVERT ELEVATIONS AND HORIZONTAL LOCATION OF MANHOLES, CATCH BASINS, AND CLEANOUTS.
 - STATIONS OF BENDS AND VALVES.
 - FINAL GRADE ELEVATIONS TO NEAREST 0.1-FOOT AND FINISHED FLOOR ELEVATIONS.
 - DENOTED BENCH MARK REFERENCES USED.
 - PERIODIC OFFSETS
 - NOTATION FROM THE ENGINEER OR SURVEYOR THAT THE GRADES ARE IN CONFORMANCE WITH THE SITE PLANS.
 - RECORD DETAILS NOT SHOWN ON THE ORIGINAL CONTRACT DOCUMENTS. ANY FIELD CHANGES OF DIMENSIONS AND DETAILS AND ANY CHANGES MADE BY CHANGE ORDER OR FIELD ORDER.
 - CERTIFICATE OF SUBSTANTIAL COMPLETION SHALL NOT BE ISSUED UNTIL AS-BUILT INFORMATION IS ACCEPTABLE.
 - CONTRACTOR SHALL FURNISH AS-BUILT DATA ON PLAN SHEETS
 - CONTRACTOR SHALL PROVIDE A PDF COPY OF THE FINAL COMPLETE RECORD DRAWINGS
- CONTRACTOR SHALL PROVIDE SATISFACTORY DEWATERING AND DRAINAGE OF EXCAVATIONS. SEE DEWATERING AND DRAINAGE IN THE TECHNICAL SPECIFICATIONS FOR MORE DETAILED INFORMATION.
- THE CONTRACTOR SHALL COORDINATE THEIR CONSTRUCTION OPERATIONS WITH ANY AND ALL OTHER CONSTRUCTION ACTIVITIES WHICH MAY BE OCCURRING SIMULTANEOUSLY IN THE VICINITY OF THE SITE.
- EXCAVATIONS AND TRENCHING SHALL BE PERFORMED IN ACCORDANCE WITH STATE OF NEW YORK INDUSTRIAL CODE, RULE 23, O.S.H.A. TITLE 29, PART 1926, NEW YORK STATE DEPARTMENT OF LABOR, TITLE 12, PART 23, AND ALL OTHER APPLICABLE SAFETY STANDARDS AND CODES.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO BE AWARE OF AND TO CONFORM WITH ALL RULES AND RESPONSIBILITIES ASSOCIATED WITH PROVIDING A SAFE WORK PLACE. THE CONTRACTOR MUST COMPLY WITH OSHA 29 CFR PART 1926, SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION.
- THE CONTRACTOR SHALL POST WARNING SIGNS AT ALL APPROACHES TO THE PROJECT AND AT CONSTRUCTION ENTRANCES. THE CONTRACTOR TO PROVIDE FLAGMEN WHEN NECESSARY.
- ALL R.O.W. CONNECTION AND/OR ADJACENT WORK SHALL BE PERFORMED IN ACCORDANCE WITH NYSDOT STANDARDS AND SPECIFICATIONS. ALL R.O.W. WORK SHALL BE IN ACCORDANCE WITH NYSDOT WORK ZONE TRAFFIC CONTROL REGULATIONS, INCLUDING FLAGMEN, BARRICADES, WARNING SIGNS/LIGHTS, ETC., WHERE WARRANTED.
- PAVED AREAS WILL BE SAWCUT PRIOR TO EXCAVATION AND PAVING OPERATIONS. SAWCUT AREAS WILL BE TACK COATED PRIOR TO PAVING. TACK COAT SHALL MEET THE REQUIREMENTS OF ASPHALT EMULSION FOR TACK COAT, NYSDOT TABLE 702-7.
- SURCHARGE LOADS FROM EXCAVATED MATERIAL, BACKFILL MATERIAL, EQUIPMENT, TRAFFIC LOADING ETC., MUST BE KEPT AWAY A DISTANCE EQUAL TO THE DEPTH OF EXCAVATION.
- TRAFFIC OFFSET SHALL BE MAINTAINED AT A MINIMUM OF TEN FEET FROM ANY OPEN EXCAVATION TO AVOID UNWANTED SURCHARGE LOADS.
- THE CONTRACT DOCUMENTS ALWAYS SUPERCEDE SUBMITTALS, SHOP DRAWINGS, OR ANY "OTHER" DOCUMENTS UNLESS INDICATED OTHERWISE BY THE ENGINEER. IN THE EVENT OF "OTHER" DOCUMENTS CONFLICTING WITH THE CONTRACT DOCUMENTS, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO BRING IT TO THE ATTENTION OF THE ENGINEER AS SOON AS IT IS DISCOVERED.
- THE DETAIL PLANS AND SPECIFICATIONS FOR THE CONTRACT HAVE BEEN PREPARED WITH CARE AND ARE INTENDED TO SHOW AS CLEARLY AS IS PRACTICABLE THE WORK REQUIRED TO BE DONE. THE CONTRACTOR MUST REALIZE, HOWEVER, THAT CONSTRUCTION DETAILS CAN NOT ALWAYS BE ACCURATELY ANTICIPATED AND THAT IN EXECUTING THE WORK, FIELD CONDITIONS MAY REQUIRE REASONABLE MODIFICATIONS IN THE DETAILS OF PLANS AND QUANTITIES OF WORK INVOLVED. WORK UNDER ALL ITEMS IN THE CONTRACT MUST BE CARRIED OUT TO MEET THESE FIELD CONDITIONS TO THE SATISFACTION OF THE ENGINEER AND IN ACCORDANCE WITH HIS INSTRUCTIONS AND THE CONTRACT SPECIFICATIONS
- THE PRESENCE OF HAZARDOUS MATERIALS SHALL BE BROUGHT TO THE ENGINEERS OR OWNERS IMMEDIATE ATTENTION.
- THE CONTRACTOR SHOULD NOTE THAT ADDITIONAL WORK MAY BE REQUIRED AS THE CONTRACT PROGRESSES WHICH IS NOT SHOWN OR NOTED ON PLANS. THIS WORK SHALL BE PERFORMED BY THE CONTRACTOR ONLY AFTER BEING AUTHORIZED BY THE OWNER AND ENGINEER WITH ADDITIONAL PAYMENT IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND THE CONTRACT AGREEMENT WITH THE OWNER.

CITY OF WATERTOWN GENERAL PLAN NOTES:

- ALL WORK TO BE PERFORMED WITHIN THE CITY OF WATERTOWN MARGIN WILL REQUIRE SIGN-OFF FROM A PROFESSIONAL ENGINEER, LICENSED AND CURRENTLY REGISTERED TO PRACTICE IN THE STATE OF NEW YORK. THAT THE WORK WAS BUILT ACCORDING TO THE APPROVED SITE PLAN AND APPLICABLE CITY OF WATERTOWN STANDARDS.
- COMPACTION TESTING WILL BE REQUIRED FOR ALL WORK TO BE PERFORMED WITHIN THE CITY OF WATERTOWN MARGIN AND MUST BE SUBMITTED TO THE CITY OF WATERTOWN CODES DEPARTMENT.

ABBREVIATIONS

AC	ACRES
BC	BOTTOM OF CURB
BLDG	BUILDING
BOT	BOTTOM
BW	BOTTOM OF WALL
C	CURVE
CB	CATCH BASIN
CF	CUBIC FEET
CI	CUBIC INCHES
CL OR ϵ	CENTERLINE
CO	COUNTY
CONC	CONCRETE
CMP	CORRUGATED METAL PIPE
CPP	CORRUGATED PLASTIC PIPE
DA	DELTA ANGLE
DA# OR DA NO.	DRAINAGE AREA NUMBER
DI	DUCTILE IRON
DIA	DIAMETER
DWG	DRAWING
DYLL	DOUBLE YELLOW LANE LINE
E	EAST
EG	EXISTING GRADE
EL	ELEVATION
ESC	EROSION AND SEDIMENT CONTROL
FF	FINISHED FLOOR
FG	FINISHED GRADE
GV	GATE VALVE
HDPE	HIGH DENSITY POLYETHYLENE PIPE
HYD	HYDRANT
IPF	IRON PIPE FOUND
IPS	IRON PIPE SET
INT	INTERSECTION
INV	INVERT
L	LENGTH
LF	LINEAR FEET
MAX	MAXIMUM
MEG	MATCH EXISTING GRADE
MIN	MINIMUM
N	NORTH
N/A	NOT APPLICABLE
NO. OR #	NUMBER
NTS	NOT TO SCALE
NYSDEC	NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
NYSDOT	NEW YORK STATE DEPARTMENT OF TRANSPORTATION
NYSDOH	NEW YORK STATE DEPARTMENT OF HEALTH
OU	OVERHEAD UTILITY LINE
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVE
PT	POINT OF TANGENT
PVC	POLYVINYL CHLORIDE PIPE
R	RADIUS OR RADII
RCP	REINFORCED CONCRETE PIPE
ROC	RUN OF CRUSHER
ROW	RIGHT OR WAY
S	SOUTH
SAN	SANITARY
SB	SETBACK
SDR	STANDARD DIMENSION RATIO
SMH	SANITARY MANHOLE
STMH	STORM MANHOLE
SWPPP	STORM WATER POLLUTION PREVENTION PLAN
SWLL	SINGLE WHITE LANE LINE
TC	TOP OF CURB
TL	TANGENT LENGTH
TOC	TOP OF CONCRETE
(TYP)	TYPICAL
TW	TOP OF WALL
TS & V	TAPPING SLEEVE AND VALVE
UNO	UNLESS NOTED OTHERWISE
W	WEST



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SCALE: N/A
DRAWN BY: MT
DESIGNED BY: MT
CHECKED BY: MJC
DATE ISSUED: 11-14-2023

GENERAL NOTES AND ABBREVIATIONS

HALE TRANSPORTATION BUILDING ADDITION
1067 MARBLE STREET, WATERTOWN NY, 13601
CITY OF WATERTOWN, JEFFERSON COUNTY, STATE OF NEW YORK

LAST REVISED: N/A

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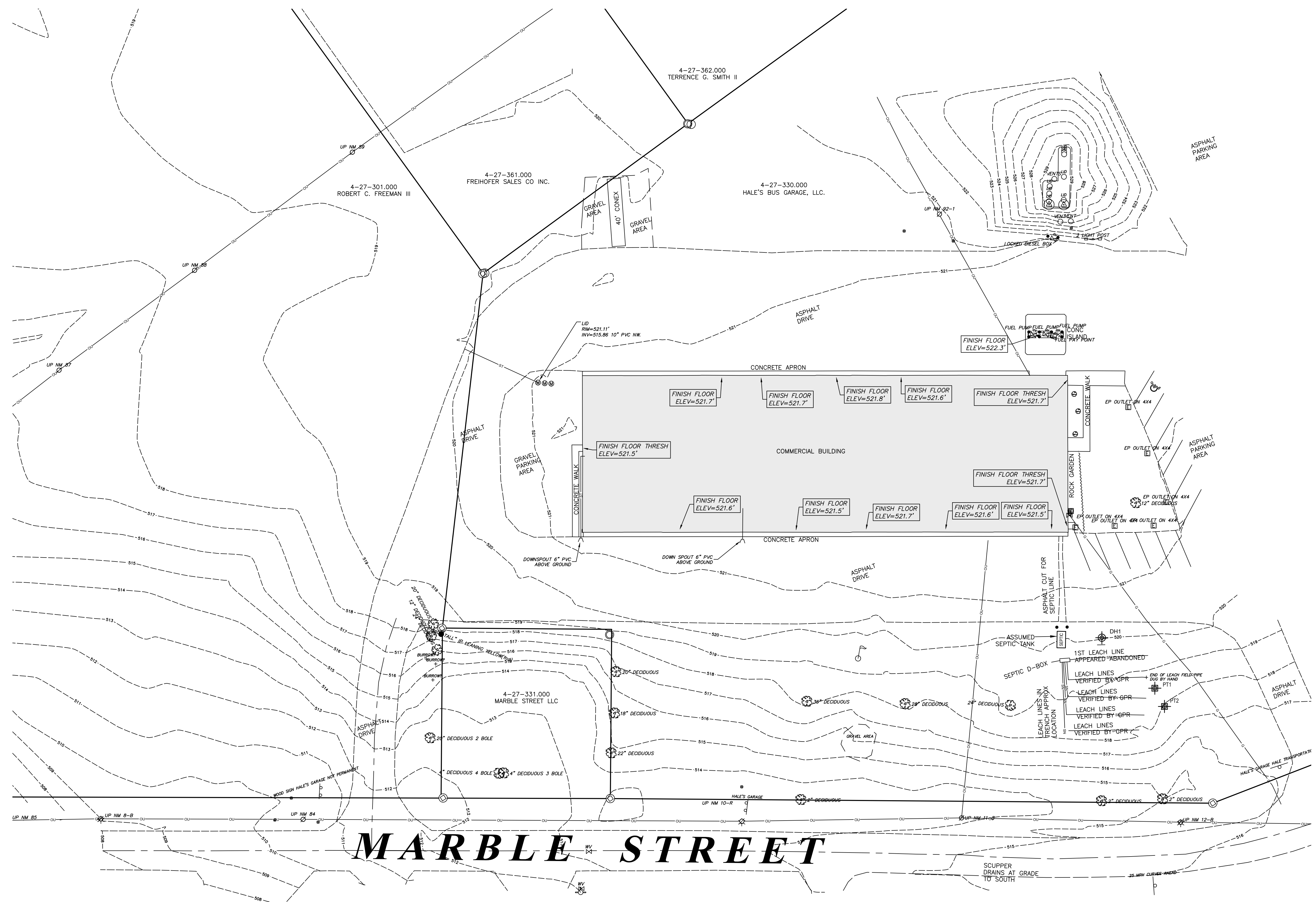
G001

GENERAL SURVEY NOTES:

- EXISTING CONDITIONS ARE BASED ON A FIELD SURVEY PERFORMED BY GYMO ARCHITECTURE, ENGINEERING, & LAND SURVEYING D.P.C.. FIELD WORK AND SURVEY WERE COMPLETED IN SEPTEMBER OF 2023.
- PARCEL BOUNDARIES ARE BASED ON A SURVEY PERFORMED BY LAFAYE, WHITE & MCGIVERN, L.S., P.C.. FIELD WORK AND SURVEY WERE COMPLETED IN JUNE AND JULY OF 2019.
- THE SURVEY IS TIED HORIZONTALLY INTO THE NORTH AMERICAN DATUM OF 1983 (NAD 83).
- THE SURVEY IS TIED VERTICALLY INTO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

PERCOLATION TEST NOTES:

- PERCOLATION TESTS WERE PERFORMED ON NOVEMBER 8, 2023 BY M. TOMPKINS AND C. BERND.



EXISTING LEGEND	
	CENTERLINE OF STREET
	TREE
	GAS VALVE
	EDGE OF PAVEMENT
	PAINTED PAVEMENT MARKING
	PARCEL BOUNDARY
	BUILDING
	MINOR GROUND CONTOUR
	MAJOR GROUND CONTOUR
	EDGE OF CONCRETE
	TRAFFIC SIGNS
	UTILITY POLE
	GUY WIRE
	MANHOLE
	CLEANOUT
	SEPTIC TANK
	OVERHEAD UTILITY
	WATER VALVE
	GAS VALVE
	UNDERGROUND GAS LINE
	STORM SEWER LINE
	STORM END SECTION
	SANITARY SEWER LINE
	OVERHEAD LIGHT FIXTURE
	ELECTRIC METER
	ELECTRIC BOX
	HVAC UNIT
	GAS METER
	PIPE BOLLARD
	FLAG POLE
	LID
	DOUBLE LIGHT POST
	IRON PIPE (BY L.W.M.)
	IRON ROD (BY L.W.M.)
	REBAR (BY L.W.M.)

PERCOLATION TEST 1 - PT1 (24" DEPTH)

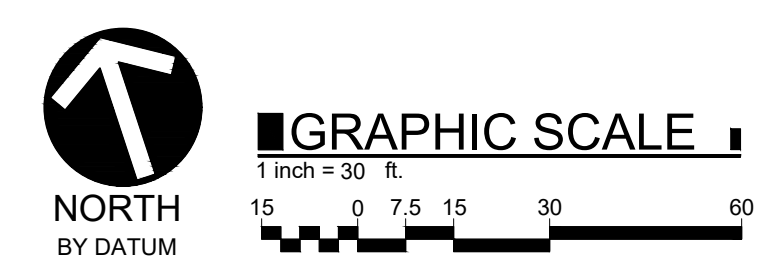
RUN NUMBER	TIME FOR 1 INCH DROP (MINUTES)
1	40
2	42
3	42

PERCOLATION TEST 2 - PT2 (24" DEPTH)

RUN NUMBER	TIME FOR 1 INCH DROP (MINUTES)
1	12
2	14
3	16
	17

DEEP HOLE 1 - DH1

DEPTH INTERVAL	SOIL DESCRIPTION
0' - 0.75'	TOPSOIL
0.75' - 5'	CLAYEY SAND
NO BEDROCK OR GROUNDWATER OBSERVED	



PROJECT LOCATION: C:\Users\mjs\Documents\GYMO\2023\2023-045\1067 Marble Street\1067 Marble Street.dwg
 PLOT TIME: 11/14/2023 10:52:00 AM

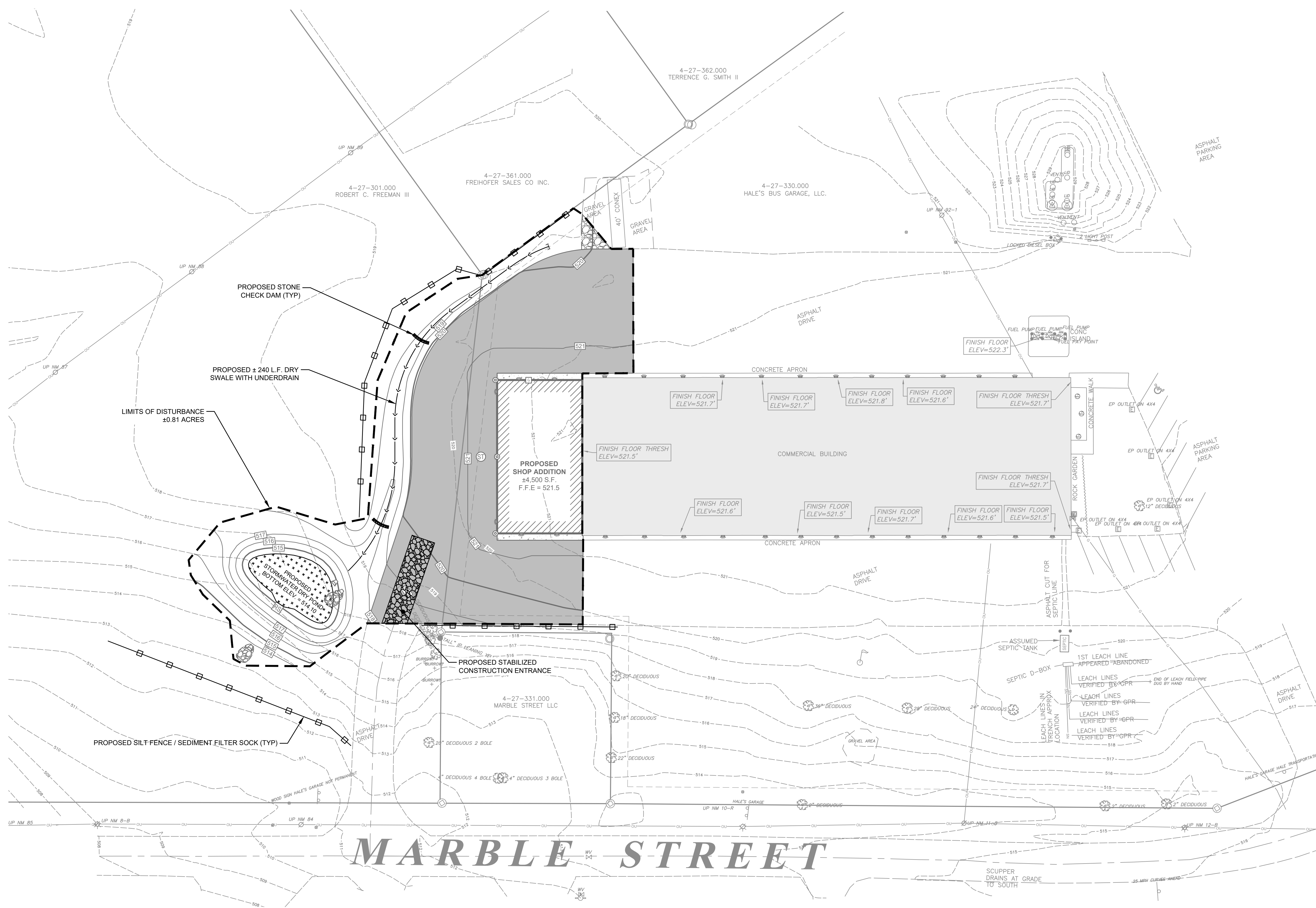
GENERAL DATUM NOTES:

- THE DRAWING IS TIED HORIZONTALLY INTO THE NORTH AMERICAN DATUM OF 1983 (NAD 83).
- THE DRAWING IS TIED VERTICALLY INTO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

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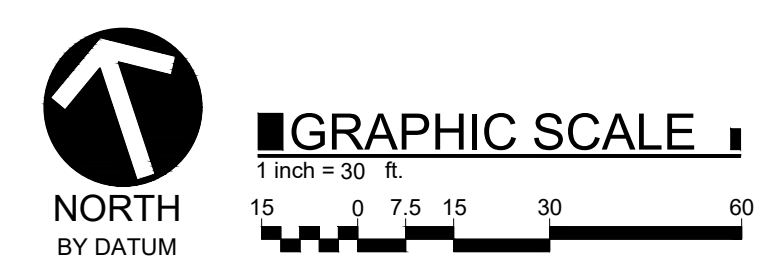
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 DESIGNED BY: MJC
 CHECKED BY: MJC
 DATE ISSUED: 11-14-2023



EXISTING LEGEND	
	CENTERLINE OF STREET
	TREE
	GAS VALVE
	EDGE OF PAVEMENT
	PAINTED PAVEMENT MARKING
	PARCEL BOUNDARY
	BUILDING
	MINOR GROUND CONTOUR
	MAJOR GROUND CONTOUR
	EDGE OF CONCRETE
	TRAFFIC SIGNS
	UTILITY POLE
	GUY WIRE
	MANHOLE
	CLEANOUT
	SEPTIC TANK
	OVERHEAD UTILITY
	WATER VALVE
	GAS VALVE
	UNDERGROUND GAS LINE
	STORM SEWER LINE
	STORM END SECTION
	SANITARY SEWER LINE
	OVERHEAD LIGHT FIXTURE
	ELECTRIC METER
	ELECTRIC BOX
	HVAC UNIT
	GAS METER
	PIPE BOLLARD
	FLAG POLE
	LID
	DOUBLE LIGHT POST
	IRON PIPE (BY L.W.M.)
	IRON ROD (BY L.W.M.)
	REBAR (BY L.W.M.)

PROPOSED LEGEND	
	SILT FENCE / SEDIMENT FILTER SOCK
	STONE CHECK DAM
	DRY SWALE WITH UNDERDRAIN
	STORMWATER MANAGEMENT AREA
	STABILIZED CONSTRUCTION ENTRANCE
	LIMITS OF DISTURBANCE

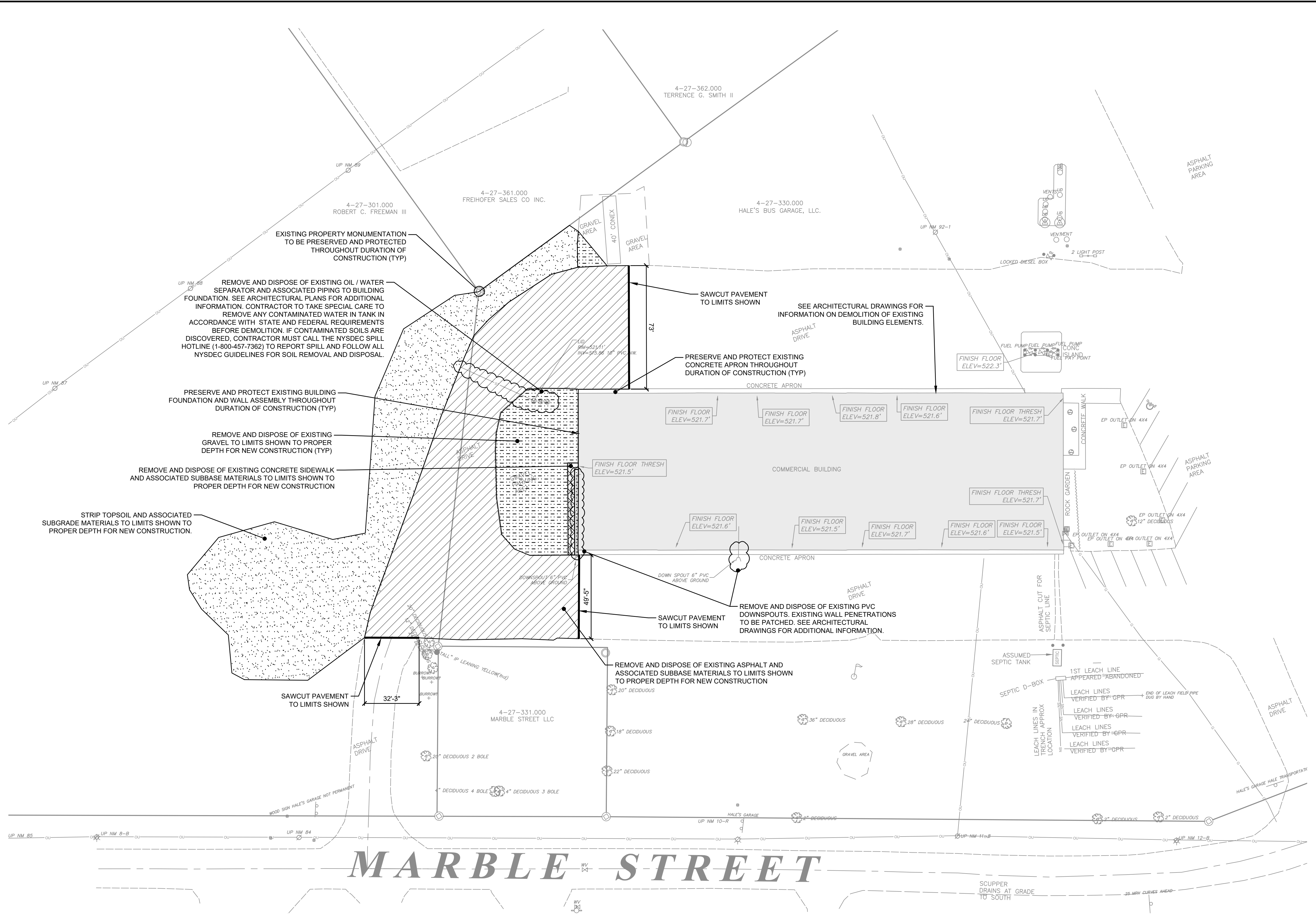


EROSION AND SEDIMENT CONTROL PLAN
HALE TRANSPORTATION BUILDING ADDITION
1067 MARBLE STREET
CITY OF WATERTOWN, JEFFERSON COUNTY, STATE OF NEW YORK

LAST REVISED: N/A
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 DRAWING NO.
C102

EXISTING LEGEND	
	CENTERLINE OF STREET
	TREE
	GAS VALVE
	EDGE OF PAVEMENT
	PAINTED PAVEMENT MARKING
	PARCEL BOUNDARY
	BUILDING
	MINOR GROUND CONTOUR
	MAJOR GROUND CONTOUR
	EDGE OF CONCRETE
	TRAFFIC SIGNS
	UTILITY POLE
	GUY WIRE
	MANHOLE
	CLEANOUT
	SEPTIC TANK
	OVERHEAD UTILITY
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	ELECTRIC METER
	ELECTRIC BOX
	HVAC UNIT
	GAS METER
	PIPE BOLLARD
	FLAG POLE
	LID
	DOUBLE LIGHT POST
	IRON PIPE (BY L.W.M.)
	IRON ROD (BY L.W.M.)
	REBAR (BY L.W.M.)

PROPOSED LEGEND	
	ASPHALT PAVEMENT REMOVAL
	GRAVEL REMOVAL
	CONCRETE REMOVAL
	STRIP TOPSOIL AND SUBGRADE



GRAPHIC SCALE
1 inch = 30 ft
0 7.5 15 30 60

NORTH BY DATUM

PROJECT LOCATION: C:\Users\mjc\OneDrive\Documents\GYMO\2023\2023-045\1067 Marble Street - Demolition\1067 Marble Street - Demolition.dwg

PLOT TIME: 11/15/2023 10:52:00 AM



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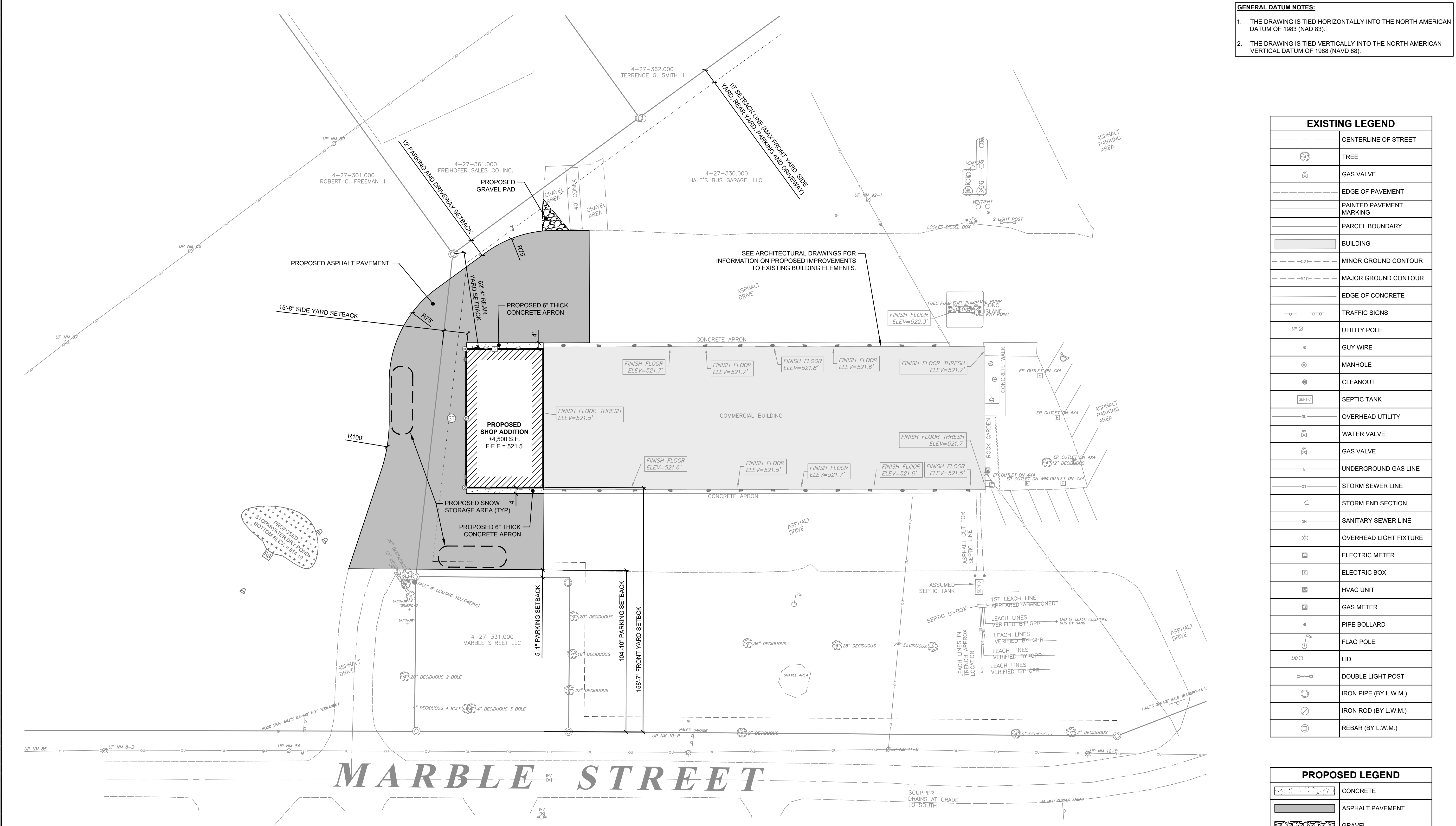
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SEAL:

PROJECT NO: 2023-045
SCALE: 1" = 30'
DRAWN BY: MT
DESIGNED BY: MJC
CHECKED BY: MJC
DATE ISSUED: 11-14-2023

SITE PLAN
HALE TRANSPORTATION BUILDING ADDITION
1067 MARBLE STREET
CITY OF WATERTOWN, JEFFERSON COUNTY, STATE OF NEW YORK

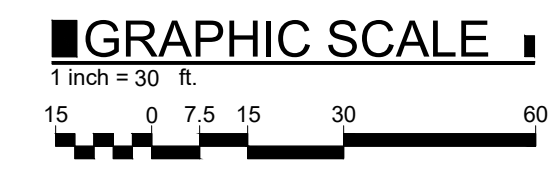
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2. THE DRAWING IS TIED VERTICALLY INTO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).



EXISTING LEGEND	
	CENTERLINE OF STREET
	TREE
	GAS VALVE
	EDGE OF PAVEMENT
	PAINTED PAVEMENT MARKING
	PARCEL BOUNDARY
	BUILDING
	MINOR GROUND CONTOUR
	MAJOR GROUND CONTOUR
	EDGE OF CONCRETE
	TRAFFIC SIGNS
	UTILITY POLE
	GUY WIRE
	MANHOLE
	CLEANOUT
	SEPTIC TANK
	OVERHEAD UTILITY
	WATER VALVE
	GAS VALVE
	UNDERGROUND GAS LINE
	STORM SEWER LINE
	STORM END SECTION
	SANITARY SEWER LINE
	OVERHEAD LIGHT FIXTURE
	ELECTRIC METER
	ELECTRIC BOX
	HVAC UNIT
	GAS METER
	PIPE BOLLARD
	FLAG POLE
	LID
	DOUBLE LIGHT POST
	IRON PIPE (BY L.W.M.)
	IRON ROD (BY L.W.M.)
	REBAR (BY L.W.M.)

PROPOSED LEGEND	
	CONCRETE
	ASPHALT PAVEMENT
	GRAVEL
	BUILDING ADDITION
	SNOW STORAGE AREA
	SETBACK LINE

PLANNING DATA		
ZONING CLASSIFICATION: NEIGHBORHOOD MIXED USE		
PARCEL #: 4-27-330.000 / 4-27-301.000		
ITEM	REQUIRED / ALLOWED	PROPOSED
BUILDING AREA	N/A	±31,071 SQ. FT.
MAX BUILDING HEIGHT	3 STORIES	1 STORY
MINIMUM LOT SIZE	1,000 S.F.	6.16 ACRES / 6.66 ACRES
LOT WIDTH	10' MIN - 100' MAX	NO CHANGE
FRONT YARD SETBACK	0' MIN - 10' MAX	158'-7"
SIDE YARD SETBACK	10'	15'-8"
REAR YARD SETBACK	10'	62'-4"
PARKING LOT AND DRIVEWAY SETBACKS	10'	104'-10", 5'-1" (EXISTING), 0'-0" (EXISTING), 12'-0"
PARKING SPACES	0 - 16	NO NEW PARKING SPACES PROPOSED
IMPERVIOUS SURFACE COVERAGE	70%	±58% / ±3%
FACADE LENGTH (MAX.)	60'	337'
GROUND FLOOR TRANSPARENCY, FRONT FACADE (MIN.)	50%	± 5.87%



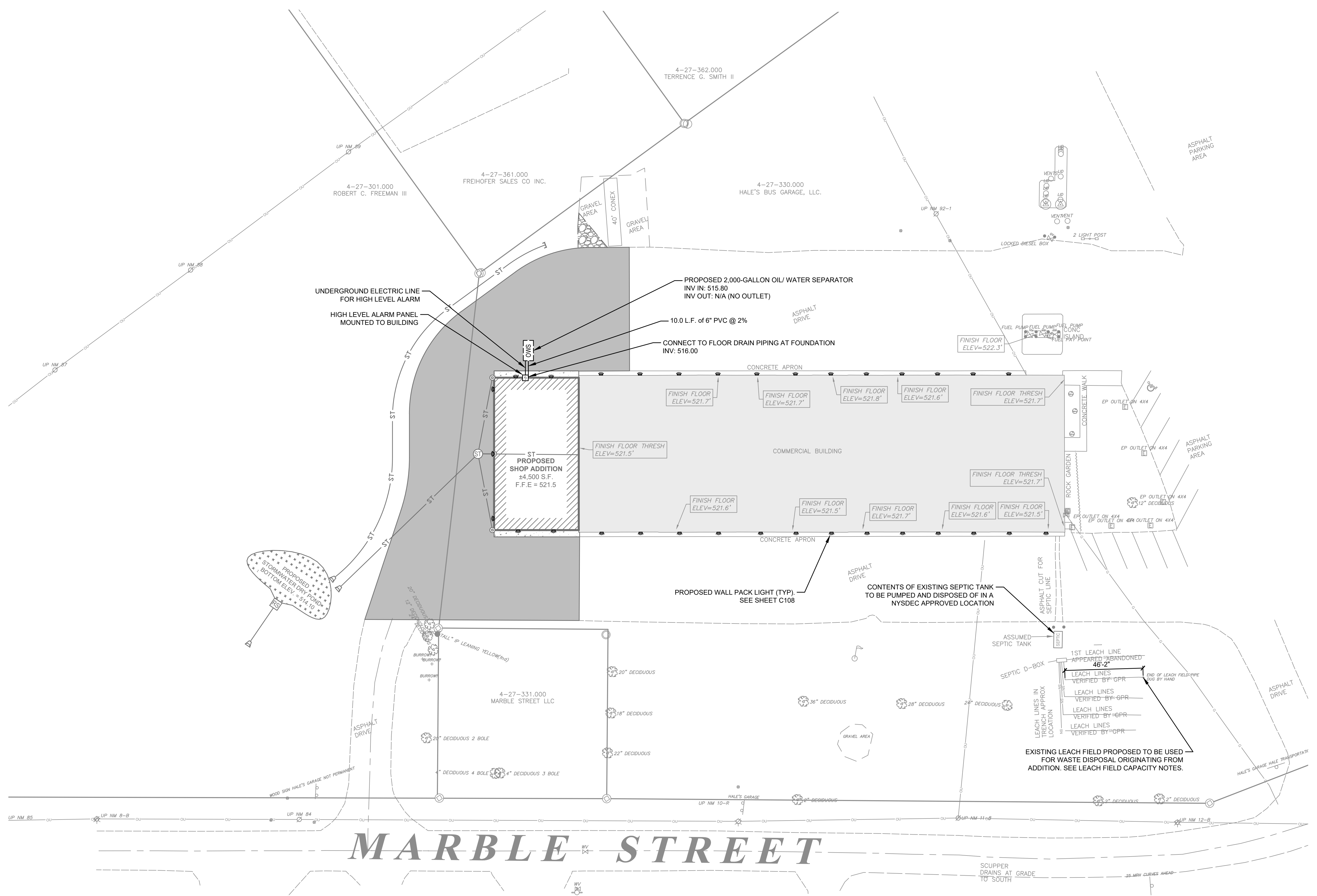
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DRAWING NO. **C104**

PROJECT LOCATION: C:\Users\mjs\Documents\GYMO\2023\11-14-2023\C105-Hale Transportation Building Addition - Utility Plan.dwg
 DRAWING NO.: C105
 DATE: 11-14-2023
 PROJECT: HALE TRANSPORTATION BUILDING ADDITION
 CLIENT: HALE'S BUS GARAGE, LLC
 PROJECT NO.: 2023-045
 SCALE: 1" = 30'
 DRAWN BY: MT
 DESIGNED BY: MJC
 CHECKED BY: MJC
 DATE ISSUED: 11-14-2023

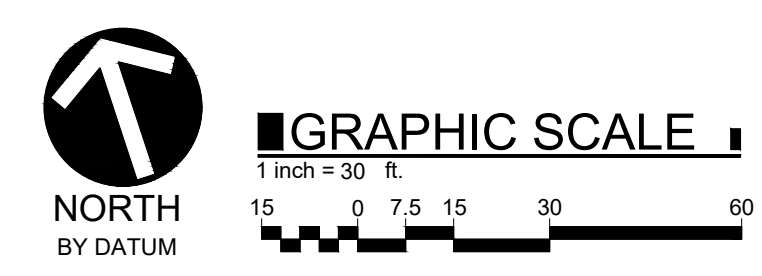
LEACH FIELD CAPACITY NOTES:

- EXISTING LEACH FIELD APPEARS TO CONSIST OF (4) 46' LONG ABSORPTION TRENCHES.
- USING THE SLOWEST OBSERVED PERCOLATION RATE OF THE SOIL ADJACENT TO THE LEACH FIELD (42 MINUTES PER INCH), THE ALLOWABLE APPLICATION RATE OF THE EXISTING LEACH FIELD IS 0.50 GAL/DAY/SF.
- THE CAPACITY OF THE LEACH FIELD IS CALCULATED TO BE $(4) \times (46') \times (2") \times (0.50 \text{ GAL/DAY/SF}) = 184 \text{ GAL/DAY}$
- FLOW TO THE LEACH FIELD IS EXPECTED TO BE $(6 \text{ EMPLOYEES}) \times (15 \text{ GPD/EMPLOYEE}) + (5 \text{ BUS LAVATORIES}) \times (5 \text{ GAL/BUS}) = 115 \text{ GPD}$



EXISTING LEGEND	
---	CENTERLINE OF STREET
○	TREE
⊗	GAS VALVE
---	EDGE OF PAVEMENT
---	PAINTED PAVEMENT MARKING
---	PARCEL BOUNDARY
▭	BUILDING
---	MINOR GROUND CONTOUR
---	MAJOR GROUND CONTOUR
---	EDGE OF CONCRETE
○	TRAFFIC SIGNS
UP	UTILITY POLE
•	GUY WIRE
⊗	MANHOLE
⊙	CLEANOUT
SEPTIC	SEPTIC TANK
---	OVERHEAD UTILITY
⊗	WATER VALVE
⊗	GAS VALVE
---	UNDERGROUND GAS LINE
---	STORM SEWER LINE
---	STORM END SECTION
---	SANITARY SEWER LINE
⊗	OVERHEAD LIGHT FIXTURE
⊗	ELECTRIC METER
⊗	ELECTRIC BOX
⊗	HVAC UNIT
⊗	GAS METER
•	PIPE BOLLARD
⊗	FLAG POLE
LID	LID
⊗	DOUBLE LIGHT POST
⊗	IRON PIPE (BY L.W.M.)
⊗	IRON ROD (BY L.W.M.)
⊗	REBAR (BY L.W.M.)

PROPOSED LEGEND	
SN	FLOOR DRAIN PIPING
OWS	OIL WATER SEPARATOR
⊗	WALL PACK LIGHT FIXTURE
UE	UNDERGROUND ELECTRIC LINE
⊗	ALARM PANEL



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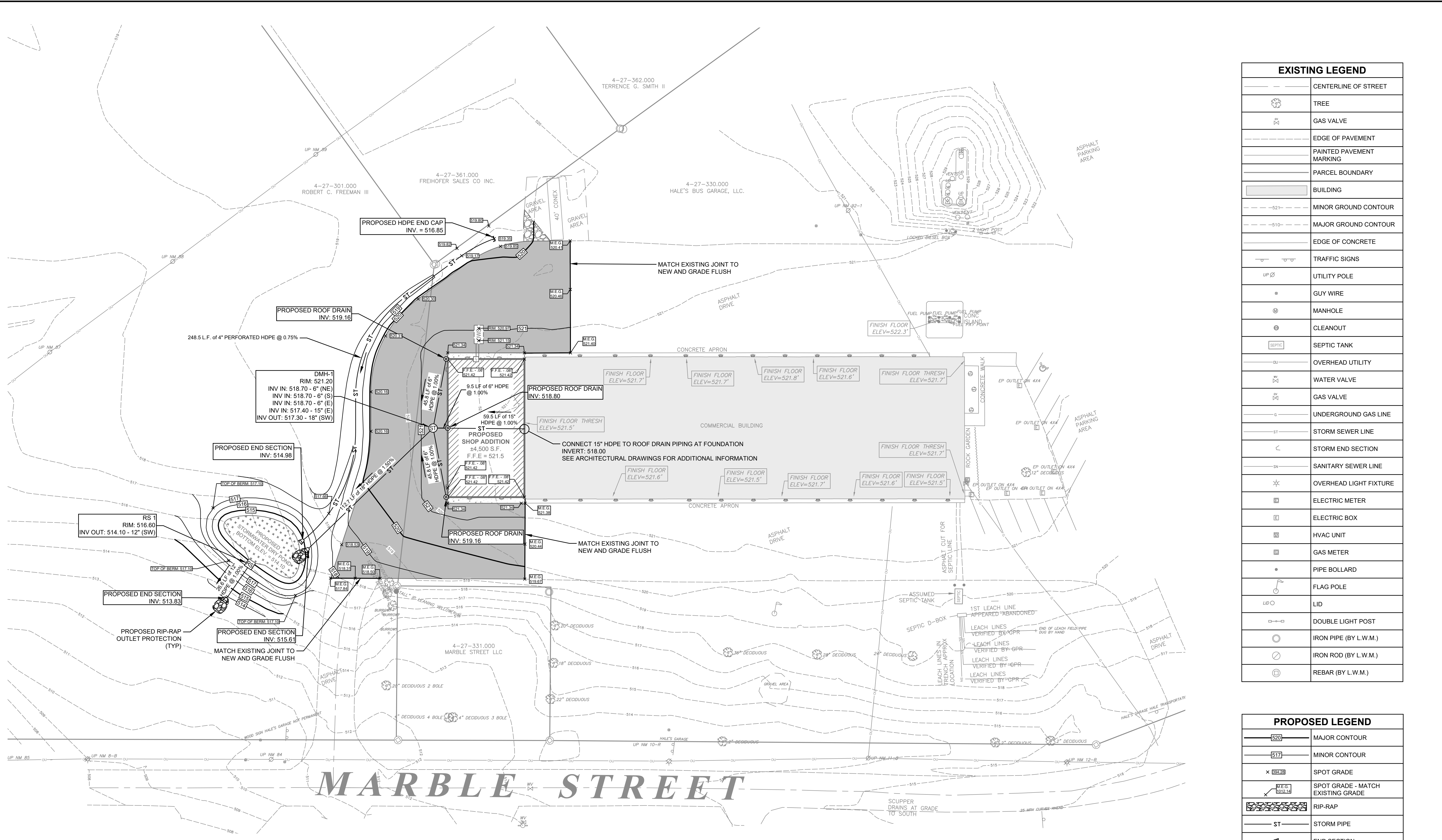
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EXISTING LEGEND	
---	CENTERLINE OF STREET
⊗	TREE
⊗	GAS VALVE
---	EDGE OF PAVEMENT
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---	BUILDING
---	MINOR GROUND CONTOUR
---	MAJOR GROUND CONTOUR
---	EDGE OF CONCRETE
---	TRAFFIC SIGNS
UP ⌀	UTILITY POLE
•	GUY WIRE
⊗	MANHOLE
⊗	CLEANOUT
⊗	SEPTIC TANK
---	OVERHEAD UTILITY
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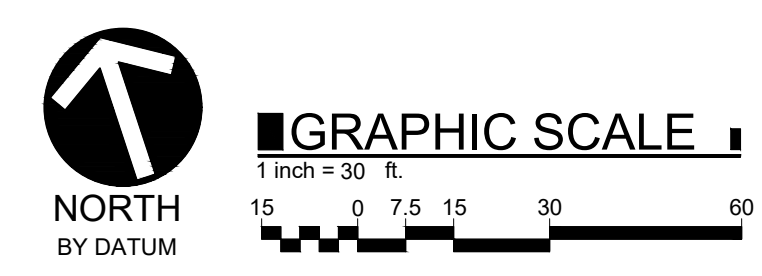
PROPOSED LEGEND	
520	MAJOR CONTOUR
517	MINOR CONTOUR
x 522.28	SPOT GRADE
M.E.G. 521.2	SPOT GRADE - MATCH EXISTING GRADE
⊗	RIP-RAP
---	STORM PIPE
⊗	END SECTION
⊗	STORM MANHOLE
⊗	RISER STRUCTURE
⊗	ROOF DRAIN
⊗	STORM END CAP

GENERAL DATUM NOTES:

1. THE DRAWING IS TIED HORIZONTALLY INTO THE NORTH AMERICAN DATUM OF 1983 (NAD 83).
2. THE DRAWING IS TIED VERTICALLY INTO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

GENERAL GRADING AND ELEVATION NOTES:

1. AT SOME INSTANCES WHERE NEW WORK AND EXISTING WORK TIE TOGETHER, THE CONTRACTOR IS PROVIDED A SPOT ELEVATION AND INSTRUCTED TO MATCH EXISTING GRADE. THE INTENT OF THE SPOT ELEVATION IS TO PROVIDE A REFERENCE FOR THE CONTRACTOR, HOWEVER MATCHING EXISTING GRADE AT THESE LOCATIONS TAKES PRIORITY OVER ACHIEVING THE SPECIFIED ELEVATION.
2. BEFORE ANY GRADING, UTILITY, OR OTHER ELEVATION DEPENDENT ACTIVITIES COMMENCE, THE CONTRACTOR SHALL VERIFY TIE-IN ELEVATIONS WITH THE PLANS AND REPORT TO ENGINEER SHOULD THE FIELD ELEVATION AND SPECIFIED ELEVATION VARY BY MORE THAN 0.05'.



GRADING AND DRAINAGE PLAN
HALE TRANSPORTATION BUILDING ADDITION
1067 MARBLE STREET
CITY OF WATERTOWN, JEFFERSON COUNTY, STATE OF NEW YORK

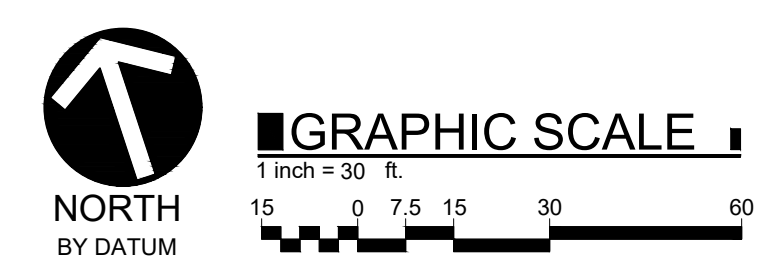
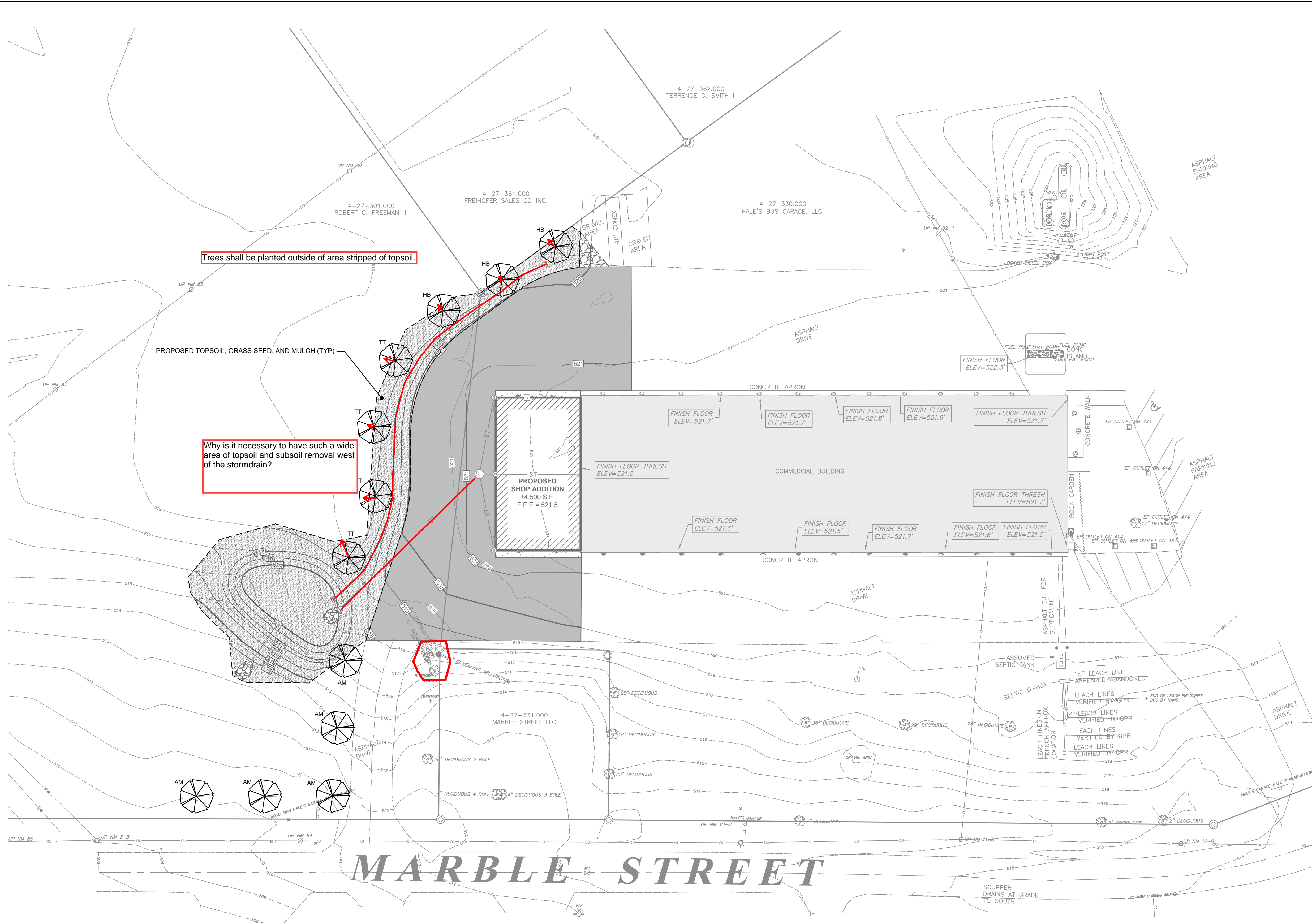
FOR APPROVALS ONLY
NOT FOR CONSTRUCTION

DRAWING NO. C106

EXISTING LEGEND	
	CENTERLINE OF STREET
	TREE
	GAS VALVE
	EDGE OF PAVEMENT
	PAINTED PAVEMENT MARKING
	PARCEL BOUNDARY
	BUILDING
	MINOR GROUND CONTOUR
	MAJOR GROUND CONTOUR
	EDGE OF CONCRETE
	TRAFFIC SIGNS
	UTILITY POLE
	GUY WIRE
	MANHOLE
	CLEANOUT
	SEPTIC TANK
	OVERHEAD UTILITY
	WATER VALVE
	GAS VALVE
	UNDERGROUND GAS LINE
	STORM SEWER LINE
	STORM END SECTION
	SANITARY SEWER LINE
	OVERHEAD LIGHT FIXTURE
	ELECTRIC METER
	ELECTRIC BOX
	HVAC UNIT
	GAS METER
	PIPE BOLLARD
	FLAG POLE
	LID
	DOUBLE LIGHT POST
	IRON PIPE (BY L.W.M.)
	IRON ROD (BY L.W.M.)
	REBAR (BY L.W.M.)

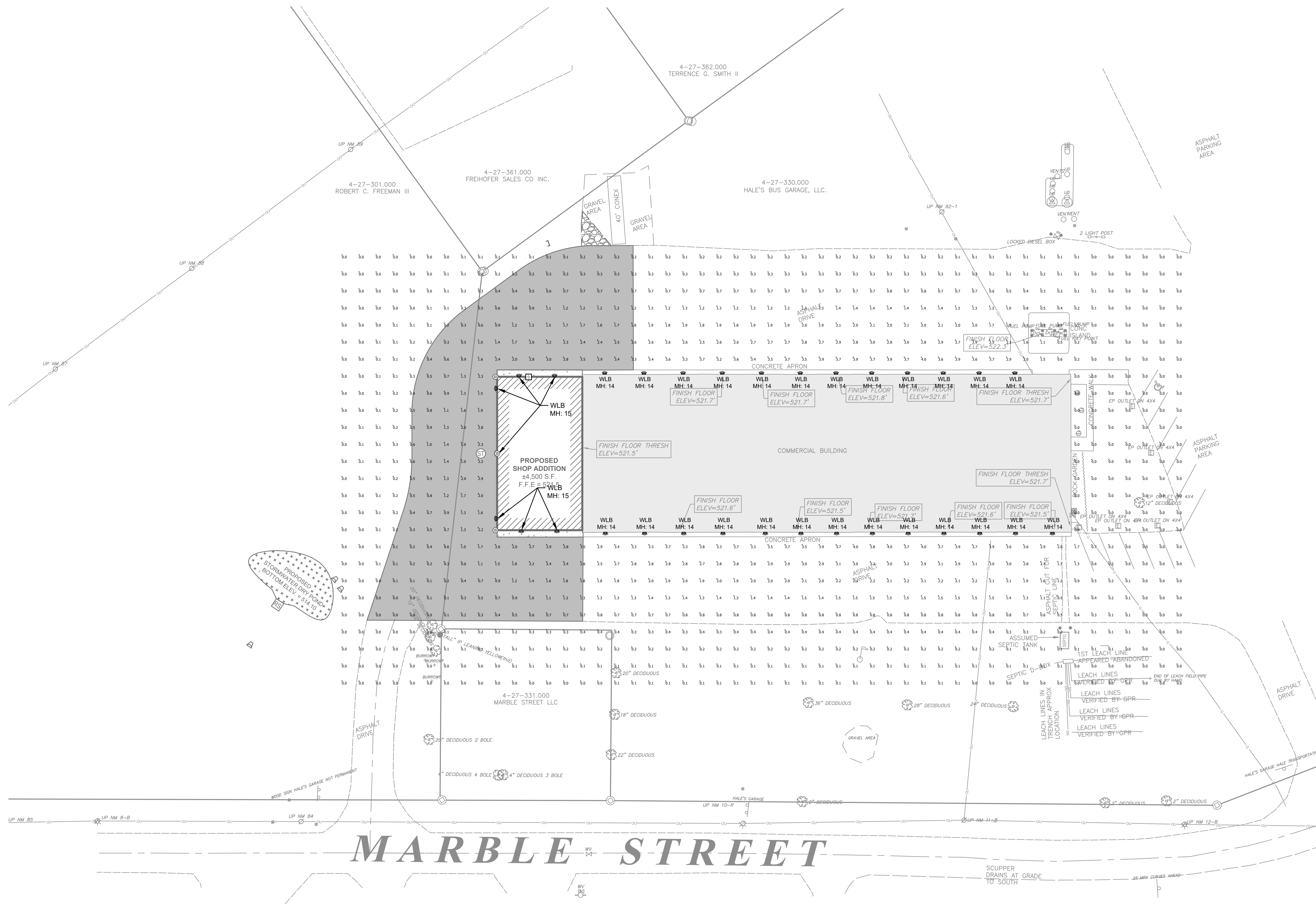
PROPOSED LEGEND	
	TOPSOIL, GRASS SEED, AND MULCH
	TREE

PLANT MATERIAL SCHEDULE			
SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE
TREES			
AM	ACER RUBRUM 'AUTUMN FLAME'	AUTUMN FLAME MAPLE	2" CAL.
TT	LIRIODENDRON TULIPIFERA	TULIPTREE	2" CAL.
HB	CELTIS OCCIDENTALIS	HACKBERRY	2" CAL.



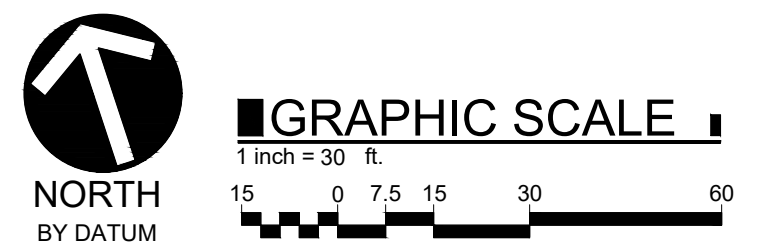
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EXISTING LEGEND	
	CENTERLINE OF STREET
	TREE
	GAS VALVE
	EDGE OF PAVEMENT
	PAINTED PAVEMENT MARKING
	PARCEL BOUNDARY
	BUILDING
	MINOR GROUND CONTOUR
	MAJOR GROUND CONTOUR
	EDGE OF CONCRETE
	TRAFFIC SIGNS
	UTILITY POLE
	GUY WIRE
	MANHOLE
	CLEANOUT
	SEPTIC TANK
	OVERHEAD UTILITY
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	SANITARY SEWER LINE
	OVERHEAD LIGHT FIXTURE
	ELECTRIC METER
	ELECTRIC BOX
	HVAC UNIT
	GAS METER
	PIPE BOLLARD
	FLAG POLE
	LID
	DOUBLE LIGHT POST
	IRON PIPE (BY L.W.M.)
	IRON ROD (BY L.W.M.)
	REBAR (BY L.W.M.)



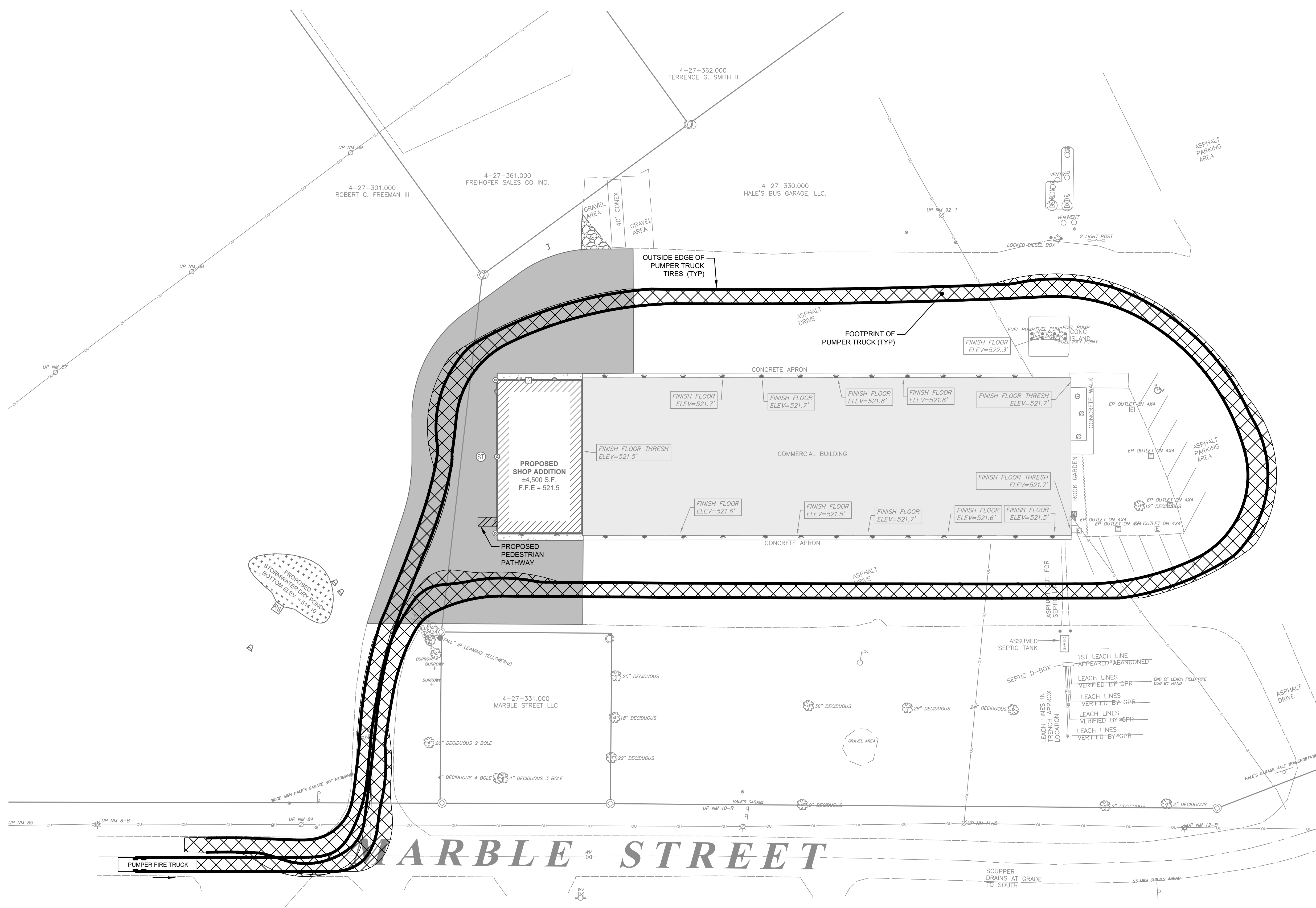
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	32	WLB	Single	3535	3535	34	34	1088	0.950	0.950	1.000	0.903	B1-U0-G1	GWC-SA1A-740-U-T4FT-HSS	14, 15

Calculation Summary						
Label	CalcType	Units	Avg	Max	Min	Avg/Min
Object_3_Planar	Illuminance	Fc	0.82	4.0	0.0	N.A.



PLOT TIME: 11/14/2023 10:52:17 AM
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PROJECT LOCATION: C:\Users\mjs\Documents\GYMO\2023\1067 Marble Street\1067 Marble Street.dwg
 DRAWN BY: MJC
 CHECKED BY: MJC
 DATE ISSUED: 11-14-2023
 SCALE: 1" = 30'
 PROJECT NO: 2023-045



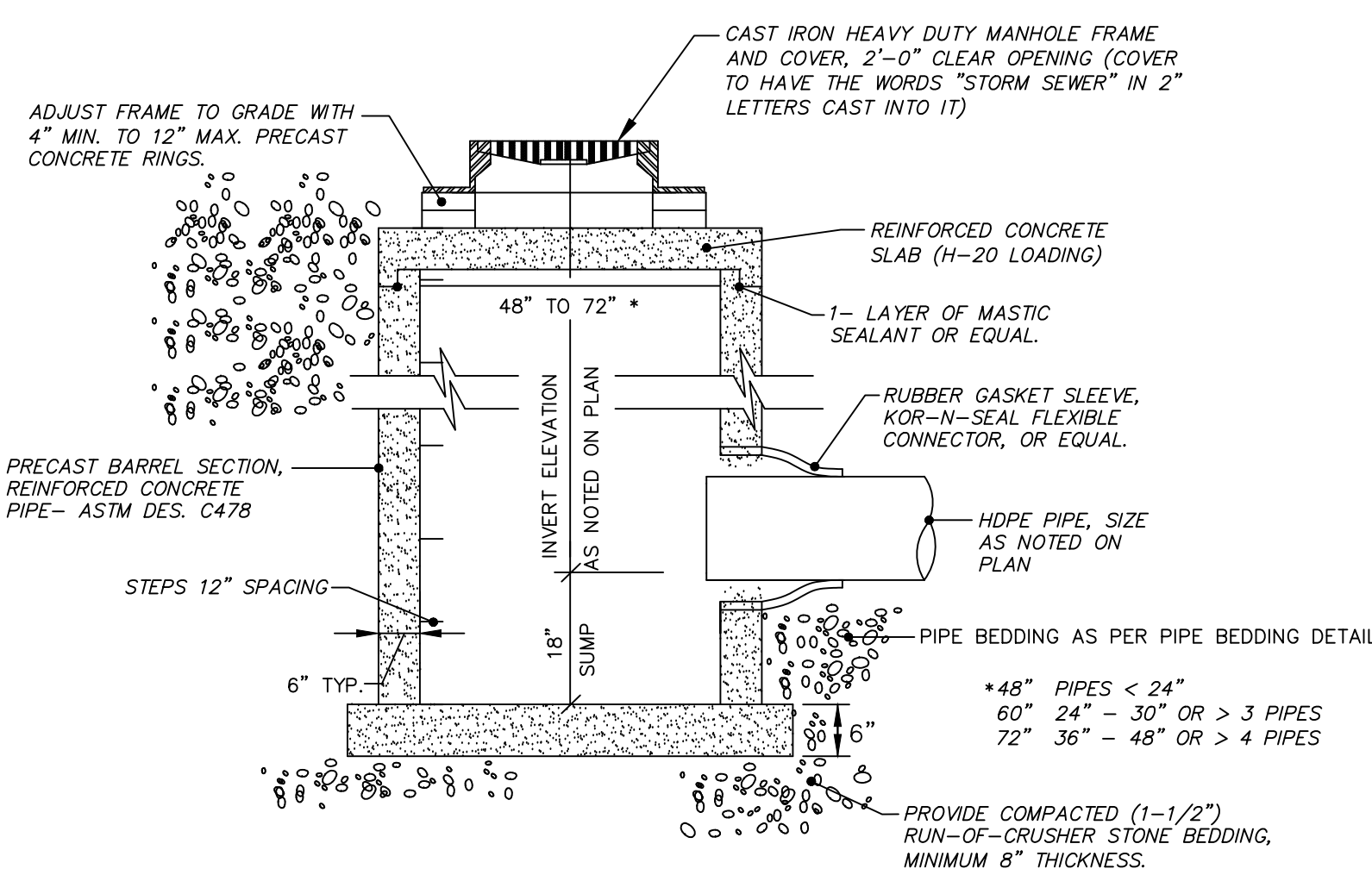
EXISTING LEGEND	
---	CENTERLINE OF STREET
○	TREE
⊕	GAS VALVE
---	EDGE OF PAVEMENT
---	PAINTED PAVEMENT MARKING
---	PARCEL BOUNDARY
█	BUILDING
---	MINOR GROUND CONTOUR
---	MAJOR GROUND CONTOUR
---	EDGE OF CONCRETE
⊕	TRAFFIC SIGNS
UP ○	UTILITY POLE
•	GUY WIRE
⊕	MANHOLE
⊕	CLEANOUT
SEPTIC	SEPTIC TANK
---	OVERHEAD UTILITY
⊕	WATER VALVE
⊕	GAS VALVE
---	UNDERGROUND GAS LINE
---	STORM SEWER LINE
---	STORM END SECTION
---	SANITARY SEWER LINE
⊕	OVERHEAD LIGHT FIXTURE
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⊕	ELECTRIC BOX
⊕	HVAC UNIT
⊕	GAS METER
•	PIPE BOLLARD
⊕	FLAG POLE
LID ○	LID
⊕	DOUBLE LIGHT POST
○	IRON PIPE (BY L.W.M.)
○	IRON ROD (BY L.W.M.)
⊕	REBAR (BY L.W.M.)

PROPOSED LEGEND	
XXXX	FIRE TRUCK FOOTPRINT
---	FIRE TRUCK TIRE PATH
---	PEDESTRIAN PATHWAY

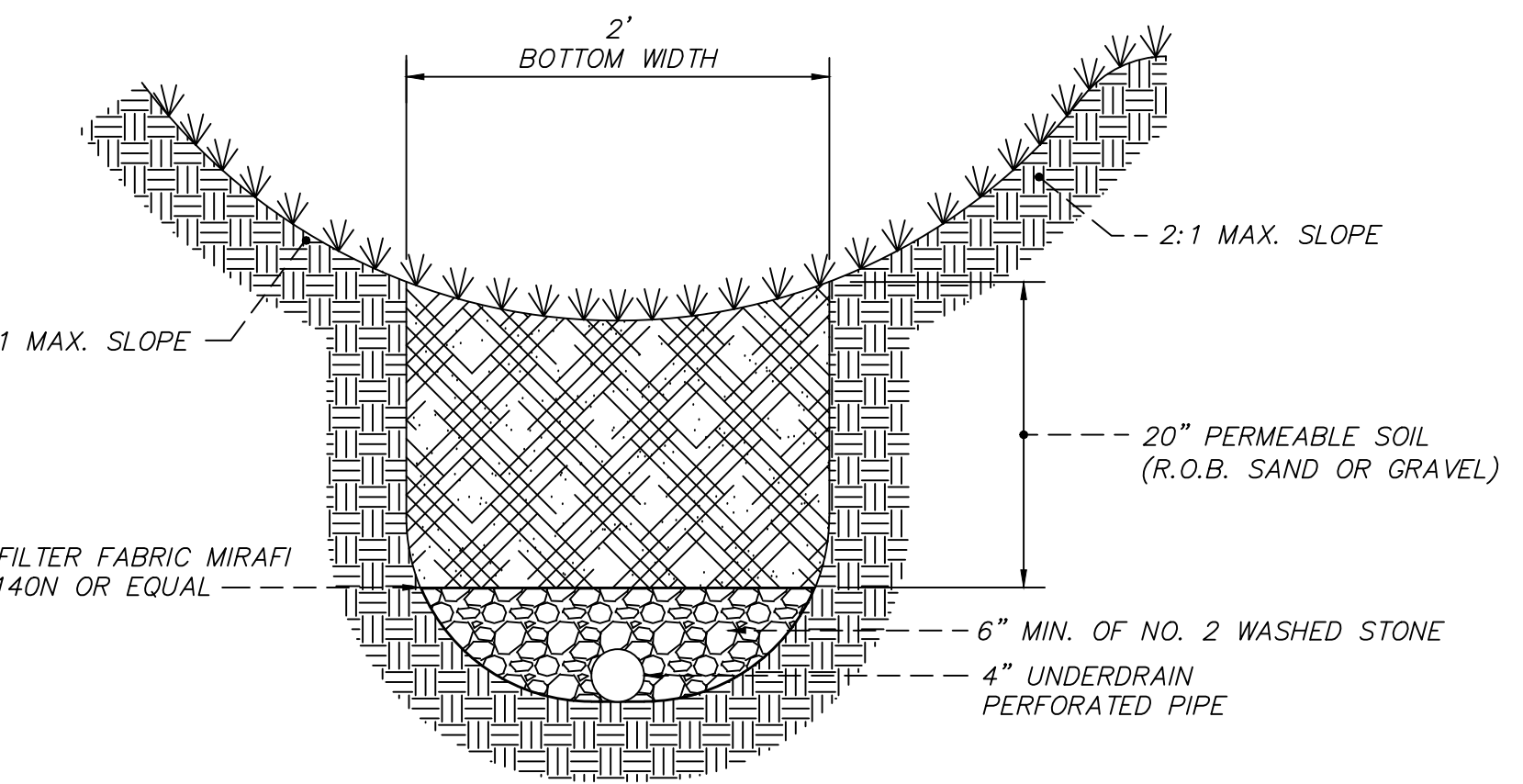
GRAPHIC SCALE
 1 inch = 30 ft.
 0 7.5 15 30 60
 NORTH BY DATUM

VEHICULAR AND PEDESTRIAN CIRCULATION PLAN
HALE TRANSPORTATION BUILDING ADDITION
1067 MARBLE STREET
CITY OF WATERTOWN, JEFFERSON COUNTY, STATE OF NEW YORK

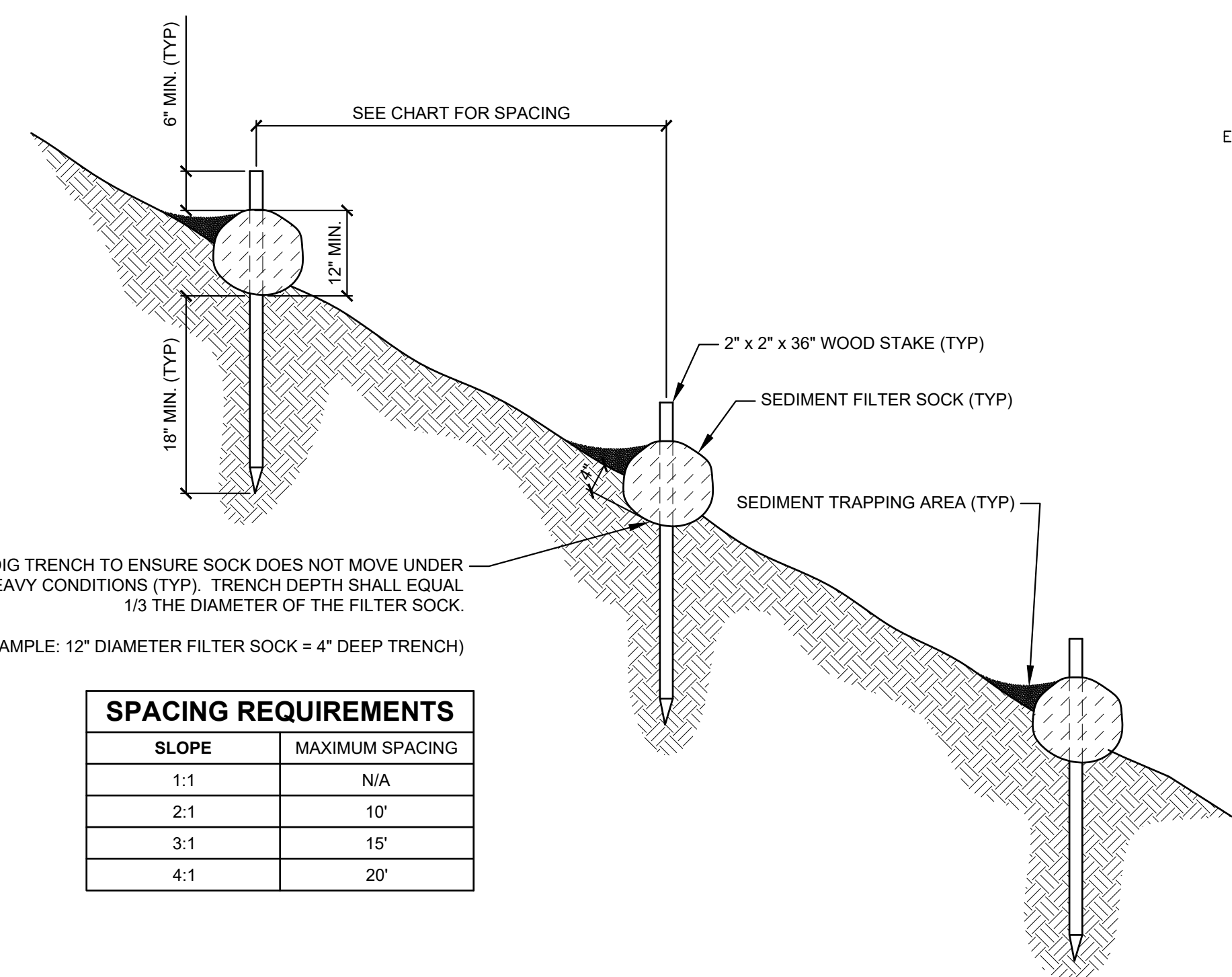
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1 **TYPICAL STORM MANHOLE DETAIL**
C502 NOT TO SCALE



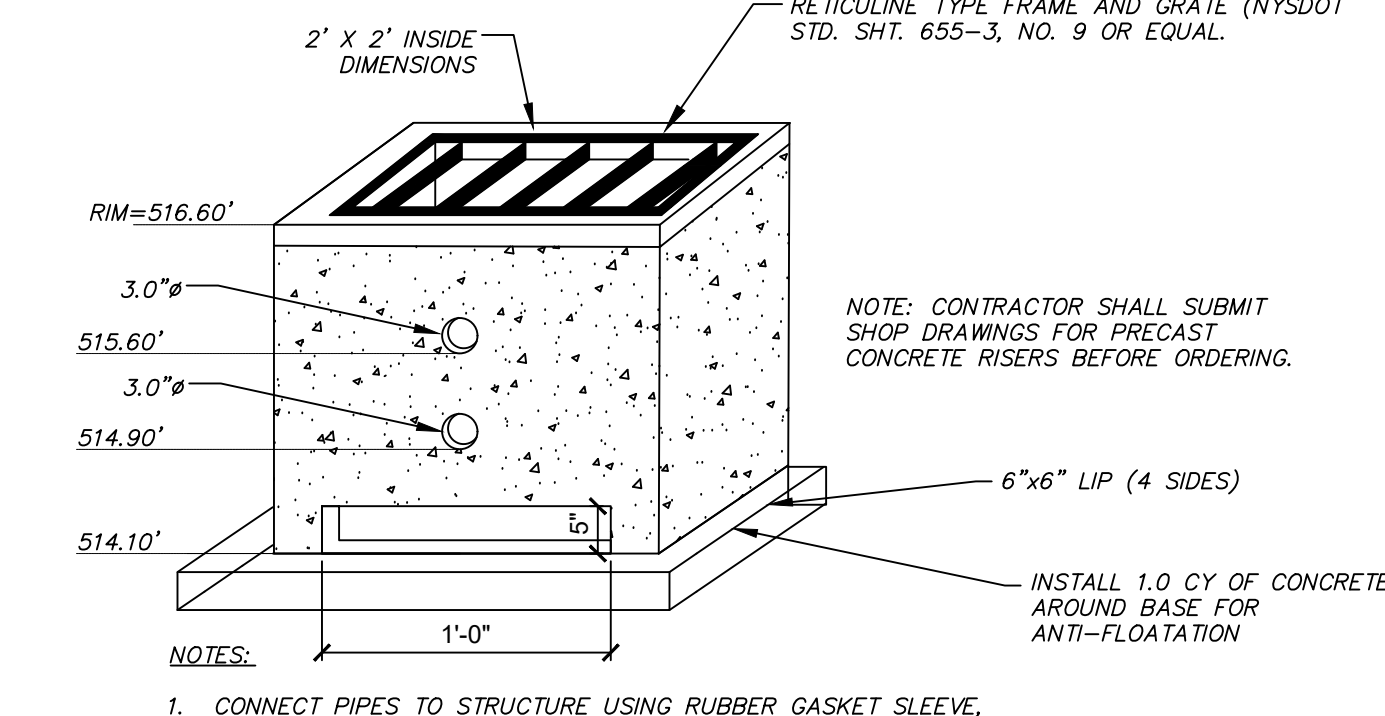
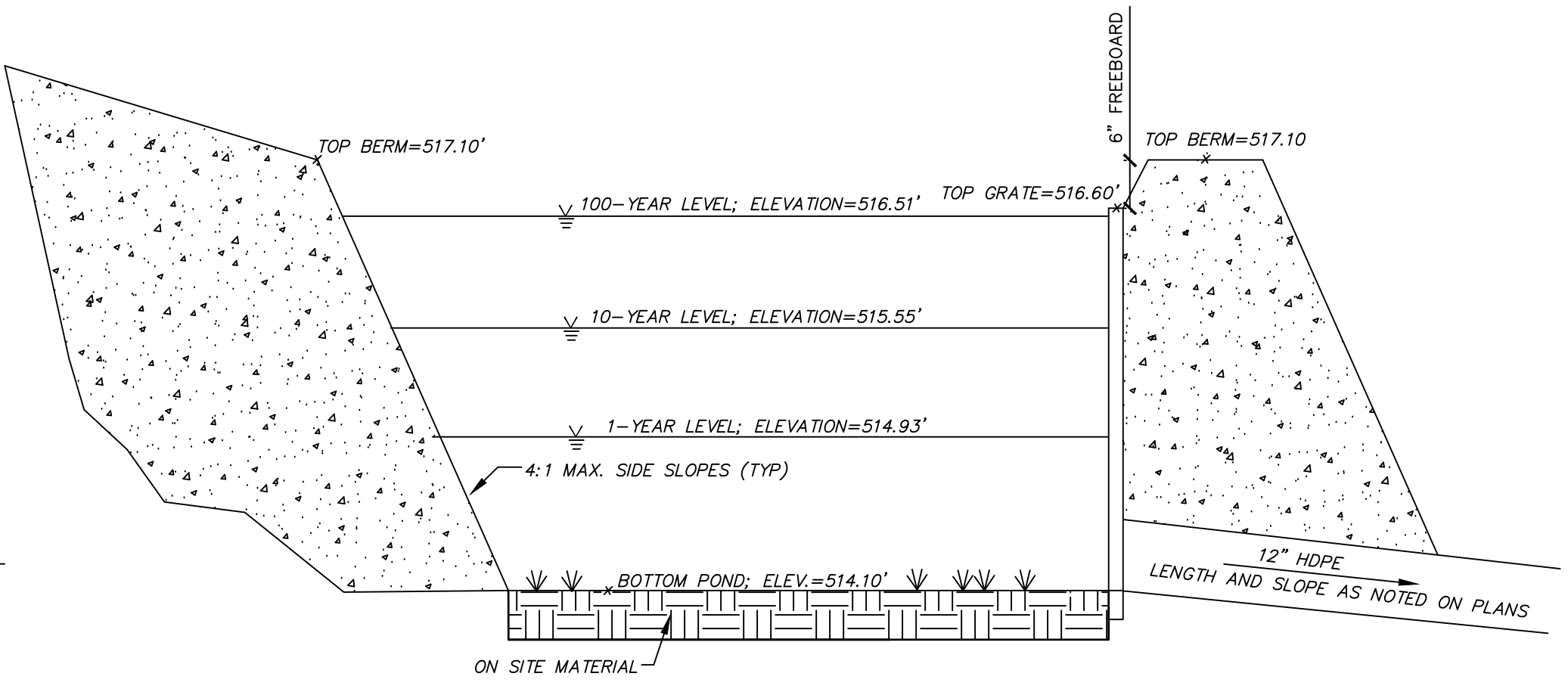
4 **DRY SWALE DETAIL**
C502 NOT TO SCALE



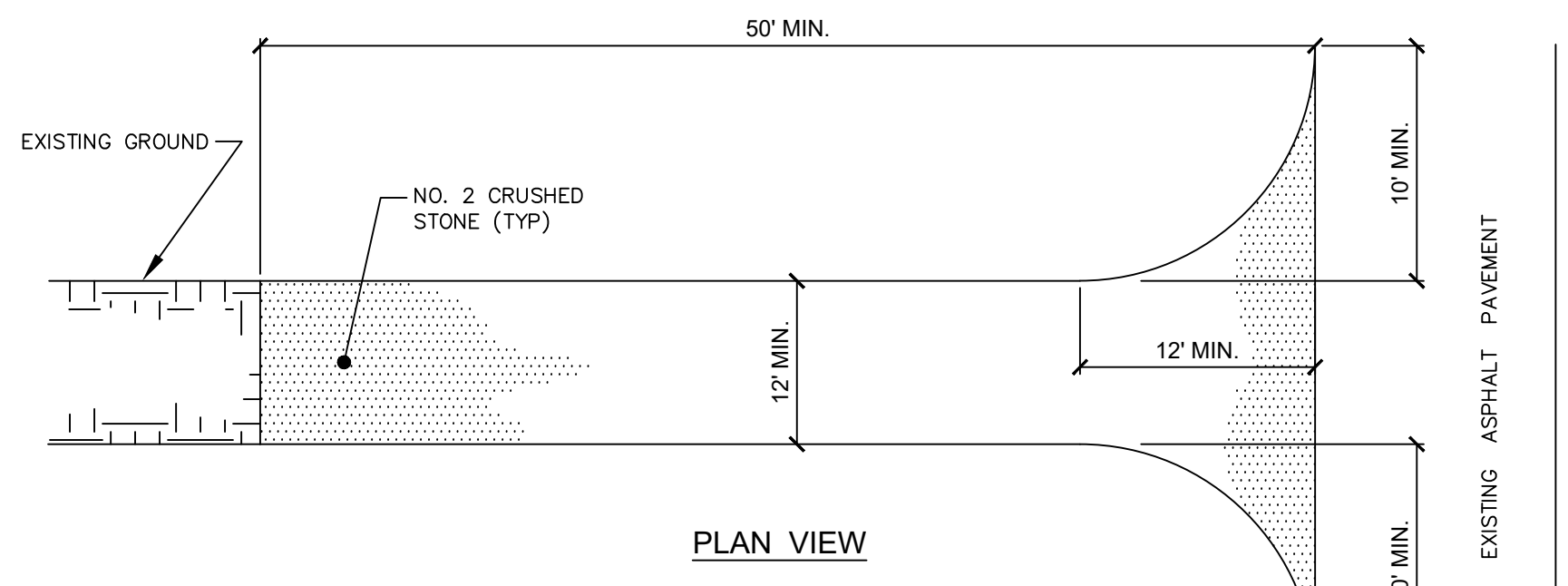
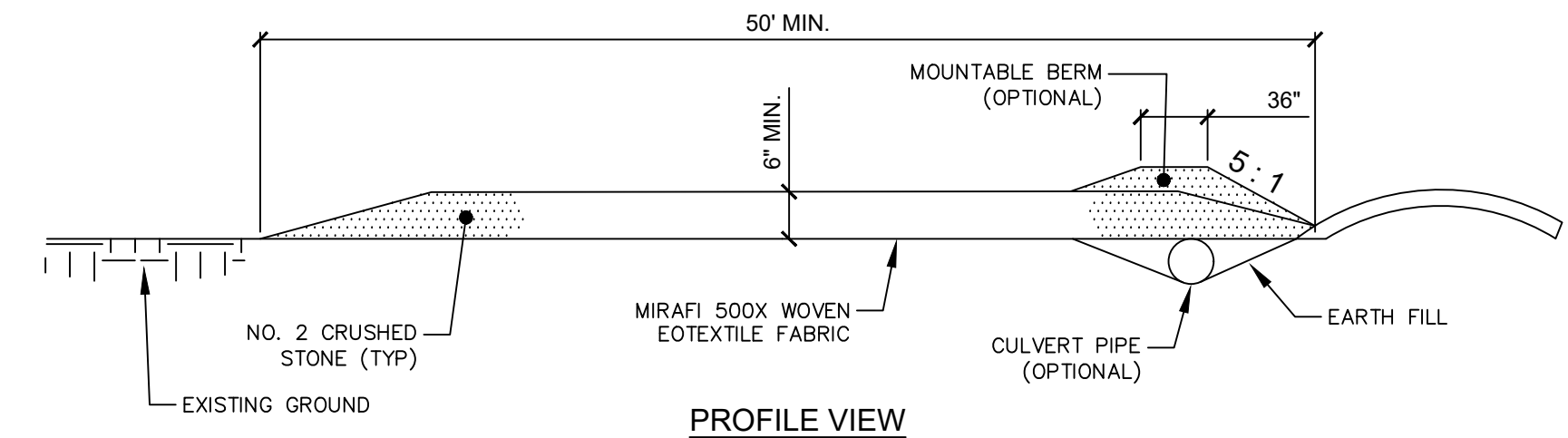
SPACING REQUIREMENTS

SLOPE	MAXIMUM SPACING
1:1	N/A
2:1	10'
3:1	15'
4:1	20'

5 **SEDIMENT FILTER SOCK DETAIL**
C502 NOT TO SCALE

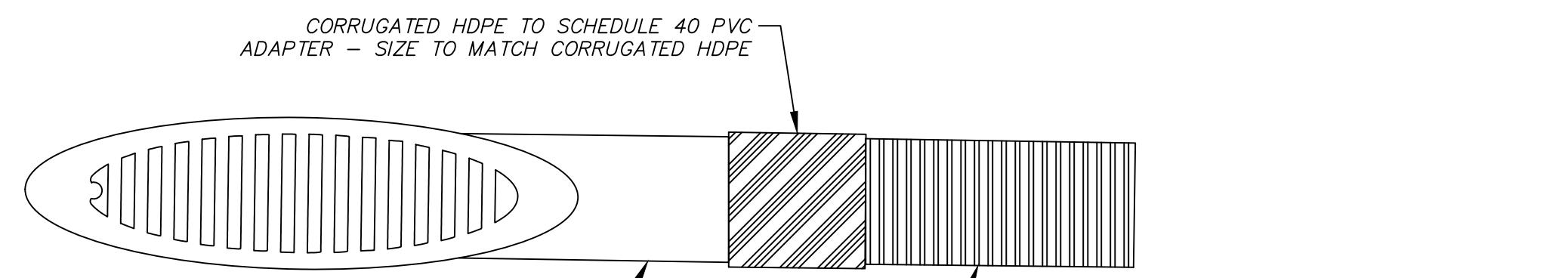


2 **SWM AREA #1 - POND AND PRECAST RISER STRUCTURE SKETCH**
C502 NOT TO SCALE

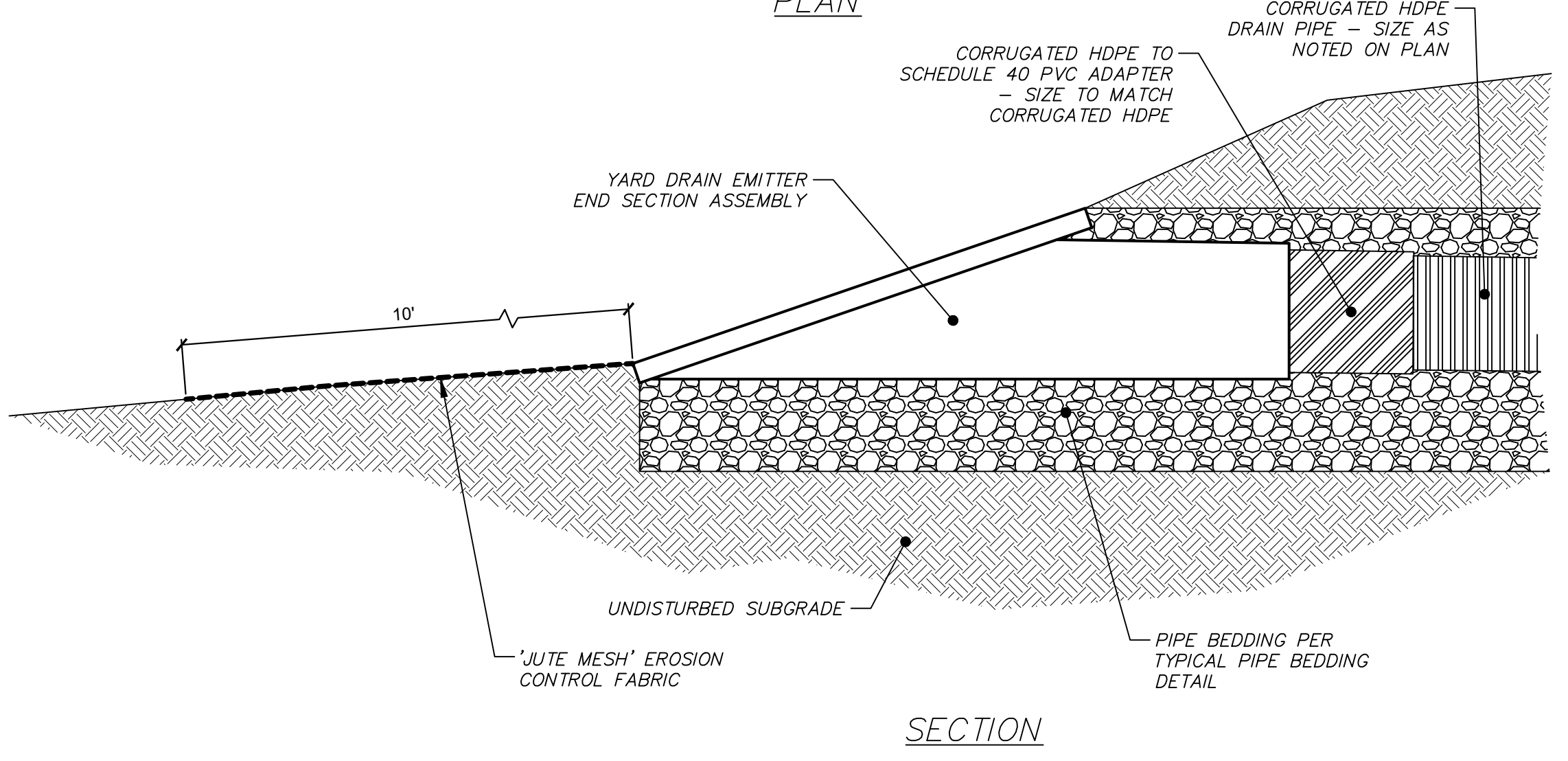


- CONSTRUCTION SPECIFICATIONS**
- STONE SIZE - USE 1" - 4" STONE OR RECLAIMED / RECYCLED CONCRETE EQUIVALENT.
 - LENGTH - NOT LESS THAN 50 FEET (EXCEPT ON A SINGLE RESIDENTIAL LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY)
 - THICKNESS - NOT LESS THAN SIX (6) INCHES
 - WIDTH - TWELVE (12) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. TWENTY-FOUR (24) FOOT IF SINGLE ENTRANCE TO SITE.
 - GEOTEXTILE - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING THE STONE.
 - SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARDS CONSTRUCTION ENTRANCES SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
 - MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
 - WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AN WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPED DEVICE.
 - PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

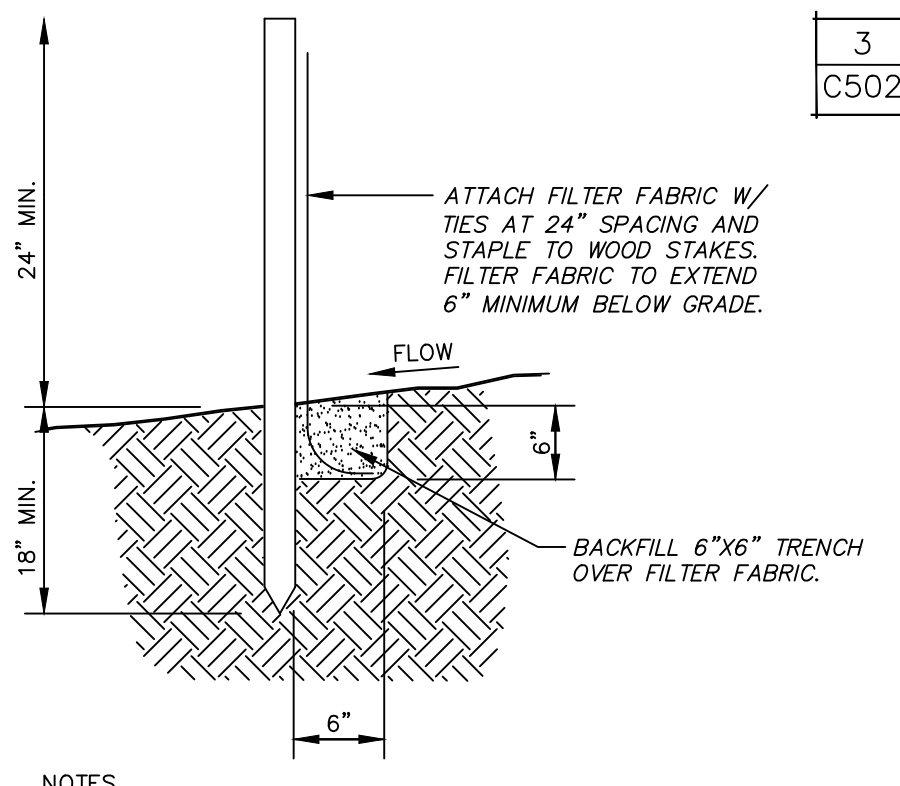
6 **STABILIZED CONSTRUCTION ENTRANCE DETAIL**
C502 NOT TO SCALE D132-02



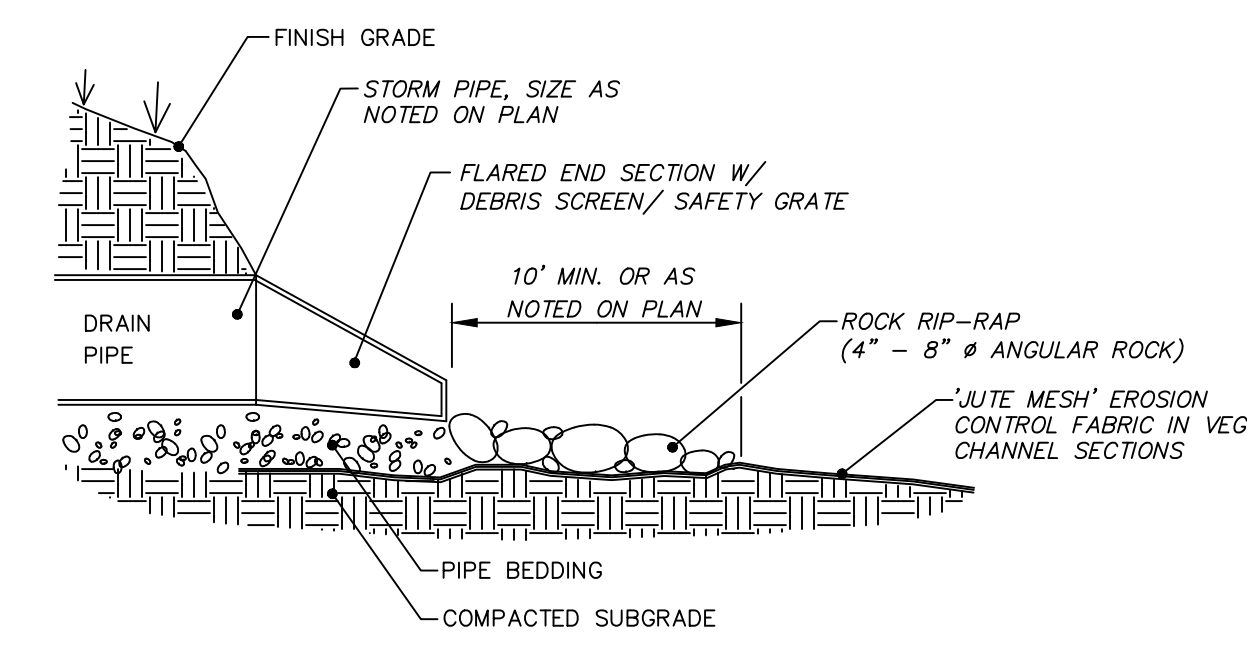
3 **4' - 6' DRAINAGE PIPE END SECTION DETAIL**
C502 NOT TO SCALE



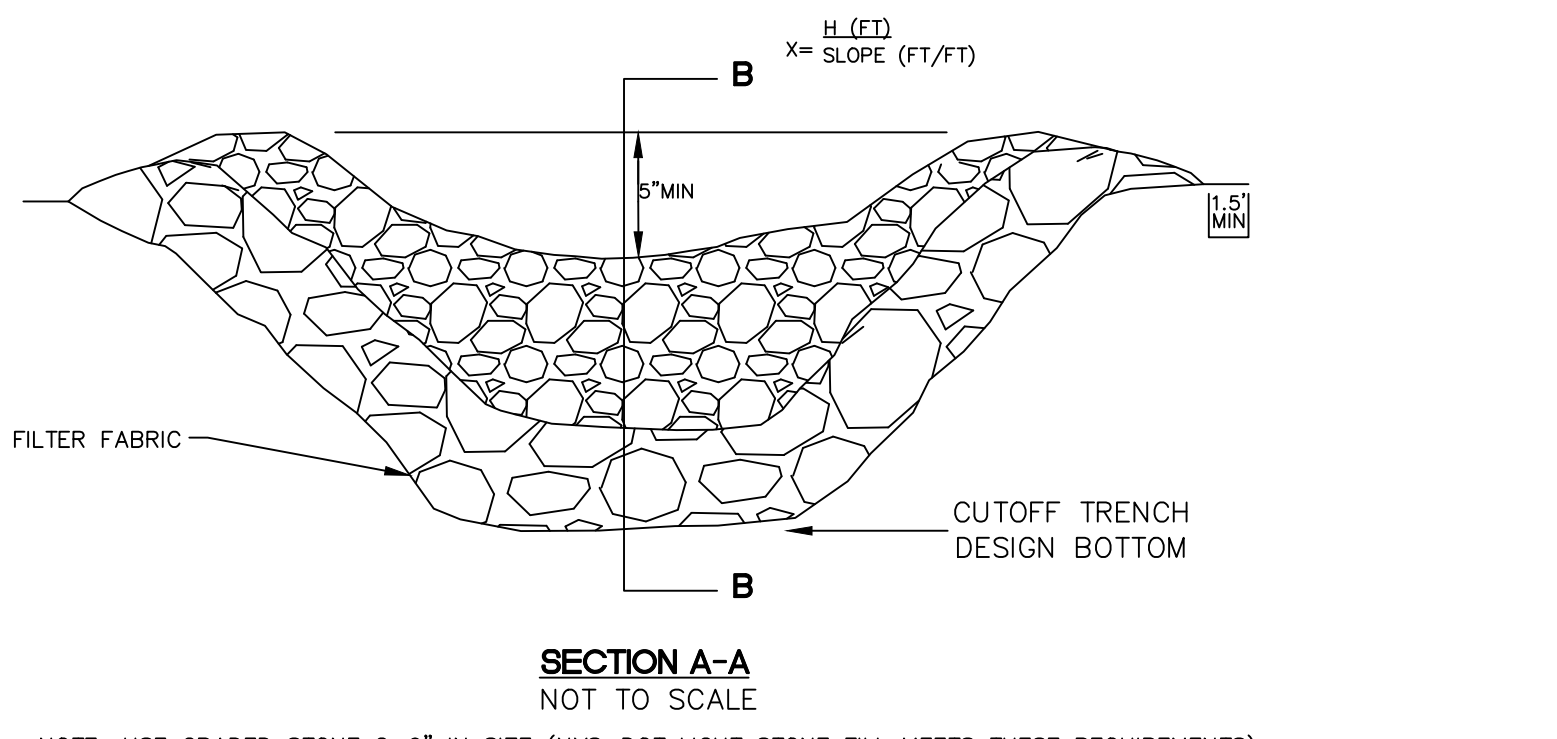
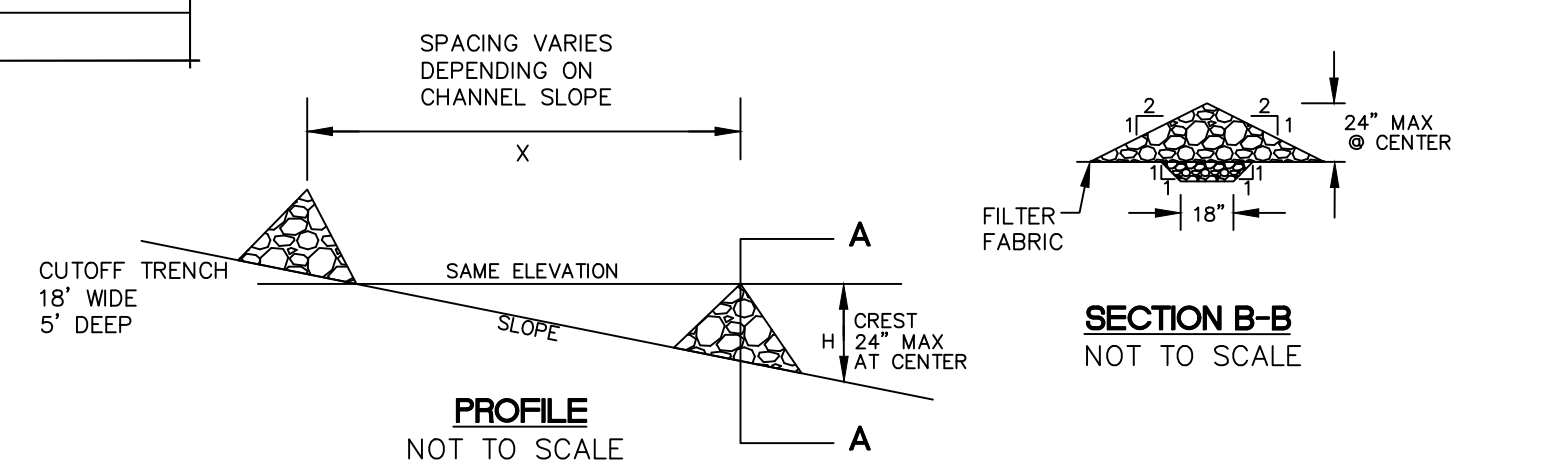
SECTION



7 **TYPICAL SILTATION FENCE DETAIL**
C502 NOT TO SCALE



8 **DRAINAGE PIPE END SECTION / ROCK RIP-RAP DETAILS**
C502 NOT TO SCALE



9 **TYPICAL CHECK DAM DETAIL**
C502 NOT TO SCALE

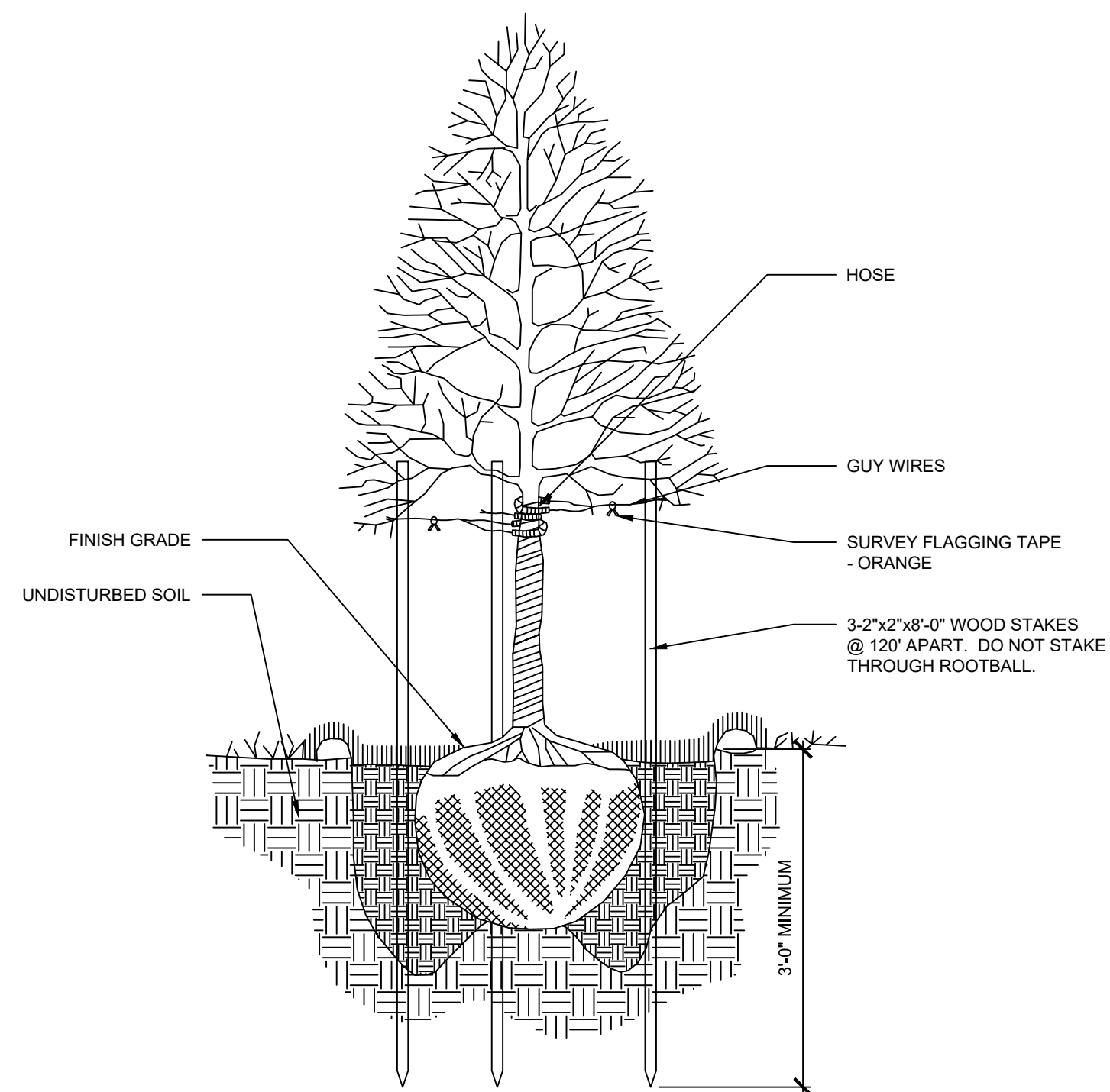
PROJECT LOCATION: C:\Users\mcmcm\Documents\GYMO Architecture, Engineering & Land Surveying\Drawings\Site Details - Transportation Building Addition - 1067 Marble Street - City of Watertown, Jefferson County, State of New York
 PROJECT NO: 2023-045
 SCALE: N/A
 DRAWN BY: MT
 DESIGNED BY: MJC
 CHECKED BY: MJC
 DATE ISSUED: 11-14-2023

GENERAL TREE PLANTING NOTES:

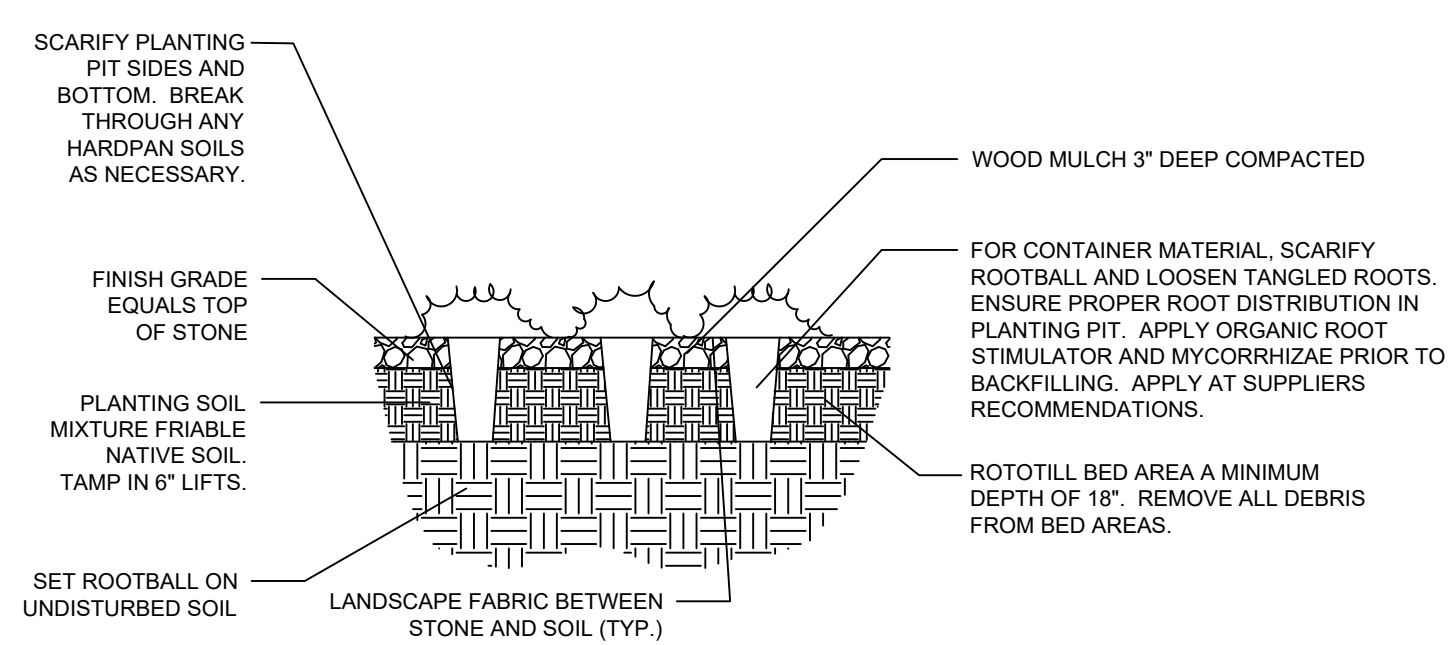
- THESE NOTES ARE PRESENTED AS A "SUMMARY" OF THE WRITTEN SPECIFICATIONS ISSUED FOR THE PROJECT. REFER TO THE WRITTEN SPECIFICATIONS FOR ADDITIONAL DETAIL AND FULL PROJECT REQUIREMENTS.
- ANY QUANTITIES INDICATED ON THE DRAWINGS OR ON THE TREE MATERIAL SCHEDULE ARE PROVIDED FOR THE BENEFIT OF THE LANDSCAPE SUBCONTRACTOR BUT SHOULD NOT BE ASSUMED TO BE CORRECT. THE LANDSCAPE SUBCONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE QUANTITIES INDICATED. ANY DISCREPANCIES NOTED SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO INSTALLATION. IN THE EVENT OF A DISCREPANCY, THE GRAPHIC REPRESENTATIONS SHOWN ON THE DRAWINGS SHALL GOVERN.
- NO SUBSTITUTIONS AS TO SIZE, TYPE, SPACING, QUANTITY OR QUALITY OF TREE MATERIAL SHALL BE MADE WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER. CHANGES IN TREE MATERIAL MAY CONSTITUTE PLAN RE-APPROVAL.
- TREES SHALL BE SUPPLIED AT THE SIZES SPECIFIED ON THE DRAWINGS. THE SIZES SHOWN ARE THE MINIMUMS FOR EACH CATEGORY (HEIGHT, SPREAD, CALIPER, CONTAINER SIZE, ETC.). WHEN A RANGE OF SIZE IS GIVEN, 75% OF THE PLANTS SUPPLIED MUST MEET THE MAXIMUM RANGE SIZE, AND 25% OF THE PLANTS SUPPLIED SHALL BE THE MINIMUM RANGE SIZE SPECIFIED. THE PLANTS SUPPLIED MUST CONFORM TO ALL OF THE MINIMUM DIMENSIONS INDICATED. PLANTS OF LARGER SIZE MAY BE USED IF ACCEPTABLE TO THE ENGINEER AT NO ADDITIONAL COST AND IF SIZES OF CONTAINER OR ROOT BALLS, HEIGHT, AND SPREAD ARE INCREASED PROPORTIONATELY IN ACCORDANCE WITH ANSI Z60.1. ALL OTHER QUALITY REQUIREMENTS OF THE TREE MATERIAL MUST ALSO BE ADHERED TO.
- ALL TREES MUST BE NURSERY GROWN, BALL AND BURLAP (B&B) OR CONTAINER GROWN AS-SPECIFIED IN THE MATERIALS SCHEDULE. CONTAINER GROWN MATERIAL CAN BE SUBSTITUTED FOR B&B MATERIAL WITH WRITTEN APPROVAL BY THE DB CONTRACTOR PRIOR TO INSTALLATION. ALL TREE MATERIALS SHALL CONFORM TO THE AMERICAN STANDARD FOR NURSERY STOCK ANSI Z-60.1, LATEST EDITION. ALL TREES SHALL COMPLY WITH ANSI Z-60.1 AND THE URBAN TREE FOUNDATION GUIDELINE FOR NURSERY TREE QUALITY, 2009 EDITION. ALL TREES SHALL BE HIGHEST QUALITY, FIRST CLASS REPRESENTATIVES OF THEIR SPECIES. SECONDS, CULLS, OR PARK GRADE MATERIAL WILL BE REJECTED.
- CALIPER SIZE IS NOT TO BE REDUCED. CALIPER MEASUREMENTS SHALL BE TAKEN IN ACCORDANCE WITH ANSI STANDARDS.
- ALL TREES MUST BE STRAIGHT TRUNK, HAVE A STRONG CENTRAL LEADER, FULL HEADED, AND MEET THE MINIMUM REQUIREMENTS. TREES WITH A "Y" SHAPE ARE NOT ACCEPTABLE. TREES THAT HAVE BEEN FRESHLY PRUNED TO MEET THESE SPECIFICATIONS SHALL BE REJECTED.
- THE TREES VEGETATIVE CANOPY SHOULD BE MOSTLY SYMMETRICAL AND FREE OF LARGE VOIDS OR FLAT SURFACE AREAS ON ONE SIDE.
- ALL STREET AND SHADE TREES SHALL HAVE A MINIMUM SIX FEET (6') CLEAR TRUNK UNLESS OTHERWISE NOTED ON PLANS OR PLANT LISTS.
- TREES MOVED DURING PERIODS OF HIGH TRANSPIRATION SHALL BE SPRAYED WITH AN ANTI-DESSICANT PRIOR TO MOVING. APPLY AND REMOVE ANTI-DESSICANTS AT THE MANUFACTURER'S RECOMMENDATIONS.
- TREES SHALL BE STAKED AND GUYED AS DETAILED AND SPECIFIED ONLY IF THE TREE CANNOT STAND ON ITS OWN AS DETERMINED BY THE PROJECT LANDSCAPE ARCHITECT. STAKE AND GUYED MATERIALS SHALL BE REMOVED BY THE LANDSCAPE SUBCONTRACTOR SIX (6) MONTHS AFTER FINAL ACCEPTANCE.
- ALL TREES ARE SUBJECT TO REVIEW AND APPROVAL BY THE ENGINEER AT ANY TIME PRIOR TO FINAL ACCEPTANCE. REJECTED PLANTS SHALL BE REPLACED IMMEDIATELY AT NO ADDITIONAL COST.
- THE LANDSCAPE SUBCONTRACTOR SHALL FIELD STAKE ALL TREES PRIOR TO INSTALLATION. THE OWNER'S REPRESENTATIVE SHALL APPROVE ALL STAKED LOCATIONS PRIOR TO INSTALLATION. PLANTS INSTALLED PRIOR TO APPROVAL BY THE OWNER'S REPRESENTATIVE ARE SUBJECT TO REJECTION AND REPLACEMENT AT NO ADDITIONAL COST TO THE OWNER.
- PRIOR TO COMMENCEMENT OF INSTALLATION, THE LANDSCAPE SUBCONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL EXISTING UTILITIES AND SHALL AVOID DAMAGING UTILITIES DURING INSTALLATION. ANY UTILITIES DAMAGED DURING INSTALLATION SHALL BE REPAIRED BY THE LANDSCAPE SUBCONTRACTOR TO THE SATISFACTION OF THE APPROPRIATE UTILITY COMPANY AND THE ENGINEER. ALL REPAIRS SHALL BE AT NO COST TO THE OWNER.
- NO TREES SHALL BE PLANTED WITHIN 10' OF SITE UTILITY LINES. TREE LOCATIONS PROPOSED WITHIN 10' SHALL BE BROUGHT TO THE ATTENTION OF THE PROJECT LANDSCAPE ARCHITECT PRIOR TO EXCAVATING. FIELD ADJUSTMENT OF TREE LOCATIONS SHALL BE DETERMINED BY THE PROJECT LANDSCAPE ARCHITECT. PLANTS RELOCATED AND INSTALLED WITHOUT APPROVAL OF THE PROJECT LANDSCAPE ARCHITECT WILL BE REMOVED, REPLACED, AND RELOCATED AT NO ADDITIONAL COST.
- THE LANDSCAPE CONTRACTOR SHALL UTILIZE ON-SITE TOPSOIL AS AVAILABLE FROM THE EARTHWORK SUBCONTRACTOR. ALL TOPSOIL SHALL BE APPROVED BY THE ENGINEER.
- NO TREES SHALL BE INSTALLED IN POOR DRAINAGE CONDITIONS. LANDSCAPE SUBCONTRACTOR IS RESPONSIBLE FOR TESTING SUSPECT TREE PITS PRIOR TO TREE INSTALLATION. REFER TO THE LANDSCAPE SPECIFICATIONS FOR TREE PIT TESTING PROCEDURES.
- ALL TREES SHALL BE PLACED WITH THE BEST FACE FORWARD, TOWARDS THE STREET WHENEVER POSSIBLE.
- ALL TREES SHOULD BE PRUNED AS NECESSARY PRIOR TO INSTALLATION.
- PRE-EMERGENT HERBICIDES, TREFLAN, PREEN, OR APPROVED EQUAL, SHALL BE APPLIED TO ALL TREE PLANTING BEDS PRIOR TO MULCHING. APPLY AT MANUFACTURER'S RECOMMENDATIONS. HERBICIDES SHALL BE INCORPORATED INTO THE SOIL AT THE RECOMMENDATION OF THE MANUFACTURER.
- APPLY ORGANIC ROOT STIMULATOR, CONTINUING MYCORRHIZAE, TO ALL TREES PRIOR TO BACKFILLING. APPLY AT MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR TO SUBMIT SAMPLES OF ROOT STIMULATOR TO THE ENGINEER FOR APPROVAL PRIOR TO USE.
- THE LANDSCAPE SUBCONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE PLANT INSTALLATIONS UNTIL ACCEPTED BY THE OWNER. MAINTENANCE SHALL INCLUDE RE-MULCHING, WATERING, APPLICATIONS OF HERBICIDES, FUNGICIDES, INSECTICIDES AND PESTICIDES AS NECESSARY. MAINTENANCE SHALL INCLUDE ALL TREES, SEEDED AREAS AND SOD.
- THE LANDSCAPE CONTRACTOR SHALL GUARANTEE THAT ALL TREES SHALL BE IN A HEALTHY AND THRIVING CONDITION ACCORDING TO THE NATURAL GROWTH HABITS OF THE INDIVIDUAL SPECIES AT THE TIME OF THE PROJECT COMPLETION.

GENERAL LANDSCAPE AND SEEDING NOTES:

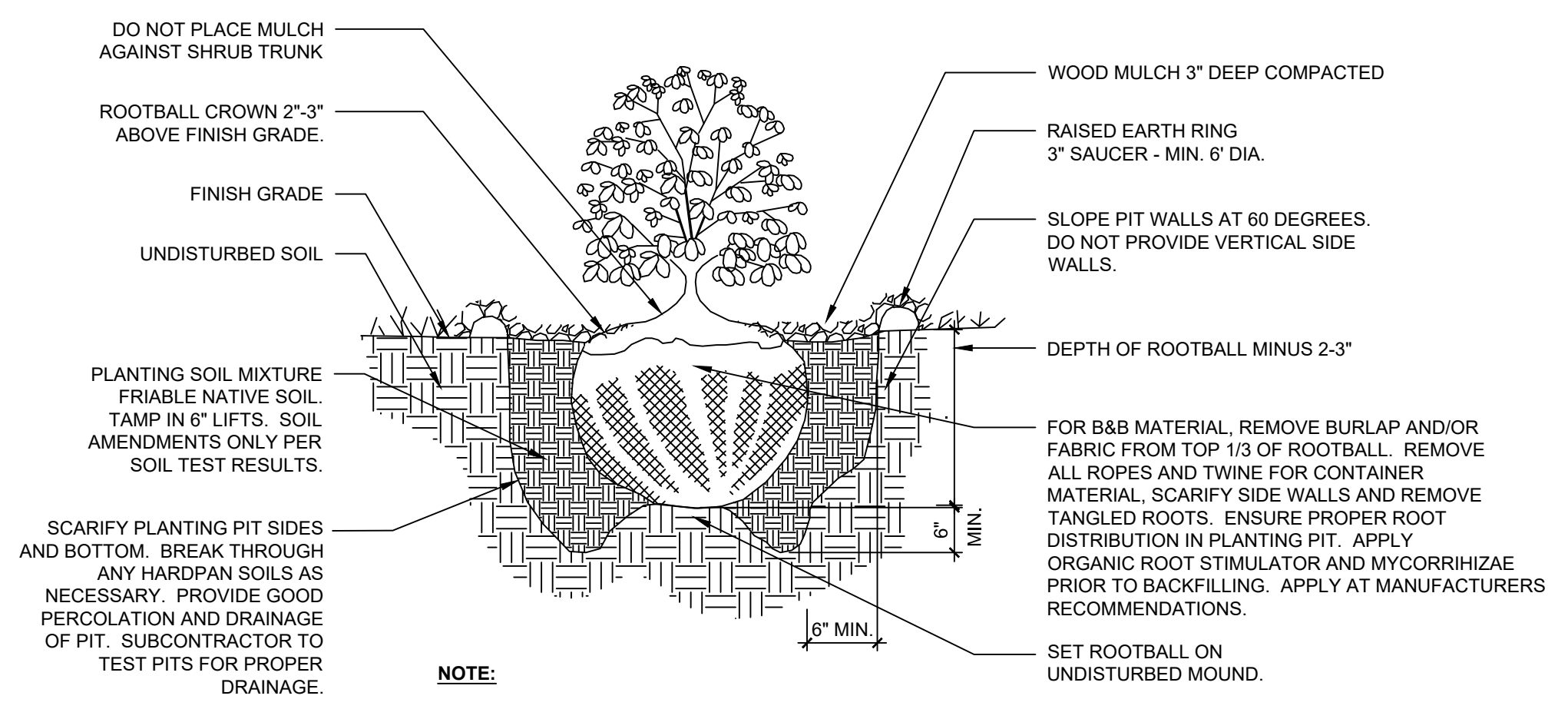
- SCARIFY, LOOSEN, FLOAT AND DRAG THE UPPER FOUR INCHES (4") OF SOIL TO BRING IT TO PROPER CONDITION AND GRADE PRIOR TO SEEDING / SODDING. REMOVE STONES LARGER THAN ONE INCH (1"), STICKS, ROOTS, RUBBISH, ETC. FINISHED GRADE SHALL BE LOOSE AND FREE DRAINING PRIOR TO SEEDING / SODDING.
- STRIP EXISTING GRASS AND WEEDS, INCLUDING ROOTS, PRIOR TO SEEDING. APPLY HERBICIDES AS NECESSARY TO SPOT TREAT UNWANTED SPECIES.
- INSTALL SEED PER THE WRITTEN SPECIFICATIONS. LANDSCAPE SUBCONTRACTOR MUST ADJUST APPLICATION RATES TO PURE LIVE SEED RATES AS INDICATED.
- ALL SEEDED AREAS MUST BE MAINTAINED BY THE LANDSCAPE SUBCONTRACTOR UNTIL ACCEPTANCE BY THE DESIGN BUILD CONTRACTOR.



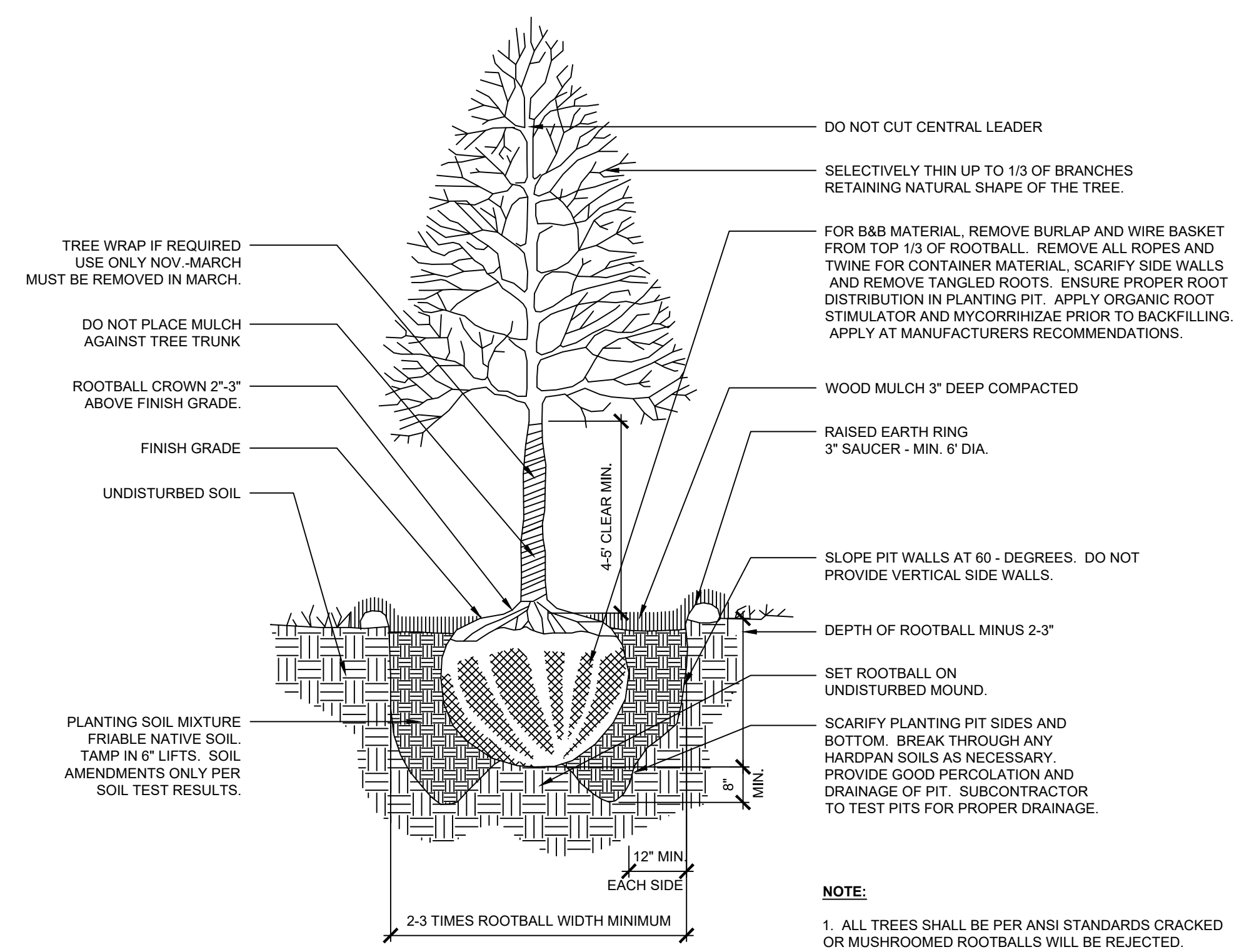
1	TREE STAKING DETAIL
C503	NOT TO SCALE



3	PLANTING BED DETAIL
C503	NOT TO SCALE



2	SHRUB PLANTING DETAIL
C503	NOT TO SCALE



4	TREE PLANTING DETAIL
C503	NOT TO SCALE

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 Architecture
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 Watertown, NY 13601
 315-788-3900

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 "ALTERED BY" FOLLOWED BY
 HIS OR HER SIGNATURE, DATE
 AND A SPECIFIC DESCRIPTION
 OF ALTERATION.

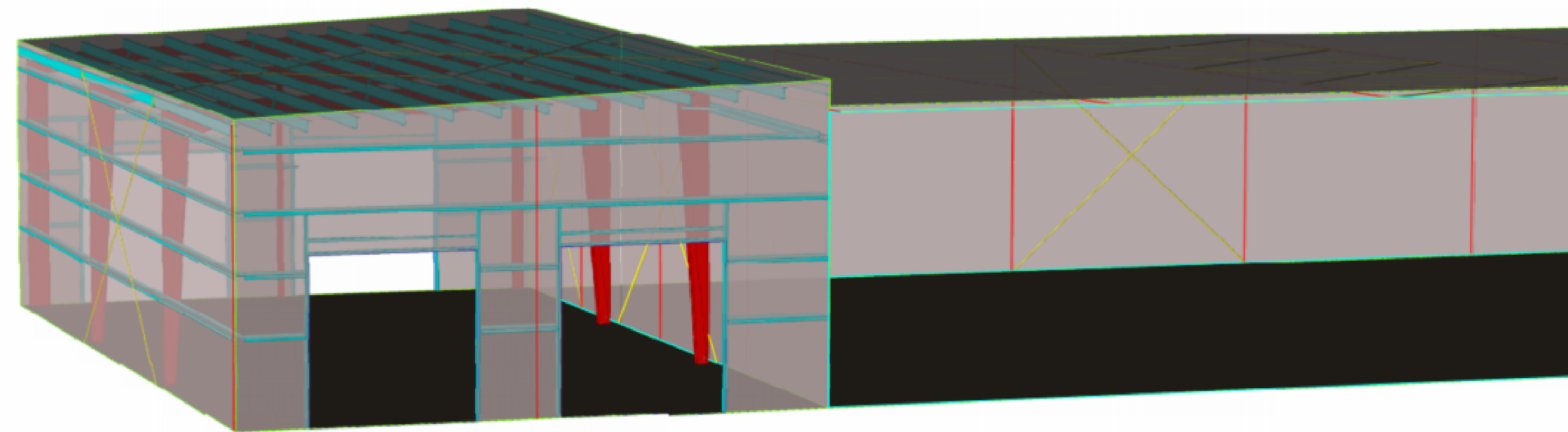
PROJECT NO: 2023-045
 SCALE: N/A
 DRAWN BY: MT
 DESIGNED BY: MJC
 CHECKED BY: MJC
 DATE ISSUED: 11-14-2023

SITE DETAILS
 HALE TRANSPORTATION BUILDING ADDITION
 1067 MARBLE STREET
 CITY OF WATERTOWN, JEFFERSON COUNTY, STATE OF NEW YORK

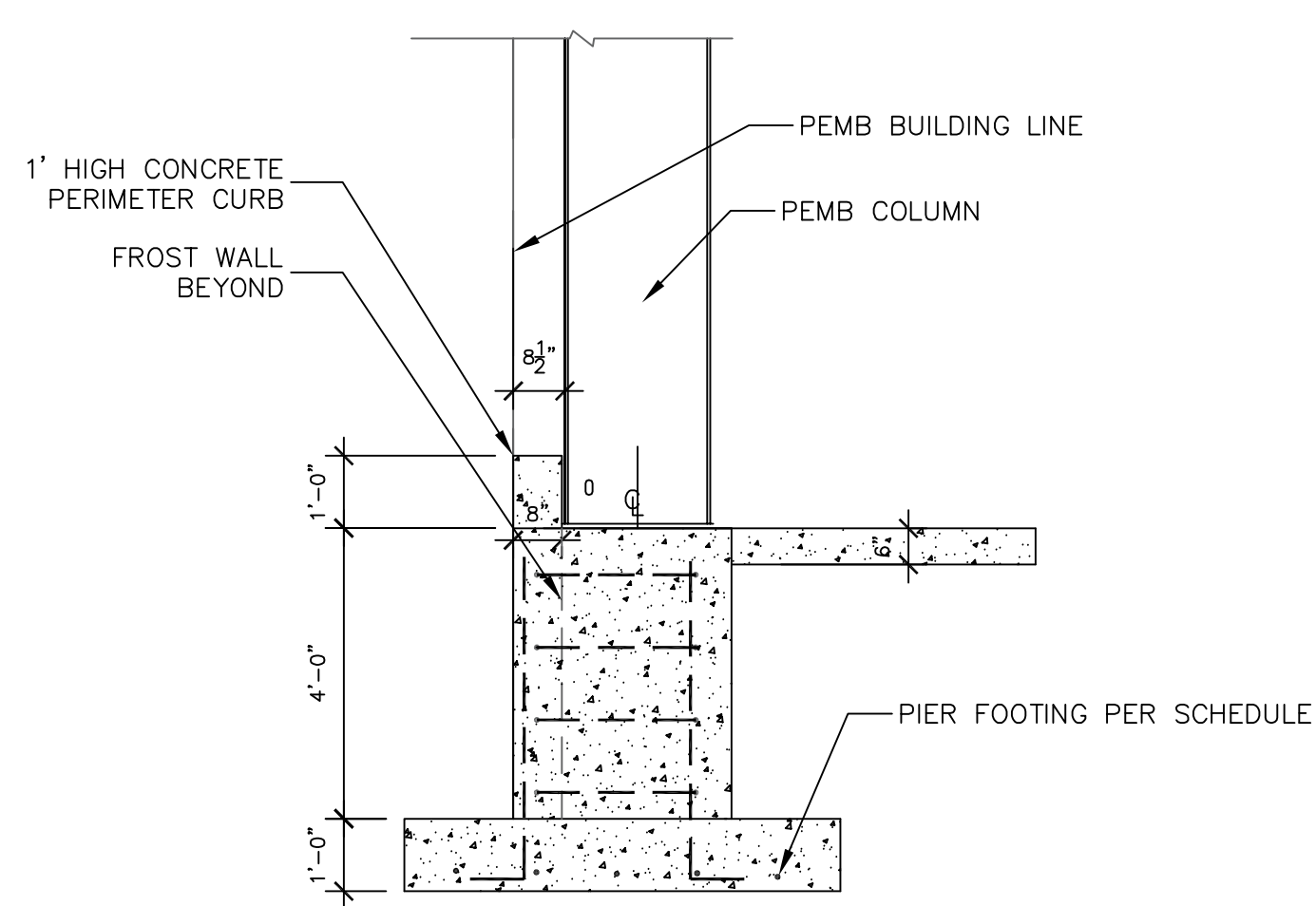
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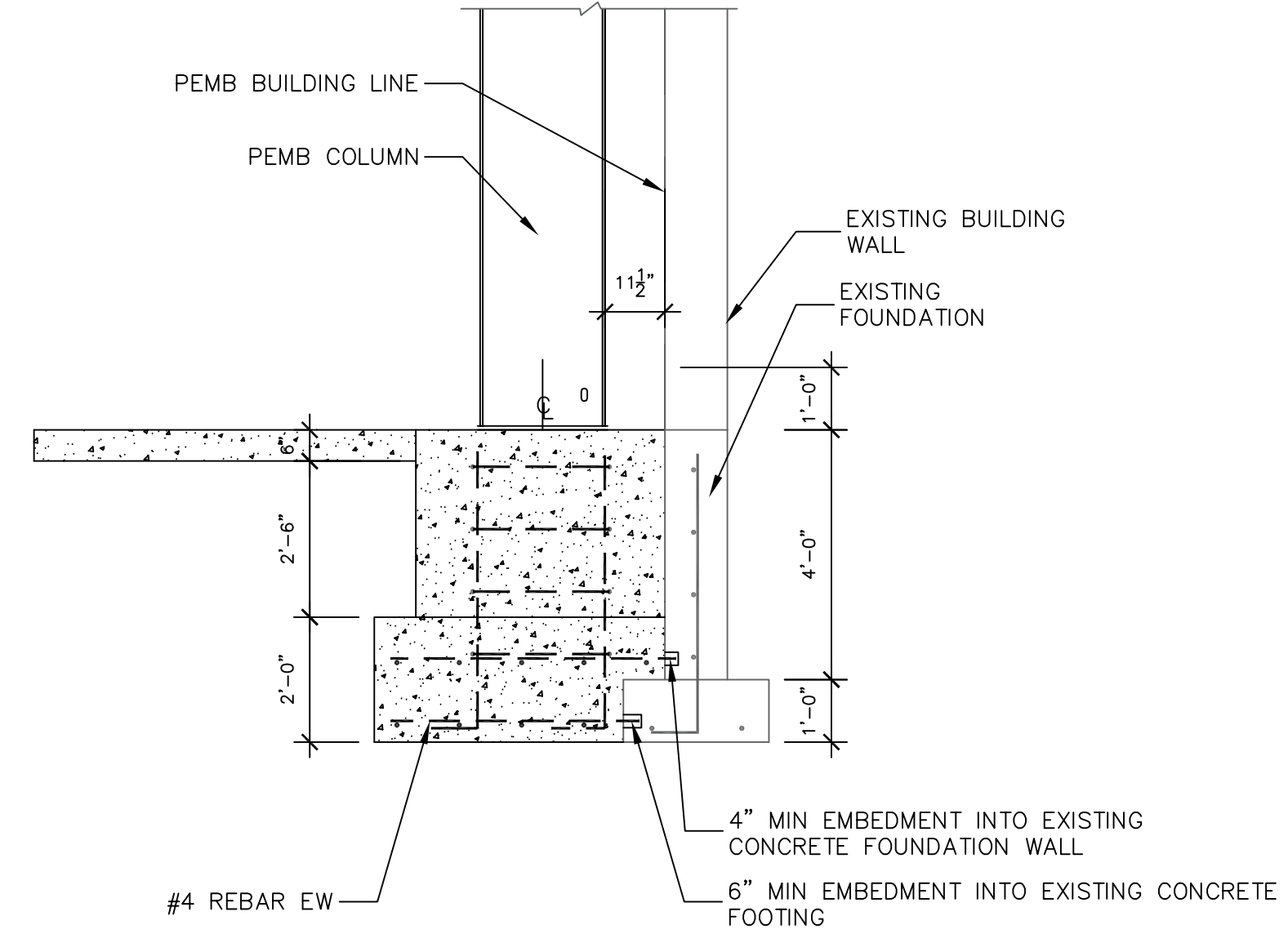
DRAWING NO.
C503



3 BUILDING 3D
SCALE: NTS

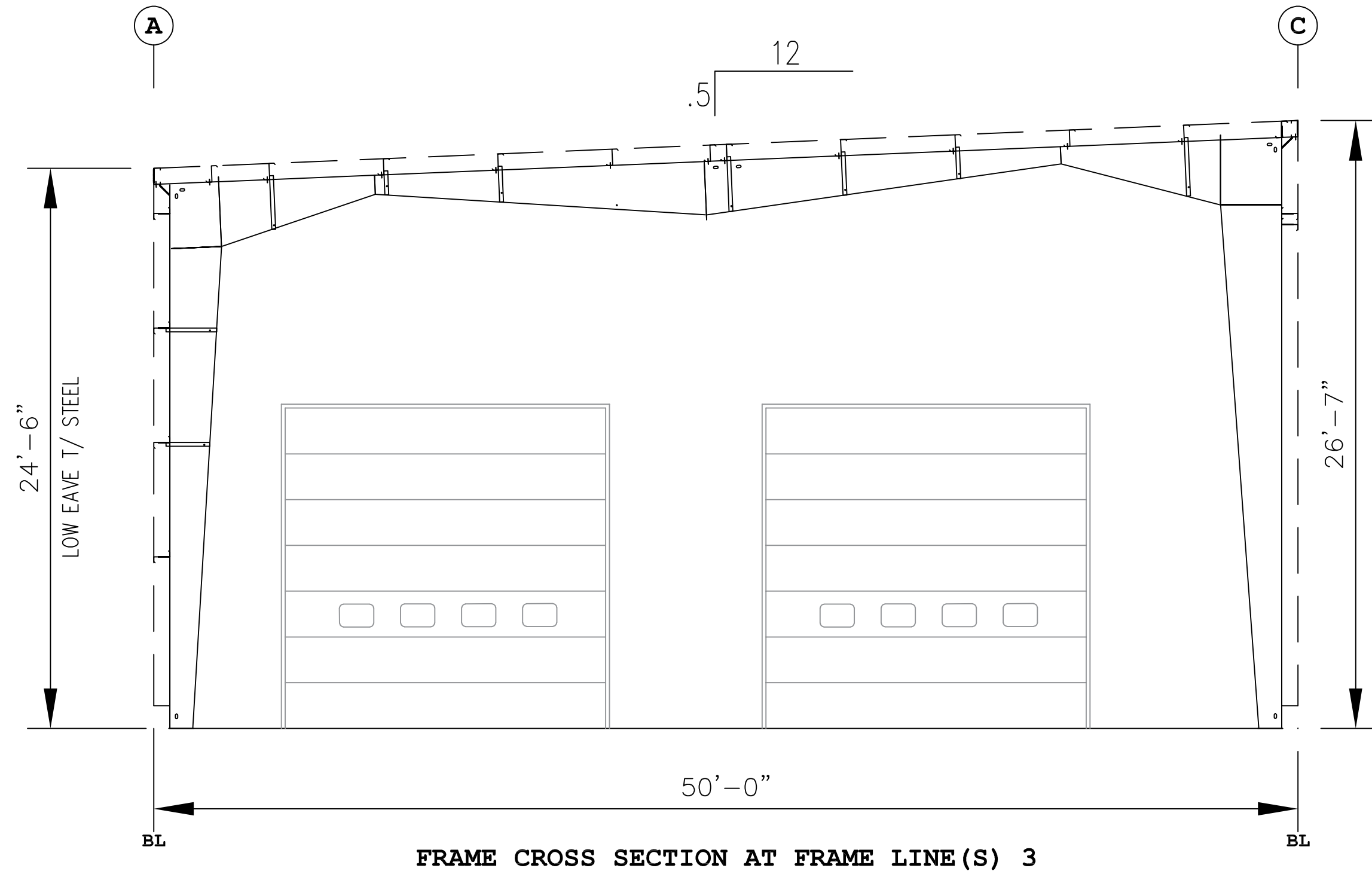


5 PIER DETAIL AT EXTERIOR WALL
SCALE: NTS

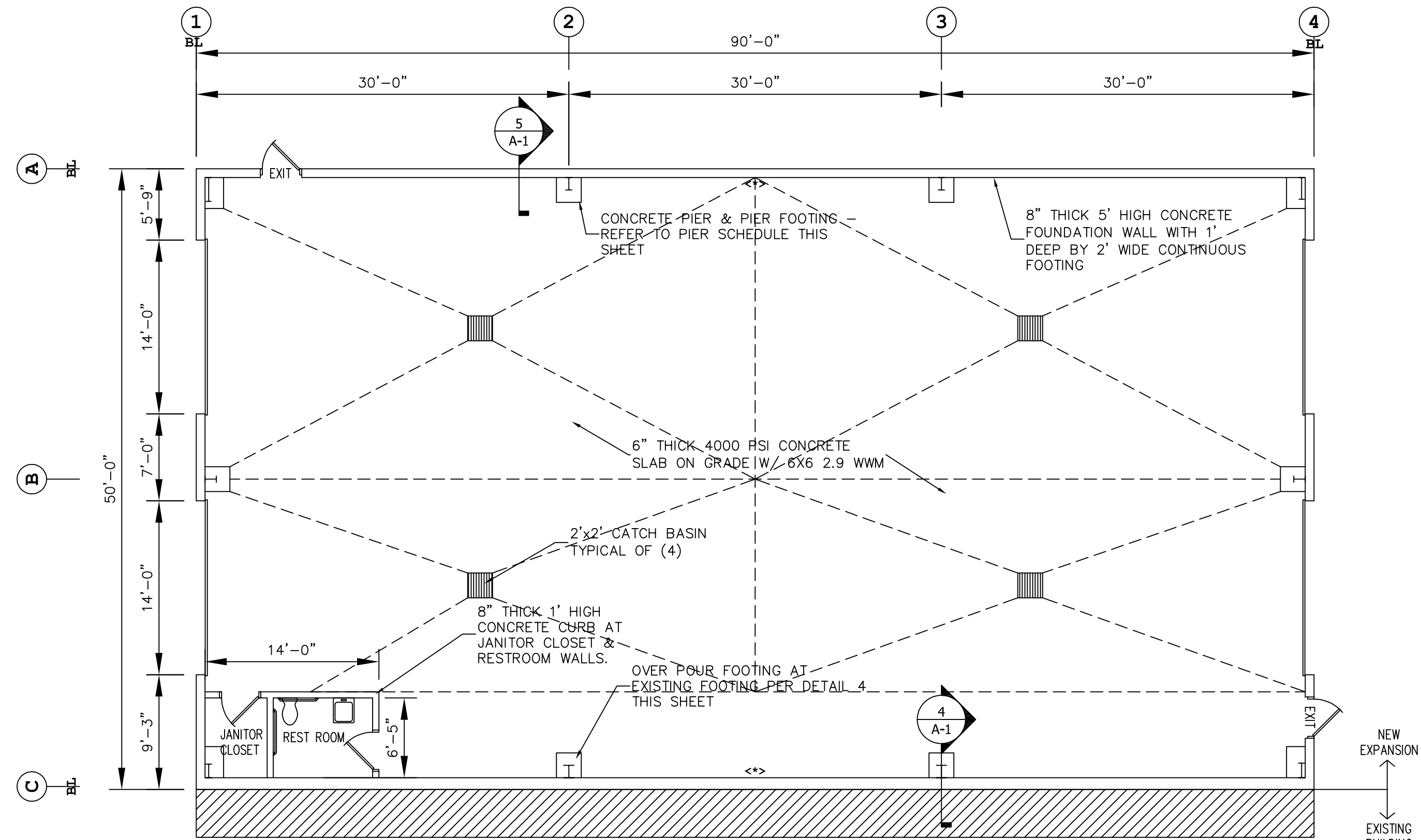


4 PIER DETAIL AT MARRIAGE WALL
SCALE: NTS

PIER AND PIER FOOTING SCHEDULE			
COUNT	TYPE	SIZE	REINFORCING
6	P1	2'X2'X4'	(10) #6 BAR VERTICAL W/ #3 TIES @12"OC
6	F1	6'X6'X1'	(8) #5 BAR EACH WAY
4	P2	2'-6"X2'-6"X4'	(10) #6 BAR VERTICAL W/ #3 TIES @12"OC
4	F2	7'X7'X1'	(9) #5 BAR EACH WAY



2 BUILDING SECTION
SCALE: NTS



1 LAYOUT PLAN
SCALE: 1/8" = 1'-0"

C2C Construction Solutions
Concept to Completion for CNY
C2C Construction Solutions, a division of Pike

BUTLER
METAL BUILDING CONTRACTORS & ERECTORS ASSOCIATION

PO Box 247, Utica, NY 13503
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NO.	REVISIONS	DATE

PROJECT TITLE:
HALE SHOP EXPANSION

PROJECT LOCATION:
**1067 MARBLE ST.
WATERTOWN, NY 13601**

DRAWING TITLE:
LAYOUT PLAN

PROJECT NUMBER: 000000
DATE: 08-31-23
DRAWN BY: BWS
CHECKED BY: DLK

A-1

SCALE: AS NOTED



C2C Construction Solutions
 Concept to Completion for CMY
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BUTLER
 METAL BUILDING CONTRACTORS ASSOCIATION

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NO.	REVISIONS	DATE

PROJECT TITLE:
HALE SHOP EXPANSION

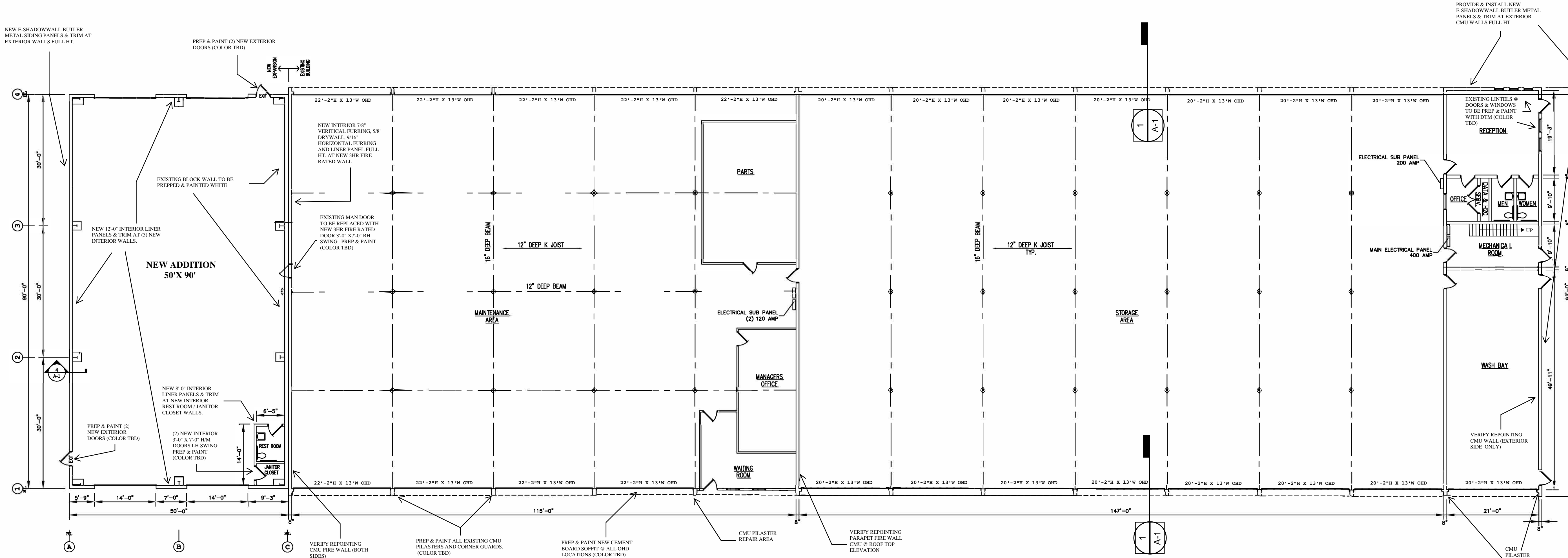
PROJECT LOCATION:
1067 MARBLE ST. WATERTOWN, NY 13601

DRAWING TITLE:
OVERALL PLAN

PROJECT NUMBER: 000000
DATE: 08-31-23
DRAWN BY: BWS
CHECKED BY: DLK

A-2

SCALE: NTS

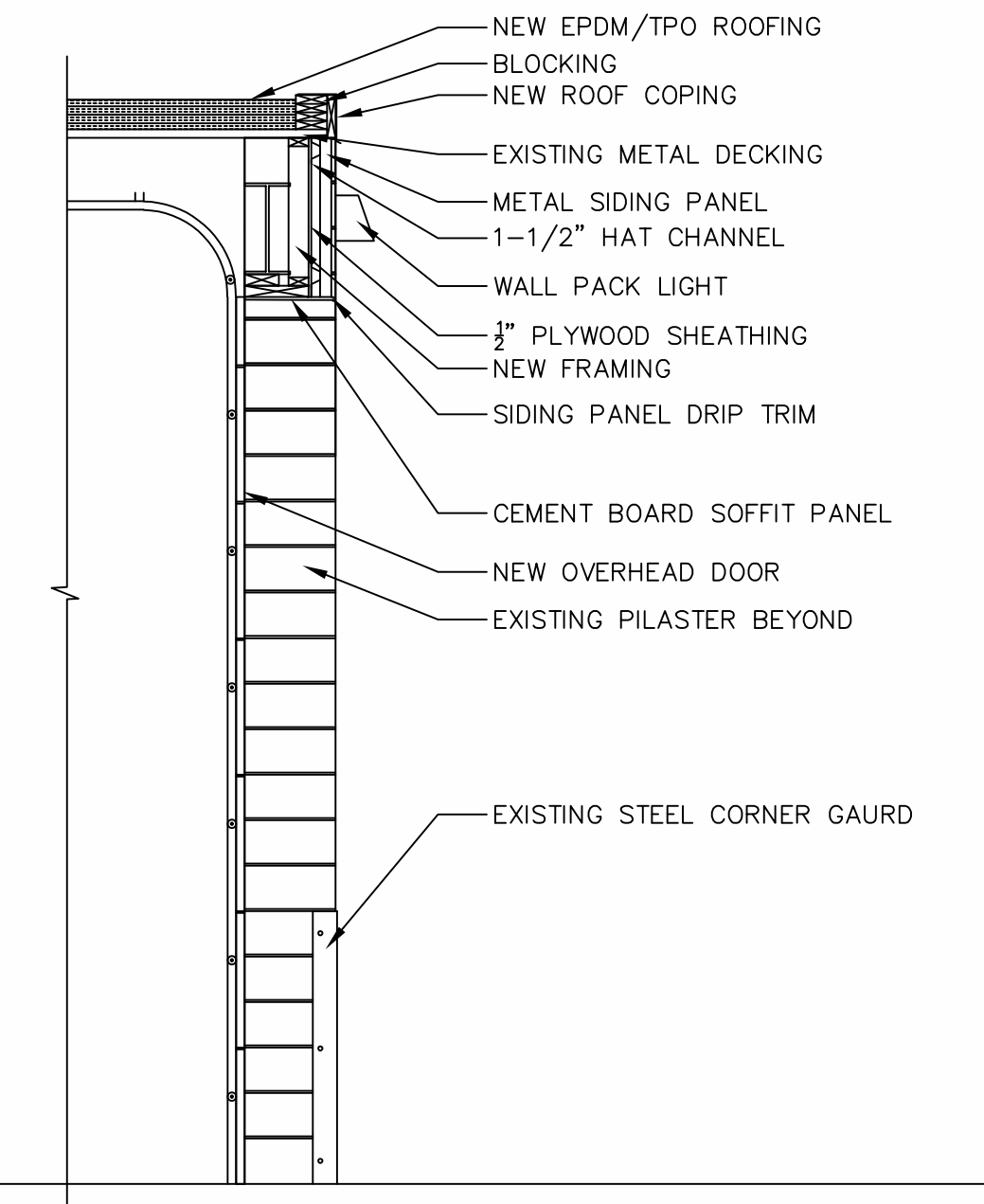


NEW ADDITION FRAMING/FINISH NOTES:

- PROVIDE & INSTALL NEW ESHADOW WALL BUTLER METAL SIDING PANELS TO NEW EXTERIOR WALLS.
- PROVIDE & INSTALL NEW 12'-0" LINER PANEL TO (3) INTERIOR WALLS OF NEW ADDITION.
- PROVIDE & INSTALL NEW 8'-0" LINER PANEL TO NEW RESTROOM WALLS AND JANITOR CLOSET.
- PROVIDE & INSTALL (1) NEW 3 HR FIRE RATED H/M DOOR AND FRAME 3'-0" X 7'-0" AT MARRIAGE WALL TO REPLACE THE EXISTING DOOR. PREP & PAINT (COLOR TBD)
- PROVIDE & INSTALL (2) NEW H/M DOORS AND FRAMES 3'-0" X 7'-0" AT NEW REST ROOM AND JANITOR CLOSET. ADA HAND-CAP REST ROOM DOOR TO BE PRIVACY LEVER WITH CLOSURE. PREP & PAINT (COLOR TBD)
- PROVIDE & INSTALL (2) NEW H/M DOORS AND FRAMES 3'-0" X 7'-0" AT EXTERIOR. PREP & PAINT (COLOR TBD)

EXISTING BUILDING FRAMING/FINISH NOTES:

- REMOVE ALL EXISTING OVERHEAD DOOR OVERHANGS & DISPOSE.
- REMOVE ALL EXISTING OVERHEAD DOORS, OPERATORS AND HARDWARE. INSTALL NEW OVERHEAD DOORS, OPERATORS & HARDWARE. (EQ. SIZE)
- RESTORE DAMAGED CMU PILASTERS & RE-POINT ANY DAMAGED MORTAR JOINTS AT CMU BLOCK (V.I.F. MORTAR JOINTS @ 3 LOCATIONS - ROOF ELEVATION FIRE WALL, EXTERIOR SOUTH ELEVATION (MARRIAGE WALL), EXTERIOR NORTH/WEST ELEVATIONS).
- PROVIDE & INSTALL NEW E-SHADOWWALL BUTLER METAL PANELS TO EXISTING CMU WALLS AT BOTH NORTH AND WEST ELEVATIONS. (COLOR TBD)
- PROVIDE & INSTALL NEW VERTICAL E-SHADOWWALL BUTLER METAL PANELS ABOVE NEW OVERHEAD DOORS. SEE ATTACHED WALL SECTION AT OHD. INSTALL NEW LT. GAUGE OR 2X FRAMING, 1/2" ZIP SHEATHING, 1-1/2" HAT CHANNEL FRAMING PRIOR TO NEW VERTICAL METAL PANELS. (COLOR TBD)
- PROVIDE & INSTALL NEW 7/8" VERTICAL HAT CHANNEL FRAMING, 1 SINGLE LAYER OF 5/8" DRYWALL (TAPED 1ST COAT), 9/16" RESILIENT HAT OR Z-FURRING CHANNEL HORIZONTAL FRAMING, METAL LINER PANEL FULL HT. AT NEW INTERIOR FIRE RATED WALL *MARRIAGE WALL* (COLOR TBD)
- PROVIDE & INSTALL NEW HARDIE CEMENT BOARD SOFFIT BETWEEN CMU PILASTERS. PRIME & PAINT (COLOR TBD)
- PREP & PAINT WINDOW & DOOR LINTELS WITH DTM PAINT AT RECEPTION AREA. (COLOR TBD)
- NO WORK AT EXISTING OFFICE SPACE, RECEPTION, OR EXISTING BATHROOMS.



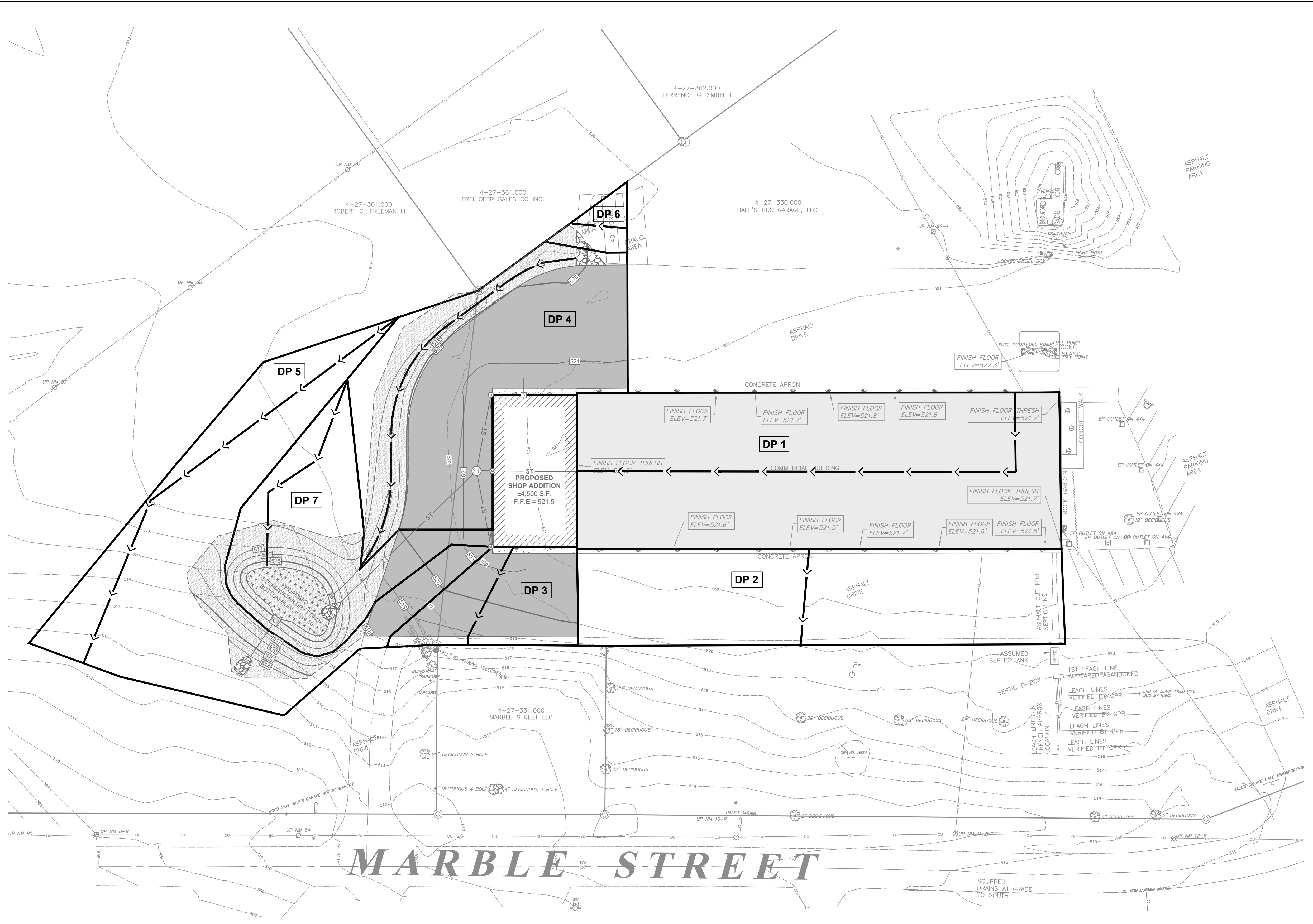
1
A-1

EXISTING LEGEND	
	CENTERLINE OF STREET
	TREE
	GAS VALVE
	EDGE OF PAVEMENT
	PAINTED PAVEMENT MARKING
	PARCEL BOUNDARY
	BUILDING
	MINOR GROUND CONTOUR
	MAJOR GROUND CONTOUR
	EDGE OF CONCRETE
	TRAFFIC SIGNS
	UTILITY POLE
	GUY WIRE
	MANHOLE
	CLEANOUT
	SEPTIC TANK
	OVERHEAD UTILITY
	WATER VALVE
	GAS VALVE
	UNDERGROUND GAS LINE
	STORM SEWER LINE
	STORM END SECTION
	SANITARY SEWER LINE
	OVERHEAD LIGHT FIXTURE
	ELECTRIC METER
	ELECTRIC BOX
	HVAC UNIT
	GAS METER
	PIPE BOLLARD
	FLAG POLE
	LID
	DOUBLE LIGHT POST
	IRON PIPE (BY L.W.M.)
	IRON ROD (BY L.W.M.)
	REBAR (BY L.W.M.)

PROPOSED LEGEND	
	PROPOSED DRAINAGE AREA
	PROPOSED TC PATH

NORTH BY DATUM

GRAPHIC SCALE
1 inch = 30 ft.
0 7.5 15 30 60



PROJECT LOCATION: C:\Users\mjc\Documents\Projects\2023\DP1\1067 MARBLE STREET\1067 MARBLE STREET.dwg DATE: 11/14/2023 11:58:45 AM

APPENDIX B:
STORM WATER CALCULATIONS



Architecture ■ Construction Management
Engineering ■ Land Surveying

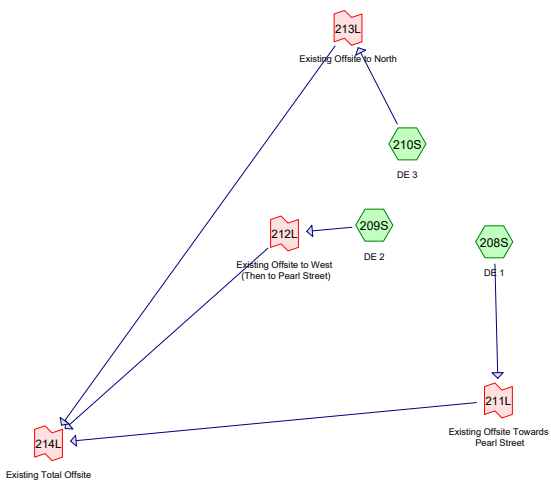
Equations and Constants			
$WQv^* = P(Rv)(A)/12$	$P = 0.9$		
$Rv = 0.05 + 0.009(I)$	$1 \text{ ac-ft} = 43560 \text{ ft}^3$		
$RRv = P(Rv^*)(Ai)/12$	$Rv^* = 0.95$		
$Ai = S(Aic)$			

Reduction Factor S	
HSG A	0.55
HSG B	0.4
HSG C	0.3
HSG D	0.2

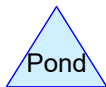
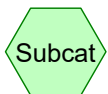
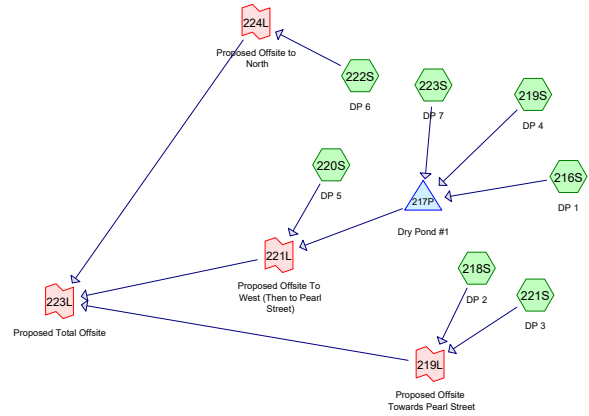
<i>Hale's Transportation Building Addition Water Quality Calcs</i>														
WQV & RRV Provided														
D.A. #	Group A Soils (%)	Group B Soils (%)	Group C Soils (%)	Group D Soils (%)	Impervious Area (ac)	S	I (%)	Rv	A (ac)	WQv (ft ³)	Aic (ac)	Ai (ac)	RRv Provided (ft ³)	Description
DP 4	0.00	0.00	0.00	100.00	0.26	0.20	65.0	0.6350	0.40	830	0.26	0.05	166	Dry Swale, RRv = 20% WQv
WQV & RRV Required (Redevelopment)														
D.A. #	Group A Soils (%)	Group B Soils (%)	Group C Soils (%)	Group D Soils (%)	Impervious Area (ac)	S	I (%)	Rv	A (ac)	WQv (ft ³)	Aic (ac)	Ai (ac)	Min RRv (ft ³)	Notes
Redev.	0.00	0.00	0.00	100.00	0.48	0.20	38.4	0.3956	1.25	404	0.48	0.10	0	Required WQv = 25% calc. WQv No required RRv for Redevelopment
New	0.00	0.00	0.00	100.00	0.04	0.20	100.0	0.9500	0.04	124	0.04	0.01	25	Proposed increase in impervious cover
	*WQv (ac-ft)	RRv (ac-ft)												
Required	0.012	0.003												
Provided	0.019	0.004												

*Project involves both redevelopment of existing impervious and creation of new impervious. The goal is to treat 25% of the WQv from redeveloped impervious area, and 100% of the WQv from new impervious areas. This will be achieved by utilizing a Dry Swale to provide the required WQv and RRv.

EXISTING



PROPOSED



Routing Diagram for Hales Bus Garage Building Addition

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Hales Bus Garage Building Addition

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Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.863	80	>75% Grass cover, Good, HSG D (208S, 210S, 218S, 219S, 220S, 221S, 222S, 223S)
3.128	98	Paved parking, HSG D (208S, 209S, 210S, 218S, 219S, 220S, 221S, 222S, 223S)
0.609	98	Unconnected roofs, HSG D (216S)
4.600	95	TOTAL AREA

Hales Bus Garage Building Addition

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Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
4.600	HSG D	208S, 209S, 210S, 216S, 218S, 219S, 220S, 221S, 222S, 223S
0.000	Other	
4.600		TOTAL AREA

Hales Bus Garage Building Addition

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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	0.863	0.000	0.863	>75% Grass cover, Good	208S, 210S, 218S, 219S, 220S, 221S, 222S, 223S
0.000	0.000	0.000	3.128	0.000	3.128	Paved parking	208S, 209S, 210S, 218S, 219S, 220S, 221S, 222S, 223S
0.000	0.000	0.000	0.609	0.000	0.609	Unconnected roofs	216S
0.000	0.000	0.000	4.600	0.000	4.600	TOTAL AREA	

Hales Bus Garage Building Addition

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Pipe Listing (selected nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	216S	0.00	0.00	260.0	0.0100	0.013	15.0	0.0	0.0
2	217P	514.10	513.70	40.0	0.0100	0.013	12.0	0.0	0.0

Hales Bus Garage Building Addition

Type II 24-hr 1 Year Rainfall=2.10"

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Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment208S: DE 1	Runoff Area=48,988 sf 96.85% Impervious Runoff Depth>1.77" Flow Length=150' Tc=1.8 min CN=97 Runoff=3.66 cfs 0.166 af
Subcatchment209S: DE 2	Runoff Area=44,803 sf 100.00% Impervious Runoff Depth>1.87" Flow Length=295' Tc=21.2 min CN=98 Runoff=1.92 cfs 0.160 af
Subcatchment210S: DE 3	Runoff Area=6,446 sf 81.24% Impervious Runoff Depth>1.58" Flow Length=116' Tc=1.8 min CN=95 Runoff=0.45 cfs 0.019 af
Subcatchment216S: DP 1	Runoff Area=26,535 sf 100.00% Impervious Runoff Depth>1.87" Flow Length=305' Tc=2.6 min CN=98 Runoff=1.99 cfs 0.095 af
Subcatchment218S: DP 2	Runoff Area=16,373 sf 92.08% Impervious Runoff Depth>1.77" Flow Length=58' Slope=0.0200 '/ Tc=1.5 min CN=97 Runoff=1.23 cfs 0.055 af
Subcatchment219S: DP 4	Runoff Area=17,265 sf 66.70% Impervious Runoff Depth>1.32" Flow Length=245' Slope=0.0075 '/ Tc=18.3 min CN=92 Runoff=0.61 cfs 0.044 af
Subcatchment220S: DP 5	Runoff Area=19,379 sf 7.48% Impervious Runoff Depth>0.66" Flow Length=287' Tc=20.4 min CN=81 Runoff=0.31 cfs 0.025 af
Subcatchment221S: DP 3	Runoff Area=4,878 sf 88.42% Impervious Runoff Depth>1.67" Flow Length=65' Tc=1.1 min CN=96 Runoff=0.36 cfs 0.016 af
Subcatchment222S: DP 6	Runoff Area=1,063 sf 79.87% Impervious Runoff Depth>1.49" Flow Length=35' Slope=0.0200 '/ Tc=1.5 min CN=94 Runoff=0.07 cfs 0.003 af
Subcatchment223S: DP 7	Runoff Area=14,659 sf 37.87% Impervious Runoff Depth>0.98" Flow Length=128' Tc=9.0 min CN=87 Runoff=0.53 cfs 0.028 af
Pond 217P: Dry Pond #1	Peak Elev=514.93' Storage=1,292 cf Inflow=2.67 cfs 0.166 af Outflow=1.57 cfs 0.164 af
Link 211L: Existing Offsite Towards Pearl Street	Inflow=3.66 cfs 0.166 af Primary=3.66 cfs 0.166 af
Link 212L: Existing Offsite to West (Then to Pearl Street)	Inflow=1.92 cfs 0.160 af Primary=1.92 cfs 0.160 af
Link 213L: Existing Offsite to North	Inflow=0.45 cfs 0.019 af Primary=0.45 cfs 0.019 af
Link 214L: Existing Total Offsite	Inflow=5.00 cfs 0.345 af Primary=5.00 cfs 0.345 af
Link 219L: Proposed Offsite Towards Pearl Street	Inflow=1.59 cfs 0.071 af Primary=1.59 cfs 0.071 af

Hales Bus Garage Building Addition

Type II 24-hr 1 Year Rainfall=2.10"

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Link 221L: Proposed Offsite To West (Then to Pearl Street)

Inflow=1.82 cfs 0.188 af
Primary=1.82 cfs 0.188 af

Link 223L: Proposed Total Offsite

Inflow=3.07 cfs 0.262 af
Primary=3.07 cfs 0.262 af

Link 224L: Proposed Offsite to North

Inflow=0.07 cfs 0.003 af
Primary=0.07 cfs 0.003 af

Total Runoff Area = 4.600 ac Runoff Volume = 0.610 af Average Runoff Depth = 1.59"
18.77% Pervious = 0.863 ac 81.23% Impervious = 3.737 ac

Hales Bus Garage Building Addition

Type II 24-hr 1 Year Rainfall=2.10"

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Summary for Subcatchment 208S: DE 1

Runoff = 3.66 cfs @ 11.92 hrs, Volume= 0.166 af, Depth> 1.77"

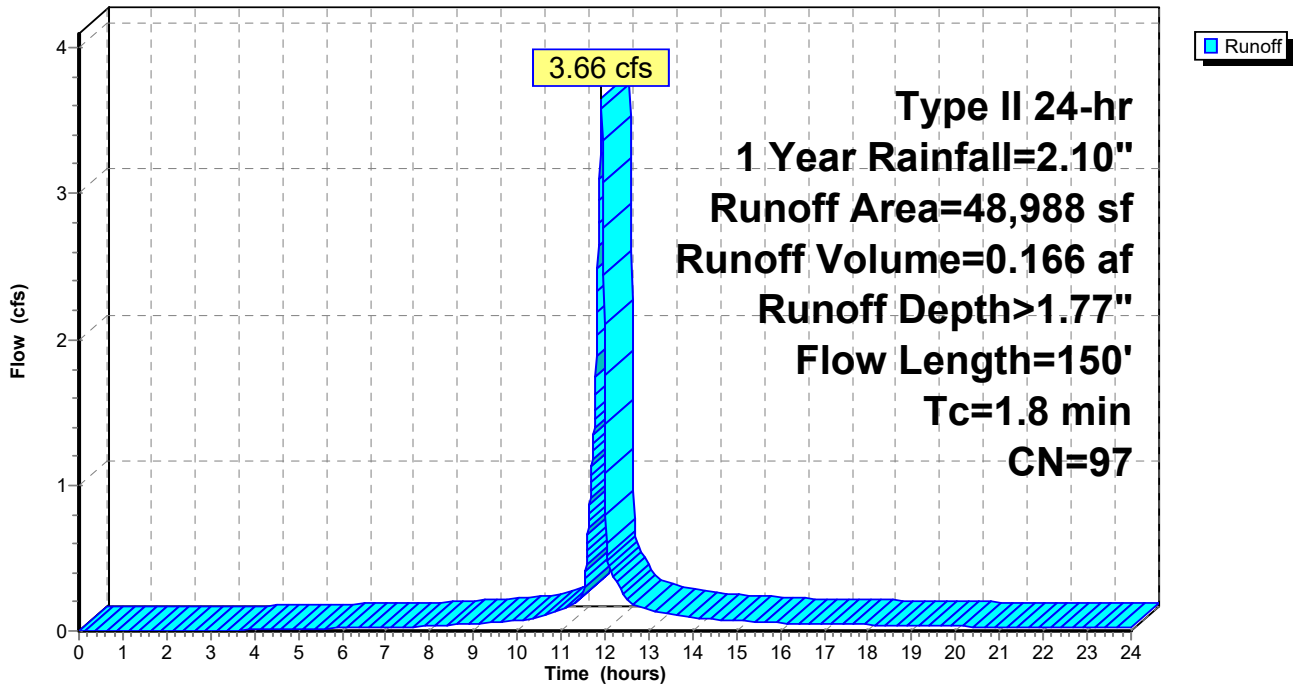
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 1 Year Rainfall=2.10"

Area (sf)	CN	Description
1,544	80	>75% Grass cover, Good, HSG D
47,444	98	Paved parking, HSG D
48,988	97	Weighted Average
1,544		3.15% Pervious Area
47,444		96.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	90	0.0200	1.19		Sheet Flow, sheet over roof Smooth surfaces n= 0.011 P2= 2.50"
0.2	10	0.0230	0.81		Sheet Flow, Remainder of sheet flow Smooth surfaces n= 0.011 P2= 2.50"
0.3	50	0.0230	3.08		Shallow Concentrated Flow, SC over asphalt Paved Kv= 20.3 fps
1.8	150	Total			

Subcatchment 208S: DE 1

Hydrograph



Hales Bus Garage Building Addition

Type II 24-hr 1 Year Rainfall=2.10"

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Summary for Subcatchment 209S: DE 2

Runoff = 1.92 cfs @ 12.13 hrs, Volume= 0.160 af, Depth> 1.87"

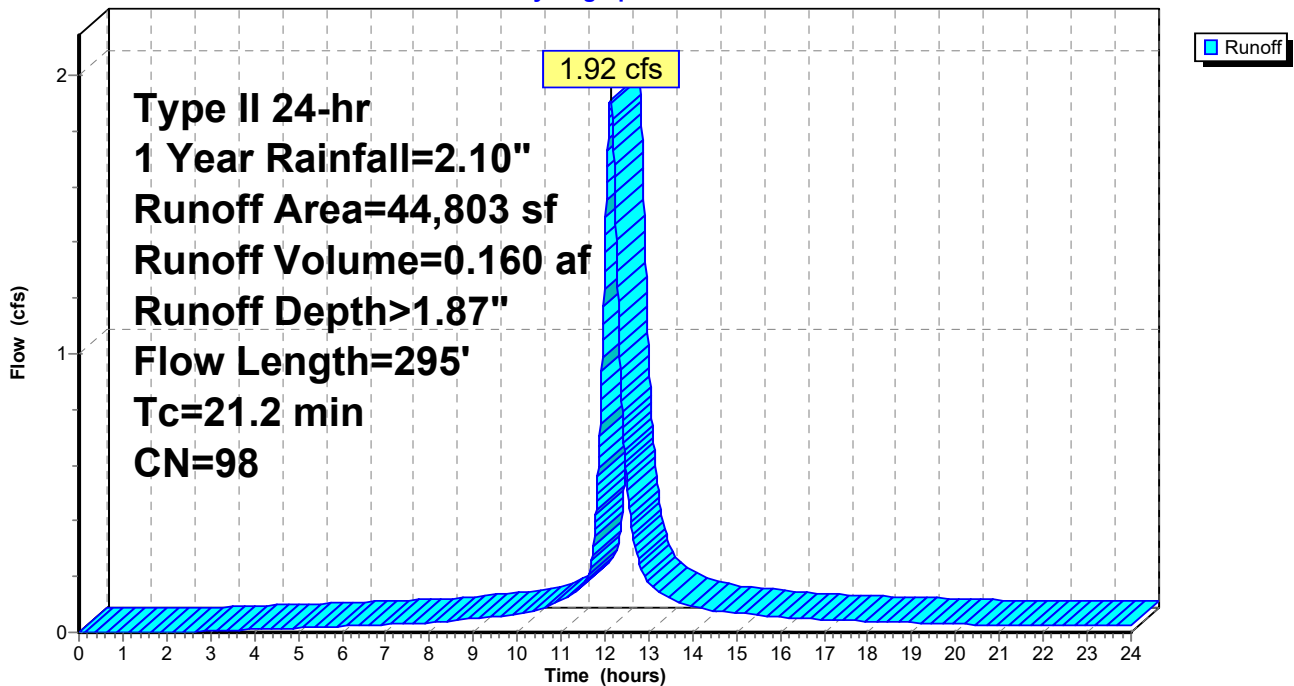
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 1 Year Rainfall=2.10"

Area (sf)	CN	Description
11,400	98	Paved parking, HSG D
33,403	98	Paved parking, HSG D
44,803	98	Weighted Average
44,803		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.1	100	0.0045	0.08		Sheet Flow, Sheet over Lawn Grass: Short n= 0.150 P2= 2.50"
1.1	195	0.0370	2.89		Shallow Concentrated Flow, SC Over Lawn Grassed Waterway Kv= 15.0 fps
21.2	295	Total			

Subcatchment 209S: DE 2

Hydrograph



Hales Bus Garage Building Addition

Type II 24-hr 1 Year Rainfall=2.10"

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Summary for Subcatchment 210S: DE 3

Runoff = 0.45 cfs @ 11.92 hrs, Volume= 0.019 af, Depth> 1.58"

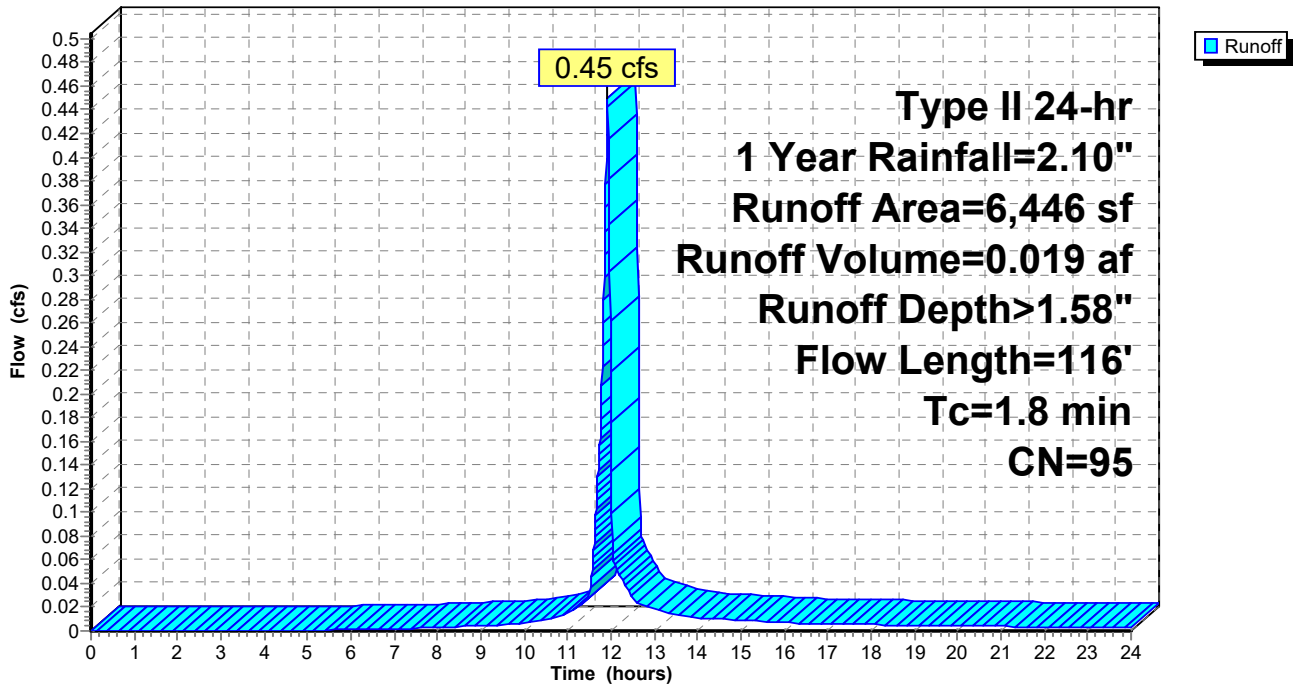
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 1 Year Rainfall=2.10"

Area (sf)	CN	Description
5,237	98	Paved parking, HSG D
1,209	80	>75% Grass cover, Good, HSG D
6,446	95	Weighted Average
1,209		18.76% Pervious Area
5,237		81.24% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.7	100	0.0120	0.99		Sheet Flow, Sheet over Pavement / gravel pad Smooth surfaces n= 0.011 P2= 2.50"
0.1	11	0.0200	2.28		Shallow Concentrated Flow, SC over remainder of gravel Unpaved Kv= 16.1 fps
0.0	5	0.0300	2.60		Shallow Concentrated Flow, SC over lawn Grassed Waterway Kv= 15.0 fps
1.8	116	Total			

Subcatchment 210S: DE 3

Hydrograph



Hales Bus Garage Building Addition

Type II 24-hr 1 Year Rainfall=2.10"

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Summary for Subcatchment 216S: DP 1

Runoff = 1.99 cfs @ 11.93 hrs, Volume= 0.095 af, Depth> 1.87"

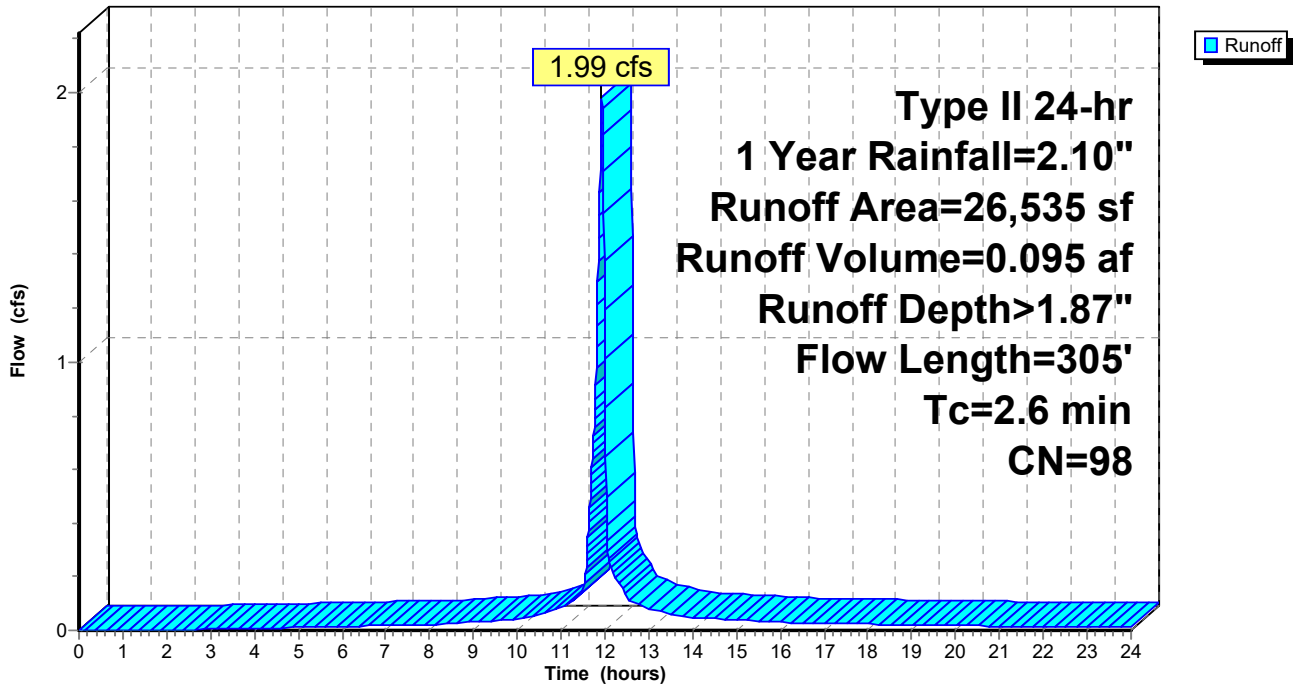
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 1 Year Rainfall=2.10"

Area (sf)	CN	Description
26,535	98	Unconnected roofs, HSG D
26,535		100.00% Impervious Area
26,535		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.8	45	0.0020	0.41		Sheet Flow, Sheet over Roof Smooth surfaces n= 0.011 P2= 2.50"
0.8	260	0.0100	5.26	6.46	Pipe Channel, Flow through roof drain piping 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013 Corrugated PE, smooth interior
2.6	305	Total			

Subcatchment 216S: DP 1

Hydrograph



Hales Bus Garage Building Addition

Type II 24-hr 1 Year Rainfall=2.10"

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Summary for Subcatchment 218S: DP 2

Runoff = 1.23 cfs @ 11.92 hrs, Volume= 0.055 af, Depth> 1.77"

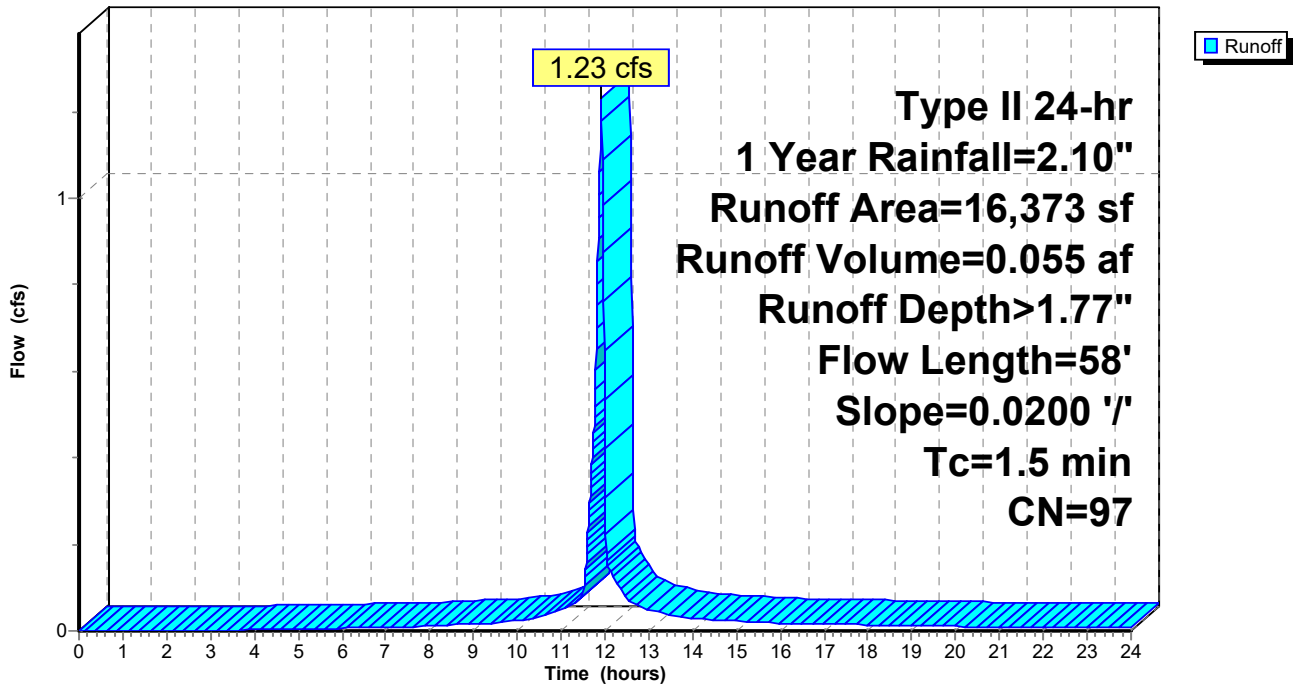
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 1 Year Rainfall=2.10"

Area (sf)	CN	Description
1,296	80	>75% Grass cover, Good, HSG D
15,077	98	Paved parking, HSG D
16,373	97	Weighted Average
1,296		7.92% Pervious Area
15,077		92.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	55	0.0200	1.08		Sheet Flow, Sheet over Pavement Smooth surfaces n= 0.011 P2= 2.50"
0.7	3	0.0200	0.07		Sheet Flow, Sheet over lawn Grass: Short n= 0.150 P2= 2.50"
1.5	58	Total			

Subcatchment 218S: DP 2

Hydrograph



Hales Bus Garage Building Addition

Type II 24-hr 1 Year Rainfall=2.10"

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Summary for Subcatchment 219S: DP 4

Runoff = 0.61 cfs @ 12.10 hrs, Volume= 0.044 af, Depth> 1.32"

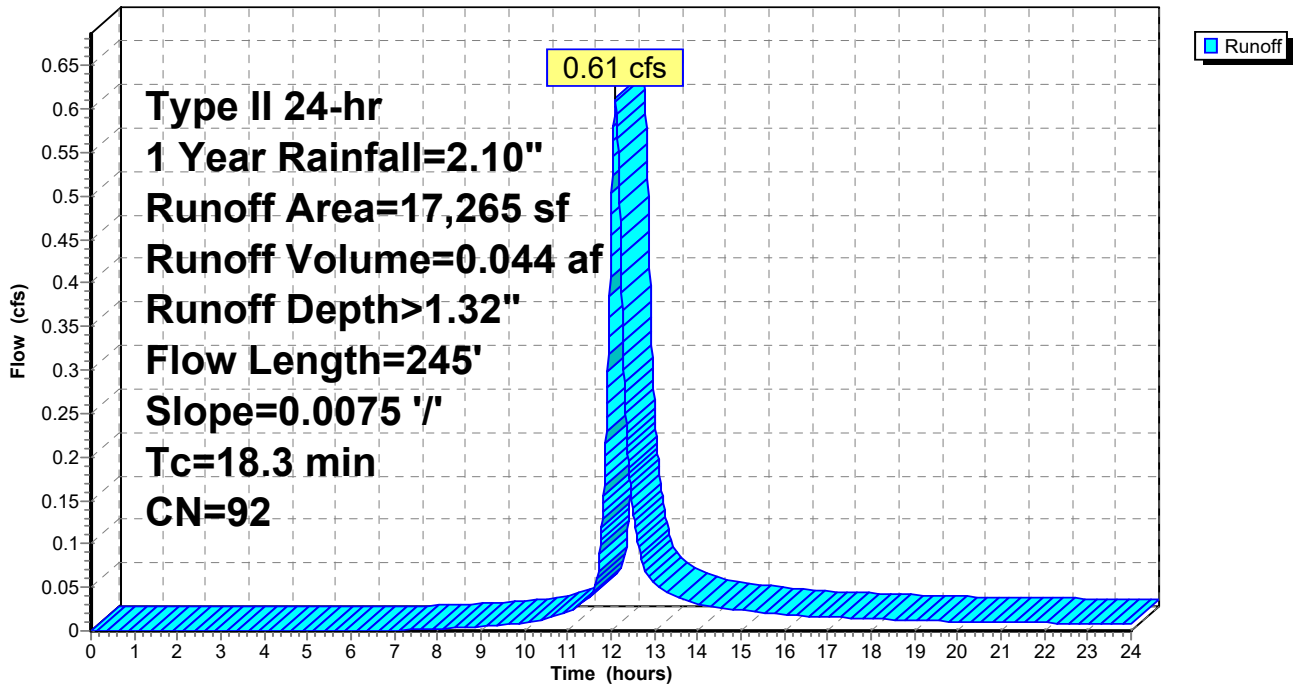
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 1 Year Rainfall=2.10"

Area (sf)	CN	Description
11,516	98	Paved parking, HSG D
5,749	80	>75% Grass cover, Good, HSG D
17,265	92	Weighted Average
5,749		33.30% Pervious Area
11,516		66.70% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.4	100	0.0075	0.10		Sheet Flow, Sheet in Dry Swale Grass: Short n= 0.150 P2= 2.50"
1.9	145	0.0075	1.30		Shallow Concentrated Flow, SC in Dry Swale Grassed Waterway Kv= 15.0 fps
18.3	245	Total			

Subcatchment 219S: DP 4

Hydrograph



Hales Bus Garage Building Addition

Type II 24-hr 1 Year Rainfall=2.10"

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Summary for Subcatchment 220S: DP 5

Runoff = 0.31 cfs @ 12.15 hrs, Volume= 0.025 af, Depth> 0.66"

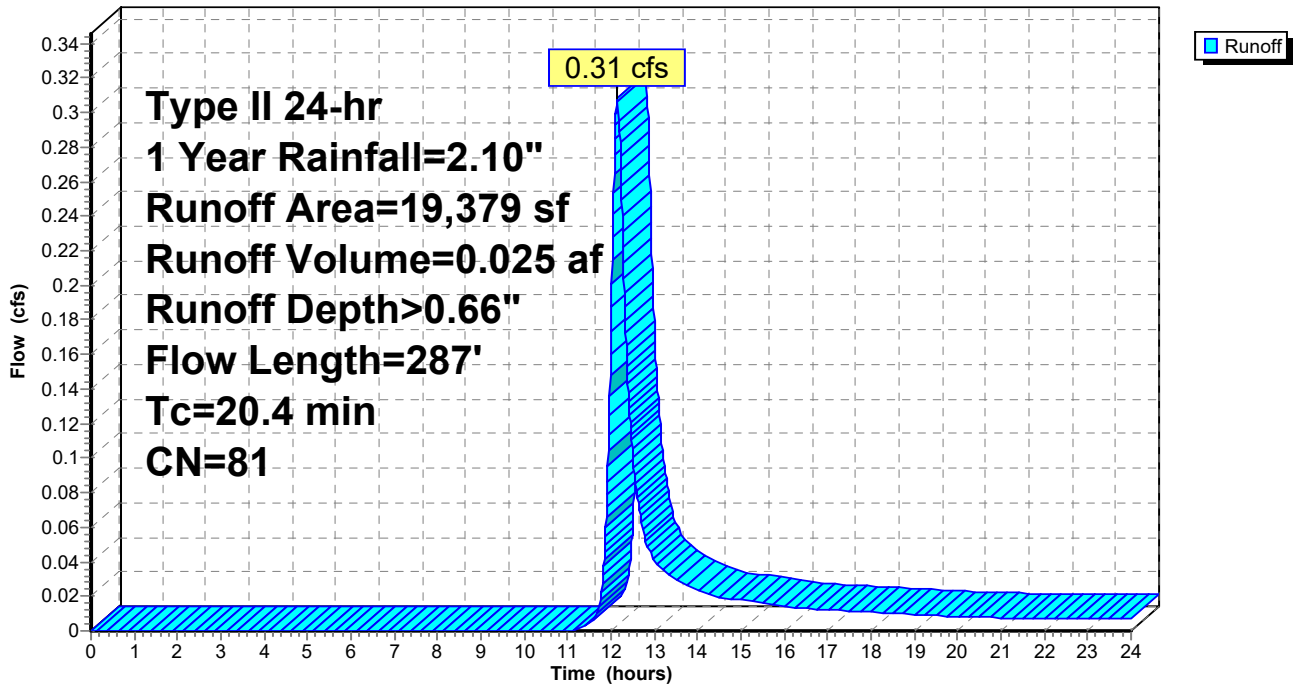
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 1 Year Rainfall=2.10"

Area (sf)	CN	Description
1,450	98	Paved parking, HSG D
17,929	80	>75% Grass cover, Good, HSG D
19,379	81	Weighted Average
17,929		92.52% Pervious Area
1,450		7.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.3	100	0.0050	0.09		Sheet Flow, Sheet over Lawn Grass: Short n= 0.150 P2= 2.50"
1.1	187	0.0375	2.90		Shallow Concentrated Flow, SC Over Lawn Grassed Waterway Kv= 15.0 fps
20.4	287	Total			

Subcatchment 220S: DP 5

Hydrograph



Hales Bus Garage Building Addition

Type II 24-hr 1 Year Rainfall=2.10"

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Summary for Subcatchment 221S: DP 3

[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 0.36 cfs @ 11.91 hrs, Volume= 0.016 af, Depth> 1.67"

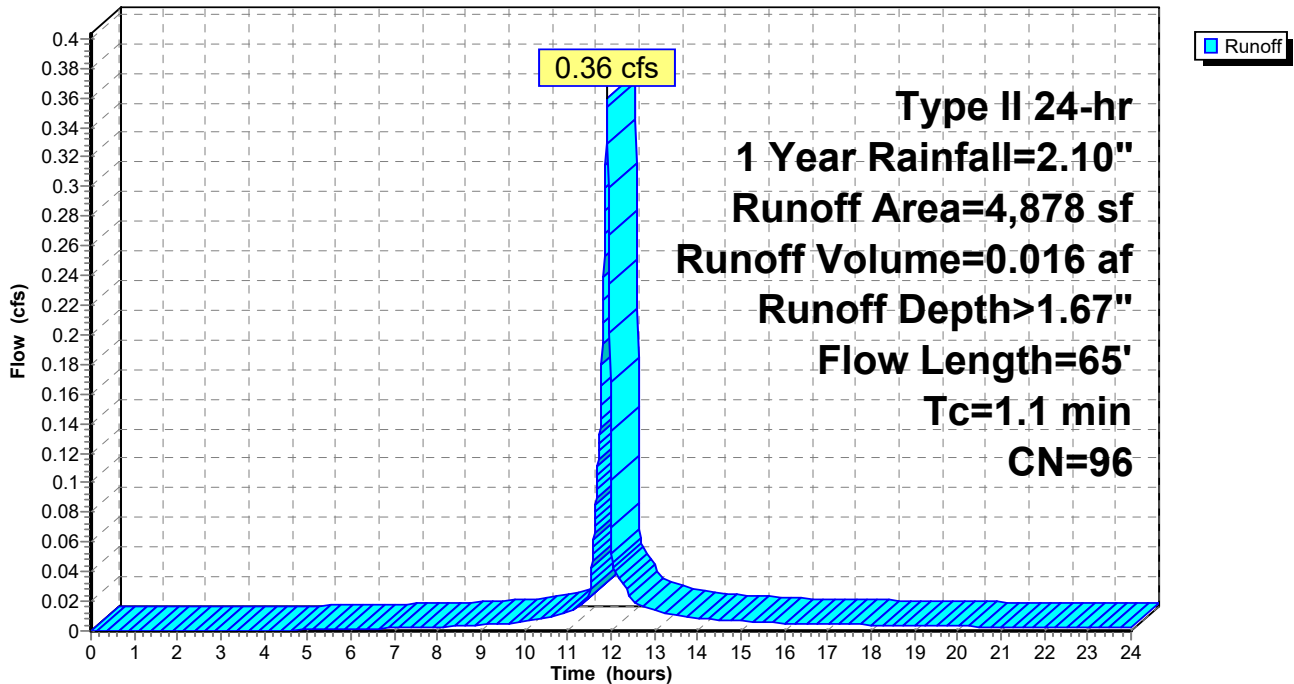
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, $dt= 0.01$ hrs
Type II 24-hr 1 Year Rainfall=2.10"

Area (sf)	CN	Description
565	80	>75% Grass cover, Good, HSG D
4,313	98	Paved parking, HSG D
4,878	96	Weighted Average
565		11.58% Pervious Area
4,313		88.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	60	0.0400	1.45		Sheet Flow, Sheet over Pavement Smooth surfaces n= 0.011 P2= 2.50"
0.4	5	0.1600	0.19		Sheet Flow, Sheet over lawn Grass: Short n= 0.150 P2= 2.50"
1.1	65	Total			

Subcatchment 221S: DP 3

Hydrograph



Hales Bus Garage Building Addition

Type II 24-hr 1 Year Rainfall=2.10"

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Summary for Subcatchment 222S: DP 6

Runoff = 0.07 cfs @ 11.92 hrs, Volume= 0.003 af, Depth> 1.49"

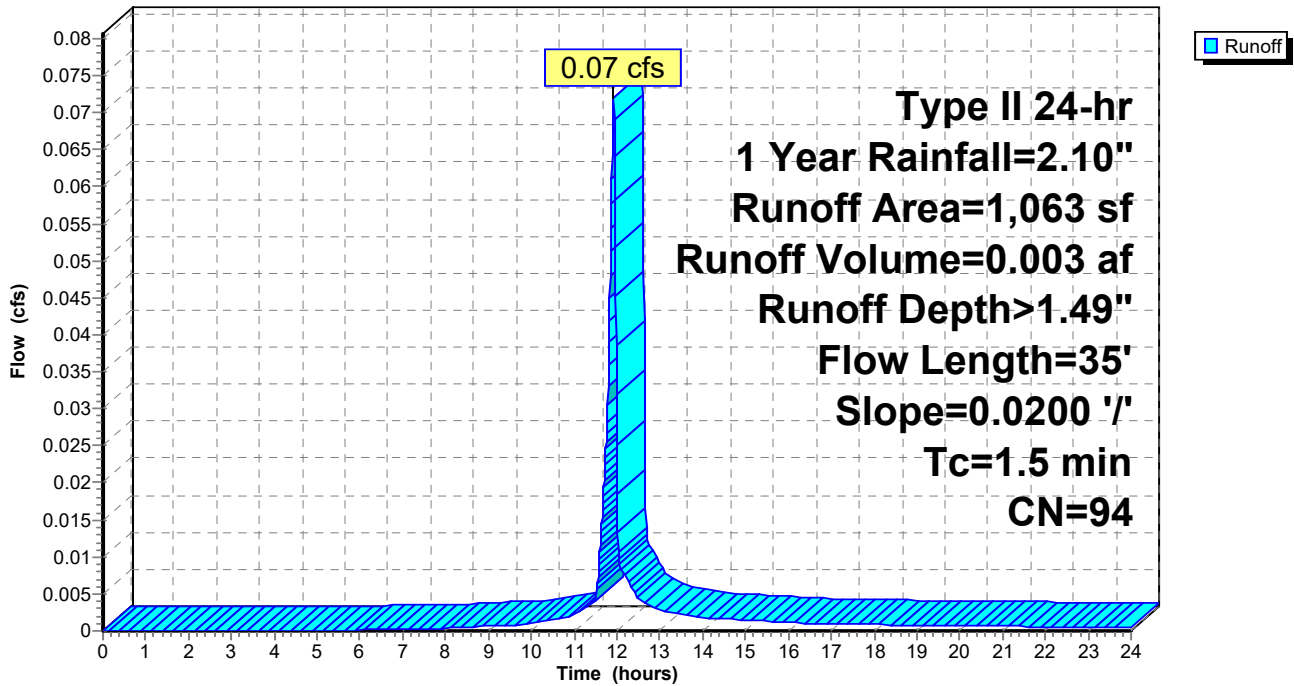
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 1 Year Rainfall=2.10"

Area (sf)	CN	Description
849	98	Paved parking, HSG D
214	80	>75% Grass cover, Good, HSG D
1,063	94	Weighted Average
214		20.13% Pervious Area
849		79.87% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.5	30	0.0200	0.96		Sheet Flow, sheet over gravel Smooth surfaces n= 0.011 P2= 2.50"
1.0	5	0.0200	0.08		Sheet Flow, sheet over lawn Grass: Short n= 0.150 P2= 2.50"
1.5	35	Total			

Subcatchment 222S: DP 6

Hydrograph



Hales Bus Garage Building Addition

Type II 24-hr 1 Year Rainfall=2.10"

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Summary for Subcatchment 223S: DP 7

Runoff = 0.53 cfs @ 12.01 hrs, Volume= 0.028 af, Depth> 0.98"

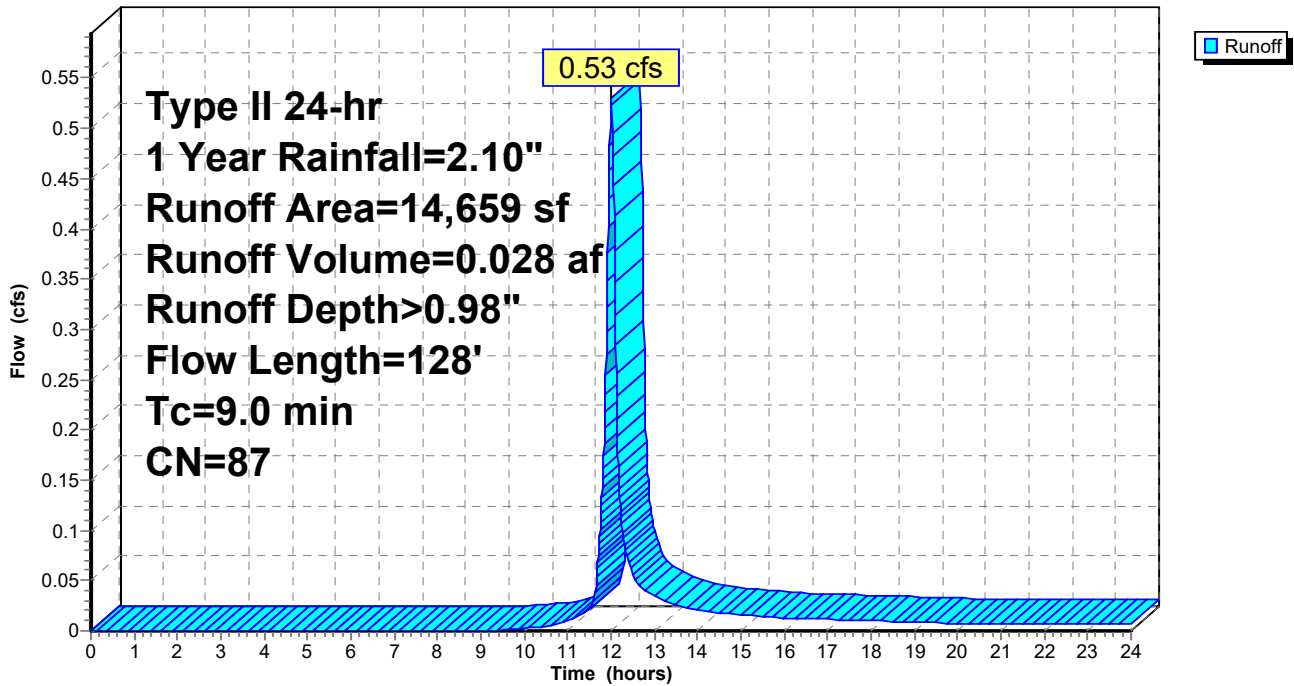
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 1 Year Rainfall=2.10"

Area (sf)	CN	Description
5,551	98	Paved parking, HSG D
9,108	80	>75% Grass cover, Good, HSG D
14,659	87	Weighted Average
9,108		62.13% Pervious Area
5,551		37.87% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.9	100	0.0350	0.19		Sheet Flow, Sheet Over Lawn to Stormwater Pond Grass: Short n= 0.150 P2= 2.50"
0.1	28	0.2500	7.50		Shallow Concentrated Flow, SC over lawn Grassed Waterway Kv= 15.0 fps
9.0	128	Total			

Subcatchment 223S: DP 7

Hydrograph



Hales Bus Garage Building Addition

Type II 24-hr 1 Year Rainfall=2.10"

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Summary for Pond 217P: Dry Pond #1

Inflow Area = 1.342 ac, 74.59% Impervious, Inflow Depth > 1.49" for 1 Year event
 Inflow = 2.67 cfs @ 11.94 hrs, Volume= 0.166 af
 Outflow = 1.57 cfs @ 12.03 hrs, Volume= 0.164 af, Atten= 41%, Lag= 5.5 min
 Primary = 1.57 cfs @ 12.03 hrs, Volume= 0.164 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 Peak Elev= 514.93' @ 12.03 hrs Surf.Area= 1,861 sf Storage= 1,292 cf

Plug-Flow detention time= 28.6 min calculated for 0.164 af (98% of inflow)
 Center-of-Mass det. time= 18.8 min (806.5 - 787.7)

Volume	Invert	Avail.Storage	Storage Description
#1	514.10'	7,032 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
514.10	1,271	0	0
517.10	3,417	7,032	7,032

Device	Routing	Invert	Outlet Devices
#1	Primary	514.10'	12.0" Round 12" HDPE L= 40.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 514.10' / 513.70' S= 0.0100 ' /' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	514.10'	12.0" W x 5.0" H Vert. 1 Year C= 0.600
#3	Device 1	514.90'	3.0" Vert. 10 yr C= 0.600
#4	Device 1	515.60'	3.0" Vert. 100 yr C= 0.600

Primary OutFlow Max=1.57 cfs @ 12.03 hrs HW=514.93' (Free Discharge)

- 1=12" HDPE (Passes 1.57 cfs of 1.99 cfs potential flow)
- 2=1 Year (Orifice Controls 1.57 cfs @ 3.76 fps)
- 3=10 yr (Orifice Controls 0.00 cfs @ 0.54 fps)
- 4=100 yr (Controls 0.00 cfs)

Hales Bus Garage Building Addition

Type II 24-hr 1 Year Rainfall=2.10"

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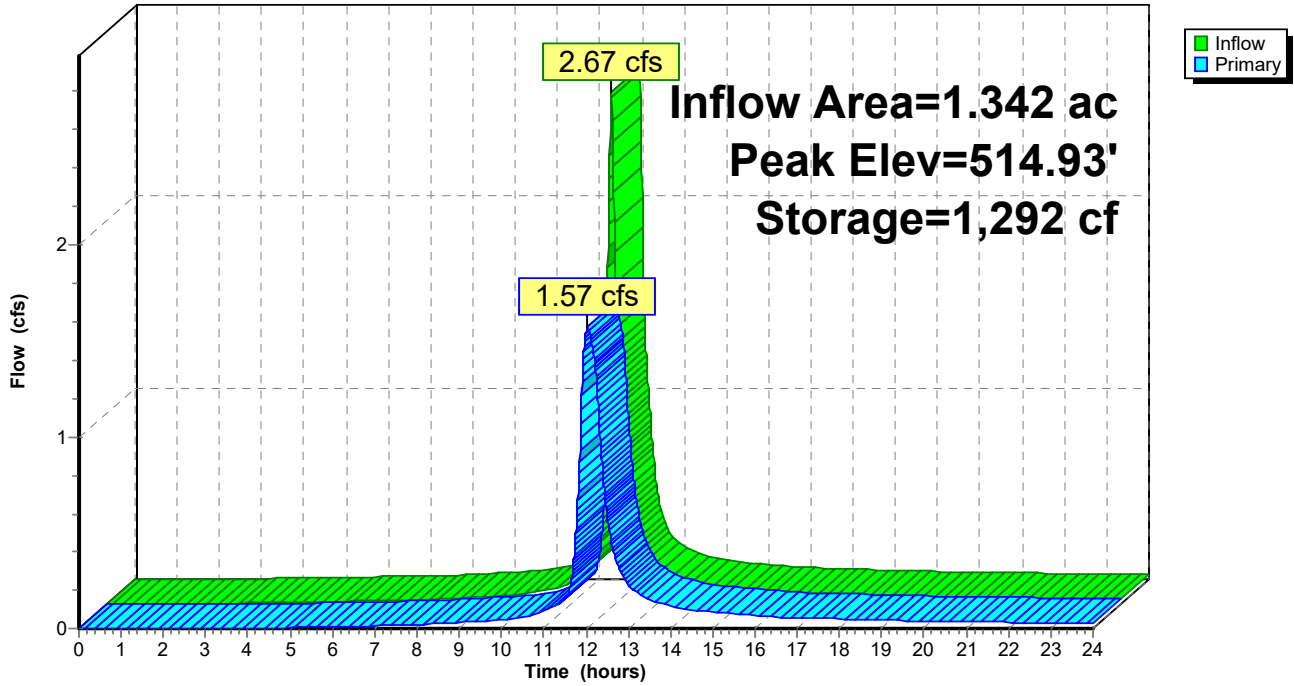
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Pond 217P: Dry Pond #1

Hydrograph



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Type II 24-hr 1 Year Rainfall=2.10"

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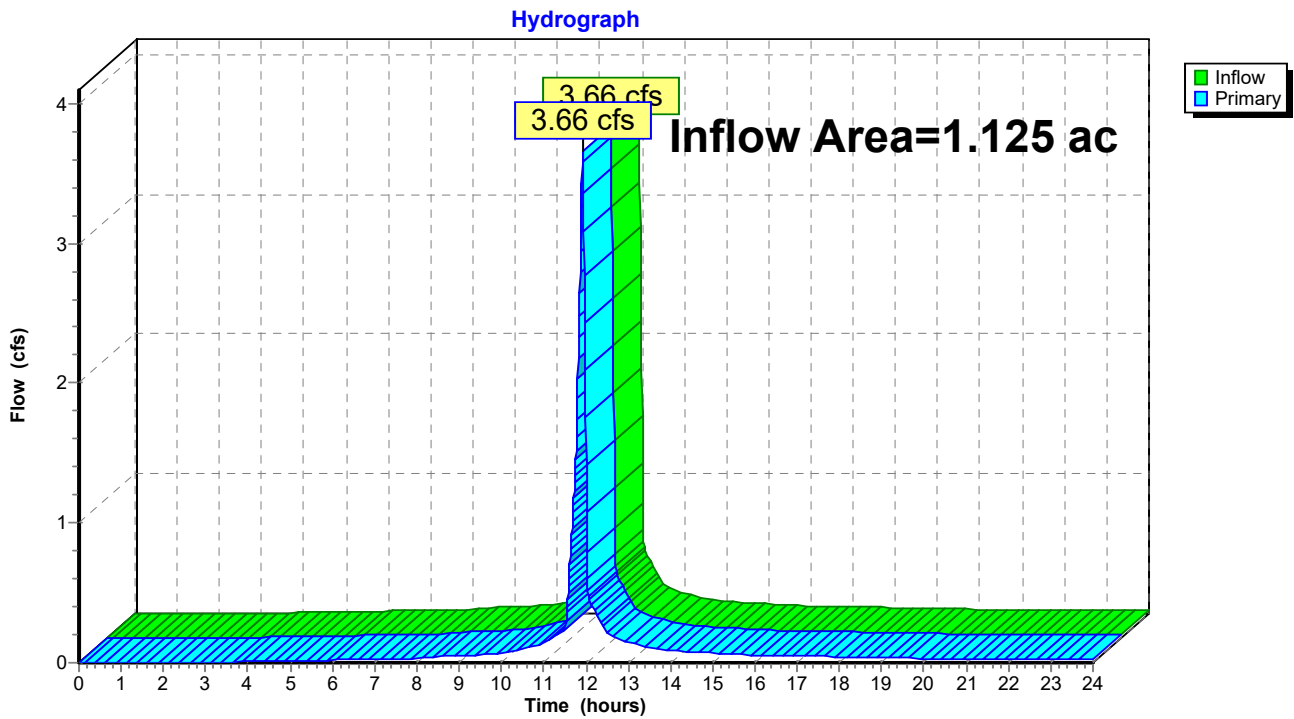
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Summary for Link 211L: Existing Offsite Towards Pearl Street

Inflow Area = 1.125 ac, 96.85% Impervious, Inflow Depth > 1.77" for 1 Year event
Inflow = 3.66 cfs @ 11.92 hrs, Volume= 0.166 af
Primary = 3.66 cfs @ 11.92 hrs, Volume= 0.166 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Link 211L: Existing Offsite Towards Pearl Street



Hales Bus Garage Building Addition

Type II 24-hr 1 Year Rainfall=2.10"

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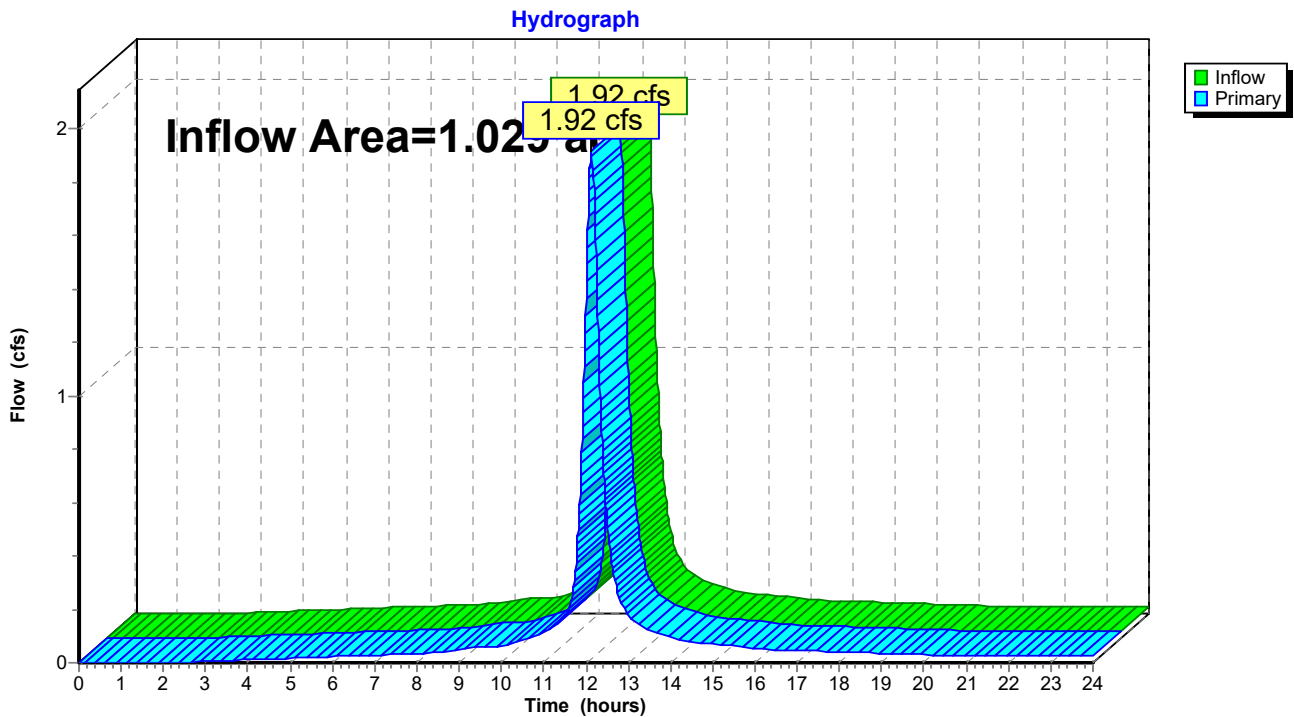
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Summary for Link 212L: Existing Offsite to West (Then to Pearl Street)

Inflow Area = 1.029 ac, 100.00% Impervious, Inflow Depth > 1.87" for 1 Year event
Inflow = 1.92 cfs @ 12.13 hrs, Volume= 0.160 af
Primary = 1.92 cfs @ 12.13 hrs, Volume= 0.160 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Link 212L: Existing Offsite to West (Then to Pearl Street)



Hales Bus Garage Building Addition

Type II 24-hr 1 Year Rainfall=2.10"

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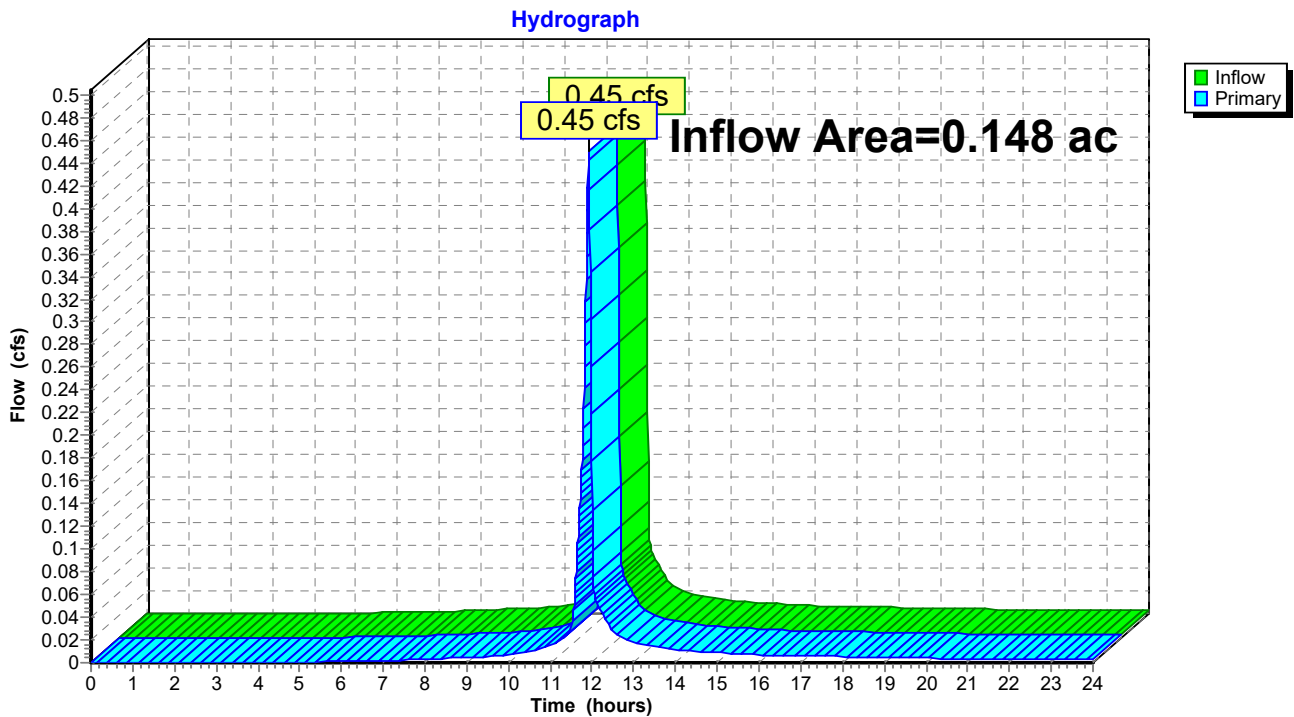
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Summary for Link 213L: Existing Offsite to North

Inflow Area = 0.148 ac, 81.24% Impervious, Inflow Depth > 1.58" for 1 Year event
Inflow = 0.45 cfs @ 11.92 hrs, Volume= 0.019 af
Primary = 0.45 cfs @ 11.92 hrs, Volume= 0.019 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Link 213L: Existing Offsite to North



Hales Bus Garage Building Addition

Type II 24-hr 1 Year Rainfall=2.10"

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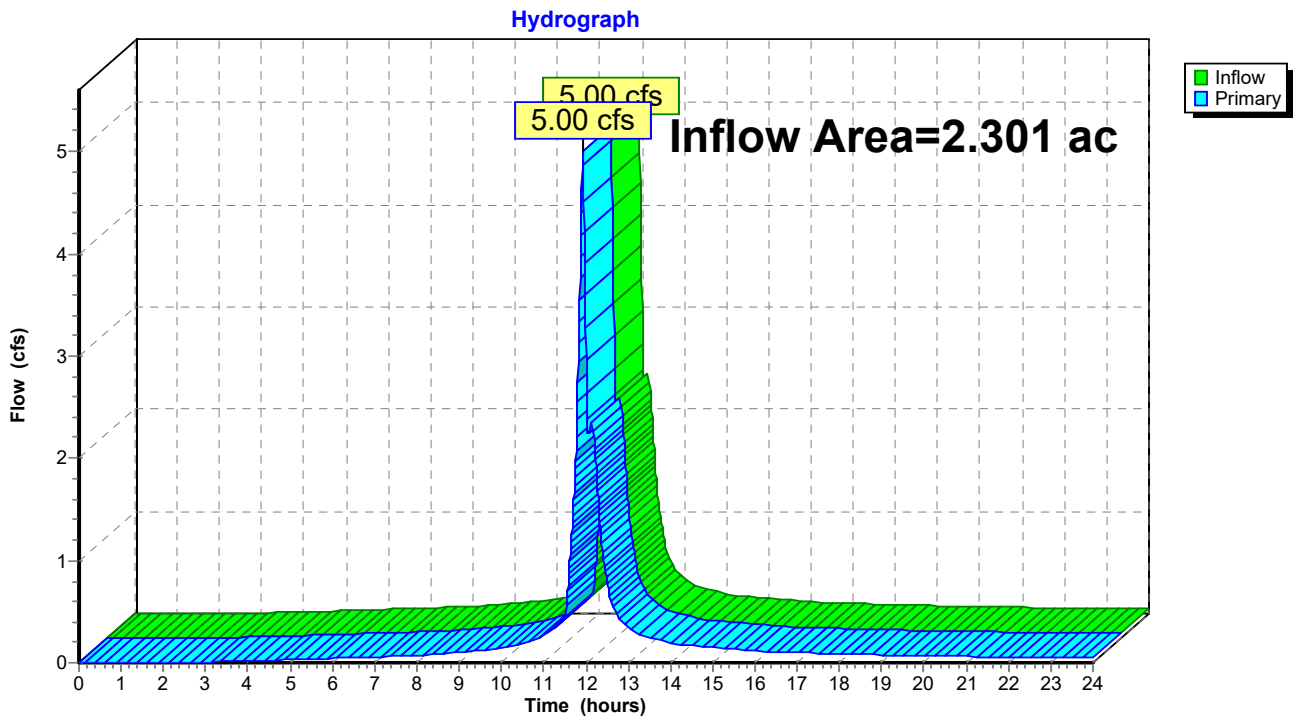
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Summary for Link 214L: Existing Total Offsite

Inflow Area = 2.301 ac, 97.25% Impervious, Inflow Depth > 1.80" for 1 Year event
Inflow = 5.00 cfs @ 11.92 hrs, Volume= 0.345 af
Primary = 5.00 cfs @ 11.92 hrs, Volume= 0.345 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Link 214L: Existing Total Offsite



Hales Bus Garage Building Addition

Type II 24-hr 1 Year Rainfall=2.10"

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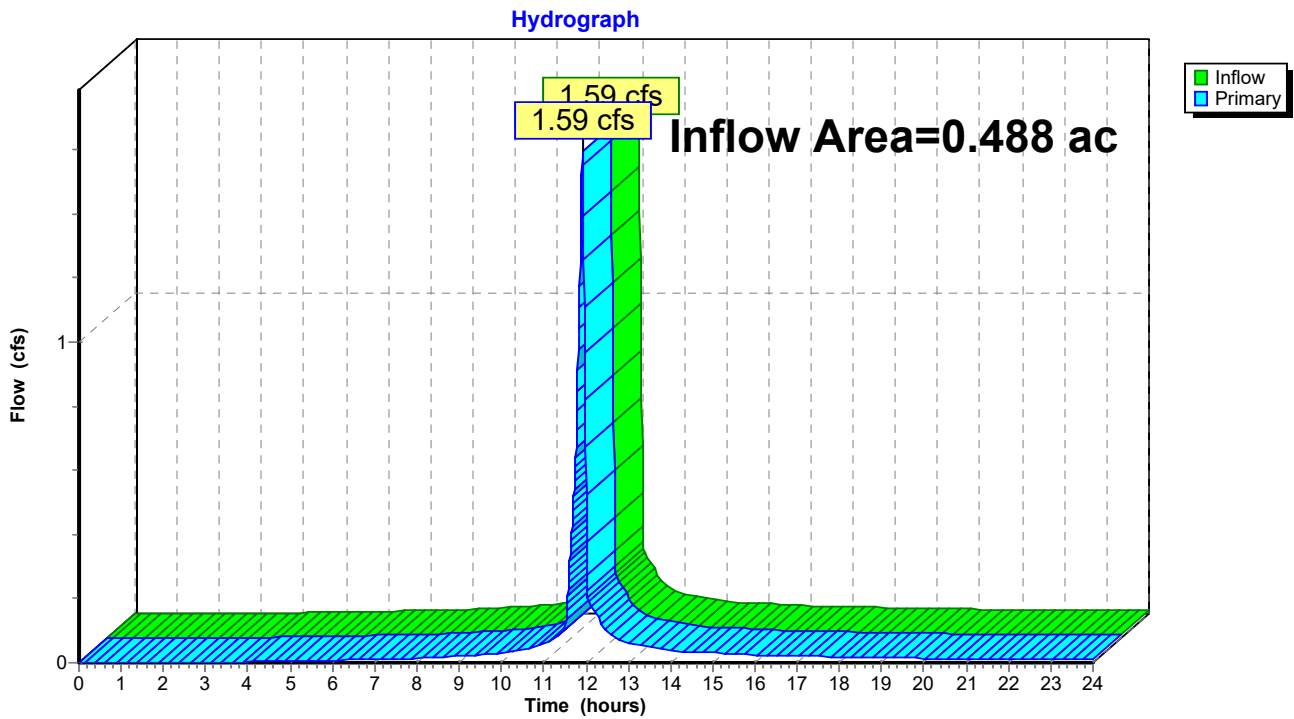
Page 24

Summary for Link 219L: Proposed Offsite Towards Pearl Street

Inflow Area = 0.488 ac, 91.24% Impervious, Inflow Depth > 1.75" for 1 Year event
Inflow = 1.59 cfs @ 11.92 hrs, Volume= 0.071 af
Primary = 1.59 cfs @ 11.92 hrs, Volume= 0.071 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Link 219L: Proposed Offsite Towards Pearl Street



Hales Bus Garage Building Addition

Type II 24-hr 1 Year Rainfall=2.10"

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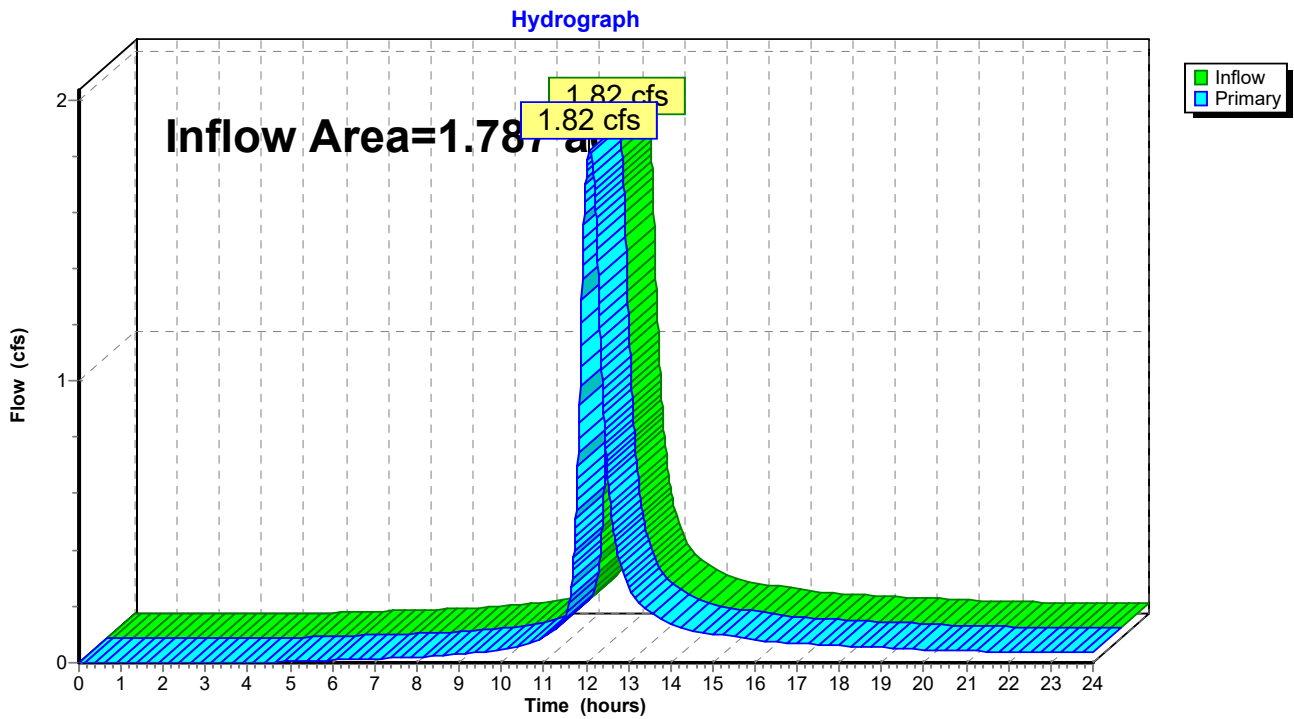
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Summary for Link 221L: Proposed Offsite To West (Then to Pearl Street)

Inflow Area = 1.787 ac, 57.88% Impervious, Inflow Depth > 1.26" for 1 Year event
Inflow = 1.82 cfs @ 12.09 hrs, Volume= 0.188 af
Primary = 1.82 cfs @ 12.09 hrs, Volume= 0.188 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Link 221L: Proposed Offsite To West (Then to Pearl Street)



Hales Bus Garage Building Addition

Type II 24-hr 1 Year Rainfall=2.10"

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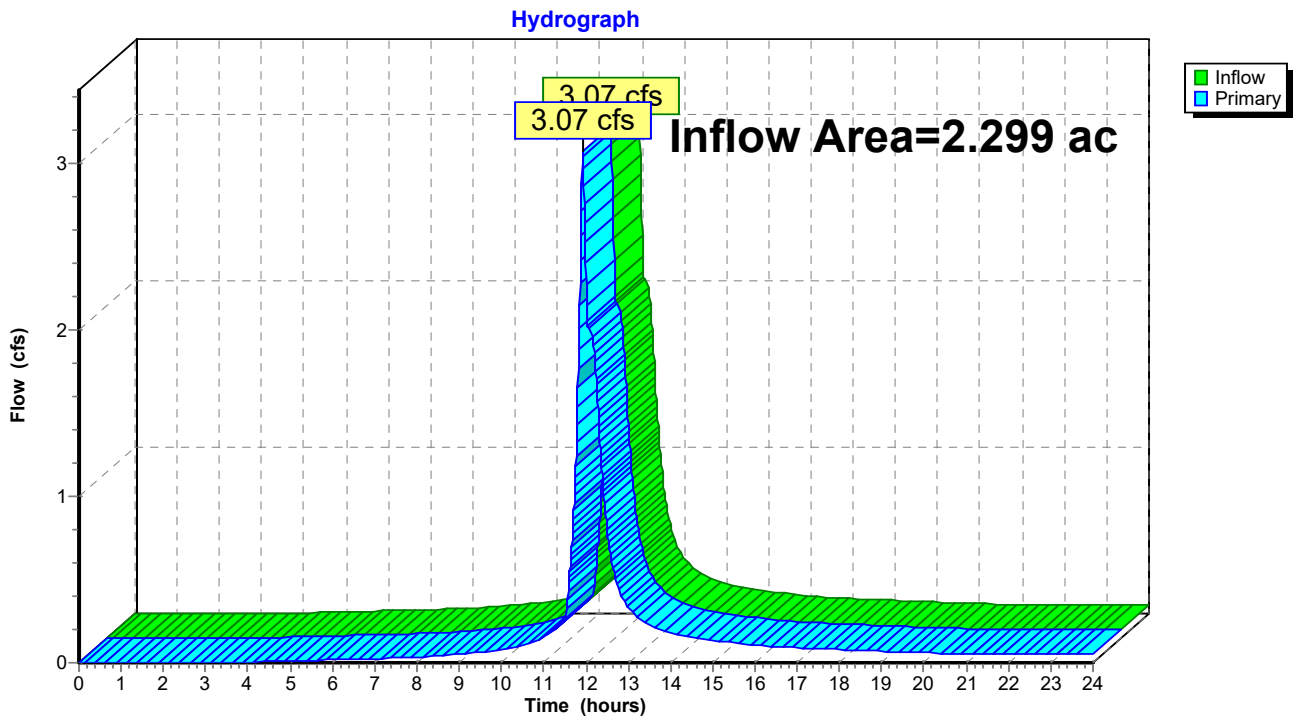
Page 26

Summary for Link 223L: Proposed Total Offsite

Inflow Area = 2.299 ac, 65.19% Impervious, Inflow Depth > 1.37" for 1 Year event
Inflow = 3.07 cfs @ 11.92 hrs, Volume= 0.262 af
Primary = 3.07 cfs @ 11.92 hrs, Volume= 0.262 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Link 223L: Proposed Total Offsite



Hales Bus Garage Building Addition

Type II 24-hr 1 Year Rainfall=2.10"

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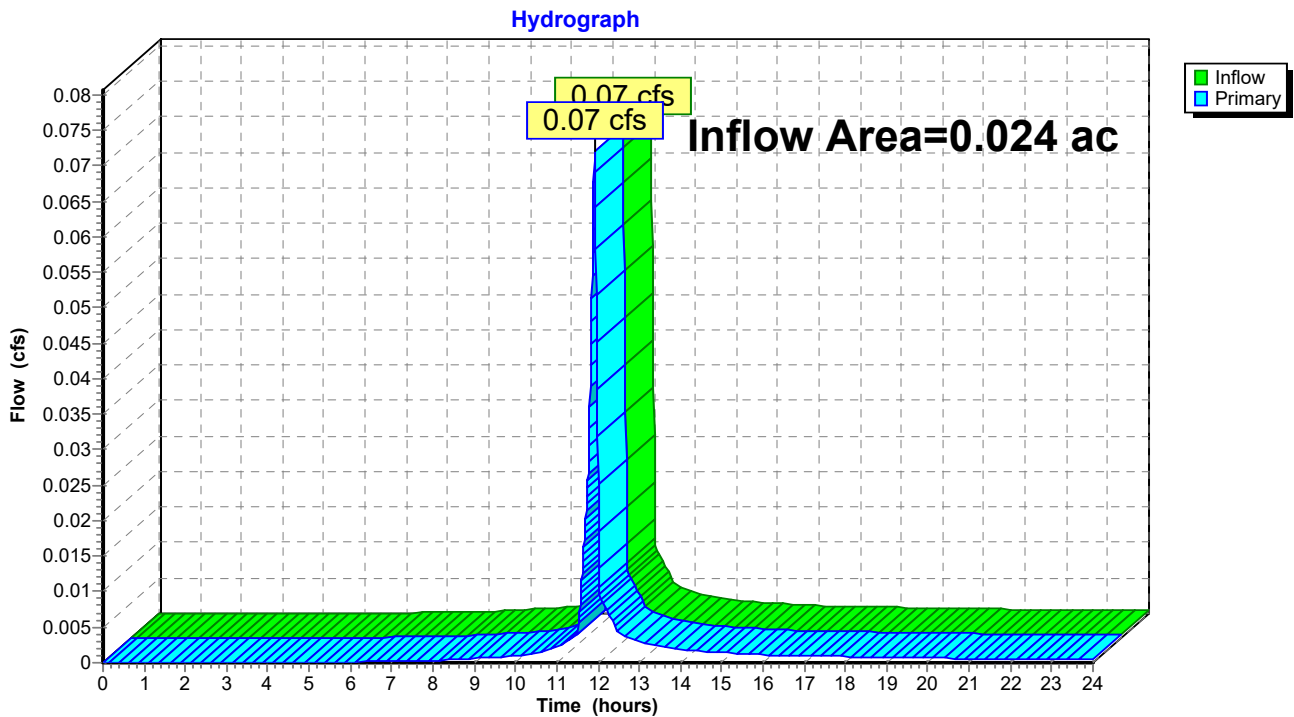
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Summary for Link 224L: Proposed Offsite to North

Inflow Area = 0.024 ac, 79.87% Impervious, Inflow Depth > 1.49" for 1 Year event
Inflow = 0.07 cfs @ 11.92 hrs, Volume= 0.003 af
Primary = 0.07 cfs @ 11.92 hrs, Volume= 0.003 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Link 224L: Proposed Offsite to North



Hales Bus Garage Building Addition

Type II 24-hr 10 Year Rainfall=3.50"

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Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment208S: DE 1	Runoff Area=48,988 sf 96.85% Impervious Runoff Depth>3.15" Flow Length=150' Tc=1.8 min CN=97 Runoff=6.28 cfs 0.296 af
Subcatchment209S: DE 2	Runoff Area=44,803 sf 100.00% Impervious Runoff Depth>3.25" Flow Length=295' Tc=21.2 min CN=98 Runoff=3.25 cfs 0.279 af
Subcatchment210S: DE 3	Runoff Area=6,446 sf 81.24% Impervious Runoff Depth>2.94" Flow Length=116' Tc=1.8 min CN=95 Runoff=0.80 cfs 0.036 af
Subcatchment216S: DP 1	Runoff Area=26,535 sf 100.00% Impervious Runoff Depth>3.27" Flow Length=305' Tc=2.6 min CN=98 Runoff=3.36 cfs 0.166 af
Subcatchment218S: DP 2	Runoff Area=16,373 sf 92.08% Impervious Runoff Depth>3.15" Flow Length=58' Slope=0.0200 '/ Tc=1.5 min CN=97 Runoff=2.12 cfs 0.099 af
Subcatchment219S: DP 4	Runoff Area=17,265 sf 66.70% Impervious Runoff Depth>2.63" Flow Length=245' Slope=0.0075 '/ Tc=18.3 min CN=92 Runoff=1.19 cfs 0.087 af
Subcatchment220S: DP 5	Runoff Area=19,379 sf 7.48% Impervious Runoff Depth>1.70" Flow Length=287' Tc=20.4 min CN=81 Runoff=0.83 cfs 0.063 af
Subcatchment221S: DP 3	Runoff Area=4,878 sf 88.42% Impervious Runoff Depth>3.04" Flow Length=65' Tc=1.1 min CN=96 Runoff=0.63 cfs 0.028 af
Subcatchment222S: DP 6	Runoff Area=1,063 sf 79.87% Impervious Runoff Depth>2.83" Flow Length=35' Slope=0.0200 '/ Tc=1.5 min CN=94 Runoff=0.13 cfs 0.006 af
Subcatchment223S: DP 7	Runoff Area=14,659 sf 37.87% Impervious Runoff Depth>2.18" Flow Length=128' Tc=9.0 min CN=87 Runoff=1.16 cfs 0.061 af
Pond 217P: Dry Pond #1	Peak Elev=515.55' Storage=2,585 cf Inflow=4.87 cfs 0.314 af Outflow=2.40 cfs 0.310 af
Link 211L: Existing Offsite Towards Pearl Street	Inflow=6.28 cfs 0.296 af Primary=6.28 cfs 0.296 af
Link 212L: Existing Offsite to West (Then to Pearl Street)	Inflow=3.25 cfs 0.279 af Primary=3.25 cfs 0.279 af
Link 213L: Existing Offsite to North	Inflow=0.80 cfs 0.036 af Primary=0.80 cfs 0.036 af
Link 214L: Existing Total Offsite	Inflow=8.61 cfs 0.611 af Primary=8.61 cfs 0.611 af
Link 219L: Proposed Offsite Towards Pearl Street	Inflow=2.74 cfs 0.127 af Primary=2.74 cfs 0.127 af

Hales Bus Garage Building Addition

Type II 24-hr 10 Year Rainfall=3.50"

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Link 221L: Proposed Offsite To West (Then to Pearl Street)

Inflow=3.22 cfs 0.373 af
Primary=3.22 cfs 0.373 af

Link 223L: Proposed Total Offsite

Inflow=5.10 cfs 0.506 af
Primary=5.10 cfs 0.506 af

Link 224L: Proposed Offsite to North

Inflow=0.13 cfs 0.006 af
Primary=0.13 cfs 0.006 af

Total Runoff Area = 4.600 ac Runoff Volume = 1.120 af Average Runoff Depth = 2.92"
18.77% Pervious = 0.863 ac 81.23% Impervious = 3.737 ac

Hales Bus Garage Building Addition

Type II 24-hr 10 Year Rainfall=3.50"

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Summary for Subcatchment 208S: DE 1

Runoff = 6.28 cfs @ 11.92 hrs, Volume= 0.296 af, Depth> 3.15"

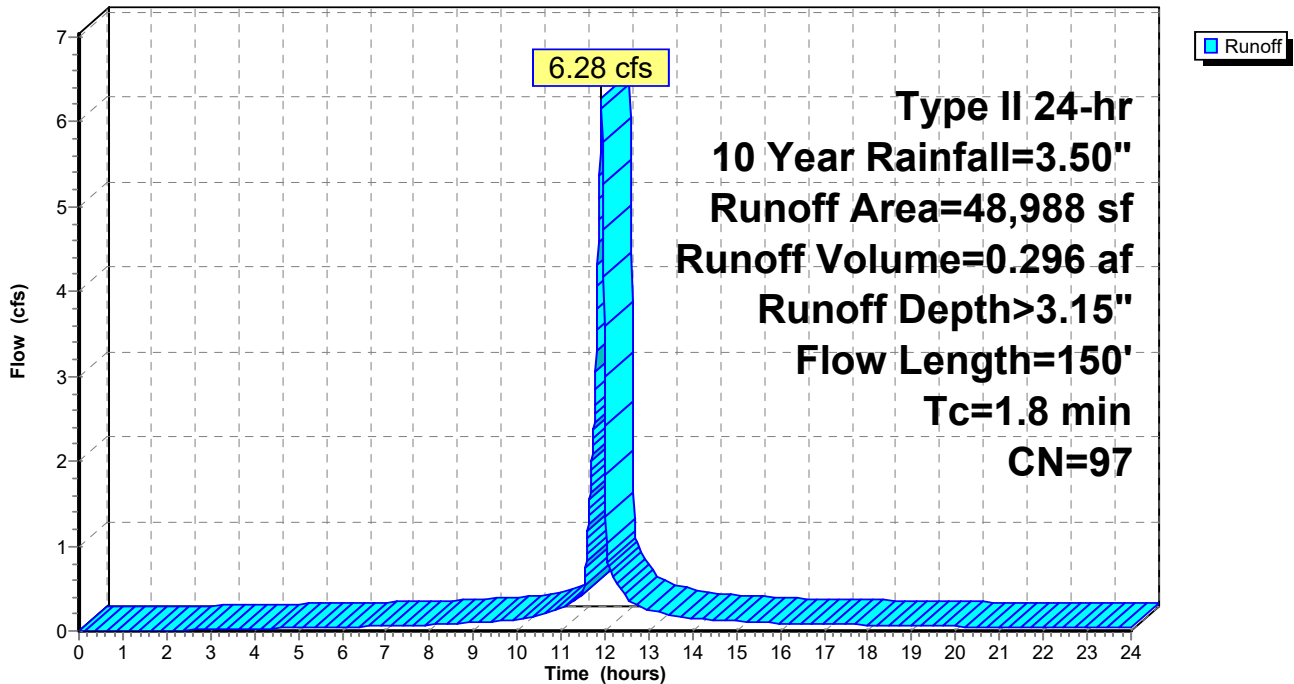
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10 Year Rainfall=3.50"

Area (sf)	CN	Description
1,544	80	>75% Grass cover, Good, HSG D
47,444	98	Paved parking, HSG D
48,988	97	Weighted Average
1,544		3.15% Pervious Area
47,444		96.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	90	0.0200	1.19		Sheet Flow, sheet over roof Smooth surfaces n= 0.011 P2= 2.50"
0.2	10	0.0230	0.81		Sheet Flow, Remainder of sheet flow Smooth surfaces n= 0.011 P2= 2.50"
0.3	50	0.0230	3.08		Shallow Concentrated Flow, SC over asphalt Paved Kv= 20.3 fps
1.8	150	Total			

Subcatchment 208S: DE 1

Hydrograph



Hales Bus Garage Building Addition

Type II 24-hr 10 Year Rainfall=3.50"

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Summary for Subcatchment 209S: DE 2

Runoff = 3.25 cfs @ 12.13 hrs, Volume= 0.279 af, Depth> 3.25"

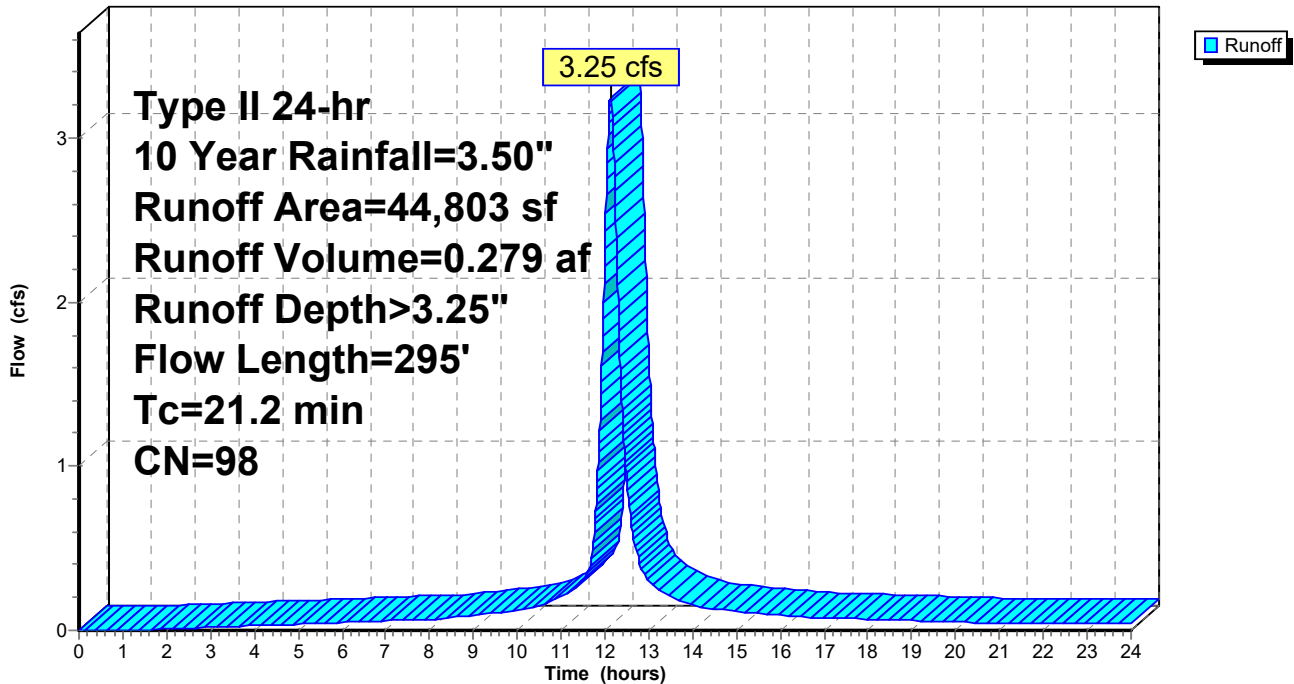
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10 Year Rainfall=3.50"

Area (sf)	CN	Description
11,400	98	Paved parking, HSG D
33,403	98	Paved parking, HSG D
44,803	98	Weighted Average
44,803		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.1	100	0.0045	0.08		Sheet Flow, Sheet over Lawn Grass: Short n= 0.150 P2= 2.50"
1.1	195	0.0370	2.89		Shallow Concentrated Flow, SC Over Lawn Grassed Waterway Kv= 15.0 fps
21.2	295	Total			

Subcatchment 209S: DE 2

Hydrograph



Hales Bus Garage Building Addition

Type II 24-hr 10 Year Rainfall=3.50"

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Summary for Subcatchment 210S: DE 3

Runoff = 0.80 cfs @ 11.92 hrs, Volume= 0.036 af, Depth> 2.94"

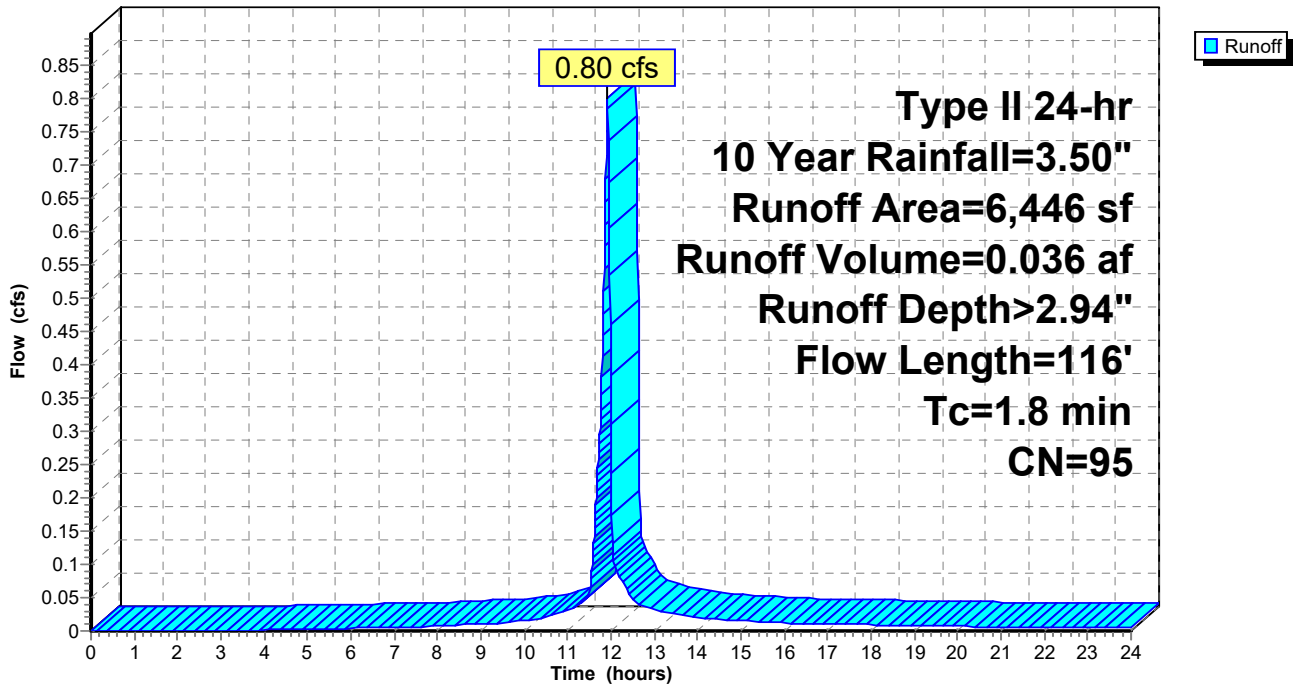
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10 Year Rainfall=3.50"

Area (sf)	CN	Description
5,237	98	Paved parking, HSG D
1,209	80	>75% Grass cover, Good, HSG D
6,446	95	Weighted Average
1,209		18.76% Pervious Area
5,237		81.24% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.7	100	0.0120	0.99		Sheet Flow, Sheet over Pavement / gravel pad Smooth surfaces n= 0.011 P2= 2.50"
0.1	11	0.0200	2.28		Shallow Concentrated Flow, SC over remainder of gravel Unpaved Kv= 16.1 fps
0.0	5	0.0300	2.60		Shallow Concentrated Flow, SC over lawn Grassed Waterway Kv= 15.0 fps
1.8	116	Total			

Subcatchment 210S: DE 3

Hydrograph



Hales Bus Garage Building Addition

Type II 24-hr 10 Year Rainfall=3.50"

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Summary for Subcatchment 216S: DP 1

Runoff = 3.36 cfs @ 11.93 hrs, Volume= 0.166 af, Depth> 3.27"

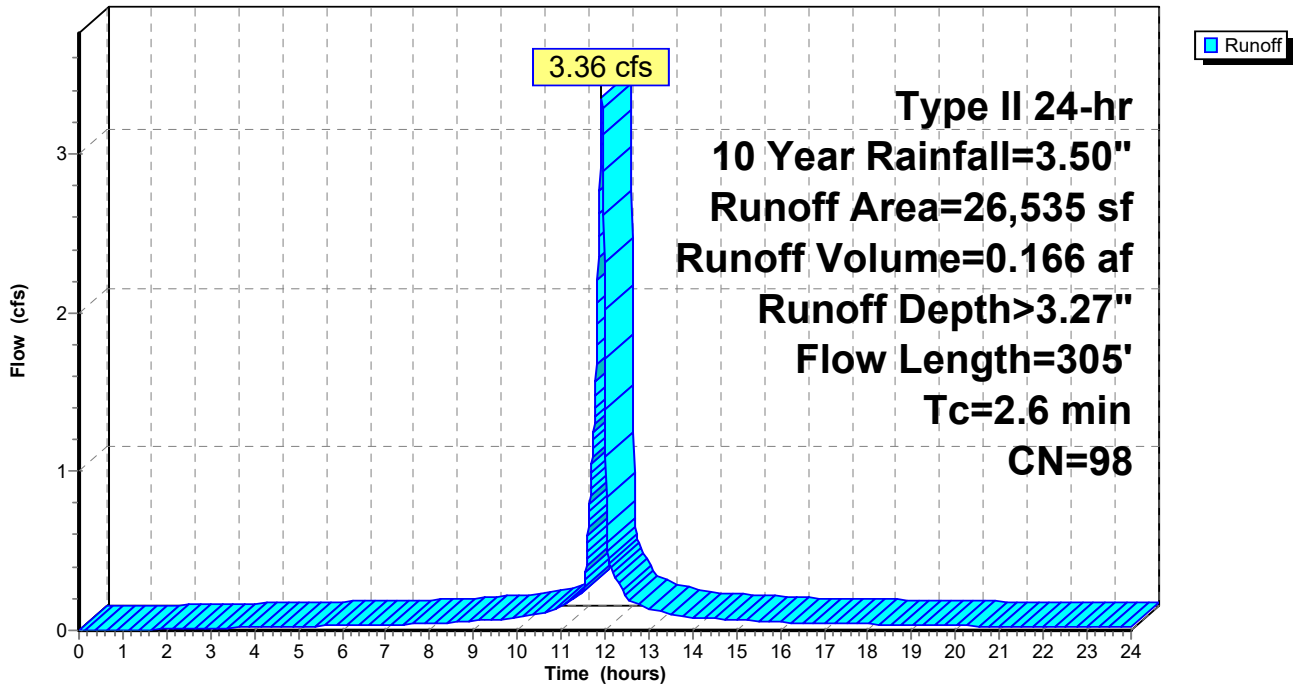
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10 Year Rainfall=3.50"

Area (sf)	CN	Description
26,535	98	Unconnected roofs, HSG D
26,535		100.00% Impervious Area
26,535		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.8	45	0.0020	0.41		Sheet Flow, Sheet over Roof Smooth surfaces n= 0.011 P2= 2.50"
0.8	260	0.0100	5.26	6.46	Pipe Channel, Flow through roof drain piping 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013 Corrugated PE, smooth interior
2.6	305	Total			

Subcatchment 216S: DP 1

Hydrograph



Hales Bus Garage Building Addition

Type II 24-hr 10 Year Rainfall=3.50"

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Summary for Subcatchment 218S: DP 2

Runoff = 2.12 cfs @ 11.92 hrs, Volume= 0.099 af, Depth> 3.15"

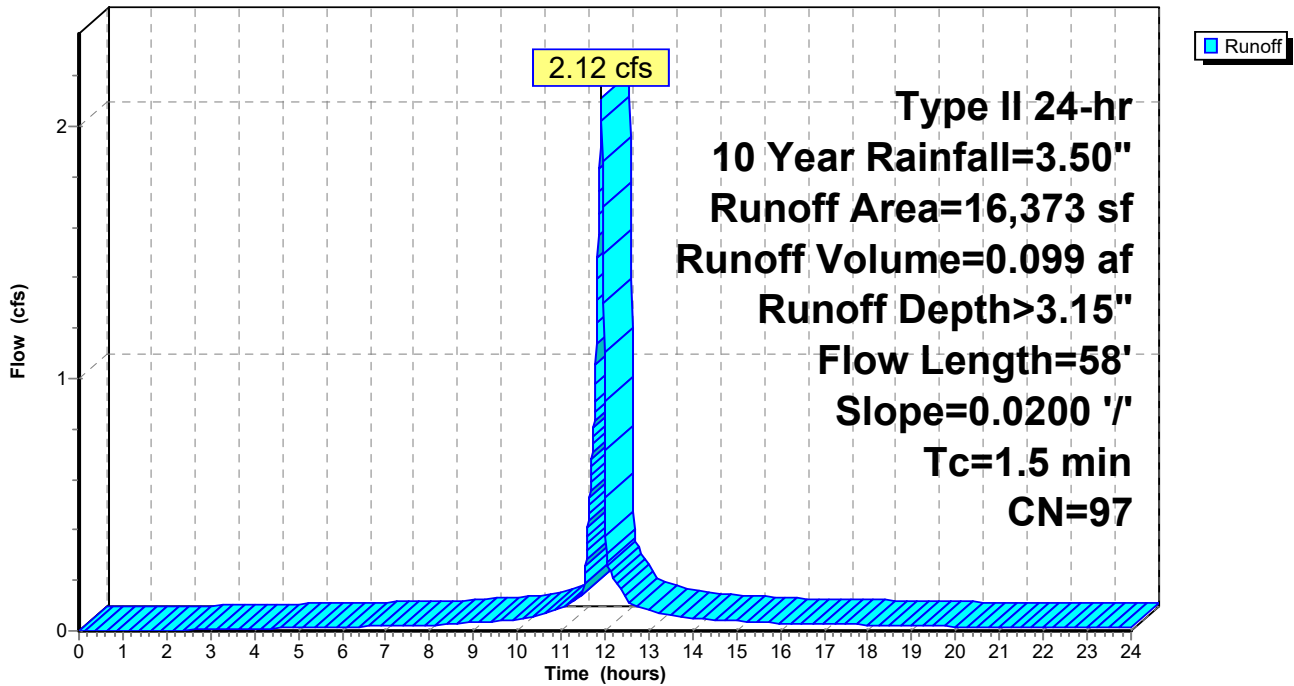
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10 Year Rainfall=3.50"

Area (sf)	CN	Description
1,296	80	>75% Grass cover, Good, HSG D
15,077	98	Paved parking, HSG D
16,373	97	Weighted Average
1,296		7.92% Pervious Area
15,077		92.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	55	0.0200	1.08		Sheet Flow, Sheet over Pavement Smooth surfaces n= 0.011 P2= 2.50"
0.7	3	0.0200	0.07		Sheet Flow, Sheet over lawn Grass: Short n= 0.150 P2= 2.50"
1.5	58	Total			

Subcatchment 218S: DP 2

Hydrograph



Hales Bus Garage Building Addition

Type II 24-hr 10 Year Rainfall=3.50"

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Summary for Subcatchment 219S: DP 4

Runoff = 1.19 cfs @ 12.10 hrs, Volume= 0.087 af, Depth> 2.63"

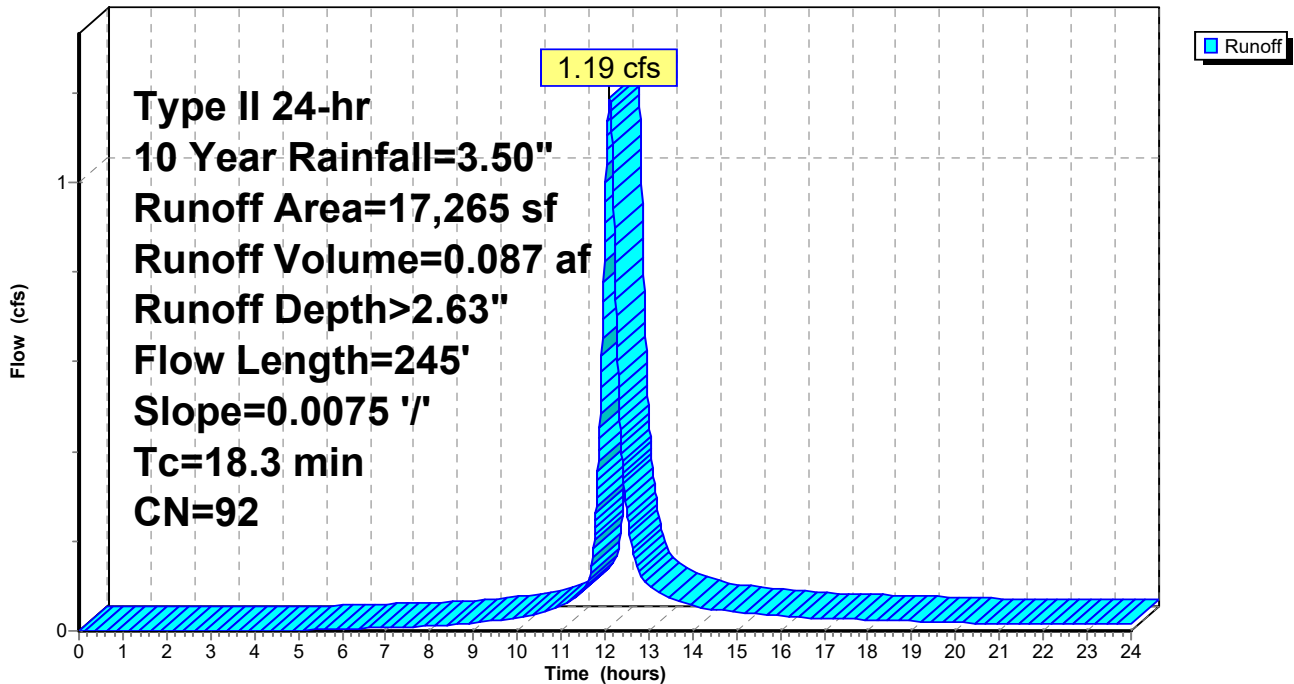
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10 Year Rainfall=3.50"

Area (sf)	CN	Description
11,516	98	Paved parking, HSG D
5,749	80	>75% Grass cover, Good, HSG D
17,265	92	Weighted Average
5,749		33.30% Pervious Area
11,516		66.70% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.4	100	0.0075	0.10		Sheet Flow, Sheet in Dry Swale Grass: Short n= 0.150 P2= 2.50"
1.9	145	0.0075	1.30		Shallow Concentrated Flow, SC in Dry Swale Grassed Waterway Kv= 15.0 fps
18.3	245	Total			

Subcatchment 219S: DP 4

Hydrograph



Hales Bus Garage Building Addition

Type II 24-hr 10 Year Rainfall=3.50"

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Summary for Subcatchment 220S: DP 5

Runoff = 0.83 cfs @ 12.13 hrs, Volume= 0.063 af, Depth> 1.70"

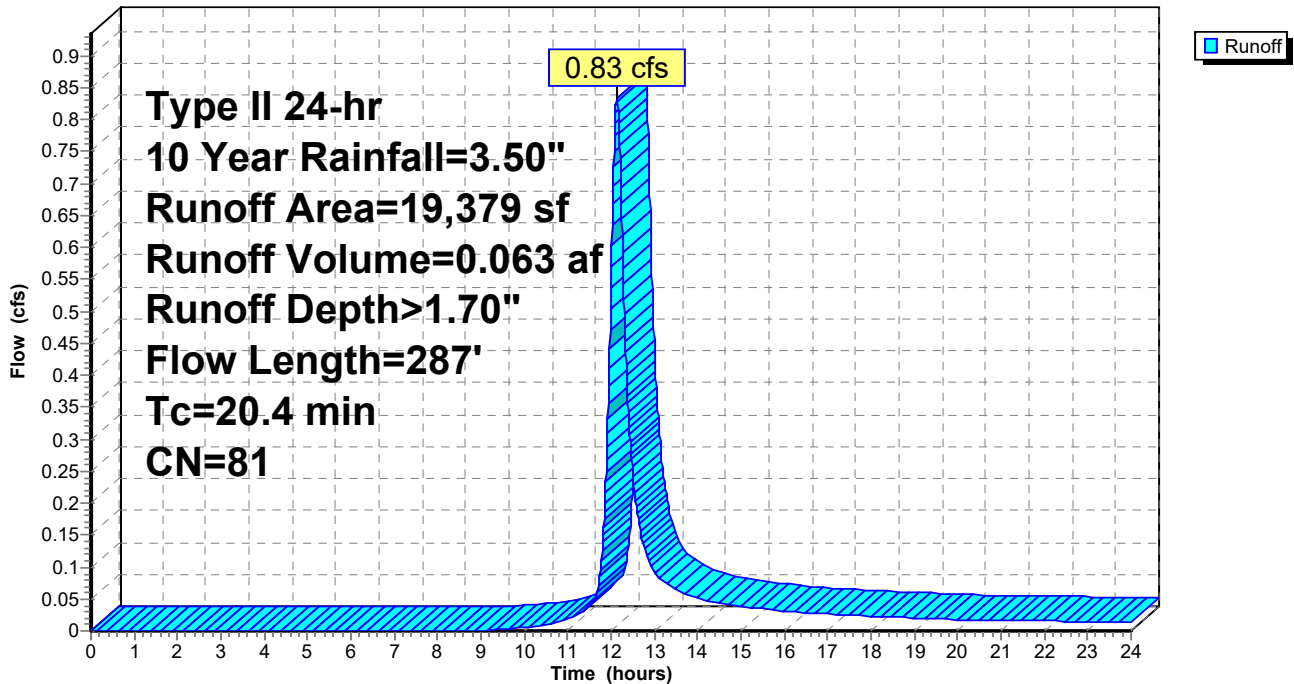
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10 Year Rainfall=3.50"

Area (sf)	CN	Description
1,450	98	Paved parking, HSG D
17,929	80	>75% Grass cover, Good, HSG D
19,379	81	Weighted Average
17,929		92.52% Pervious Area
1,450		7.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.3	100	0.0050	0.09		Sheet Flow, Sheet over Lawn Grass: Short n= 0.150 P2= 2.50"
1.1	187	0.0375	2.90		Shallow Concentrated Flow, SC Over Lawn Grassed Waterway Kv= 15.0 fps
20.4	287	Total			

Subcatchment 220S: DP 5

Hydrograph



Hales Bus Garage Building Addition

Type II 24-hr 10 Year Rainfall=3.50"

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Summary for Subcatchment 221S: DP 3

[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 0.63 cfs @ 11.91 hrs, Volume= 0.028 af, Depth> 3.04"

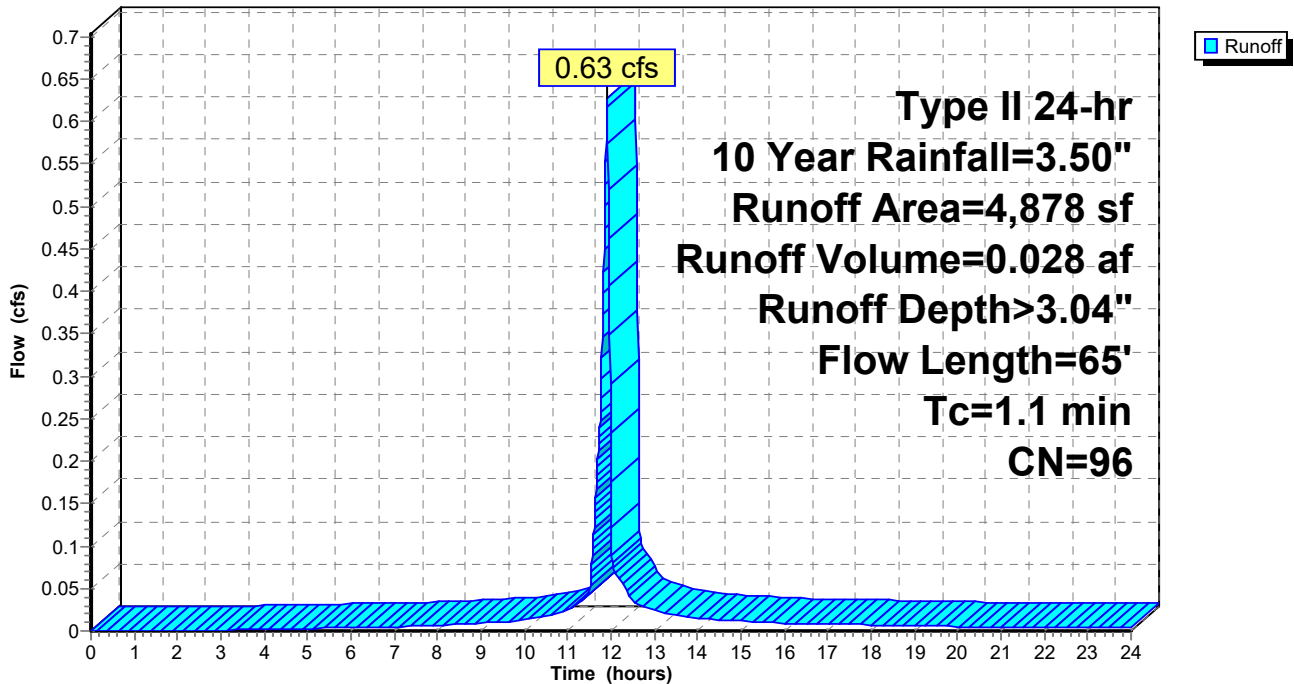
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10 Year Rainfall=3.50"

Area (sf)	CN	Description
565	80	>75% Grass cover, Good, HSG D
4,313	98	Paved parking, HSG D
4,878	96	Weighted Average
565		11.58% Pervious Area
4,313		88.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	60	0.0400	1.45		Sheet Flow, Sheet over Pavement Smooth surfaces n= 0.011 P2= 2.50"
0.4	5	0.1600	0.19		Sheet Flow, Sheet over lawn Grass: Short n= 0.150 P2= 2.50"
1.1	65	Total			

Subcatchment 221S: DP 3

Hydrograph



Hales Bus Garage Building Addition

Type II 24-hr 10 Year Rainfall=3.50"

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Summary for Subcatchment 222S: DP 6

Runoff = 0.13 cfs @ 11.92 hrs, Volume= 0.006 af, Depth> 2.83"

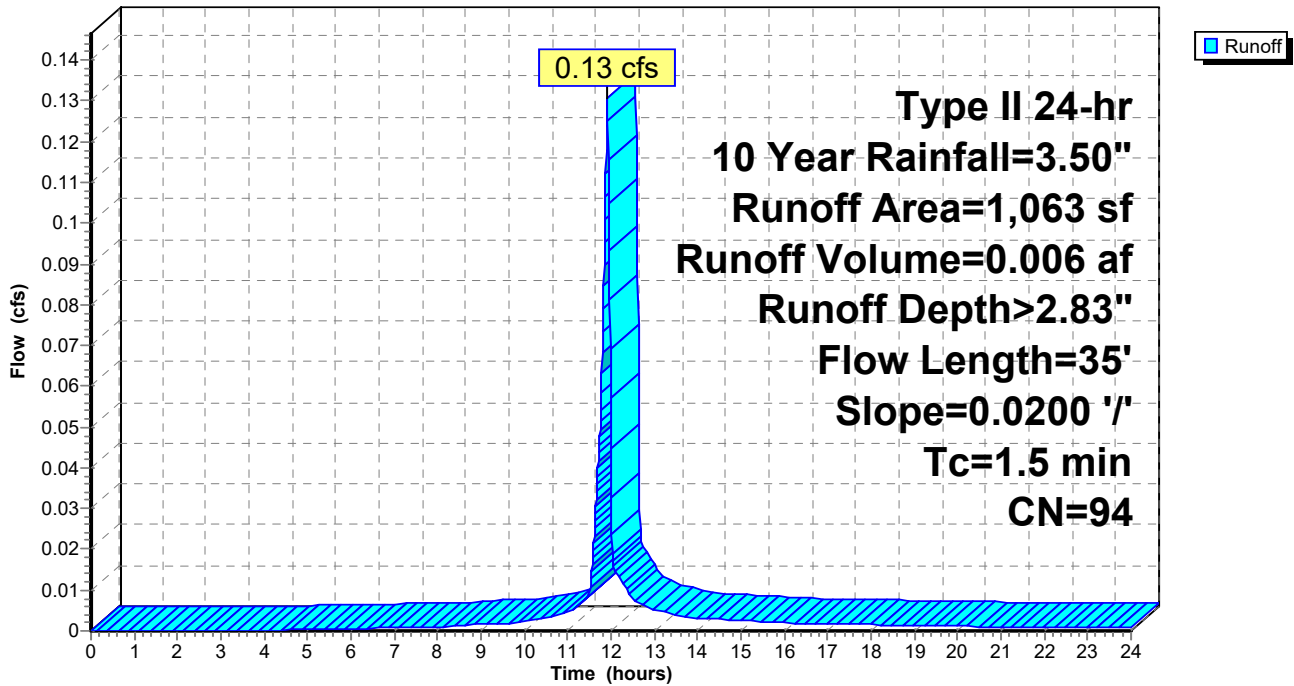
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10 Year Rainfall=3.50"

Area (sf)	CN	Description
849	98	Paved parking, HSG D
214	80	>75% Grass cover, Good, HSG D
1,063	94	Weighted Average
214		20.13% Pervious Area
849		79.87% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.5	30	0.0200	0.96		Sheet Flow, sheet over gravel Smooth surfaces n= 0.011 P2= 2.50"
1.0	5	0.0200	0.08		Sheet Flow, sheet over lawn Grass: Short n= 0.150 P2= 2.50"
1.5	35	Total			

Subcatchment 222S: DP 6

Hydrograph



Hales Bus Garage Building Addition

Type II 24-hr 10 Year Rainfall=3.50"

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Summary for Subcatchment 223S: DP 7

Runoff = 1.16 cfs @ 12.01 hrs, Volume= 0.061 af, Depth> 2.18"

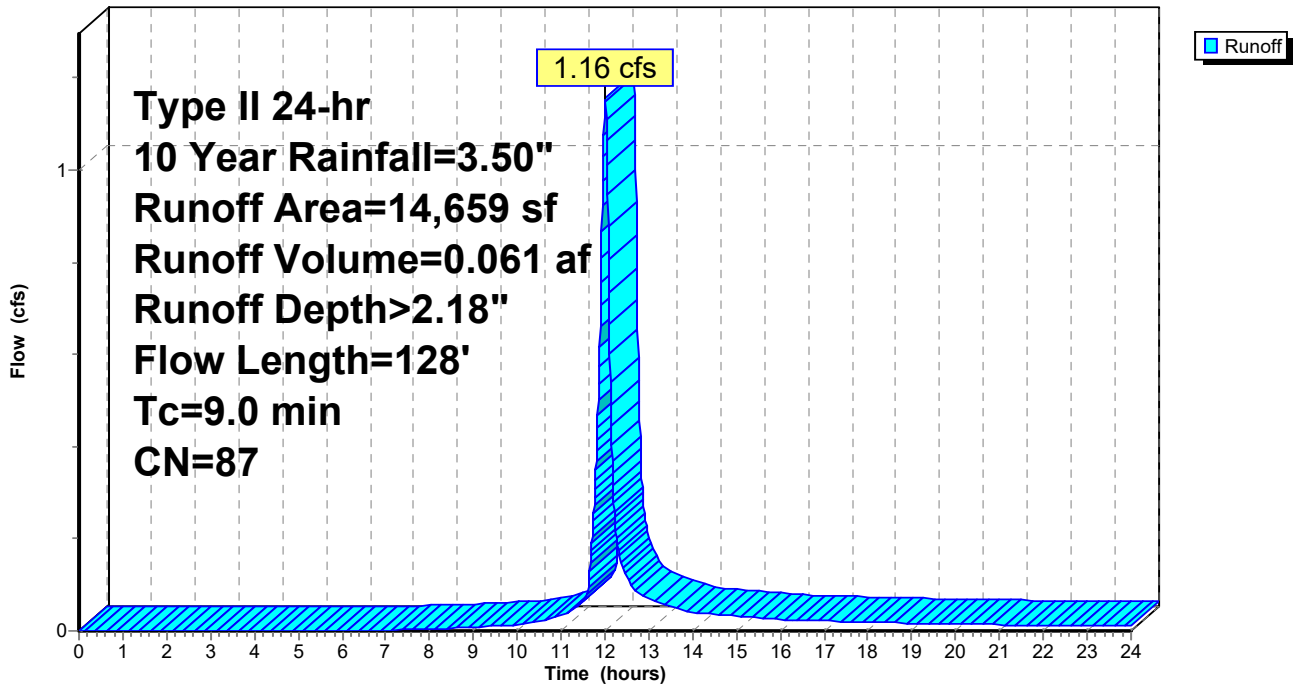
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10 Year Rainfall=3.50"

Area (sf)	CN	Description
5,551	98	Paved parking, HSG D
9,108	80	>75% Grass cover, Good, HSG D
14,659	87	Weighted Average
9,108		62.13% Pervious Area
5,551		37.87% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.9	100	0.0350	0.19		Sheet Flow, Sheet Over Lawn to Stormwater Pond Grass: Short n= 0.150 P2= 2.50"
0.1	28	0.2500	7.50		Shallow Concentrated Flow, SC over lawn Grassed Waterway Kv= 15.0 fps
9.0	128	Total			

Subcatchment 223S: DP 7

Hydrograph



Hales Bus Garage Building Addition

Type II 24-hr 10 Year Rainfall=3.50"

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Summary for Pond 217P: Dry Pond #1

Inflow Area = 1.342 ac, 74.59% Impervious, Inflow Depth > 2.80" for 10 Year event
 Inflow = 4.87 cfs @ 11.94 hrs, Volume= 0.314 af
 Outflow = 2.40 cfs @ 12.08 hrs, Volume= 0.310 af, Atten= 51%, Lag= 8.6 min
 Primary = 2.40 cfs @ 12.08 hrs, Volume= 0.310 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 Peak Elev= 515.55' @ 12.08 hrs Surf.Area= 2,305 sf Storage= 2,585 cf

Plug-Flow detention time= 24.2 min calculated for 0.310 af (99% of inflow)
 Center-of-Mass det. time= 17.2 min (792.0 - 774.8)

Volume	Invert	Avail.Storage	Storage Description
#1	514.10'	7,032 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
514.10	1,271	0	0
517.10	3,417	7,032	7,032

Device	Routing	Invert	Outlet Devices
#1	Primary	514.10'	12.0" Round 12" HDPE L= 40.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 514.10' / 513.70' S= 0.0100 ' /' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	514.10'	12.0" W x 5.0" H Vert. 1 Year C= 0.600
#3	Device 1	514.90'	3.0" Vert. 10 yr C= 0.600
#4	Device 1	515.60'	3.0" Vert. 100 yr C= 0.600

Primary OutFlow Max=2.40 cfs @ 12.08 hrs HW=515.55' (Free Discharge)

- 1=12" HDPE (Passes 2.40 cfs of 3.49 cfs potential flow)
- 2=1 Year (Orifice Controls 2.23 cfs @ 5.35 fps)
- 3=10 yr (Orifice Controls 0.17 cfs @ 3.47 fps)
- 4=100 yr (Controls 0.00 cfs)

Hales Bus Garage Building Addition

Type II 24-hr 10 Year Rainfall=3.50"

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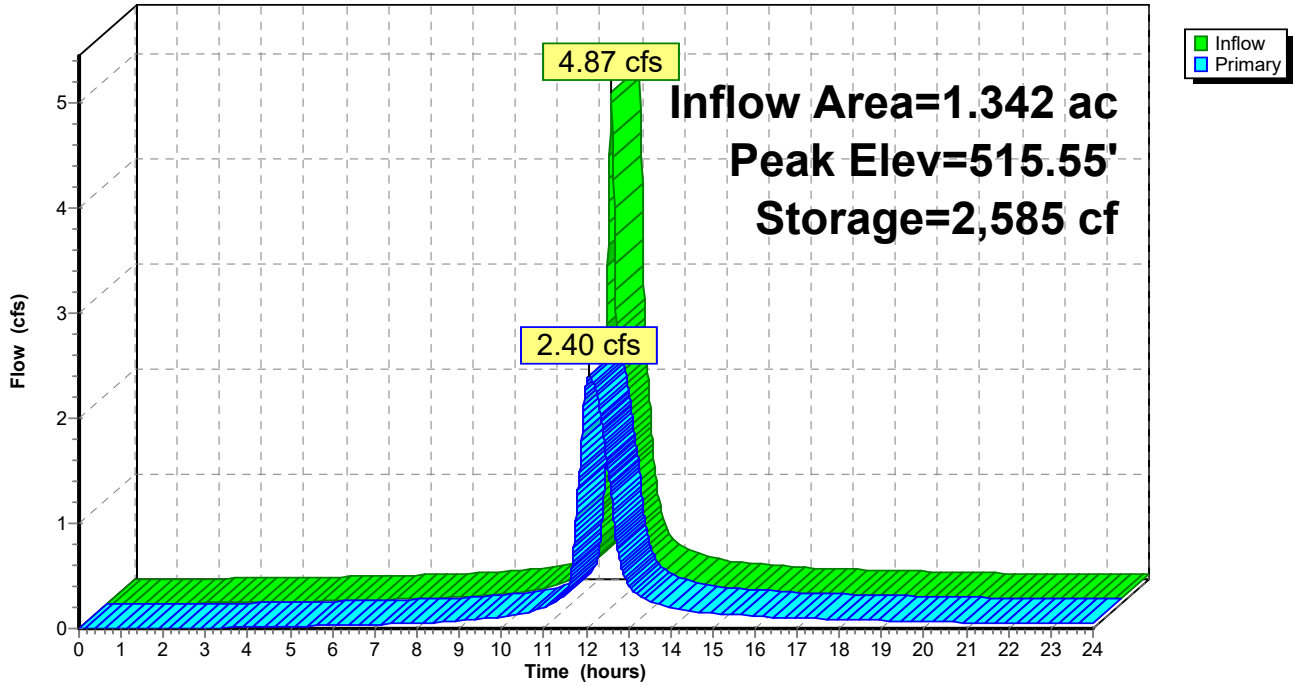
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Pond 217P: Dry Pond #1

Hydrograph



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Type II 24-hr 10 Year Rainfall=3.50"

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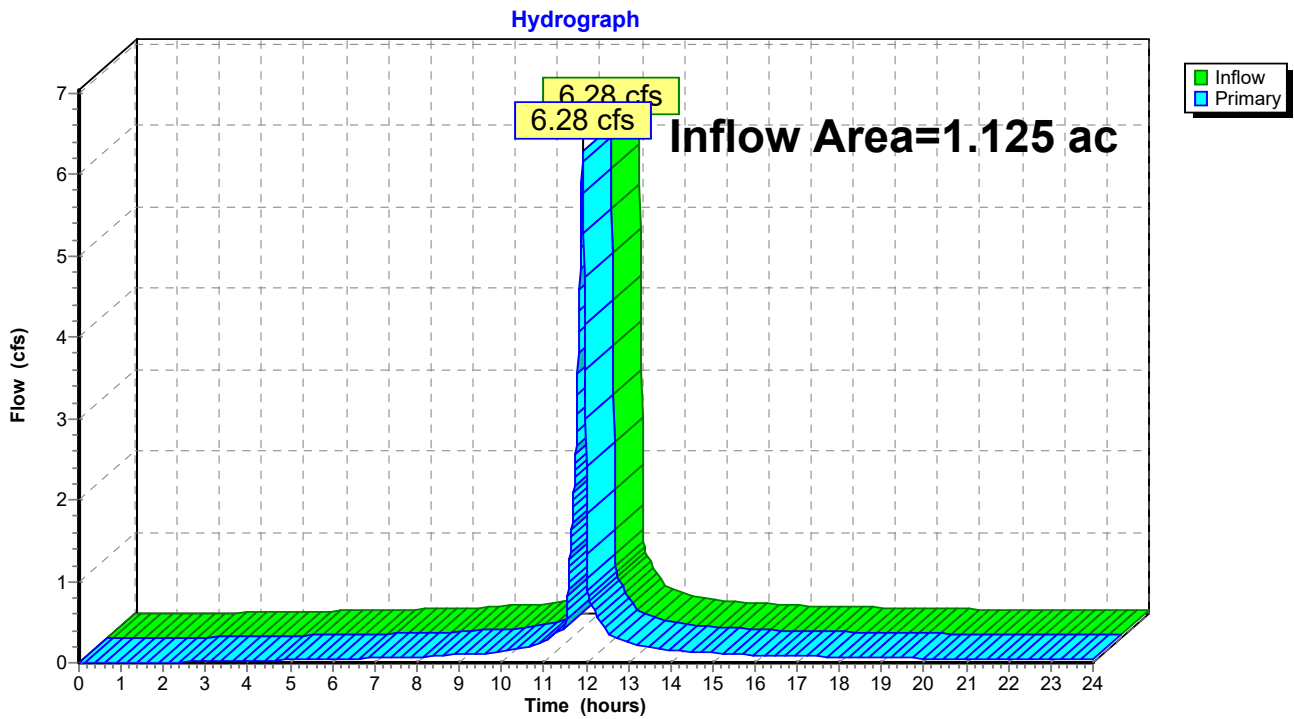
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Summary for Link 211L: Existing Offsite Towards Pearl Street

Inflow Area = 1.125 ac, 96.85% Impervious, Inflow Depth > 3.15" for 10 Year event
Inflow = 6.28 cfs @ 11.92 hrs, Volume= 0.296 af
Primary = 6.28 cfs @ 11.92 hrs, Volume= 0.296 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Link 211L: Existing Offsite Towards Pearl Street



Hales Bus Garage Building Addition

Type II 24-hr 10 Year Rainfall=3.50"

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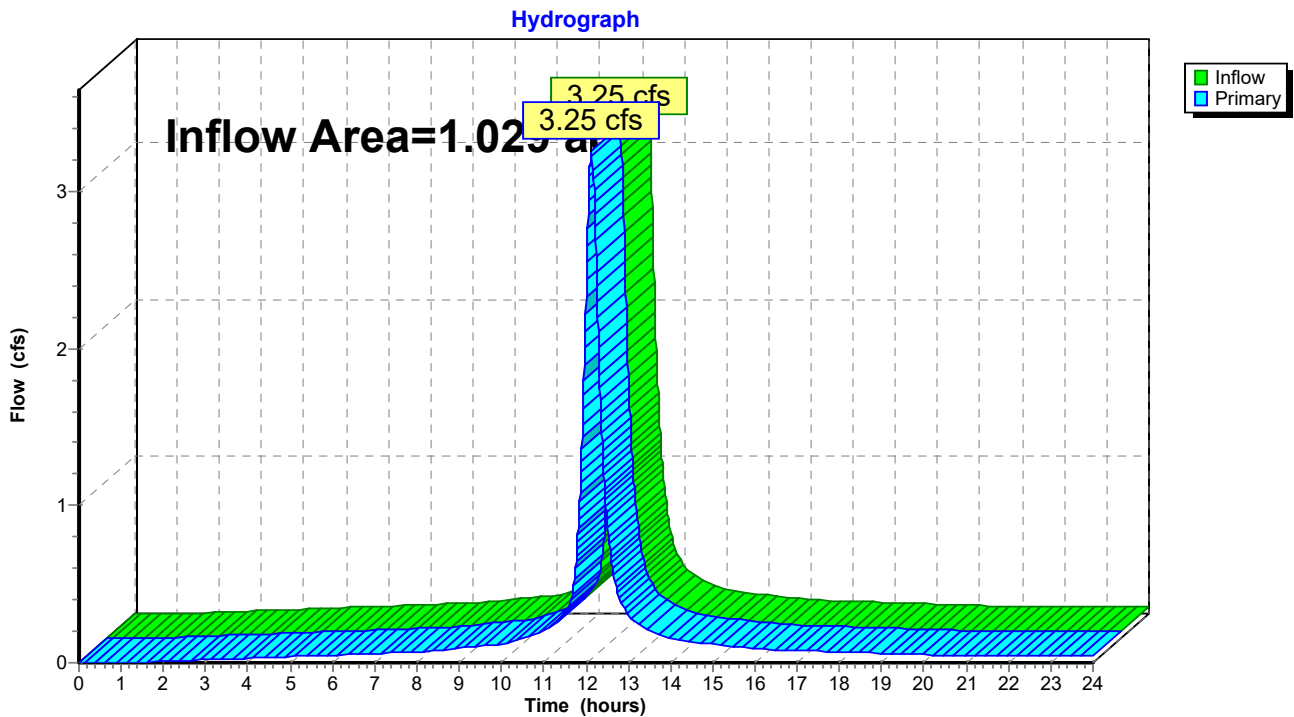
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Summary for Link 212L: Existing Offsite to West (Then to Pearl Street)

Inflow Area = 1.029 ac, 100.00% Impervious, Inflow Depth > 3.25" for 10 Year event
Inflow = 3.25 cfs @ 12.13 hrs, Volume= 0.279 af
Primary = 3.25 cfs @ 12.13 hrs, Volume= 0.279 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Link 212L: Existing Offsite to West (Then to Pearl Street)



Hales Bus Garage Building Addition

Type II 24-hr 10 Year Rainfall=3.50"

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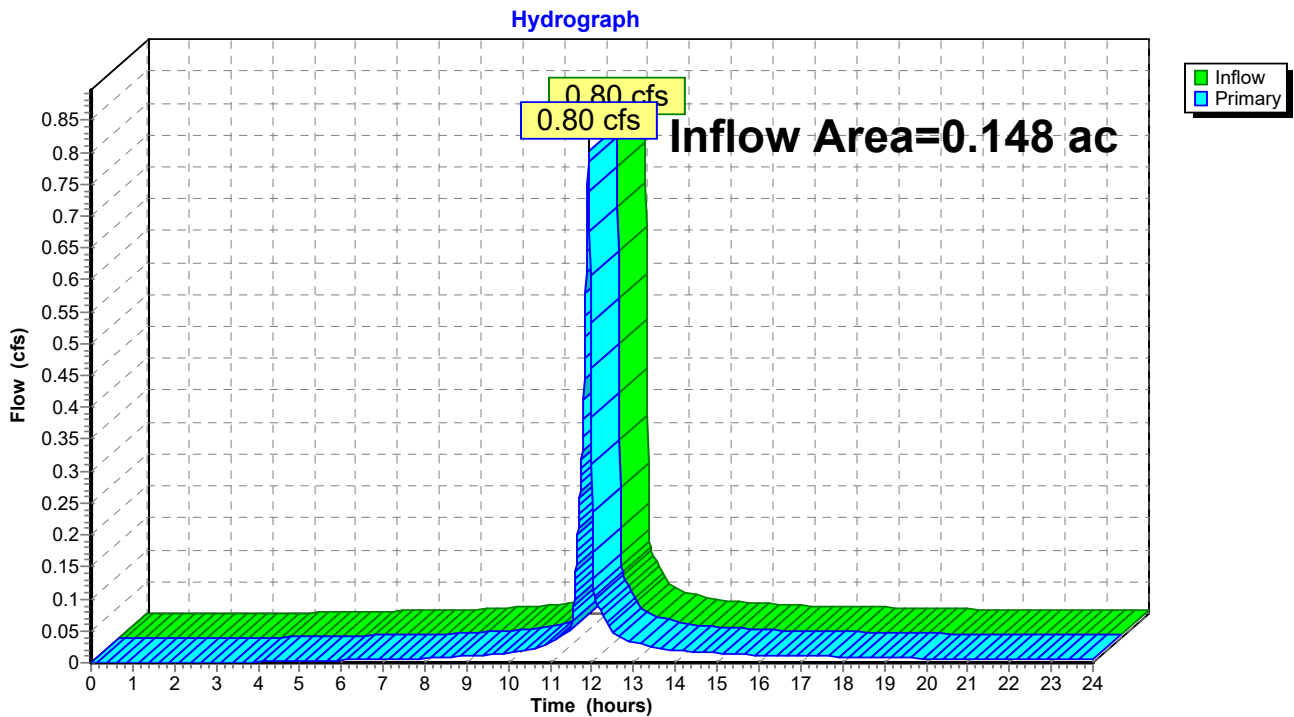
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Summary for Link 213L: Existing Offsite to North

Inflow Area = 0.148 ac, 81.24% Impervious, Inflow Depth > 2.94" for 10 Year event
Inflow = 0.80 cfs @ 11.92 hrs, Volume= 0.036 af
Primary = 0.80 cfs @ 11.92 hrs, Volume= 0.036 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Link 213L: Existing Offsite to North



Hales Bus Garage Building Addition

Type II 24-hr 10 Year Rainfall=3.50"

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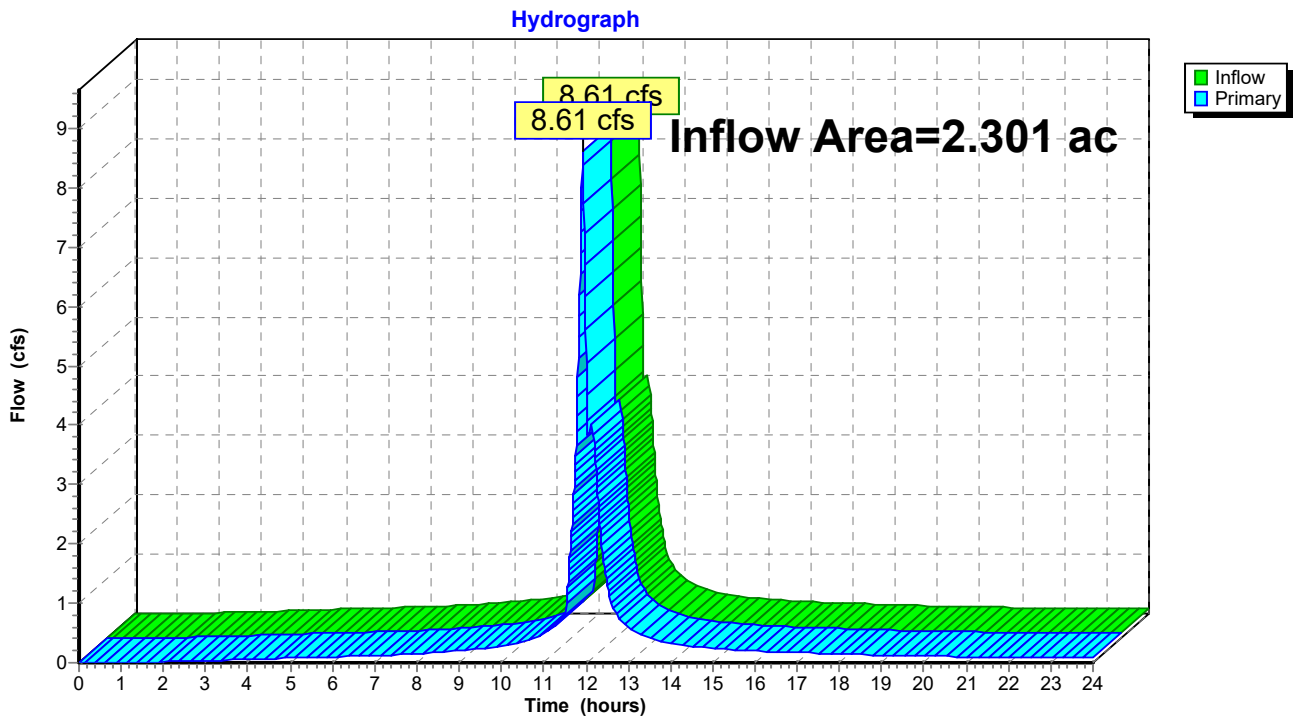
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Summary for Link 214L: Existing Total Offsite

Inflow Area = 2.301 ac, 97.25% Impervious, Inflow Depth > 3.18" for 10 Year event
Inflow = 8.61 cfs @ 11.92 hrs, Volume= 0.611 af
Primary = 8.61 cfs @ 11.92 hrs, Volume= 0.611 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Link 214L: Existing Total Offsite



Hales Bus Garage Building Addition

Type II 24-hr 10 Year Rainfall=3.50"

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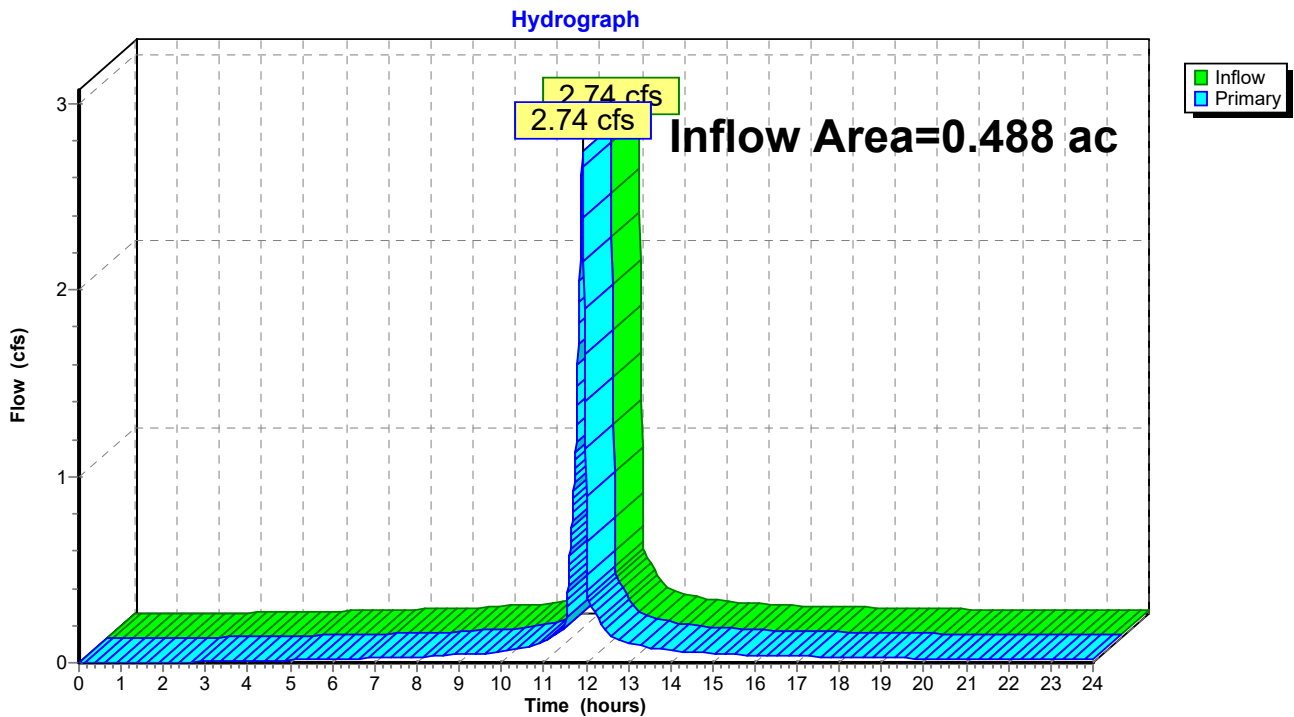
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Summary for Link 219L: Proposed Offsite Towards Pearl Street

Inflow Area = 0.488 ac, 91.24% Impervious, Inflow Depth > 3.13" for 10 Year event
Inflow = 2.74 cfs @ 11.92 hrs, Volume= 0.127 af
Primary = 2.74 cfs @ 11.92 hrs, Volume= 0.127 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Link 219L: Proposed Offsite Towards Pearl Street



Hales Bus Garage Building Addition

Type II 24-hr 10 Year Rainfall=3.50"

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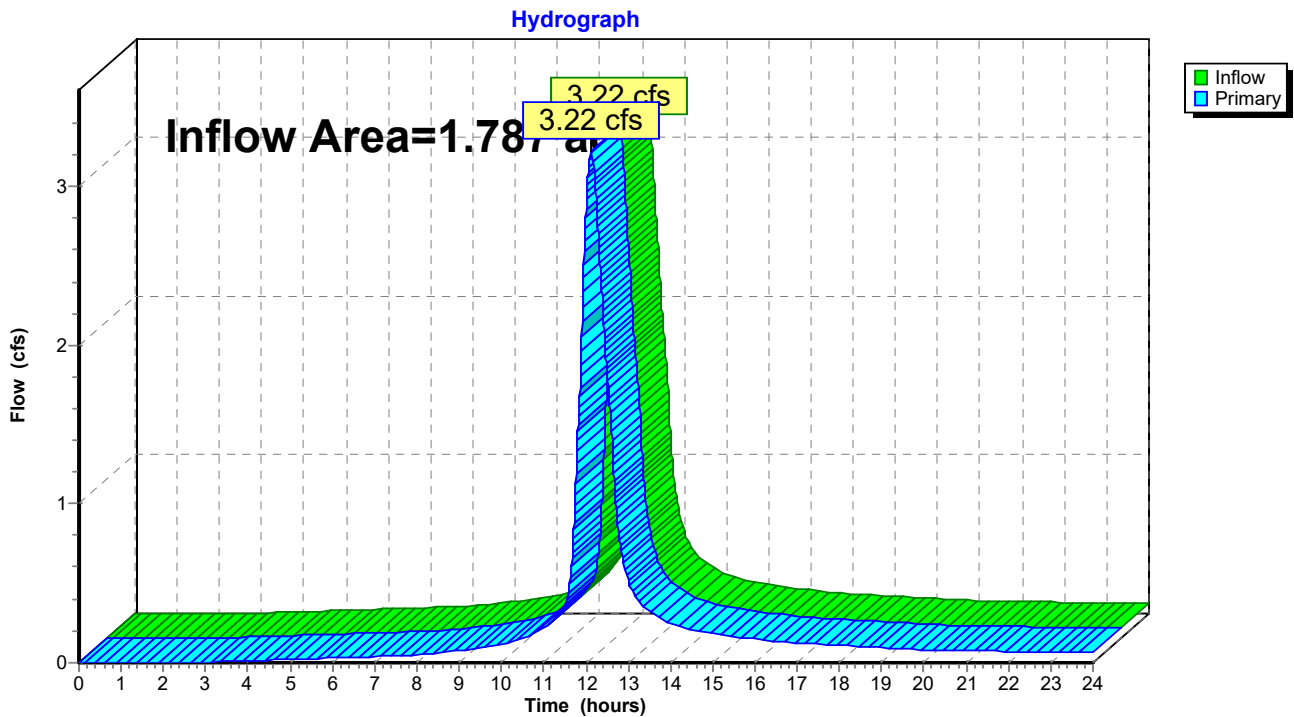
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Summary for Link 221L: Proposed Offsite To West (Then to Pearl Street)

Inflow Area = 1.787 ac, 57.88% Impervious, Inflow Depth > 2.51" for 10 Year event
Inflow = 3.22 cfs @ 12.12 hrs, Volume= 0.373 af
Primary = 3.22 cfs @ 12.12 hrs, Volume= 0.373 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Link 221L: Proposed Offsite To West (Then to Pearl Street)



Hales Bus Garage Building Addition

Type II 24-hr 10 Year Rainfall=3.50"

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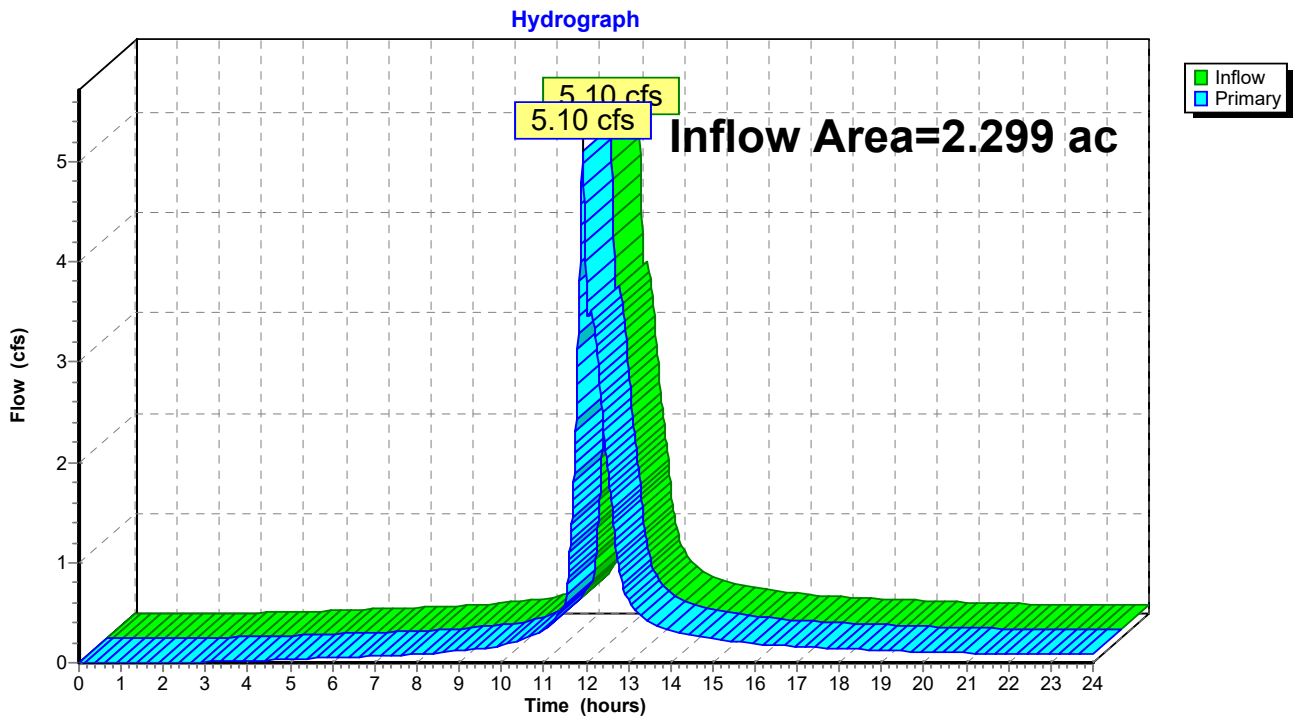
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Summary for Link 223L: Proposed Total Offsite

Inflow Area = 2.299 ac, 65.19% Impervious, Inflow Depth > 2.64" for 10 Year event
Inflow = 5.10 cfs @ 11.92 hrs, Volume= 0.506 af
Primary = 5.10 cfs @ 11.92 hrs, Volume= 0.506 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Link 223L: Proposed Total Offsite



Hales Bus Garage Building Addition

Type II 24-hr 10 Year Rainfall=3.50"

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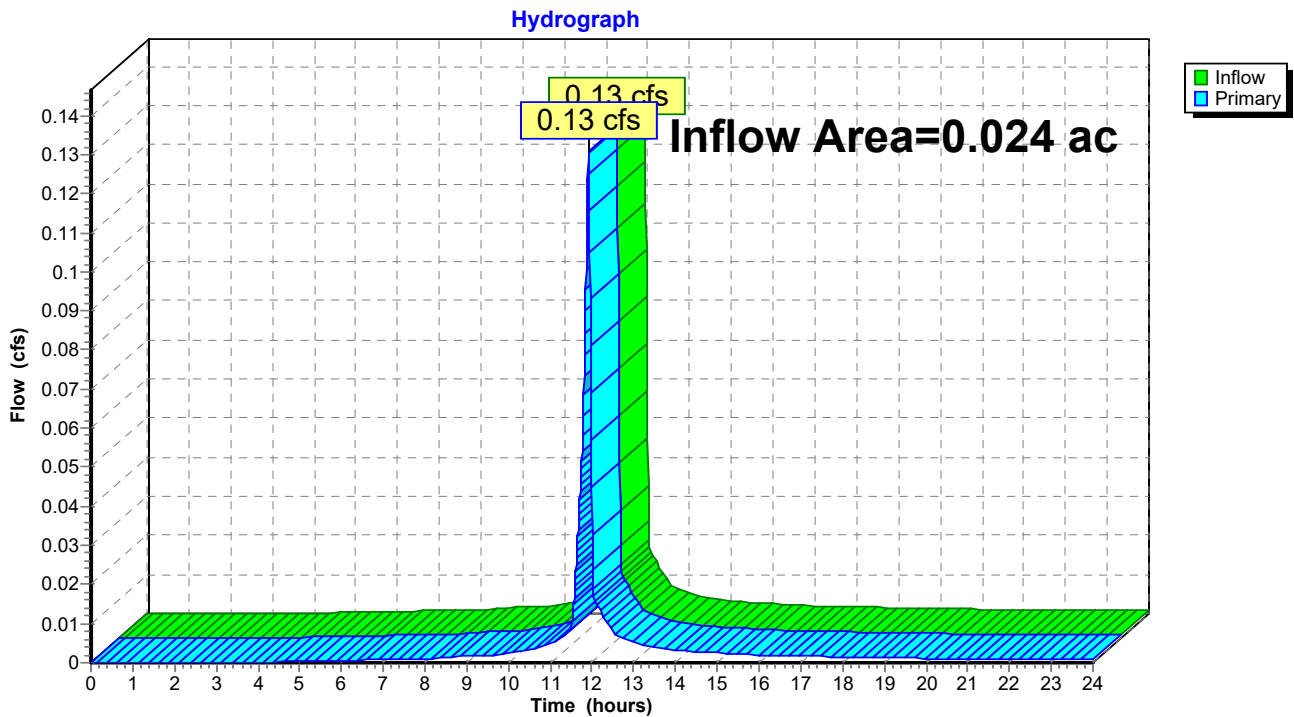
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Summary for Link 224L: Proposed Offsite to North

Inflow Area = 0.024 ac, 79.87% Impervious, Inflow Depth > 2.83" for 10 Year event
Inflow = 0.13 cfs @ 11.92 hrs, Volume= 0.006 af
Primary = 0.13 cfs @ 11.92 hrs, Volume= 0.006 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Link 224L: Proposed Offsite to North



Hales Bus Garage Building Addition

Type II 24-hr 100 Year Rainfall=5.70"

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Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment208S: DE 1	Runoff Area=48,988 sf 96.85% Impervious Runoff Depth>5.34" Flow Length=150' Tc=1.8 min CN=97 Runoff=10.35 cfs 0.501 af
Subcatchment209S: DE 2	Runoff Area=44,803 sf 100.00% Impervious Runoff Depth>5.44" Flow Length=295' Tc=21.2 min CN=98 Runoff=5.34 cfs 0.466 af
Subcatchment210S: DE 3	Runoff Area=6,446 sf 81.24% Impervious Runoff Depth>5.11" Flow Length=116' Tc=1.8 min CN=95 Runoff=1.34 cfs 0.063 af
Subcatchment216S: DP 1	Runoff Area=26,535 sf 100.00% Impervious Runoff Depth>5.46" Flow Length=305' Tc=2.6 min CN=98 Runoff=5.50 cfs 0.277 af
Subcatchment218S: DP 2	Runoff Area=16,373 sf 92.08% Impervious Runoff Depth>5.34" Flow Length=58' Slope=0.0200 '/ Tc=1.5 min CN=97 Runoff=3.49 cfs 0.167 af
Subcatchment219S: DP 4	Runoff Area=17,265 sf 66.70% Impervious Runoff Depth>4.76" Flow Length=245' Slope=0.0075 '/ Tc=18.3 min CN=92 Runoff=2.09 cfs 0.157 af
Subcatchment220S: DP 5	Runoff Area=19,379 sf 7.48% Impervious Runoff Depth>3.59" Flow Length=287' Tc=20.4 min CN=81 Runoff=1.76 cfs 0.133 af
Subcatchment221S: DP 3	Runoff Area=4,878 sf 88.42% Impervious Runoff Depth>5.23" Flow Length=65' Tc=1.1 min CN=96 Runoff=1.04 cfs 0.049 af
Subcatchment222S: DP 6	Runoff Area=1,063 sf 79.87% Impervious Runoff Depth>5.00" Flow Length=35' Slope=0.0200 '/ Tc=1.5 min CN=94 Runoff=0.22 cfs 0.010 af
Subcatchment223S: DP 7	Runoff Area=14,659 sf 37.87% Impervious Runoff Depth>4.22" Flow Length=128' Tc=9.0 min CN=87 Runoff=2.17 cfs 0.118 af
Pond 217P: Dry Pond #1	Peak Elev=516.51' Storage=5,126 cf Inflow=8.35 cfs 0.553 af Outflow=3.47 cfs 0.548 af
Link 211L: Existing Offsite Towards Pearl Street	Inflow=10.35 cfs 0.501 af Primary=10.35 cfs 0.501 af
Link 212L: Existing Offsite to West (Then to Pearl Street)	Inflow=5.34 cfs 0.466 af Primary=5.34 cfs 0.466 af
Link 213L: Existing Offsite to North	Inflow=1.34 cfs 0.063 af Primary=1.34 cfs 0.063 af
Link 214L: Existing Total Offsite	Inflow=14.22 cfs 1.030 af Primary=14.22 cfs 1.030 af
Link 219L: Proposed Offsite Towards Pearl Street	Inflow=4.53 cfs 0.216 af Primary=4.53 cfs 0.216 af

Hales Bus Garage Building Addition

Type II 24-hr 100 Year Rainfall=5.70"

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Link 221L: Proposed Offsite To West (Then to Pearl Street)

Inflow=5.23 cfs 0.682 af
Primary=5.23 cfs 0.682 af

Link 223L: Proposed Total Offsite

Inflow=8.17 cfs 0.908 af
Primary=8.17 cfs 0.908 af

Link 224L: Proposed Offsite to North

Inflow=0.22 cfs 0.010 af
Primary=0.22 cfs 0.010 af

Total Runoff Area = 4.600 ac Runoff Volume = 1.943 af Average Runoff Depth = 5.07"
18.77% Pervious = 0.863 ac 81.23% Impervious = 3.737 ac

Hales Bus Garage Building Addition

Type II 24-hr 100 Year Rainfall=5.70"

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Summary for Subcatchment 208S: DE 1

Runoff = 10.35 cfs @ 11.92 hrs, Volume= 0.501 af, Depth> 5.34"

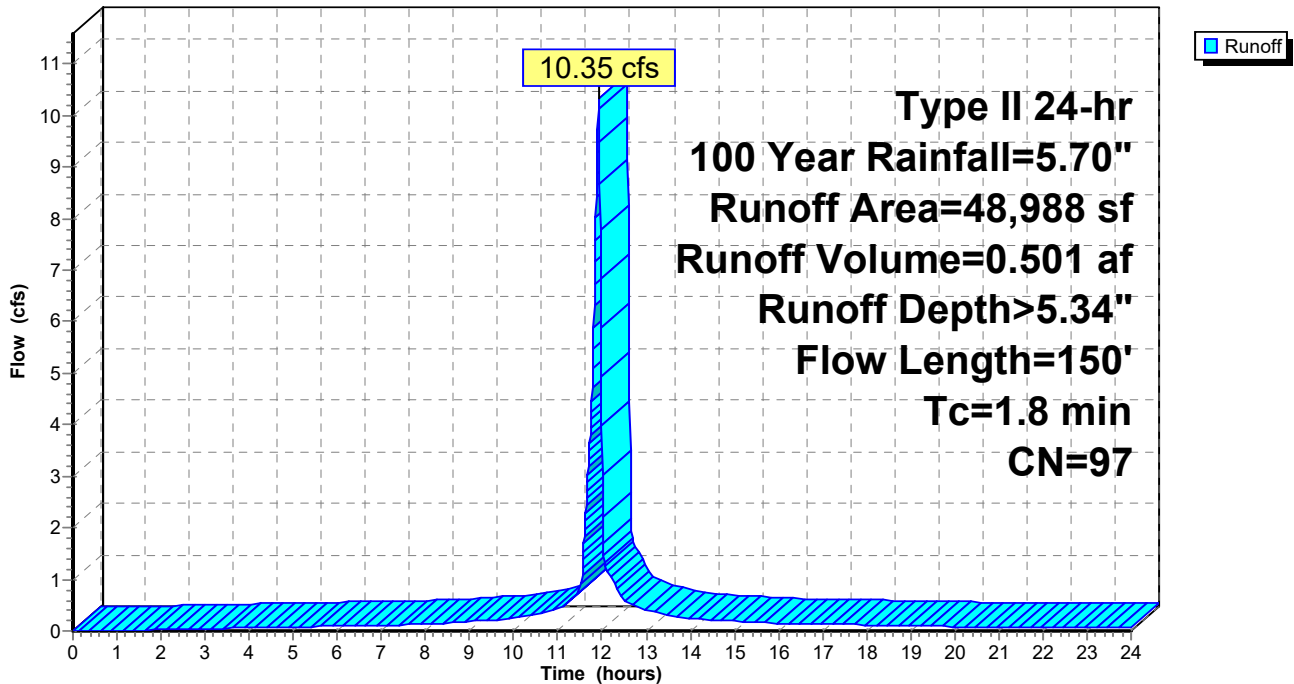
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100 Year Rainfall=5.70"

Area (sf)	CN	Description
1,544	80	>75% Grass cover, Good, HSG D
47,444	98	Paved parking, HSG D
48,988	97	Weighted Average
1,544		3.15% Pervious Area
47,444		96.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	90	0.0200	1.19		Sheet Flow, sheet over roof Smooth surfaces n= 0.011 P2= 2.50"
0.2	10	0.0230	0.81		Sheet Flow, Remainder of sheet flow Smooth surfaces n= 0.011 P2= 2.50"
0.3	50	0.0230	3.08		Shallow Concentrated Flow, SC over asphalt Paved Kv= 20.3 fps
1.8	150	Total			

Subcatchment 208S: DE 1

Hydrograph



Hales Bus Garage Building Addition

Type II 24-hr 100 Year Rainfall=5.70"

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Summary for Subcatchment 209S: DE 2

Runoff = 5.34 cfs @ 12.13 hrs, Volume= 0.466 af, Depth> 5.44"

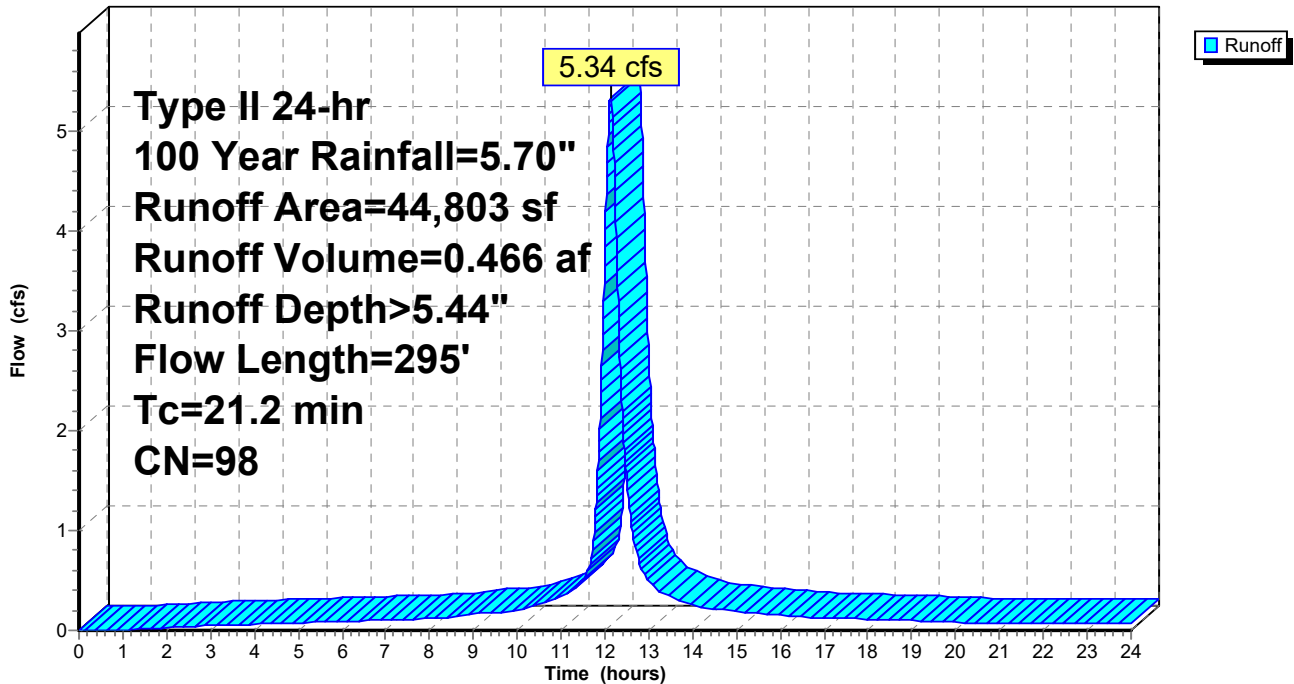
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100 Year Rainfall=5.70"

Area (sf)	CN	Description
11,400	98	Paved parking, HSG D
33,403	98	Paved parking, HSG D
44,803	98	Weighted Average
44,803		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.1	100	0.0045	0.08		Sheet Flow, Sheet over Lawn Grass: Short n= 0.150 P2= 2.50"
1.1	195	0.0370	2.89		Shallow Concentrated Flow, SC Over Lawn Grassed Waterway Kv= 15.0 fps
21.2	295	Total			

Subcatchment 209S: DE 2

Hydrograph



Hales Bus Garage Building Addition

Type II 24-hr 100 Year Rainfall=5.70"

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Summary for Subcatchment 210S: DE 3

Runoff = 1.34 cfs @ 11.92 hrs, Volume= 0.063 af, Depth> 5.11"

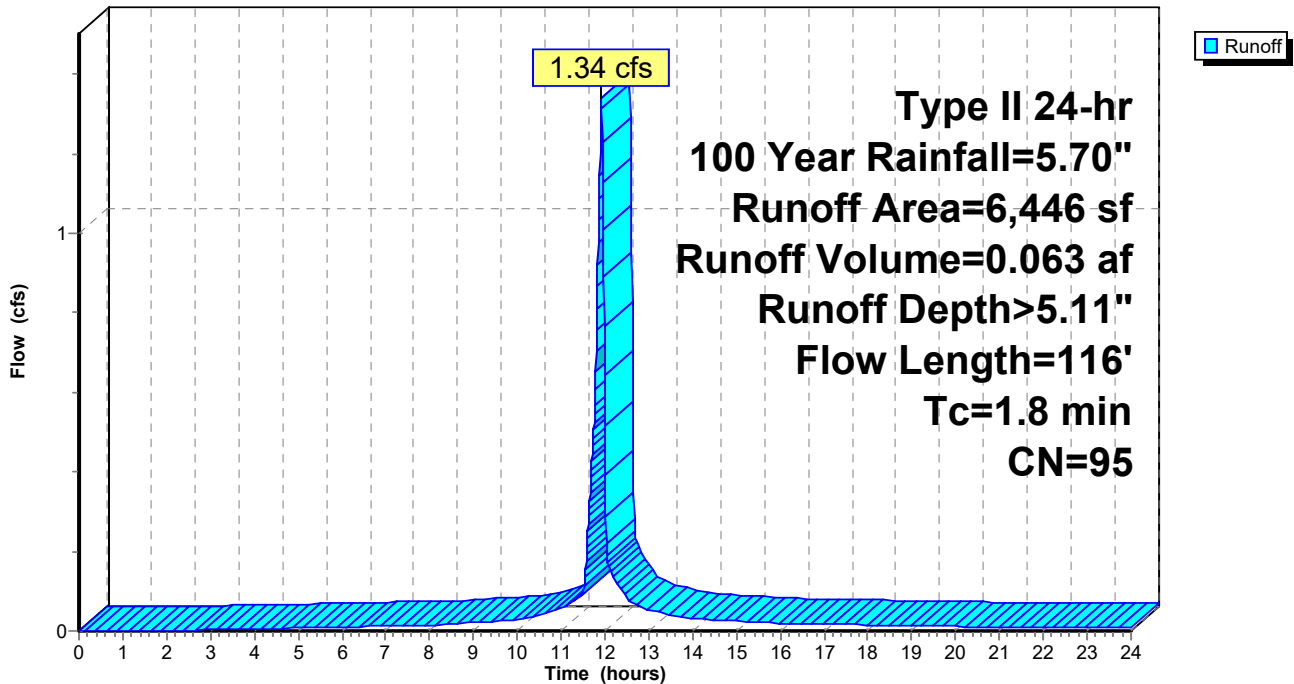
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100 Year Rainfall=5.70"

Area (sf)	CN	Description
5,237	98	Paved parking, HSG D
1,209	80	>75% Grass cover, Good, HSG D
6,446	95	Weighted Average
1,209		18.76% Pervious Area
5,237		81.24% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.7	100	0.0120	0.99		Sheet Flow, Sheet over Pavement / gravel pad Smooth surfaces n= 0.011 P2= 2.50"
0.1	11	0.0200	2.28		Shallow Concentrated Flow, SC over remainder of gravel Unpaved Kv= 16.1 fps
0.0	5	0.0300	2.60		Shallow Concentrated Flow, SC over lawn Grassed Waterway Kv= 15.0 fps
1.8	116	Total			

Subcatchment 210S: DE 3

Hydrograph



Hales Bus Garage Building Addition

Type II 24-hr 100 Year Rainfall=5.70"

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Summary for Subcatchment 216S: DP 1

Runoff = 5.50 cfs @ 11.93 hrs, Volume= 0.277 af, Depth> 5.46"

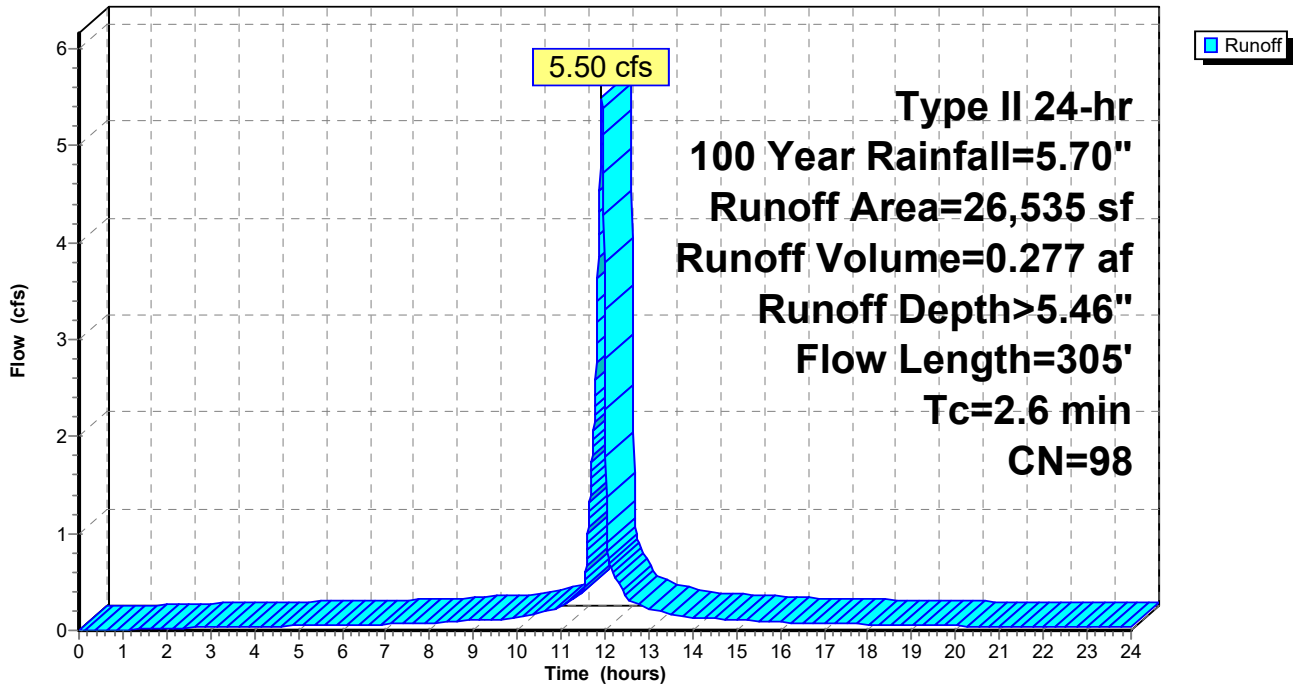
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100 Year Rainfall=5.70"

Area (sf)	CN	Description
26,535	98	Unconnected roofs, HSG D
26,535		100.00% Impervious Area
26,535		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.8	45	0.0020	0.41		Sheet Flow, Sheet over Roof Smooth surfaces n= 0.011 P2= 2.50"
0.8	260	0.0100	5.26	6.46	Pipe Channel, Flow through roof drain piping 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013 Corrugated PE, smooth interior
2.6	305	Total			

Subcatchment 216S: DP 1

Hydrograph



Hales Bus Garage Building Addition

Type II 24-hr 100 Year Rainfall=5.70"

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Summary for Subcatchment 218S: DP 2

Runoff = 3.49 cfs @ 11.92 hrs, Volume= 0.167 af, Depth> 5.34"

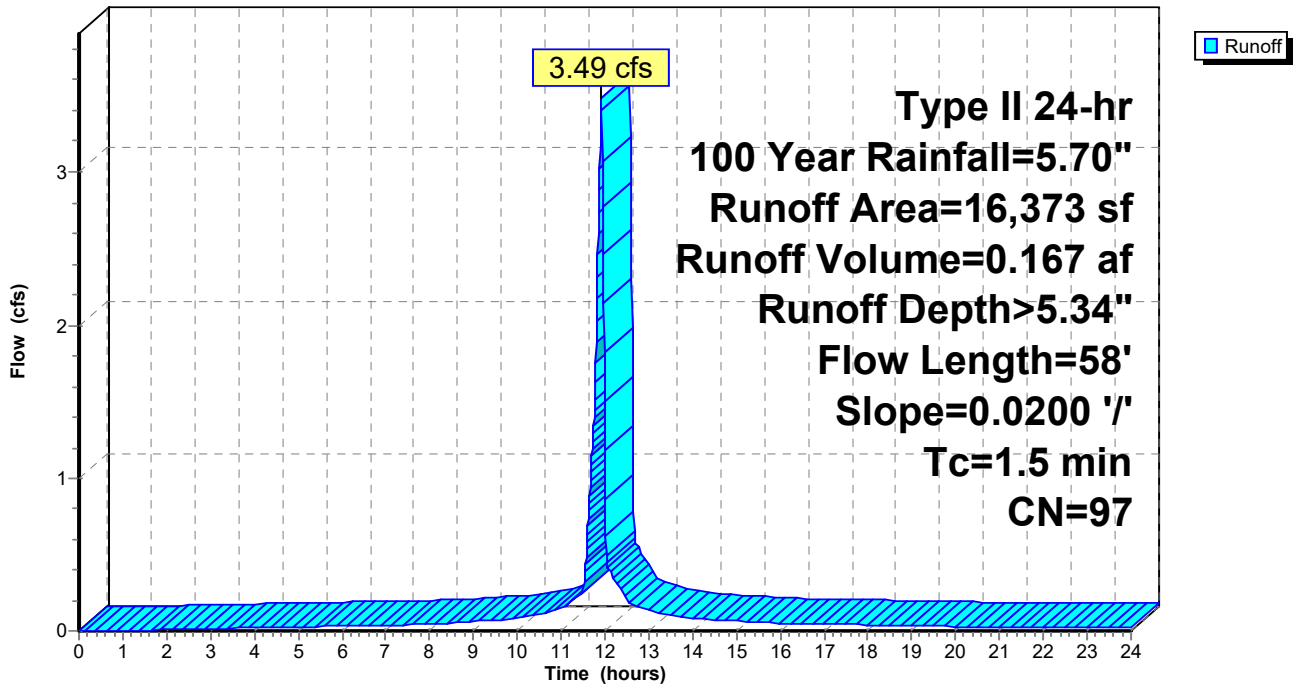
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100 Year Rainfall=5.70"

Area (sf)	CN	Description
1,296	80	>75% Grass cover, Good, HSG D
15,077	98	Paved parking, HSG D
16,373	97	Weighted Average
1,296		7.92% Pervious Area
15,077		92.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	55	0.0200	1.08		Sheet Flow, Sheet over Pavement Smooth surfaces n= 0.011 P2= 2.50"
0.7	3	0.0200	0.07		Sheet Flow, Sheet over lawn Grass: Short n= 0.150 P2= 2.50"
1.5	58	Total			

Subcatchment 218S: DP 2

Hydrograph



Hales Bus Garage Building Addition

Type II 24-hr 100 Year Rainfall=5.70"

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Summary for Subcatchment 219S: DP 4

Runoff = 2.09 cfs @ 12.10 hrs, Volume= 0.157 af, Depth> 4.76"

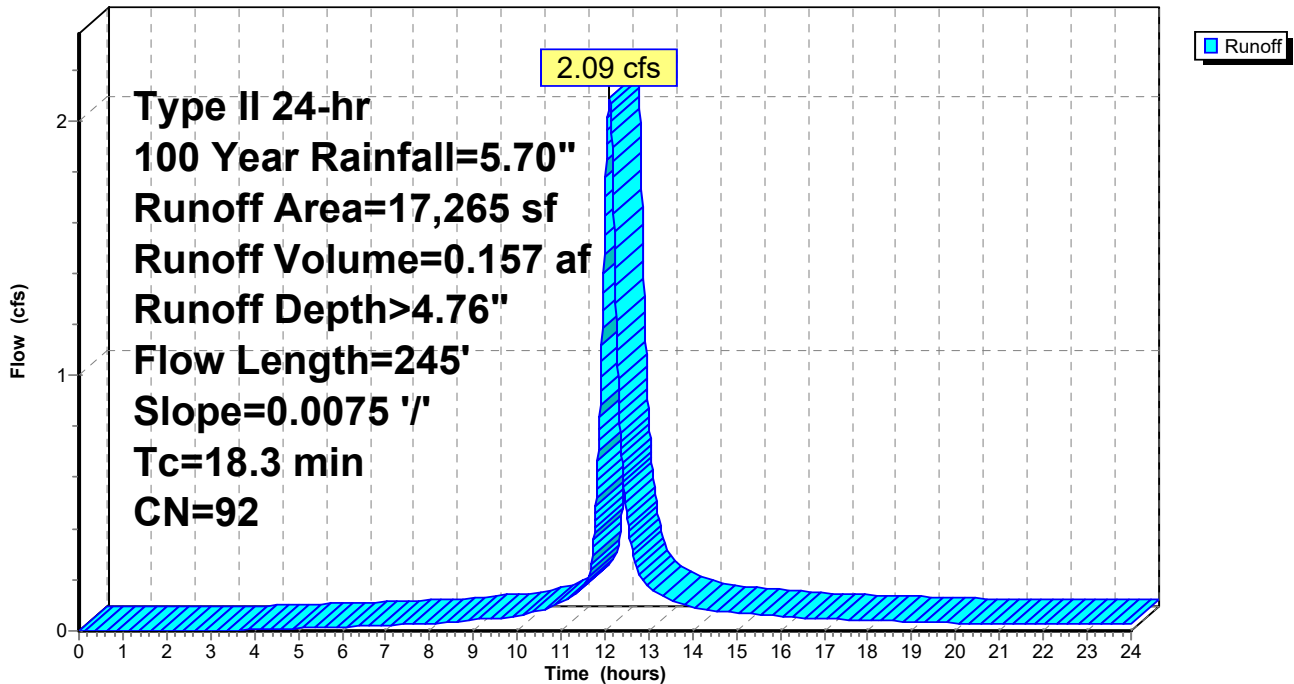
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100 Year Rainfall=5.70"

Area (sf)	CN	Description
11,516	98	Paved parking, HSG D
5,749	80	>75% Grass cover, Good, HSG D
17,265	92	Weighted Average
5,749		33.30% Pervious Area
11,516		66.70% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.4	100	0.0075	0.10		Sheet Flow, Sheet in Dry Swale Grass: Short n= 0.150 P2= 2.50"
1.9	145	0.0075	1.30		Shallow Concentrated Flow, SC in Dry Swale Grassed Waterway Kv= 15.0 fps
18.3	245	Total			

Subcatchment 219S: DP 4

Hydrograph



Hales Bus Garage Building Addition

Type II 24-hr 100 Year Rainfall=5.70"

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Summary for Subcatchment 220S: DP 5

Runoff = 1.76 cfs @ 12.13 hrs, Volume= 0.133 af, Depth> 3.59"

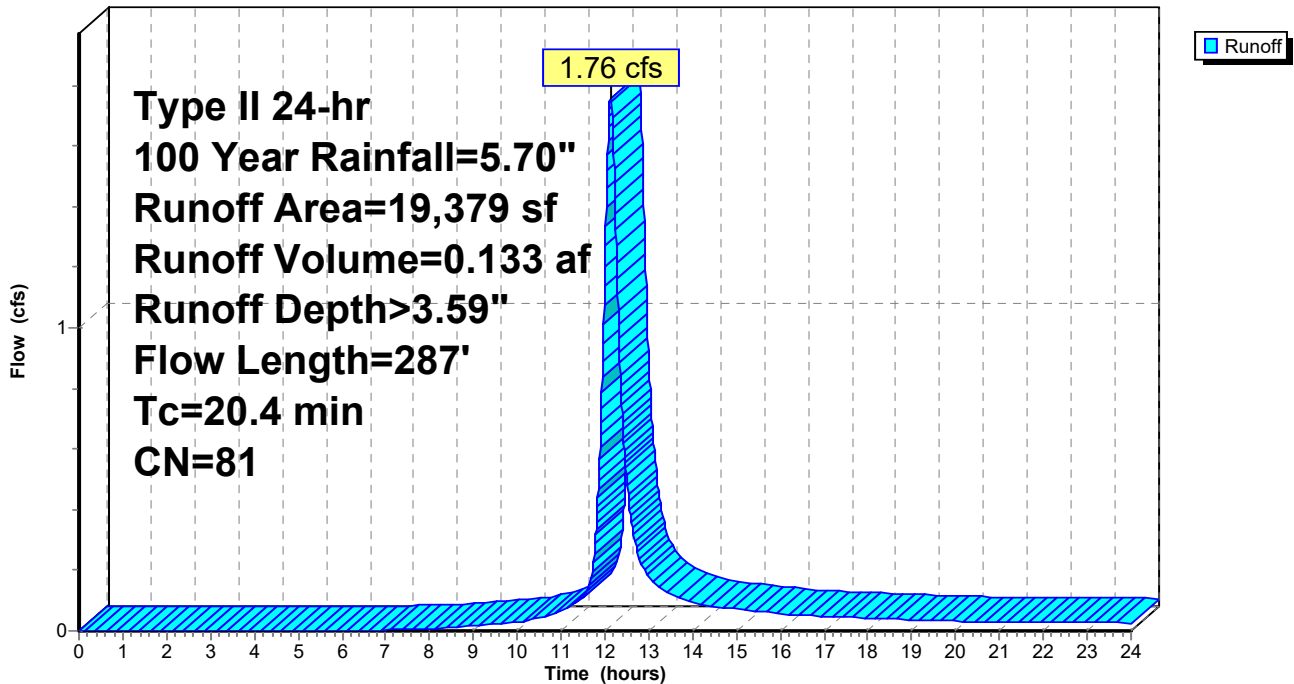
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100 Year Rainfall=5.70"

Area (sf)	CN	Description
1,450	98	Paved parking, HSG D
17,929	80	>75% Grass cover, Good, HSG D
19,379	81	Weighted Average
17,929		92.52% Pervious Area
1,450		7.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.3	100	0.0050	0.09		Sheet Flow, Sheet over Lawn Grass: Short n= 0.150 P2= 2.50"
1.1	187	0.0375	2.90		Shallow Concentrated Flow, SC Over Lawn Grassed Waterway Kv= 15.0 fps
20.4	287	Total			

Subcatchment 220S: DP 5

Hydrograph



Hales Bus Garage Building Addition

Type II 24-hr 100 Year Rainfall=5.70"

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Summary for Subcatchment 221S: DP 3

[49] Hint: $T_c < 2dt$ may require smaller dt

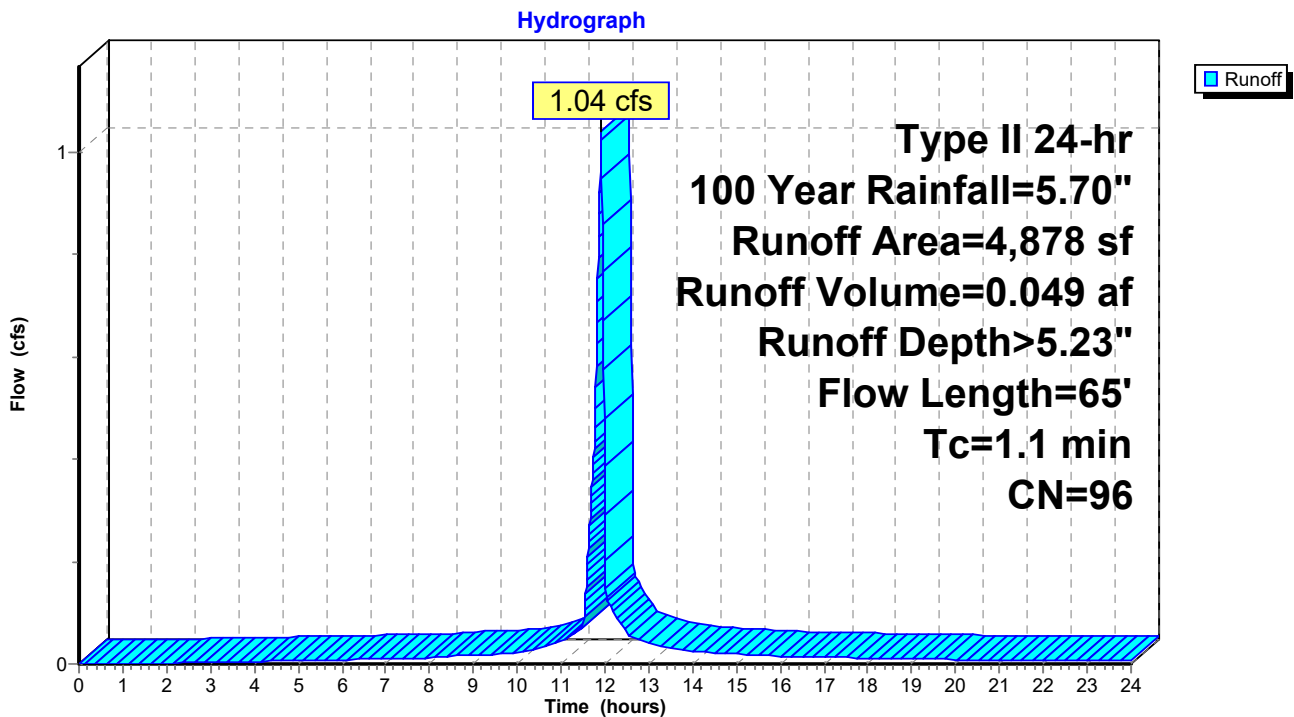
Runoff = 1.04 cfs @ 11.91 hrs, Volume= 0.049 af, Depth> 5.23"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, $dt= 0.01$ hrs
Type II 24-hr 100 Year Rainfall=5.70"

Area (sf)	CN	Description
565	80	>75% Grass cover, Good, HSG D
4,313	98	Paved parking, HSG D
4,878	96	Weighted Average
565		11.58% Pervious Area
4,313		88.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	60	0.0400	1.45		Sheet Flow, Sheet over Pavement Smooth surfaces n= 0.011 P2= 2.50"
0.4	5	0.1600	0.19		Sheet Flow, Sheet over lawn Grass: Short n= 0.150 P2= 2.50"
1.1	65	Total			

Subcatchment 221S: DP 3



Hales Bus Garage Building Addition

Type II 24-hr 100 Year Rainfall=5.70"

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Summary for Subcatchment 222S: DP 6

Runoff = 0.22 cfs @ 11.92 hrs, Volume= 0.010 af, Depth> 5.00"

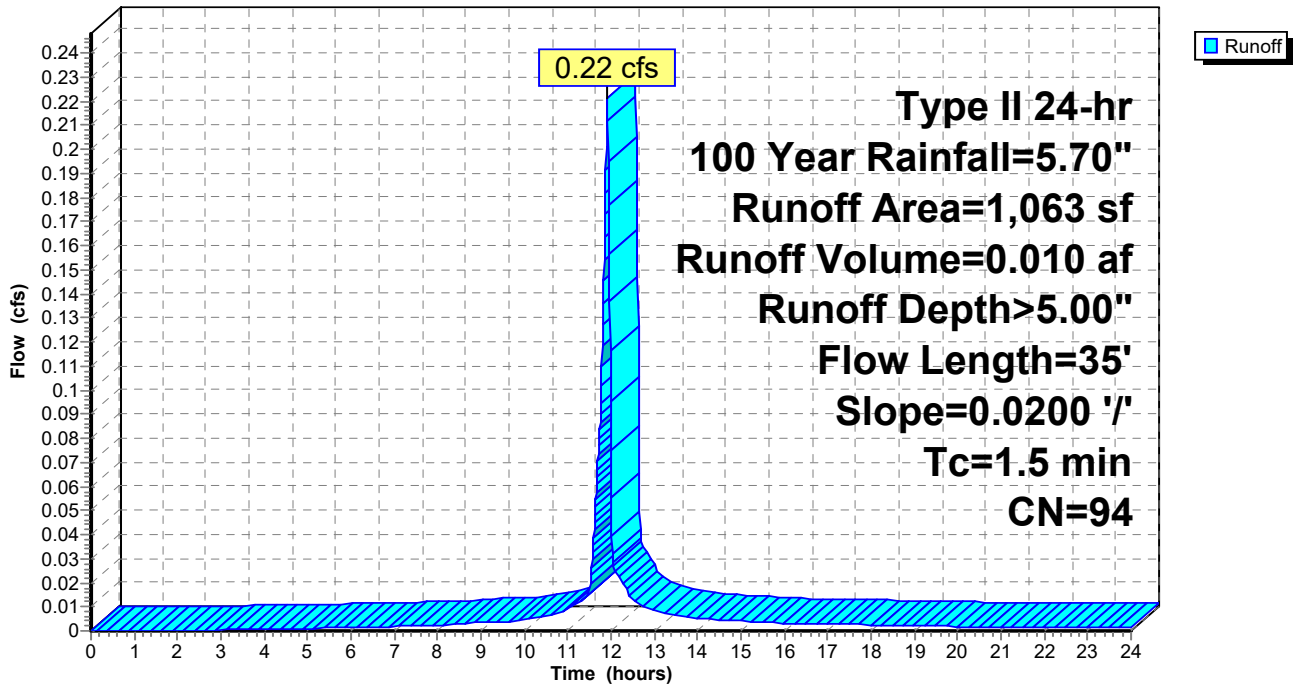
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100 Year Rainfall=5.70"

Area (sf)	CN	Description
849	98	Paved parking, HSG D
214	80	>75% Grass cover, Good, HSG D
1,063	94	Weighted Average
214		20.13% Pervious Area
849		79.87% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.5	30	0.0200	0.96		Sheet Flow, sheet over gravel Smooth surfaces n= 0.011 P2= 2.50"
1.0	5	0.0200	0.08		Sheet Flow, sheet over lawn Grass: Short n= 0.150 P2= 2.50"
1.5	35	Total			

Subcatchment 222S: DP 6

Hydrograph



Hales Bus Garage Building Addition

Type II 24-hr 100 Year Rainfall=5.70"

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Summary for Subcatchment 223S: DP 7

Runoff = 2.17 cfs @ 12.00 hrs, Volume= 0.118 af, Depth> 4.22"

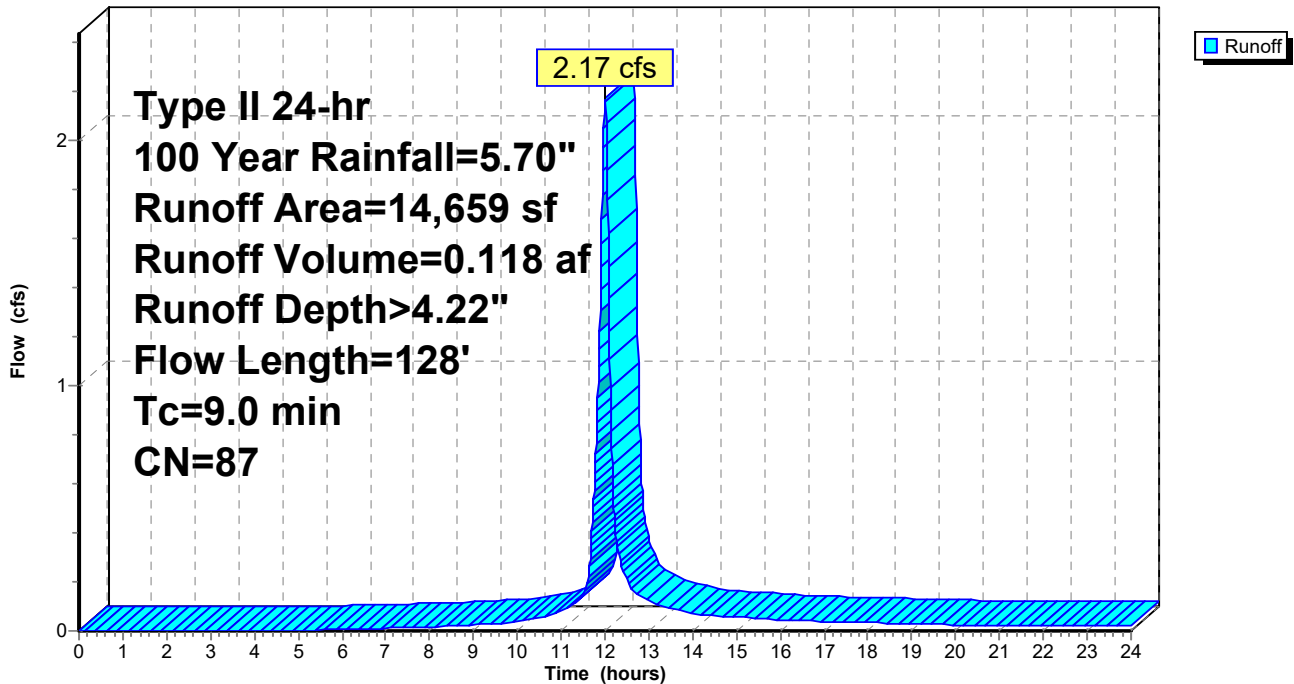
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100 Year Rainfall=5.70"

Area (sf)	CN	Description
5,551	98	Paved parking, HSG D
9,108	80	>75% Grass cover, Good, HSG D
14,659	87	Weighted Average
9,108		62.13% Pervious Area
5,551		37.87% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.9	100	0.0350	0.19		Sheet Flow, Sheet Over Lawn to Stormwater Pond Grass: Short n= 0.150 P2= 2.50"
0.1	28	0.2500	7.50		Shallow Concentrated Flow, SC over lawn Grassed Waterway Kv= 15.0 fps
9.0	128	Total			

Subcatchment 223S: DP 7

Hydrograph



Hales Bus Garage Building Addition

Type II 24-hr 100 Year Rainfall=5.70"

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Summary for Pond 217P: Dry Pond #1

Inflow Area = 1.342 ac, 74.59% Impervious, Inflow Depth > 4.94" for 100 Year event
 Inflow = 8.35 cfs @ 11.94 hrs, Volume= 0.553 af
 Outflow = 3.47 cfs @ 12.14 hrs, Volume= 0.548 af, Atten= 58%, Lag= 11.9 min
 Primary = 3.47 cfs @ 12.14 hrs, Volume= 0.548 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 Peak Elev= 516.51' @ 12.14 hrs Surf.Area= 2,991 sf Storage= 5,126 cf

Plug-Flow detention time= 22.9 min calculated for 0.548 af (99% of inflow)
 Center-of-Mass det. time= 17.6 min (781.2 - 763.5)

Volume	Invert	Avail.Storage	Storage Description
#1	514.10'	7,032 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
514.10	1,271	0	0
517.10	3,417	7,032	7,032

Device	Routing	Invert	Outlet Devices
#1	Primary	514.10'	12.0" Round 12" HDPE L= 40.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 514.10' / 513.70' S= 0.0100 ' /' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	514.10'	12.0" W x 5.0" H Vert. 1 Year C= 0.600
#3	Device 1	514.90'	3.0" Vert. 10 yr C= 0.600
#4	Device 1	515.60'	3.0" Vert. 100 yr C= 0.600

Primary OutFlow Max=3.47 cfs @ 12.14 hrs HW=516.50' (Free Discharge)

- 1=12" HDPE (Passes 3.47 cfs of 5.10 cfs potential flow)
- 2=1 Year (Orifice Controls 2.97 cfs @ 7.13 fps)
- 3=10 yr (Orifice Controls 0.29 cfs @ 5.86 fps)
- 4=100 yr (Orifice Controls 0.21 cfs @ 4.25 fps)

Hales Bus Garage Building Addition

Type II 24-hr 100 Year Rainfall=5.70"

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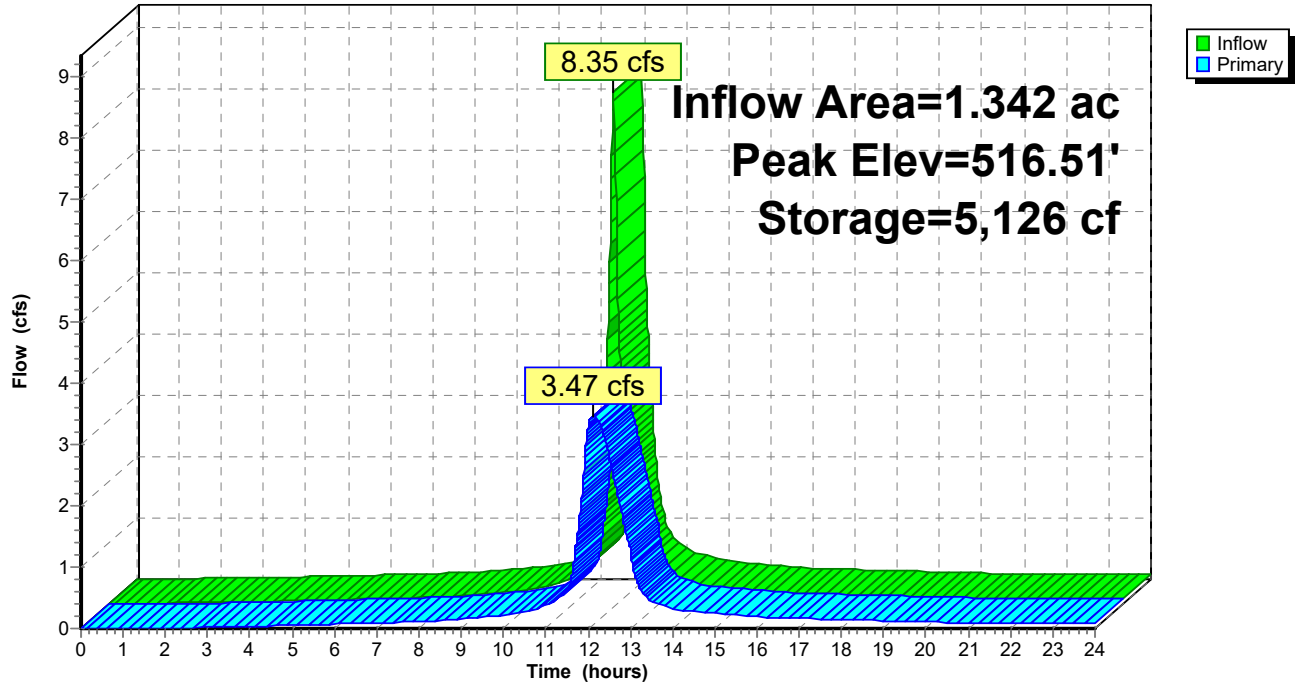
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Pond 217P: Dry Pond #1

Hydrograph



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Type II 24-hr 100 Year Rainfall=5.70"

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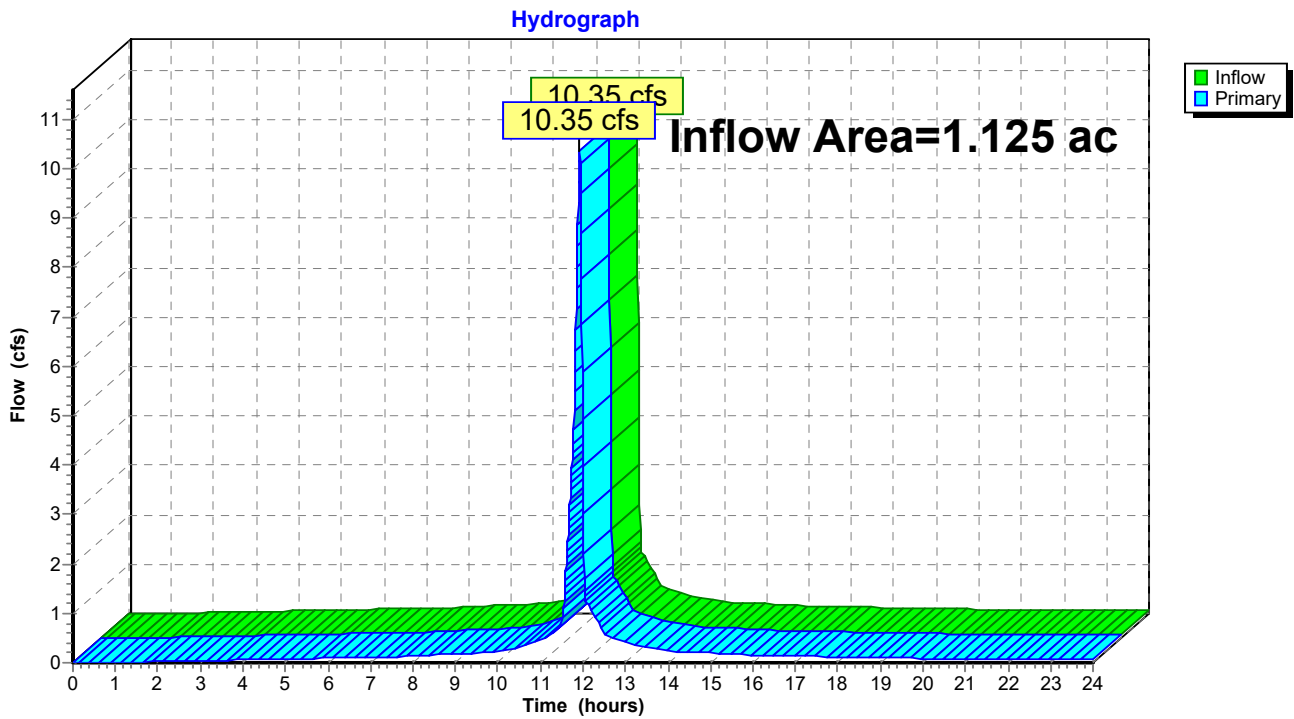
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Summary for Link 211L: Existing Offsite Towards Pearl Street

Inflow Area = 1.125 ac, 96.85% Impervious, Inflow Depth > 5.34" for 100 Year event
Inflow = 10.35 cfs @ 11.92 hrs, Volume= 0.501 af
Primary = 10.35 cfs @ 11.92 hrs, Volume= 0.501 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Link 211L: Existing Offsite Towards Pearl Street



Hales Bus Garage Building Addition

Type II 24-hr 100 Year Rainfall=5.70"

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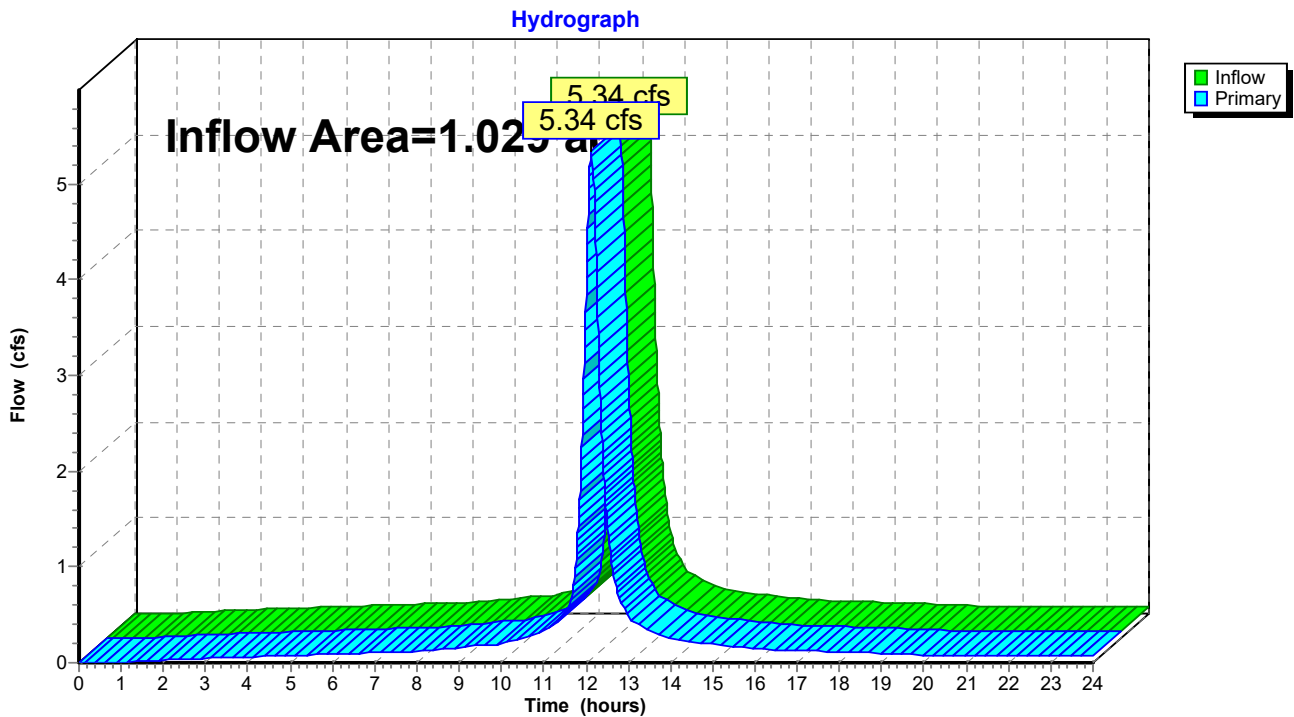
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Summary for Link 212L: Existing Offsite to West (Then to Pearl Street)

Inflow Area = 1.029 ac, 100.00% Impervious, Inflow Depth > 5.44" for 100 Year event
Inflow = 5.34 cfs @ 12.13 hrs, Volume= 0.466 af
Primary = 5.34 cfs @ 12.13 hrs, Volume= 0.466 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Link 212L: Existing Offsite to West (Then to Pearl Street)



Hales Bus Garage Building Addition

Type II 24-hr 100 Year Rainfall=5.70"

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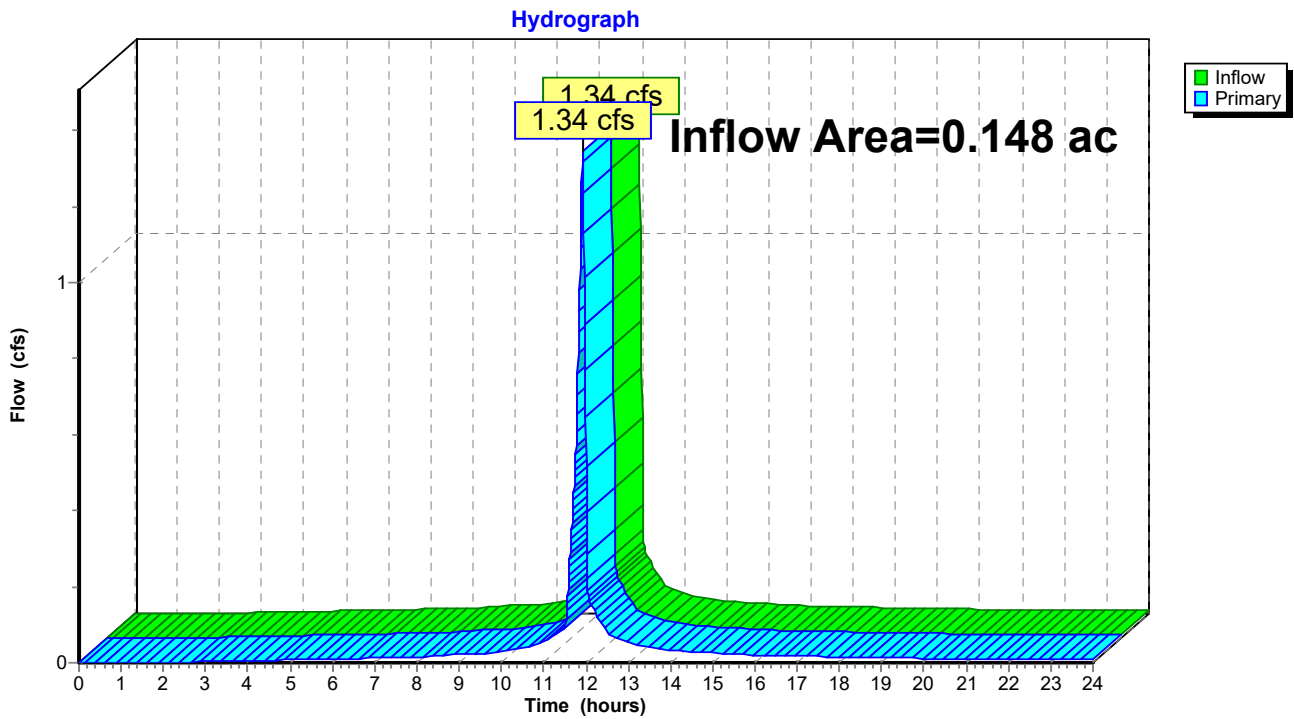
Page 66

Summary for Link 213L: Existing Offsite to North

Inflow Area = 0.148 ac, 81.24% Impervious, Inflow Depth > 5.11" for 100 Year event
Inflow = 1.34 cfs @ 11.92 hrs, Volume= 0.063 af
Primary = 1.34 cfs @ 11.92 hrs, Volume= 0.063 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Link 213L: Existing Offsite to North



Hales Bus Garage Building Addition

Type II 24-hr 100 Year Rainfall=5.70"

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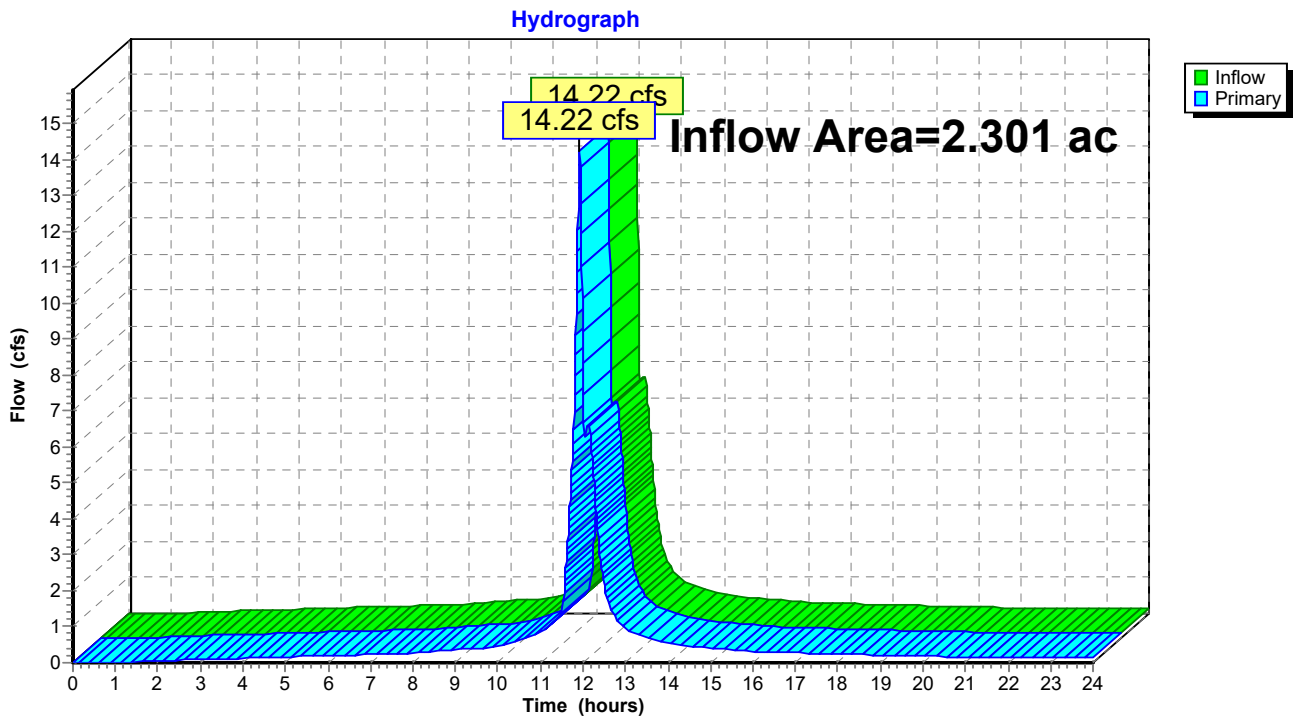
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Summary for Link 214L: Existing Total Offsite

Inflow Area = 2.301 ac, 97.25% Impervious, Inflow Depth > 5.37" for 100 Year event
Inflow = 14.22 cfs @ 11.92 hrs, Volume= 1.030 af
Primary = 14.22 cfs @ 11.92 hrs, Volume= 1.030 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Link 214L: Existing Total Offsite



Hales Bus Garage Building Addition

Type II 24-hr 100 Year Rainfall=5.70"

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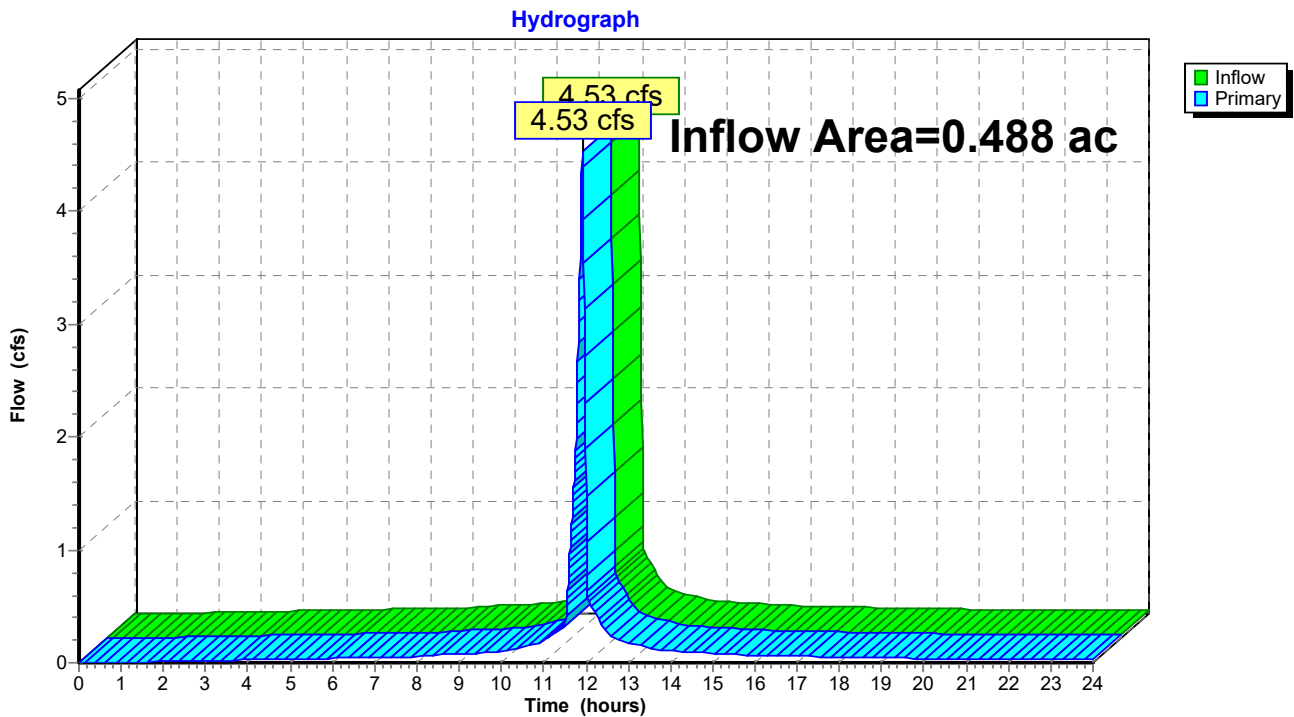
Page 68

Summary for Link 219L: Proposed Offsite Towards Pearl Street

Inflow Area = 0.488 ac, 91.24% Impervious, Inflow Depth > 5.32" for 100 Year event
Inflow = 4.53 cfs @ 11.92 hrs, Volume= 0.216 af
Primary = 4.53 cfs @ 11.92 hrs, Volume= 0.216 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Link 219L: Proposed Offsite Towards Pearl Street



Hales Bus Garage Building Addition

Type II 24-hr 100 Year Rainfall=5.70"

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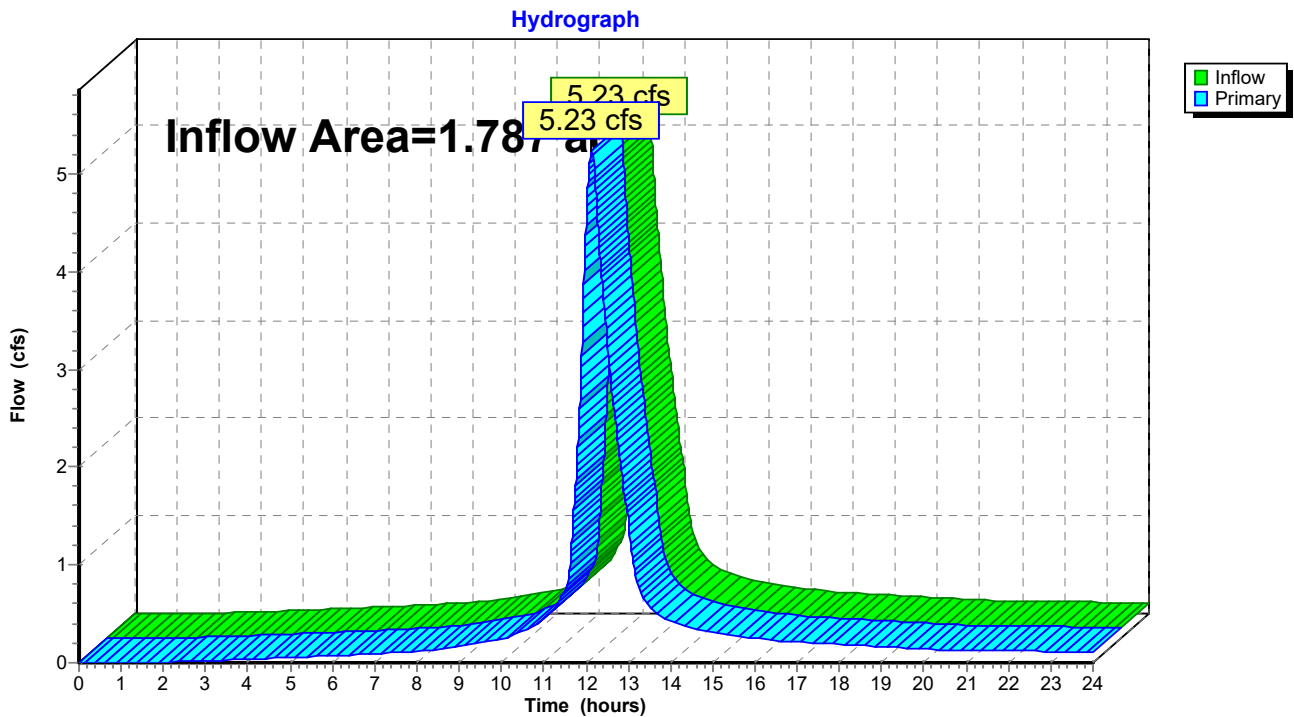
Page 69

Summary for Link 221L: Proposed Offsite To West (Then to Pearl Street)

Inflow Area = 1.787 ac, 57.88% Impervious, Inflow Depth > 4.58" for 100 Year event
Inflow = 5.23 cfs @ 12.13 hrs, Volume= 0.682 af
Primary = 5.23 cfs @ 12.13 hrs, Volume= 0.682 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Link 221L: Proposed Offsite To West (Then to Pearl Street)



Hales Bus Garage Building Addition

Type II 24-hr 100 Year Rainfall=5.70"

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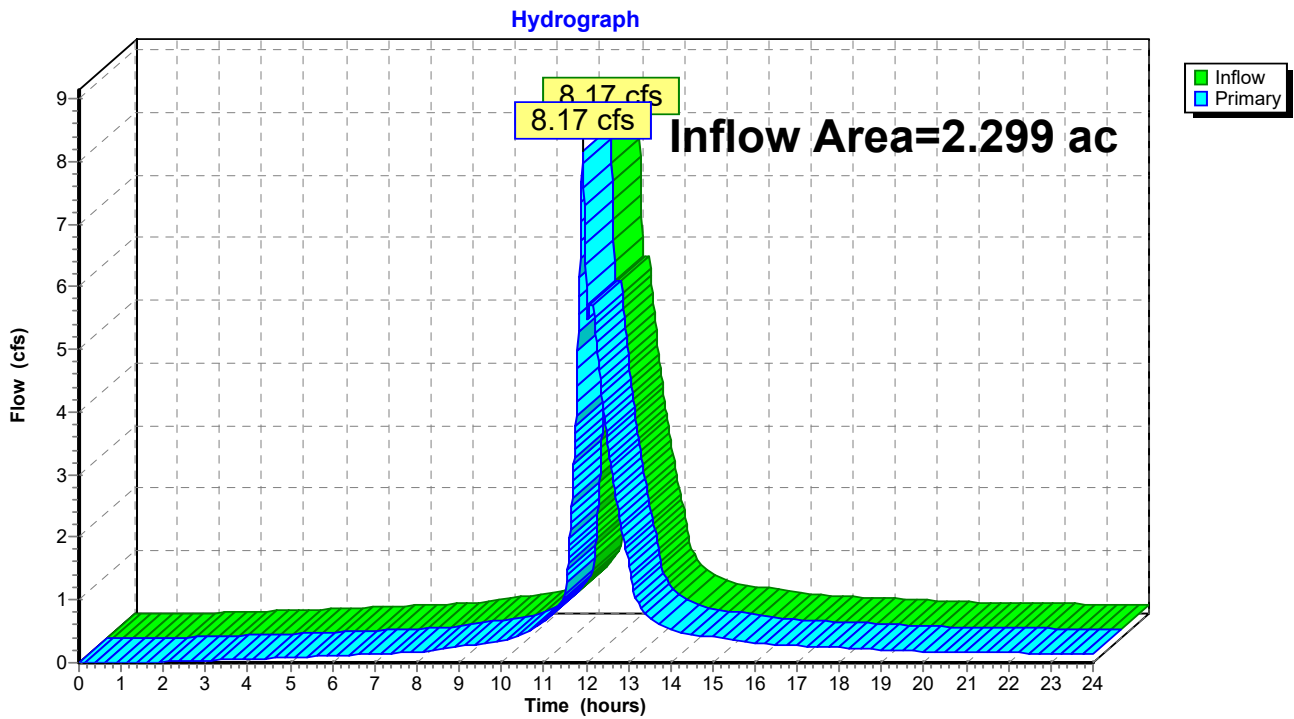
Page 70

Summary for Link 223L: Proposed Total Offsite

Inflow Area = 2.299 ac, 65.19% Impervious, Inflow Depth > 4.74" for 100 Year event
Inflow = 8.17 cfs @ 11.92 hrs, Volume= 0.908 af
Primary = 8.17 cfs @ 11.92 hrs, Volume= 0.908 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Link 223L: Proposed Total Offsite

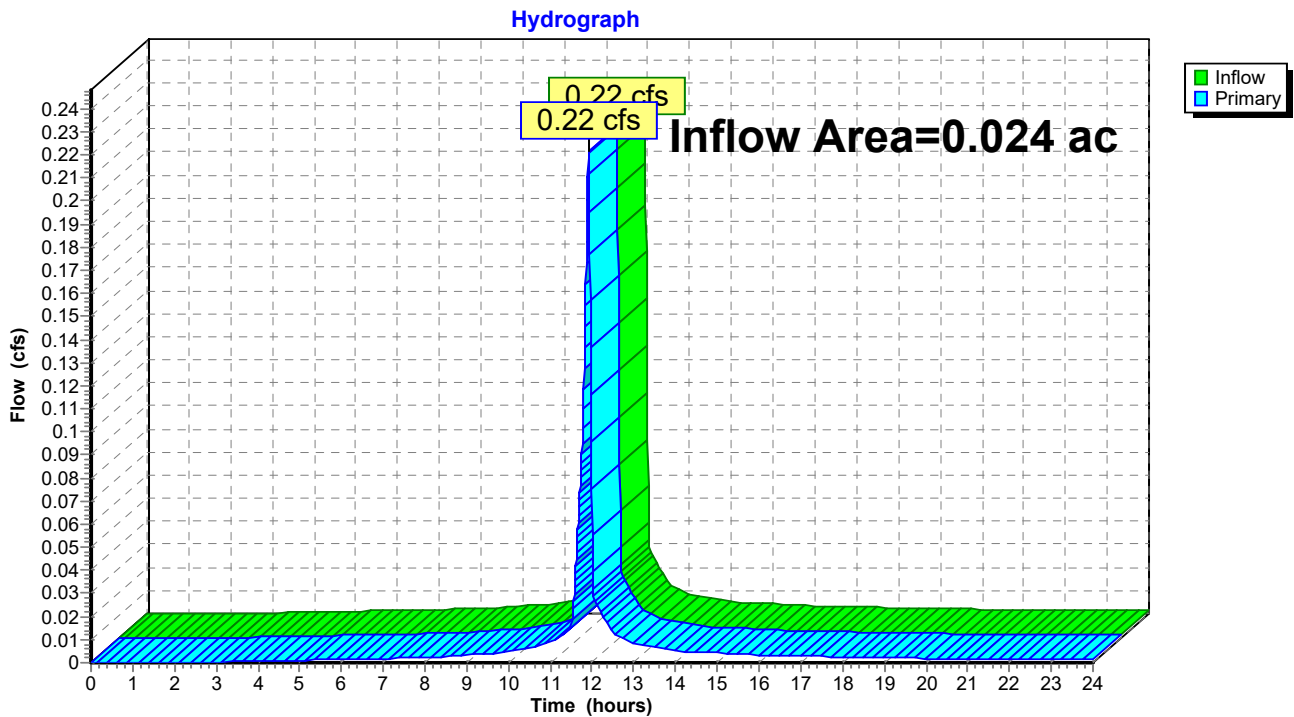


Summary for Link 224L: Proposed Offsite to North

Inflow Area = 0.024 ac, 79.87% Impervious, Inflow Depth > 5.00" for 100 Year event
Inflow = 0.22 cfs @ 11.92 hrs, Volume= 0.010 af
Primary = 0.22 cfs @ 11.92 hrs, Volume= 0.010 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Link 224L: Proposed Offsite to North



Hales Bus Garage Building Addition

Type II 24-hr WQV Rainfall=0.90"

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Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment208S: DE 1	Runoff Area=48,988 sf 96.85% Impervious Runoff Depth>0.61" Flow Length=150' Tc=1.8 min CN=97 Runoff=1.37 cfs 0.057 af
Subcatchment209S: DE 2	Runoff Area=44,803 sf 100.00% Impervious Runoff Depth>0.69" Flow Length=295' Tc=21.2 min CN=98 Runoff=0.75 cfs 0.059 af
Subcatchment210S: DE 3	Runoff Area=6,446 sf 81.24% Impervious Runoff Depth>0.48" Flow Length=116' Tc=1.8 min CN=95 Runoff=0.15 cfs 0.006 af
Subcatchment216S: DP 1	Runoff Area=26,535 sf 100.00% Impervious Runoff Depth>0.69" Flow Length=305' Tc=2.6 min CN=98 Runoff=0.79 cfs 0.035 af
Subcatchment218S: DP 2	Runoff Area=16,373 sf 92.08% Impervious Runoff Depth>0.61" Flow Length=58' Slope=0.0200 '/ Tc=1.5 min CN=97 Runoff=0.46 cfs 0.019 af
Subcatchment219S: DP 4	Runoff Area=17,265 sf 66.70% Impervious Runoff Depth>0.33" Flow Length=245' Slope=0.0075 '/ Tc=18.3 min CN=92 Runoff=0.15 cfs 0.011 af
Subcatchment220S: DP 5	Runoff Area=19,379 sf 7.48% Impervious Runoff Depth>0.07" Flow Length=287' Tc=20.4 min CN=81 Runoff=0.01 cfs 0.002 af
Subcatchment221S: DP 3	Runoff Area=4,878 sf 88.42% Impervious Runoff Depth>0.54" Flow Length=65' Tc=1.1 min CN=96 Runoff=0.13 cfs 0.005 af
Subcatchment222S: DP 6	Runoff Area=1,063 sf 79.87% Impervious Runoff Depth>0.42" Flow Length=35' Slope=0.0200 '/ Tc=1.5 min CN=94 Runoff=0.02 cfs 0.001 af
Subcatchment223S: DP 7	Runoff Area=14,659 sf 37.87% Impervious Runoff Depth>0.17" Flow Length=128' Tc=9.0 min CN=87 Runoff=0.08 cfs 0.005 af
Pond 217P: Dry Pond #1	Peak Elev=514.47' Storage=514 cf Inflow=0.89 cfs 0.051 af Outflow=0.51 cfs 0.049 af
Link 211L: Existing Offsite Towards Pearl Street	Inflow=1.37 cfs 0.057 af Primary=1.37 cfs 0.057 af
Link 212L: Existing Offsite to West (Then to Pearl Street)	Inflow=0.75 cfs 0.059 af Primary=0.75 cfs 0.059 af
Link 213L: Existing Offsite to North	Inflow=0.15 cfs 0.006 af Primary=0.15 cfs 0.006 af
Link 214L: Existing Total Offsite	Inflow=1.85 cfs 0.122 af Primary=1.85 cfs 0.122 af
Link 219L: Proposed Offsite Towards Pearl Street	Inflow=0.59 cfs 0.024 af Primary=0.59 cfs 0.024 af

Hales Bus Garage Building Addition

Type II 24-hr WQV Rainfall=0.90"

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Link 221L: Proposed Offsite To West (Then to Pearl Street)

Inflow=0.51 cfs 0.052 af
Primary=0.51 cfs 0.052 af

Link 223L: Proposed Total Offsite

Inflow=0.96 cfs 0.077 af
Primary=0.96 cfs 0.077 af

Link 224L: Proposed Offsite to North

Inflow=0.02 cfs 0.001 af
Primary=0.02 cfs 0.001 af

Total Runoff Area = 4.600 ac Runoff Volume = 0.201 af Average Runoff Depth = 0.52"
18.77% Pervious = 0.863 ac 81.23% Impervious = 3.737 ac

Hales Bus Garage Building Addition

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Type II 24-hr WQV Rainfall=0.90"

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Summary for Subcatchment 208S: DE 1

Runoff = 1.37 cfs @ 11.92 hrs, Volume= 0.057 af, Depth> 0.61"

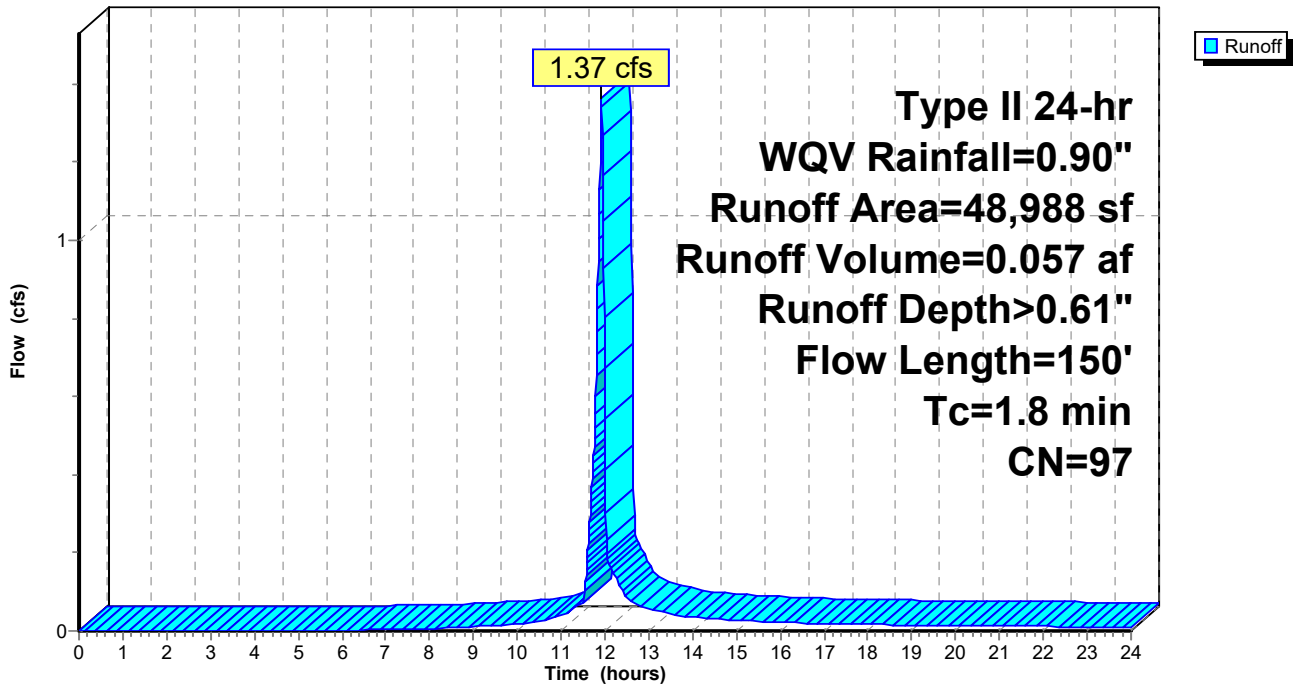
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr WQV Rainfall=0.90"

Area (sf)	CN	Description
1,544	80	>75% Grass cover, Good, HSG D
47,444	98	Paved parking, HSG D
48,988	97	Weighted Average
1,544		3.15% Pervious Area
47,444		96.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	90	0.0200	1.19		Sheet Flow, sheet over roof Smooth surfaces n= 0.011 P2= 2.50"
0.2	10	0.0230	0.81		Sheet Flow, Remainder of sheet flow Smooth surfaces n= 0.011 P2= 2.50"
0.3	50	0.0230	3.08		Shallow Concentrated Flow, SC over asphalt Paved Kv= 20.3 fps
1.8	150	Total			

Subcatchment 208S: DE 1

Hydrograph



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Summary for Subcatchment 209S: DE 2

Runoff = 0.75 cfs @ 12.13 hrs, Volume= 0.059 af, Depth> 0.69"

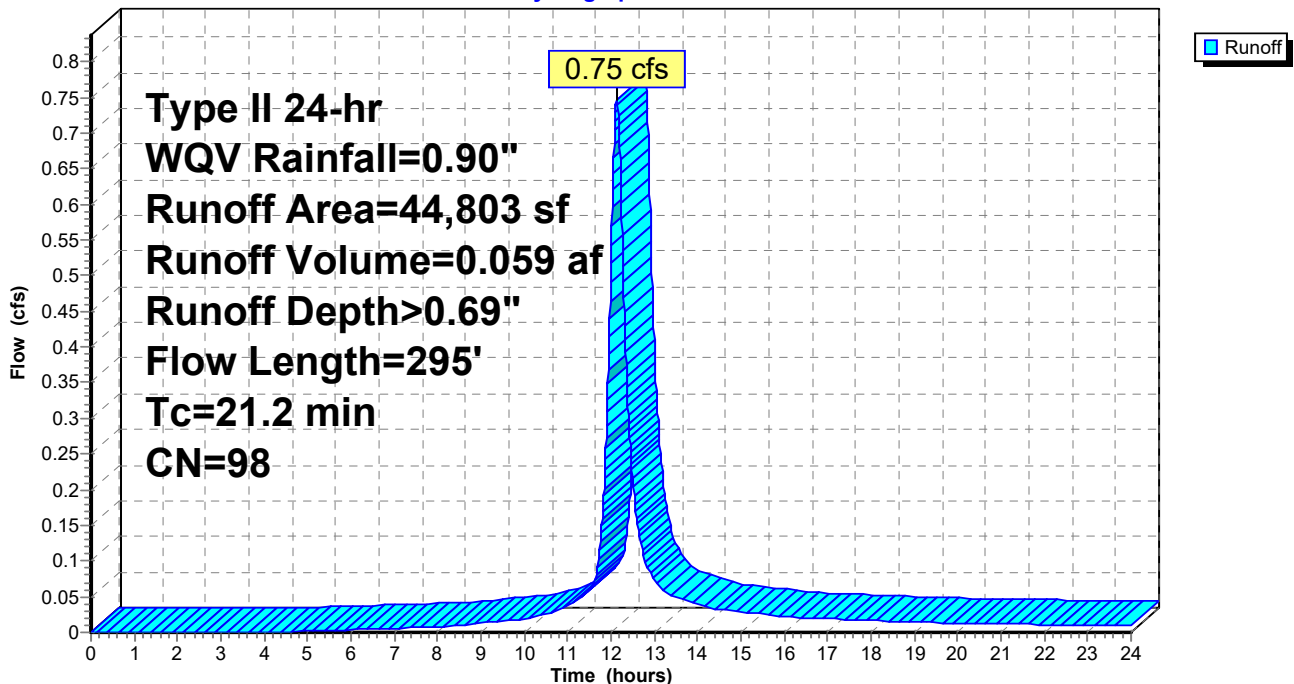
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 Type II 24-hr WQV Rainfall=0.90"

Area (sf)	CN	Description
11,400	98	Paved parking, HSG D
33,403	98	Paved parking, HSG D
44,803	98	Weighted Average
44,803		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.1	100	0.0045	0.08		Sheet Flow, Sheet over Lawn Grass: Short n= 0.150 P2= 2.50"
1.1	195	0.0370	2.89		Shallow Concentrated Flow, SC Over Lawn Grassed Waterway Kv= 15.0 fps
21.2	295	Total			

Subcatchment 209S: DE 2

Hydrograph



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Type II 24-hr WQV Rainfall=0.90"

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Summary for Subcatchment 210S: DE 3

Runoff = 0.15 cfs @ 11.92 hrs, Volume= 0.006 af, Depth> 0.48"

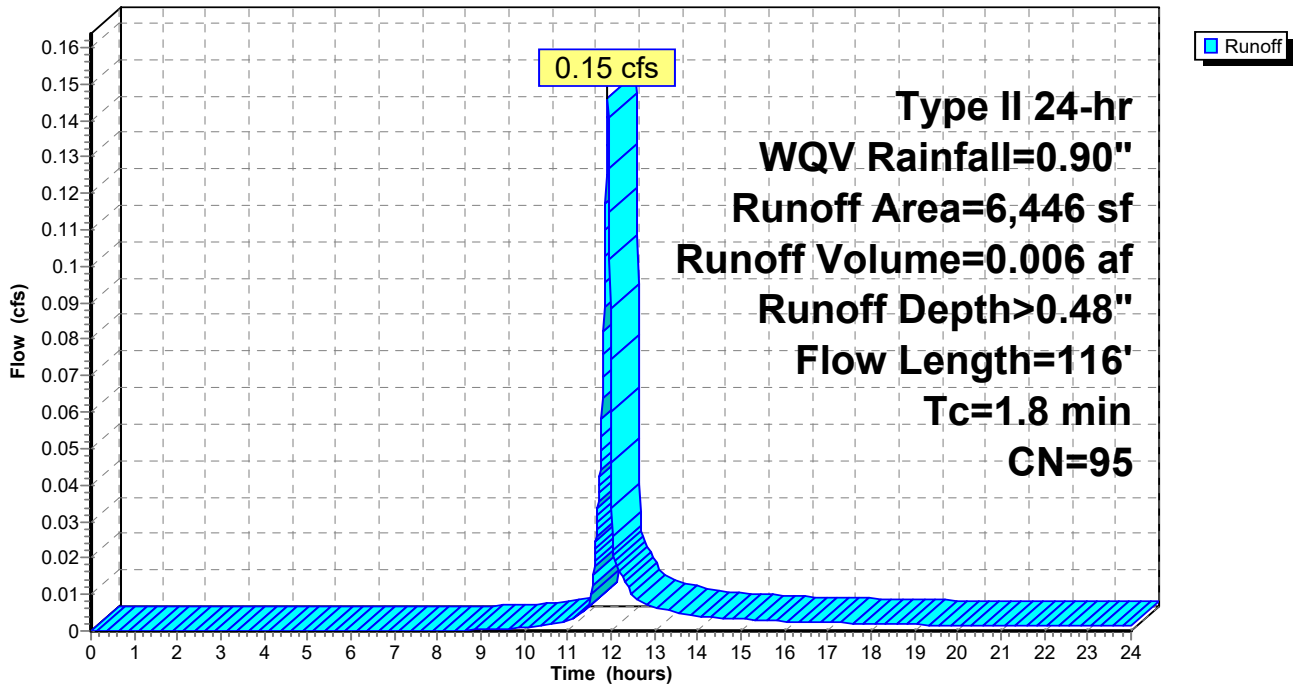
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 Type II 24-hr WQV Rainfall=0.90"

Area (sf)	CN	Description
5,237	98	Paved parking, HSG D
1,209	80	>75% Grass cover, Good, HSG D
6,446	95	Weighted Average
1,209		18.76% Pervious Area
5,237		81.24% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.7	100	0.0120	0.99		Sheet Flow, Sheet over Pavement / gravel pad Smooth surfaces n= 0.011 P2= 2.50"
0.1	11	0.0200	2.28		Shallow Concentrated Flow, SC over remainder of gravel Unpaved Kv= 16.1 fps
0.0	5	0.0300	2.60		Shallow Concentrated Flow, SC over lawn Grassed Waterway Kv= 15.0 fps
1.8	116	Total			

Subcatchment 210S: DE 3

Hydrograph



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Type II 24-hr WQV Rainfall=0.90"

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Summary for Subcatchment 216S: DP 1

Runoff = 0.79 cfs @ 11.93 hrs, Volume= 0.035 af, Depth> 0.69"

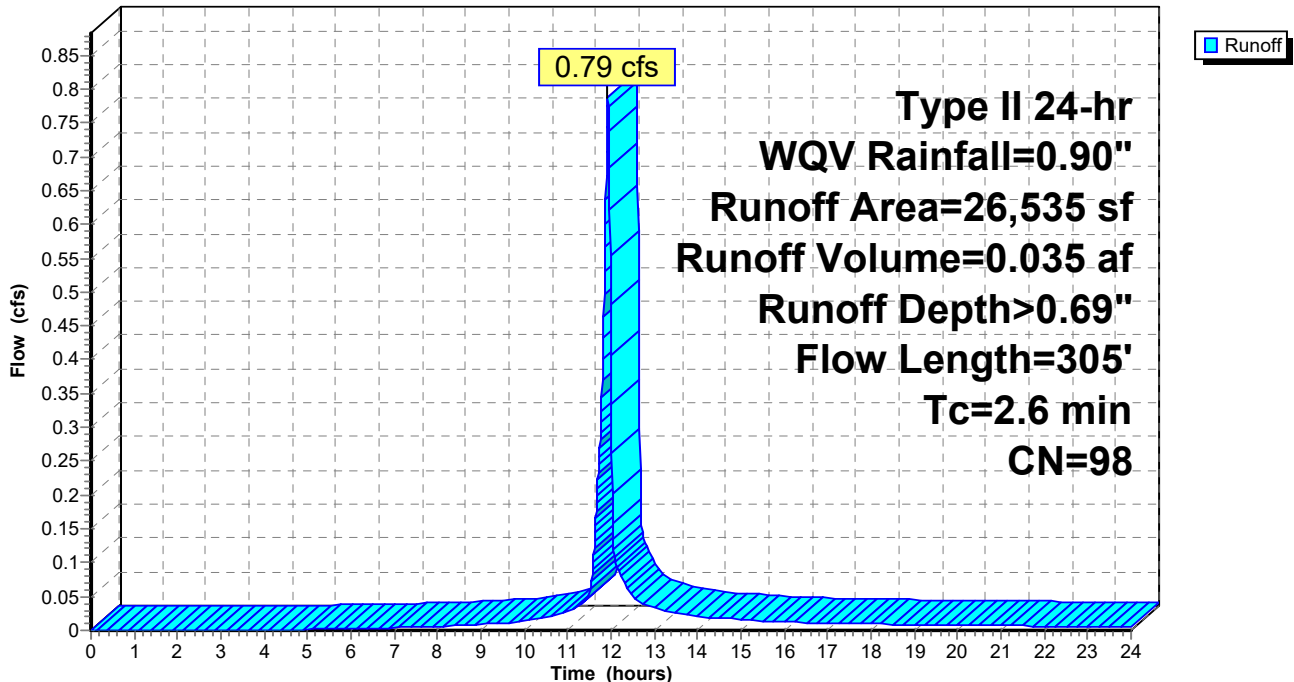
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr WQV Rainfall=0.90"

Area (sf)	CN	Description
26,535	98	Unconnected roofs, HSG D
26,535		100.00% Impervious Area
26,535		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.8	45	0.0020	0.41		Sheet Flow, Sheet over Roof Smooth surfaces n= 0.011 P2= 2.50"
0.8	260	0.0100	5.26	6.46	Pipe Channel, Flow through roof drain piping 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013 Corrugated PE, smooth interior
2.6	305	Total			

Subcatchment 216S: DP 1

Hydrograph



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Type II 24-hr WQV Rainfall=0.90"

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Summary for Subcatchment 218S: DP 2

Runoff = 0.46 cfs @ 11.92 hrs, Volume= 0.019 af, Depth> 0.61"

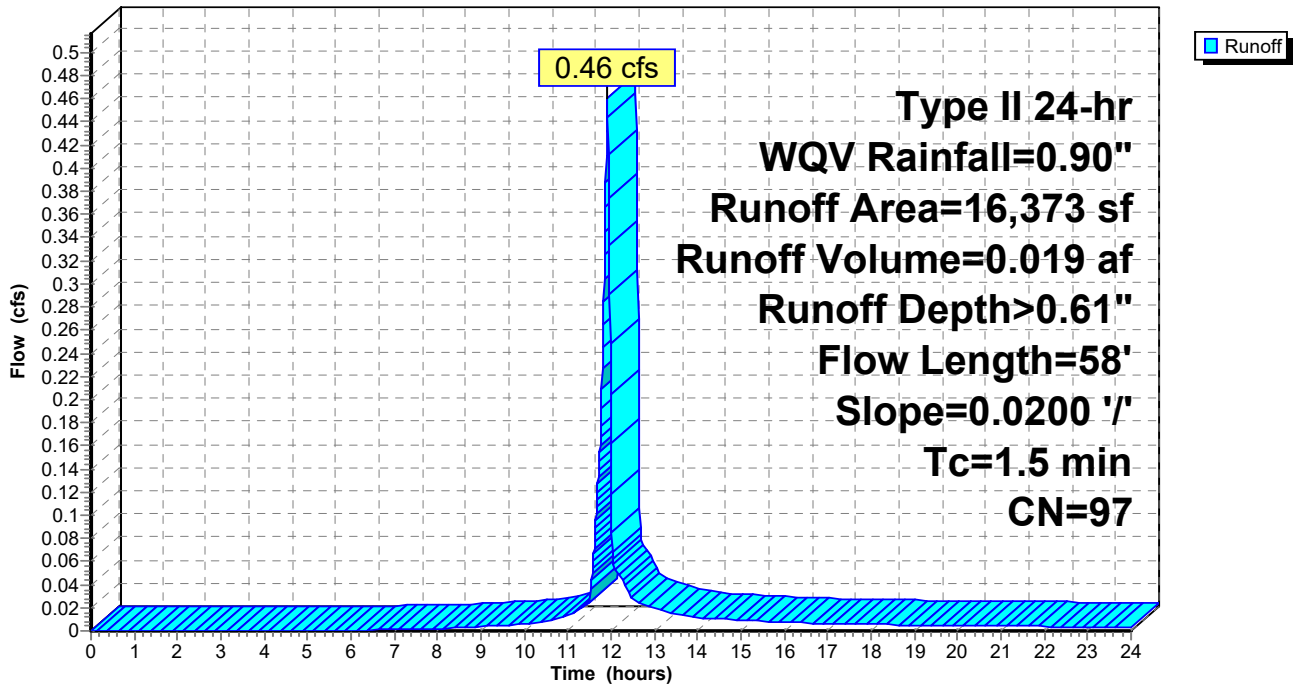
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr WQV Rainfall=0.90"

Area (sf)	CN	Description
1,296	80	>75% Grass cover, Good, HSG D
15,077	98	Paved parking, HSG D
16,373	97	Weighted Average
1,296		7.92% Pervious Area
15,077		92.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	55	0.0200	1.08		Sheet Flow, Sheet over Pavement Smooth surfaces n= 0.011 P2= 2.50"
0.7	3	0.0200	0.07		Sheet Flow, Sheet over lawn Grass: Short n= 0.150 P2= 2.50"
1.5	58	Total			

Subcatchment 218S: DP 2

Hydrograph



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Type II 24-hr WQV Rainfall=0.90"

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Summary for Subcatchment 219S: DP 4

Runoff = 0.15 cfs @ 12.12 hrs, Volume= 0.011 af, Depth> 0.33"

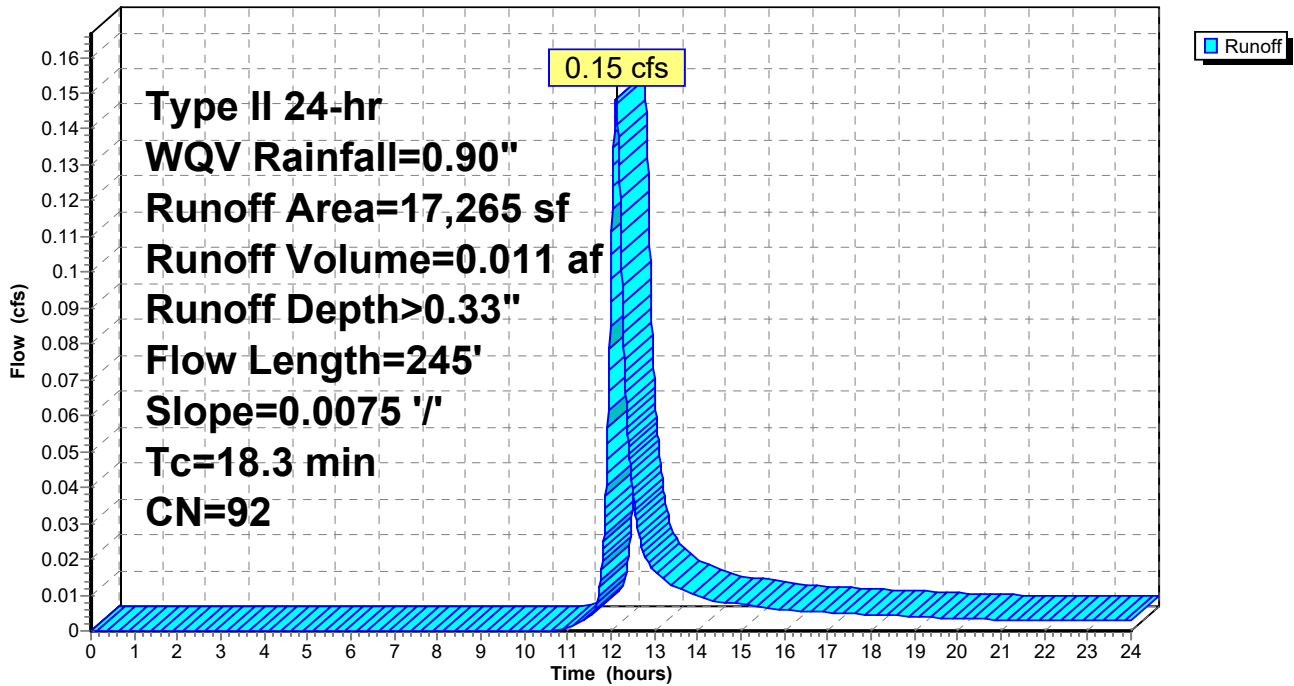
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 Type II 24-hr WQV Rainfall=0.90"

Area (sf)	CN	Description
11,516	98	Paved parking, HSG D
5,749	80	>75% Grass cover, Good, HSG D
17,265	92	Weighted Average
5,749		33.30% Pervious Area
11,516		66.70% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.4	100	0.0075	0.10		Sheet Flow, Sheet in Dry Swale Grass: Short n= 0.150 P2= 2.50"
1.9	145	0.0075	1.30		Shallow Concentrated Flow, SC in Dry Swale Grassed Waterway Kv= 15.0 fps
18.3	245	Total			

Subcatchment 219S: DP 4

Hydrograph



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Type II 24-hr WQV Rainfall=0.90"

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Summary for Subcatchment 220S: DP 5

Runoff = 0.01 cfs @ 12.24 hrs, Volume= 0.002 af, Depth> 0.07"

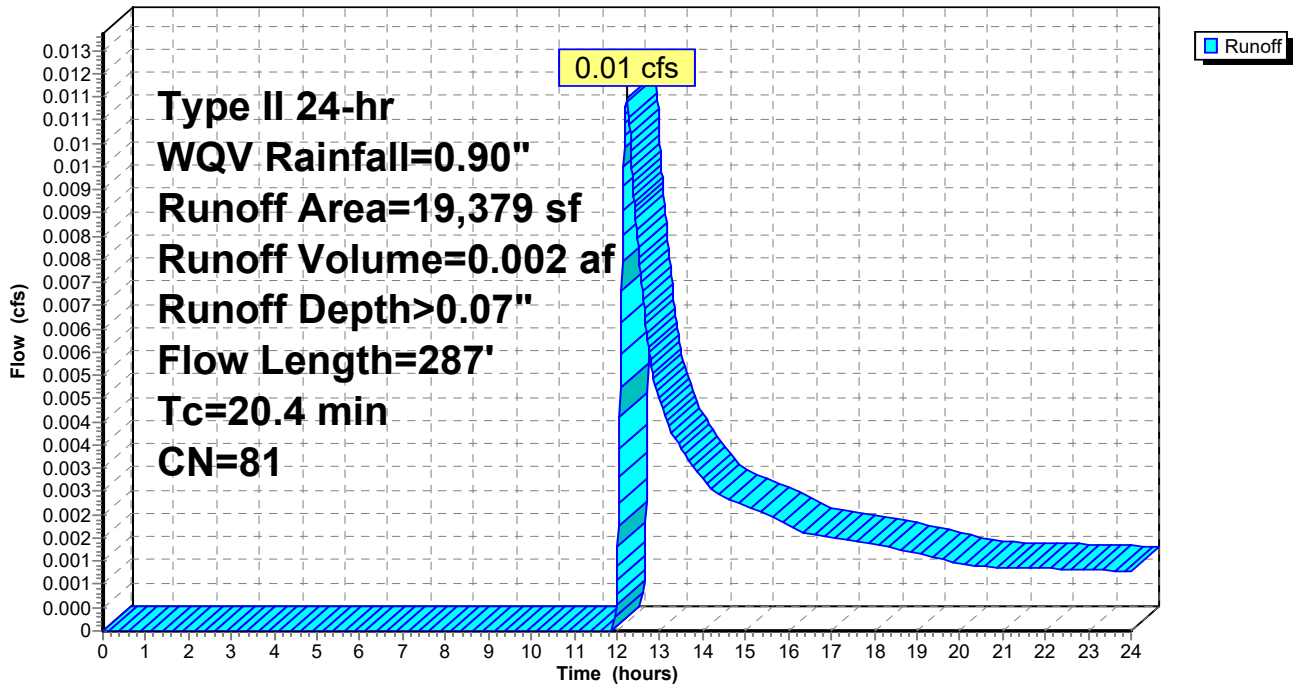
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 Type II 24-hr WQV Rainfall=0.90"

Area (sf)	CN	Description
1,450	98	Paved parking, HSG D
17,929	80	>75% Grass cover, Good, HSG D
19,379	81	Weighted Average
17,929		92.52% Pervious Area
1,450		7.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.3	100	0.0050	0.09		Sheet Flow, Sheet over Lawn Grass: Short n= 0.150 P2= 2.50"
1.1	187	0.0375	2.90		Shallow Concentrated Flow, SC Over Lawn Grassed Waterway Kv= 15.0 fps
20.4	287	Total			

Subcatchment 220S: DP 5

Hydrograph



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Type II 24-hr WQV Rainfall=0.90"

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Summary for Subcatchment 221S: DP 3

[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 0.13 cfs @ 11.91 hrs, Volume= 0.005 af, Depth> 0.54"

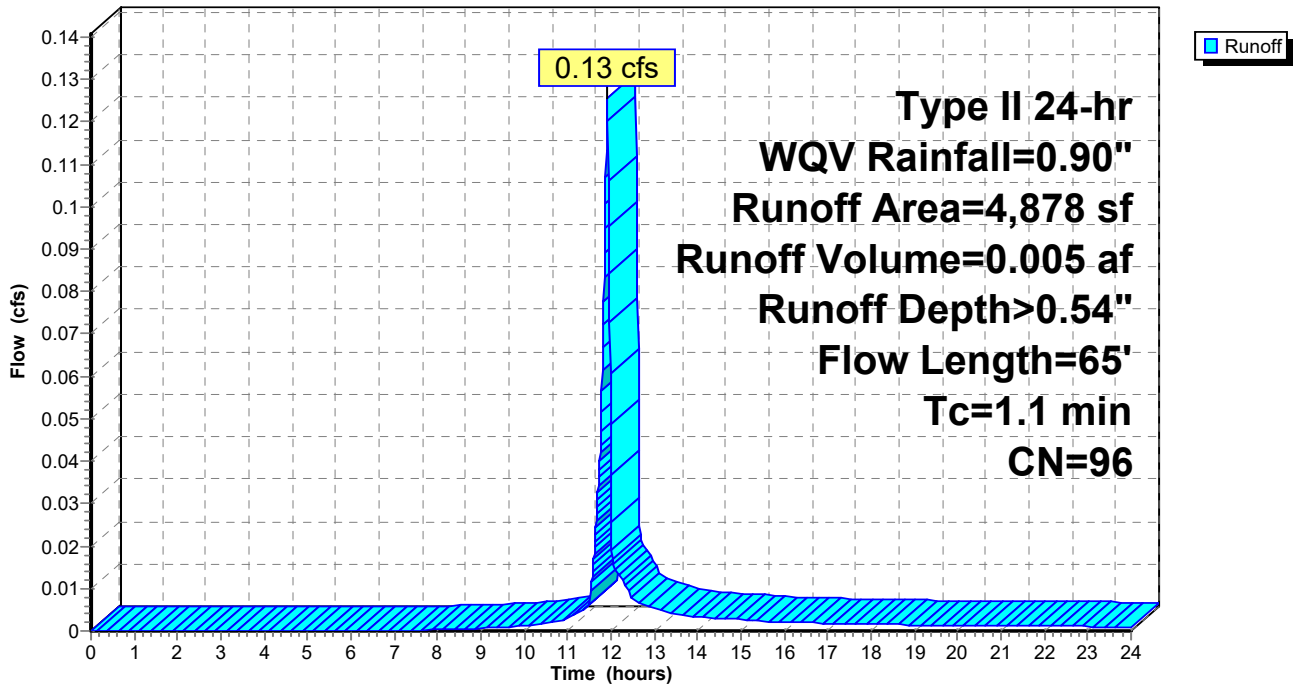
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 Type II 24-hr WQV Rainfall=0.90"

Area (sf)	CN	Description
565	80	>75% Grass cover, Good, HSG D
4,313	98	Paved parking, HSG D
4,878	96	Weighted Average
565		11.58% Pervious Area
4,313		88.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	60	0.0400	1.45		Sheet Flow, Sheet over Pavement Smooth surfaces n= 0.011 P2= 2.50"
0.4	5	0.1600	0.19		Sheet Flow, Sheet over lawn Grass: Short n= 0.150 P2= 2.50"
1.1	65	Total			

Subcatchment 221S: DP 3

Hydrograph



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Type II 24-hr WQV Rainfall=0.90"

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Summary for Subcatchment 222S: DP 6

Runoff = 0.02 cfs @ 11.92 hrs, Volume= 0.001 af, Depth> 0.42"

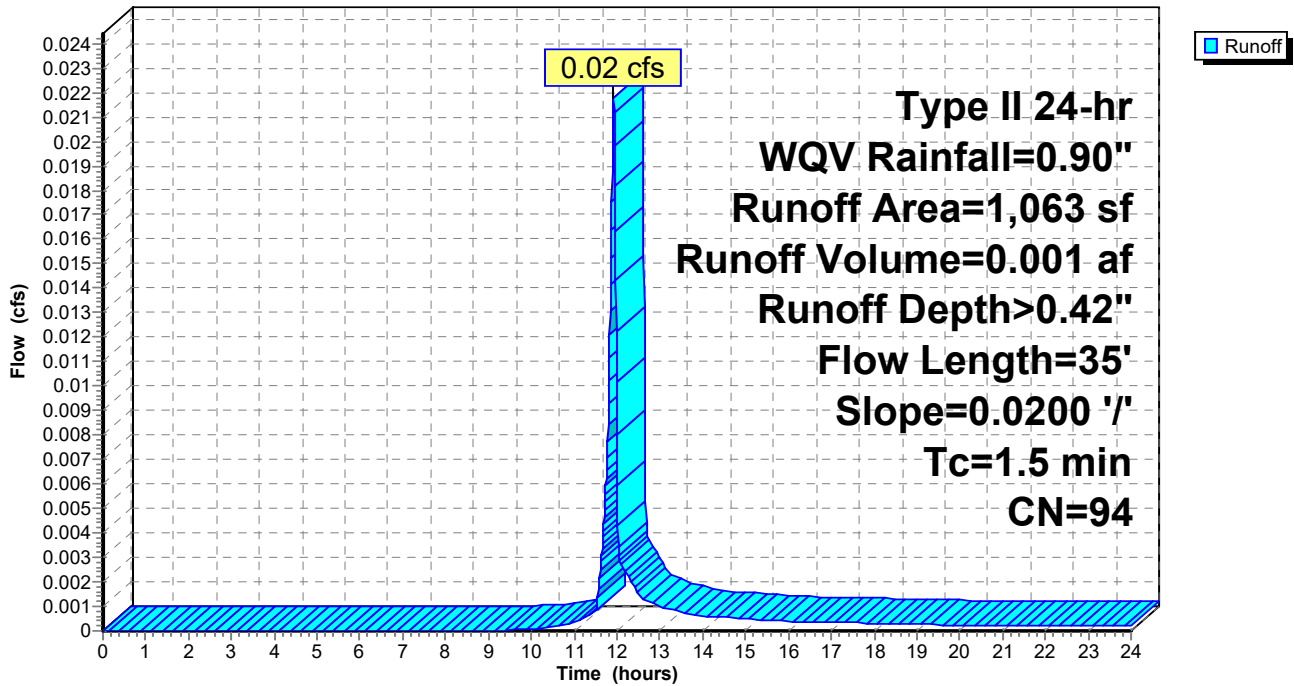
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 Type II 24-hr WQV Rainfall=0.90"

Area (sf)	CN	Description
849	98	Paved parking, HSG D
214	80	>75% Grass cover, Good, HSG D
1,063	94	Weighted Average
214		20.13% Pervious Area
849		79.87% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.5	30	0.0200	0.96		Sheet Flow, sheet over gravel Smooth surfaces n= 0.011 P2= 2.50"
1.0	5	0.0200	0.08		Sheet Flow, sheet over lawn Grass: Short n= 0.150 P2= 2.50"
1.5	35	Total			

Subcatchment 222S: DP 6

Hydrograph



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Type II 24-hr WQV Rainfall=0.90"

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Summary for Subcatchment 223S: DP 7

Runoff = 0.08 cfs @ 12.03 hrs, Volume= 0.005 af, Depth> 0.17"

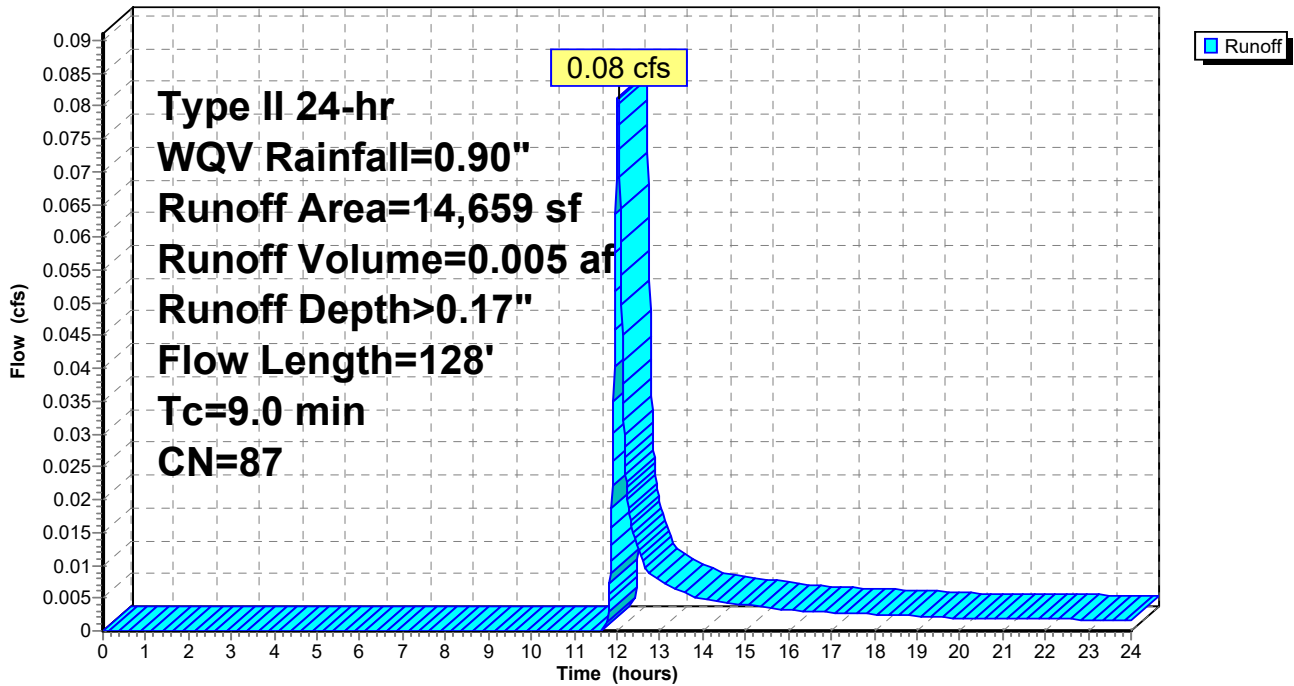
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 Type II 24-hr WQV Rainfall=0.90"

Area (sf)	CN	Description
5,551	98	Paved parking, HSG D
9,108	80	>75% Grass cover, Good, HSG D
14,659	87	Weighted Average
9,108		62.13% Pervious Area
5,551		37.87% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.9	100	0.0350	0.19		Sheet Flow, Sheet Over Lawn to Stormwater Pond Grass: Short n= 0.150 P2= 2.50"
0.1	28	0.2500	7.50		Shallow Concentrated Flow, SC over lawn Grassed Waterway Kv= 15.0 fps
9.0	128	Total			

Subcatchment 223S: DP 7

Hydrograph



Hales Bus Garage Building Addition

Type II 24-hr WQV Rainfall=0.90"

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Summary for Pond 217P: Dry Pond #1

Inflow Area = 1.342 ac, 74.59% Impervious, Inflow Depth > 0.46" for WQV event
 Inflow = 0.89 cfs @ 11.93 hrs, Volume= 0.051 af
 Outflow = 0.51 cfs @ 12.01 hrs, Volume= 0.049 af, Atten= 43%, Lag= 4.7 min
 Primary = 0.51 cfs @ 12.01 hrs, Volume= 0.049 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 Peak Elev= 514.47' @ 12.01 hrs Surf.Area= 1,533 sf Storage= 514 cf

Plug-Flow detention time= 46.3 min calculated for 0.049 af (97% of inflow)
 Center-of-Mass det. time= 28.2 min (838.9 - 810.7)

Volume	Invert	Avail.Storage	Storage Description
#1	514.10'	7,032 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
514.10	1,271	0	0
517.10	3,417	7,032	7,032

Device	Routing	Invert	Outlet Devices
#1	Primary	514.10'	12.0" Round 12" HDPE L= 40.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 514.10' / 513.70' S= 0.0100 ' /' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	514.10'	12.0" W x 5.0" H Vert. 1 Year C= 0.600
#3	Device 1	514.90'	3.0" Vert. 10 yr C= 0.600
#4	Device 1	515.60'	3.0" Vert. 100 yr C= 0.600

Primary OutFlow Max=0.51 cfs @ 12.01 hrs HW=514.47' (Free Discharge)

- 1=12" HDPE (Barrel Controls 0.51 cfs @ 2.89 fps)
- 2=1 Year (Passes 0.51 cfs of 0.71 cfs potential flow)
- 3=10 yr (Controls 0.00 cfs)
- 4=100 yr (Controls 0.00 cfs)

Hales Bus Garage Building Addition

Type II 24-hr WQV Rainfall=0.90"

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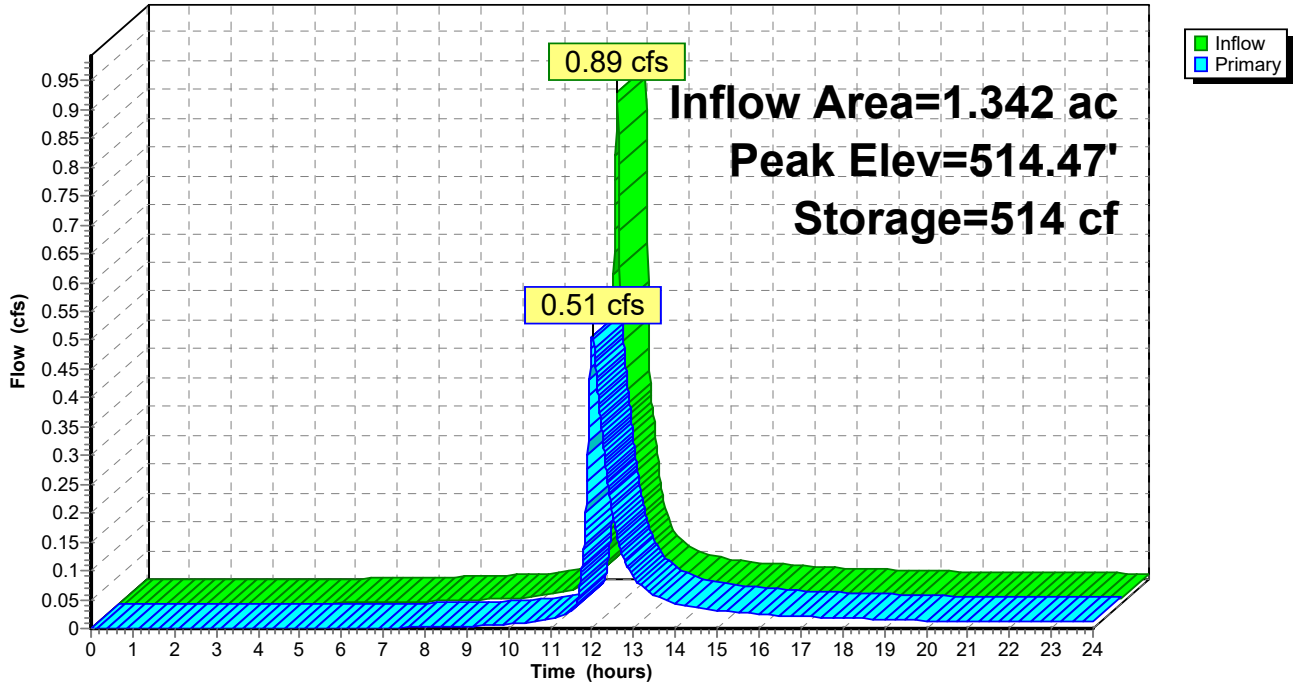
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Pond 217P: Dry Pond #1

Hydrograph



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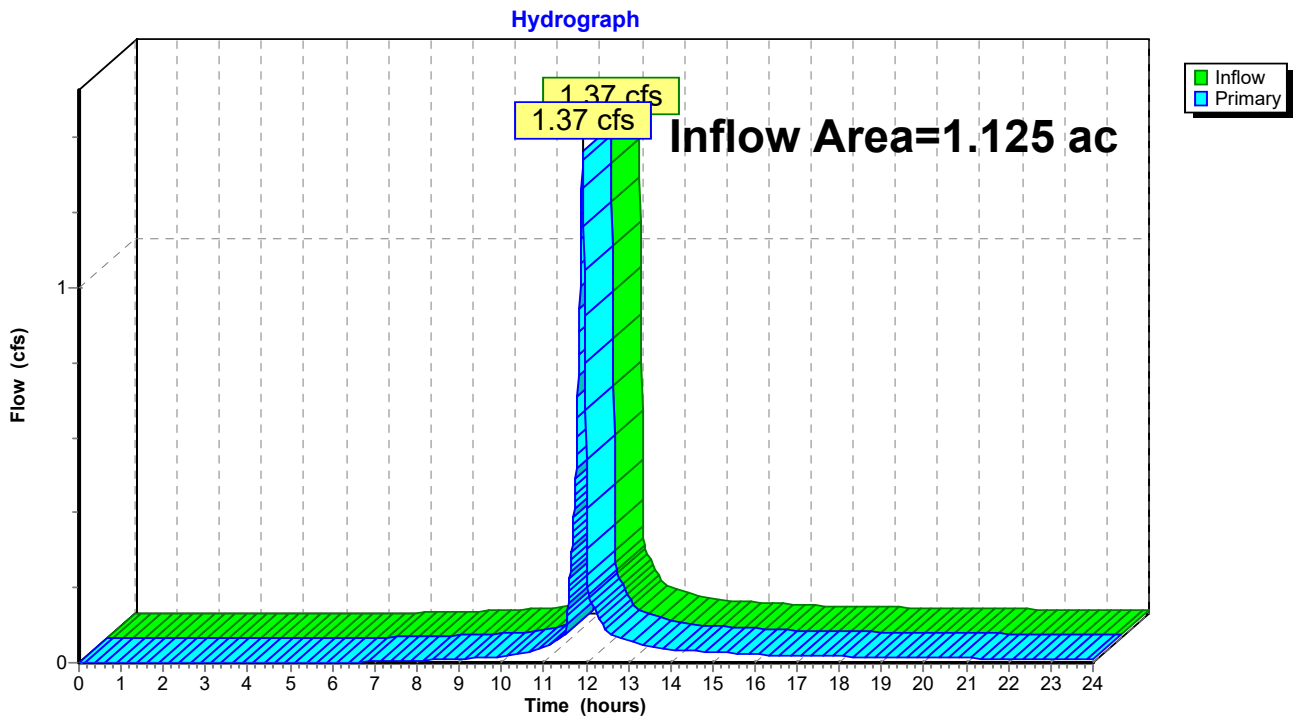
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Summary for Link 211L: Existing Offsite Towards Pearl Street

Inflow Area = 1.125 ac, 96.85% Impervious, Inflow Depth > 0.61" for WQV event
Inflow = 1.37 cfs @ 11.92 hrs, Volume= 0.057 af
Primary = 1.37 cfs @ 11.92 hrs, Volume= 0.057 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Link 211L: Existing Offsite Towards Pearl Street



Hales Bus Garage Building Addition

Type II 24-hr WQV Rainfall=0.90"

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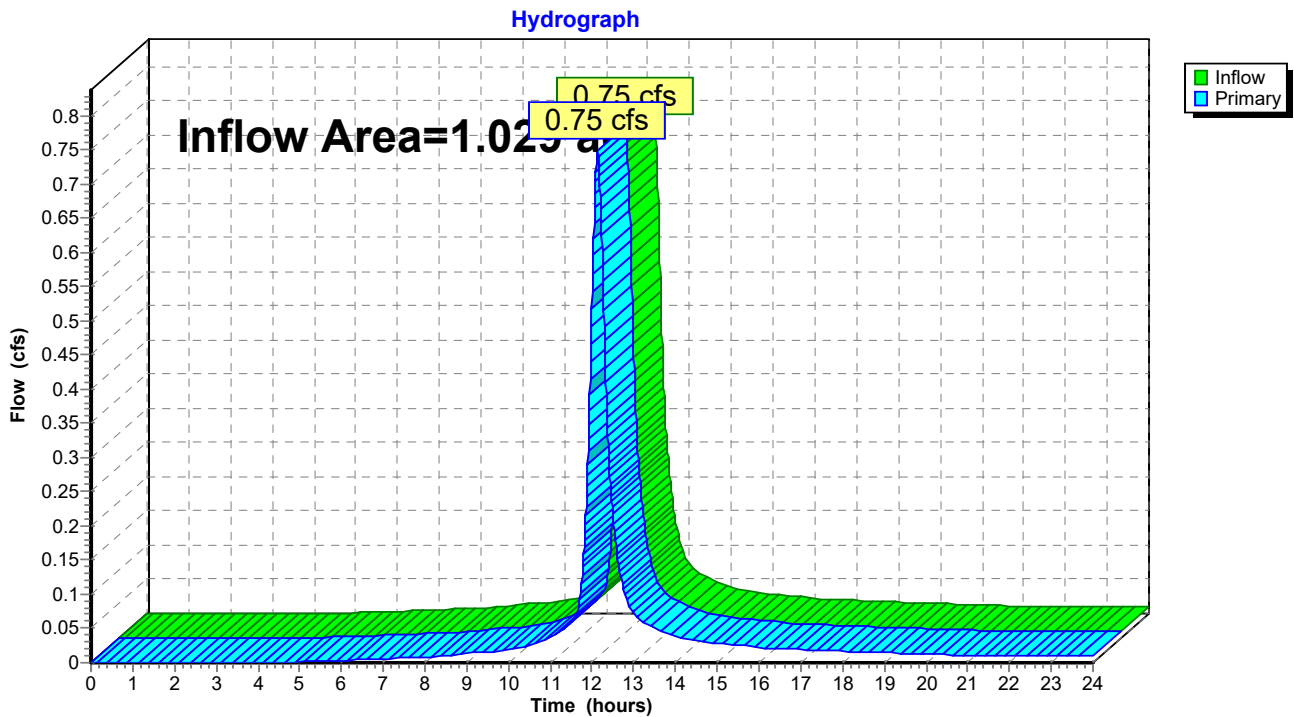
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Summary for Link 212L: Existing Offsite to West (Then to Pearl Street)

Inflow Area = 1.029 ac, 100.00% Impervious, Inflow Depth > 0.69" for WQV event
Inflow = 0.75 cfs @ 12.13 hrs, Volume= 0.059 af
Primary = 0.75 cfs @ 12.13 hrs, Volume= 0.059 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Link 212L: Existing Offsite to West (Then to Pearl Street)

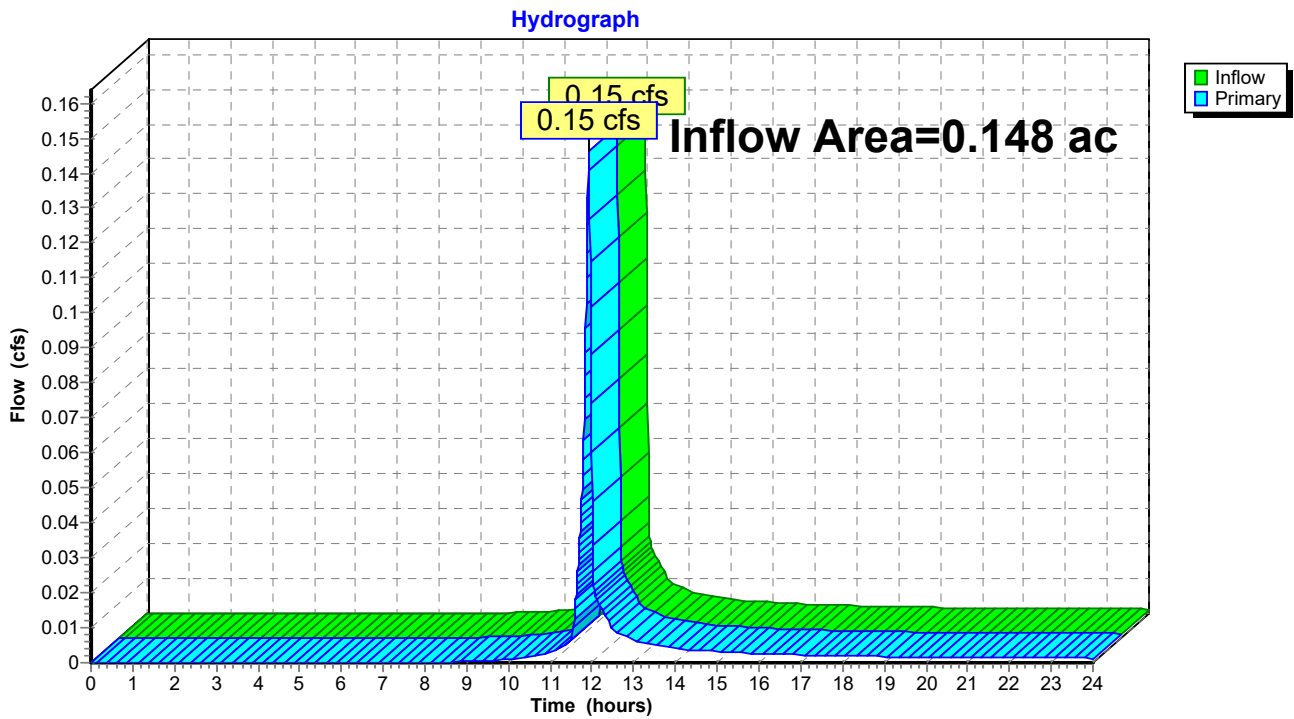


Summary for Link 213L: Existing Offsite to North

Inflow Area = 0.148 ac, 81.24% Impervious, Inflow Depth > 0.48" for WQV event
Inflow = 0.15 cfs @ 11.92 hrs, Volume= 0.006 af
Primary = 0.15 cfs @ 11.92 hrs, Volume= 0.006 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Link 213L: Existing Offsite to North



Hales Bus Garage Building Addition

Type II 24-hr WQV Rainfall=0.90"

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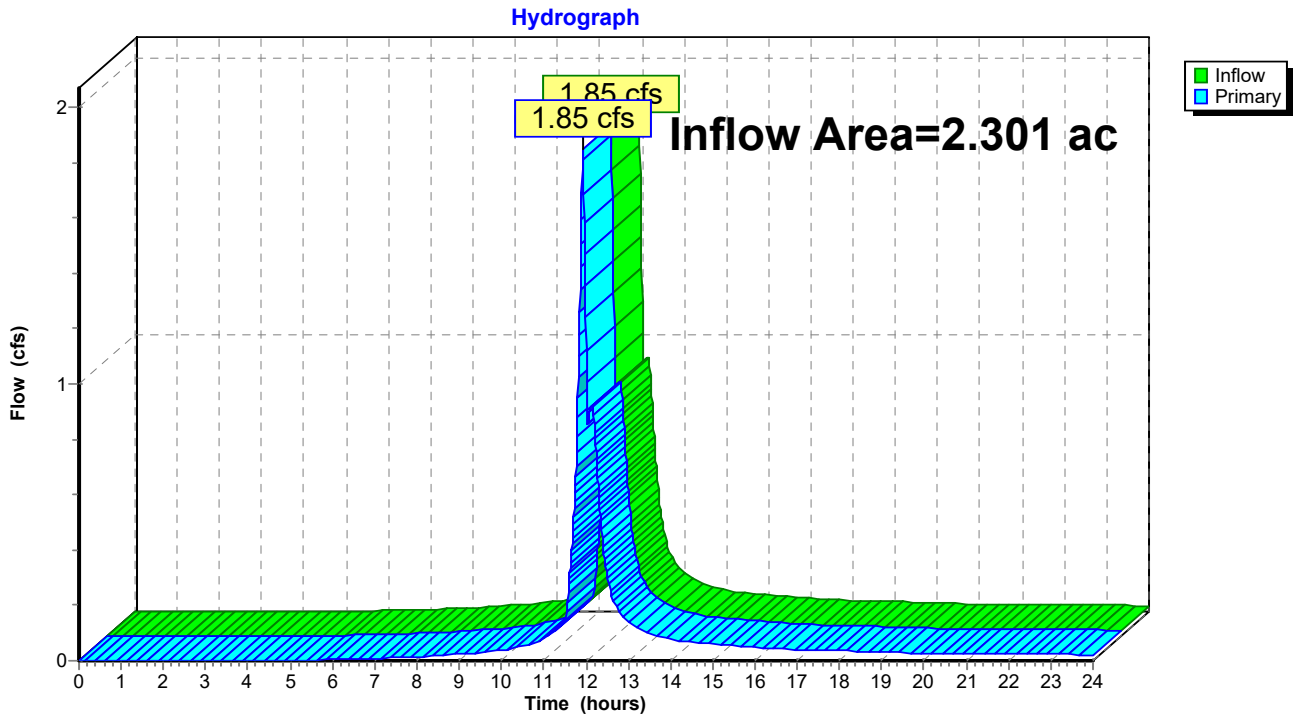
Page 89

Summary for Link 214L: Existing Total Offsite

Inflow Area = 2.301 ac, 97.25% Impervious, Inflow Depth > 0.64" for WQV event
Inflow = 1.85 cfs @ 11.92 hrs, Volume= 0.122 af
Primary = 1.85 cfs @ 11.92 hrs, Volume= 0.122 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Link 214L: Existing Total Offsite



Hales Bus Garage Building Addition

Type II 24-hr WQV Rainfall=0.90"

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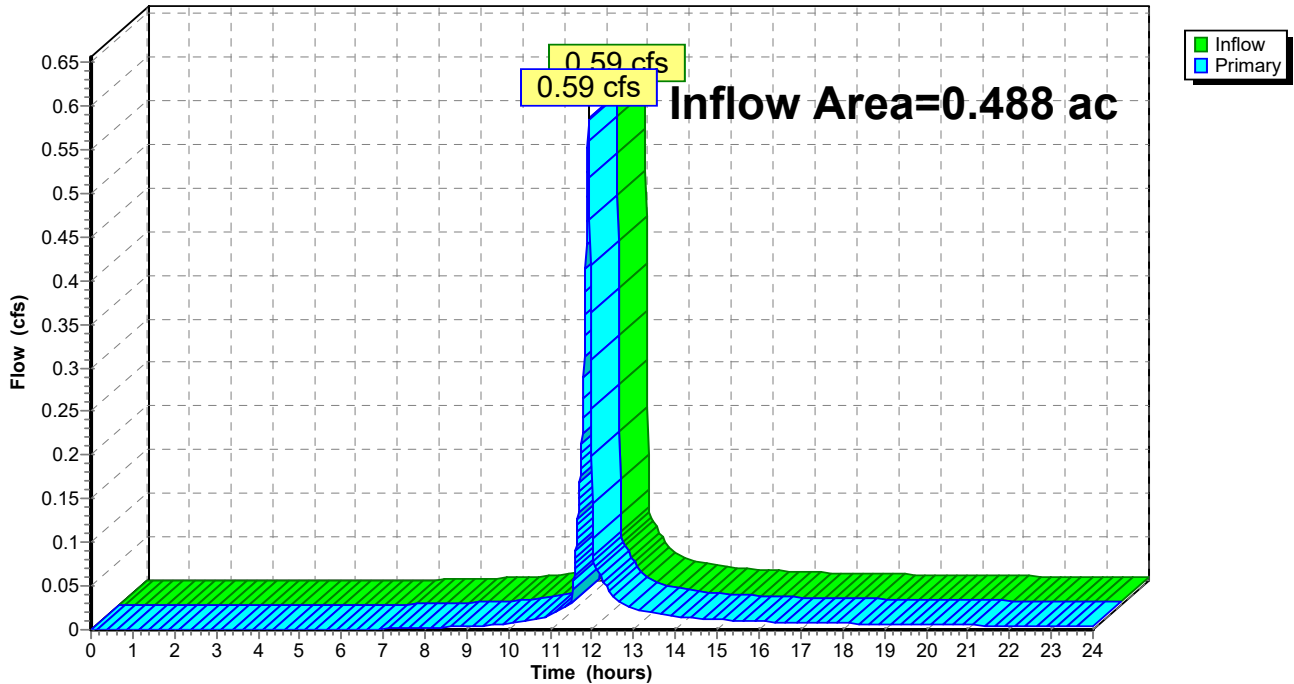
Summary for Link 219L: Proposed Offsite Towards Pearl Street

Inflow Area = 0.488 ac, 91.24% Impervious, Inflow Depth > 0.60" for WQV event
Inflow = 0.59 cfs @ 11.92 hrs, Volume= 0.024 af
Primary = 0.59 cfs @ 11.92 hrs, Volume= 0.024 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Link 219L: Proposed Offsite Towards Pearl Street

Hydrograph



Hales Bus Garage Building Addition

Type II 24-hr WQV Rainfall=0.90"

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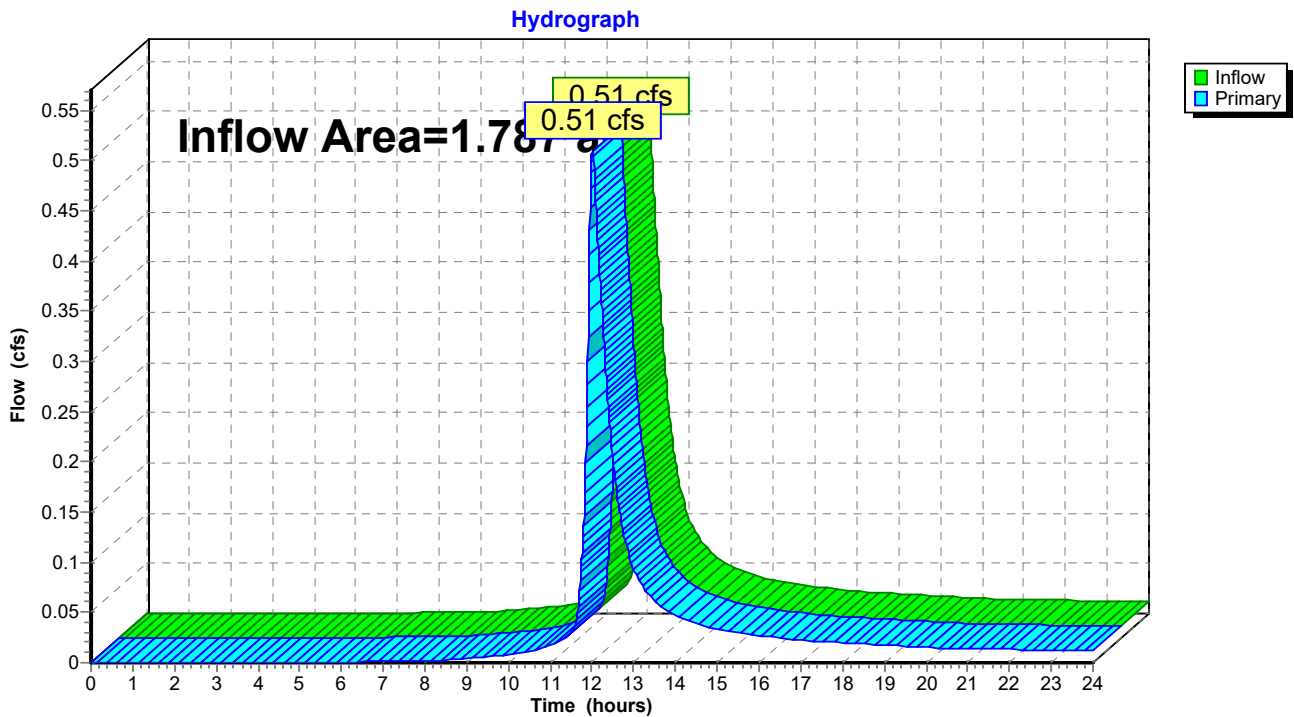
Page 91

Summary for Link 221L: Proposed Offsite To West (Then to Pearl Street)

Inflow Area = 1.787 ac, 57.88% Impervious, Inflow Depth > 0.35" for WQV event
Inflow = 0.51 cfs @ 12.01 hrs, Volume= 0.052 af
Primary = 0.51 cfs @ 12.01 hrs, Volume= 0.052 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Link 221L: Proposed Offsite To West (Then to Pearl Street)



Hales Bus Garage Building Addition

Type II 24-hr WQV Rainfall=0.90"

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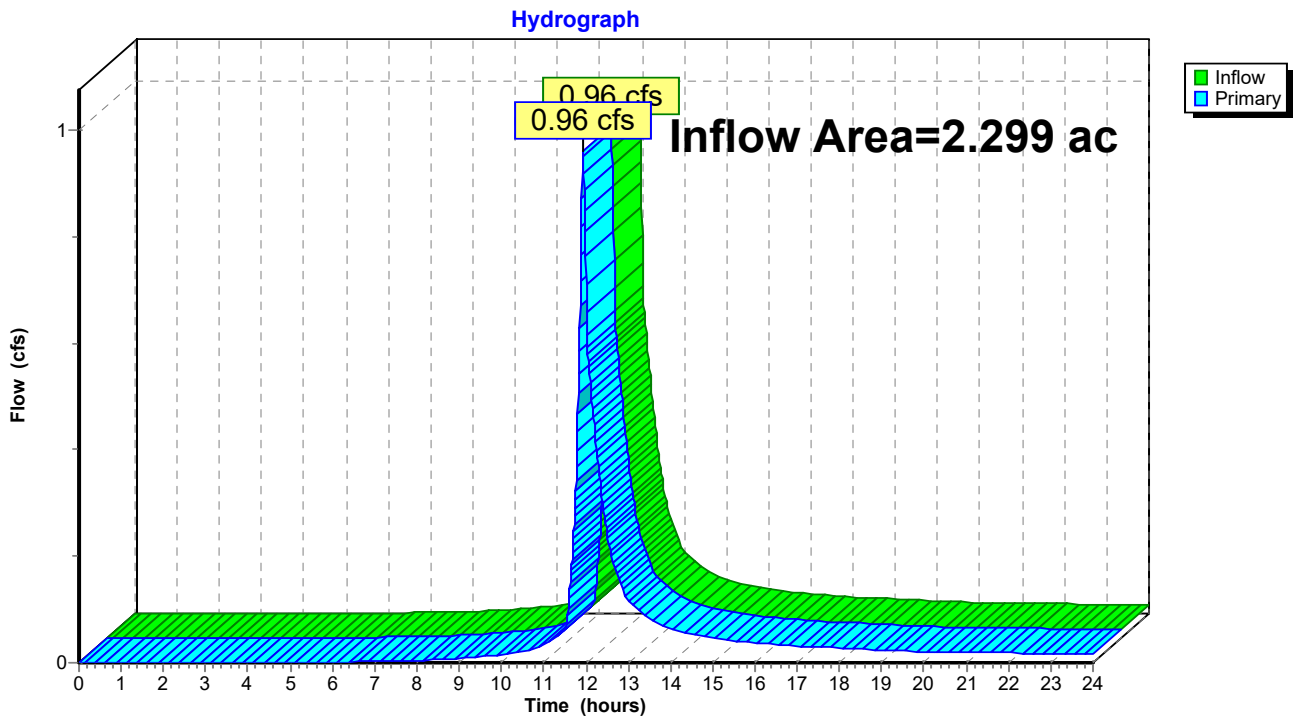
Page 92

Summary for Link 223L: Proposed Total Offsite

Inflow Area = 2.299 ac, 65.19% Impervious, Inflow Depth > 0.40" for WQV event
Inflow = 0.96 cfs @ 11.93 hrs, Volume= 0.077 af
Primary = 0.96 cfs @ 11.93 hrs, Volume= 0.077 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Link 223L: Proposed Total Offsite



Hales Bus Garage Building Addition

Type II 24-hr WQV Rainfall=0.90"

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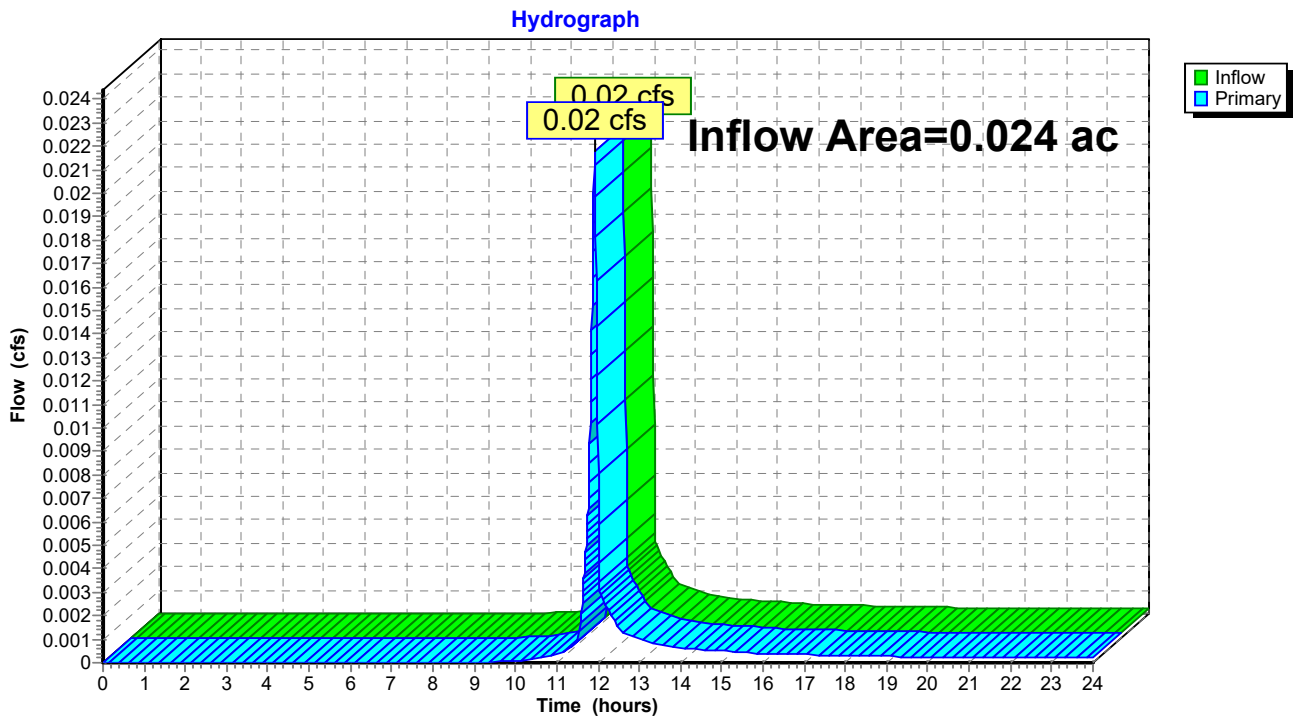
Page 93

Summary for Link 224L: Proposed Offsite to North

Inflow Area = 0.024 ac, 79.87% Impervious, Inflow Depth > 0.42" for WQV event
Inflow = 0.02 cfs @ 11.92 hrs, Volume= 0.001 af
Primary = 0.02 cfs @ 11.92 hrs, Volume= 0.001 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Link 224L: Proposed Offsite to North



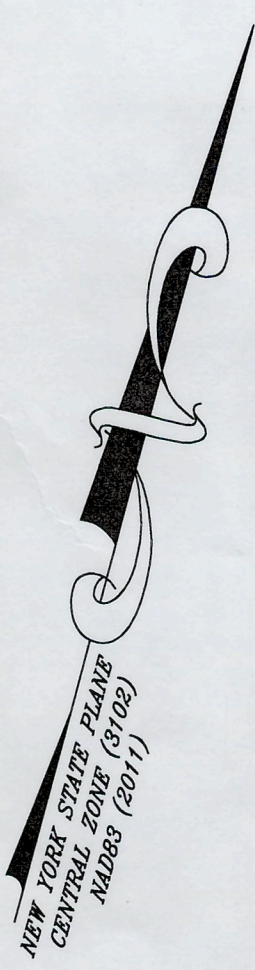
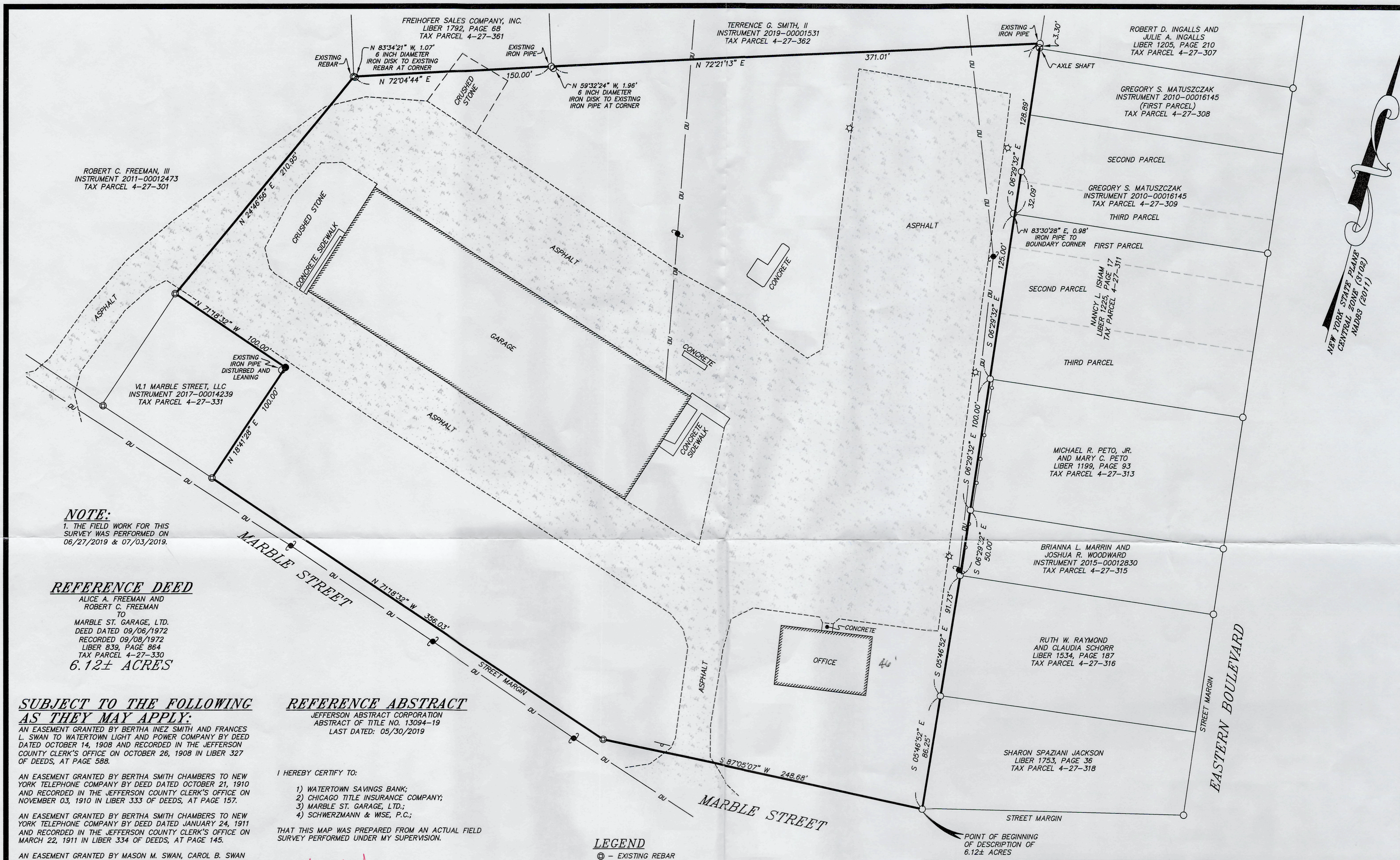
APPENDIX C:
TRAFFIC IMPACTS

07-Nov-23

ITE Trip Generation Rates - 8th Edition
Pass-by rates from ITE Trip Generation Handbook - 2nd Edition

Instructions: Enter Expected Unit Volumes into Column 'M'

Description/ITE Code	Units	ITE Vehicle Trip Generation Rates								Expected Units	Total Generated Trips			Total Distribution of Generated Trips					
		(peak hours are for peak hour of adjacent street traffic unless highlighted)									Daily	AM Hour	PM Hour	AM In	AM Out	Pass-By	PM In	PM Out	Pass-By
		Weekday	AM	PM	Pass-By	AM In	AM Out	PM In	PM Out										
Automobile Care Center 942	Service Bays	12.48	1.52	2.17		68%	32%	NA	NA	4.0	50	6	9	4	2	0	NA	NA	0



NOTE:
1. THE FIELD WORK FOR THIS SURVEY WAS PERFORMED ON 06/27/2019 & 07/03/2019.

REFERENCE DEED
ALICE A. FREEMAN AND ROBERT C. FREEMAN TO
MARBLE ST. GARAGE, LTD.
DEED DATED 09/06/1972
RECORDED 09/08/1972
LIBER 839, PAGE 864
TAX PARCEL 4-27-330
6.12± ACRES

SUBJECT TO THE FOLLOWING AS THEY MAY APPLY:
AN EASEMENT GRANTED BY BERTHA INEZ SMITH AND FRANCES L. SWAN TO WATERTOWN LIGHT AND POWER COMPANY BY DEED DATED OCTOBER 14, 1908 AND RECORDED IN THE JEFFERSON COUNTY CLERK'S OFFICE ON OCTOBER 26, 1908 IN LIBER 327 OF DEEDS, AT PAGE 588.
AN EASEMENT GRANTED BY BERTHA SMITH CHAMBERS TO NEW YORK TELEPHONE COMPANY BY DEED DATED OCTOBER 21, 1910 AND RECORDED IN THE JEFFERSON COUNTY CLERK'S OFFICE ON NOVEMBER 03, 1910 IN LIBER 333 OF DEEDS, AT PAGE 157.
AN EASEMENT GRANTED BY BERTHA SMITH CHAMBERS TO NEW YORK TELEPHONE COMPANY BY DEED DATED JANUARY 24, 1911 AND RECORDED IN THE JEFFERSON COUNTY CLERK'S OFFICE ON MARCH 22, 1911 IN LIBER 334 OF DEEDS, AT PAGE 145.
AN EASEMENT GRANTED BY MASON M. SWAN, CAROL B. SWAN AND FRANCES L. SWAN TO NORTHERN NEW YORK UTILITIES INC. BY DEED DATED MAY 04, 1927 AND RECORDED IN THE JEFFERSON COUNTY CLERK'S OFFICE ON MAY 09, 1927 IN LIBER 386 OF DEEDS, AT PAGE 17.

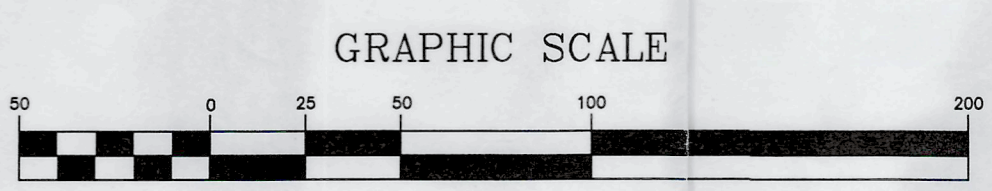
REFERENCE ABSTRACT
JEFFERSON ABSTRACT CORPORATION
ABSTRACT OF TITLE NO. 13094-19
LAST DATED: 05/30/2019

I HEREBY CERTIFY TO:
1) WATERTOWN SAVINGS BANK;
2) CHICAGO TITLE INSURANCE COMPANY;
3) MARBLE ST. GARAGE, LTD.;
4) SCHWERZMANN & WISE, P.C.;

THAT THIS MAP WAS PREPARED FROM AN ACTUAL FIELD SURVEY PERFORMED UNDER MY SUPERVISION.

Stephen J. Gracey 7/11/2019
LAFAVE, WHITE & MCGIVERN, L.S., P.C. DATE
STEPHEN J. GRACEY, P.L.S.
N.Y.S. LIC. NO. 050845

- LEGEND**
- ⊙ - EXISTING REBAR
 - - EXISTING IRON PIPE
 - - EXISTING IRON PIN (AS NOTE)
 - - 5/8 INCH REBAR WITH RED PLASTIC CAP SET
 - - UTILITY POLE
 - - OVERHEAD UTILITY LINES
 - - SIGN (SINGLE POST)
 - ☆ - LIGHT POLE



WARNING - It is a violation of Section 7209, Subdivision 2 of the New York State Education Law for any person other than a licensed land surveyor to alter this map.

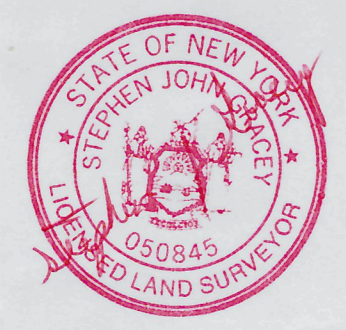
Only boundary survey maps with the surveyor's embossed seal or red ink seal are genuine true and correct copies of the surveyor's original work and opinion.

Certifications on this boundary survey map signify that the map was prepared in accordance with the current existing Code of Practice for Land Surveys adopted by the New York State Association of Professional Land Surveyors, Inc. The certification is limited to persons for whom the boundary survey map is prepared, to the title company, to the governmental agency, and to the lending institution listed on this boundary survey map.

The certifications hereon are not transferable.

The location of underground improvements or encroachments are not always known and often must be estimated. If any underground improvements or encroachments exist, they are not covered by this certificate.

(2019M-09 MARBLE STREET GARAGE LTD.DWG)
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STEPHEN J. GRACEY, P.L.S.
N.Y.S. LIC. NO. 050845

MAP OF LAND SURVEYED FOR
MARBLE ST. GARAGE, LTD.
1067 MARBLE STREET
CITY OF WATERTOWN, JEFFERSON COUNTY, NEW YORK

LAFAVE, WHITE & MCGIVERN, L.S., P.C.
LAND SURVEYORS PHOTOGRAMMETRISTS
THERESA BOONVILLE
NEW YORK

DRAWN S/JG	CHECKED R/JB	DATE 07/03/2019	SCALE 1"=50'	FILE 2019M-09	SHEET 1 OF 1
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FELT EVANS, LLP

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TOLL FREE: 1-866-FELTLAW

E. PORTER FELT
(1930-1997)

PHILIP L. EVANS
(RETIRED)

Website: <http://www.felt-evans.com>

November 8, 2023

Via E-Mail

Mark Tompkins, Design Engineer
GYMO, DPC
18969 US Route 11
Watertown, New York 13601
mtompkins@gymodpc.com

**Re: Freeman & VL1 Marble Street LLC to Hale's Bus Garage, LLC
Marble Street Garage**

Dear Mr. Tompkins:

This office represents Hale's Bus Garage, LLC. Our client is in the process of closing on tax parcels 4-27-301.000 and 4-27-331.000 owned by Robert C. Freeman and VL1 Marble Street, LLC. We are in receipt of notice that the premises may be the subject of construction of stormwater facilities on the property. By copy of this letter to attorney Todd J. Doldo, I ask for his immediate attention in closing so that you might deal solely with our client moving forward inasmuch as we can ensure the same does not interfere with our intended use of the properties.

Sincerely,

FELT EVANS, LLP

By: 

Anthony G. Hallak

AGH/lc

cc: Todd J. Doldo, Esq.
Hale's Bus Garage, LLC, Attn: Stephen Hale

Short Environmental Assessment Form

Part 1 - Project Information

Instructions for Completing

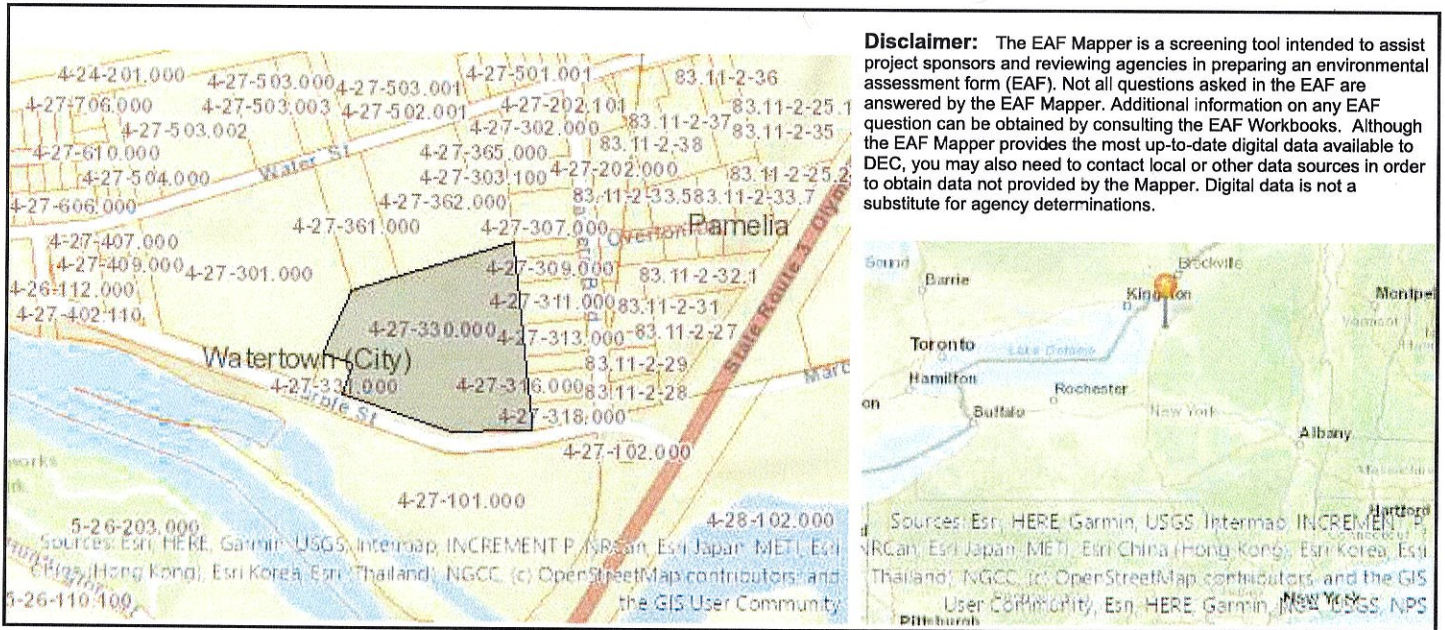
Part 1 – Project Information. The applicant or project sponsor is responsible for the completion of Part 1. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification. Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information.

Complete all items in Part 1. You may also provide any additional information which you believe will be needed by or useful to the lead agency; attach additional pages as necessary to supplement any item.

Part 1 – Project and Sponsor Information			
Name of Action or Project: Hale's Transportation Building Addition			
Project Location (describe, and attach a location map): 1067 Marble Street (Tax Parcel 4-27-330.000)			
Brief Description of Proposed Action: The proposed action includes the permitting, design, and construction of a +/- 4,500 SF addition to the existing Hale's Bus Garage facility at 1067 Marble Street. Two Area Variances would be required for the project. The parking lot / driveway would be expanded slightly to allow for traffic circulation around the expanded facility, a new holding tank would be installed for collection of floor-drain water in both the existing building and addition, and a new stormwater management area would be constructed on the neighboring parcel (also owned by Hale's Bus Garage, LLC) for the collection and attenuation of water from the new and existing building roof drains, and runoff from the new parking lot and driveway areas. Improvements to the existing building include the installation of new exterior lighting and installation of new overhead shop doors.			
Name of Applicant or Sponsor: Hale's Bus Garage, LLC. (Contact Stephen Hale)		Telephone: 315-853-8670 E-Mail: stephen@haletransportationgroup.com	
Address: 37 Kirkland Ave			
City/PO: Clinton		State: NY	Zip Code: 13323
1. Does the proposed action only involve the legislative adoption of a plan, local law, ordinance, administrative rule, or regulation? If Yes, attach a narrative description of the intent of the proposed action and the environmental resources that may be affected in the municipality and proceed to Part 2. If no, continue to question 2.		NO <input type="checkbox"/>	YES <input type="checkbox"/>
2. Does the proposed action require a permit, approval or funding from any other government Agency? If Yes, list agency(s) name and permit or approval: City of Watertown Site Plan Approval		NO <input type="checkbox"/>	YES <input checked="" type="checkbox"/>
3. a. Total acreage of the site of the proposed action?		12.85 acres	
b. Total acreage to be physically disturbed?		+/- 0.8 acres	
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor?		13.08 acres	
4. Check all land uses that occur on, are adjoining or near the proposed action:			
5. <input type="checkbox"/> Urban <input type="checkbox"/> Rural (non-agriculture) <input checked="" type="checkbox"/> Industrial <input checked="" type="checkbox"/> Commercial <input checked="" type="checkbox"/> Residential (suburban) <input type="checkbox"/> Forest <input type="checkbox"/> Agriculture <input checked="" type="checkbox"/> Aquatic <input type="checkbox"/> Other(Specify): <input type="checkbox"/> Parkland			

5. Is the proposed action,	NO	YES	N/A
a. A permitted use under the zoning regulations?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Consistent with the adopted comprehensive plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6. Is the proposed action consistent with the predominant character of the existing built or natural landscape?	NO	YES	
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
7. Is the site of the proposed action located in, or does it adjoin, a state listed Critical Environmental Area?	NO	YES	
If Yes, identify: _____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
8. a. Will the proposed action result in a substantial increase in traffic above present levels?	NO	YES	
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
b. Are public transportation services available at or near the site of the proposed action?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
c. Are any pedestrian accommodations or bicycle routes available on or near the site of the proposed action?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
9. Does the proposed action meet or exceed the state energy code requirements?	NO	YES	
If the proposed action will exceed requirements, describe design features and technologies:			
<u>Proposed building addition will meet energy code requirements</u>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
10. Will the proposed action connect to an existing public/private water supply?	NO	YES	
If No, describe method for providing potable water: _____			
The proposed building addition will connect to the existing water service from City of Watertown water infrastructure.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
11. Will the proposed action connect to existing wastewater utilities?	NO	YES	
If No, describe method for providing wastewater treatment: _____			
The proposed building addition will connect to the existing onsite septic system.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
12. a. Does the project site contain, or is it substantially contiguous to, a building, archaeological site, or district which is listed on the National or State Register of Historic Places, or that has been determined by the Commissioner of the NYS Office of Parks, Recreation and Historic Preservation to be eligible for listing on the State Register of Historic Places?	NO	YES	
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
b. Is the project site, or any portion of it, located in or adjacent to an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
13. a. Does any portion of the site of the proposed action, or lands adjoining the proposed action, contain wetlands or other waterbodies regulated by a federal, state or local agency?	NO	YES	
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
b. Would the proposed action physically alter, or encroach into, any existing wetland or waterbody?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
If Yes, identify the wetland or waterbody and extent of alterations in square feet or acres: _____			

<p>14. Identify the typical habitat types that occur on, or are likely to be found on the project site. Check all that apply:</p> <p><input type="checkbox"/> Shoreline <input type="checkbox"/> Forest <input type="checkbox"/> Agricultural/grasslands <input type="checkbox"/> Early mid-successional</p> <p><input type="checkbox"/> Wetland <input checked="" type="checkbox"/> Urban <input type="checkbox"/> Suburban</p>		
<p>15. Does the site of the proposed action contain any species of animal, or associated habitats, listed by the State or Federal government as threatened or endangered?</p> <p>Northern Long-eared Bat</p>	NO	YES
	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p>16. Is the project site located in the 100-year flood plan?</p>	NO	YES
	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p>17. Will the proposed action create storm water discharge, either from point or non-point sources?</p> <p>If Yes,</p> <p>a. Will storm water discharges flow to adjacent properties?</p> <p>b. Will storm water discharges be directed to established conveyance systems (runoff and storm drains)?</p> <p>If Yes, briefly describe:</p> <p>_____</p> <p>The proposed project would involve the construction of swales and stormwater dry ponds to treat stormwater and attenuate flows. The proposed stormwater dry pond will be located on the neighboring parcel, which is in the process of being sold to the applicant. The outfall of the dry pond will direct stormwater to the adjacent roadside ditch, and eventually flow to the Black River.</p>	NO	YES
	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p>18. Does the proposed action include construction or other activities that would result in the impoundment of water or other liquids (e.g., retention pond, waste lagoon, dam)?</p> <p>If Yes, explain the purpose and size of the impoundment: _____</p> <p>The proposed project would involve the construction of stormwater swales and stormwater dry ponds. The dry pond may fill up with stormwater during a rain event, however the pond will be designed to infiltrate and/or release stormwater at a controlled rate so that after rain events the pond holds no water.</p>	NO	YES
	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p>19. Has the site of the proposed action or an adjoining property been the location of an active or closed solid waste management facility?</p> <p>If Yes, describe: _____</p> <p>_____</p>	NO	YES
	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p>20. Has the site of the proposed action or an adjoining property been the subject of remediation (ongoing or completed) for hazardous waste?</p> <p>If Yes, describe: _____</p> <p>_____</p>	NO	YES
	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p>I CERTIFY THAT THE INFORMATION PROVIDED ABOVE IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE</p> <p>Applicant/sponsor/name: <u>Hale's Bus Garage, LLC. (Contact Stephen Hale)</u> Date: <u>10-18-23</u></p> <p>Signature: <u>Stephen E Hale</u> Title: <u>Member</u></p>		



Part 1 / Question 7 [Critical Environmental Area]	No
Part 1 / Question 12a [National or State Register of Historic Places or State Eligible Sites]	No
Part 1 / Question 12b [Archeological Sites]	Yes
Part 1 / Question 13a [Wetlands or Other Regulated Waterbodies]	Yes - Digital mapping information on local and federal wetlands and waterbodies is known to be incomplete. Refer to EAF Workbook.
Part 1 / Question 15 [Threatened or Endangered Animal]	Yes
Part 1 / Question 15 [Threatened or Endangered Animal - Name]	Northern Long-eared Bat
Part 1 / Question 16 [100 Year Flood Plain]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
Part 1 / Question 20 [Remediation Site]	No