



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: Jennifer L. Voss
SUBJECT: Site Plan Approval – VL1, VL2 and a portion of VL3 Commerce Park Drive
DATE: June 1, 2023
Request: Site Plan Approval to construct a 115,063 SF, 120-unit, four-story apartment building at **VL1, VL2 and a portion of VL3 Commerce Park Drive**, Parcel Numbers 8-50-106.000, 8-50-105.000 and the northern half of 8-50-101.009
Applicant: DePaul Properties
Proposed Use: Multifamily Apartment Building
Property Owners: Watertown Commerce LLC

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: No
Landscaping and Grading Plan: Yes	Description of Uses, Hours & Traffic Volume: Yes

SEQRA: Unlisted

Jefferson County 239-m Review: No

Zoning Information:	
District: Commercial	Maximum Lot Coverage: 90 percent
Setback Requirements: F: 10', S: 5', R: 10'	Buffer Zones Required: Yes

Project Overview: The applicant proposes to construct a 120-unit, four-story multifamily apartment building and a 90-space parking lot on the collective footprint of the two and a half subject parcels. There is an associated subdivision application that will subdivide the third parcel and subsequently assemble the

resultant parcel with the other two parcels. The building would be located at the northeast corner of the site, fronting Commerce Park Drive with surface parking in the rear. The building will be “L” shaped, as Commerce Park Drive curves to the west and the building will be configured to fit in the northeast corner of the parcel. The applicant proposes to install a curb cut on Commerce Park Drive to the south of the building, and a second curb cut in the northwest portion of the property, configured for right-in, right-out only.

Existing Conditions: The three subject parcels are currently vacant. There is a fourth parcel to the south that is currently vacant as well, with a hotel immediately to the south. Across Commerce Park Drive to the east is the United States Postal Service and across Commerce Park Drive to the north is another hotel.

The area to the west of the subject parcels is a mixture of commercial and retail uses. The entire area is zoned Commercial.

Vehicular and Pedestrian Circulation: The applicant proposes to add a curb cut to the south of the building on Commerce Park Drive allowing for two-way traffic. Additionally, a second curb cut is proposed on the northwest side of the site, to the west of the building. This will only allow for right-in and right-out traffic to avoid conflicts with the adjacent roundabout on Western Boulevard.

There is a sidewalk proposed along the frontage of the building that continues around the entire perimeter of building, however the sidewalk does not continue beyond the subject parcels. The applicant should consider providing crosswalks to the sidewalk on the opposite side of Commerce Park Drive to connect the pedestrian network. There are sidewalk connections proposed from all of the doors to the perimeter sidewalk, in order to provide safe pedestrian access from the building to the sidewalk.

Parking: The Commercial District allows a maximum of 50 parking spaces; however the applicant is proposing 94 spaces. Section 310-36 (E)(3) of the Zoning Ordinance states that:

“Over 150 percent and up to 200 percent of the maximum (parking spaces) shall require a Transportation Demand Management Plan (TDMP).”

A Transportation Demand Management Plan was included in the application. The plan states that the project’s travel demand is 60 total trips in the weekday AM peak hour and weekday PM peak hour. This is below the 100-trip threshold guidance from the NYSDOT and ITE for when a more detailed intersection analysis should be completed, therefore the site-generated traffic will not place an unreasonable burden on the existing roadway network.

The TDMP states that the project will reduce travel and parking demands on site by providing two accessible vans for residents to provide transportation to retail and groceries stores. Additionally, the project is located on the C-2 Citibus route. The applicant should consider the placement of a bus shelter along Commerce Park Drive for residents to allow them easier access to the Citibus, especially during inclement weather.

Sidewalks and bike parking are also included in the project in order to reduce the demand on vehicle usage. While the number of proposed spaces is 150% over the maximum allowed in the Zoning Ordinance, the Transportation Demand Management Plan provided in the application adequately demonstrates that the additional parking will not have a negative impact on the surrounding transportation network or be excessive for the proposed use.

As required by the Parking Standards in Section 310-37 (E), ten electric vehicle charging stations are being provided on-site. The proposed parking area design also includes sixteen ADA spaces.

Comprehensive Plan: The project is in the Interstate Commercial character area, which extends west to Interstate 81 and includes the retail areas between Arsenal and Coffeen Streets. This future land use area is characterized by large lots with most of the City's big box retailers, hotels, and chain restaurants. Noted in the character area description in the Comprehensive Plan is the need for continued build out of pedestrian and bicycle infrastructure to connect high-density residential apartment buildings.

While additional residential may not have been the intent for this character area, this project meets the vision as it is providing high-density residential while also extending the sidewalk network, allowing for better connection to the adjacent retail and commercial areas.

Zoning: The proposed apartment building is an allowed use-by-right in the Commercial District with Site Plan Approval. However, the site plan, as proposed, contains two nonconformities that could be legal only with relief in the form of Variances granted by the ZBA.

The form-based dimensional tables for the Commercial District in Section 310-21, contain requirements for building transparency and pedestrian access, each of which have not been met.

The transparency requirements in the Commercial District is 50% minimum transparency on the ground floor front façade and 30% transparency on the upper floor front and corner side façades. The applicant was only able to achieve 47% transparency on the ground floor and 28% transparency on the upper floors. The applicant must apply to the Zoning Board of Appeals for an area variance to seek relief from the transparency requirements.

Additionally, the Commercial District requirements for Pedestrian Access is one functional entryway at least every 100 feet along the front of the building. The proposed building is approximately 300 feet long, with two functional entryways proposed along the front façade, creating an entryway spacing of 132 feet. Since this is more than the maximum 100 feet without a functional entryway, the applicant must seek relief from this requirement in the form of an application to the Zoning Board of Appeals for an Area Variance.

Landscaping: The applicant submitted a full Landscaping Plan, which meets all of the Landscape and Buffer Requirements of Section 310-83. The proposed plan includes the required landscaped islands within the parking lot with two trees proposed on each of the four islands. Additionally, the exterior of the parking lot along with the building will be screened with a variety of shade trees. The exterior of the building will be adequately landscaped with a variety of shrubs and perennials, and the dumpster will be screened as well.

There are inconsistencies between the proposed planting schedule and the drawing. The Planting Schedule details 57 trees, while the drawing calls out 55 trees, however, there appears to be two trees on the northern border without species labels. The applicant should review the planting schedule and ensure that the drawing is accurate.

The street trees planned along Commerce Park Drive should not be planted in a monoculture. The applicant should break up the monoculture of Qb (swamp white oak) at the northernmost side of the property along Commerce Park Drive, and the monoculture of ArO ('October Glory' red maple) at the easternmost side of the property along Commerce Park Drive. A suggestion is to stagger the Qb and ArO in a pattern

throughout the proposed planting locations. i.e.: 3 Qb then 2 ArO or some other pattern that works to diversify the street facing trees.

The applicant is proposing Ta (*Tilia americana* ‘Redmond’) along the inner perimeter of the parking lot. This species is sensitive to salt, therefore not recommended for this type of site. A tree species with greater salt tolerance should be considered for these areas. Per City Code, the applicant will be responsible for maintaining and replacing trees required for site plan approval. Salt tolerant tree species examples that would work well for this site: Hackberry (*Celtis occidentalis*), Bur oak (*Quercus macrocarpa*) or Northern red oak (*Quercus rubra*).

SEQR: The proposed site plan and related subdivision are considered Unlisted Actions under the State Environmental Quality Review Act (SEQRA). SEQRA review for the site plan, subdivision, as well for the required area variances that the applicant is also seeking from the Zoning Board of Appeals should be completed in one review as a whole action to avoid segmentation.

The proposed project requires a permit, approval or funding from several different agencies in addition to the Planning Commission such as the Housing Finance Agency, NYS DEC, NYS OPRHP (SHPO) and the Zoning Board of Appeals. As there are other involved agencies, a coordinated SEQRA review will have to be completed. This requires transmitting a copy of the applications to the agencies and establishing a Lead Agency. Staff feels that the Planning Commission is the most appropriate agency to be designated as the Lead Agency for SEQRA.

Staff has sent a copy of the applications to the various involved agencies and has asked for their concurrence with the Planning Commission being designated as the Lead Agency. Involved agencies have 30 days to respond before the Planning Commission can designate itself as the Lead Agency and complete the SEQRA review.

The Planning Commission may discuss the site plan application with the applicant, but it will not be able to vote on it until the SEQRA review has been completed. Therefore, the application should be tabled until the next meeting. Once the SEQRA review is completed at the next meeting, the Planning Commission can make a determination of significance and then consider the site plan.

Stormwater and Drainage: A complete review of these items by the Engineering Department was not available due to unexpected staffing shortages. Prior to approval by the Planning Commission, stormwater, drainage and the Stormwater Pollution Prevention Plan (SWPPP) will be reviewed, and comments will be provided to Planning Commission members as well as the engineer and developer.

Lighting: The applicant submitted a Photometric Plan, consistent with Section 310-84 of the Zoning Ordinance requires that light trespass shall not exceed 0.5 footcandles at the property line. The plan submitted shows light poles in the parking area, with bollard style lighting near the rear entrance and courtyard. However, there is no lighting shown near the front or side entrances, which could be a safety issue for residents using those areas at night. The applicant shall consider additional lighting near entrances for pedestrian safety.

Miscellaneous: The Site Plan does not designate a snow storage area, which will negatively impact trees on the western and southern perimeters of the parking lot as snow removal operations will not have clear direction as to where to store snow. Per City Code, the applicant will be responsible for maintaining and replacing trees required for site plan approval. The applicant should designate an official snow storage area and amend the planting plan to relocate trees from obvious snow storage areas.

The proposed Site Plan encompasses the lands of two and a half parcels, which DePaul Properties does not presently own. A contingent Purchase Agreement was included with the application materials between DePaul Properties and the property owner, giving DePaul permission to obtain Site Plan and Subdivision approvals prior to closing on the purchase.

After the Subdivision plat has been approved, the applicant must assemble the subject parcels into a single parcel by way of a new metes and bounds description filed with the County Clerk. A Building Permit will not be issued prior to assemblage.

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, General City Permit for work within the ROW and a Zoning Compliance Certificate.

Planning Commission Action: Due to the need for the applicant to obtain two Variances from the ZBA and because of the coordinated SEQRA review that is required for the project, 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. The applicant should provide crosswalks to the sidewalk on the opposite side of Commerce Park Drive in order to connect the pedestrian network.
2. The applicant should consider the placement of a bus shelter along Commerce Park Drive for residents to allow them easier access to the Citibus, especially during inclement weather.
3. The applicant must obtain an Area Variance from the Zoning Board of Appeals granting relief from the transparency requirements in the Commercial District.
4. The applicant must obtain an Area Variance from the Zoning Board of Appeals granting relief from the required 100-foot between functional entryways on the front of the building.
5. The applicant shall review the planting schedule to ensure that the drawing accurately depicts the planting plan.
6. The applicant shall stagger the tree species along Commerce Park Drive so as not to create a monoculture.
7. The applicant shall replace the tree species proposed for the parking lot islands with a more salt tolerant species such as those suggested in the staff report above.
8. The applicant should consider the addition of lighting to the entrances to the building along the front and side for pedestrian safety.
9. The applicant must identify a snow storage area on the proposed plan and ensure the tree planting plan is amended so that the snow removal operations will not damage any trees.

10. The applicant shall assemble all parcels into a single parcel, as proposed, by way of a new metes and bounds description filed with the County Clerk.
11. The applicant must obtain the following permits and other documentation, minimally, prior to construction: Building Permit, Water Permit, Sanitary Sewer Permit, Storm Sewer Permit, General City Permit for work within the ROW and a Zoning Compliance Certificate.

Site Photos



Looking west from Commerce Park Drive.



Looking south from Commerce Park Drive toward Hampton Inn.



West side of proposed project location, near roundabout at Western Blvd.



cc: Thomas Maurer, Civil Engineer II
Dana Aikins, Code Enforcement Supervisor
Mark Fuller, DePaul Properties, 1931 Buffalo Road, Rochester, NY 14624
Dan Brocht, LaBella Associates, 300 State Street, Suite 201, Rochester, NY 14621

May 23, 2023

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

**RE: DePaul – Watertown Apartments
Site Plan and Subdivision applications to Planning Commission**

Mr. Lumbis:

On behalf of DePaul Properties, I am pleased to submit an application for site plan and subdivision approval for an affordable housing project being proposed on Commerce Park Drive.

DePaul Properties is seeking Site Plan approval to develop an affordable housing project on an approximately 4.45-acre site which spans across 2.5 parcels (Tax Parcels 8-50-106.000, 8-50-105.000 and the north half of 8-50-101.009), located along Commerce Park Drive at the intersection of Gaffney Drive.

The proposed affordable housing project is composed of a 120-unit, 4-story multifamily apartment building with 90 parking spaces and associated site improvements. The proposed project site is located in the City's Commercial Corridor (C) District, which permits apartment buildings pursuant to site plan review.

In conjunction with the Site Plan approval process, the project will be requesting approval to consolidate the 2.5 parcels into one parcel. A subdivision application has been included as part of this package.

Included for your consideration of our request for Site Plan and Subdivision approval are 10 complete sets of the following items:

- Cover Letter
- Site Plan application
- Subdivision application
- Boundary and Topographical Survey
- Full set of Site Design plans including
 - Cover sheet
 - General Notes and Legend sheet
 - Existing Conditions and Demolition plan
 - Site Plan
 - Utility Plans
 - Grading and Erosion Control plan



- Construction Detail sheets
- Lighting Photometric Plan
- Landscaping Plan

- Vehicular and Pedestrian Circulation Plan
- Preliminary Stormwater Pollution Prevention plan
- Preliminary Architectural Elevations
- Engineering Report
- SEQR Environmental Assessment Form (Short Form)
- Traffic Demand and Management Plan
- \$250 Site Plan Major application fee check
- Electronic copy of entire submission (PDF) (sent via separate cover on 5/23/2023)

We look forward to presenting this project to the Planning Commission on June 6th, 2023. If you have any questions or need any additional information, please feel free to contact me at 585-472-2967 or dbrocht@labellapc.com.

Respectfully submitted,

LaBella Associates

Dan Brocht
Senior Civil Engineer



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: DePaul - Watertown Apartments

TAX PARCEL NUMBER: 8-50-106.000, 8-50-105.000 & 8-50-101.009 (partial)

PROPERTY ADDRESS: VL1, VL2 and portion of VL3 Commerce Park Drive

ZONING DISTRICT: Commercial Corridor (C) District

APPLICANT INFORMATION:

NAME: DePaul Properties (Contact: Mark Fuller, President)

ADDRESS: 1931 Buffalo Rd.
Rochester, NY 14624

PHONE NUMBER: 585-426-8000

E-MAIL ADDRESS: mfuller@depaul.org

PROPERTY OWNER INFORMATION (if different from applicant):

NAME: same as Applicant

ADDRESS: _____

PHONE NUMBER: _____

E-MAIL ADDRESS: _____

ENGINEER/ARCHITECT/LANDSCAPE ARCHITECT INFORMATION:

NAME: Dan Brocht - Labella Associates

ADDRESS: 300 State St., Suite 201
Rochester, NY 14621

PHONE NUMBER: 585-454-6114

E-MAIL ADDRESS: dbrocht@labellapc.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 15 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 16 "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) Mark Fuller (Executed PSA)

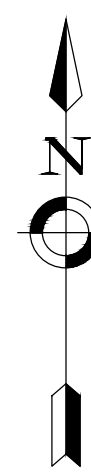
Applicant's Signature  Date: 5/23/2023

Meeting Information: The Planning Board normally meets at 3:00 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.

DEPAUL WATERTOWN APARTMENTS

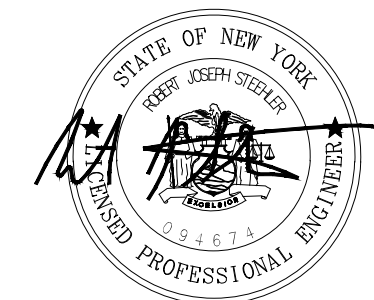
VL1, VL2, & PORTION OF VL3 COMMERCE PARK DRIVE
WATERTOWN, NY 13601



LOCATION MAP
N.T.S.

DEPAUL PROPERTIES

1931 BUFFALO ROAD
ROCHESTER, NY 14624
PROJECT NO: 2223896
MAY 2023



 **LaBella**
Powered by partnership.
300 State Street, Suite 201
Rochester, NY 14614
585-454-6110
labellapc.com



It is a violation of New York Education Law Article 145 Sec. 7209, for any person, unless acting under the direction of a licensed architect, professional engineer, or land surveyor, to alter an item in any way. If an item bearing the seal of an architect, engineer, or land surveyor is altered; the altering architect, engineer, or land surveyor shall affix to the item their seal and notation "altered by" followed by their signature and date of such alteration, and a specific description of the alteration.

DEPAUL PROPERTIES

1931 BUFFALO ROAD
ROCHESTER, NY 14624

DEPAUL WATERTOWN APARTMENTS

COMMERCE PARK DRIVE
WATERTOWN, NY 13601

NO.	DATE:	DESCRIPTION:
Revisions		

PROJECT NUMBER: 2223896

DRAWN BY: SRV

REVIEWED BY: DPB

ISSUED FOR: SITE PLAN APPROVAL

DATE: MAY 2023

DRAWING NAME:

GENERAL NOTES, LEGEND AND DRAWING INDEX

DRAWING NUMBER:

C001

GENERAL NOTES

- THE CONTRACTOR ALONE SHALL BE RESPONSIBLE TO LOCATE UTILITIES OUTSIDE THE RIGHT-OF-WAY INCLUDING PRIVATE ROADS.
- SITE DRAINAGE, INCLUDING THE PROJECT SITE AND ADJACENT PRIVATE AND PUBLIC ROADWAYS, DRIVES, PARKING AREAS OR PROPERTIES SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUPPLYING ALL MATERIALS, TOOLS AND EQUIPMENT, INCLUDING SPECIAL CUTTING DEVICES, NECESSARY TO PERFORM THE WORK CONTAINED IN THIS CONTRACT.
- THE SIZES AND MATERIAL OF CONSTRUCTION OF WATER MAINS, SANITARY SEWERS AND STORM SEWERS TO REMAIN ARE REPUTED. THE CONTRACTOR SHALL VERIFY SIZES OF ALL UTILITIES WHERE CONNECTIONS TO SAID EXISTING UTILITIES ARE REQUIRED. EXCAVATION TO VERIFY THESE UTILITIES SHALL BE MADE AT NO ADDITIONAL COST TO THE OWNER.
- THE CONTRACTOR SHALL PROTECT ALL EXISTING SITE AMENITIES NOT DESIGNATED FOR REMOVAL.
- UNLESS OTHERWISE INDICATED ON THE PLANS OR DIRECTED BY THE ARCHITECT/ENGINEER, THE CONTRACTOR IS RESPONSIBLE FOR PRESERVING AND PROTECTING FROM DAMAGE ALL TREES, SHRUBS AND PLANTS IN THE VICINITY OF THE PROPOSED WORK.
- THE CONTRACTOR SHALL PROTECT AND SUPPORT ALL EXISTING UTILITIES DESIGNATED TO REMAIN FOR THE DURATION OF THE CONTRACT.
- ANY SITE AMENITY, UTILITY, STREET APPURTENANCE, OR OTHER ITEM WHICH BECOMES DAMAGED AS A RESULT OF THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED OR REPLACED IN-KIND BY THE CONTRACTOR AS DETERMINED BY THE PROJECT MANAGER OR ARCHITECT/ENGINEER AND AT NO ADDITIONAL COST TO THE OWNER.

SURVEY NOTES

- CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO BID. NO ALLOWANCE WILL BE MADE FOR ADDITIONAL COSTS DUE TO CONTRACTOR'S FAILURE TO VERIFY EXISTING CONDITIONS.
- THE CONTRACTOR SHALL LOCATE, MARK, SAFEGUARD AND PRESERVE ALL SURVEY MARKERS AND RIGHT-OF-WAY MARKERS IN THE AREA OF CONSTRUCTION.
- ANY IRON PINS, MONUMENTS OR OTHER ITEMS DEFINING PROPERTY LINES WHICH ARE DISTURBED BY CONSTRUCTION OPERATIONS SHALL BE PROPERLY TIED AND ACCURATELY RESET BY A NYS LICENSED SURVEYOR UPON COMPLETION OF THE WORK.
- A SURVEY HAS BEEN COMPLETED BY COSTICH ENGINEERING D.P.C., DATED 02/06/2023.
- HORIZONTAL DATUM BASED OFF NAD83.
- VERTICAL BASED OFF OF NAVD88.

DEMOLITION NOTES

- CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO BID. NO ALLOWANCE WILL BE MADE FOR ADDITIONAL COSTS DUE TO CONTRACTOR'S FAILURE TO VERIFY EXISTING CONDITIONS AND DIMENSIONS.
- PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY DIG SAFE NEW YORK AT 811 TO REQUEST UTILITY STAKEOUT OF ALL PUBLIC UTILITIES.
- THE HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING ABOVE GROUND AND BELOW GROUND UTILITIES, STRUCTURES, AND APPURTENANCES SHOWN ON THE PLANS ARE APPROXIMATE AND ARE NOT GUARANTEED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT HORIZONTAL AND VERTICAL LOCATION OF ALL UTILITIES, STRUCTURES, AND APPURTENANCES IN THE PATH OF AND ADJACENT TO THE PROPOSED WORK.
- SITE DRAINAGE, INCLUDING THE PROJECT SITE AND ADJACENT PRIVATE AND PUBLIC ROADWAYS, DRIVES, PARKING AREAS OR PROPERTIES SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD.
- CONTRACTOR SHALL PROTECT AND SUPPORT ALL EXISTING UTILITIES DESIGNATED TO REMAIN FOR THE DURATION OF THE CONTRACT.
- THE CONTRACTOR SHALL NOTIFY THE LOCAL GOVERNMENT, LOCAL FIRE DEPARTMENT AND THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION (NYSDEC) AS NECESSARY AND SHALL OBTAIN ANY REQUIRED PERMITS PRIOR TO BEGINNING WORK. COPIES OF ANY REQUIRED PERMITS SHALL BE PROVIDED TO THE OWNER PRIOR TO BEGINNING THE WORK.
- CONTRACTOR SHALL REMOVE FROM SITE, MATERIALS NOT INDICATED TO BE SALVAGED INCLUDING ALL DEBRIS. ALL REMOVED MATERIALS SHALL BECOME THE PROPERTY OF CONTRACTOR WHO SHALL LEGALLY DISPOSE OF SAME.
- ALL TREES, SHRUBS AND PLANTS DESIGNATED TO REMAIN AND DISTURBED BY CONSTRUCTION OPERATIONS, SHALL BE REPLACED IN-KIND AS DIRECTED BY THE ARCHITECT/ENGINEER AND/OR OWNER'S DESIGNATED REPRESENTATIVE AT NO ADDITIONAL COST TO THE OWNER.
- THE CONTRACTOR SHALL MAINTAIN SAFE VEHICULAR AND PEDESTRIAN ACCESS TO THE EXISTING BUILDINGS FOR THE DURATION OF THE CONTRACT.
- WHEN EXISTING CONSTRUCTION WHICH IS TO REMAIN IS DAMAGED DURING THE COURSE OF CONSTRUCTION AS A RESULT OF CONTRACTORS WORK, IT SHALL BE REPAIRED AND/OR REPLACED WITH SIMILAR OR LIKE MATERIALS AS MUCH AS POSSIBLE, AT NO COST TO THE OWNER. ALL REPAIRS AND/OR REPLACEMENTS WILL BE SUBJECT TO OWNERS APPROVAL.
- COORDINATE LOCATION OF TEMPORARY CONSTRUCTION FENCE AND TEMPORARY STONE STAGING AREA WITH OWNER

SITE NOTES

- WELL COMPACTED SUBGRADE SHALL BE UTILIZED UNDERNEATH CONSTRUCTION OF PAVEMENT AND CONCRETE BASES.
- ALL STAKEOUT FOR THE PROPOSED SITE IMPROVEMENTS SHALL BE COMPLETED BY A NEW YORK STATE LICENSED LAND SURVEYOR.
- IF ANY DISCREPANCIES ARE NOTED BETWEEN THESE CONSTRUCTION DOCUMENTS AND INFORMATION PROVIDED OR AN ERROR IS SUSPECT, IT SHALL BE IMMEDIATELY REPORTED TO THE CONSTRUCTION MANAGER AND LABELLA ASSOCIATES PROJECT MANAGER IN WRITING.
- ANY PROOF-ROLLING OF EXPOSED SUBBASE BY A MINIMUM 10 TON SMOOTH DRUM ROLLER SHALL BE DONE UNDER THE GUIDANCE OF, AND OBSERVED BY, QUALIFIED ENGINEERING PERSONNEL PRIOR TO PLACEMENT OF SUBBASE MATERIAL. THE ROLLER SHOULD BE OPERATED IN THE STATIC MODE AND COMPLETE AT LEAST TWO (2) PASSES OVER THE EXPOSED SUBGRADES.

UTILITY NOTES

- CONTRACTOR SHALL COORDINATE INSTALLATION OF WATER MAIN / WATER SERVICE WITH JEFFERSON COUNTY WATER AUTHORITY (JCWA) AND THE JEFFERSON COUNTY HEALTH DEPARTMENT (JCDOH). NO WORK SHALL BEGIN ON THE WATER MAIN / WATER SERVICE WITHOUT JCWA AND JCDOH SIGNATURES ON THE UTILITY PLAN.
- CONTRACTOR SHALL COORDINATE INSTALLATION OF SANITARY MAIN / SANITARY SERVICE WITH JEFFERSON COUNTY PURE WATERS (JCPW). NO WORK SHALL BEGIN ON THE SANITARY MAIN / SANITARY SERVICE WITHOUT JCPW SIGNATURE ON THE UTILITY PLAN.

GRADING NOTES

- THE CONTRACTOR SHALL CONFORM TO THE REQUIREMENTS OF OSHA, AND ANY OTHER AGENCY HAVING JURISDICTION WITH REGARD TO SAFETY PRECAUTIONS WITH TRENCHING OPERATIONS. THE REQUIREMENTS SET FORTH HEREIN ARE INTENDED TO SUPPLEMENT REQUIREMENTS ESTABLISHED BY THESE AGENCIES. IN THE CASE OF A CONFLICT BETWEEN REQUIREMENTS OF OTHER JURISDICTIONAL AGENCIES AND THESE DOCUMENTS, THE MORE STRINGENT REQUIREMENT ON THE CONTRACTOR SHALL APPLY.
- SHEETING, IF REQUIRED DURING CONSTRUCTION, IS CONSIDERED TO BE PART OF THIS CONTRACT AND SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.
- ALL TRENCHES THROUGH PAVEMENT SHALL BE SAW CUT PRIOR TO EXCAVATION AND AGAIN PRIOR TO PAVEMENT RESTORATION.
- CONTRACTOR SHALL ADJUST THE RIMS OF ALL MANHOLES, CATCH BASINS, VALVE BOXES AND OTHER UTILITY SITE STRUCTURES TO MEET FINISHED GRADE IN AREAS REQUIRING REPAVING OR REGRADING AS PART OF THE WORK, INCLUDING THOSE THAT MAY NOT BE SHOWN ON THE PLANS.
- VOIDS LEFT BY UTILITY OR STRUCTURE REMOVAL OR GRUBBING OPERATIONS SHALL BE BACKFILLED AND PROPERLY COMPACTED WITH STRUCTURAL FILL (NYS DOT ITEM 304.12) IN AREAS UNDER AND WITHIN 5 FEET HORIZONTALLY OF ALL STRUCTURES, BUILDINGS AND PAVEMENTS. IN GRASSED AREAS, VOIDS LEFT SHALL BE FILLED AND PROPERLY COMPACTED WITH SUITABLE ON-SITE OR IMPORTED EARTHEN BACKFILL. ALL DISTURBED AREAS SHALL BE RESTORED.
- THE CONTRACTOR SHALL DEWATER ALL EXCAVATIONS TO PREVENT THE INTRODUCTION OF GROUNDWATER INTO THE TRENCHES/EXCAVATIONS. PROVIDE ALL EQUIPMENT NECESSARY TO MAINTAIN THE GROUNDWATER LEVEL AS NECESSARY.
- THE CONTRACTOR SHALL PLACE AT MINIMUM 6 INCHES OF CLEANED SCREENED TOPSOIL IN ALL DISTURBED AREAS PRIOR TO SEEDING.

EROSION AND SEDIMENT CONTROL NOTES

- ALL EROSION CONTROL MEASURES SHALL BE IN ACCORDANCE WITH NEW YORK STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL, AND LOCAL GOVERNING SOIL AND WATER CONSERVATION AGENCY RECOMMENDATIONS AND STANDARDS. CONTRACTOR SHALL SUBMIT PROPOSED EROSION CONTROL PLAN INCLUDING SEQUENCING OF WORK TO THE ENGINEER FOR REVIEW PRIOR TO START OF WORK.
- UTILIZE CONSTRUCTION METHODS/TECHNIQUES, WHICH WILL LIMIT THE EXPOSED EARTHEN AREAS AND MINIMIZE THE EFFECT OF EARTH DISTURBANCE ACTIVITIES ON SOIL EROSION. THE AREA OF DISTURBANCE SHALL BE LIMITED TO A MAXIMUM OF 5 ACRES UNLESS OTHERWISE APPROVED BY THE ENGINEER.
- ALL SEDIMENTATION BARRIERS AND OTHER TEMPORARY OR PERMANENT MEASURES SHALL BE IN PLACE PRIOR TO THE START OF CONSTRUCTION. PLANS SHOW THE SUGGESTED MINIMUM MEASURES REQUIRED.
- REMOVAL OF ALL TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE COMPLETED AT THE APPROVAL OF THE OWNER AND ENGINEER. THE COST OF REMOVING THESE MEASURES SHALL ALSO BE INCLUDED IN THE BID PRICE.
- FOR THE DURATION OF THE PROJECT, THE CONTRACTOR SHALL PROTECT ALL ON-SITE, ADJACENT AND/OR DOWNSTREAM STORMS/SANITARY SEWERS, AND/OR OTHER WATER COURSES FROM CONTAMINATION BY WATER BORNE SILTS, SEDIMENTS, FUELS, SOLVENTS, LUBRICANTS OR OTHER POLLUTANTS ORIGINATING FROM ANY WORK DONE ON, OR IN SUPPORT OF THIS PROJECT.
- DURING CONSTRUCTION NO WET OR FRESH CONCRETE OR LEACHATE SHALL BE ALLOWED TO ESCAPE INTO STORMS/SANITARY SEWERS, DITCHES OR OTHER WATERS OF NEW YORK STATE. NOR SHALL WASHINGS FROM CONCRETE TRUCKS, MIXERS OR OTHER DEVICES BE ALLOWED TO ENTER ANY STORMS/SANITARY SEWERS, DITCHES, RIVERS, OR WATER COURSES.
- ALL EXCAVATED OR IMPORTED EARTHEN STOCKPILES SHALL BE SUITABLY STABILIZED AND PROTECTED BY SILT FENCE SO THAT IT CANNOT REASONABLY ENTER ANY WATER BODY, OR STORM OR SANITARY SEWER.
- ALL METHODS AND EQUIPMENT PROPOSED BY THE CONTRACTOR TO ACCOMPLISH THE WORK FOR EROSION AND POLLUTION CONTROL SHALL BE SUBJECT TO APPROVAL OF THE ENGINEER.
- THE CONTRACTOR SHALL BE REQUIRED TO TREAT TRAVELED AREAS TO CONTROL DUST. WATER SHALL BE APPLIED TO SUCH TRAVELED AREAS AS THE ARCHITECT/ENGINEER OR OWNER'S DESIGNATED REPRESENTATIVE MAY DESIGNATE. THE NUMBER OF APPLICATIONS AND THE AMOUNT OF WATER SHALL BE BASED UPON FIELD AND WEATHER CONDITIONS.
- ALL AREAS OF SOIL DISTURBANCE RESULTING FROM THIS PROJECT WHICH WILL NOT BE SUBJECT TO FURTHER EARTHWORK OR CONSTRUCTION ACTIVITIES SHALL BE PERMANENTLY SEEDDED TO ESTABLISH GRASS, AND MULCHED WITH HAY OR STRAW WITHIN ONE WEEK OF FINAL DISTURBANCE. MULCH SHALL BE MAINTAINED UNTIL A SUITABLE VEGETATIVE COVER IS ESTABLISHED.
- CONTRACTOR STAGING AREAS AND CONSTRUCTION ENTRANCE LOCATIONS SHALL BE COORDINATED WITH THE OWNER PRIOR TO START OF CONSTRUCTION. STABILIZED CONSTRUCTION ENTRANCE(S), AS SHOWN ON THE PLANS SHALL BE PROVIDED. ALL DISTURBED AREAS SHALL BE RESTORED.
- ALL CATCH BASINS/DRAINAGE INLETS SHALL HAVE STONED INLET PROTECTION AROUND THEM AND GEOTEXTILE FABRIC OVER THE GRATE TO PREVENT SEDIMENTATION FROM ENTERING THE STORM SYSTEM.
- TILL ALL COMPACTED SOILS LOCATED IN LAWN AREAS TO RESTORE THE ORIGINAL PROPERTIES OF THE SOIL PRIOR TO SEEDING.

CITY OF WATERTOWN 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 TO 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.
- ALL WATER MAIN AND SERVICE WORK MUST BE COORDINATED WITH THE CITY OF WATERTOWN WATER DEPARTMENT REQUIREMENTS SUPERSEDE ALL OTHER PLANS AND SPECIFICATIONS PROVIDED.

LEGEND

EXISTING	PROPOSED	DESCRIPTION	EXISTING	PROPOSED	DESCRIPTION
		PROJECT BENCHMARK / CONTRAL POINTS			END SECTION
		WETLAND			CATCH BASIN
		WETLAND BUFFER			DRAIN BASIN
		BORING LOCATIONS			INLET MANHOLE
		OBJECT REMOVAL_2			MANHOLE (SOLID COVER)
		REMOVAL UTILITY			INLET DRYWELL
		REMOVAL FENCE			CLEAN OUT
		SAWCUT			DOWN SPOUT
		TREE PROTECTION			HYDRANT
		FENCE, CHAIN LINK			VALVE
		TREE/VEGETATION LIMIT			SAMPLING TAP
		BUILDING/STRUCTURE			(OTHER) FLOW ARROW
		SUBJECT PROPERTY LINE			TELEPHONE LINE
		PROPERTY LINE			OVERHEAD ELECTRIC
		SETBACK LINE			POWER LINE
		EASEMENTS			UNDERGROUND ELECTRIC
		RIGHT-OF-WAY			GAS LINE
		BOLLARD			SANITARY LINE
		FLAG POLE			SANITARY FORCEMAIN
		SIGN			STORM LINE
		SIGN MOUNTED ON BOLLARD			STORM UNDERDRAIN PIPE
		DECIDUOUS TREE			WATER LINE
		CONIFEROUS TREE			MAJOR CONTOUR
		TREE STUMP			MINOR CONTOUR
		OUTLET PROTECTION			EROSION SILT FENCE OR FILTER SOCK AS NOTED
		BIORETENTION			FLOW/SLOPE DIRECTION
		BOLLARD LIGHT POLE			SILT SOCK INLET PROTECTION
		LIGHT POLE SINGLE			SILT FENCE INLET PROTECTION
		LIGHT POLE DOUBLE			CHECK DAM
		LIGHT POLE TRIPLE			STABILIZED CONSTRUCTION ENTRANCE (TEMPORARY)
		LIGHT POLE QUAD			
		UTILITY POLE			
		UTILITY POLE WITH LIGHT			
		HANDHOLE			
		MANHOLE			

DRAWING INDEX

C001 GENERAL NOTES, LEGEND, AND DRAWING INDEX

C101 EXISTING CONDITIONS AND DEMOLITION PLAN

C201 SITE PLAN

C301 UTILITY PLAN

C302 UTILITY PLAN

C401 GRADING AND EROSION CONTROL PLAN

C501 CONSTRUCTION DETAILS

C502 CONSTRUCTION DETAILS

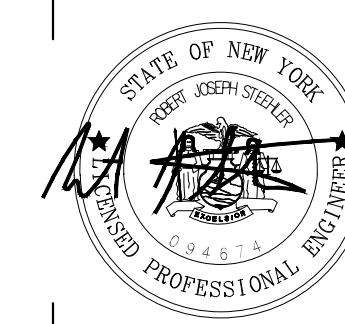
C503 CONSTRUCTION DETAILS

C504 CONSTRUCTION DETAILS

C505 CONSTRUCTION DETAILS

E100 LIGHTING PLAN

L-100 LANDSCAPE PLAN



It is a violation of New York Education Law Article 145 Sec. 7209, for any person, unless acting under the direction of a licensed architect, professional engineer, or land surveyor, to alter an item in any way. If an item bearing the seal of an architect, engineer, or land surveyor is altered; the altering architect, engineer, or land surveyor shall affix to the item their seal and notation "altered by" followed by their signature and date of such alteration, and a specific description of the alteration.

© 2022 LaBella Associates

DEPAUL PROPERTIES

1931 BUFFALO ROAD
ROCHESTER, NY 14624

DEPAUL WATERTOWN APARTMENTS

COMMERCE PARK DRIVE
WATERTOWN, NY 13601

NO.	DATE	DESCRIPTION

PROJECT NUMBER: 2223896

DRAWN BY: OLA/SCB/SRV

REVIEWED BY: DPB

ISSUED FOR: SITE PLAN APPROVAL

DATE: MAY 2023

DRAWING NAME:

SITE PLAN

DRAWING NUMBER:

C201

PROJECT DATA

PARCEL INFORMATION

APPLICANT/OWNER: DEPAUL PROPERTIES
1931 BUFFALO ROAD
ROCHESTER, NY 14624

PARCEL ADDRESS: COMMERCE PARK DR (V1 & V12)
WATERTOWN, NY 13601

TAX NUMBER: 8-50-106.00 & 8-50-105.00
& 8-50-101.009

PARCEL AREA: 4.4 ACRES (TOTAL)

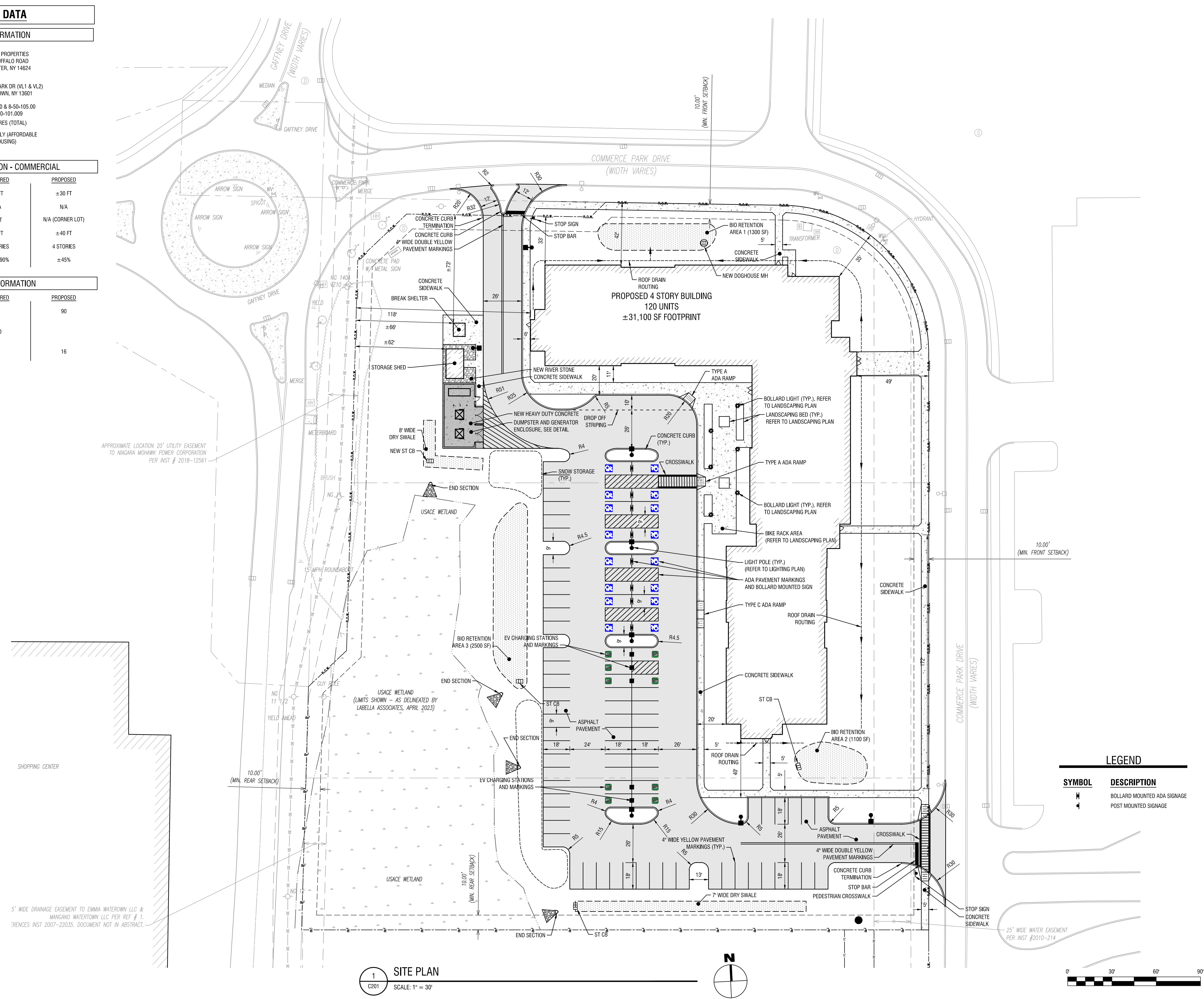
PROPOSED USE: MULTI-FAMILY (AFFORDABLE HOUSING)

ZONING INFORMATION - COMMERCIAL

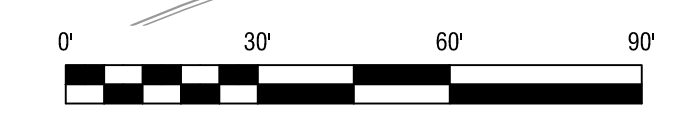
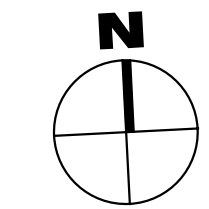
	REQUIRED	PROPOSED
MIN FRONT SETBACK	10 FT	±30 FT
MAX FRONT SETBACK	N/A	N/A
MIN SIDE SETBACK	5 FT	N/A (CORNER LOT)
MIN REAR SETBACK	10 FT	±40 FT
MAX BUILDING HEIGHT	4 STORIES	4 STORIES
MAX LOT COVERAGE	70% - 90%	±45%

PARKING INFORMATION

	REQUIRED	PROPOSED
MAXIMUM PARKING	50	90
MAXIMUM PARKING WITH TRAFFIC DEMAND MANAGEMENT PLAN (TOMP)	100	
ACCESSIBLE SPACES	4	16



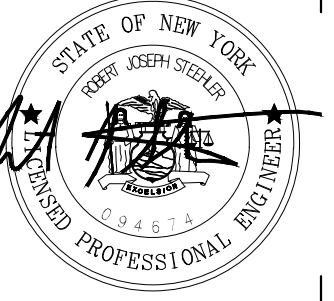
1 SITE PLAN
SCALE: 1" = 30'



5/23/2023 1:25:29 PM J:\SWR\Projects\2223896 - DePaul Watertown\05_Drawings\Civil\C201 SITE PLAN.dwg

5' WIDE DRAINAGE EASEMENT TO EMMA WATEROWN LLC & MANGANO WATERTOWN LLC PER REF # 1. REFERENCES INST 2007-22035. DOCUMENT NOT IN ABSTRACT.

APPROXIMATE LOCATION 20' UTILITY EASEMENT TO NIAGARA MOHAWK POWER CORPORATION PER INST # 2018-12561



It is a violation of New York Education Law Article 145 Sec. 7209, for any person, unless acting under the direction of a licensed architect, professional engineer, or land surveyor, to alter an item in any way. If an item bearing the seal of an architect, engineer, or land surveyor is altered; the altering architect, engineer, or land surveyor shall affix to the item their seal and notation "altered by" followed by their signature and date of such alteration, and a specific description of the alteration.

© 2022 LaBella Associates

DEPAUL PROPERTIES

1931 BUFFALO ROAD
ROCHESTER, NY 14624

DEPAUL WATERTOWN APARTMENTS

COMMERCE PARK DRIVE
WATERTOWN, NY 13601

NO.	DATE	DESCRIPTION
Revisions		

PROJECT NUMBER: 2223896

DRAWN BY: OLA/SCB/SRV

REVIEWED BY: DPB

ISSUED FOR: SITE PLAN APPROVAL

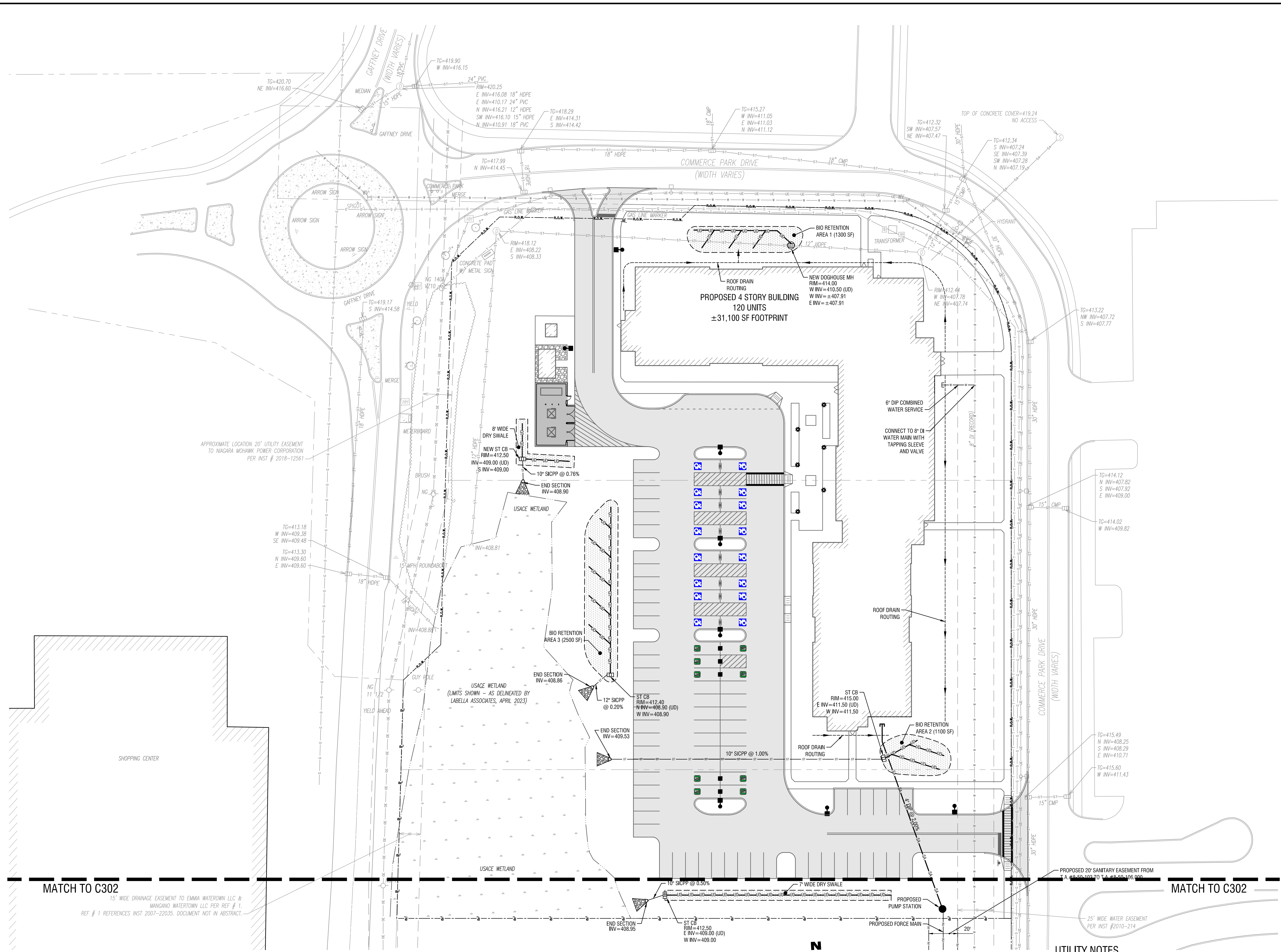
DATE: MAY 2023

DRAWING NAME:

UTILITY PLAN

DRAWING NUMBER:

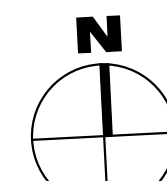
C301



MATCH TO C302

MATCH TO C302

1
C301
UTILITY PLAN
SCALE: 1" = 30'



UTILITY NOTES

1. 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.

15' WIDE DRAINAGE EASEMENT TO EMMA WATERTOWN LLC & MANGANO WATERTOWN LLC PER REF # 1.
REF # 1 REFERENCES INST 2007-22035. DOCUMENT NOT IN ABSTRACT.

PROPOSED 20" SANITARY EASEMENT FROM T.A. 48-50-109.70 T.A. 48-50-106.000

25' WIDE WATER EASEMENT PER INST #2010-214

APPROXIMATE LOCATION 20' UTILITY EASEMENT TO NIAGARA MOHAWK POWER CORPORATION PER INST # 2018-12561

USACE WETLAND (LIMITS SHOWN - AS DELINEATED BY LABELLA ASSOCIATES, APRIL 2023)

SHOPPING CENTER

PROPOSED 4 STORY BUILDING
120 UNITS
±31,100 SF FOOTPRINT

ST CB
RIM=412.40
+ INV=408.90 (UD)
W INV=408.90

ST CB
RIM=415.00
E INV=411.50 (UD)
W INV=411.50

ST CB
RIM=412.50
E INV=409.00 (UD)
W INV=409.00

NEW ST CB
RIM=412.50
INV=409.00 (UD)
S INV=409.00

ST CB
RIM=412.40
+ INV=408.90 (UD)
W INV=408.90

ST CB
RIM=412.40
+ INV=408.90 (UD)
W INV=408.90

ST CB
RIM=412.40
+ INV=408.90 (UD)
W INV=408.90

ST CB
RIM=412.40
+ INV=408.90 (UD)
W INV=408.90

ST CB
RIM=412.40
+ INV=408.90 (UD)
W INV=408.90

ST CB
RIM=412.40
+ INV=408.90 (UD)
W INV=408.90

ST CB
RIM=412.40
+ INV=408.90 (UD)
W INV=408.90

ST CB
RIM=412.40
+ INV=408.90 (UD)
W INV=408.90

ST CB
RIM=412.40
+ INV=408.90 (UD)
W INV=408.90

ST CB
RIM=412.40
+ INV=408.90 (UD)
W INV=408.90

ST CB
RIM=412.40
+ INV=408.90 (UD)
W INV=408.90

ST CB
RIM=412.40
+ INV=408.90 (UD)
W INV=408.90

ST CB
RIM=412.40
+ INV=408.90 (UD)
W INV=408.90

ST CB
RIM=412.40
+ INV=408.90 (UD)
W INV=408.90

ST CB
RIM=412.40
+ INV=408.90 (UD)
W INV=408.90

ST CB
RIM=412.40
+ INV=408.90 (UD)
W INV=408.90

ST CB
RIM=412.40
+ INV=408.90 (UD)
W INV=408.90

ST CB
RIM=412.40
+ INV=408.90 (UD)
W INV=408.90

ST CB
RIM=412.40
+ INV=408.90 (UD)
W INV=408.90

ST CB
RIM=412.40
+ INV=408.90 (UD)
W INV=408.90

ST CB
RIM=412.40
+ INV=408.90 (UD)
W INV=408.90

ST CB
RIM=412.40
+ INV=408.90 (UD)
W INV=408.90

ST CB
RIM=412.40
+ INV=408.90 (UD)
W INV=408.90

ST CB
RIM=412.40
+ INV=408.90 (UD)
W INV=408.90

ST CB
RIM=412.40
+ INV=408.90 (UD)
W INV=408.90

ST CB
RIM=412.40
+ INV=408.90 (UD)
W INV=408.90

ST CB
RIM=412.40
+ INV=408.90 (UD)
W INV=408.90

ST CB
RIM=412.40
+ INV=408.90 (UD)
W INV=408.90

ST CB
RIM=412.40
+ INV=408.90 (UD)
W INV=408.90

ST CB
RIM=412.40
+ INV=408.90 (UD)
W INV=408.90

ST CB
RIM=412.40
+ INV=408.90 (UD)
W INV=408.90

ST CB
RIM=412.40
+ INV=408.90 (UD)
W INV=408.90

ST CB
RIM=412.40
+ INV=408.90 (UD)
W INV=408.90

ST CB
RIM=412.40
+ INV=408.90 (UD)
W INV=408.90

ST CB
RIM=412.40
+ INV=408.90 (UD)
W INV=408.90

ST CB
RIM=412.40
+ INV=408.90 (UD)
W INV=408.90

ST CB
RIM=412.40
+ INV=408.90 (UD)
W INV=408.90

ST CB
RIM=412.40
+ INV=408.90 (UD)
W INV=408.90

ST CB
RIM=412.40
+ INV=408.90 (UD)
W INV=408.90

ST CB
RIM=412.40
+ INV=408.90 (UD)
W INV=408.90

ST CB
RIM=412.40
+ INV=408.90 (UD)
W INV=408.90

ST CB
RIM=412.40
+ INV=408.90 (UD)
W INV=408.90

ST CB
RIM=412.40
+ INV=408.90 (UD)
W INV=408.90

ST CB
RIM=412.40
+ INV=408.90 (UD)
W INV=408.90

ST CB
RIM=412.40
+ INV=408.90 (UD)
W INV=408.90

ST CB
RIM=412.40
+ INV=408.90 (UD)
W INV=408.90

ST CB
RIM=412.40
+ INV=408.90 (UD)
W INV=408.90

ST CB
RIM=412.40
+ INV=408.90 (UD)
W INV=408.90

ST CB
RIM=412.40
+ INV=408.90 (UD)
W INV=408.90

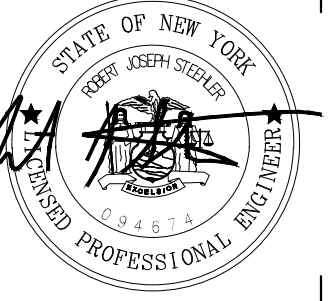
ST CB
RIM=412.40
+ INV=408.90 (UD)
W INV=408.90

ST CB
RIM=412.40
+ INV=408.90 (UD)
W INV=408.90

ST CB
RIM=412.40
+ INV=408.90 (UD)
W INV=408.90

ST CB
RIM=412.40
+ INV=408.90 (UD)
W INV=408.90

ST CB
RIM=412.40
+ INV=408.90 (UD)
W INV=408.90



It is a violation of New York Education Law Article 145 Sec. 7209, for any person, unless acting under the direction of a licensed architect, professional engineer, or land surveyor, to alter an item in any way. If an item bearing the seal of an architect, engineer, or land surveyor is altered; the altering architect, engineer, or land surveyor shall affix to the item their seal and notation "altered by" followed by their signature and date of such alteration, and a specific description of the alteration.

© 2022 LaBella Associates

DEPAUL PROPERTIES

1931 BUFFALO ROAD
ROCHESTER, NY 14624

DEPAUL WATERTOWN APARTMENTS

COMMERCE PARK DRIVE
WATERTOWN, NY 13601

NO.	DATE	DESCRIPTION
Revisions		

PROJECT NUMBER: 2223896

DRAWN BY: OLA/SCB/SRV

REVIEWED BY: DPB

ISSUED FOR: SITE PLAN APPROVAL

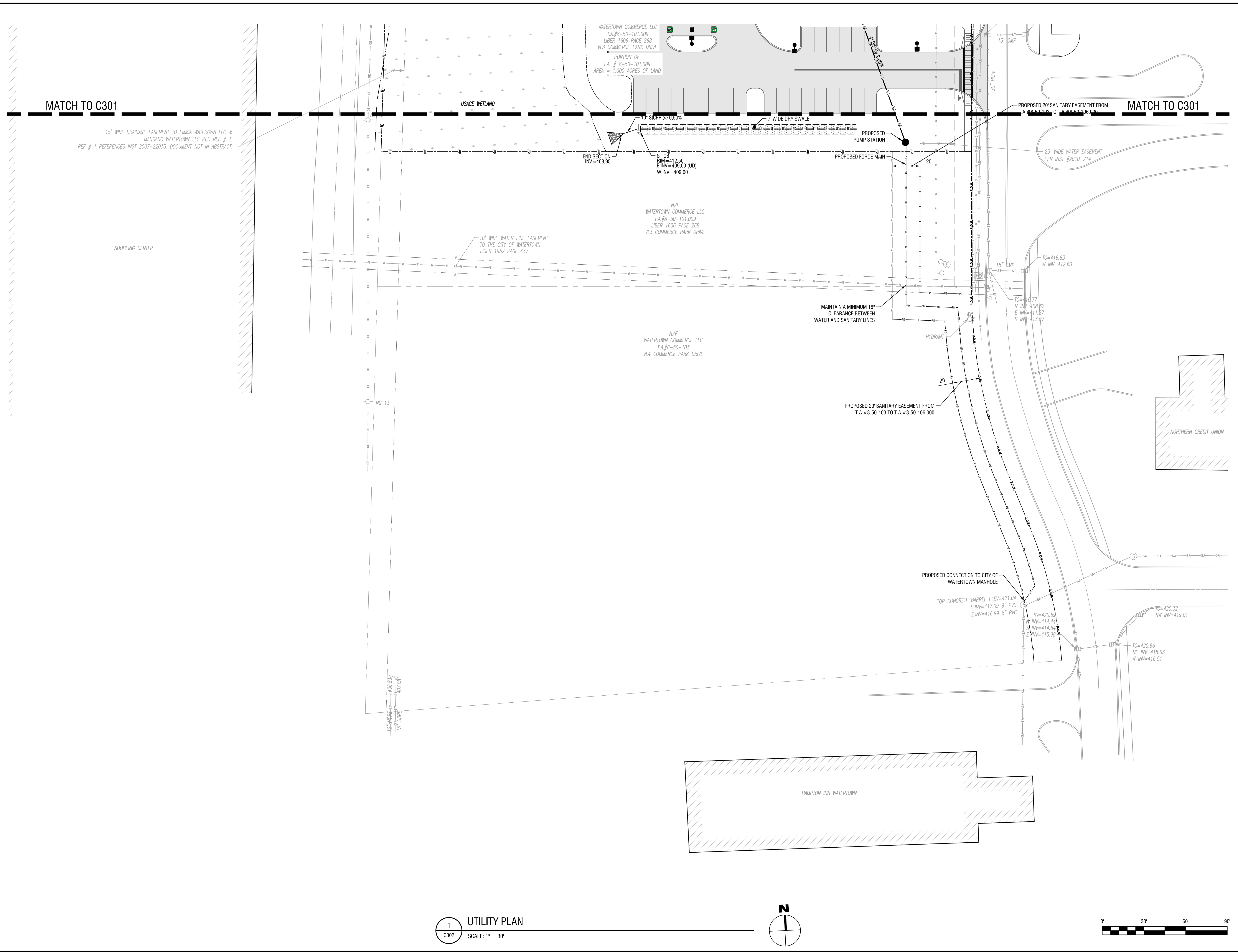
DATE: MAY 2023

DRAWING NAME:

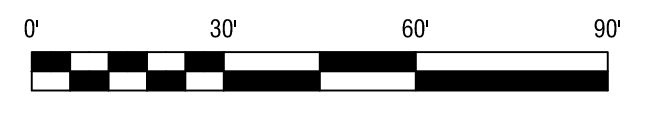
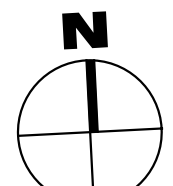
UTILITY PLAN

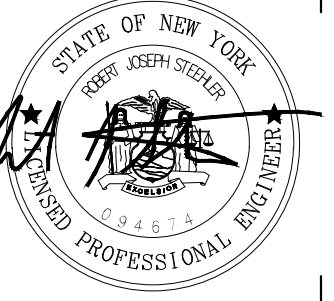
DRAWING NUMBER:

C302



1
C302
UTILITY PLAN
SCALE: 1" = 30'





It is a violation of New York Education Law Article 145 Sec. 7209, for any person, unless acting under the direction of a licensed architect, professional engineer, or land surveyor, to alter an item in any way. If an item bearing the seal of an architect, engineer, or land surveyor is altered; the altering architect, engineer, or land surveyor shall affix to the item their seal and notation "altered by" followed by their signature and date of such alteration, and a specific description of the alteration.

© 2022 LaBella Associates

DEPAUL PROPERTIES

1931 BUFFALO ROAD
ROCHESTER, NY 14624

DEPAUL WATERTOWN APARTMENTS

COMMERCE PARK DRIVE
WATERTOWN, NY 13601

NO.	DATE	DESCRIPTION
Revisions		

PROJECT NUMBER: 2223896

DRAWN BY: OLA/SCB/SRV

REVIEWED BY: DPB

ISSUED FOR: SITE PLAN APPROVAL

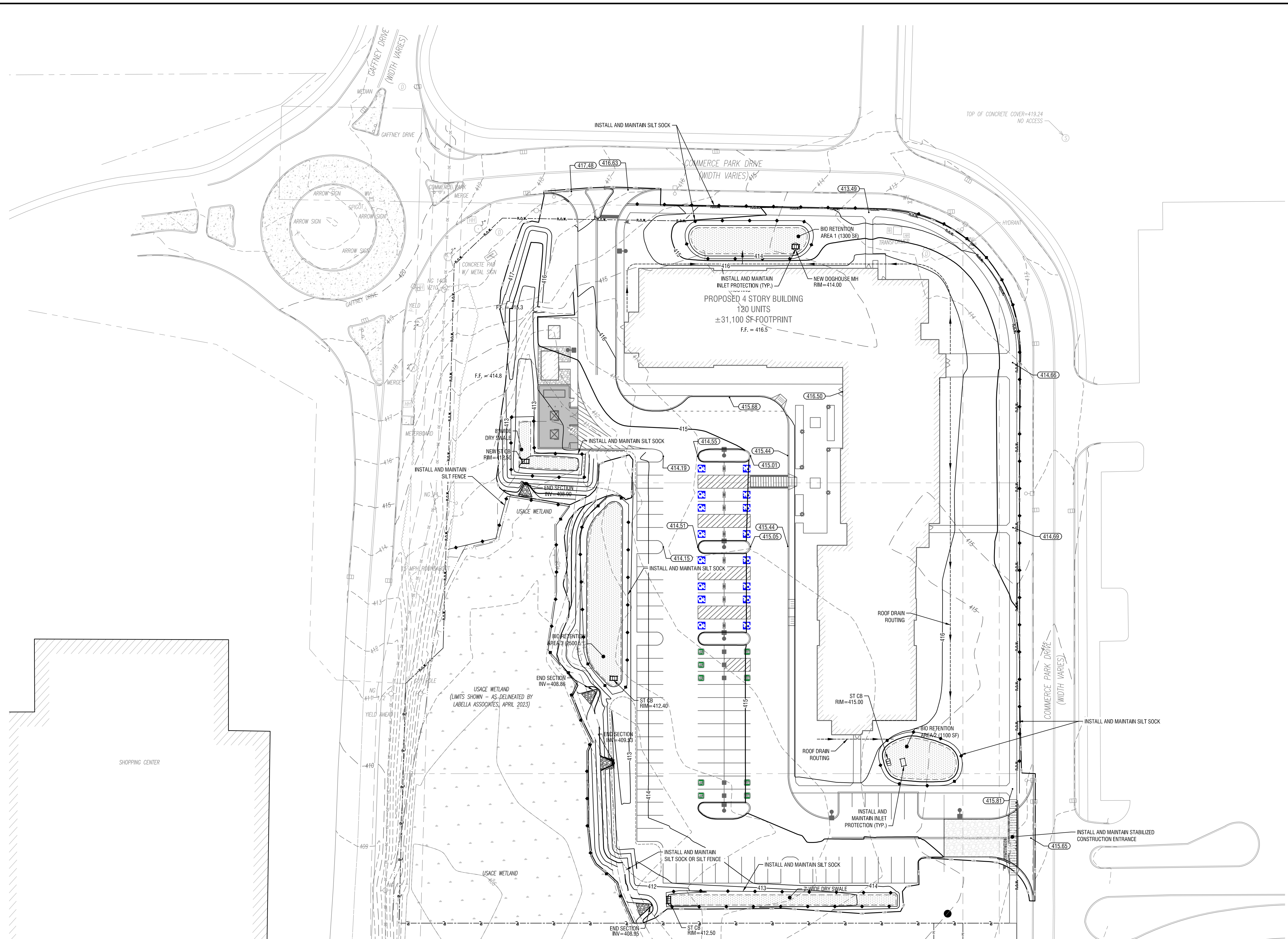
DATE: MAY 2023

DRAWING NAME:

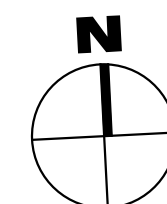
GRADING, EROSION AND SEDIMENT CONTROL PLAN

DRAWING NUMBER:

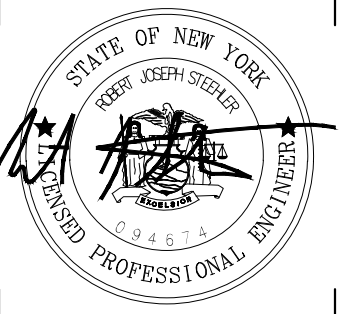
C401



1 GRADING, EROSION AND SEDIMENT CONTROL PLAN
SCALE: 1" = 30'



5/23/2023 1:26:04 PM J:\SWR\Projects\2223896 - DePaul Watertown\05_Drawings\Civil\C401 GRADING PLN.dwg



It is a violation of New York Education Law Article 145 Sec. 7209, for any person, unless acting under the direction of a licensed architect, professional engineer, or land surveyor, to alter an item in any way. If an item bearing the seal of an architect, engineer, or land surveyor is altered; the altering architect, engineer, or land surveyor shall affix to the item their seal and notation "altered by" followed by their signature and date of such alteration, and a specific description of the alteration.

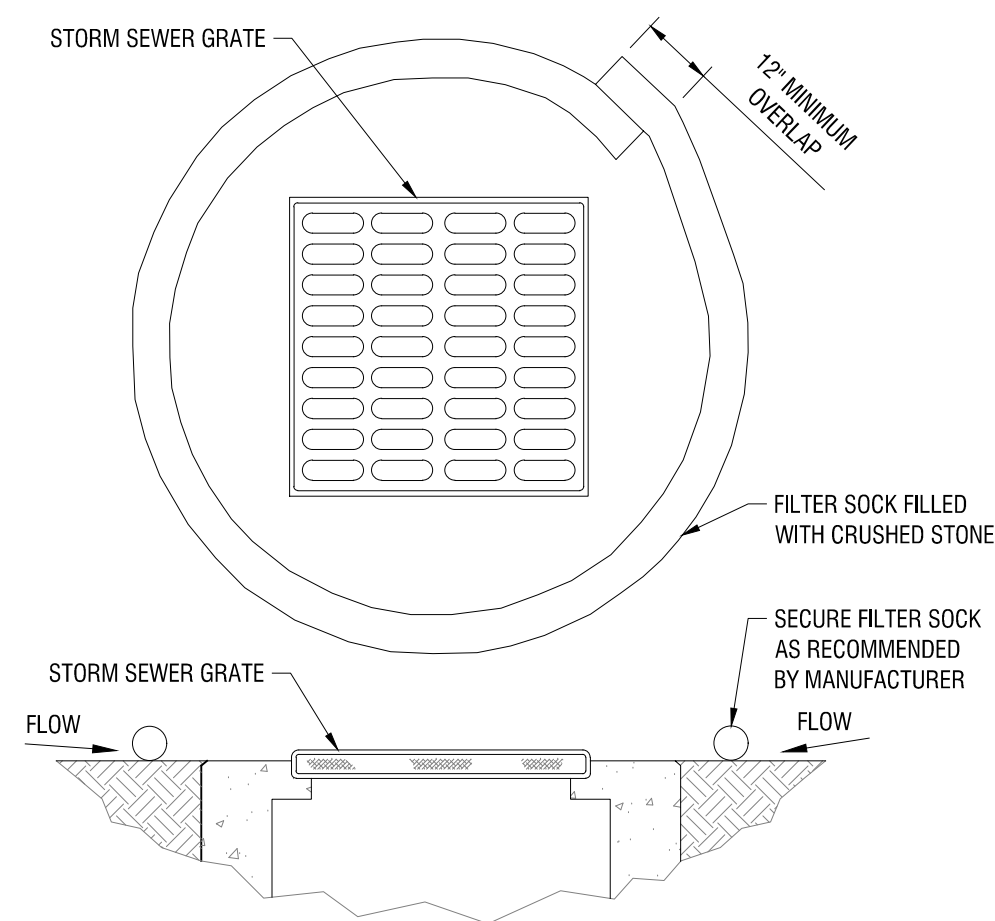
© 2022 LaBella Associates

DEPAUL PROPERTIES

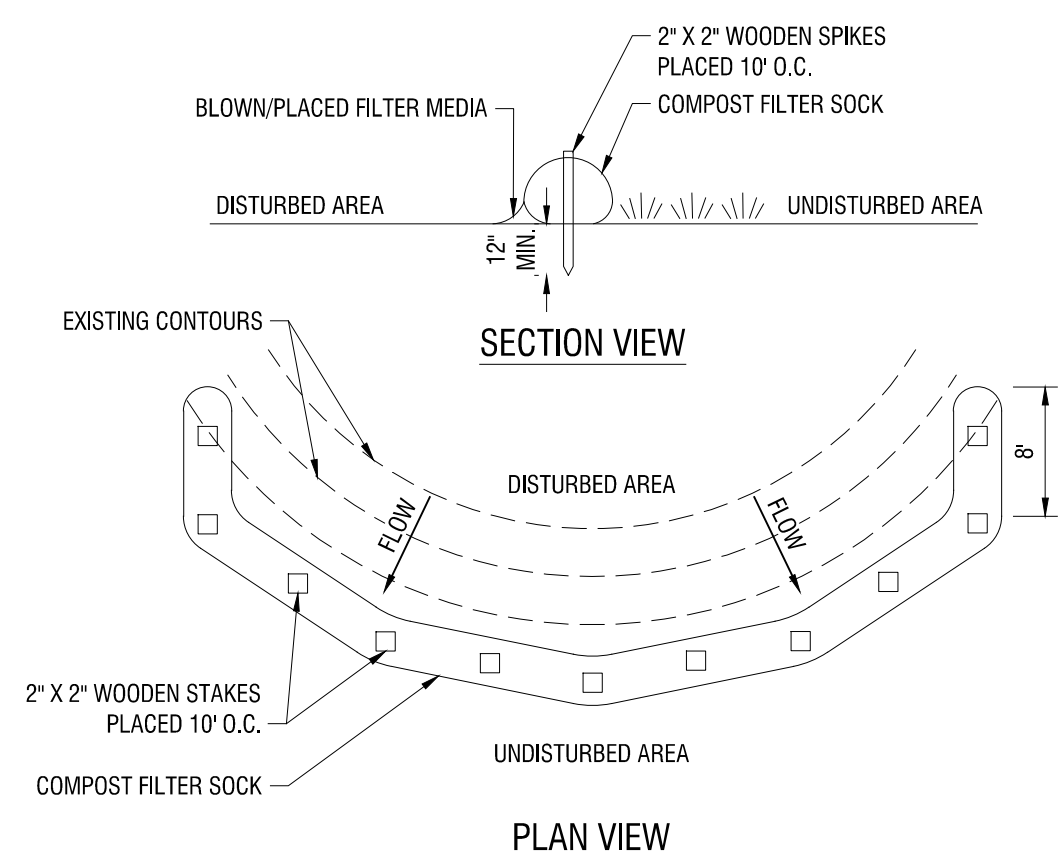
1931 BUFFALO ROAD
ROCHESTER, NY 14624

DEPAUL WATERTOWN APARTMENTS

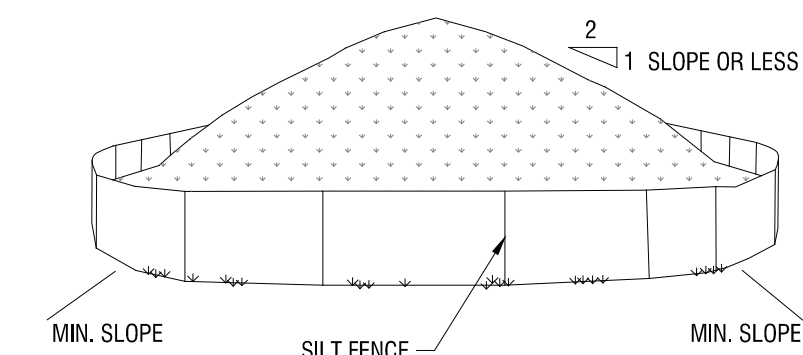
COMMERCE PARK DRIVE
WATERTOWN, NY 13601



6 INLET PROTECTION IN PAVEMENT
C501 N.T.S.



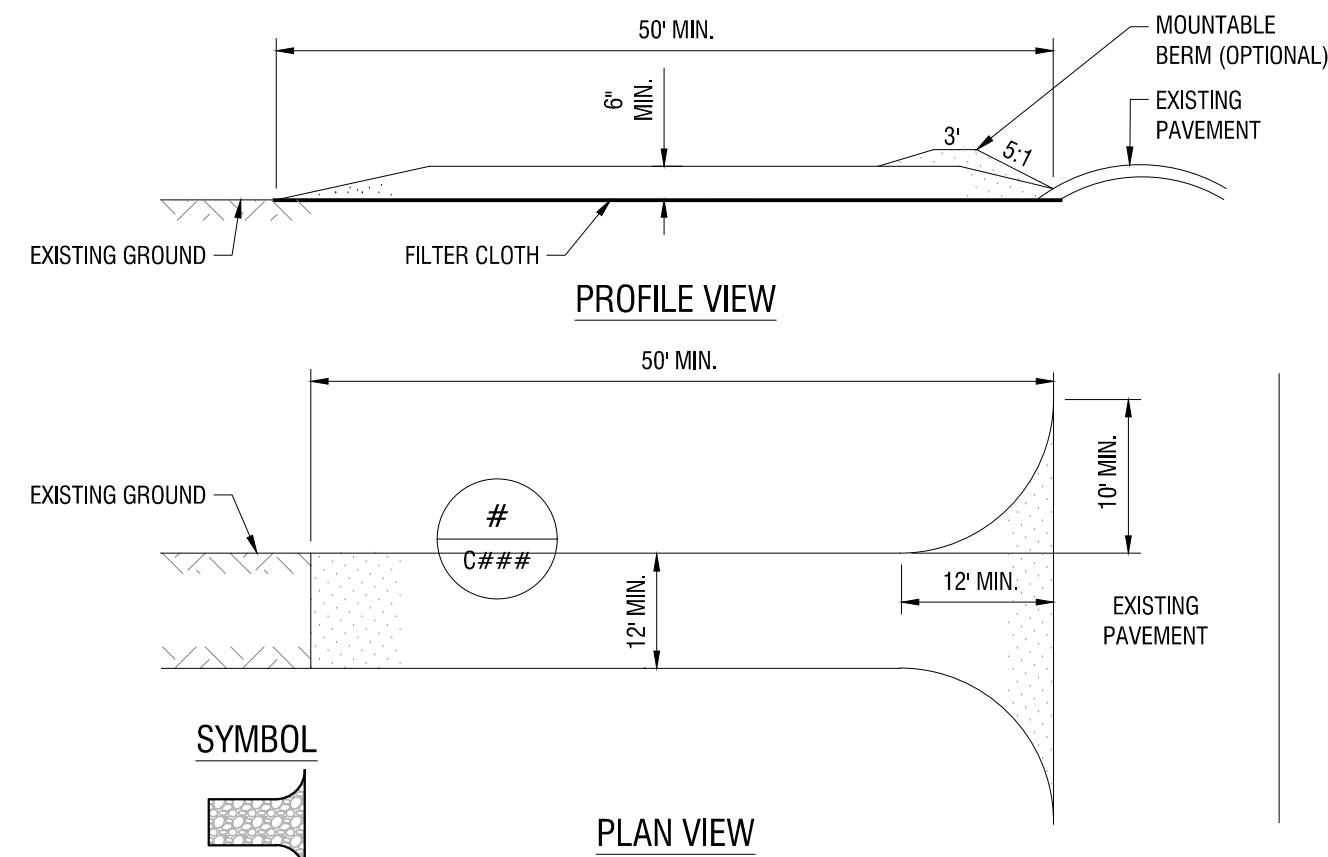
5 COMPOST FILTER SOCK
C501 NYS DEC DETAIL: COMPOST FILTER SOCK



NOTES:

1. AREA CHOSEN FOR STOCKPILING OPERATIONS SHALL BE DRY AND STABLE.
2. MAXIMUM SLOPE OF STOCKPILE SHALL BE 1V:2H.
3. UPON COMPLETION OF SOIL STOCKPILING, EACH PILE SHALL BE SURROUNDED WITH SILT FENCING, THEN STABILIZED WITH VEGETATION OR COVERED.
4. SEE SPECIFICATIONS AND DETAIL FOR INSTALLATION OF SILT FENCE.

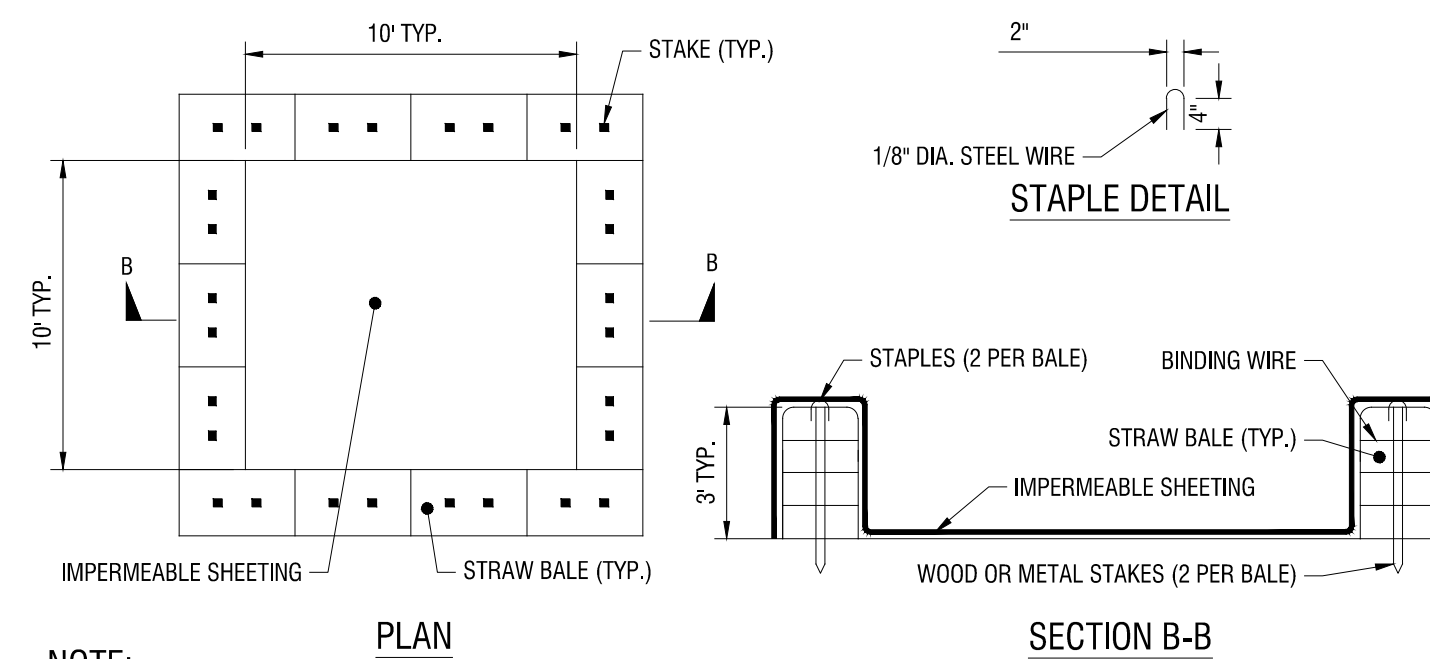
4 TEMPORARY SOIL STOCKPILE
C501 N.T.S.



CONSTRUCTION SPECIFICATIONS:

1. STONE SIZE - USE 1-4 INCH STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH - NOT LESS THAN 50 FEET.
3. THICKNESS - NOT LESS THAN SIX (6) INCHES.
4. WIDTH - TWENTY-FOUR (24) FOOT IF SINGLE ENTRANCE TO SITE.
5. GEOTEXTILE - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ACCESS SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT OF WAY. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC RIGHTS OF WAY MUST BE REMOVED IMMEDIATELY.
8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN EVENT.

3 STABILIZED CONSTRUCTION ENTRANCE
C501 N.Y.S DEC DETAIL: STABILIZED CONSTRUCTION ACCESS



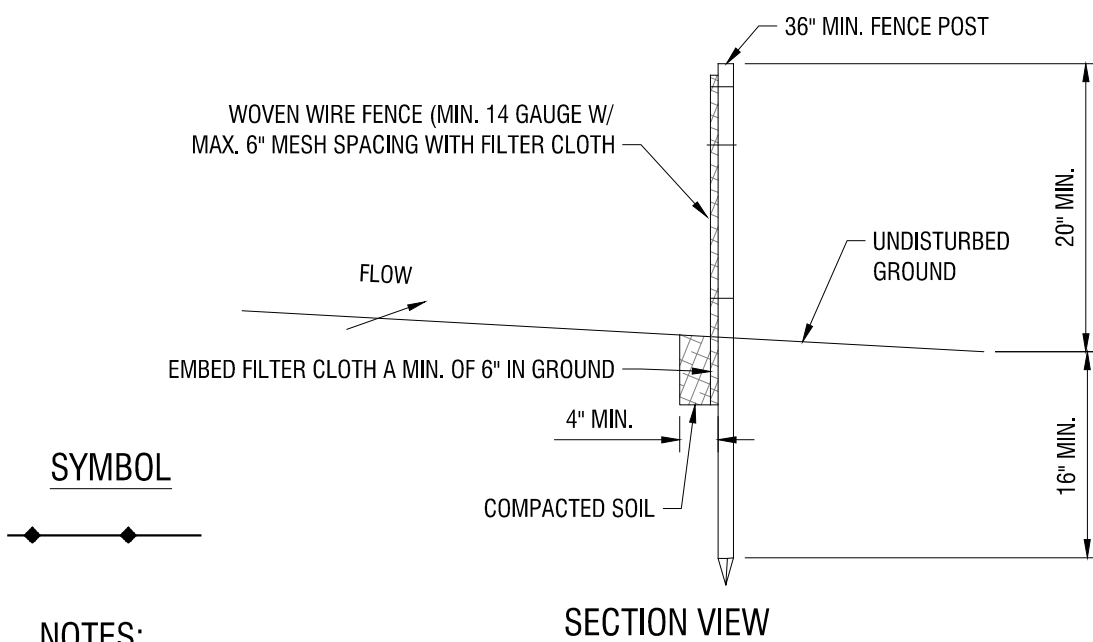
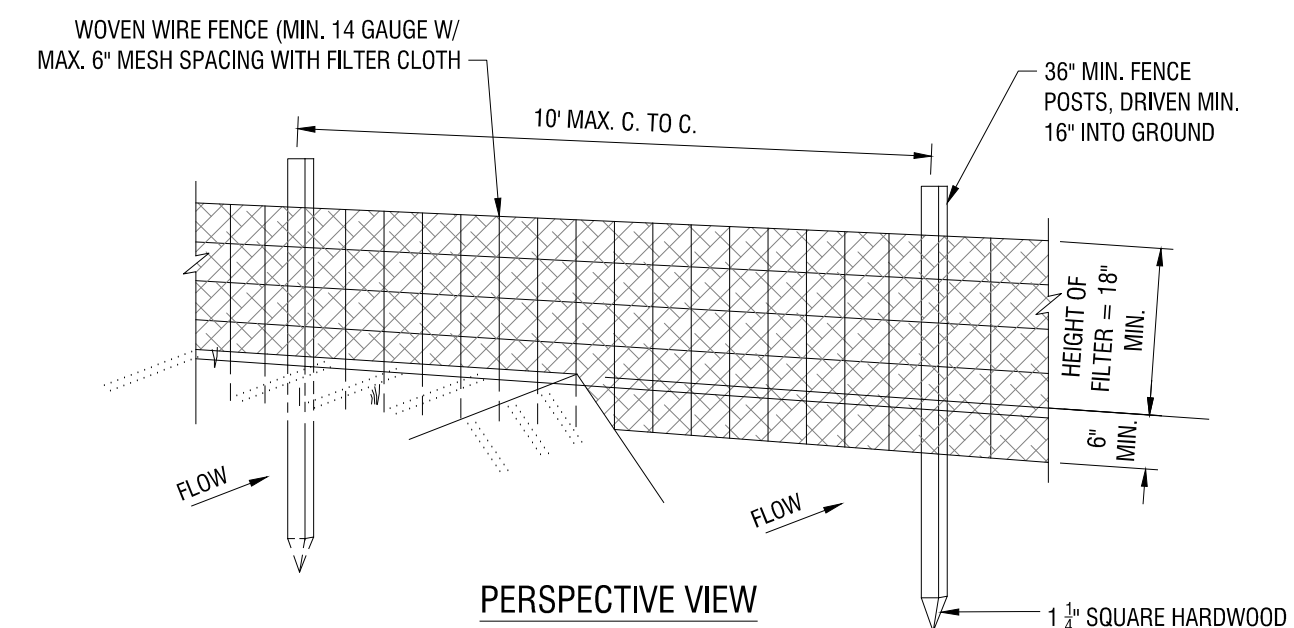
NOTE:

1. CAN BE TWO STACKED BALES OR PARTIALLY EXCAVATED TO REACH 3 FT DEPTH

CONSTRUCTION SPECIFICATIONS

1. LOCATE WASHOUT STRUCTURE A MINIMUM OF 100 FEET AWAY FROM OPEN CHANNELS, STORM DRAIN INLETS, SENSITIVE AREAS, WETLANDS, BUFFERS AND WATER COURSES AND AWAY FROM CONSTRUCTION TRAFFIC.
2. SIZE WASHOUT STRUCTURE FOR VOLUME NECESSARY TO CONTAIN WASH WATER AND SOLIDS AND MAINTAIN AT LEAST 4 INCHES OF FREEBOARD. TYPICAL DIMENSIONS ARE 10 FEET X 10 FEET X 3 FEET DEEP.
3. PREPARE SOIL BASE FREE OF ROCKS OR OTHER DEBRIS THAT MAY CAUSE TEARS OR HOLES IN THE LINER. FOR LINER, USE 10 MIL OR THICKER UV RESISTANT, IMPERMEABLE SHEETING, FREE OF HOLES AND TEARS OR OTHER DEFECTS THAT COMPROMISE IMPERMEABILITY OF THE MATERIAL.
4. PROVIDE A SIGN FOR THE WASHOUT IN CLOSE PROXIMITY TO THE FACILITY.
5. KEEP CONCRETE WASHOUT STRUCTURE WATER TIGHT. REPLACE IMPERMEABLE LINER IF DAMAGED (E.G. RIPPED OR PUNCTURED). EMPTY OR REPLACE WASHOUT STRUCTURE THAT IS 75 PERCENT FULL, AND DISPOSE OF ACCUMULATED MATERIAL PROPERLY. DO NOT REUSE PLASTIC LINER. WET-VACUUM STORED LIQUIDS THAT HAVE NOT EVAPORATED AND DISPOSE OF IN AN APPROVED MANNER. PRIOR TO FORECASTED RAINSTORMS, REMOVE LIQUIDS OR COVER STRUCTURE TO PREVENT OVERFLOWS. REMOVE HARDENED SOLIDS, WHOLE OR BROKEN UP, FOR DISPOSAL OR RECYCLING. MAINTAIN RUNOFF DIVERSION AROUND EXCAVATED WASHOUT STRUCTURE UNTIL STRUCTURE IS REMOVED.

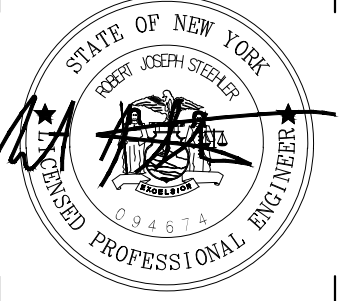
2 CONCRETE WASHOUT AREA WITH STRAW BALES
C501 N.T.S.



NOTES:

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES. POSTS SHALL BE STEEL EITHER "T" OR "U" TYPE OR HARDWOOD.
2. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION. FENCE SHALL BE WOVEN WIRE, 6" MAXIMUM MESH OPENING.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY SIX INCHES AND FOLDED. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI 100X, STABILINKA 140N, OR APPROVED EQUAL.
4. PREFABRICATED UNITS SHALL BE GEOFAB, ENVROFENCE, OR APPROVED EQUAL.
5. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

1 SILT FENCE
C501 NYS DEC DETAIL: SILT FENCE



It is a violation of New York Education Law Article 145 Sec. 7209, for any person, unless acting under the direction of a licensed architect, professional engineer, or land surveyor, to alter an item in any way. If an item bearing the seal of an architect, engineer, or land surveyor is altered; the altering architect, engineer, or land surveyor shall affix to the item their seal and notation "altered by" followed by their signature and date of such alteration, and a specific description of the alteration.

© 2022 LaBella Associates

DEPAUL PROPERTIES
1931 BUFFALO ROAD
ROCHESTER, NY 14624

DEPAUL WATERTOWN APARTMENTS
COMMERCE PARK DRIVE
WATERTOWN, NY 13601

NO.	DATE	DESCRIPTION
Revisions		

PROJECT NUMBER: 2223896

DRAWN BY: OLA/SCB/SRV

REVIEWED BY: DPB

ISSUED FOR: SITE PLAN APPROVAL

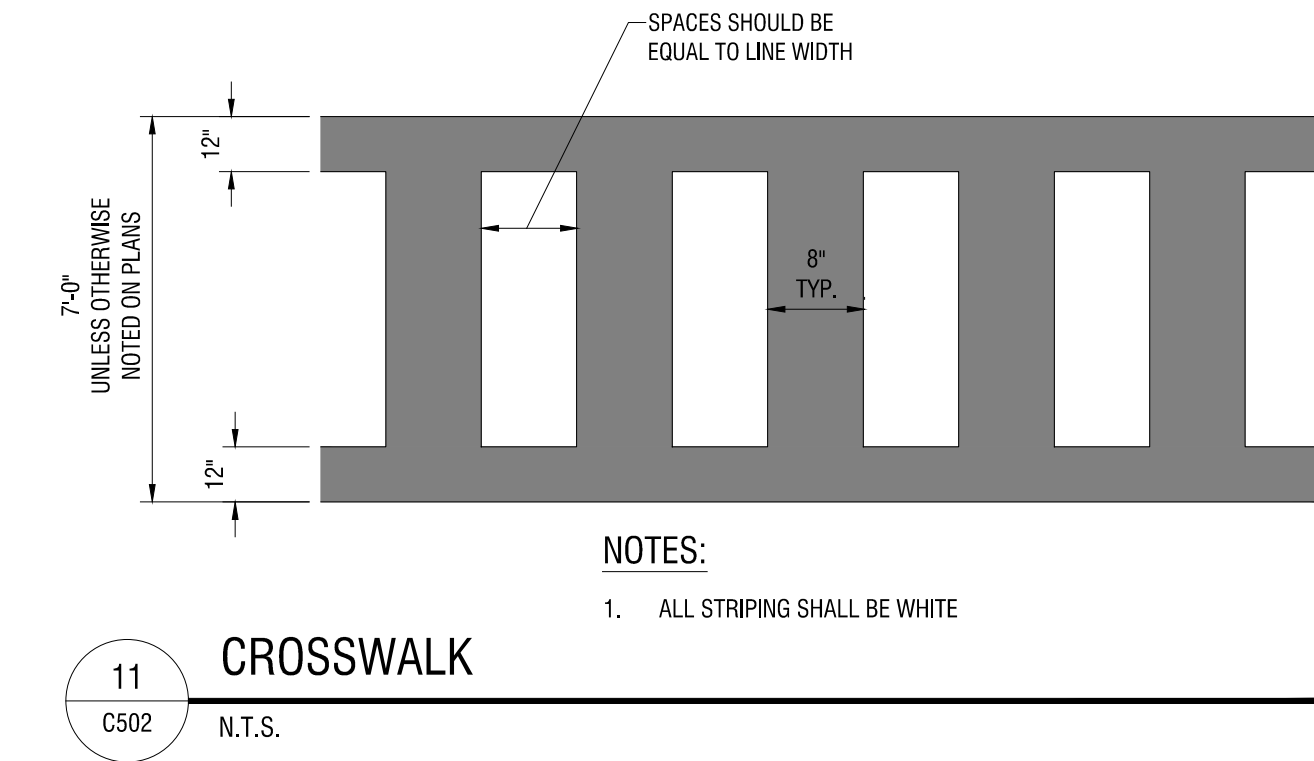
DATE: MAY 2023

DRAWING NUMBER:

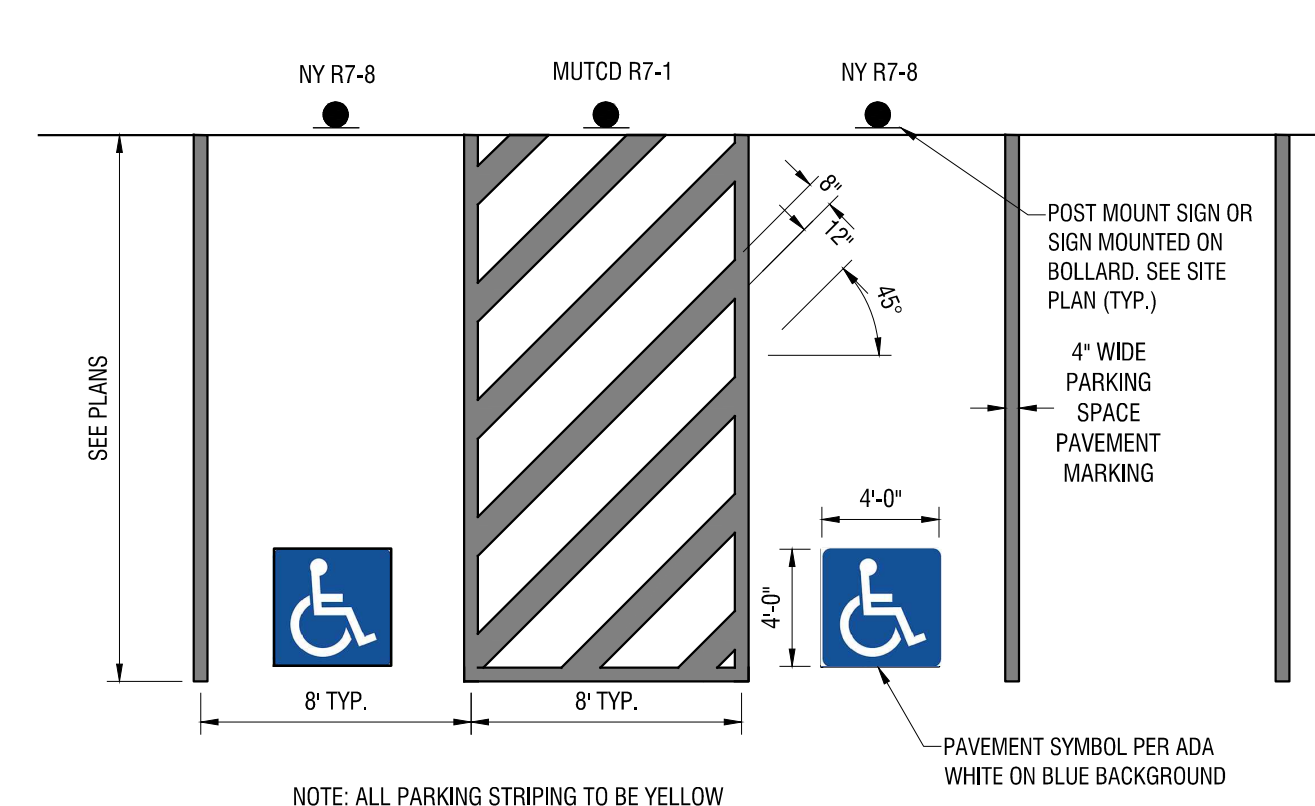
CONSTRUCTION DETAILS

DRAWING NUMBER:

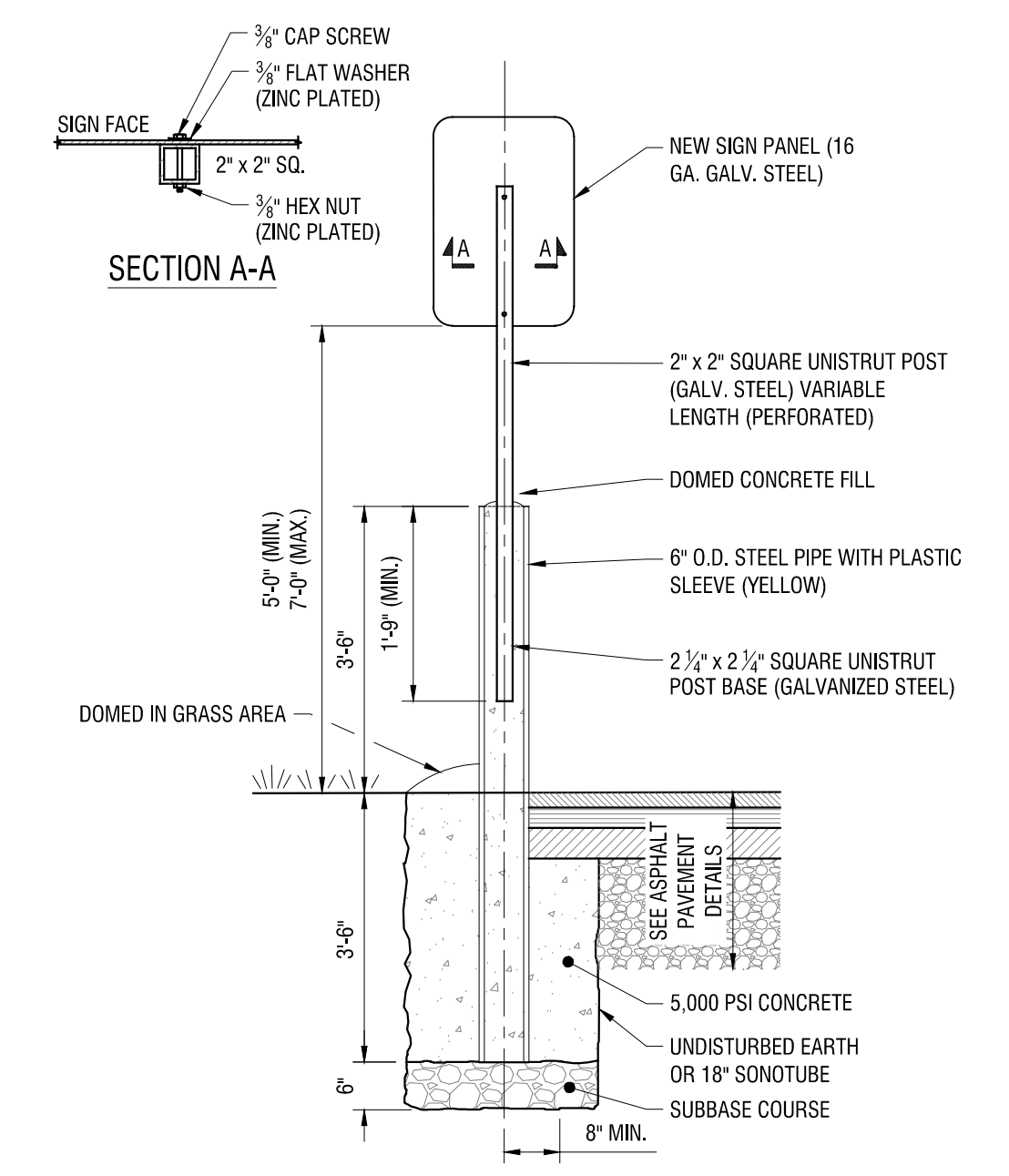
C502



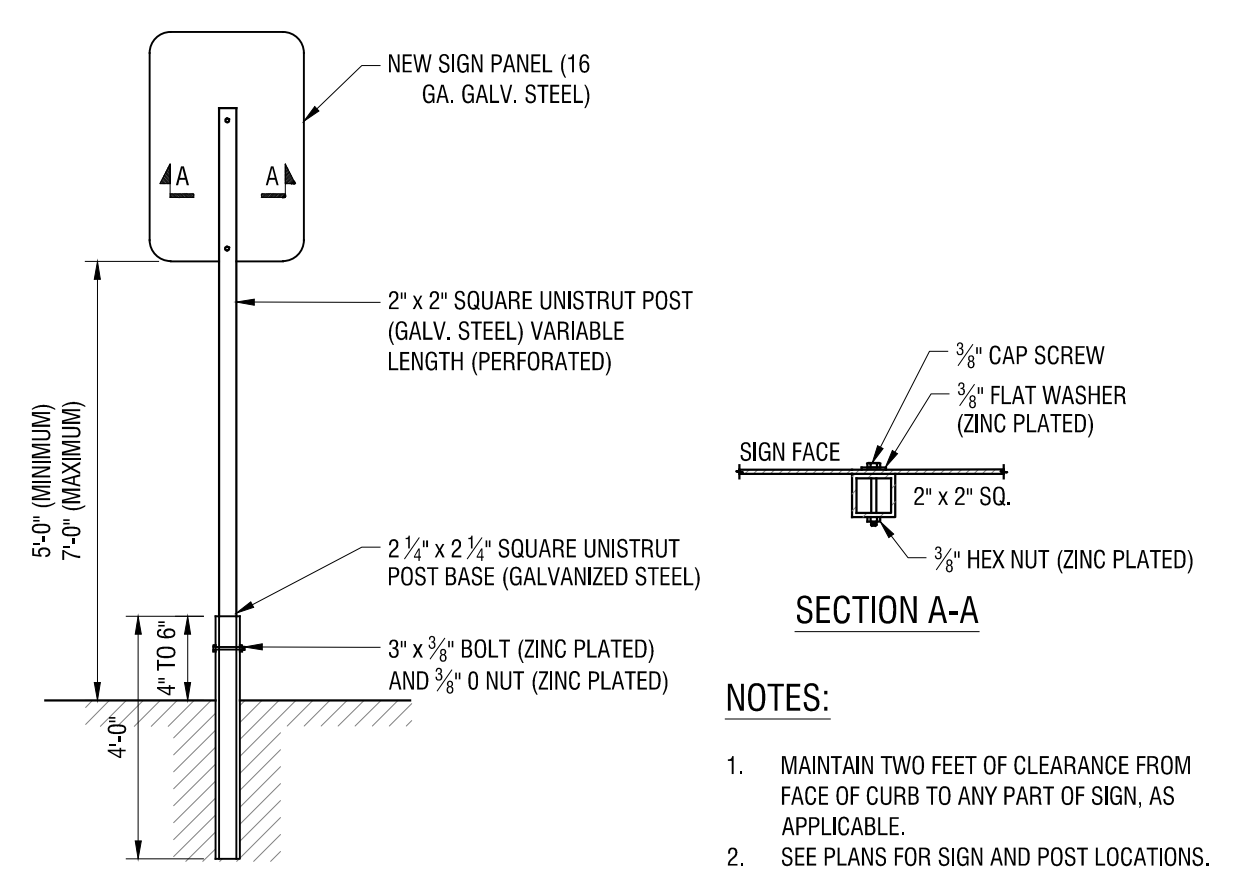
11
C502
N.T.S.
CROSSWALK



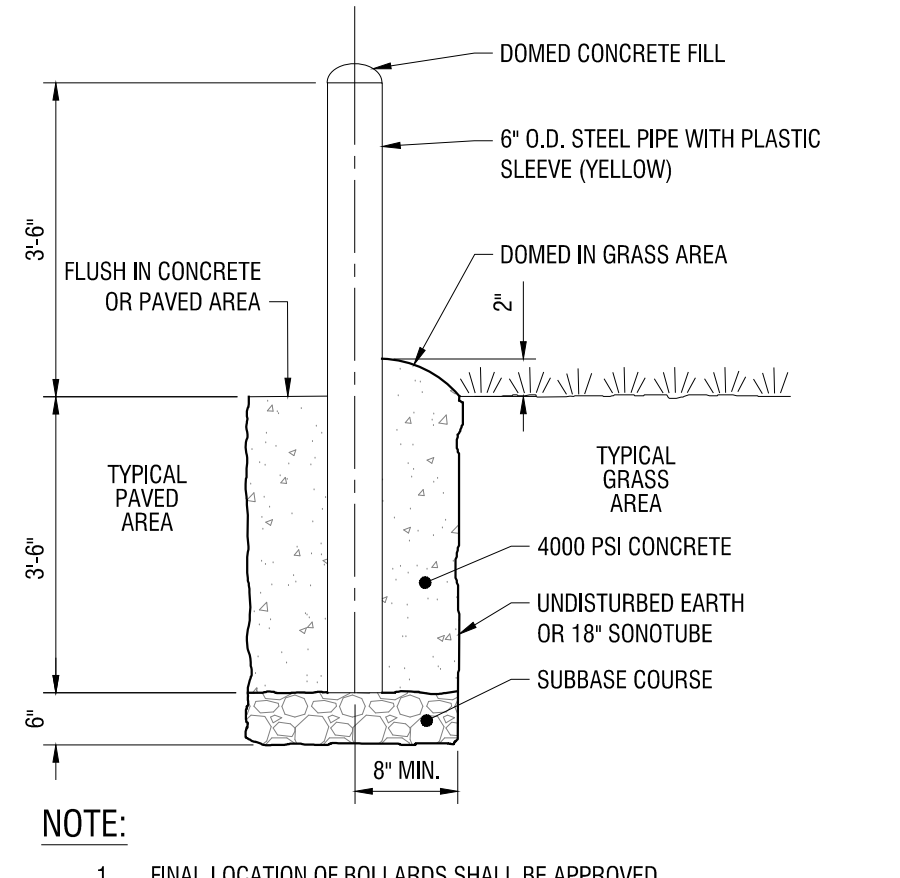
12
C502
N.T.S.
ADA PARKING SPACE STRIPING



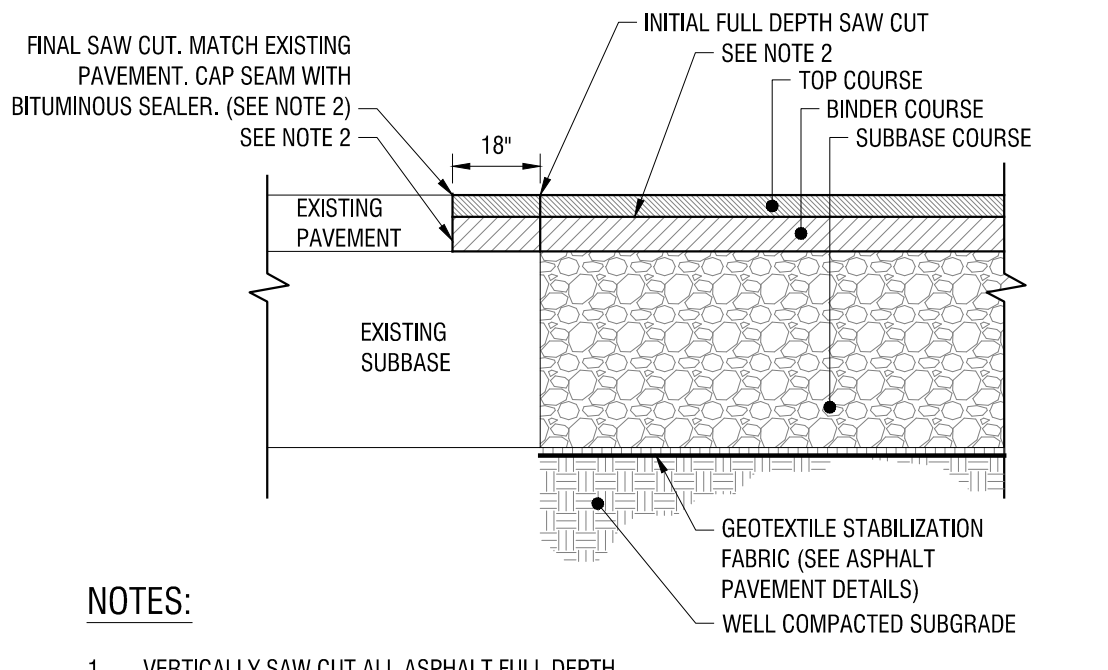
7
C502
N.T.S.
BOLLARD MOUNTED SIGN



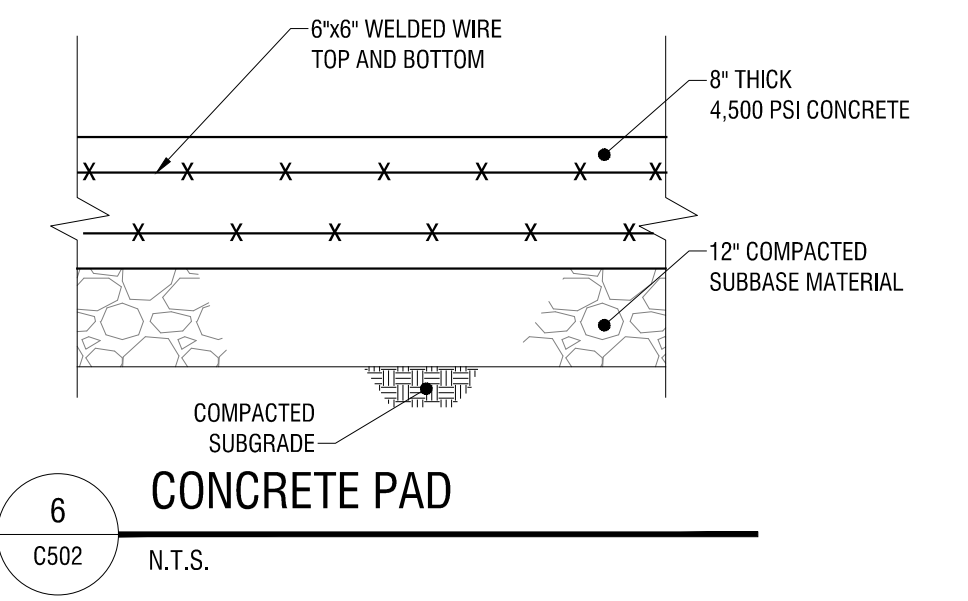
8
C502
N.T.S.
POST MOUNT SIGN



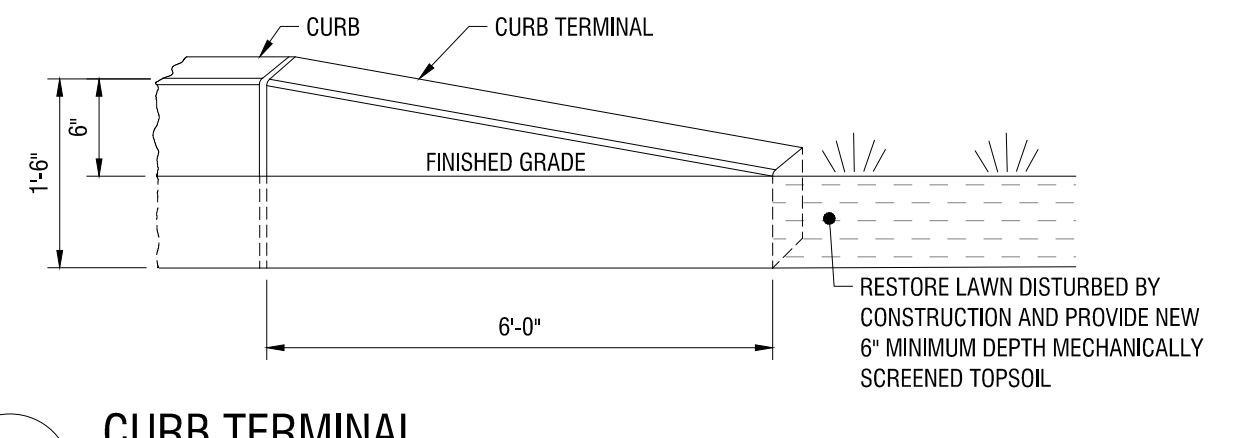
9
C502
N.T.S.
BOLLARD



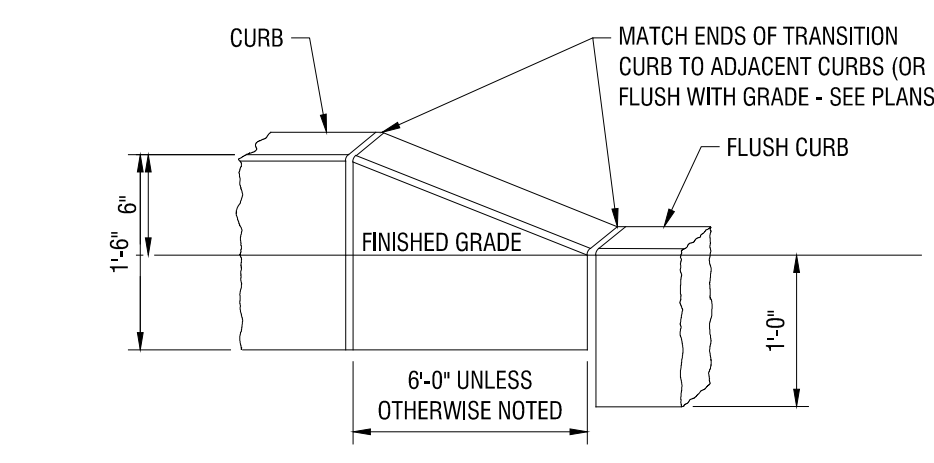
5
C502
N.T.S.
STANDARD DUTY PAVEMENT JOINT



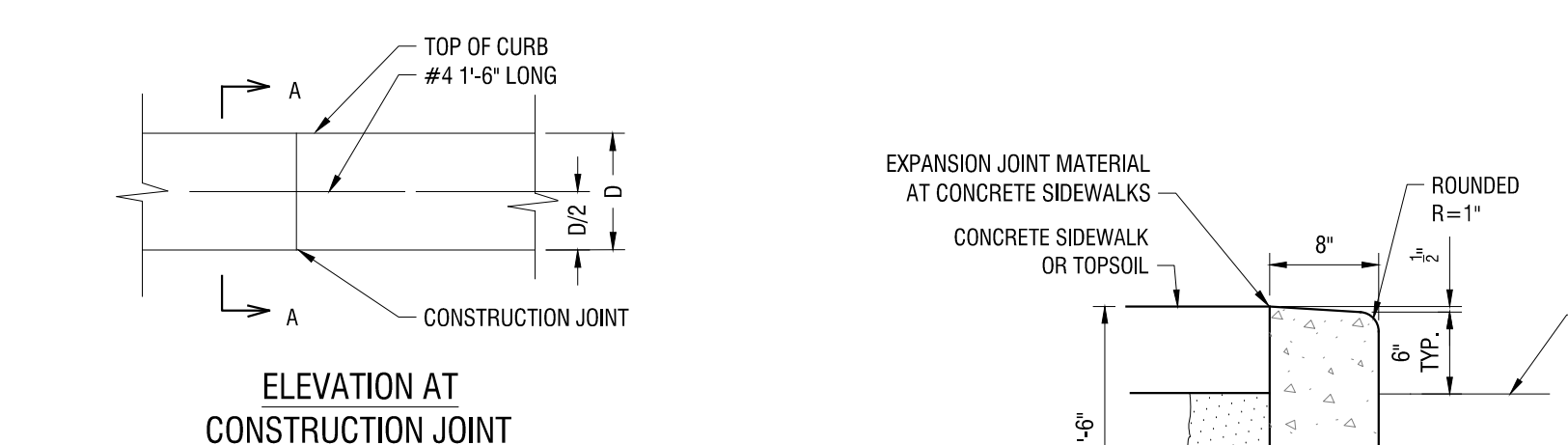
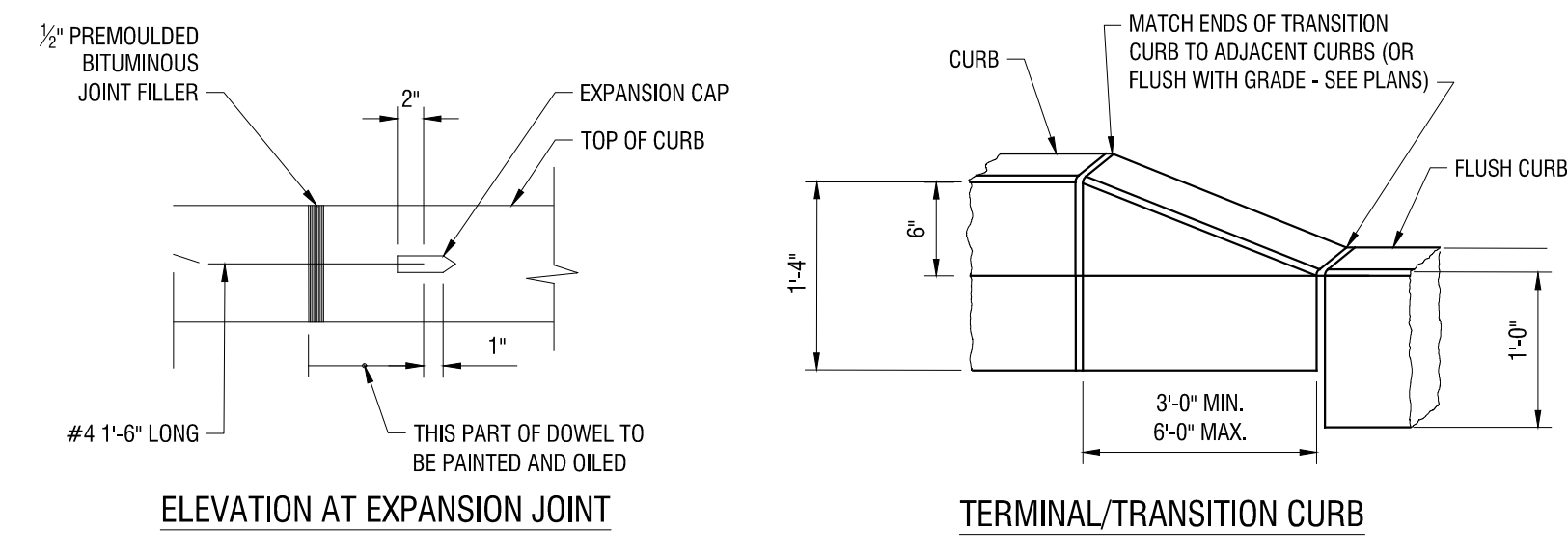
6
C502
N.T.S.
CONCRETE PAD



2
C502
N.T.S.
CURB TERMINAL



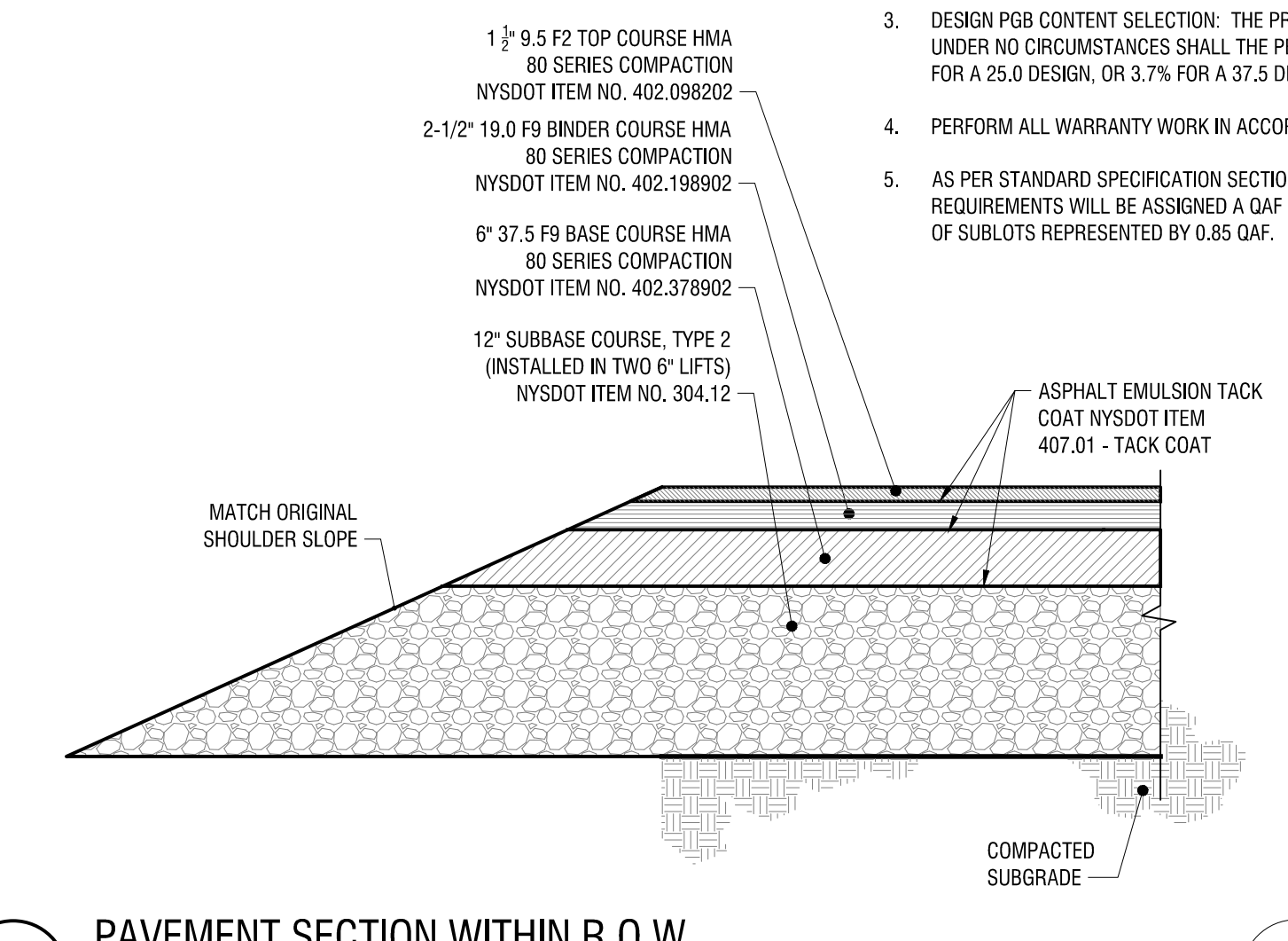
1
C502
N.T.S.
CURB TRANSITION



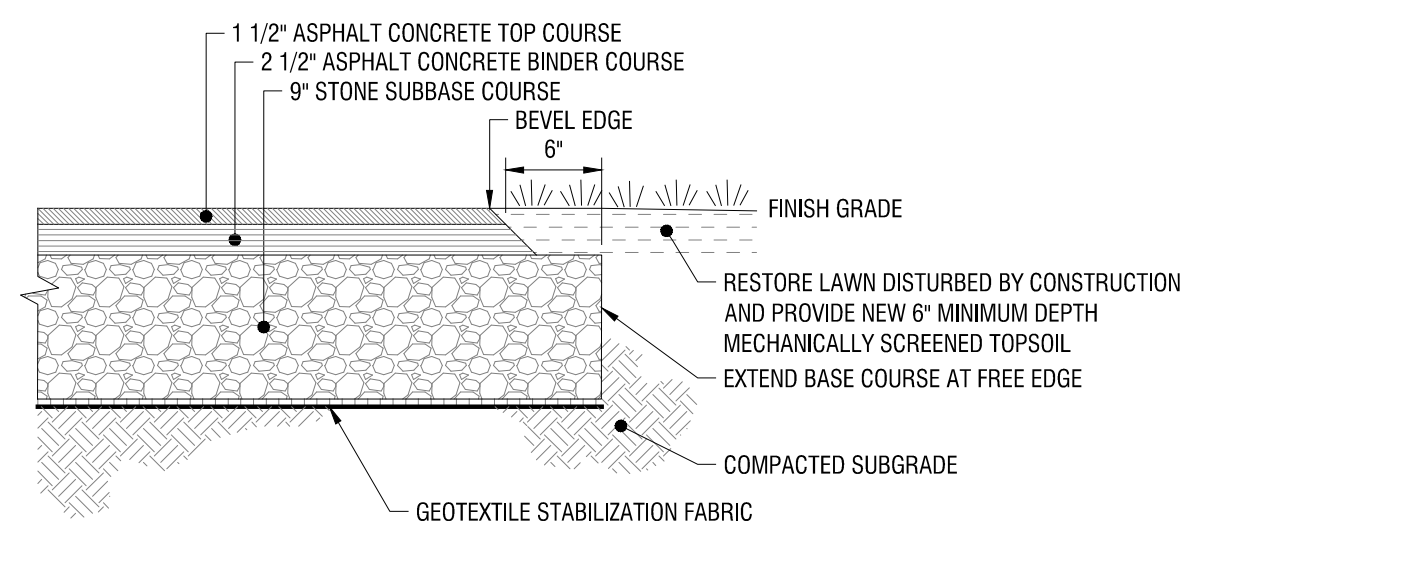
- NOTES:**
- SLOPE TOP OF CURB 1/4" PER FOOT TOWARD PAVEMENT.
 - CONTRACTION JOINTS SHALL BE FORMED OR SAWCUT EVERY 10 FEET TO DEPTHS SLIGHTLY BELOW THE PAVEMENT SURFACE.
 - EXPANSION JOINTS 1/2" IN WIDTH SHALL BE FORMED WITH A PRE-MOLDED BITUMINOUS JOINT FILLER EVERY 40 FEET.
 - EXPANSION JOINTS AND FORMED CONTRACTION JOINTS ARE TO BE EDGED WITH CONCRETE FINISHING TOOLS.
 - CONCRETE SEALING AGENT SHALL BE APPLIED THE SAME DAY THAT CURBS ARE CONSTRUCTED.
 - CONCRETE CURBING WITHIN R.O.W. SHALL CONFORM WITH NYSS M609-2R1.
 - CURB THICKNESS T IS TO BE 5" OR AS INDICATED ON THE DRAWINGS.
 - PROVIDE 0" CURB REVEAL FOR HEADER CURB CURB AT SIDEWALK RAMPS AND 1" CURB REVEAL FOR HEADER CURB AT DRIVEWAYS.
 - ALL CURB, EXCEPT HEADER CURB USED FOR SIDEWALK ACCESS RAMPS, IS TO HAVE THE 1" RADIUS.
 - GRADED STONE BACKING IS TO BE PLACED WHEN SIDEWALK DOES NOT ABUT CURB.
 - USE 5000 PSI CONCRETE FOR CONVENTIONALLY FORMED CURB, AND 5000 PSI CONCRETE FOR MACHINE FORMED CURB.

10
C502
N.T.S.
CONCRETE CURB

- ASPHALT PAVEMENT NOTES:**
- HMA ITEMS ARE BASED ON PG 64-22 BINDER. ESALS LESS THAN 30,000,000. TACK COAT IS REQUIRED BETWEEN ALL LIFTS OF ASPHALT. USE OF POLYPHOSPHORIC ACID (PPA) TO MODIFY THE BINDER PROPERTIES IS PROHIBITED. THIS PROHIBITION ALSO APPLIES TO THE USE OF PPA AS A CROSS-LINKING AGENT FOR POLYMER MODIFICATION.
 - BUTT JOINTS, CREATED BY A FULL-DEPTH SAWCUT, SHALL BE USED BETWEEN NEW AND EXISTING PAVEMENTS. THE ASPHALT TOP COURSE SHALL BE LAID SUCH THAT IT UNIFORMLY OVERLAPS THE ADJACENT COLD MAT BY 2"-3". THE THICKNESS OF THE OVERLAP MATERIAL SHALL BE 1/4 THE COMPACTED THICKNESS OF THE COURSE, SO AS TO RESULT IN A SMOOTH AND WELL-COMPACTED JOINT AFTER ROLLING. BROADCASTING OF THE OVERLAP MATERIAL ONTO THE LANE IS NOT ALLOWED. IF THE OVERLAP IS EXCESSIVE, THE EXCESS MATERIAL SHALL BE TRIMMED OFF SO THAT THE MATERIAL ALONG THE JOINT IS UNIFORM. THE COARSE PARTICLES OF AGGREGATE IN THE OVERLAP MATERIAL SHALL BE REMOVED AND WASTED IF DEEMED NECESSARY BY THE INSPECTOR.
 - DESIGN PGB CONTENT SELECTION: THE PRODUCER SELECTS THE DESIGN PGB CONTENT THAT RESULTS IN A COMPACTED DENSITY OF 96.5% Gmm AT THE DESIGN NUMBER OF GYRATIONS (Ndesign). UNDER NO CIRCUMSTANCES SHALL THE PERFORMANCE GRADED BINDER CONTENT IN THE HMA MIXTURE BE LESS THAN 5.8% FOR A 9.5 DESIGN, 5.2% FOR A 12.5 DESIGN, 4.5% FOR A 19.0 DESIGN, 4.2% FOR A 25.0 DESIGN, OR 3.7% FOR A 37.5 DESIGN. ALL VOLUMETRIC AND MECHANICAL PROPERTIES ARE CHECKED AT THIS PGB CONTENT TO ENSURE THAT ALL REQUIREMENTS ARE MET.
 - PERFORM ALL WARRANTY WORK IN ACCORDANCE WITH MATERIALS PROCEDURE (MP) 402-01, WARRANTY REQUIREMENTS FOR HOT MIX ASPHALT (HMA) TOP COURSE.
 - AS PER STANDARD SPECIFICATION SECTION 401-4.01 CERTIFIED PRODUCTION, PRODUCTION LESS THAN 500 TONS, AND HIGHWAY PERMIT PRODUCTION, PRODUCTION MEETING THE SPECIFICATION REQUIREMENTS WILL BE ASSIGNED A QAF OF 1.00. PRODUCTION FAILING TO MEET THE SPECIFICATION REQUIREMENTS WILL BE SUBJECT TO EVALUATION ACCORDING TO SECTION 401-4.03, EVALUATION OF SUBLOTS REPRESENTED BY 0.85 QAF.

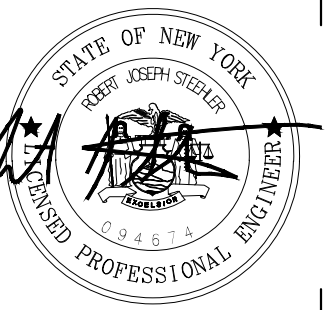


4
C502
N.T.S.
PAVEMENT SECTION WITHIN R.O.W.



3
C502
N.T.S.
ASPHALT PAVEMENT SECTION

5/8/2023 4:36:26 PM - DePaul Watertown106 - Drawings Civil C502 CONSTRUCTION DETAILS.dwg



It is a violation of New York Education Law Article 145 Sec. 7209, for any person, unless acting under the direction of a licensed architect, professional engineer, or land surveyor, to alter an item in any way. If an item bearing the seal of an architect, engineer, or land surveyor is altered; the altering architect, engineer, or land surveyor shall affix to the item their seal and notation "altered by" followed by their signature and date of such alteration, and a specific description of the alteration.

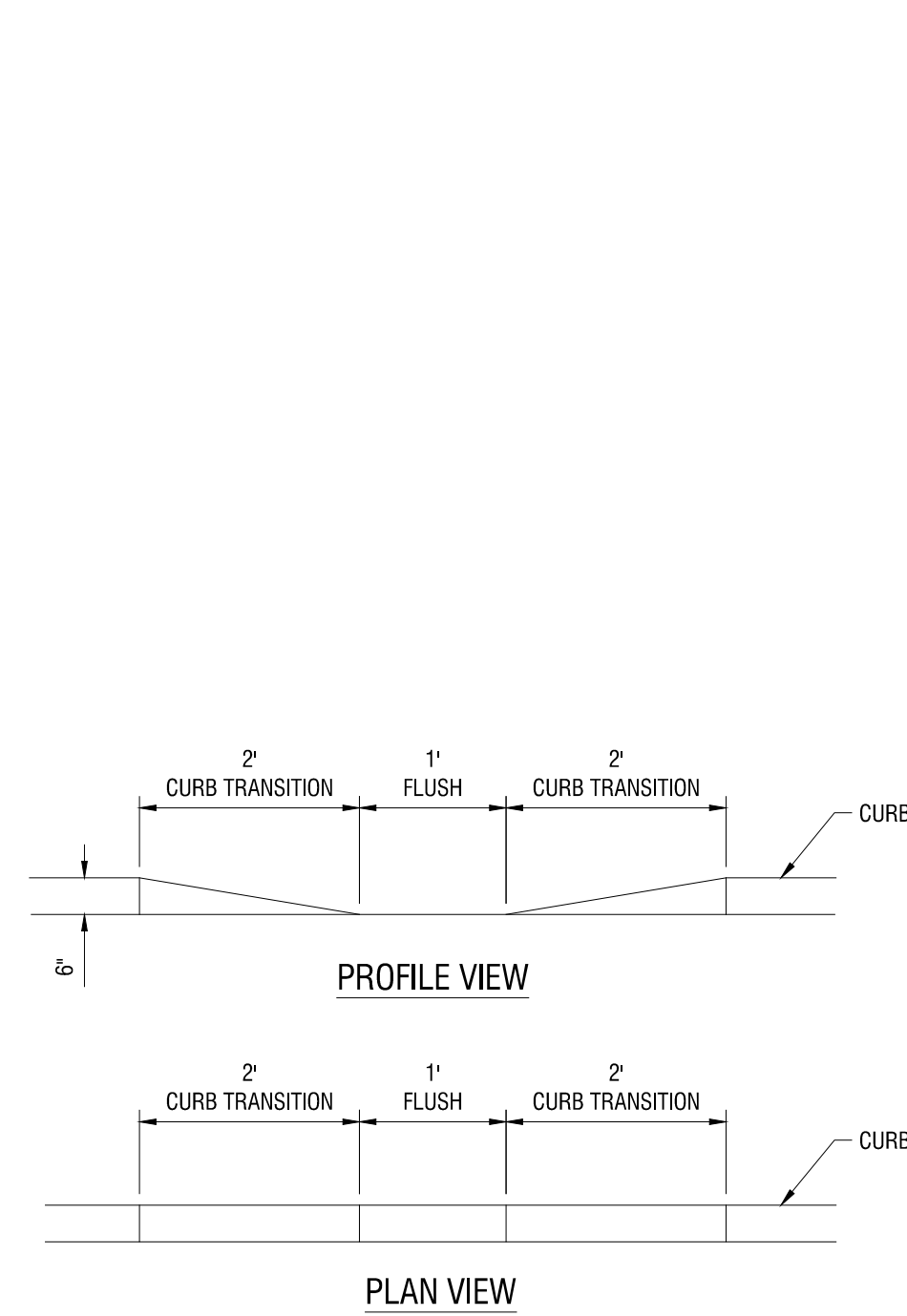
© 2022 LaBella Associates

DEPAUL PROPERTIES

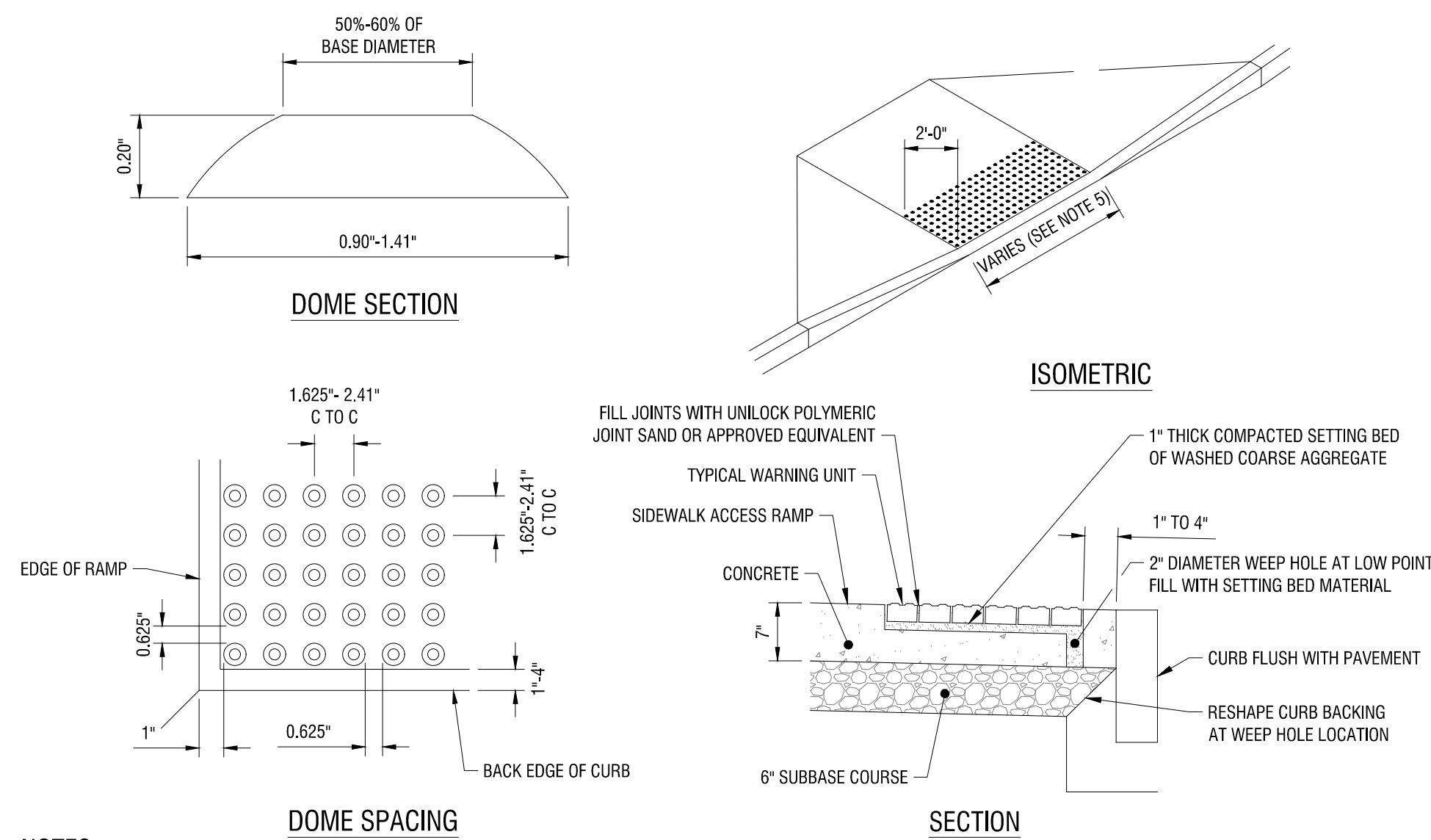
1931 BUFFALO ROAD
ROCHESTER, NY 14624

DEPAUL WATERTOWN APARTMENTS

COMMERCE PARK DRIVE
WATERTOWN, NY 13601

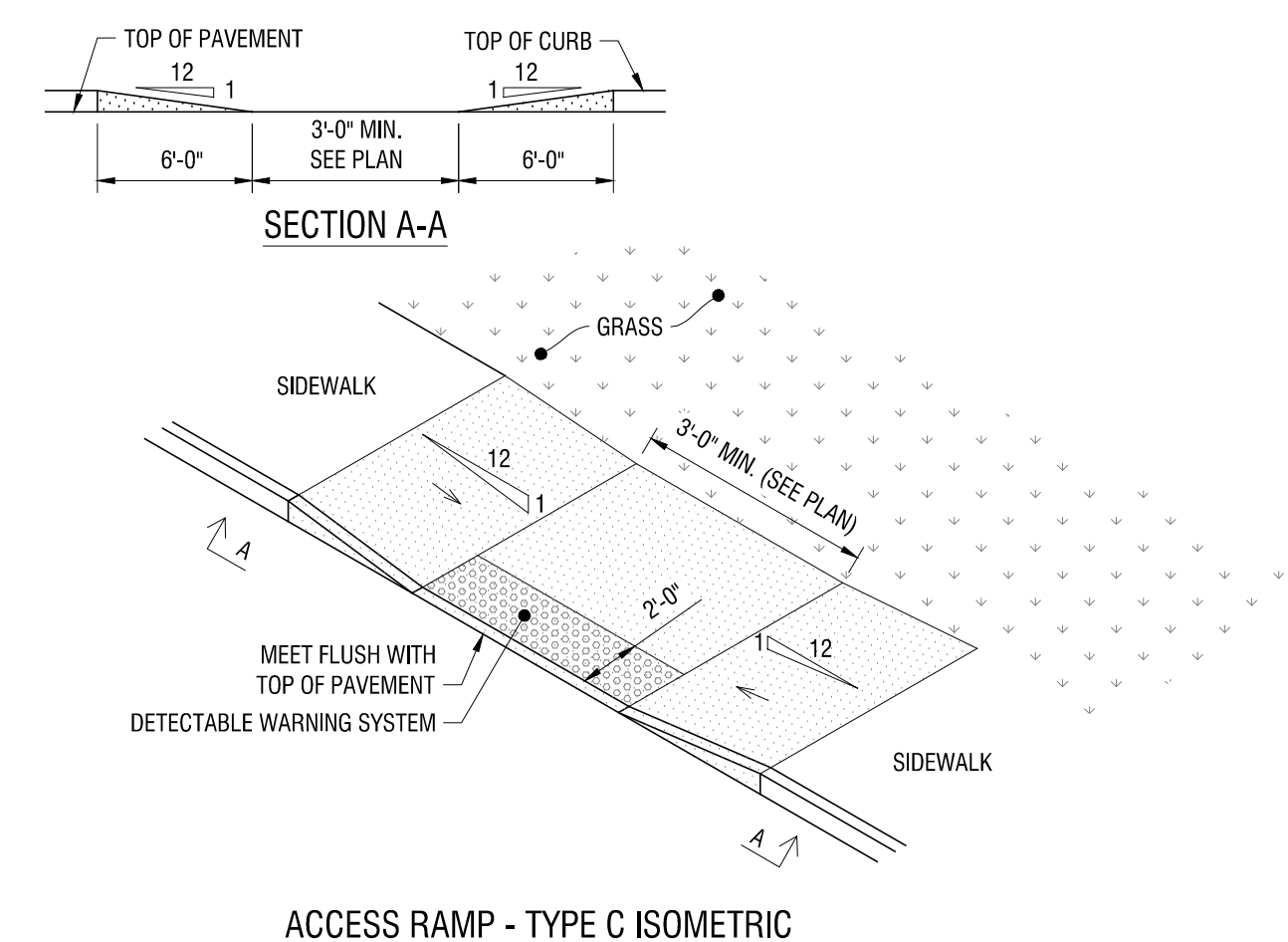


6 DROP CURB
C503 N.T.S.



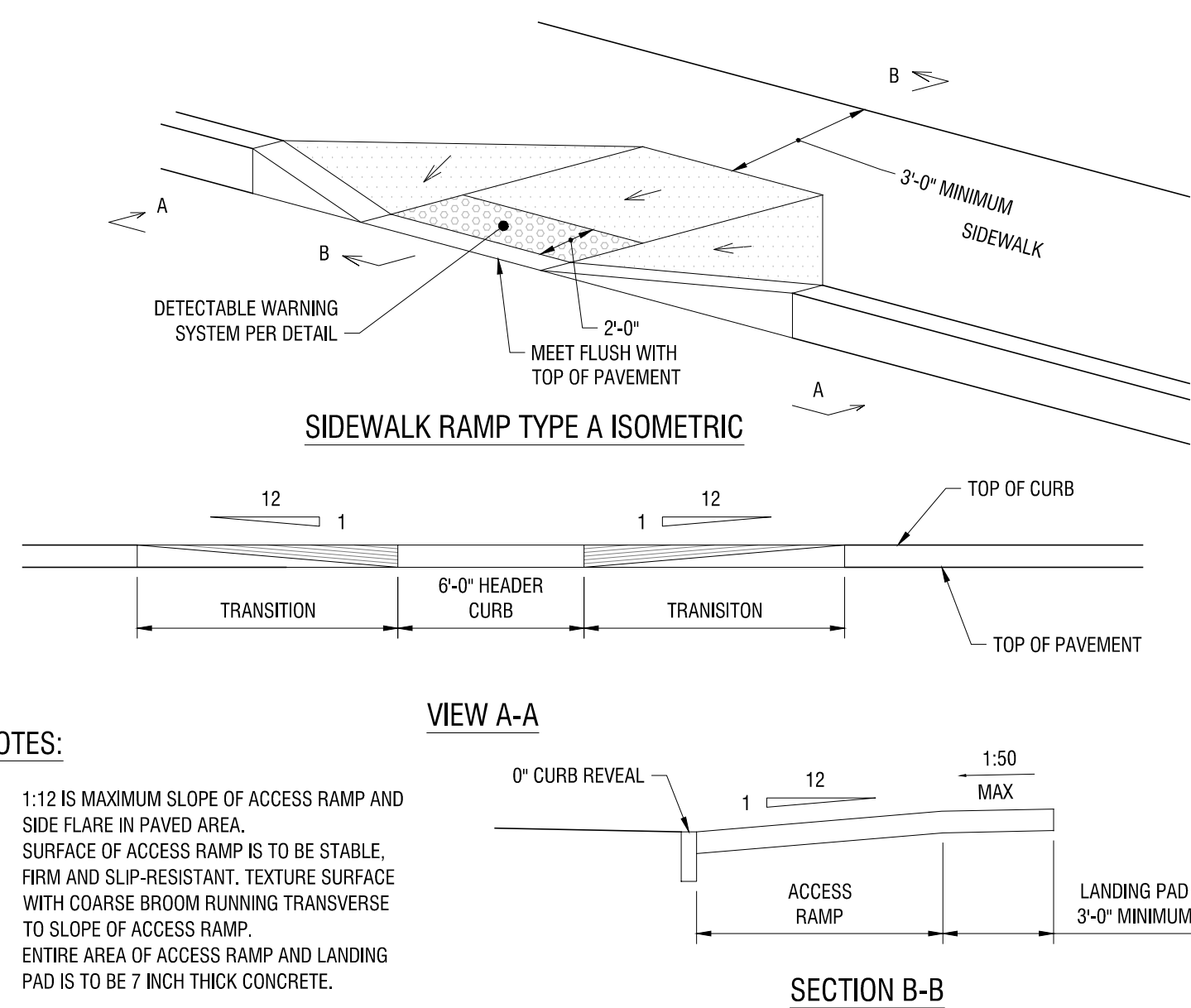
- NOTES:**
1. QUANTITY OF TRUNCATED DOMES SHOWN IS FOR ILLUSTRATIVE PURPOSES ONLY AND TO DEPICT REQUIRED SQUARE GRID PATTERN.
 2. TRUNCATED DOMES ARE TO BE ALIGNED ON THE SQUARE GRID PATTERN IN THE PREDOMINANT DIRECTION OF TRAVEL.
 3. ENTIRE DETECTABLE WARNING SYSTEM FIELD, INCLUDING TRUNCATED DOMES, IS TO BE DARK GRAY IN COLOR, N7 PER MUNSSELL BOOK NOTATION, OR APPROVED EQUIVALENT.
 4. OUTER EDGE OF THE DETECTABLE WARNING SYSTEM FIELD IS TO BE LOCATED SO THAT THE EDGE OF THE WARNING FIELD NEAREST TO THE STREET IS 1 TO 4 INCHES BEHIND THE BACK EDGE OF THE CURB SECTION.
 5. DETECTABLE WARNING SYSTEM IS TO EXTEND ACROSS THE FULL WIDTH OF A SIDEWALK ACCESS RAMP, BUT NOT UP THE SIDE FLARES.

5 BRICK DETECTABLE WARNING SYSTEM AT CURB
C503 N.T.S.



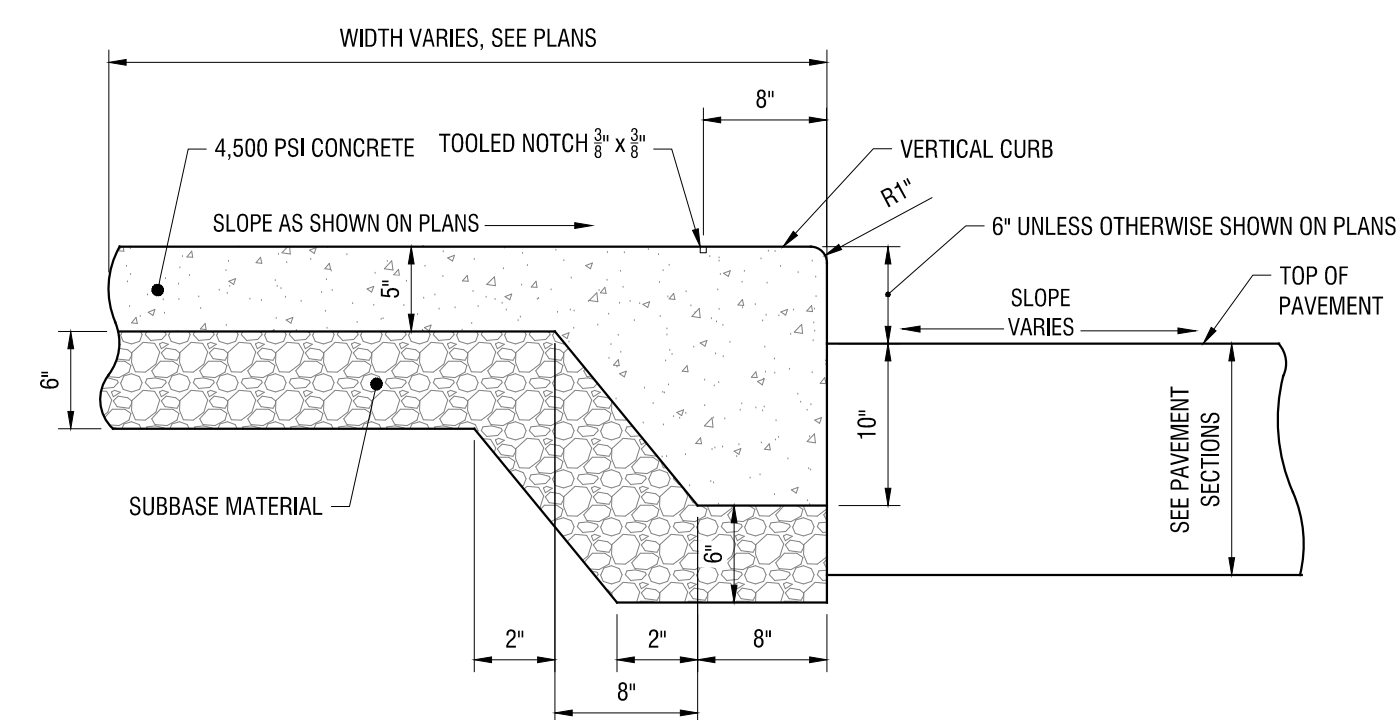
- NOTES:**
1. 1:12 IS MAXIMUM SLOPE OF ACCESS RAMP.
 2. SURFACE OF ACCESS RAMP IS TO BE STABLE, FIRM AND SLIP-RESISTANT. TEXTURE SURFACE WITH COARSE BROOM RUNNING TRANSVERSE TO SLOPE OF ACCESS RAMP.
 3. ENTIRE AREA OF ACCESS RAMP AND LANDING PAD IS TO BE 7 INCH THICK CONCRETE.

4 SIDEWALK RAMP TYPE C
C503 N.T.S.

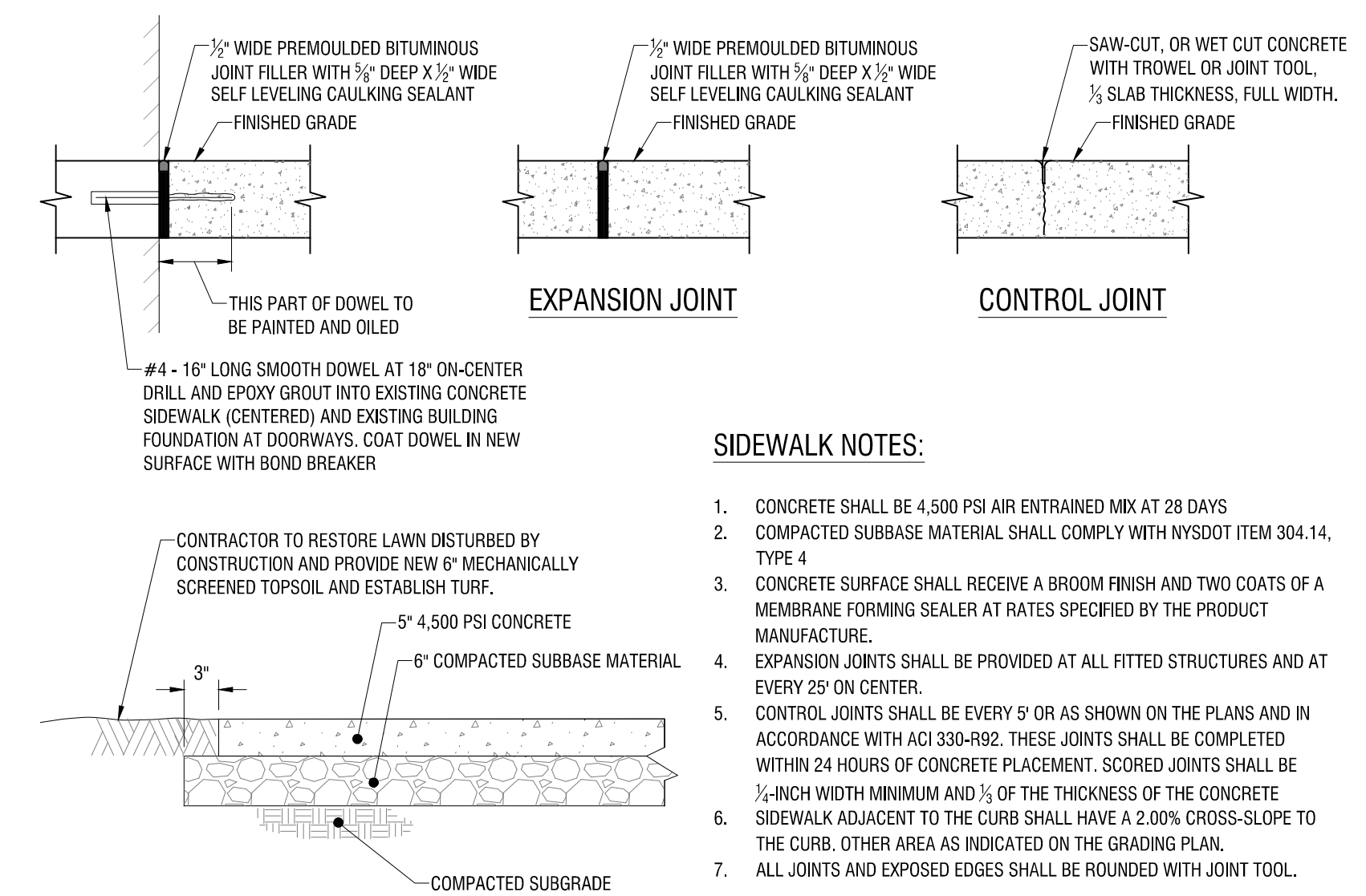


- NOTES:**
1. 1:12 IS MAXIMUM SLOPE OF ACCESS RAMP AND SIDE FLARE IN PAVED AREA.
 2. SURFACE OF ACCESS RAMP IS TO BE STABLE, FIRM AND SLIP-RESISTANT. TEXTURE SURFACE WITH COARSE BROOM RUNNING TRANSVERSE TO SLOPE OF ACCESS RAMP.
 3. ENTIRE AREA OF ACCESS RAMP AND LANDING PAD IS TO BE 7 INCH THICK CONCRETE.

3 SIDEWALK RAMP TYPE A
C503 N.T.S.



2 CONCRETE SIDEWALK AND INTEGRAL VERTICAL CURB SECTION
C503 N.T.S.



- SIDEWALK NOTES:**
1. CONCRETE SHALL BE 4,500 PSI AIR ENTRAINMENT MIX AT 28 DAYS
 2. COMPACTED SUBBASE MATERIAL SHALL COMPLY WITH NYS DOT ITEM 304.14, TYPE 4
 3. CONCRETE SURFACE SHALL RECEIVE A BROOM FINISH AND TWO COATS OF A MEMBRANE FORMING SEALER AT RATES SPECIFIED BY THE PRODUCT MANUFACTURER.
 4. EXPANSION JOINTS SHALL BE PROVIDED AT ALL FITTED STRUCTURES AND AT EVERY 25' ON CENTER.
 5. CONTROL JOINTS SHALL BE EVERY 9' OR AS SHOWN ON THE PLANS AND IN ACCORDANCE WITH ACI 309-1992. THESE JOINTS SHALL BE COMPLETED WITHIN 24 HOURS OF CONCRETE PLACEMENT. SCORED JOINTS SHALL BE 1/2 INCH WIDTH MINIMUM AND 1/2 OF THE THICKNESS OF THE CONCRETE SIDEWALK ADJACENT TO THE CURB SHALL HAVE A 2.00% CROSS-SLOPE TO THE CURB. OTHER AREA AS INDICATED ON THE GRADING PLAN.
 6. ALL JOINTS AND EXPOSED EDGES SHALL BE ROUNDED WITH JOINT TOOL.

1 CONCRETE SIDEWALK
C503 N.T.S.

NO.	DATE	DESCRIPTION
Revisions		

PROJECT NUMBER: 2223896

DRAWN BY: OLA/SCB/SRV

REVIEWED BY: DPB

ISSUED FOR: SITE PLAN APPROVAL

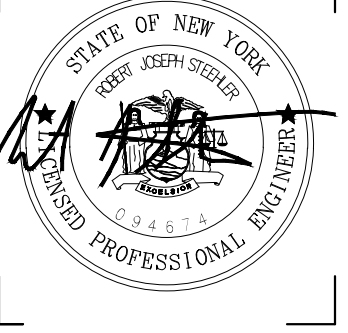
DATE: MAY 2023

DRAWING NAME:

CONSTRUCTION DETAILS

DRAWING NUMBER:

C503



It is a violation of New York Education Law Article 145 Sec. 7209, for any person, unless acting under the direction of a licensed architect, professional engineer, or land surveyor, to alter an item in any way. If an item bearing the seal of an architect, engineer, or land surveyor is altered; the altering architect, engineer, or land surveyor shall affix to the item their seal and notation "altered by" followed by their signature and date of such alteration, and a specific description of the alteration.

DEPAUL PROPERTIES

1931 BUFFALO ROAD
ROCHESTER, NY 14624

DEPAUL WATERTOWN APARTMENTS

COMMERCE PARK DRIVE
WATERTOWN, NY 13601

NO.	DATE	DESCRIPTION
Revisions		

PROJECT NUMBER: 2223896

DRAWN BY: OLA/SCB/SRV

REVIEWED BY: DPB

ISSUED FOR: SITE PLAN APPROVAL

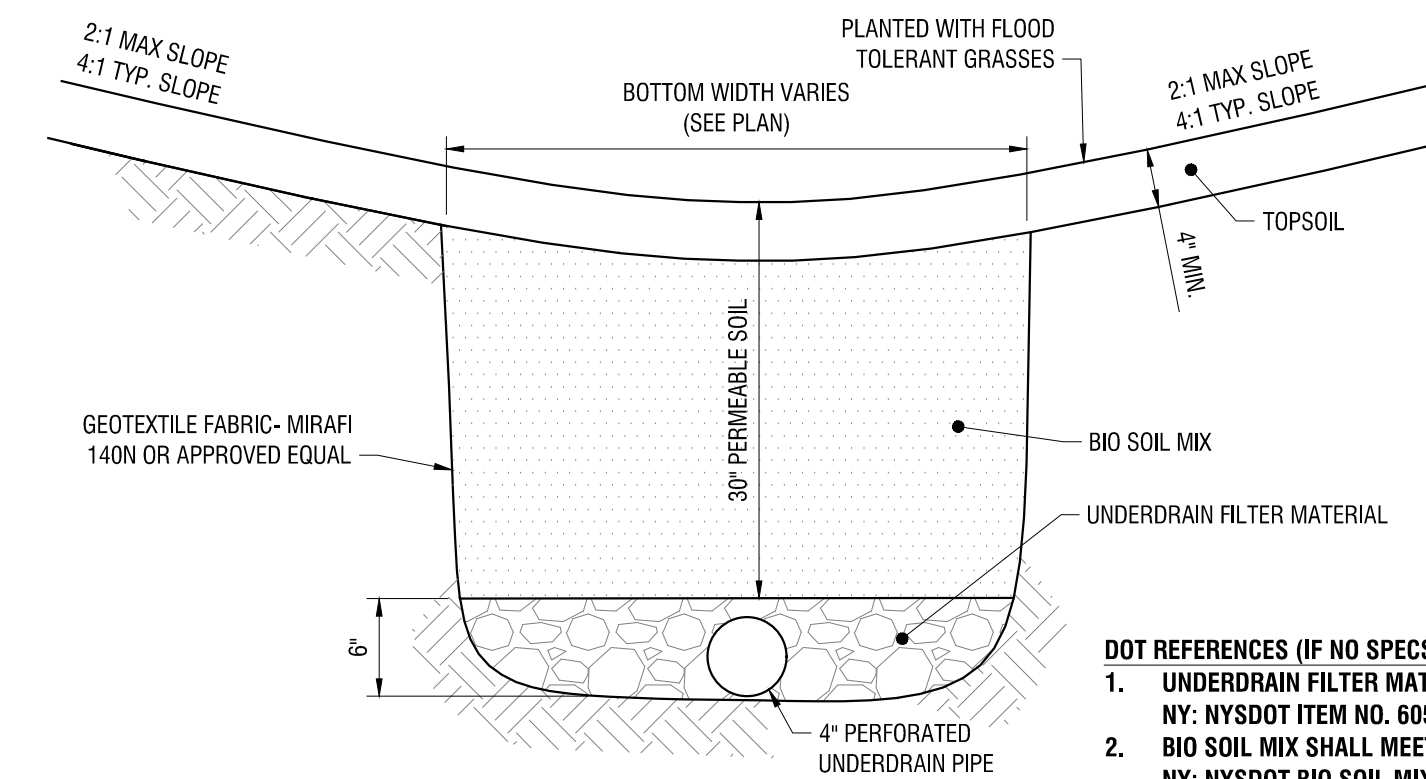
DATE: MAY 2023

DRAWING NAME:

CONSTRUCTION DETAILS

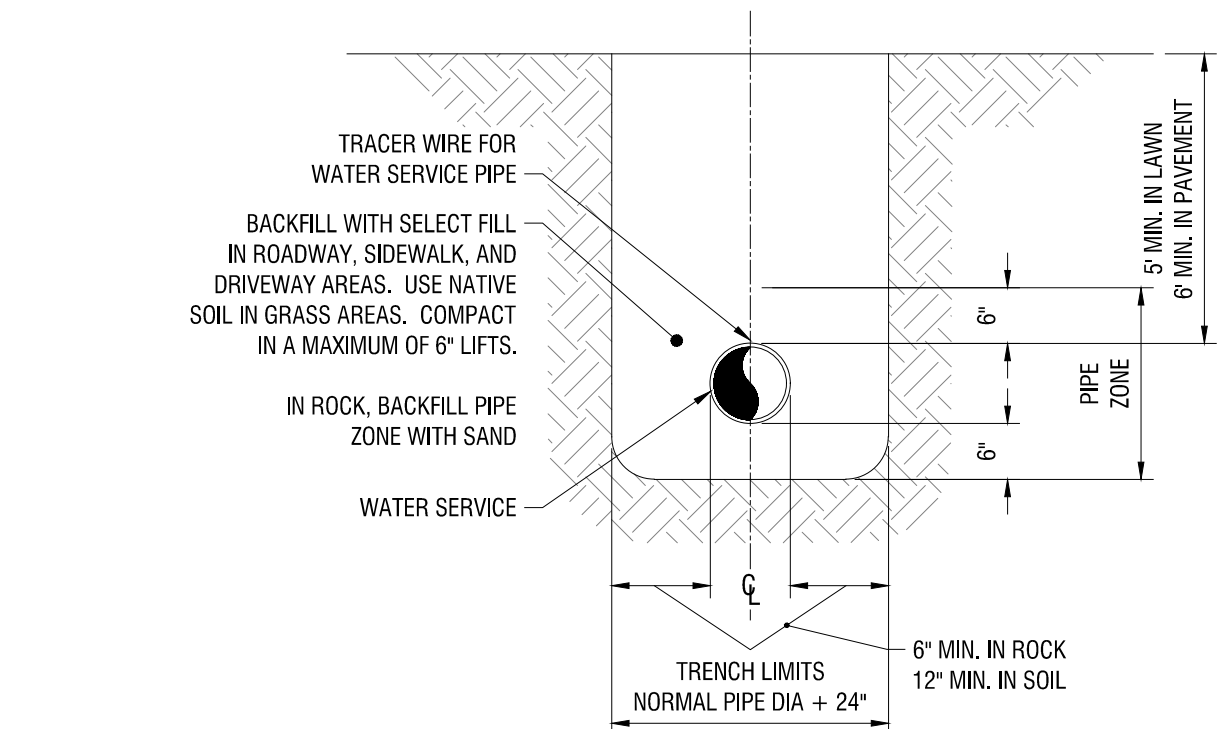
DRAWING NUMBER:

C504

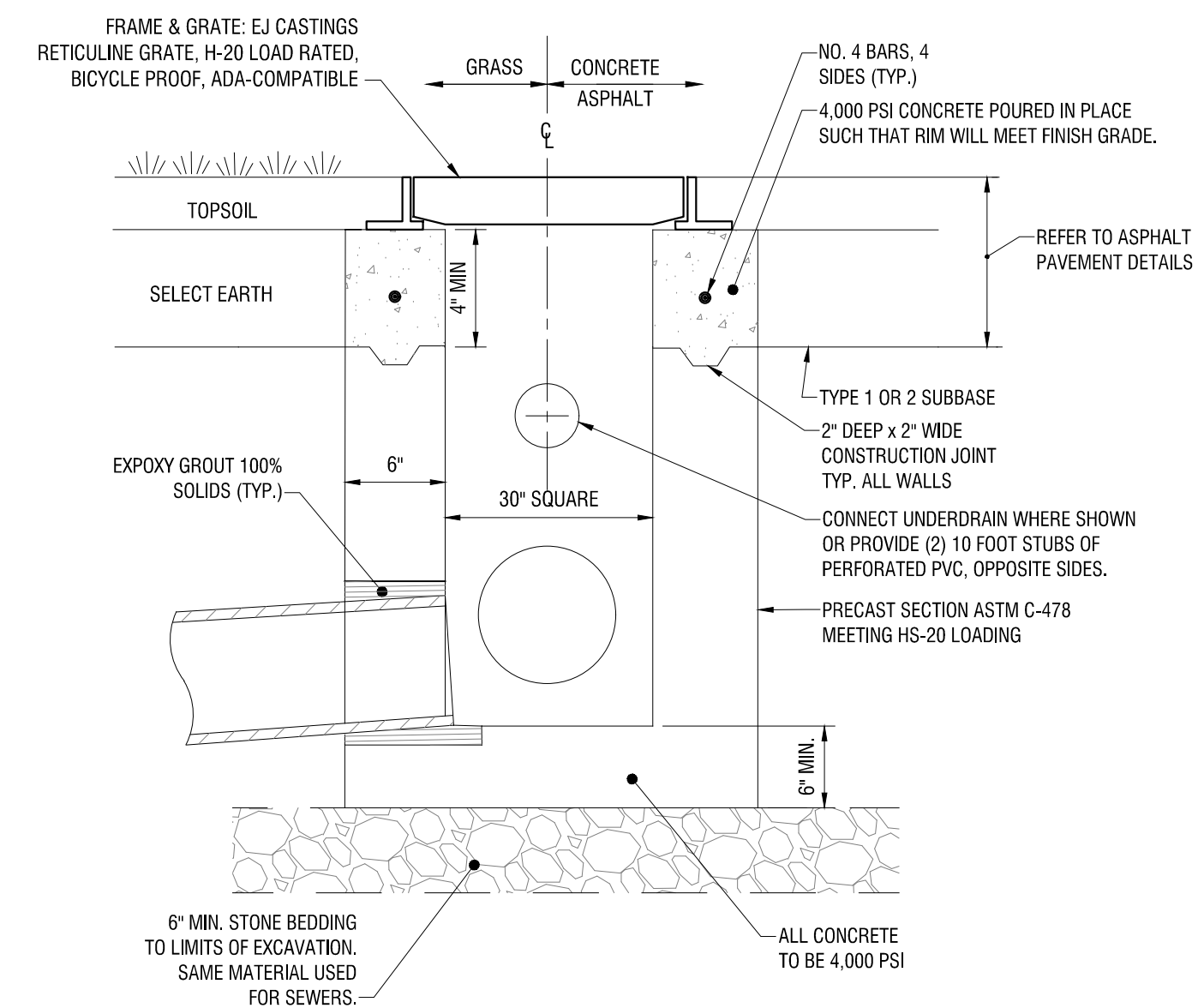


5 DRY SWALE
C504 N.T.S.

- DOT REFERENCES (IF NO SPECS INCLUDED):**
1. UNDERDRAIN FILTER MATERIAL SHALL BE: NY: NYS DOT ITEM NO. 605.0901 TYPE 1
 2. BIO SOIL MIX SHALL MEET: NY: NYS DOT BIO SOIL MIX ITEM #208.01030022

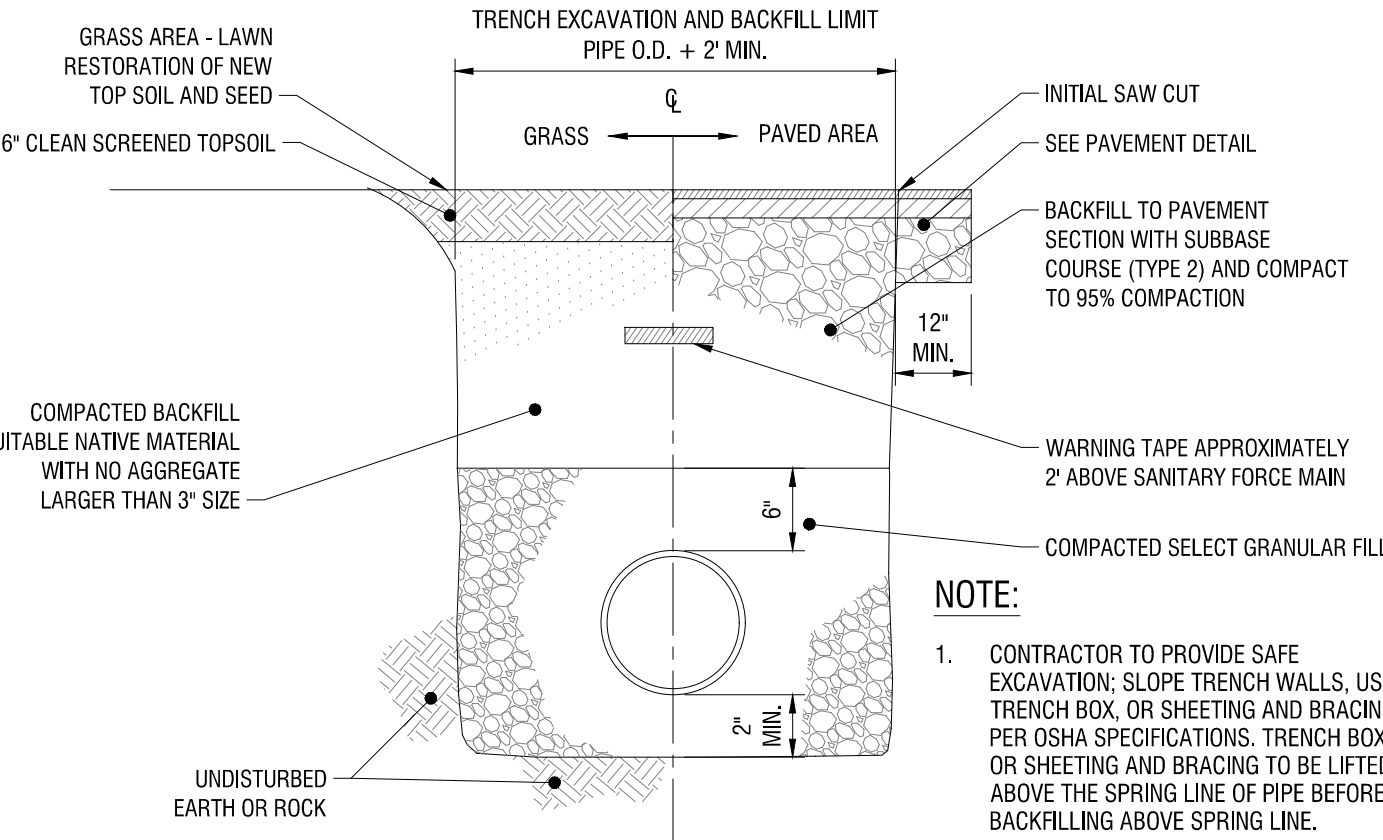


3 WATER SERVICE TRENCH
C504 N.T.S.



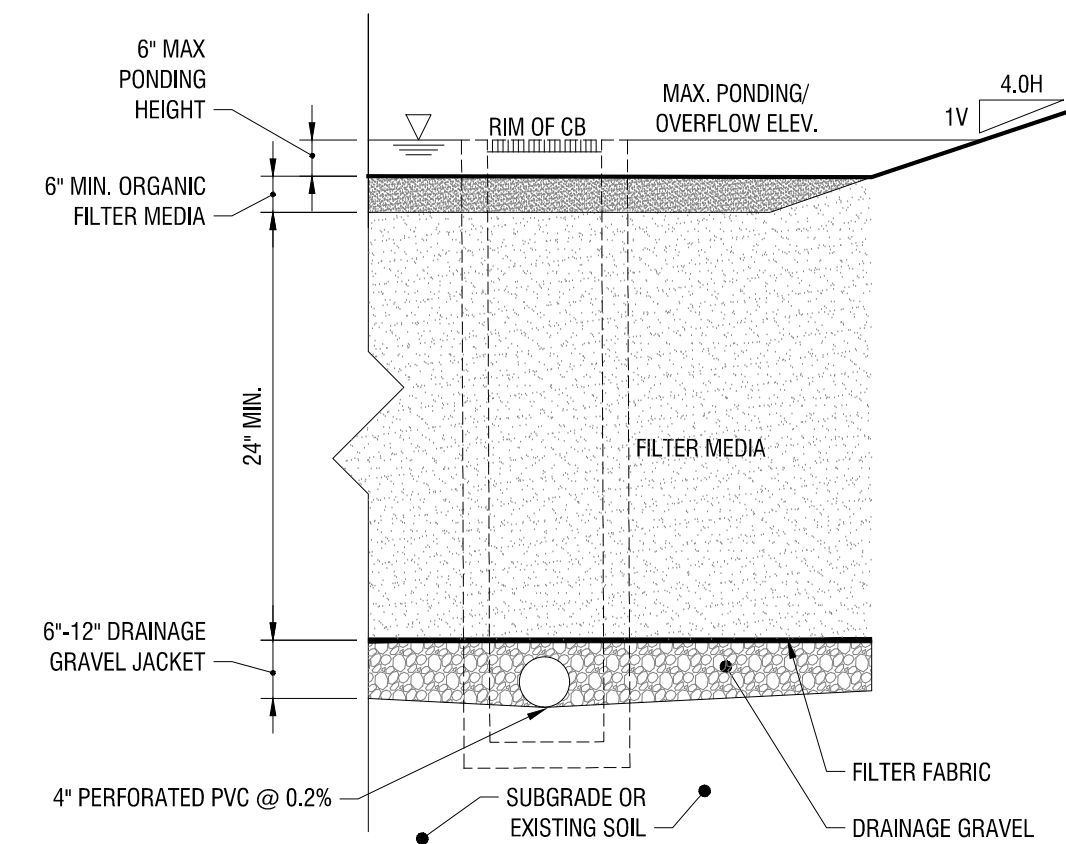
- NOTES:**
1. THE ENTIRE EXTERIOR & INTERIOR SURFACES OF THE CATCH BASIN SHALL BE PAINTED WITH TWO COATS OF BITUMASTIC COATING.
 2. CATCH BASIN SHALL NOT BE CONNECTED TO ANY SANITARY SEWER.
 3. PROVIDE FRAMES AND GRATES CONFORMING TO NYS DOT STANDARD SHEETS M655-10R3, M655-6.
 4. FRAMES TO HAVE APPROPRIATE STRAP ANCHORS.

1 CATCH BASIN
C504 N.T.S.



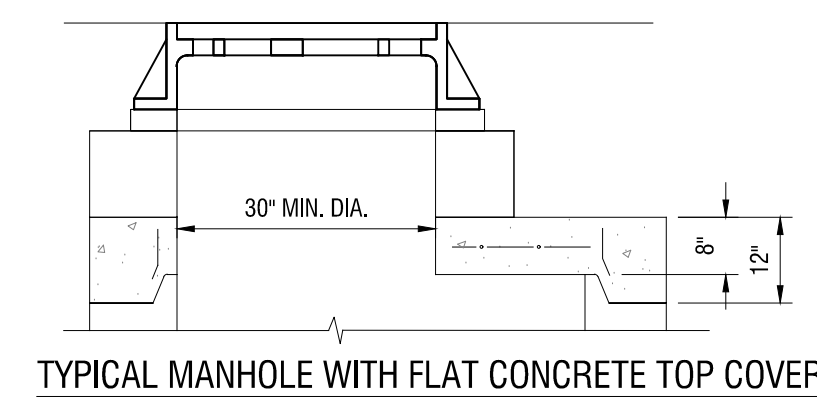
6 SANITARY SEWER FORCE MAIN TRENCH
C504 N.T.S.

- NOTE:**
1. CONTRACTOR TO PROVIDE SAFE EXCAVATION: SLOPE TRENCH WALLS, USE TRENCH BOX, OR SHEETING AND BRACING PER OSHA SPECIFICATIONS. TRENCH BOX OR SHEETING AND BRACING TO BE LIFTED ABOVE THE SPRING LINE OF PIPE BEFORE BACKFILLING ABOVE SPRING LINE.

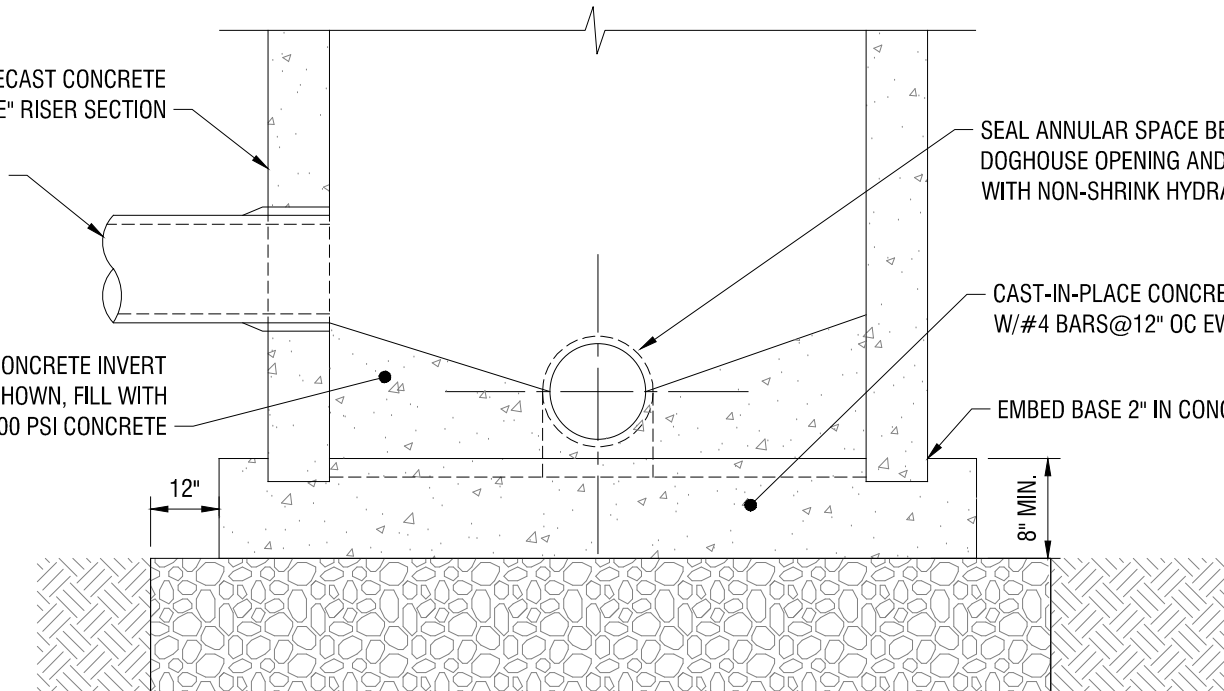


4 BIORETENTION
C504 N.T.S.

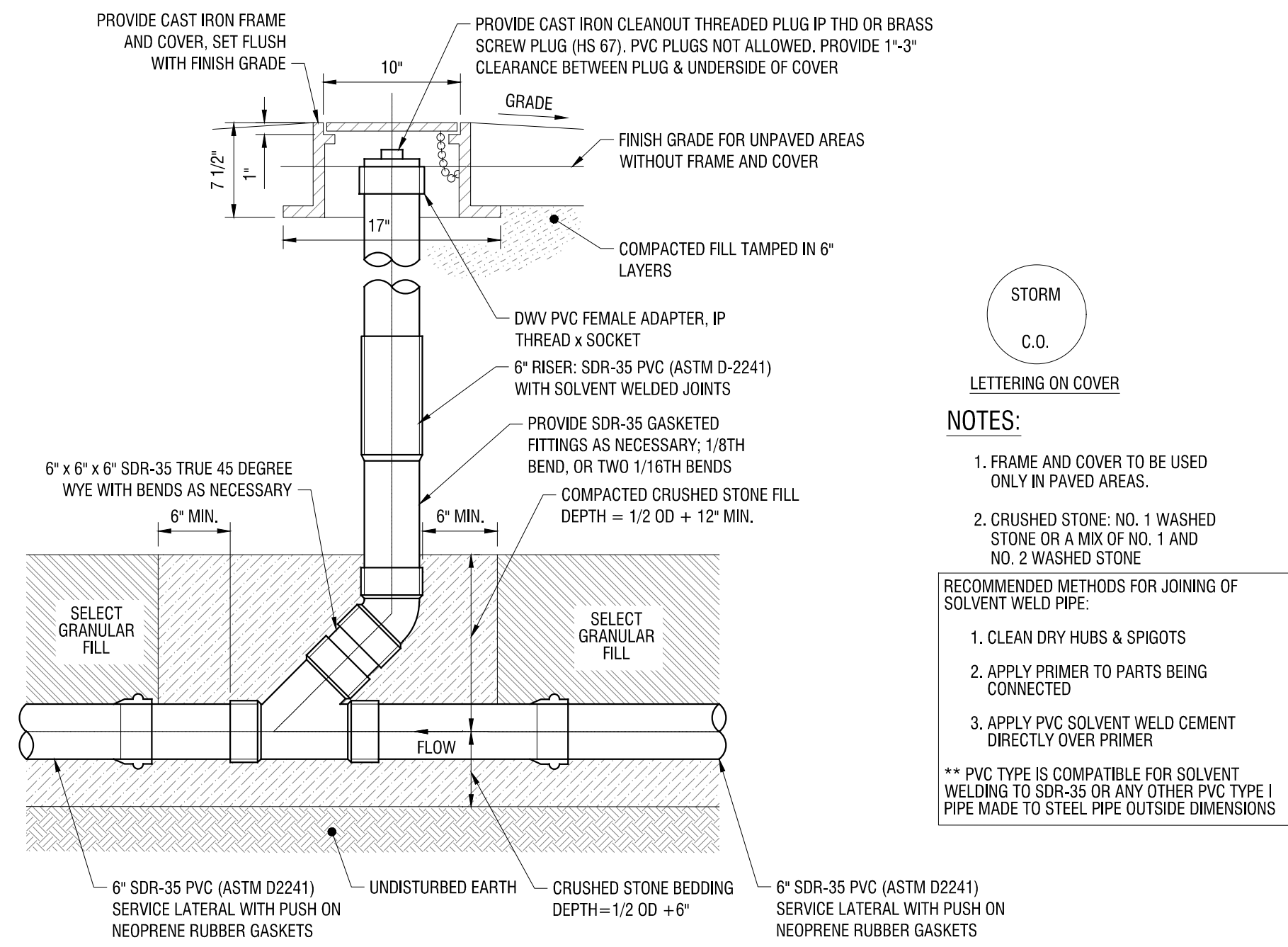
- NOTES:**
1. CONTRACTOR SHALL INSTALL FILTER MEDIA AFTER SITE HAS BEEN STABILIZED TO MINIMIZE POTENTIAL OF SEDIMENT CONTAMINATION OF MEDIA.
 2. FILTER MEDIA SHALL BE LOAM/SAND MIX, NYS DOT BIO SOIL MIX ITEM #208.01030022, CONTAINING A MINIMUM OF 85% TO 88% COARSE/MEDIUM SAND BY VOLUME, 8% TO 12% SOIL FINES, AND 3% TO 5% ORGANIC MATTER.
 3. ORGANIC FILTER MEDIA SHALL MEET SAME CRITERIA AS ABOVE WITH THE EXCEPTION OF CONTAINING 10% TO 12% ORGANIC MATTER.
 4. SOIL SHOULD FALL WITHIN USCS TYPES SM OR ML WITH PERMEABILITY OF AT LEAST 1.0 FEET PER DAY. SOIL SHOULD BE FREE FROM STONES, STUMPS, ROOTS OR OTHER WOODY MATERIAL OVER 1" IN DIAMETER.
 5. PLACEMENT OF THE PLANTING SOIL SHOULD BE IN LIFTS OF 12" TO 18", LOOSELY COMPACTED TO AT MOST 80% PROCTOR TEST, PH RANGE: 5.2 - 7.00.
 6. FILTER FABRIC TO BE NON-WOVEN CLASS 'C', MIRAFI 180-N OR APPROVED EQUIVALENT
 7. DRAINAGE GRAVEL TO MEET AASHTO M-43, NO. 67, SIZE 0.25" TO 0.75"
 8. CONTRACTOR TO PROVIDE PLANTING SOIL SUBMITTAL SPECIFICATION FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
 9. WETLAND SEED MIX SHALL BE USED AS INDICATED IN SPECIFICATIONS.
 10. CONTRACTOR SHALL PROVIDE AT LEAST TWO PERMEABILITY TESTS FOR EACH FACILITY LOCATED AT OPPOSITE SIDES OF FACILITY.



TYPICAL MANHOLE WITH FLAT CONCRETE TOP COVER



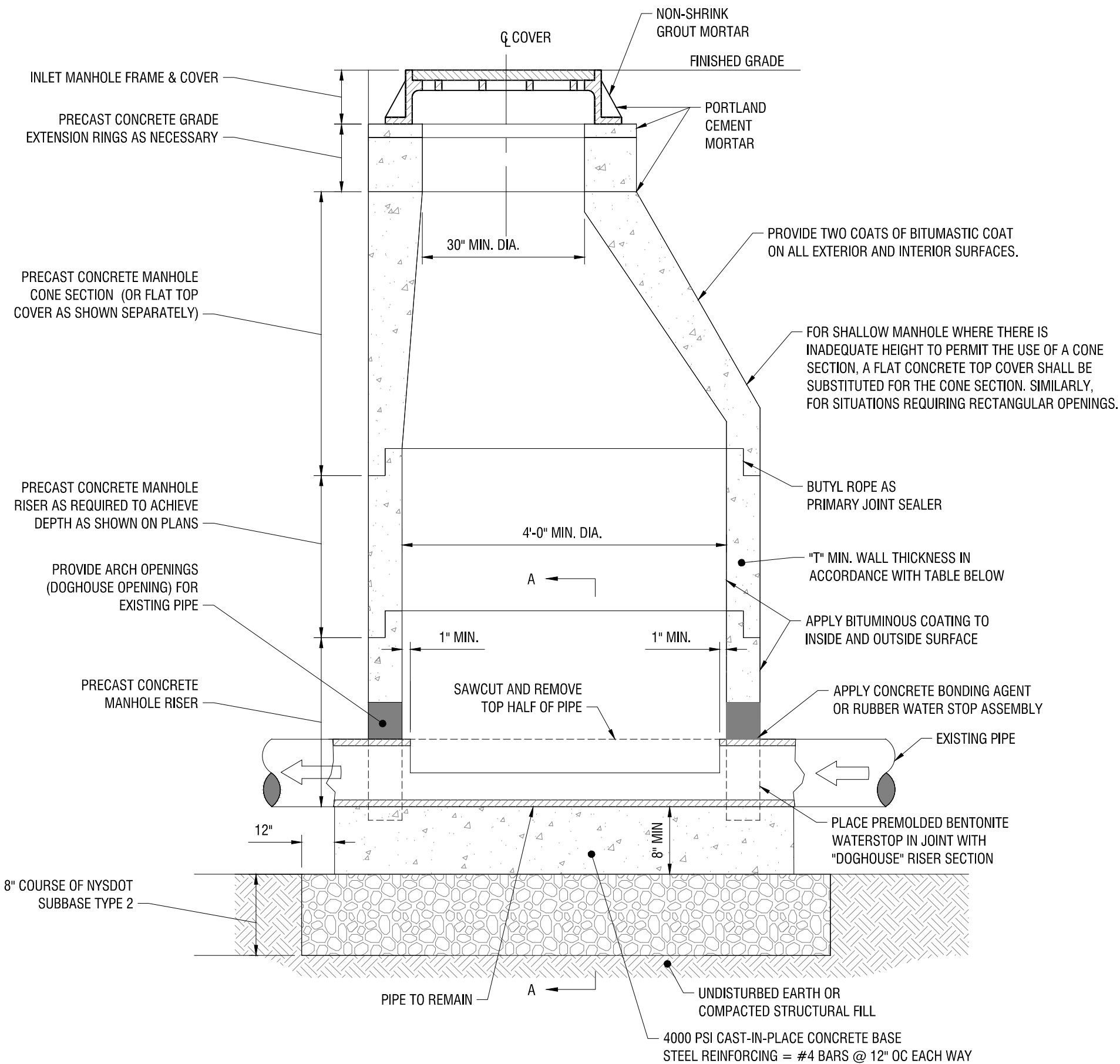
SECTION A-A



7 CLEANOUT FOR NEW STORM LATERAL
C504 N.T.S.

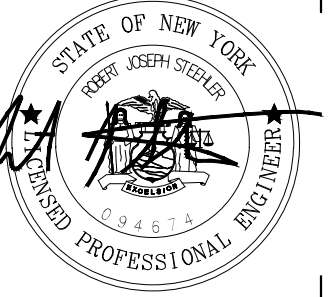
STORM C.O.
LETTERING ON COVER

- NOTES:**
1. FRAME AND COVER TO BE USED ONLY IN PAVED AREAS.
 2. CRUSHED STONE: NO. 1 WASHED STONE OR A MIX OF NO. 1 AND NO. 2 WASHED STONE
- RECOMMENDED METHODS FOR JOINING OF SOLVENT WELD PIPE:**
1. CLEAN DRY HUBS & SPIGOTS
 2. APPLY PRIMER TO PARTS BEING CONNECTED
 3. APPLY PVC SOLVENT WELD CEMENT DIRECTLY OVER PRIMER
- ** PVC TYPE IS COMPATIBLE FOR SOLVENT WELDING TO SDR-35 OR ANY OTHER PVC TYPE I PIPE MADE TO STEEL PIPE OUTSIDE DIMENSIONS**



- NOTES:**
1. INVERT SHALL BE FILLETED.
 2. REINFORCEMENT FOR MANHOLE COMPONENTS SHALL BE DESIGNED BY A LICENSED NEW YORK STATE PROFESSIONAL ENGINEER PRIOR TO CONSTRUCTION. SHOP DRAWINGS SHALL BE SUBMITTED FOR REVIEW. STRUCTURE SHALL BE DESIGNED FOR HS20-44 VEHICULAR LOADING PLUS 25% IMPACT.
 3. CONCRETE TO TEST 4000 P.S.I. AT 28 DAYS IN CONFORMANCE WITH A.S.T.M. C-478.
 4. BENCH SHALL BE BUILT FOR FLOW BETWEEN INLET AND OUTLET.
 5. EACH MANHOLE EXTERIOR SHALL RECEIVE TWO BITUMASTIC COATS.

2 PRECAST CONCRETE DOGHOUSE MANHOLE
C504 N.T.S.



It is a violation of New York Education Law Article 145 Sec. 7209, for any person, unless acting under the direction of a licensed architect, professional engineer, or land surveyor, to alter an item in any way. If an item bearing the seal of an architect, engineer, or land surveyor is altered; the altering architect, engineer, or land surveyor shall affix to the item their seal and notation "altered by" followed by their signature and date of such alteration, and a specific description of the alteration.

© 2022 LaBella Associates

DEPAUL PROPERTIES
1931 BUFFALO ROAD
ROCHESTER, NY 14624

DEPAUL WATERTOWN APARTMENTS
COMMERCE PARK DRIVE
WATERTOWN, NY 13601

NO.	DATE	DESCRIPTION
Revisions		

PROJECT NUMBER: 2223896

DRAWN BY: OLA/SCB/SRV

REVIEWED BY: DPB

ISSUED FOR: SITE PLAN APPROVAL

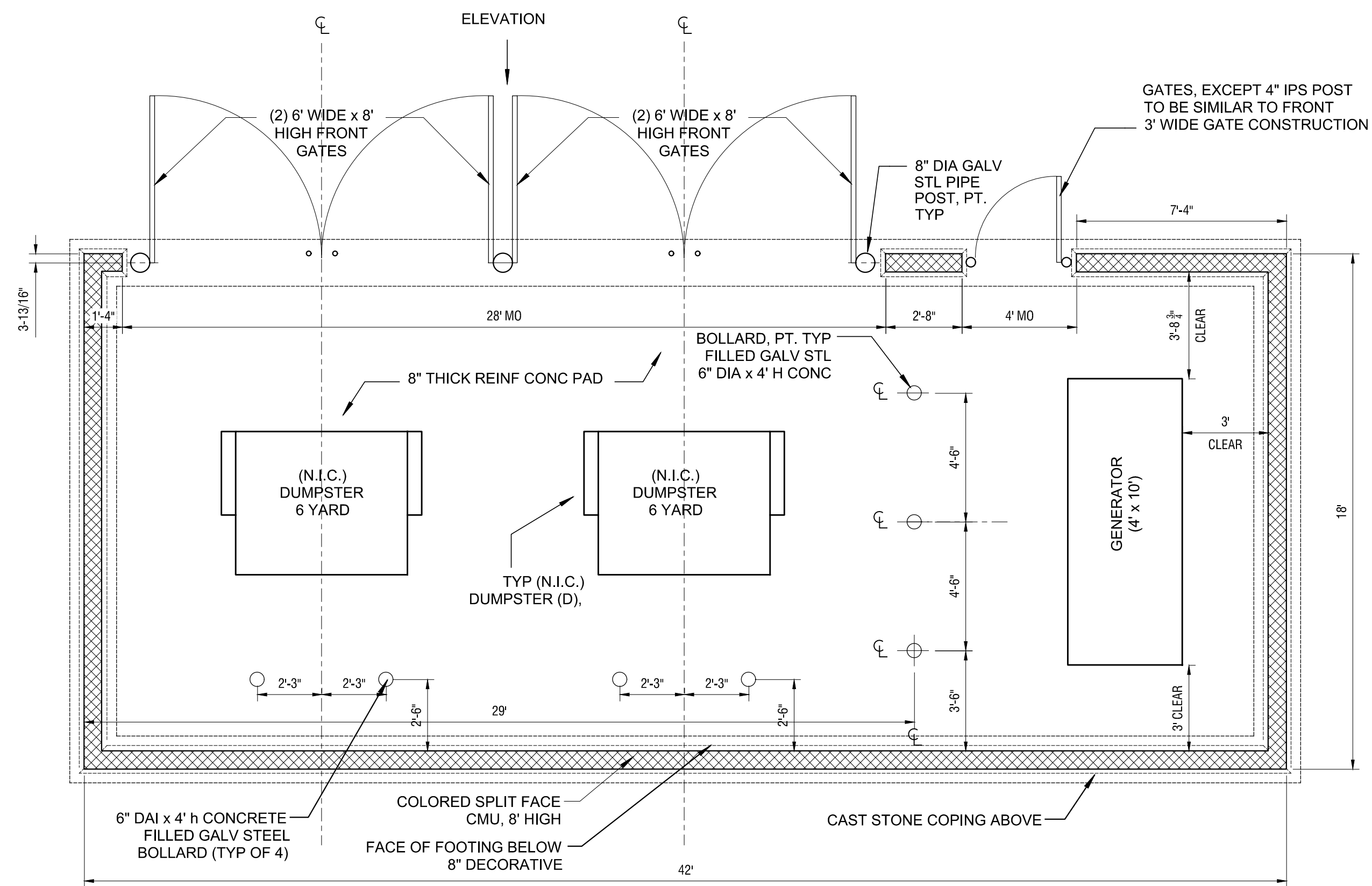
DATE: MAY 2023

DRAWING NUMBER:

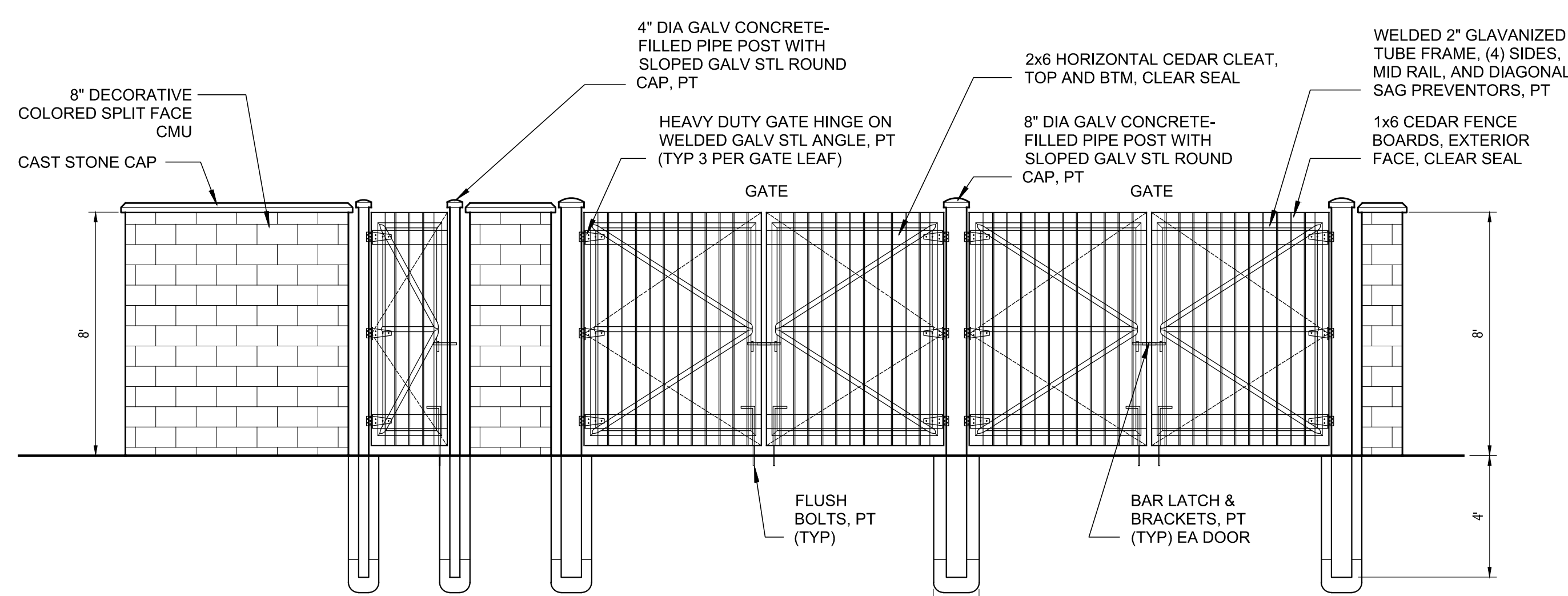
CONSTRUCTION DETAILS

DRAWING NUMBER:

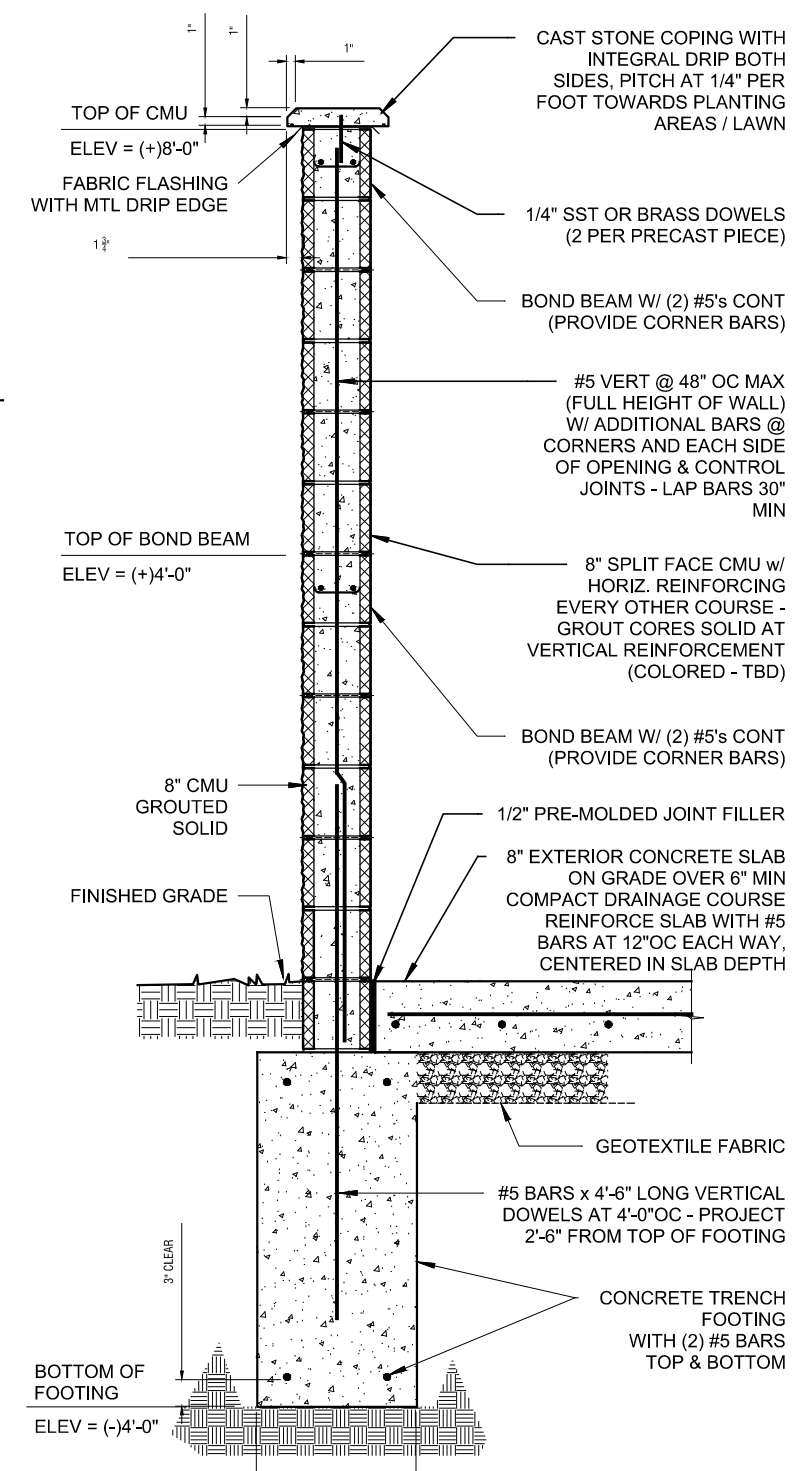
C505



PLAN



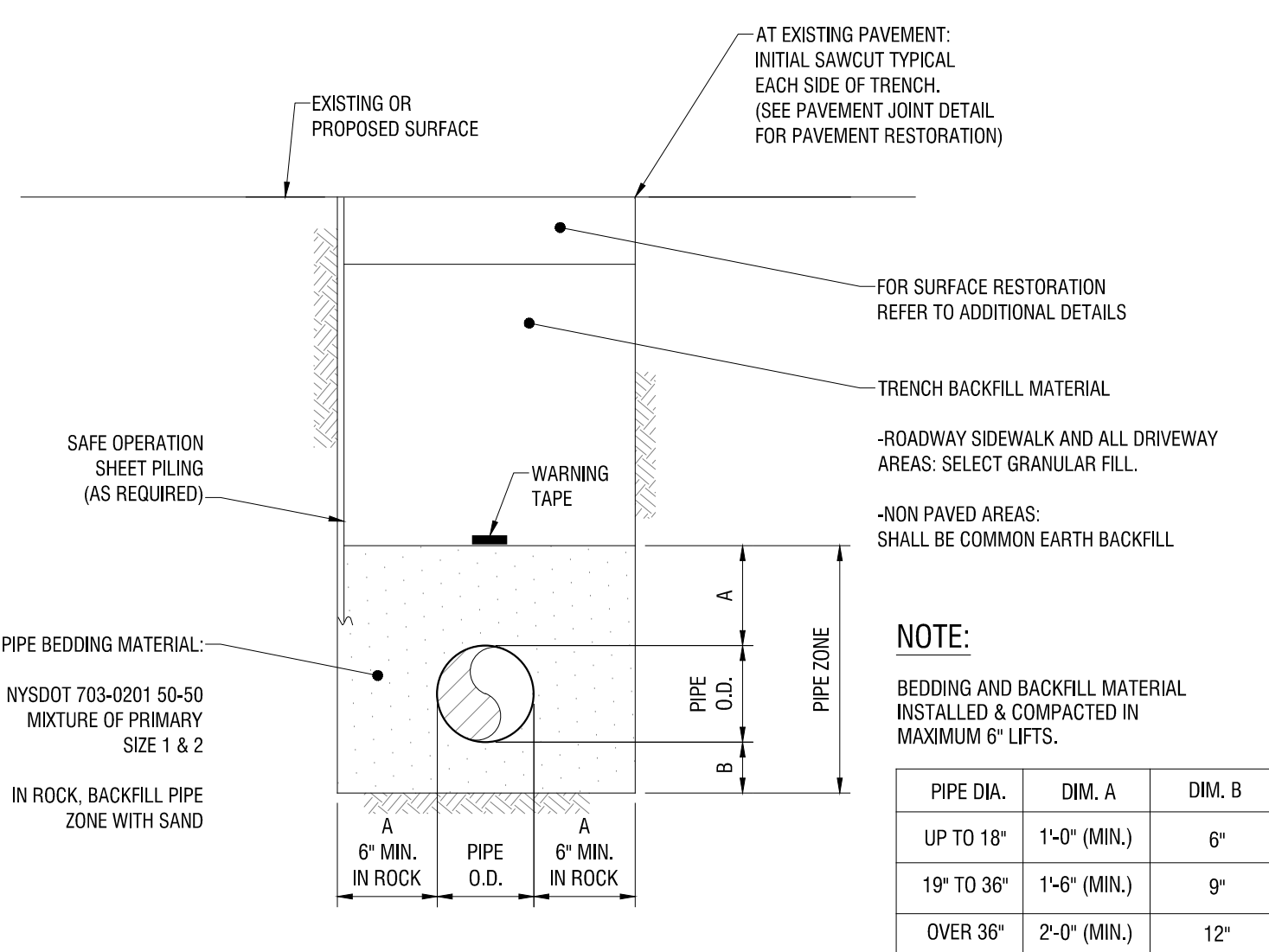
ELEVATION



SIDE VIEW

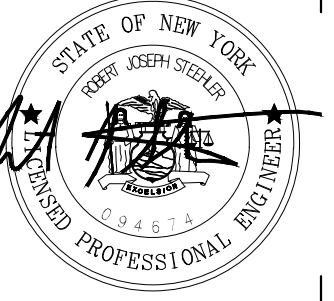
NOTE: UNDERCUT AT DUMPSTER PAD. INSTALL TENSAR BX1200 GEGRID PRIOR TO BACKFILLING. BACKFILL WITH NYSDOT 304.12 CRUSHER RUN STONE.

- NOTES:
- COORDINATE EXACT LOCATION OF ENCLOSURE WITH CIVIL DRAWINGS
 - COORDINATE BTM OF GATES WITH GRADE TO ALLOW DOORS TO SWING FULLY OPEN WITHOUT BINDING ON THE PAVEMENT
 - PROVIDE CLEAR SEALER ON ALL WOODEN PARTS
 - CMU COLOR TO BE SELECTED BY ARCHITECT FROM MANUFACTURER'S STANDARD RANGE



2 STORM/SANITARY SEWER TRENCH AND PIPE BEDDING
C505 N.T.S.

1 DUMPSTER AND TRANSFORMER ENCLOSURE
C505 N.T.S.



It is a violation of New York Education Law Article 145 Sec. 7209, for any person, unless acting under the direction of a licensed architect, professional engineer, or land surveyor, to alter an item in any way. If an item bearing the seal of an architect, engineer, or land surveyor is altered; the altering architect, engineer, or land surveyor shall affix to the item their seal and notation "altered by" followed by their signature and date of such alteration, and a specific description of the alteration.

© 2022 LaBella Associates

DEPAUL PROPERTIES

1931 BUFFALO ROAD
ROCHESTER, NY 14624

DEPAUL WATERTOWN APARTMENTS

COMMERCE PARK DRIVE
WATERTOWN, NY 13601

NO.	DATE	DESCRIPTION
Revisions		

PROJECT NUMBER: 2223896

DRAWN BY:

REVIEWED BY:

ISSUED FOR: SITE PLAN APPROVAL

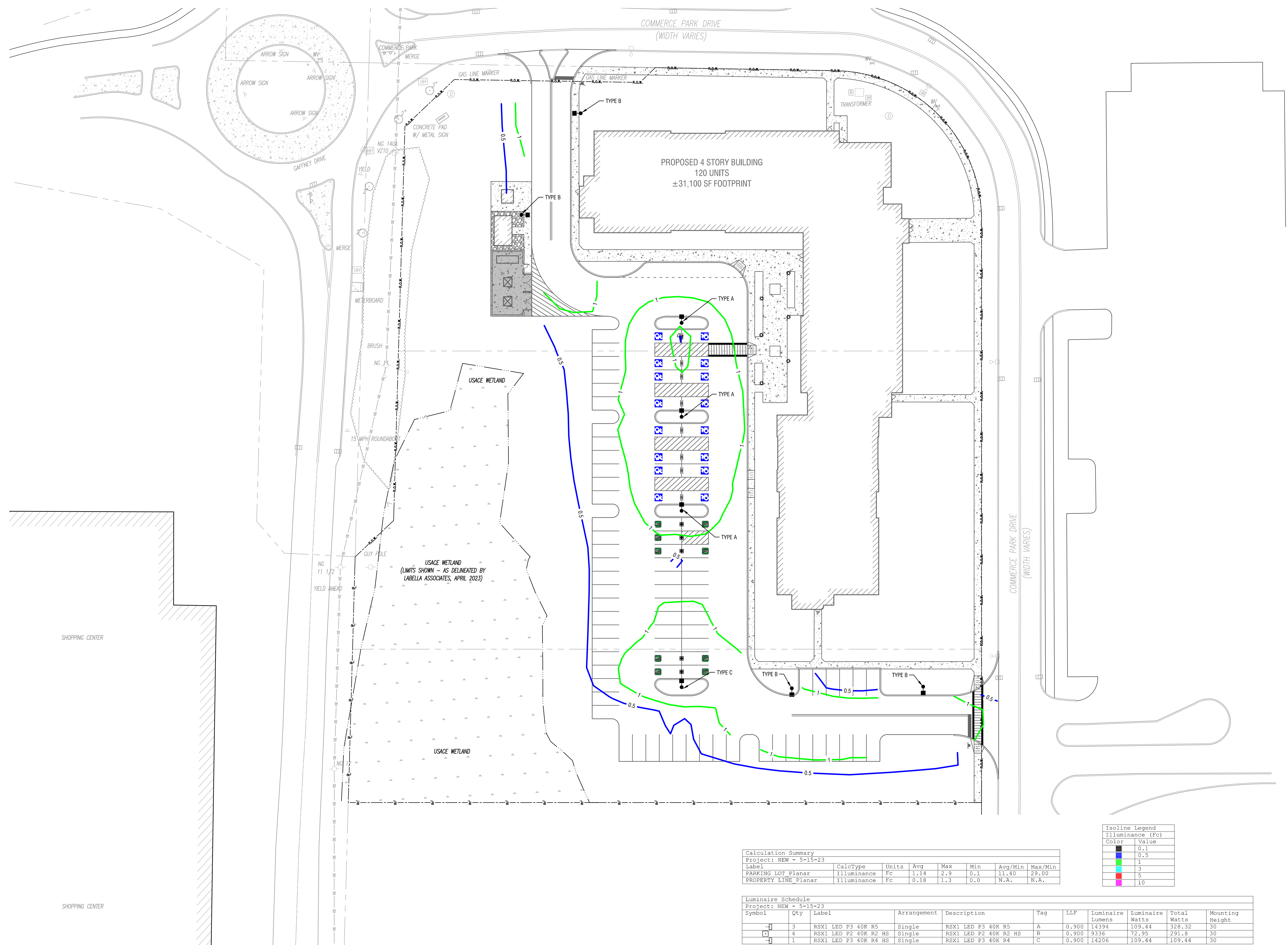
DATE: MAY 2023

DRAWING NAME:

LIGHTING PLAN

DRAWING NUMBER:

E101



Calculation Summary
Project: NEW - S-15-23

Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
PARKING LOT Planar	Illuminance	Fc	1.14	2.9	0.1	11.40	29.00
PROPERTY LINE Planar	Illuminance	Fc	0.18	1.3	0.0	N.A.	N.A.

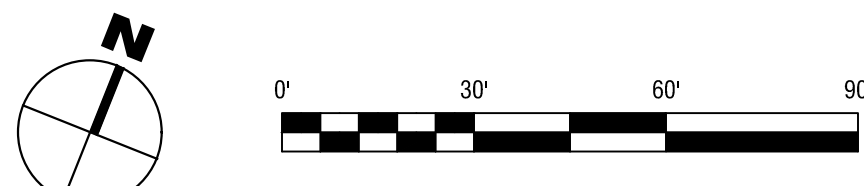
Luminaire Schedule
Project: NEW - S-15-23

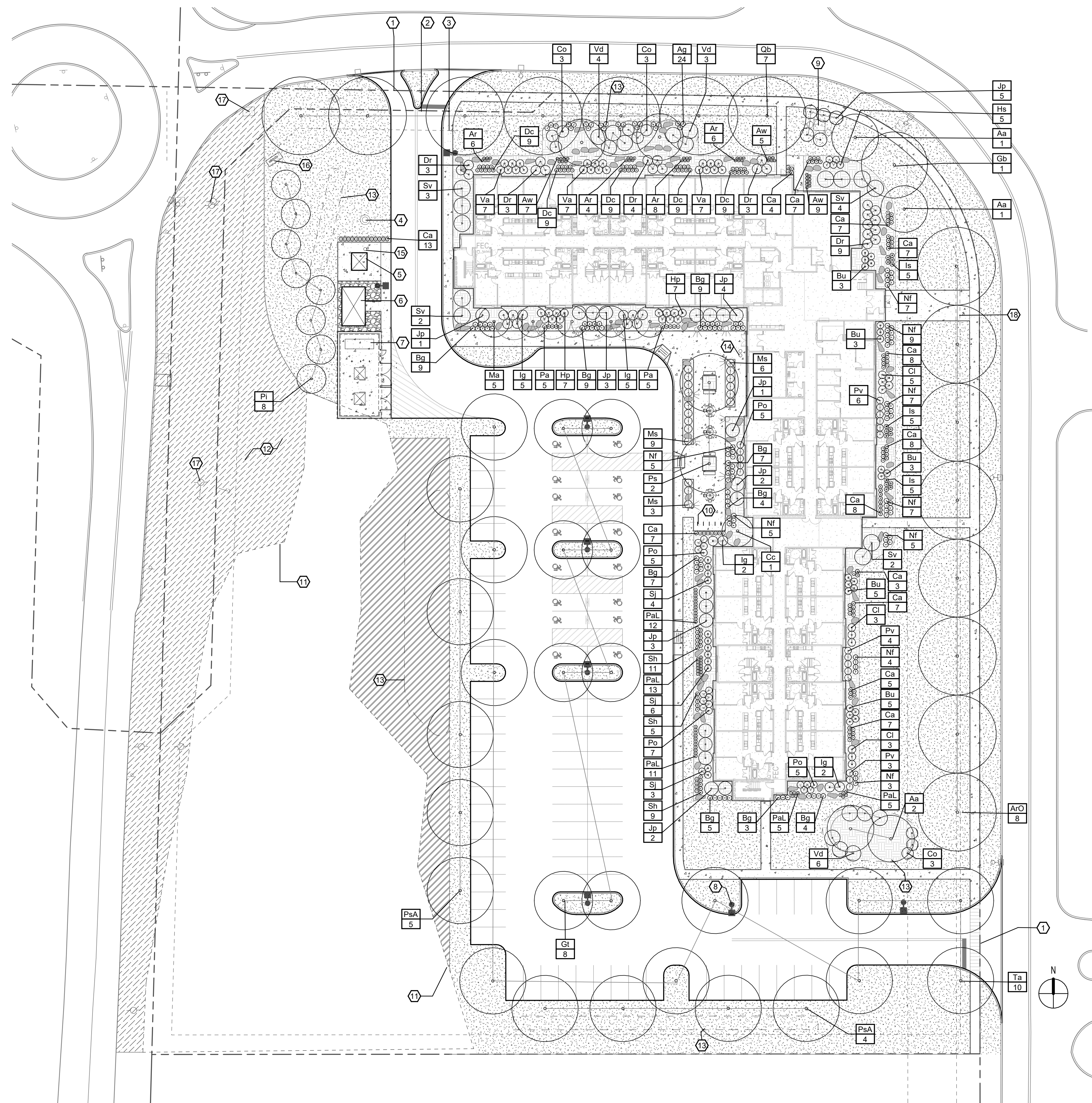
Symbol	Qty	Label	Arrangement	Description	Tag	LLF	Luminaire Lumens	Luminaire Watts	Total Watts	Mounting Height
□	3	RSX1 LED P3 40K R5	Single	RSX1 LED P3 40K R5	A	0.900	14394	109.44	328.32	30
□	4	RSX1 LED P2 40K R2 HS	Single	RSX1 LED P2 40K R2 HS	B	0.900	9336	72.95	291.8	30
□	1	RSX1 LED P3 40K R4 HS	Single	RSX1 LED P3 40K R4	C	0.900	14206	109.44	109.44	30

Isoline Legend
Illuminance (Fc)

Color	Value
Black	0.1
Blue	0.5
Green	1
Yellow	3
Orange	5
Red	10

1 LIGHTING PLAN
SCALE: 1" = 30'





1 Landscape Plan
1" = 30'-0"

LAYOUT PLAN KEYNOTES	
Keynote Number	Keynote Description
1	PROPERTY LINE, TYP.
2	RIGHT OF WAY LINE, TYP.
3	SETBACKS, TYP.
4	FLAGPOLE WITH GROUND MOUNTED UP LIGHTS
5	BREAK SHELTER
6	STORAGE SHED
7	DUMPSTER AND GENERATOR ENCLOSURE
8	PARKING LIGHTING, TYP.
9	EXISTING TRANSFORMER
10	BIKE RACKS, TYP.
11	EXISTING WETLAND BOUNDARY, TYP.
12	DISTURBED AREAS TO BE HYDROSEEDED WITH LAWN MIX
13	STORMWATER MANAGEMENT AREA
14	WASTE BINS
15	OUTDOOR ASH URN
16	EXISTING SIGN
17	UTILITY STRUCTURE, TYP. SEE CIVIL SERIES
18	EXISTING UTILITY EASEMENT

LANDSCAPE LEGEND	
	PLANT MATERIAL
	SITE BOULDERS
	COURTYARD BOLLARD LIGHT
	PARKING LIGHTING
	COURTYARD TABLE WITH UMBRELLA AND ACCESSIBLE SEATING
	BENCH
	PROPERTY LINE / ROW
	SETBACKS
	PLANTING BED
	SOD LAWN
	WILDFLOWER SEEDING
	SEEDED LAWN
	PEA GRAVEL
	CONCRETE

DECIDUOUS TREES						
KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	REMARKS
ArO	8	Acer rubrum 'October Glory'	Red maple 'October Glory'	2"-2.5" CAL	AS SHOWN	SIMILAR FORM
Aa	6	Amelanchier arborea 'Autumn Brilliance'	'Autumn Brilliance' Downy serviceberry	5'-6' HT	AS SHOWN	MULTI STEM
Cc	1	Cercis canadensis 'Forest Pansy'	'Forest pansy' Eastern redbud	1.5"-2" CAL	AS SHOWN	SIMILAR FORM
Gb	1	Ginkgo biloba	Red maple 'October Glory'	2"-2.5" CAL	AS SHOWN	SIMILAR FORM
Gt	8	Gleditsia triacanthos inermis 'Shademaster'	'Shademaster' Thornless honey locust	2"-2.5" CAL	AS SHOWN	SIMILAR FORM
Ma	5	Malus 'Spring Snow'	'Spring Snow' Crabapple	2"-2.5" CAL	AS SHOWN	SIMILAR FORM
PsA	5	Prunus sargentii 'Accolade'	Accolade Sargent Cherry	2"-2.5" CAL	AS SHOWN	SIMILAR FORM
Ps	2	Prunus subhirtella 'Autumnalis'	Higan cherry	2.5"-3" CAL	AS SHOWN	SIMILAR FORM AND HIGH BRANCHED
Qb	7	Quercus bicolor	Swamp White Oak	2"-2.5" CAL	AS SHOWN	SIMILAR FORM
Ta	14	Tilia americana 'Redmond'	American Linden 'Redmond'	2"-2.5" CAL	AS SHOWN	SIMILAR FORM

EVERGREEN TREES						
KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	REMARKS
Pi	8	Picea abies	Norway spruce	6'-7' HT	15" O.C.	

ORNAMENTAL GRASSES						
KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	REMARKS
Ag	24	Andropogon gerardi	Big Bluestem	#1 CONT	AS SHOWN	
Bg	62	Bouteloua gracilis 'Blonde Ambition'	'Blonde Ambition' Blue grama grass	#1 CONT	30" O.C.	
Ca	92	Calamagrostis x acutiflora 'Karl Foerster'	'Karl Foerster' Feather reed grass	#1 CONT	24" O.C.	
Dc	45	Deschampsia cespitosa 'Northern Lights'	Tufted Hair Grass	#1 CONT	24" O.C.	
Ms	18	Miscanthus sinensis 'Morning Light'	'Morning Light' Maidengrass	#3 CONT	48" O.C.	
Pv	14	Panicum virgatum 'Shenandoah'	'Shenandoah' Switch grass	#3 CONT	36" O.C.	
Pa	10	Pennisetum alopecuroides 'Hameln'	'Hameln' Dwarf fountain grass	#1 CONT	24" O.C.	
Sh	25	Sporobolus heterolepis	Prairie Dropseed	#1 CONT	24" O.C.	

SHRUBS						
KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	REMARKS
Bu	21	Buxus 'Green Gem'	'Green Gem' Boxwood	#5 Cont.	40" O.C.	
Co	9	Cephalanthus occidentalis	Buttonbush	#5 Cont.	6' O.C.	
Cl	11	Clethra alnifolia 'Compacta'	'Compacta' Summersweet clethra	#5 Cont.	4' O.C.	
Dr	22	Diervilla rivularis 'Kodiak black'	'Kodiak Black' Bush honeysuckle	#5 Cont.	5' O.C.	
Hp	14	Hydrangea paniculata Little lime®	Little lime® hardy hydrangea	#5 Cont.	4' O.C.	
Ig	14	Ilex glabra 'Gold Mine'	Variiegated Inkberry	#5 Cont.	5' O.C.	
Jp	24	Juniperus x pfitzeriana 'Sea Green'	'Sea Green' Juniper	#5 Cont.	7' O.C.	
Sj	13	Spiraea japonica 'Goldflame'	'Goldflame' Japanese spirea	#3 Cont.	42" O.C.	
Is	15	Spiraea nipponica 'Snowmound'	Snowmound spirea	#3 Cont.	30" O.C.	
Sv	11	Spiraea x vanhouttei	Vanhoutte spirea	#5 Cont.	9' O.C.	
Po	22	Tiny Wine® Ninebark Physocarpus opulifolius	Tiny Wine® Ninebark	#5 Cont.	42" O.C.	
Va	21	Viburnum acerifolium	Maple leaf viburnum	#5 Cont.	48" O.C.	
Vd	13	Viburnum dentatum	Arrowwood viburnum	#5 Cont.	AS SHOWN	

PERENNIALS						
KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	REMARKS
Ar	24	Astilbe chinensis 'Vision in Red'	'Vision in Red' Astilbe	#3 CONT	18" O.C.	
Aw	21	Astilbe chinensis 'Vision in White'	'Vision in White' Astilbe	#3 CONT	18" O.C.	
Hs	5	Hosta sieboldiana 'Elegans'	'Elegans' Plantain lily	#1 CONT	42" O.C.	
Nf	52	Nepeta x faassenii	Nepeta	#1 CONT	24" O.C.	
PaL	46	Perovskia atriplicifolia 'Little Spire'	'Little Spire' Russian sage	#1 CONT	18" O.C.	

Drawn By: ES
Checked By: Checker
Project Manager: DG

These documents and all the ideas, arrangements, designs and plans indicated thereon or presented thereby are owned by and remain the property of SWBR and no part thereof shall be utilized by any person, firm, or corporation for any purpose whatsoever except with the specific written permission of SWBR. All rights reserved. ©

Revisions

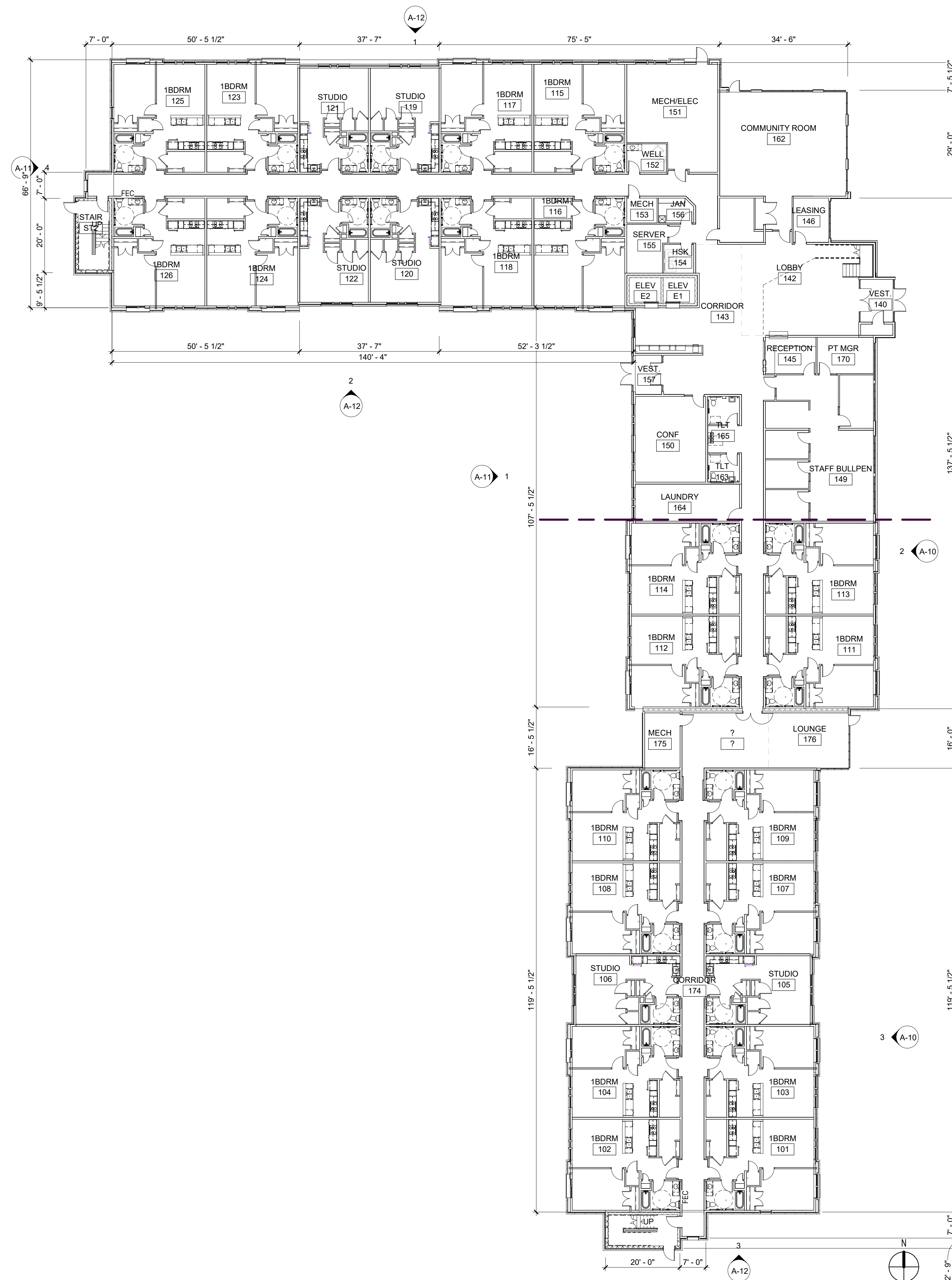
NO.	DESCRIPTION

DePaul Watertown Apartments
SWBR Project Number 22155.00

DePaul
1931 Buffalo Rd Rochester, NY
14526

L-100

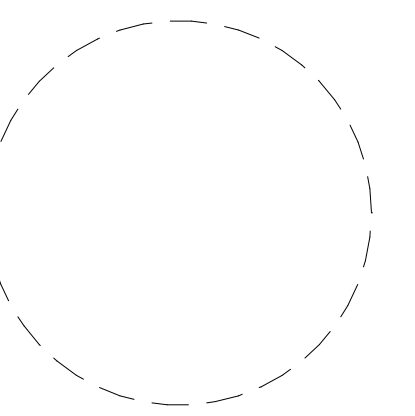
Landscape Plan



BUILDING AREA

	GROSS BUILDING AREA SF (CODE DEFINED) *	INTERIOR GROSS AREA (HCR DEFINED)**	GROSS BUILT AREA***
FIRST FLOOR	28,566	28,566	29,152
SECOND FLOOR	28,490	27,173	27,772
THIRD FLOOR	28,490	28,490	29,069
FOURTH FLOOR	28,490	28,490	29,069
TOTALS	114,036	112,719	115,063

* EXCLUDING FRAMING THICKNESS OF EXTERIOR WALLS, BUT INCLUDING LEVEL 2 AREA ABOVE MAIN LOBBY AND COMMUNITY ROOM
 ** EXCLUDING FRAMING THICKNESS OF EXTERIOR WALLS AND LEVEL 2 AREA ABOVE MAIN LOBBY AND COMMUNITY ROOM
 *** INCLUDING FRAMING THICKNESS OF EXTERIOR WALLS, BUT EXCLUDING LEVEL 2 AREA ABOVE MAIN LOBBY AND COMMUNITY ROOM



Drawn By: KCD
 Checked By: JAW
 Project Manager: JAW

These documents and all the ideas, arrangements, designs and plans indicated thereon or presented thereby are owned by and remain the property of SWBR and no part thereof shall be utilized by any person, firm, or corporation for any purpose whatsoever except with the specific written permission of SWBR. All rights reserved. ©

Revisions

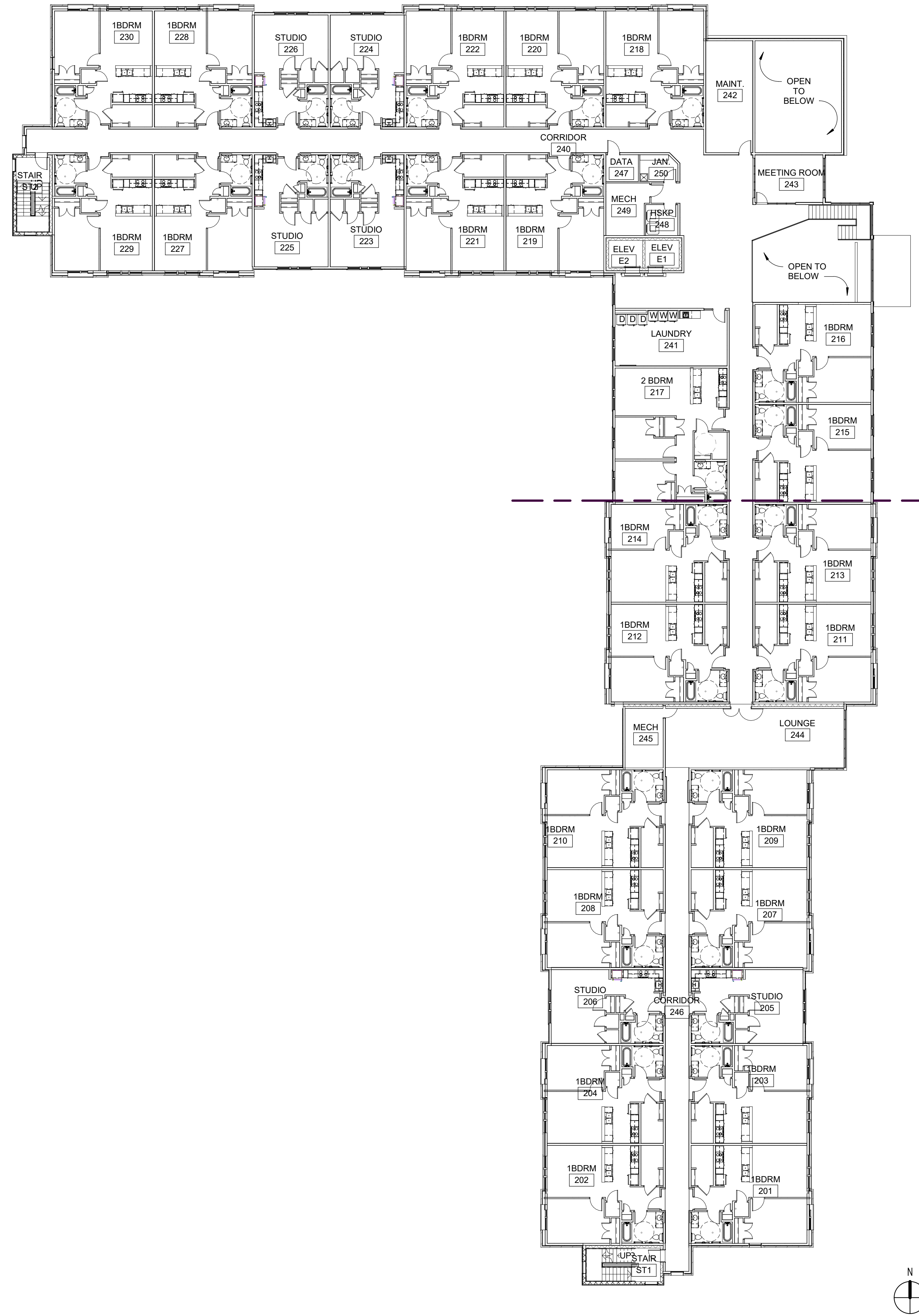
NO.	DESCRIPTION

DePaul Watertown
 SWBR Project Number 22155.00

DePaul
 1931 Buffalo Road
 Rochester NY 14624

A-01
 First Floor Plan

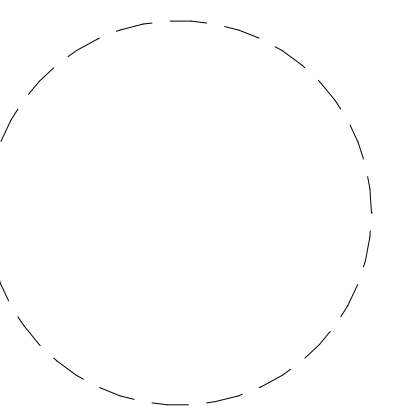
1 OVERALL FIRST FLOOR PLAN
 1/16" = 1'-0"



BUILDING AREA

	GROSS BUILDING AREA SF (CODE DEFINED) *	INTERIOR GROSS AREA (HCR DEFINED)**	GROSS BUILT AREA***
FIRST FLOOR	28,566	28,566	29,152
SECOND FLOOR	28,490	27,173	27,772
THIRD FLOOR	28,490	28,490	29,069
FOURTH FLOOR	28,490	28,490	29,069
TOTALS	114,036	112,719	115,063

* EXCLUDING FRAMING THICKNESS OF EXTERIOR WALLS, BUT INCLUDING LEVEL 2 AREA ABOVE MAIN LOBBY AND COMMUNITY ROOM
 ** EXCLUDING FRAMING THICKNESS OF EXTERIOR WALLS AND LEVEL 2 AREA ABOVE MAIN LOBBY AND COMMUNITY ROOM
 *** INCLUDING FRAMING THICKNESS OF EXTERIOR WALLS, BUT EXCLUDING LEVEL 2 AREA ABOVE MAIN LOBBY AND COMMUNITY ROOM



Drawn By: KCD
 Checked By: JAW
 Project Manager: JAW

These documents and all the ideas, arrangements, designs and plans indicated thereon or presented thereby are owned by and remain the property of SWBR and no part thereof shall be utilized by any person, firm, or corporation for any purpose whatsoever except with the specific written permission of SWBR. All rights reserved. ©

Revisions

DePaul Watertown
 SWBR Project Number 22155.00

DePaul
 1931 Buffalo Road
 Rochester NY 14624

A-02

Second Floor Plan

05/19/2023
 Site Plan Review

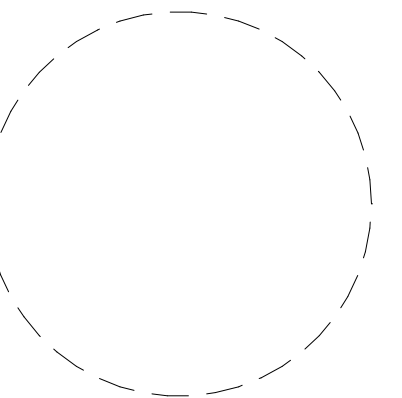
1 OVERALL SECOND FLOOR PAN
 1/16" = 1'-0"



BUILDING AREA

	GROSS BUILDING AREA SF (CODE DEFINED) *	INTERIOR GROSS AREA (HCR DEFINED)**	GROSS BUILT AREA***
FIRST FLOOR	28,566	28,566	29,152
SECOND FLOOR	28,490	27,173	27,772
THIRD FLOOR	28,490	28,490	29,069
FOURTH FLOOR	28,490	28,490	29,069
TOTALS	114,036	112,719	115,063

* EXCLUDING FRAMING THICKNESS OF EXTERIOR WALLS, BUT INCLUDING LEVEL 2 AREA ABOVE MAIN LOBBY AND COMMUNITY ROOM
 ** EXCLUDING FRAMING THICKNESS OF EXTERIOR WALLS AND LEVEL 2 AREA ABOVE MAIN LOBBY AND COMMUNITY ROOM
 *** INCLUDING FRAMING THICKNESS OF EXTERIOR WALLS, BUT EXCLUDING LEVEL 2 AREA ABOVE MAIN LOBBY AND COMMUNITY ROOM



Drawn By: KCD
 Checked By: JAW
 Project Manager: JAW

These documents and all the ideas, arrangements, designs and plans indicated thereon or presented thereby are owned by and remain the property of SWBR and no part thereof shall be utilized by any person, firm, or corporation for any purpose whatsoever except with the specific written permission of SWBR. All rights reserved. ©

Revisions

DePaul Watertown
 SWBR Project Number 22155.00

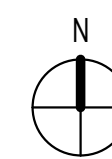
DePaul
 1931 Buffalo Road
 Rochester NY 14624

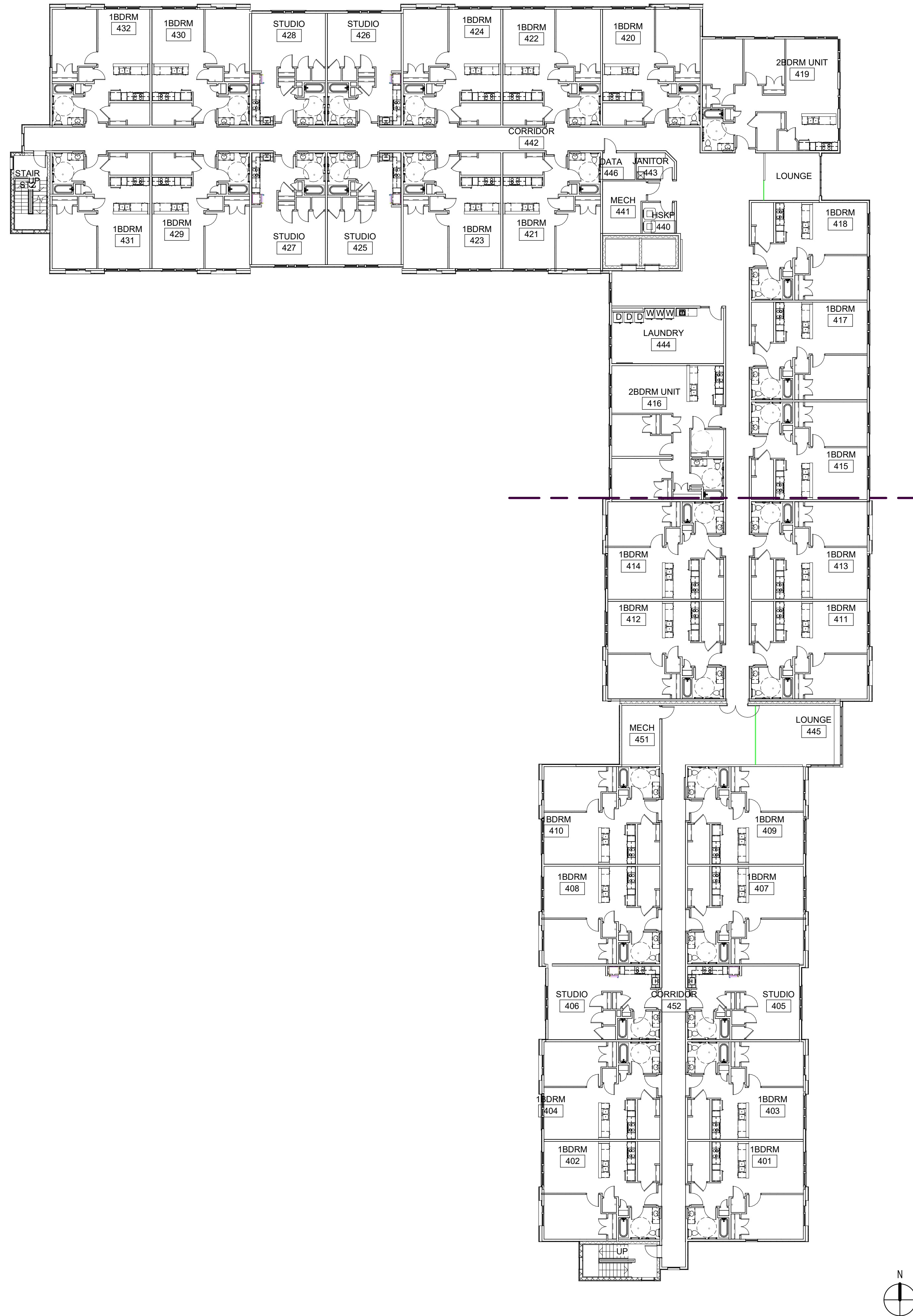
A-03

Third Floor Plan

05/19/2023
 Site Plan Review

1 OVERALL THIRD FLOOR PLAN
 1/16" = 1'-0"

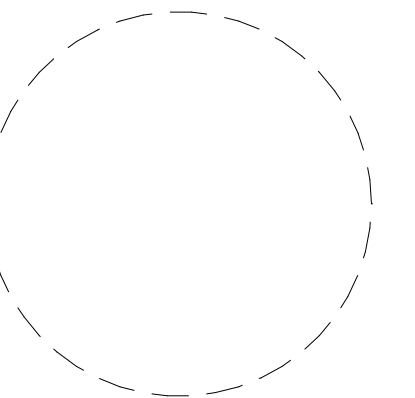




BUILDING AREA

	GROSS BUILDING AREA SF (CODE DEFINED) *	INTERIOR GROSS AREA (HCR DEFINED)**	GROSS BUILT AREA***
FIRST FLOOR	28,566	28,566	29,152
SECOND FLOOR	28,490	27,173	27,772
THIRD FLOOR	28,490	28,490	29,069
FOURTH FLOOR	28,490	28,490	29,069
TOTALS	114,036	112,719	115,063

* EXCLUDING FRAMING THICKNESS OF EXTERIOR WALLS, BUT INCLUDING LEVEL 2 AREA ABOVE MAIN LOBBY AND COMMUNITY ROOM
 ** EXCLUDING FRAMING THICKNESS OF EXTERIOR WALLS AND LEVEL 2 AREA ABOVE MAIN LOBBY AND COMMUNITY ROOM
 *** INCLUDING FRAMING THICKNESS OF EXTERIOR WALLS, BUT EXCLUDING LEVEL 2 AREA ABOVE MAIN LOBBY AND COMMUNITY ROOM



Drawn By: KCD
 Checked By: JAW
 Project Manager: JAW

These documents and all the ideas, arrangements, designs and plans indicated thereon or presented thereby are owned by and remain the property of SWBR and no part thereof shall be utilized by any person, firm, or corporation for any purpose whatsoever except with the specific written permission of SWBR. All rights reserved. ©

Revisions

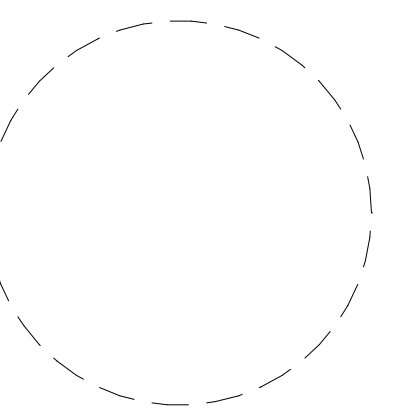
DePaul Watertown
 SWBR Project Number 22155.00

DePaul
 1931 Buffalo Road
 Rochester NY 14624

A-04
 Fourth Floor Plan

1 OVERALL FOURTH FLOOR PLAN
 1/16" = 1'-0"

ELEVATION KEY NOTES	
NO.	DESCRIPTION
1	FIBER CEMENT PANEL SIDING
2	FIBER CEMENT HORIZONTAL LAP SIDING
3	BRICK VENEER
4	VINYL WINDOW
5	CAST STONE SILL
6	CAST STONE HEADER
7	METAL WRAPPED FASCIA
8	ALUMINUM STOREFRONT
9	CAST STONE CAP
10	10" LAP FIBER CEMENT SIDING
11	TERRACOTTA SHINGLE CLADDING



Drawn By: KCD
Checked By: JAW
Project Manager: JAW

These documents and all the ideas, arrangements, designs and plans indicated thereon or presented thereby are owned by and remain the property of SWBR and no part thereof shall be utilized by any person, firm, or corporation for any purpose whatsoever except with the specific written permission of SWBR. All rights reserved. ©

Revisions

DePaul Watertown
SWBR Project Number 22155.00

DePaul
1931 Buffalo Road
Rochester NY 14624

A-10

Exterior Elevations & Details

05/19/2023
Site Plan Review



3 EXTERIOR ELEVATION - EAST
1/8" = 1'-0"



2 EXTERIOR ELEVATION - EAST
1/8" = 1'-0"

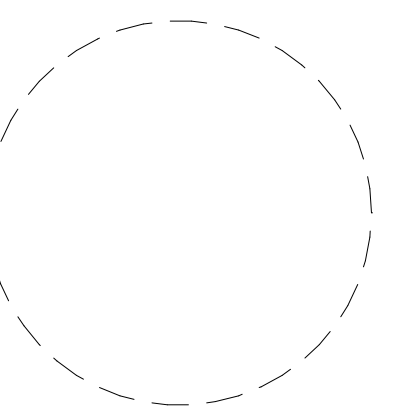
ELEVATION KEY NOTES	
NO.	DESCRIPTION
1	FIBER CEMENT PANEL SIDING
2	FIBER CEMENT HORIZONTAL LAP SIDING
3	BRICK VENEER
4	VINYL WINDOW
5	CAST STONE SILL
6	CAST STONE HEADER
7	METAL WRAPPED FASCIA
8	ALUMINUM STOREFRONT
9	CAST STONE CAP
10	10" LAP FIBER CEMENT SIDING
11	TERRACOTTA SHINGLE CLADDING



4 EXTERIOR ELEVATION - WEST
1/8" = 1'-0"



1 EXTERIOR ELEVATION - WEST
1/8" = 1'-0"



Drawn By: KCD
Checked By: JAW
Project Manager: JAW

These documents and all the ideas, arrangements, designs and plans indicated thereon or presented thereby are owned by and remain the property of SWBR and no part thereof shall be utilized by any person, firm, or corporation for any purpose whatsoever except with the specific written permission of SWBR. All rights reserved. ©

Revisions

NO.	DESCRIPTION

DePaul Watertown
SWBR Project Number 22155.00

DePaul
1931 Buffalo Road
Rochester NY 14624

A-11

Exterior Elevations & Details

05/19/2023
Site Plan Review

ELEVATION KEY NOTES	
NO.	DESCRIPTION
1	FIBER CEMENT PANEL SIDING
2	FIBER CEMENT HORIZONTAL LAP SIDING
3	BRICK VENEER
4	VINYL WINDOW
5	CAST STONE SILL
6	CAST STONE HEADER
7	METAL WRAPPED FASCIA
8	ALUMINUM STOREFRONT
9	CAST STONE CAP
10	10" LAP FIBER CEMENT SIDING
11	TERRACOTTA SHINGLE CLADDING

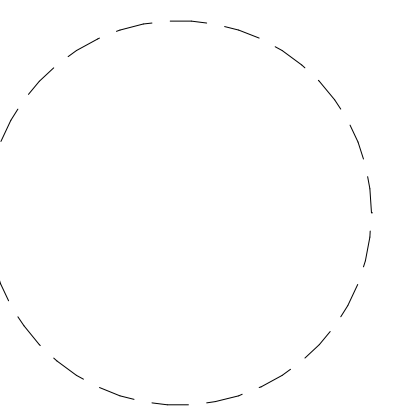


2 EXTERIOR ELEVATION SOUTH
1/8" = 1'-0"

3 EXTERIOR ELEVATION - SOUTH CONTINUED
1/8" = 1'-0"



1 EXTERIOR ELEVATION - NORTH
1/8" = 1'-0"



Drawn By: KCD
Checked By: KCD
Project Manager: JAW

These documents and all the ideas, arrangements, designs and plans indicated thereon or presented thereby are owned by and remain the property of SWBR and no part thereof shall be utilized by any person, firm, or corporation for any purpose whatsoever except with the specific written permission of SWBR. All rights reserved. ©

Revisions	

DePaul Watertown
SWBR Project Number 22155.00

DePaul
1931 Buffalo Road
Rochester NY 14624

A-12

Exterior Elevations & Details

05/19/2023
Site Plan Review

Prepared For:

Depaul Properties
1931 Buffalo Road
Rochester, NY 14624

Submitted by:

LaBella Associates
300 State Street
Suite 201
Rochester, NY 14614
(585) 454-6110



DePaul Watertown Apartments
Engineering Report

MAY 2023
PROJECT NO. 2223896

TABLE OF CONTENTS

SECTION 1: PROJECT DESCRIPTION

SECTION 2: SANITARY SUMMARY

SECTION 3: WATER DEMAND SUMMARY

SECTION 4: STORMWATER SUMMARY AND CALCULATIONS

SECTION 5: TRAFFIC IMPACT SUMMARY

SECTION 6: EXTERIOR LIGHTING SUMMARY

SECTION 7: LANDSCAPING SUMMARY

ATTACHED: WETLAND DELINEATION SKETCH

SECTION 1: PROJECT DESCRIPTION

DePaul Properties is looking to construct a new 120-unit multi-family affordable housing building with associated parking lot, sidewalks, landscaping and stormwater facilities.

DePaul Properties is requesting HFA 4% funding and seeking site plan approval as well as subdivision approval from the City of Watertown Planning Board to develop an affordable housing project on an approximately 4.5-acre site which spans across 2.5 parcels (Tax Parcels 8-50-106.000, 8-50-105.000 and the north half of 8-50-101.009), located at Commerce Park Drive in the City of Watertown, Jefferson County, New York. The project will be consolidating the 2.5 parcels into one parcel. The proposed project will comprise of a 120-unit, 4-story multifamily apartment building with 100 parking spots and associated site improvements. The proposed project site is located in the City's Commercial Corridor (C) District, which permits apartment buildings pursuant to site plan review.

The new building will be located on the northeast corner of the property with associated parking lot, sidewalks, landscaping and stormwater facilities.

SECTION 2: SANITARY SUMMARY

2.1 Existing Sewer

The vacant lots (VL1, VL2, and VL3) west of Commerce Park Drive currently do not have adjacent access to a sewer. After reviewing recording mapping for the area, it is assumed when the development was laid out, a sanitary pipe, manhole were installed at the northeast corner of the site, to cross under Commerce Park Drive. A concrete vault was installed northeast of Commerce Park Drive to house a future pump station, which according to record mapping supplied by the City was to connect to an existing sewer located on South Hycliff Drive.

Provisions were made for a future sanitary easement through VL1 and VL2 to allow sewer access to all properties.

To the south (on VL4) there is a second location where the sewer crosses under Commerce Park Drive. A manhole on VL4 (in a city easement) is connected to a gravity feed sewer line, which flows east towards the Commerce Park Drive Cul-de-sac. The manhole on VL4 currently serves as the connection point for the Hampton Inn.

An analysis of the available capacity of the proposed sewer connection will be completed upon receipt of existing sewer data from the City of Watertown/Sewer Department.

3.2 Proposed Sewer

Following extensive review of the existing sewer system and possible connection locations, it was determined that connecting to the sanitary manhole on VL4 was the preferred alternative for the project.

A new pump station will be located at the southeast corner of the project site, and a force main will connect the pump station from the project parcel south to the city manhole. TA # will be providing an easement to DePaul Properties for this sanitary route.

SECTION 3: WATER DEMAND SUMMARY

3.1 Existing Water

The project site is serviced by a 8" DI water main, which runs around the north and east sides of the site along Commerce Park Drive. Along the eastern edge of the project area, the existing watermain sits in a 25' wide water easement within the project property.

Flow testing data for the nearest hydrant was most recently collected in 2015 (and will be pressure tested again in summer of 2023). Data from that test is below.

Table 1: Flow Testing Data

Hydrant at Northeast Corner of project area	
Flow (gpm)	1,455
Static Pressure (psi)	96

3.2 Proposed Service

The new building is proposed to be serviced by a 6" combined service that will tee-off the 8" watermain within the easement, as shown on drawing sheet C301.

Water demand for the building is listed below.

Table 2: Water Demand

Design Calculations	
Flow (gpm)	TBD
Static Pressure (psi)	TBD

The building loads are still be being determined by the M.E.P. Engineer and will be provided to the City upon completion of calculations.

SECTION 4: STORMWATER SUMMARY AND CALCULATIONS

4.1 Existing Conditions

The existing project area is predominantly covered by fallow grasses and a federal wetland to the southwest. Most of the site currently drains to the wetland, while a small portion drains northeast to a catch basin in Commerce Park Drive.

4.2 Proposed Design

The proposed site has been designed and developed in accordance with the "New York State Department of Environmental Conservation (NYSDEC) State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity". Design considerations were made to maintain existing drainage patterns and decrease rates of stormwater runoff.

The proposed design includes several Stormwater Management Practices, including three bioretention areas and two dry swales. Calculated Water Quality Volume (WQv) and Runoff Reduction (RRv) volumes are adequately treated, and flow rates at discharge points were decreased from pre-development conditions.

For calculations and a full design report, refer to the SWPPP included in the site plan application package.

SECTION 5: TRAFFIC IMPACT SUMMARY

5.1 Traffic Demand Management Plan (TDMP)

The proposed project is located on parcels zoned Commercial, which by code allows for a maximum of 50 parking spaces. The proposed parking lot layout has 90 spaces, including 16 ADA spaces (182% of the maximum).

For designs requesting to increase parking spaces between 150% and up to 200% of the maximum requires a Transportation Demand Management Plan (TDMP).

For the full traffic report, refer to the TDMP included in the site plan application package.

SECTION 6: EXTERIOR LIGHTING SUMMARY

6.1 Lighting Design

The proposed site lighting design was laid out in accordance with Section 310-84 Lighting of the City of Watertown code. Light spillage across all property lines is less than 0.5 footcandles. Dark sky compliant fixtures are proposed throughout the site.

Refer to Sheet E101 Lighting Plan for photometric calculations and lists of proposed fixtures included in the site plan application package.

SECTION 7: LANDSCAPING SUMMARY

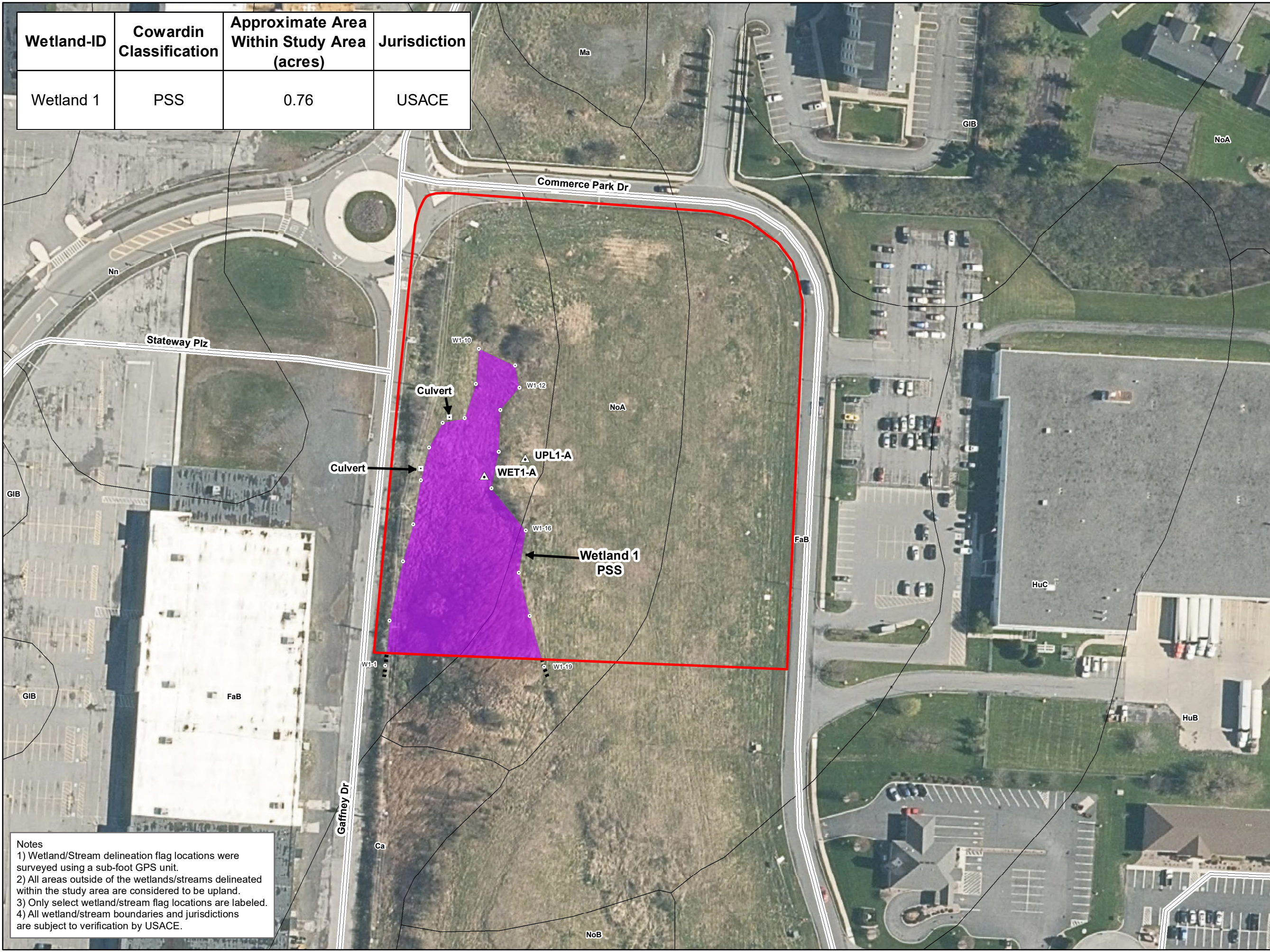
7.1 Landscaping Design

The proposed landscaping design was laid out in accordance with Section 310-83 Landscape and Buffer Requirements of the City of Watertown code.

Refer to Sheet L-100 for full landscaping design layout and plant schedules included in the site plan application package.

ATTACHED: WETLAND DELINEATION SKETCH

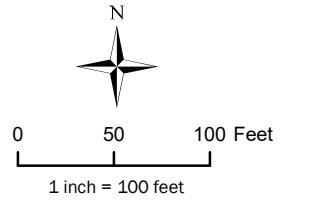
Wetland-ID	Cowardin Classification	Approximate Area Within Study Area (acres)	Jurisdiction
Wetland 1	PSS	0.76	USACE



Notes
 1) Wetland/Stream delineation flag locations were surveyed using a sub-foot GPS unit.
 2) All areas outside of the wetlands/streams delineated within the study area are considered to be upland.
 3) Only select wetland/stream flag locations are labeled.
 4) All wetland/stream boundaries and jurisdictions are subject to verification by USACE.

DePaul Group
Wetland and Stream Delineation

DePaul Watertown
255 Gaffney Dr
Watertown, NY



- Legend**
- Study Area
 - Data Point Location
 - Wetland/Stream Flag Location
 - Culvert
 - Scrub-Shrub Wetland (PSS)
 - Approximate Offsite Wetland Boundary
 - Road
 - Soil

Sources:
 1. Study Area: Created by LaBella using information provided by the client.
 2. Basemap: Esri, DigitalGlobe, GeoEye, Earthstar, Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and GIS User Community, 2020.
 3. Mapped soils data were obtained from the online NRCS Soils Data (soildatamart.nrcs.usda.gov).

Wetland and Stream Delineation Survey

FIGURE 1

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.

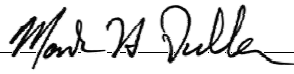
Complete all items in Part 1. You may also provide any additional information which you believe will be needed by or useful to the lead agency; attach additional pages as necessary to supplement any item.

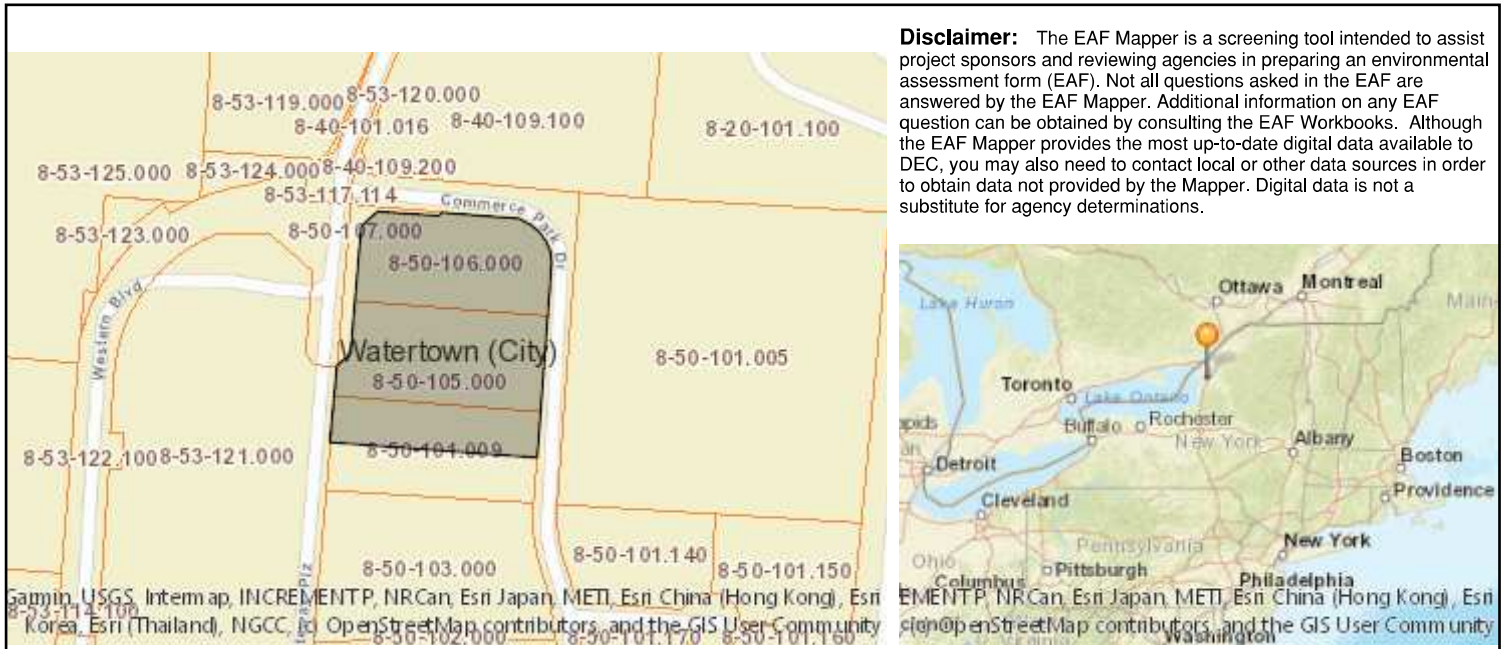
Part 1 – Project and Sponsor Information			
Name of Action or Project: DePaul - City of Watertown Apartments			
Project Location (describe, and attach a location map): Commerce Park Dr., City of Watertown, Jefferson Co., NY 13601; Parcels 8-50-106.000, 8-50-105.000 and the north half of 8-50-101.009			
Brief Description of Proposed Action: DePaul Properties is requesting HFA 4% funding and seeking site plan approval as well as subdivision approval from the City of Watertown Planning Board to develop an affordable housing project on an approximately 4.45 acre site which spans across 2.5 parcels (Tax Parcels 8-50-106.000, 8-50-105.000 and the north half of 8-50-101.009), located at Commerce Park Drive in the City of Watertown, Jefferson County, New York. The project will be consolidating the 2.5 parcels into one parcel. The proposed project will comprise of a 120-unit, 4-story multifamily apartment building with 90 parking spots and associated site improvements. The proposed project site is located in the City's Commercial Corridor (C) District, which permits apartment buildings pursuant to site plan review.			
Name of Applicant or Sponsor: DePaul Properties (Contact: Mark Fuller, President)		Telephone: (585)426-8000 E-Mail: mfuller@depaul.org	
Address: 1931 Buffalo Rd.			
City/PO: Rochester		State: NY	Zip Code: 14624
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 checked="" 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: HFA 4%; City PB - site plan & subdivision approval; DEC - SPDES GP; OPRHP - SHPO , City ZB for area variances		NO <input type="checkbox"/>	YES <input checked="" type="checkbox"/>
3. a. Total acreage of the site of the proposed action?		4.45 acres	
b. Total acreage to be physically disturbed?		+/-4.45 acres	
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor?		4.45 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 type="checkbox"/> Industrial <input checked="" type="checkbox"/> Commercial <input type="checkbox"/> Residential (suburban)			
<input type="checkbox"/> Forest <input type="checkbox"/> Agriculture <input type="checkbox"/> Aquatic <input checked="" type="checkbox"/> Other(Specify): hotel; vacant land; church			
<input type="checkbox"/> Parkland			

5. Is the proposed action,	NO	YES	N/A
a. A permitted use under the zoning regulations? <small>The proposed use is permitted in the C District pursuant to site plan review by the Planning Board.</small>	<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? If Yes, identify: _____	NO	YES	
	<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 checked="" type="checkbox"/>	<input type="checkbox"/>	
8. c. Are any pedestrian accommodations or bicycle routes available on or near the site of the proposed action?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
9. Does the proposed action meet or exceed the state energy code requirements? If the proposed action will exceed requirements, describe design features and technologies: _____ _____	NO	YES	
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
10. Will the proposed action connect to an existing public/private water supply? If No, describe method for providing potable water: _____ _____	NO	YES	
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
11. Will the proposed action connect to existing wastewater utilities? If No, describe method for providing wastewater treatment: _____ _____	NO	YES	
	<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? <small>See note below</small>	NO	YES	
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
b. Would the proposed action physically alter, or encroach into, any existing wetland or waterbody? <small>See note below</small> If Yes, identify the wetland or waterbody and extent of alterations in square feet or acres: _____ _____ _____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

According to the DEC ERM mapper, there are no mapped wetlands located on the project site. As part of the developer's due diligence, a wetland delineation has been scheduled and once complete, a wetland delineation map will be submitted as an addendum to the form.

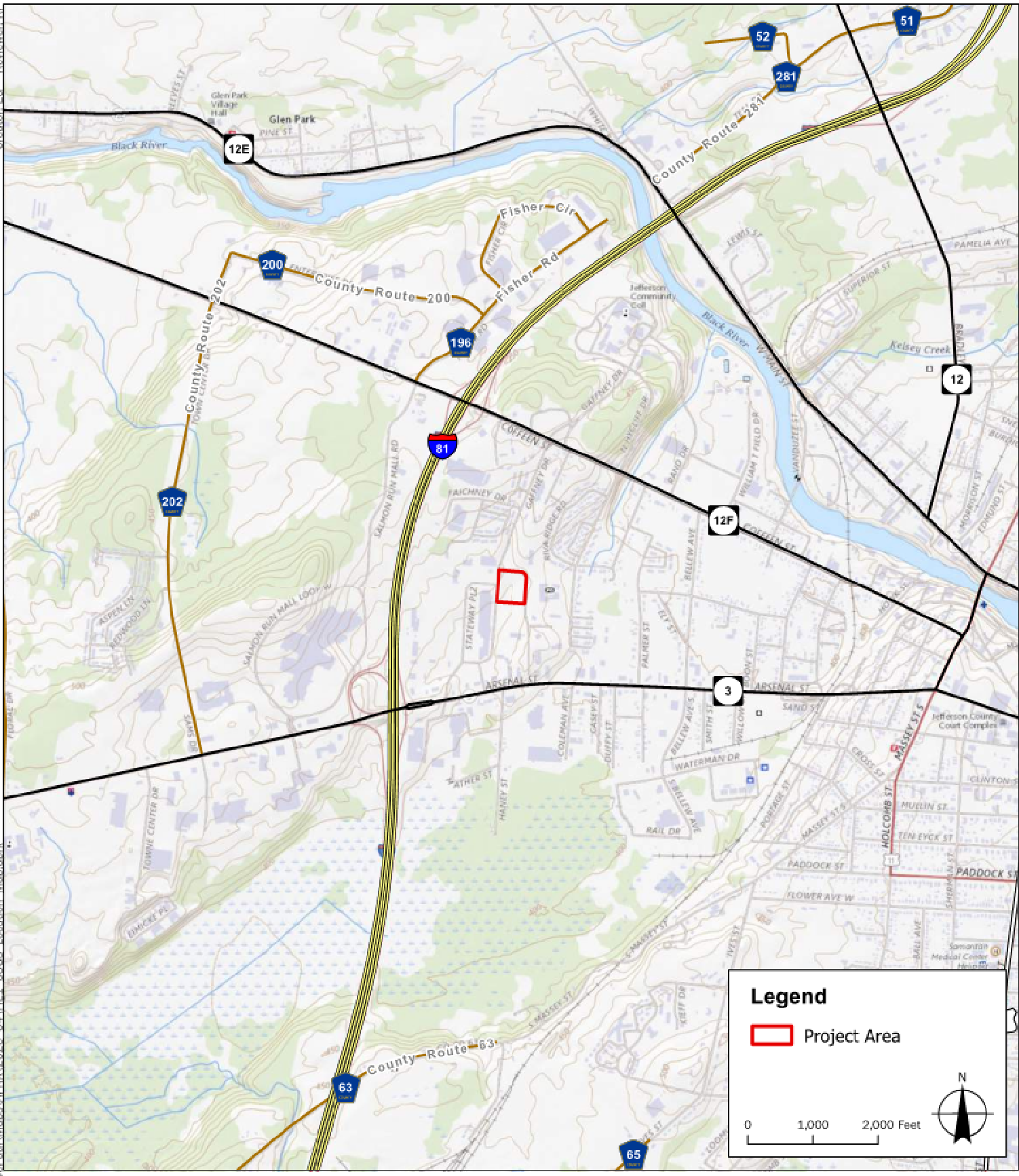
15. CONTINUED - Based on IPaC review, the project area falls within potential habitat for the Indiana bat and Northern Long-eared bat. Although there are trees located west of the project location, these trees are located off-site. As part of the construction process, no trees are intended to cut as part of the project. No potential habitat is proposed to be disturbed; therefore, consultation with the DEC and USFWS is not required.

<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 checked="" type="checkbox"/> Agricultural/grasslands <input type="checkbox"/> Early mid-successional <input type="checkbox"/> Wetland <input checked="" type="checkbox"/> Urban <input type="checkbox"/> Suburban Please note that the project site contains grasslands only, no agricultural lands. </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? See note above. NYSDEC & USFWS: Indiana Bat, Northern Long-eared Bat</p>	NO	YES
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p>16. Is the project site located in the 100-year flood plan?</p>	NO	YES
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p>17. Will the proposed action create storm water discharge, either from point or non-point sources? If Yes,</p> <p style="margin-left: 20px;">a. Will storm water discharges flow to adjacent properties?</p> <p style="margin-left: 20px;">b. Will storm water discharges be directed to established conveyance systems (runoff and storm drains)? If Yes, briefly describe:</p> <hr/> <p>Stormwater discharges will be treated on-site with standard stormwater design practices and discharge into a stormwater system owned by the City of Watertown.</p>	NO	YES
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<hr/>		
<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)? If Yes, explain the purpose and size of the impoundment:</p> <hr/>	NO	YES
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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? If Yes, describe:</p> <hr/>	NO	YES
<input checked="" type="checkbox"/>	<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? If Yes, describe:</p> <hr/> <p>Spill 9906402 - US Contract Hauler (232 Commerce Park Dr.) - Closed on 9/1/1999 Spill 1109359 - NES Rentals (250 Commerce Park Dr.) - Closed on 1/23/2013</p>	NO	YES
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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>Mark Fuller</u> Date: <u>4/13/23</u></p> <p>Signature: <u></u> Title: <u>President, DePaul Properties</u></p>		



Disclaimer: The EAF Mapper is a screening tool intended to assist project sponsors and reviewing agencies in preparing an environmental assessment form (EAF). Not all questions asked in the EAF are answered by the EAF Mapper. Additional information on any EAF question can be obtained by consulting the EAF Workbooks. Although the EAF Mapper provides the most up-to-date digital data available to DEC, you may also need to contact local or other data sources in order to obtain data not provided by the Mapper. Digital data is not a substitute for agency determinations.

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]	No
Part 1 / Question 15 [Threatened or Endangered Animal]	Yes
Part 1 / Question 15 [Threatened or Endangered Animal - Name]	Indiana Bat, 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]	Yes



Sources:
 1. Project Area: LaBella 2023
 2. Streets: NYS GIS Program Office 2022
 3. Basemap: USGS Topo Map



Commerce Park Dr.,
 City of Watertown,
 Jefferson Co., NY 13601

DePaul - City of
 Watertown Apartments

LaBella Project No: 2223896
 Date: 4/11/2023

USGS Location
 Map

FIGURE 1

May 19, 2023

Mr. Mark Fuller
 President
 DePaul Properties
 1931 Buffalo Road
 Rochester, NY 14624

**RE: Watertown Transportation Demand Management Plan
 DePaul Watertown Apartment, NY
 LaBella Project No. 2223896**

Dear Mr. Fuller:

LaBella Associates (LaBella) has completed a Transportation Demand Management Plan (TDMP) for DePaul Properties (Client) proposed DePaul site bounded by Gaffney Drive and Commerce Park Drive in Watertown, NY. The purpose of the TDMP is to estimate the project’s parking needs and to identify strategies that could be incorporated to reduce parking and travel demand.

A. Background

The project includes the construction of a 4-story building with approximately 30,000 sf per floor area. It is envisioned that the building will include 120 multi-family affordable housing units. The site will have access from two driveways on Commerce Park Drive. A driveway with Right-turn in and Right-turn out is located on the west side of the Site on Commerce Park Drive, and a second full movement driveway onto Commerce Park Drive is located on the south side of the Site.

B. Travel Demand

Trip generation determines the quantity of traffic expected to travel to and from a given site. The Institute of Transportation Engineers (ITE) *Trip Generation, 11th Edition*, is the industry standard for determining trip generation for proposed land uses based on studies of similar existing developments located across the country. Land Use Code (LUC) 223, Affordable Housing, was used to estimate the number of vehicle trips generated for the proposed project. The peak hour trip generation estimates are summarized in Table 1.

Table 1- Trip Generation Summary

Land Use	AM Peak Hour			PM Peak Hour		
	Enter	Exit	Total	Enter	Exit	Total
Affordable Housing (120 units)	17	43	60	35	25	60

As seen in Table 1, the proposed project will add 60 new vehicle trips in the morning peak hour and in the afternoon peak hour. This is a minimal amount of additional traffic that will be added to the roadway network. NYSDOT and the Institute of Transportation Engineers (ITE) developed a 100-trip threshold on any one intersection approach. Per the guidance, projects exceeding the threshold should perform an off-site intersection analysis. The number of new vehicle trips generated by the proposed development is less than the 100-trip threshold for any one intersection approach, indicating that additional detailed intersection analysis is not needed and that the site-generated traffic will be accommodated by the existing roadway network.



C. Parking Assessment

The proposed project will consist of 90-space on-site parking. The parking demand for the proposed project was calculated using the data in ITE's Parking Generation Manual, 5th Edition. If sufficient data exists, parking estimates are typically provided with an average parking rate and an 85th percentile parking rate. The 85th percentile rate is defined as the point at which 85% of the data values fall at or below. It is important to note that neither the average rate nor the 85th percentile rate represents a parking standard. Parking demand based on the number of bedrooms and the number of proposed units was generated for Land Use Code (LUC) 223, Affordable Housing. As a residential use, the peak parking demand occurs overnight. As such, the weekday overnight parking demand estimates for the proposed project are shown in Table 3. To do a conservative analysis, the average parking demand for the number of units and the number of bedrooms is considered as the required parking spaces for the proposed project.

Table 3 – Proposed Project Weekday Parking Demand

Land Use	Parking Demand	
	Average	85 th %-tile
Affordable Housing (120 Units)	119	160
Affordable Housing (125 Bedrooms)	68	103
Average Parking Demand	94	132

As seen in Table 3, the peak parking demand for the proposed project would need a maximum of 94 based on the average rate and 132 parking spaces as per 85% demand. The project will consist of 90 - spaces, which is 4 spaces less than the average and 42 parking spaces less than the required parking based on 85% demand.

Further, based on the City of Watertown Zoning, the maximum parking space allowed at the project based on the current district is 50 parking spaces. This is less than the required 132 parking spaces based on ITE. The project is providing 100 parking spaces which are over 150 % and up to 200% of the maximum parking spaces and hence requires a Transportation Demand Management Plan (TDMP).

D. Transportation Demand Management Plan

This TDMP presents strategies to reduce the proposed project's travel and parking demand. Strategies include the use of public transit, bicycling, walking, work-from-home, and others, as a means to reduce the number of vehicle trips and hence the parking demand. The project will be served by the following transportation accommodations, as well as strategies that will be included as part of the project.

1. Public Transit Facilities

The proposed project is located within a few blocks of the transit network with two bus routes traversing the area, including shopping/special routes. The bus stops near the project site are located at the Stateway Plaza.

Watertown CitiBus buses stop at almost all signalized intersections if the passenger pulls the chime chord well in advance of the intersection. Fare cards are available on buses from Transit operators. The City of Watertown provides a "Half-Fare" program designed to provide reduced fares on fixed



route services as per Federal Regulations. The City of Watertown also provides paratransit service for the eligible public.

Currently, the proposed project has no plans for additional transit assistance for the residents. If needed, the Client will work with the City of Watertown to improve the transit assistance for the residents.

2. Bicycle and Pedestrian Facilities

In the vicinity of the project, currently, pedestrian sidewalks are provided on the east side and north side of Commerce Street. South of the project site, sidewalks are provided on the west side of Commerce Street. Sidewalks are present on Arsenal St and on Western Blvd.

The proposed project will provide ADA accessible sidewalk on Commerce Street. As per the City Code requirements, a minimum of 9 bike parking spaces will be provided. These bike parking spaces will be provided in a well-lit location and will be conveniently accessible to the primary entrance and protected from vehicular traffic.

3. Transportation Assistance

The proposed project will provide two accessible vans for the residents to provide transportation to grocery and retail stores. The residents will be able to request transportation to specific locations such as healthcare facilities as needed. The building management will work with the residents to develop long-term public transportation and ride-share services.

E. Summary

The proposed affordable housing project will include 120 dwelling units with a total of 125 bedrooms. The project's travel demand is 60 total trips in the weekday AM peak hour and weekday PM peak hour. This is a minimal number of new trips and well below the 100-trip threshold guidance from NYSDOT and ITE for when detailed intersection analysis should be completed.

The proposed development will provide 100 parking spaces which is more than the required maximum as per the City's code, however, it is less than the required maximum of 132 parking as per ITE standards.

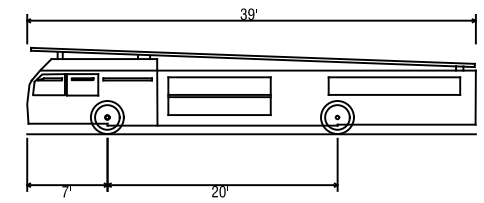
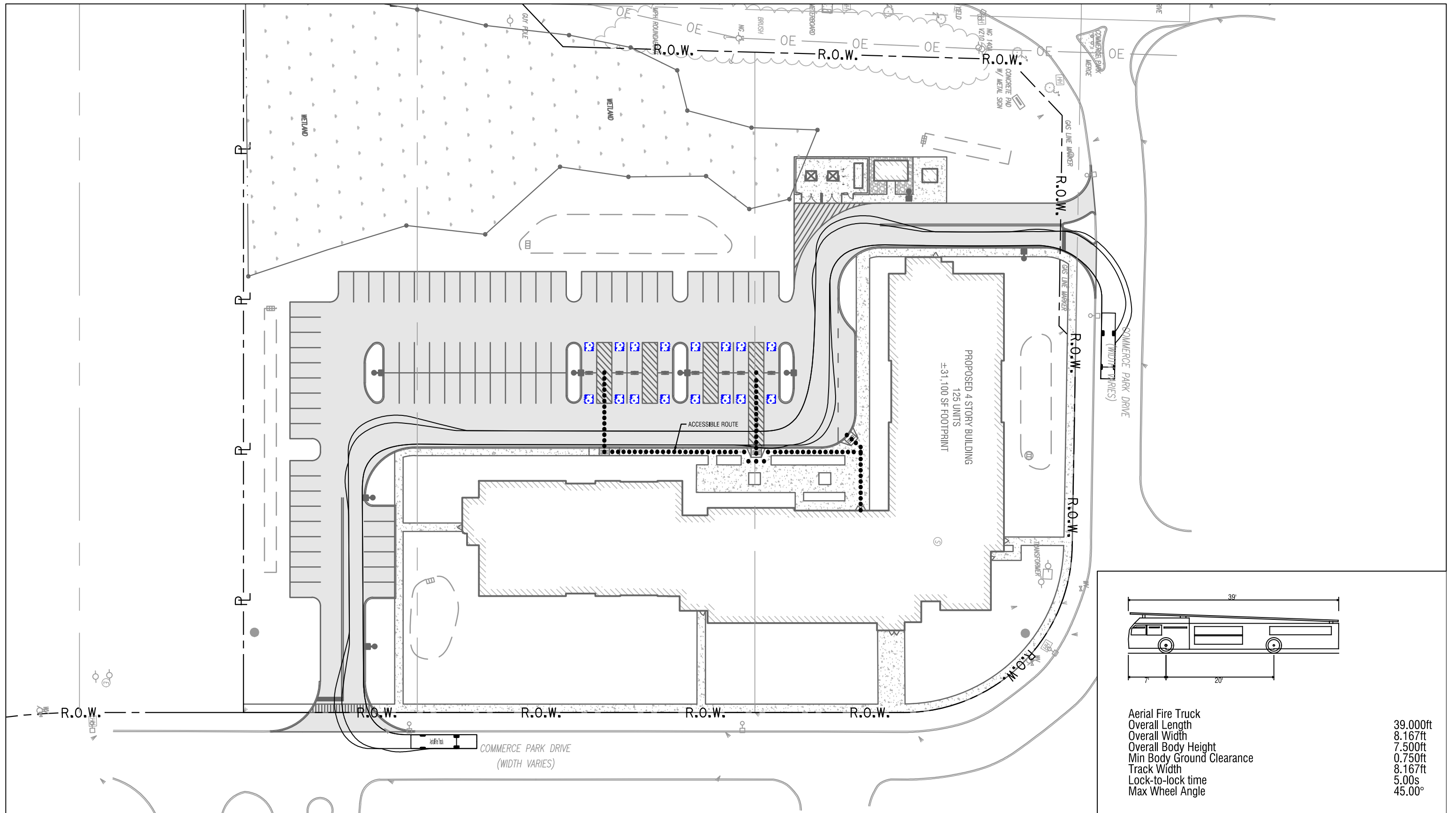
Transit and pedestrian facilities currently exist in the vicinity of the project site. In addition, the proposed project will participate in TDM strategies to reduce travel and parking demands.

If you have any questions, please contact me at tjohnson@labellapc.com or (518) 266-7369.

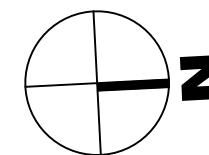
Respectfully submitted,

LaBella Associates

Lorenzo Rotoli, P.E., PTOE
Senior Project Manager



Aerial Fire Truck	39.000ft
Overall Length	8.167ft
Overall Width	7.500ft
Overall Body Height	0.750ft
Min Body Ground Clearance	8.167ft
Track Width	5.00s
Lock-to-lock time	45.00°
Max Wheel Angle	



Stormwater Pollution Prevention Plan

Prepared for:
DePaul Properties
1931 Buffalo Road
Rochester, NY 14624

Submitted by:
LaBella Associates
300 State Street, Suite 201
Rochester, NY 14614
(585) 454-6110



DePaul Watertown Apartments
City of Watertown, Jefferson County, New York

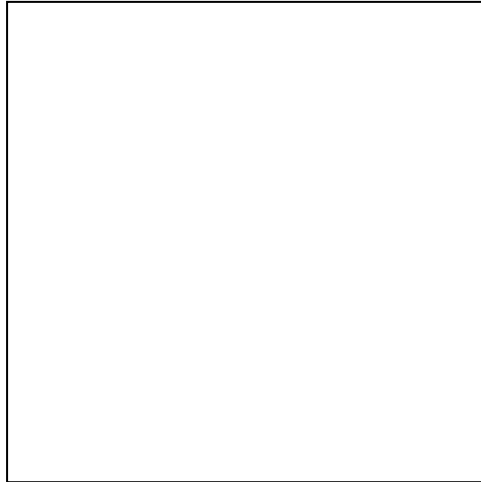
DATE: MAY 2023
LAST REVISED: MAY 2023
PROJECT NO. 2223896

PREPARER OF THE SWPPP

“I hereby certify that the Stormwater Pollution Prevention Plan (SWPPP) for this project has been prepared in accordance with the terms and conditions of the GP-0-20-001. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of this permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.”

Name and Title¹: Robert Steehler, P.E.

Date: May 2023



¹ This is a signature of a New York State licensed Professional Engineer employed by LaBella Associates that is duly authorized to sign and seal Stormwater Pollution Prevention Plans (SWPPPs), NOIs, and NOTs prepared under their direct supervision. Refer to Appendix B for the SWPPP Preparer Certification Form, and Appendix I for the LaBella Certifying Professionals Letter.

TABLE OF CONTENTS

1.0	EXECUTIVE SUMMARY	1
1.1	Project Description	1
1.2	Stormwater Pollution Controls.....	2
2.0	SITE CHARACTERISTICS.....	2
2.1	Land Use and Topography	2
2.2	Soils and Groundwater.....	3
2.3	Watershed Designation	3
2.4	Receiving Water Bodies	3
2.5	Aquifer Designation.....	4
2.6	Wetlands	4
2.7	Flood Plains	4
2.8	Listed, Endangered, or Threatened Species	4
2.9	Historic Places	4
2.10	Rainfall Data.....	4
2.11	Pre-development Watershed Conditions.....	5
2.12	Description of Analysis Points.....	5
3.0	STORMWATER MANAGEMENT PLANNING	6
3.1	STEP 1 – Site Planning	6
3.2	STEP 2 – Calculate Water Quality Treatment Volume (WQv)	6
3.3	STEP 3 – Apply RR Techniques and Standard SMPs with RRv Capacity to Reduce Total WQv.....	7
3.4	STEP 4 – Calculate the Minimum RRv Required.....	9
3.5	STEP 5 – Apply Standard SMPs to Address Remaining Water Quality Volume.....	9
3.6	STEP 6 - Apply Volume and Peak Rate Control	9
4.0	CONSTRUCTION SEQUENCE.....	11
5.0	CONSTRUCTION-PHASE POLLUTION CONTROL.....	12
5.1	Temporary Erosion and Sediment Control Measures	13
5.2	Permanent Erosion and Sediment Control Measures	14
5.3	Other Pollutant Controls.....	15
5.4	Construction Housekeeping Practices.....	17
6.0	INSPECTIONS, MAINTENANCE, AND REPORTING	18
6.1	Inspection and Maintenance Requirements	18

6.2 Reporting Requirements.....	20
7.0 SWPPP IMPLEMENTATION RESPONSIBILITIES	21
7.1 Owner's/Operator's Responsibilities.....	22
7.2 Owner's/Operator's Engineer's Responsibilities.....	24
7.3 Contractor's Responsibilities	24
7.4 Qualified Inspector's/Qualified Professional's Responsibilities	26
7.5 SWPPP Participants	28

LIST OF TABLES

Table 1: USDA Soil Data	3
Table 2: Project Site HSG Data	3
Table 3: Rainfall Data	5
Table 4: Required WQv Summary	7
Table 5: Summary of Standard SMPs with RRv Capacity being Applied	8
Table 6: RRv Summary	8
Table 7: Minimum RRv Summary	9
Table 8: Design Events	11
Table 9: Summary of Pre- and Post-Development Peak Discharge Rates	11
Table 10: Common Construction Pollutants	16

APPENDICES

Appendix A: Figures

- A-1: Site Location Map
- A-2: Soils Map
- A-3: Historic Places Screening Map
- A-4: Environmental Resource Map
- A-5: FEMA Firm Map
- A-6: Pre-Development Watershed Delineation Map
- A-7: Post-Development Watershed Delineation Map

Appendix B: Forms

- Notice of Intent (NOI) (Draft)
- MS4 SWPPP Acceptance Form
- SWPPP Preparer Certification Form
- Owner/Operator Certification Form
- Contractor and Subcontractor Certification Forms
- Notice of Termination (NOT)

Appendix C: Project Evaluation and Design Calculations

Appendix D: Pre-Development Stormwater Modeling

Appendix E: Post-Development Stormwater Modeling

Appendix F: SWPPP Inspection Report (Sample Form)

Appendix G: Post-Construction Inspections and Maintenance

Appendix H: NYSDEC "Deep-Ripping and Decompaction," April 2008

Appendix I: LaBella Certifying Professionals Letter

Appendix J: NYSDEC SPDES General Permit GP-0-20-001

1.0 EXECUTIVE SUMMARY

This Stormwater Pollution Prevention Plan (SWPPP) has been prepared for major activities associated with construction of a new 120-unit multi-family affordable housing building and associated site work in the City of Watertown. This SWPPP includes the elements necessary to comply with the national baseline general permit for construction activities enacted by the U.S. Environmental Protection Agency (EPA) under the National Pollutant Discharge Elimination System (NPDES) program and all local governing agency requirements. This SWPPP must be executed and permit coverage must be obtained prior to the commencement of construction activity.

This SWPPP has been developed in accordance with the “New York State Department of Environmental Conservation (NYSDEC) State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity,” Permit No. GP-0-20-001, effective January 29, 2020 through January 28, 2025. The SWPPP and accompanying plans identify and detail stormwater management, pollution prevention, and erosion and sediment control measures necessary during and following completion of construction.

This SWPPP and the accompanying plans entitled “Depaul Watertown Apartments” have been submitted as a set. These engineering drawings are considered an integral part of this SWPPP. Therefore, this SWPPP is not considered complete without them. References made herein to “the plans” or to a specific “sheet” refer to these drawings.

This report considers the impacts associated with the intended development with the purpose of:

1. Maintaining existing drainage patterns as much as possible while continuing the conveyance of upland watershed runoff;
2. Controlling increases in the rate of stormwater runoff resulting from the proposed development so as not to adversely alter downstream conditions; and
3. Mitigating potential stormwater quality impacts and preventing soil erosion and sedimentation resulting from stormwater runoff generated both during and after construction.

The analysis and design completed and documented in this report is intended to be part of the application made for a multi-family residential development project completed on behalf of the Owner/Operator.

1.1 Project Description

DePaul Properties is proposing a development project, to include: a 120-unit multi-family housing building, associated parking, sidewalks, landscaping and stormwater. The project will disturb greater than 1-acre of land. A Site Location Map has been provided in Appendix A, as Figure A-1.

This type of project is included in Table 2 of Appendix B of GP-0-20-001; and the project site is not located in one of the watersheds listed in Appendix C of GP-0-20-001. Therefore, this SWPPP includes post-construction stormwater management practices, as well as erosion and sediment controls.

This project is located within the City Of Watertown regulated, traditional land use control Municipal Separate Stormwater Sewer System (MS4). Therefore, an MS4 SWPPP Acceptance Form is required to accompany NOIs submitted to the NYSDEC.

Runoff from the project site will discharge to the Tributary to Black River, which is not included in the list of Section 303(d) water bodies included in Appendix E of GP-0-20-001.

Project construction activities will consist primarily of site grading, paving, building construction, and the installation of storm drainage, water supply, sanitary sewer, and public utility infrastructure necessary to support the proposed development project. Construction phase pollutant sources anticipated at the site are disturbed (exposed) soil, vehicle fuels and lubricants, chemicals associated with building construction, and building materials. Without adequate control there is the potential for each type of pollutant to be transported by stormwater.

1.2 Stormwater Pollution Controls

The stormwater pollution controls outlined herein have been designed and evaluated in accordance with the following standards and guidelines:

- New York State Stormwater Management Design Manual, dated January 2015 (Design Manual).
- New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016 (SSESC).

Stormwater quality will be enhanced through the implementation of temporary and permanent erosion and sediment control measures, the proposed stormwater management practice(s), and other construction-phase pollution controls outlined herein.

The proposed stormwater management approach consisting of on-site stormwater management practices will adequately collect, treat, and convey the stormwater runoff.

Bioretention Areas and Dry Swales will be used to manage and treat stormwater runoff generated by the proposed development project.

Pre- and post-development surface runoff rates have been evaluated for the 1-year, 10-year, and 100-year 24-hour storm events. Comparison of pre- and post-development watershed conditions demonstrates that the peak rate of runoff from the project site will not be increased.

The post-construction stormwater management practice(s) will be privately owned by DePaul Properties. Deed restrictions will be in place, which require operation and maintenance of the practice(s) in accordance with the operation and maintenance plan.

2.0 SITE CHARACTERISTICS

2.1 Land Use and Topography

The project site is located within the Commercial zoning district. Multi-family housing is a permitted use subject to site plan approval. within this district.

The overall site is moderately sloping, with slopes ranging from 1% to 7% percent. Site elevations range from approximately 406 feet above mean sea level (MSL) to 418 feet MSL. The site generally slopes from north and east down to the southwest corner, where there is a federal wetland. A small portion of the northeast corner slopes northeast towards Commerce Park Drive.

2.2 Soils and Groundwater

The US Department of Agriculture (USDA) Web Soil Survey (<http://websoilsurvey.nrcs.usda.gov/app/>) was used to obtain surficial soil conditions for the study area, as follows:

Table 1: USDA Soil Data

Map Symbol & Description	Hydrologic Soil Group	Erosion Factor K	Depth to Water Table (feet)	Depth to Bedrock (feet)
FaB – Farmington loam, 0 to 8 % slopes	D	0.32	>6.0	<5.0
NoA – Niagara silt loam, 0 to 3% slopes	C/D	0.49	<5.0	>6.0

Upon review of the soil data presented in Table 1, the project site does not contain soils with a soil slope phase of D with a map unit name that inclusive of slopes greater than 25%, and does not contain soils with a soil slope phase of E or F.

The project site is composed of HSG C soils, and HSG D soils, as shown in the table below. For the purposes of this report, HSG X/D soils were modeled as HSG D soils to reflect the undrained condition.

Table 2: Project Site HSG Data

HSG A	HSG B	HSG C	HSG D
0%	0%	0%	100%

The Soil Conservation Service defines the hydrologic soil groups as follows:

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

An on-site geotechnical investigation was performed by Foundation Design, P.C. on 2/10/2023. Test pits were performed on the project site to obtain representative subsurface information for the building foundation and parking lot. For detailed geotechnical information, refer to the Geotechnical Interpretive Report entitled, “DePaul Watertown Apartments” dated 3/16/2023 as prepared by Foundation Design.

The soils map for the study area is presented in Appendix A, as Figure A-2.

2.3 Watershed Designation

The project site is not located in a restricted watershed identified in Appendix C of GP-0-20-001.

2.4 Receiving Water Bodies

The nearest natural classified water course into which runoff from the project site will discharge is a Tributary to Black River. The Tributary to Black River is classified by NYSDEC as a Class C water course, and is not included in the Section 303(d) list of impaired waters found in Appendix E of GP-0-20-001.

2.5 Aquifer Designation

The project site is not located over a US EPA designated Sole Source aquifer; nor is it located over a Primary or Principal aquifer listed in the NYSDEC Technical and Operational Guidance Series (TOGS) 2.1.3 (1980).

2.6 Wetlands

Wetlands depicted on the accompanying plan set were delineated by LaBella wetland biologists in April 2023. The wetland boundary was surveyed by Labella in April 2023 and presented on a map entitled Wetland and Stream Delineation Survey and dated April 2023. These wetlands are Federally regulated wetlands that encompass approximately 0.8 acres of the 4.6 acre property.

2.7 Flood Plains

According to the National Flood Insurance Program Flood Insurance Rate Map (FIRM), City of Watertown, New York, Community Panel Number 360354 001 E, the project site lies within Flood Zone X, areas determined to be outside 500-year floodplain. The FEMA Flood Map has been provided in Appendix A, as Figure A-5.

2.8 Listed, Endangered, or Threatened Species

A search was performed on the NYSDEC Environmental Resource Mapper on April 11, 2023, and determined that the project site may contain threatened or endangered species, or critical habitat. An Environmental Resource Map has been provided in Appendix A, as Figure A-4.

2.9 Historic Places

A search on the New York State Cultural Resource Information System (CRIS) database, performed on April 11, 2023, revealed the construction activity is located within an archeologically sensitive area. A printout of the historic places screening map is presented in Appendix A, as Figure A-3.

As such, NYSOPRHP coordination has been initiated and a Phase 1 Archeological Survey will be conducted as weather permits. A copy of the NYSOPRHP documentation, in accordance with part I.F.8. of GP-0-20-001, will be provided in Appendix A, as Figure A-3A upon receipt.

2.10 Rainfall Data

Rainfall data utilized in the modeling and analysis was obtained from the Cornell University online Extreme Precipitation in New York & New England website (<http://precip.eas.cornell.edu/>). The standard SCS/NRCS rainfall distributions were applied to evaluate the pre- and post-development stormwater runoff characteristics. Rainfall data specific to the portion of Jefferson County under consideration, for various 24-hour storm events, is presented in the following Table:

Table 3: Rainfall Data

Storm Event Return Period	24-Hour Rainfall (inches)
1-year	1.97
10-year	3.29
100-year	5.49

2.11 Pre-development Watershed Conditions

The pre-development project site is covered predominantly by fallow grasses and a federal wetland to the southwest. Analysis of pre-development conditions considered existing drainage patterns, soil types, ground cover, and topography. The Pre-Development Watershed Delineation Map has been provided in Appendix A, as Figure A-5.

The results of the computer modeling used to analyze the overall watershed under pre-development conditions are presented in Appendix D. A summary of the pre-development watershed runoff rates at each analysis point is presented in Table 10.

Post-development Watershed Conditions

The post-development project site is covered predominantly by grass and landscaping, a new building, parking lot, sidewalks and the wetland to remain. The analysis of post-development conditions considered existing drainage patterns, soil types, ground cover to remain, planned site development, site grading, and stormwater management facilities proposed as part of site improvements. The Post-Development Watershed Delineation Map has been provided in Appendix A, as Figure A-6.

The results of the computer modeling used to analyze the overall watershed under post-development conditions are presented in Appendix E. A summary of the post-development watershed runoff rates at each analysis point is presented in Table 11.

There are numerous locations and methods for providing controls of off-site discharge of stormwater from the project site. Each has been designed to provide the above quantity controls by attenuating stormwater runoff and releasing runoff to off-site locations at a rate equal to or less than that which existed prior to development of the site. Each device is detailed on the accompanying plans.

2.12 Description of Analysis Points

The study area consists of an overall watershed that encompasses approximately 3.9 acres, including the 4.6 acre project site and 3.9 acre area of disturbance. The overall watershed was broken down into smaller watersheds, or subcatchments, to allow for analysis of runoff conditions at several locations throughout the study area. Each of these locations was defined as a Analysis Point (AP) in order to compare the effects resulting from stormwater management facilities proposed as part of the project. Descriptions of each of the selected analysis points are provided below.

- **Analysis Point 1:** On-Site Federal Wetland on the southwest portion of the site. In extreme weather events there is an outlet pipe for the wetland, which drains it northeast through a private storm system before connecting to a public system.

- Analysis Point 2: Catch Basin on the northeast corner of the site. This catch basin is connected to the City of Watertown Storm System, and flows northwest under Commerce Park Drive, before eventually discharging to a tributary to Black River.

3.0 STORMWATER MANAGEMENT PLANNING

Chapter 3 of the Design Manual outlines a six-step planning process for site planning and selection of stormwater management practices that must be implemented for both new development and redevelopment projects. This process is intended to develop a design that maintains pre-construction hydrologic conditions through the application of environmentally sound development principles, as well as treatment and control of runoff discharges from the site. The following sections outline the step-by-step process and how it has been applied to this project.

The goals of this Stormwater Management Plan are to analyze the peak rate of runoff under pre- and post-development conditions, to maintain the pre-development rate of runoff in order to minimize impacts to adjacent or downstream properties, and to minimize the impact to the quality of runoff exiting the site.

The Design Manual provides both water quality and water quantity objectives to be met by projects requiring a “Full SWPPP”. These objectives will be met by applying stormwater control practices to limit peak runoff rates and improve the quality of runoff leaving the developed site.

3.1 STEP 1 – Site Planning

During the Site Planning process, the project site is evaluated for implementation of the green infrastructure planning measures identified in Table 3.1 of the Design Manual, in order to preserve natural resources and reduce impervious cover. Table A of Appendix C provides a description of each green infrastructure planning measure, along with a project specific evaluation.

3.2 STEP 2 – Calculate Water Quality Treatment Volume (WQv)

Stormwater runoff from impervious surfaces is recognized as a significant contributor of pollution that can adversely affect the quality of receiving water bodies. Therefore, treatment of stormwater runoff is important since most runoff related water quality contaminants are transported from land, particularly the impervious surfaces, during the initial stages of storm events.

3.2.1 NYSDEC Requirements for Water Quality Volume

The Design Manual requires that water quality treatment be provided for the initial flush of runoff from every storm. The NYSDEC refers to the amount of runoff to be treated as the “Water Quality Volume” (WQv). Section 4.2 of the Design Manual defines the Water Quality Volume as follows:

$$WQv = \frac{[(P)(R_v)(A)]}{12}$$

Where: P = 90% Rainfall Event Number (per DEC 1.0 inch minimum)
 R_v = 0.05 + 0.009 (I)

- I = Impervious Cover (Percent)
- A = Contributing Area in Acres

This definition ensures that, all other things being equal, the Water Quality Volume will increase along with the impervious cover percentage.

3.2.2 Methodology for New Development

The Water Quality Volume equation has been applied to the drainage area tributary to each of the stormwater quality practices proposed for this project. The practices have been sized to accommodate the Water Quality Volume, as per the performance criteria presented in Chapter 5 and Chapter 6 of the Design Manual. Water quality volume calculations for each of the proposed practices are presented in Table B of Appendix C.

Table 4: Required WQv Summary

Required WQv	
7,343 cf	0.2 af

3.2.3 Methodology

The Water Quality Volume equation has been applied to the drainage area tributary to each of the stormwater quality practices proposed for this project. The practices have been sized to accommodate the Water Quality Volume, as per the performance criteria presented in Chapter 6 of the Design Manual. Water quality volume calculations for each of the proposed practices are presented in Table B of Appendix C.

3.3 STEP 3 – Apply RR Techniques and Standard SMPs with RRv Capacity to Reduce Total WQv

Land use change and development in the watershed increases the volume of runoff. As such, reductions in the amount of runoff from new development, accomplished through the implementation of a stormwater management plan for the site, will play an important role in the success or failure of the watershed-wide stormwater management plan. Runoff reduction techniques can be applied to manage, reduce, and treat stormwater, while maintaining and restoring natural hydrology through infiltration, evapo-transpiration, and the capture and reuse of stormwater. Volume reduction techniques by themselves typically are not sufficient to provide adequate attenuation of stormwater runoff, but they can decrease the size of the peak runoff rate reduction facilities.

3.3.1 NYSDEC Requirements for New Development

The Design Manual states that runoff reduction shall be achieved through infiltration, groundwater recharge, reuse, recycle, and/or evaporation/evapotranspiration of 100-percent of the post-development water quality volume to replicate pre-development hydrology. Runoff control techniques provide treatment in a distributed manner before runoff reaches the collection system, by maintaining pre-construction infiltration, peak runoff flow, discharge volume, as well as minimizing concentrated flow. This can be accomplished by applying a combination of Runoff Reduction Techniques, standard Stormwater Management Practices (SMPs) with RRv capacity, and good operation and maintenance.

SMPs w/ RRv Capacity are proposed for this project and will provide both WQv and RRv at the site.

3.3.2 Methodology

In order to reduce the required WQv and meet the RRv criteria, a site specific evaluation must be performed to determine the most practical means of reducing runoff volume by application of a combination of RR techniques and standard SMPs with RRv capacity.

3.3.3 Application of RR Techniques

This site was not suitable for the use of RR techniques. Standard stormwater Management Practices will be installed.

3.3.4 Application of Standard Stormwater Management Practices (SMPs) with RRv Capacity

The following Table demonstrates a summary of the standard SMP(s) with RRv capacity that have been incorporated into the stormwater management plan for this project. The standard SMP(s) with RRv capacity have been designed in accordance with Chapter 6 of the Design Manual. Refer to the contract drawings for practice dimensions, material specifications, and installation details. Practice specific calculations are presented in Appendix C.

Table 5: Summary of Standard SMPs with RRv Capacity being Applied

Standard SMP with RRv Capacity	Design Variant	Pretreatment Volume Required (% of WQv)	Pretreatment Volume Provided (CF)	RRv Capacity	WQv Required (CF)	WQv Reduced /RRv Provided (CF)	WQv Treated ¹ (CF)	Total WQv Provided ² (CF)
Bioretention (with underdrain)	F-5	25	1,450	40%	5,619	2,352	3,267	5,619
Dry Swale (HSG C & D)	O-1	10	160	20%	1,724	455	1,269	1,724
Standard SMP with RRv Capacity Totals					7,343	2,807	4,536	7,343
Footnotes:								
¹ WQv Treated = WQV Required - RRv Provided								
² Total WQv Provided = WQV Treated + RRv Provided								

3.3.5 RRv Performance Summary

A summary of the RRv provided is presented in the following table:

Table 6: RRv Summary

WQv Required (CF)	RRv Provided WQv Reduced (CF)	% RRv Provided/ WQv Reduced
7,343	2,807	38%

As indicated in the above table, the RRv provided is not greater than or equal to the RRv required for the project site. A good faith effort has been made to reduce runoff to the greatest extent practical. However, the project site has shallow depth to bedrock and, soils with an infiltration rate less than 0.5 in/hr, which

prevents reduction of the total WQv. As such, Table C of Appendix C provides a project specific evaluation for each RR technique and standard SMP with RRv capacity, demonstrating why these practices are infeasible.

3.4 STEP 4 – Calculate the Minimum RRv Required

Projects that cannot achieve 100% of the runoff reduction requirement due to site limitations, shall provide a minimum runoff reduction volume as calculated by the following equation:

$$RRv_{min} = \frac{[(P)(R_v^*)(Aic)(S)]}{12}$$

Where:

- RRv_{min} = Runoff Reduction Volume (in acre-feet)
- P = 90% Rainfall Event Number
- Aic = Total area of new impervious cover (acres)
- RV* = 0.05+0.009(I), where I is 100% impervious
- S = Hydrologic Soil Group (HSG) Specific Reduction Factor where:
 - HSG A = 0.55 HSG C = 0.30
 - HSG B = 0.40 HSG D = 0.20

Based upon the soil survey data, the site consists of soils having a hydrologic soil type of D. As such, a specific reduction factor of 0.20 has been applied. Calculation of the required minimum RRv is presented in Table D of Appendix C.

Table 7: Minimum RRv Summary

Minimum RRv Required (CF)	RRv Provided/ WQv Reduced (CF)	% of Minimum RRv Provided
1,400	2,807	>100%

As indicated in the above table, the RRv provided is greater than the minimum RRv required for the project site. Therefore, the runoff reduction volume criteria has been met for the project and the design can proceed to Step 5.

3.5 STEP 5 – Apply Standard SMPs to Address Remaining Water Quality Volume

As previously discussed, 100% of the required WQv is being provided and the minimum RRv is being reduced through RRv practices. As such, the water quality and runoff reduction volume criteria have been met and no other standard SMPs are required.

3.6 STEP 6 - Apply Volume and Peak Rate Control

This report presents the pre-development and post-development features and conditions associated with the rate of surface water runoff within the study area. For both cases, the drainage patterns, drainage structures, soil types, and ground cover types are considered in this study.

3.6.1 NYSDEC Requirements for New Development

Chapter 4 of the Design Manual requires that projects meet three separate stormwater quantity criteria:

1. The Channel Protection (CPv) requirement is designed to protect stream channels from erosion. This is accomplished by providing 24 hours of extended detention for the 1-year, 24-hour storm event. The Manual defines the CPv detention time as the center of mass detention time through each stormwater management practice.
2. The Overbank Flood Control (Qp) requirement is designed to prevent an increase in the frequency and magnitude of flow events that exceed the bank-full capacity of a channel, and therefore must spill over into the floodplain. This is accomplished by providing detention storage to ensure that, at each analysis point, the post-development 10-year 24-hour peak discharge rate does not exceed the corresponding pre-development rate.
3. The Extreme Flood Control (Qf) requirement is designed to prevent the increased risk of flood damage from large storm events, to maintain the boundaries of the pre-development 100-year floodplain, and to protect the physical integrity of stormwater management practices. This is accomplished by providing detention storage to ensure that, at each analysis point, the post-development 100-year 24-hour peak discharge rate does not exceed the corresponding pre-development rate.

3.6.2 Methodology

In order to demonstrate that the NYSDEC detention requirements are being met, the Design Manual requires that a hydrologic and hydraulic analysis of the pre- and post-development conditions be performed using the Natural Resources Conservation Service Technical Release 20 (TR-20) and Technical Release 55 (TR-55) methodologies. HydroCAD, developed by HydroCAD Software Solutions LLC of Tamworth, New Hampshire, is a Computer-Aided-Design (CAD) program for analyzing the hydrologic and hydraulic characteristics of a given watershed and associated stormwater management facilities. HydroCAD uses the TR-20 algorithms and TR-55 methods to create and route runoff hydrographs.

HydroCAD has the capability of computing hydrographs (which represent discharge rates characteristic of specified watershed conditions, precipitation, and geologic factors) combining hydrographs and routing flows through pipes, streams and ponds. HydroCAD can also calculate the center of mass detention time for various hydraulic features. Documentation for HydroCAD can be found on their website: <http://www.hydrocad.net/>.

For this analysis, the watershed and drainage system was broken down into a network consisting of two types of components as described below:

1. Subcatchment: A relatively homogeneous area of land, which produces a volume and rate of runoff unique to that area.
2. Pond: Natural or man-made impoundment, which temporarily stores stormwater runoff and empties in a manner determined by its geometry and the hydraulic structure located at its outlets.

Subcatchments, ponds and links are represented by hexagons, triangles, and broken boxes respectively, on the watershed routing diagrams provided with the computations included in Appendix D and Appendix E.

The analysis of hydrologic and hydraulic conditions and proposed stormwater management facilities, servicing the study area, was performed by dividing the tributary watershed into relatively homogeneous subcatchments. The separation of the watershed into subcatchments was dictated by watershed conditions, methods of collection, conveyance, and points of discharge. Watershed characteristics for

each subcatchment were then assessed from United States Geological Service (USGS) 7.5-minute topographic maps, aerial photographs, a topographical survey, soil surveys, site investigations, and land use maps.

Proposed stormwater management practices were designed and evaluated in accordance with the Design Manual and local regulatory requirements. The hydrologic and hydraulic analysis considered the SCS Type II 24-hour storm events identified in the following Table.

Table 8: Design Events

Facility	24-hour Storm Event
Storm Sewer	10-year
Stormwater Management Practice(s)	1-year
	10-year
	100-year
Flood Conditions	100-year

3.6.3 Performance Summary

A comparison of the pre- and post-development watershed conditions was performed for all analysis points and storm events evaluated herein. For all analysis points and design storms, this comparison demonstrates that the peak rate of runoff will not be increased. Therefore, the project will not have a significant adverse impact on the adjacent or downstream properties or receiving water courses.

The results of the computer modeling used to analyze the pre- and post-development watersheds are presented in Appendix D and Appendix E, respectively. The following Table summarizes the results of this analysis.

Table 9: Summary of Pre- and Post-Development Peak Discharge Rates

Pre- vs. Post-Development Discharge Rate (cfs)				
Analysis Point (AP)	10-year 24-hour storm event		100-year 24-hour storm event	
	Pre	Post	Pre	Post
1	2.0	0.8	4.2	4.2
2	7.0	4.5	14.5	13.3
Total	9.0	5.3	18.7	17.5

4.0 CONSTRUCTION SEQUENCE

This project encompasses less than five acres of land and disturbance of additional off-site properties to facilitate construction is not anticipated. Therefore, written approval from NYSDEC OR the City of Watertown allowing the disturbance of more than five acres of land at any one time is not required. If the Contractor’s construction sequence requires the disturbance of more than five acres at any one time, written approval must be obtained from NYSDEC OR the City of Watertown prior to disturbing more than five acres at once.

The “Erosion and Sediment Control Plan” and the “Erosion and Sediment Control Plan Prior to Construction” in the accompanying drawings and waiver request identifies the major construction activities that are the subject of this SWPPP. The order (or sequence) in which the major activities are expected to begin is presented on the accompanying drawings, though each activity will not necessarily be completed before the next begins. In addition, these activities could occur in a different order if necessary to maintain adequate erosion and sediment control. If this is the case, the contractor shall notify the Owner’s/Operator’s Engineer overseeing the implementation of the SWPPP.

The Contractor will be responsible for implementing the erosion and sediment control measures identified on the plans. The Contractor may designate these tasks to certain subcontractors as they see fit, but the ultimate responsibility for implementing these controls and ensuring their proper function remains with the Contractor.

Refer to the accompanying plans for details and specifications regarding the construction sequencing schedule.

5.0 CONSTRUCTION-PHASE POLLUTION CONTROL

The SWPPP and accompanying plans identify the temporary and permanent erosion and sediment control measures that have been incorporated into the design of this project. These measures will be implemented during construction, to minimize soil erosion and control sediment transport off-site, and after construction, to control the quality and quantity of stormwater runoff from the developed site.

Erosion control measures, designed to minimize soil loss, and sediment control measures, intended to retain eroded soil and prevent it from reaching water bodies or adjoining properties, have been developed in accordance with the following documents:

- NYSDEC SPDES General Permit for Stormwater Discharges From Construction Activity, Permit No. GP-0-20-001 (effective January 29, 2020 through January 28, 2025)
- New York State Standards and Specifications for Erosion and Sediment Control, NYSDEC (November 2016)

The SWPPP and accompanying plans outline the construction scheduling for implementing the erosion and sediment control measures. These documents include limitations on the duration of soil exposure, criteria and specifications for placement and installation of the erosion and sediment control measures, a maintenance schedule, and specifications for the implementation of erosion and sediment control practices and procedures.

Temporary and permanent erosion and sediment control measures that shall be applied during construction generally include:

1. Minimizing soil erosion and sedimentation by stabilization of disturbed areas and by removing sediment from construction site discharges.
2. Preservation of existing vegetation to the greatest extent practical. Following the completion of construction activities in any portion of the site, permanent vegetation shall be established on all exposed soils.
3. Site preparation activities to minimize the area and duration of soil disruption.
4. Establishment of permanent traffic corridors to ensure that “routes of convenience” are avoided.

5.1 Temporary Erosion and Sediment Control Measures

The temporary erosion and sediment control measures described in the following sections are included as part of the construction documents.

5.1.1 *Stabilized Construction Access*

Prior to construction, stabilized construction access(es) will be installed, per accompanying plans, to reduce the tracking of sediment onto public roadways.

Construction traffic must enter and exit the site at the stabilized construction access(es). The intent is to trap dust and mud that would otherwise be carried off-site by construction traffic.

The access(es) shall be maintained in a condition, which will control tracking of sediment onto public rights-of-way or streets. When necessary, additional aggregate will be placed atop the filter fabric to assure the minimum thickness is maintained. All sediment and/or soil spilled, dropped, or washed onto public rights-of-way must be removed immediately. Periodic inspection and needed maintenance shall be provided after each substantial rainfall event.

5.1.2 *Dust Control*

Water trucks shall be used as needed during construction to reduce dust generated on-site. Dust control must be provided by the Contractor(s) to a degree that is acceptable to the Owner, and in compliance with the applicable local and state dust control requirements.

5.1.3 *Temporary Soil Stockpile*

Materials, such as topsoil, will be temporarily stockpiled (if necessary) on the site during the construction process. Stockpiles shall be located in an area away from storm drainage, water bodies and/or courses, and will be properly protected from erosion by a surrounding silt fence barrier.

5.1.4 *Silt Fencing*

Prior to the initiation of and during construction activities, a geotextile filter fabric (or silt fence) will be established downgradient of all disturbed areas. These barriers may extend into non-impact areas to provide adequate protection of adjacent lands.

Clearing and grubbing will be performed only as necessary for the installation of the sediment control barrier. To facilitate effectiveness of the silt fencing, daily inspections and inspections immediately after significant storm events will be performed by the Contractor(s). Maintenance of the fence will be performed as needed.

5.1.5 *Temporary Seeding*

For areas undergoing clearing, grading, and disturbance as part of construction activities, where work has temporarily ceased, temporary soil stabilization measures must be initiated by the end of the next business day and completed within fourteen (14) days from the date the soil disturbance activity has temporarily ceased.

5.1.6 *Filter Fabric Drop Inlet Protection*

Install filter fabric or silt fence with wooden stakes at the perimeter of existing or proposed catch basins located in lawn areas, to prevent sediment from entering the catch basins and storm sewer system. Remove sediment accumulation and repair or replace fabric as necessary to ensure proper function.

5.1.7 Stone Check Dams

Stone check dams will be installed within drainage ditches to reduce the velocity of stormwater runoff, promote settling of sediment, and reduce sediment transport off-site.

Sediment accumulated behind the stone check dam will be removed as needed to maintain flow through the stone check dam and prevent large flows from carrying sediment over or around the dam. Stones shall be replaced as needed to maintain the design cross section of the structures.

5.1.8 Dewatering Operations

Dewatering will be used to intercept sediment-laden stormwater or pumped groundwater and allow it to settle out of the pumped discharge prior to being discharged from the site. Water from dewatering operations shall be treated to eliminate the discharge of sediment and other pollutants. Water resulting from dewatering operations shall be directed to temporary sediment traps or dewatering devices. Temporary sediment traps and dewatering bags will be provided, installed, and maintained at downgradient locations to control sediment deposits to downstream surfaces.

Prior to the initiation of and during construction activities, a compost filter sock (or silt sock) will be established downgradient of all disturbed areas. These filters may extend into non-impact areas to provide adequate protection of adjacent lands. The spacing of the compost filter sock, which will depend on the ground slope and diameter of the sock, shall be based upon New York State or EPA guidance.

Clearing and grubbing will be performed only as necessary for the installation of the sediment control filter; and unlike sediment control barriers, trenching is not required. The ends of the filter sock should be directed upslope, to prevent stormwater from running around the end of the sock. The preferred anchoring method is to drive stakes through the center of the sock at regular intervals; alternatively, stakes can be placed on the downstream side of the sock. To facilitate effectiveness of the compost filter sock, daily inspections and inspections immediately after significant storm events will be performed by the Contractor(s) to ensure that they are intact and the area behind the sock is not filled with sediment. Maintenance of the sock will be performed as needed.

5.2 Permanent Erosion and Sediment Control Measures

The permanent erosion and sediment control measures described in the following sections are included as part of the construction documents.

5.2.1 Establishment of Permanent Vegetation

Disturbed areas that will be vegetated must be seeded in accordance with the contract documents. The type of seed, mulch, and maintenance measures as described in the contract documents shall also be followed.

Permanent soil stabilization measures must be initiated by the end of the next business day and completed within fourteen (14) days from the date the soil disturbance activity has permanently ceased.

Final site stabilization is achieved when all soil-disturbing activities at the site have been completed and a uniform, perennial vegetative cover with a density of 80 percent has been established or equivalent stabilization measures (such as the use of mulches or geotextiles) have been employed on all unpaved areas and areas not covered by permanent structures.

5.2.2 *Rock Outlet Protection*

Rock outlet protection shall be installed at the locations as indicated and detailed on the accompanying plans. The installation of rock outlet protection will reduce the velocity and energy of water, such that the flow will not erode downstream surfaces.

5.3 Other Pollutant Controls

Part I.B.1.e of GP-0-20-001 prohibits discharges from construction material wastewater, pollutants used in vehicle and equipment operation and maintenance, vehicle and equipment washing and toxic or hazardous substances.

The following table identifies materials and/or chemicals commonly used and/or stored on construction sites and should be addressed in the site-specific spill prevention and response plan:

Table 10: Common Construction Pollutants

Material/Chemical	Physical Description	Stormwater Pollutants	Location*
Pesticides (insecticides, fungicides, herbicides, rodenticides)	Various colored to colorless liquid, powder, pellets, or grains	Chlorinated hydrocarbons, organophosphates, carbamates, arsenic	Herbicides used for noxious weed control
Fertilizer	Liquid or solid grains	Nitrogen, phosphorous	Newly seeded areas
Cleaning solvents	Colorless, blue, or yellow-green liquid	Perchloroethylene, methylene chloride, trichloroethylene, petroleum distillates	No equipment cleaning allowed in project limits
Asphalt	Black solid	Oil, petroleum distillates	Streets and roofing
Concrete	White solid/grey liquid	Limestone, sand, pH, chromium	Curb and gutter, building construction
Curing compounds	Creamy white liquid	Naphtha	Curb and gutter
Hydraulic oil/fluids	Brown oily petroleum hydrocarbon	Mineral oil	Leaks or broken hoses from equipment
Gasoline	Colorless, pale brown or pink petroleum hydrocarbon	Benzene, ethyl benzene, toluene, xylene, MTBE	Secondary containment / staging area
Diesel Fuel	Clear, blue-green to yellow liquid	Petroleum distillate, oil & grease, naphthalene, xylenes	Secondary containment / staging area
Kerosene	Pale yellow liquid petroleum hydrocarbon	Coal oil, petroleum distillates	Secondary containment / staging area
Antifreeze/coolant	Clear green/yellow liquid	Ethylene glycol, propylene glycol, heavy metals (copper, lead, zinc)	Leaks or broken hoses from equipment
Sanitary toilets	Various colored liquid	Bacteria, parasites, and viruses	Staging area
Construction materials			
Granular fill	Various colored solids	Sediment	Stockpile / fill areas
Subbase course	Gray/brown solid	Sediment, dust	Stockpile
Topsoil	Brown solid	Sediment	Stockpile
Mulch	Various colored solid	Sediment, debris	Staging area
Seed	Brown/yellow solid	Nutrients, debris	Staging area
HDPE Storm Pipe	Black solid		Staging area
SDR-35, SDR-21 PVC Pipe	Various colored solid		Staging area
Metals Frames and Grates	Gray solid		Staging area
Joint Sealant	Light gray viscous solid	Polyurethane	Staging area

*(Area where material/chemical is used on-site)

5.4 Construction Housekeeping Practices

During the construction phase, the Contractor(s) will implement the following measures:

5.4.1 *Sediment Sweeping/Vacuuming*

Any sediment that is tracked by construction vehicles or erosion onto adjacent public or private impervious surfaces must be swept or vacuumed, utilizing self-propelled and/or walk-behind equipment, and removed on a daily basis. Kick brooms and sweeper attachments are not an acceptable means of sweeping. Sweeping or vacuuming should not take place while tracked sediment is wet. If tracked sediment is compacted, the sediment must be scraped loose prior to sweeping or vacuuming.

5.4.2 *Material Stockpiles*

Material resulting from clearing and grubbing operations that will be stockpiled on-site, must be adequately protected with downgradient erosion and sediment controls.

5.4.3 *Equipment Cleaning and Maintenance*

The Contractor(s) will designate areas for equipment cleaning, maintenance, and repair. The Contractor(s) and subcontractor(s) will utilize those areas. The areas will be protected by a temporary perimeter berm.

5.4.4 *Detergents*

The use of detergents for large-scale washing is prohibited (i.e., vehicles, buildings, pavement surfaces, etc.)

5.4.5 *Spill Prevention and Response*

A Spill Prevention and Response Plan shall be developed, for the pollutants identified in Section 5.3, for the site by the Contractor(s) that addresses the following:

1. Reducing chance of spills
2. Stopping the source of spills
3. Containing and cleaning up spills
4. Disposing of materials contaminated by spills
5. Training personnel responsible for spill prevention/response
6. Material handling procedures
7. Material storage requirements

The plan shall detail the steps required in the event of an accidental spill and shall identify contact names and phone numbers of people and agencies that must be notified.

The plan shall include Safety Data Sheets (SDS) for all materials to be stored on-site. All workers on-site will be required to be trained on safe handling and spill prevention procedures for all materials used during construction. Regular tailgate safety meetings shall be held and all workers that are expected on the site during the week shall be required to attend.

5.4.6 *Concrete Washout Areas*

A temporary concrete washout area shall be provided for every project where concrete will be poured or otherwise formed on-site and shall consist of an excavated or above-ground lined construction pit where concrete trucks or equipment can be washed out after their loads have been discharged. Waste generated from concrete wash water that shall not be allowed to flow into drainage ways, inlets, receiving

waters, highway right-of-way, or any location other than the designated concrete washout area(s). Proper signage shall be placed adjacent to the facility to designate the "Concrete Washout Area". Locate the facility a minimum of 100-feet from drainage swales, storm drain inlets, wetlands, streams, and other surface waters. Prevent surface water from entering the washout area.

The hardened residue from the concrete wash areas will be disposed of in the same manner as other non-hazardous construction waste materials. Maintenance of the washout area shall include removal of hardened material when 75% of the storage capacity is filled, and a minimum freeboard of 12 inches shall be maintained. The Contractor will be responsible for seeing that these procedures are followed. The project may require the use of multiple concrete washout areas based on the frequency of concrete pours.

5.4.7 *Material Storage*

Construction materials shall be stored in a dedicated staging area. The staging area shall be located in an area that prevents negative impacts of construction materials on stormwater quality.

Chemicals, paints, solvents, fertilizers, and other toxic material must be stored in waterproof containers. Except during application, the contents must be kept in trucks or within storage facilities. Runoff containing such material must be collected, removed from the site, treated, and disposed of at an approved solid waste or chemical disposal facility.

6.0 INSPECTIONS, MAINTENANCE, AND REPORTING

6.1 Inspection and Maintenance Requirements

6.1.1 *Pre-Construction Inspection and Certification*

Prior to the commencement of construction, the Qualified Inspector/Qualified Professional shall conduct an assessment of the site and certify that the appropriate erosion and sediment control measures have been adequately installed and implemented. The Contractor shall contact the Qualified Inspector/Qualified Professional once the erosion and sediment control measures have been installed.

6.1.2 *Construction Phase Inspections and Maintenance*

A Qualified Inspector/Qualified Professional, as defined in Appendix A of the General Permit GP-0-20-001, shall conduct regular site inspections between the time this SWPPP is implemented and final site stabilization. Site inspections shall occur at an interval of at least once every seven (7) calendar days.

The purpose of site inspections is to assess performance of pollutant controls. Based on these inspections, the Qualified Inspector/Qualified Professional will decide whether it is necessary to modify this SWPPP, add or relocate sediment barriers, or whatever else may be needed in order to prevent pollutants from leaving the site via stormwater runoff. The general contractor has the duty to cause pollutant control measures to be repaired, modified, maintained, supplemented, or whatever else is necessary in order to achieve effective pollutant control.

Examples of particular items to evaluate during site inspections are listed below. This list is not intended to be comprehensive. During each inspection the inspector must evaluate overall pollutant control system performance as well as particular details of individual system components. Additional factors should be considered as appropriate to the circumstances.

1. Locations where vehicles enter and exit the site must be inspected for evidence of off-site sediment tracking. A stabilized construction access will be constructed where vehicles enter and exit. This access will be maintained or supplemented as necessary to prevent sediment from leaving the site on vehicles.
2. Sediment barriers must be inspected and, if necessary, they must be enlarged or cleaned in order to provide additional capacity. All material from behind sediment barriers will be stockpiled on the up slope side. Additional sediment barriers must be constructed as needed.
3. Inspections will evaluate disturbed areas and areas used for storing materials that are exposed to rainfall for evidence of, or the potential for, pollutants entering the drainage system. If necessary, the materials must be covered or original covers must be repaired or supplemented. Also, protective berms must be constructed, if needed, in order to contain runoff from material storage areas.
4. Grassed areas will be inspected to confirm that a healthy stand of grass is maintained. The site has achieved final stabilization once all areas are covered with building foundation or pavement, or have a stand of grass with at least 80 percent density. The density of 80 percent or greater must be maintained to be considered as stabilized. Areas must be watered, fertilized, and reseeded as needed to achieve this goal.
5. All discharge points must be inspected to determine whether erosion control measures are effective in preventing significant impacts to receiving waters.

The inspection reports must be completed entirely and additional remarks should be included if needed to fully describe a situation. An important aspect of the inspection report is the description of additional measures that need to be taken to enhance plan effectiveness. The inspection report must identify whether the site was in compliance with the SWPPP at the time of inspection and specifically identify all incidents of non-compliance.

Within one (1) business day of the completion of an inspection, the *Qualified Inspector/Qualified Professional* shall notify the Owner/Operator and appropriate contractor or subcontractor of any corrective actions that need to be taken. The contractor or subcontractor shall begin implementing the corrective actions within one (1) business day of the notification and shall complete the corrective actions in a reasonable time frame.

In addition to the inspections performed by the *Qualified Inspector/Qualified Professional*, the Contractor shall perform routine inspections that include a visual check of all erosion and sediment control measures. All inspections and maintenance shall be performed in accordance with the inspection and maintenance schedule provided on the accompanying plans. Sediment removed from erosion and sediment control measures will be exported from the site, stockpiled for later use, or used immediately for general non-structural fill.

It is the responsibility of the general contractor to assure the adequacy of site pollutant discharge controls. Actual physical site conditions or contractor practices could make it necessary to install more structural controls than are shown on the accompanying plans. (For example, localized concentrations of runoff could make it necessary to install additional sediment barriers, sediment traps, etc.) Assessing the need for additional controls and implementing them or adjusting existing controls will be a continuing aspect of this SWPPP until the site achieves final stabilization.

6.1.3 *Temporary Suspension of Construction Activities*

For construction sites where soil disturbance activities have been temporarily suspended (e.g. Winter shutdown) and temporary stabilization measures have been applied to all disturbed areas, the frequency

of Qualified Inspector/Qualified Professional inspections can be reduced to once every 30 calendar days. Prior to reducing the frequency of inspections, the Owner/Operator shall notify the NYSDEC Region 6 stormwater contact person and the City of Watertown in writing.

6.1.4 *Partial Project Completion*

For construction sites where soil disturbance activities have been shut down with partial project completion, all areas disturbed as of the project shutdown date have achieved final stabilization, and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational, the inspections by the Qualified Inspector/Qualified Professional can stop. Prior to the shutdown, the Owner/Operator shall notify the NYSDEC Region 6 stormwater contact person and the City of Watertown in writing.

If soil disturbance activities have not resumed within two years from the date of shutdown, a Notice of Termination (NOT) shall be properly completed and submitted to the NYSDEC.

6.1.5 *Post-Construction Inspections and Maintenance*

Inspections and maintenance of final stabilization measures and post-construction stormwater management practices shall be performed in accordance with Appendix G, once all disturbed areas are stabilized and all stormwater management systems are in place and operable.

6.2 Reporting Requirements

6.2.1 *Inspection Reports*

Pursuant to Part IV.C of GP-0-20-001, inspection reports shall be prepared for the duration of construction, as outlined herein, and shall be signed by the *Qualified Inspector* or *Qualified Professional*. A sample inspection form is provided in Appendix F.

At a minimum, each inspection report shall record the following information:

1. Date and time of inspection.
2. Name and title of person(s) performing inspection.
3. A description of the weather and soil conditions (e.g. dry, wet, saturated) at the time of the inspection.
4. A description of the condition of the runoff at all points of discharge from the construction site. This shall include identification of any discharges of sediment from the construction site. Include discharges from conveyance systems (i.e. pipes, culverts, ditches, etc.) and overland flow.
5. A description of the condition of all natural surface waterbodies located within, or immediately adjacent to, the property boundaries of the construction site which receive runoff from disturbed areas. This shall include identification of any discharges of sediment to the surface waterbody.
6. Identification of all erosion and sediment control practices and pollution prevention measures that need repair or maintenance.
7. Identification of all erosion and sediment control practices and pollution prevention measures that were not installed properly or are not functioning as designed and need to be reinstalled or replaced.

8. Description and sketch of areas with active soil disturbance activity, areas that have been disturbed but are inactive at the time of the inspection, and areas that have been stabilized (temporary and/or final) since the last inspection.
9. Indication of the current phase of construction of all post-construction stormwater management practices and identification of all construction that is not in conformance with the SWPPP and technical standards.
10. Corrective action(s) that must be taken to install, repair, replace or maintain erosion and sediment control practices and pollution prevention measures; and to correct deficiencies identified with the construction of the post-construction stormwater management practice(s).
11. Identification and status of all corrective actions that were required by previous inspection.
12. Color photographs, with date stamp, that clearly show the condition of all practices that have been identified as needing corrective actions. The *Qualified Inspector/Qualified Professional* shall attach paper color copies of the digital photographs to the inspection report being maintained onsite within seven (7) calendar days of the date of the inspection. The *Qualified Inspector/Qualified Professional* shall also take digital photographs, with date stamp, that clearly show the condition of the practice(s) after the corrective action has been completed. The *Qualified Inspector/Qualified Professional* shall attach the paper color copies of the digital photographs to the inspection report that documents the completion of the corrective action work within seven (7) calendar days of that inspection.

6.2.2 Site Log Book

Pursuant to Part II.D.2 of GP-0-20-001, the Owner/Operator shall retain a copy of the General Permit, NOI, NOI Acknowledgment Letter, MS4 SWPPP Acceptance Form (if applicable), inspection reports, contractor and subcontractor certification forms, and all documentation necessary to demonstrate eligibility under the permit, at the construction site from commencement of construction activity until the date that all areas of disturbance have achieved final stabilization and the Notice of Termination has been submitted to the NYSDEC.

The Site Log Book shall be maintained on-site in a secure location (i.e. job trailer, on-site construction office, or mailbox with lock) and must be accessible during normal business hours to an individual performing a compliance inspection.

6.2.3 Post Construction Records and Archiving

Following construction, the Owner/Operator shall retain copies of the SWPPP, the complete construction Site Log Book, and records of all data used to complete the NOI to be covered by this permit, for a period of at least five years from the date that the site is finally stabilized. This period may be extended by the NYSDEC, at its sole discretion, at any time upon written notification.

Records shall be maintained of all post construction inspections and maintenance work performed in accordance with the requirements outlined in Appendix G.

7.0 SWPPP IMPLEMENTATION RESPONSIBILITIES

A summary of the responsibilities and obligations of all parties involved with compliance with the NYSDEC SPDES General Permit GP-0-20-00 conditions is outlined in the subsequent sections. For a complete listing of the definitions, responsibilities, and obligations, refer to the SPDES General Permit GP-0-20-001 presented in Appendix J.

7.1 Owner's/Operator's Responsibilities

1. Ensure that control measures are selected, designed, installed, implemented and maintained to minimize the discharge of pollutants and prevent a violation of the water quality standards, meeting the non-numeric effluent limitations in Part I.B.1.(a)-(f) of the SPDES General Permit and in accordance with the New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016.
2. Ensure that practices are selected, designed, installed, and maintained to meet the performance criteria in the Design Manual. Practices must be designed to meet the applicable sizing criteria in Part I.C.2.a., b., c. or d. of GP-0-20-001.
3. Retain the services of a "Qualified Inspector" or "Qualified Professional" as defined under Section 2.1, to provide the services outlined in Section 2.5 "Qualified Inspector's/Qualified Professional's Responsibilities."
4. Retain the services of a "Qualified Professional," as defined under Section 2.1, to provide the services outlined in Section 2.3 "Owner's/Operator's Engineers Responsibilities."
5. Have an authorized corporate officer sign the Owner/Operator Certification Form to accompany the eNOI. A copy of the completed NOI is included in Appendix B.
6. Submit the electronic version of the NOI (eNOI) along with the MS4 SWPPP acceptance form using the NYSDEC's website (<http://www.dec.ny.gov/chemical/43133.html>).
7. Pay the required initial and annual fees upon receipt of invoices from NYSDEC. These invoices are generally issued in the fall of each year. The initial fee is calculated as \$110.00 per acre disturbed plus \$675.00 per acre of net increase in impervious cover, and the annual fee is \$110.00.
8. Prior to the commencement of construction activity, identify the contractor(s) and subcontractor(s) that will be responsible for implementing the erosion and sediment control measures and stormwater management practices described in this SWPPP. Have each of these contractors and subcontractors identify at least one "Trained Contractor", as defined under Section 2.1 that will be responsible for the implementation of the SWPPP. Ensure that the Contractor has at least one "Trained Contractor" on site on a daily basis when soil disturbance activities are being performed.
9. Schedule a pre-construction meeting which shall include the City of Watertown representative, Owner's/Operator's Engineer, Qualified Inspector, Contractor, and their sub-contractors to discuss responsibilities as they relate to the implementation of this SWPPP.
10. Retain the services of an independent certified materials testing and inspection firm operating under the direction of a licensed Professional Engineer to perform regular tests, inspections, and certifications of the construction materials used in the construction of all post-construction stormwater management practices.
11. Retain the services of a NYS licensed land surveyor to perform an as-built topographic survey of the completed post-construction stormwater management facilities.
12. Require the Contractor to fully implement the SWPPP prepared for the site by the Owner/Operator's Engineer to ensure that the provisions of the SWPPP are implemented from

the commencement of construction activity until all areas of disturbance have achieved final stabilization and the Notice of Termination (NOT) has been submitted to the NYSDEC.

13. Forward a copy of the NOI Acknowledgement Letter received from the regulatory agency to the Owner's/Operator's Engineer for project records, and to the Contractor for display at the construction site.
14. Maintain a copy of the General Permit (GP-0-20-001), NOI, NOI Acknowledgement Letter, SWPPP, MS4 SWPPP Acceptance Form, inspection reports, Spill Prevention, Countermeasures, Cleanup ("SPCC") Plan, and all documentation in accordance with Part I.F.8.a-d of GP-0-20-001 necessary to demonstrate eligibility with the permit at the construction site, until all disturbed areas have achieved final stabilization and the NOT has been submitted to the NYSDEC. Place documents in a secure location that must be accessible during normal business hours to an individual performing a compliance inspection.
15. Prior to submitting a Notice of Termination, ensure for post-construction stormwater management practice(s) that are privately owned, the Owner/Operator has a deed restriction in place that requires operation and maintenance of the practice(s) in accordance with the operation and maintenance plan.
16. Submit a Notice of Termination (NOT) form (see Appendix B) within 48 hours of receipt of the Owner's/Operator's Engineer's certification of final site stabilization to the following:

NOTICE OF TERMINATION
NYS DEC, Bureau of Water Permits
625 Broadway, 4th Floor
Albany, New York 12233-3505

City of Watertown
245 Washington Street
Watertown, NY 13601

17. Request and receive all SWPPP records from the Owner's/Operator's Engineer and archive those records for a minimum of five (5) years after the NOT is filed.
18. Implement the Post-Construction Inspections and Maintenance procedures outlined in Appendix G.
19. The NOI, SWPPP, and inspection reports required by GP-0-20-001 are public documents that the Owner/Operator must make available for review and copying by any person within five (5) business days of the Owner/Operator receiving a written request by any such person to review the NOI, SWPPP, or inspection reports. Copying of documents will be done at the requester's expense.
20. The Owner/Operator must keep the SWPPP current so that it at all times accurately documents the erosion and sediment controls practices that are being used or will be used during construction, and all post-construction stormwater management practices that will be constructed on the site. At a minimum, the Owner/Operator shall amend the SWPPP, including construction drawings:
 - a) Whenever the current provisions prove to be ineffective in minimizing pollutants in stormwater discharges from the project site;

- b) Whenever there is a change in design, construction, or operation at the construction site that has or could have an effect on the discharge of pollutants; and
 - c) To address issues or deficiencies identified during an inspection by the “Qualified Inspector,” the Department, or other Regulatory Authority.
 - d) To document the final construction conditions.
21. When property ownership changes or when there is a change in operational control over the construction plans and specifications, the original owner or operator must notify the new owner or operator, in writing, of the requirement to obtain permit coverage by submitting a NOI with the Department. For construction activities subject to the requirements of a regulated, traditional land use control MS4, the original owner or operator must also notify the MS4, in writing, of the change in ownership at least 30 calendar days prior to the change in ownership.
- a) Once the new owner or operator obtains permit coverage, the original owner or operator shall then submit a completed NOT with the name and permit identification number of the new owner or operator to the Department at the address in Part II.B.1. of the permit. If the original owner or operator maintains ownership of a portion of the construction activity and will disturb soil, they must maintain their coverage under the permit.
 - b) Permit coverage for the new owner or operator will be effective as of the date the Department receives a complete NOI, provided the original owner or operator was not subject to a sixty (60) business day authorization period that has not expired as of the date the Department receives the NOI from the new owner or operator.

7.2 Owner’s/Operator’s Engineer’s Responsibilities

1. Prepare the SWPPP using good engineering practices, best management practices, and in compliance with all federal, state, and local regulatory requirements.
2. Prepare the electronic Notice of Intent (eNOI) (see Appendix B) and sign the “SWPPP Preparer Certification Form.” Forward the Owner/Operator Certification Form to the Owner/Operator for signature.
3. Provide copies of the SWPPP to the City of Watertown once all signatures and attachments are complete.
4. Enter Contractor’s information in Section 2.5 “SWPPP Participants” once a Contractor is selected by the Owner/Operator.
5. Participate in a pre-construction meeting which shall include the City of Watertown representative, Owner/Operator, Qualified Inspector, Contractor, and all subcontractors to discuss responsibilities as they relate to the implementation of this SWPPP.
6. Update the SWPPP each time there is a significant modification to the pollution prevention measures or a change of the principal Contractor working on the project who may disturb site soil.

7.3 Contractor's Responsibilities

1. Sign the SWPPP Contractor's Certification Form contained within Appendix B and forward to the Owner’s/Operator’s Engineer for inclusion in the Site Log Book.

2. Identify at least one Trained Contractor that will be responsible for implementation of this SWPPP. Ensure that at least one Trained Contractor is on site on a daily basis when soil disturbance activities are being performed. The Trained Contractor shall inspect the erosion and sediment control practices and pollution prevention measures being implemented within the active work area daily to ensure that they are being maintained in effective operating conditions at all times. If deficiencies are identified, the contractor shall begin implementing corrective actions within one business day and shall complete the corrective actions in a reasonable time frame.
3. Provide the names and addresses of all subcontractors working on the project site. Require all subcontractors who will be involved with construction activities that will result in soil disturbance to identify at least one Trained Contractor that will be on site on a daily basis when soil disturbance activities are being performed; and to sign a copy of the Subcontractor's Certification Form contained within Appendix B, then forward to the Owner's/Operator's Engineer for inclusion into the Site Log Book. This information must be retained as part of the Site Log Book.
4. Maintain a Spill Prevention and Response Plan in accordance with requirements outlined in Section 5 of this SWPPP. This plan shall be provided to the Owner's/Operator's Engineer for inclusion in the Site Log Book, prior to mobilization on-site.
5. Participate in a pre-construction meeting which shall include the City of Watertown representative, Owner/Operator, Owner's/Operator's Engineer, Qualified Inspector, and all subcontractors to discuss responsibilities as they relate to the implementation of this SWPPP.
6. If Contractor plans on utilizing adjacent properties for material, waste, borrow, or equipment storage areas, or if Contractor plans to engage in industrial activity other than construction (such as operating asphalt and/or concrete plants) at the site, Contractor shall submit appropriate documentation to the Owner's/Operator's Engineer so that the SWPPP can be modified accordingly.
7. Implement site stabilization, erosion and sediment control measures, and other requirements of the SWPPP.
8. In accordance with the requirements in the most current version of the NYS Standards and Specifications for Erosion and Sediment Control, conduct inspections of erosion and sediment control measures installed at the site to ensure that they remain in effective operating condition at all times. Prepare and retain written documentation of inspections as well as of all repairs/maintenance activities performed. This information must be retained as part of the Site Log Book.
9. Begin implementing corrective actions within one (1) business day of receipt of notification by the Qualified Inspector/Qualified Professional that deficiencies exist with the erosion and sediment control measures employed at the site. Corrective actions shall be completed within a reasonable time frame.
10. Maintain a record of the date(s) and location(s) that soil restoration is performed in accordance with the accompanying plans and NYSDEC Division of Water's publication "Deep-Ripping and Decompaction," dated April 2008. A copy of this publication is provided in Appendix H. The record that is to be maintained shall be a copy of the overall site grading plan delineating the area(s) and date(s) that the soil was restored.

11. Upon completion of all construction at the site, the contractor responsible for overall SWPPP Compliance shall sign the certification on their Contractor Certification Form indicating that: a.) all temporary erosion and sediment control measures have been removed from the site, b.) the on-site soils disturbed by construction activity have been restored in accordance with the SWPPP and the NYSDEC Division of Water's publication "Deep-Ripping and Decompaction," and c.) all permanent stormwater management practices required by the SWPPP have been installed in accordance with the contract documents.

7.4 Qualified Inspector's/Qualified Professional's Responsibilities

1. Participate in a pre-construction meeting with the City of Watertown representative, Owner/Operator, Owner/Operator's Engineer, Contractor, and their subcontractors to discuss responsibilities as they relate to the implementation of this SWPPP.
2. Conduct an initial assessment of the site prior to the commencement of construction and certify in an inspection report that the appropriate erosion and sediment control measures described within this SWPPP have been adequately installed and implemented to ensure overall preparedness of the site.
3. Provide on-site inspections to determine compliance with the SWPPP. Site inspections shall occur at an interval of at least once every seven calendar days. A written inspection report shall be provided to the Owner/Operator and general contractor within one business day of the completion of the inspection, with any deficiencies identified. A sample inspection form is provided in Appendix F.
4. Prepare an inspection report subsequent to each and every inspection that shall include/address the items listed in Part IV.C.4.a-k of GP-0-20-001. Sign all inspection reports and maintain on site with the SWPPP.
5. Notify the owner/operator and appropriate contractor or subcontractor of any corrective actions that need to be taken.
6. Prepare a construction Site Log Book to be used as a record of all inspection reports generated throughout the duration of construction. Ensure that the construction Site Log Book is maintained and kept up-to-date throughout the duration of construction.
7. Review the Contractor's SWPPP records on a periodic basis to ensure compliance with the requirements for daily reports, soil restoration, inspections, and maintenance logs.
8. Based on the as-built survey and material testing certifications performed by others, the Qualified Professional shall perform evaluations of the completed stormwater management practices to determine whether they were constructed in accordance with this SWPPP.
9. The Qualified Professional shall conduct a final site assessment and prepare a certification letter to the Owner/Operator indicating that, upon review of the material testing and inspection reports prepared by the firm retained by the Owner/Operator, review of the completed topographic survey, and evaluation of the completed stormwater management facilities, the stormwater management facilities have been constructed substantially in accordance with the contract documents and should function as designed.
10. Prepare the Notice of Termination (NOT). The Qualified Professional shall sign the NOT Certifications VI (Final Stabilization) and VII (Post-construction Stormwater Management

Practices), and forward the NOT to the Owner/Operator for signature on Certification VIII (Owner/Operator Certification).

11. Transfer the SWPPP documents, along with all NOI's, permit certificates, NOT's, construction Site Log Book, and written records required by the General Permit to the Owner/Operator for archiving.

7.5 SWPPP Participants

1. Owner's/Operator's Engineer ²: Robert Steehler
LaBella Associates, DPC
Error! Reference source not found.
Error! Reference source not found. **found.**
Phone: (585) 454-6110

2. Owner/Operator ³: Mark Fuller
DePaul Properties
1931 Buffalo Road
Rochester, NY 14624

3. Contractor ^{4,6}:

Name and Title: _____

Company Name: _____

Mailing Address: _____

Phone: _____

Fax: _____

² Refer to Appendix B for the SWPPP Preparer Certification Form.

³ Refer to Appendix B for the Owner/Operator Certification Form.

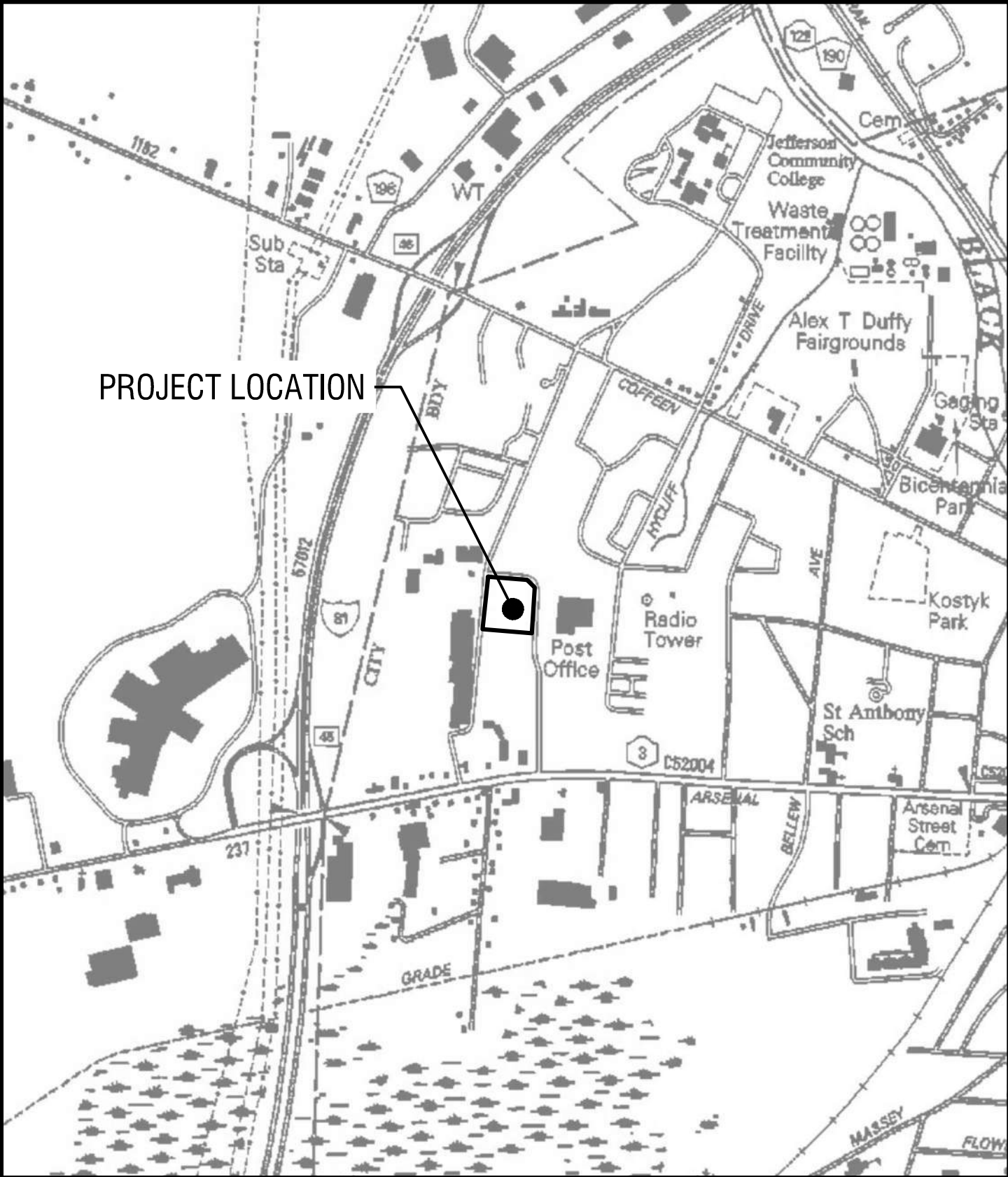
⁵ Refer to Appendix B for Contractor and Subcontractor Certification Form.

⁶ Contractor's information to be entered once the Contractor has been selected.



APPENDIX A: FIGURES

- A-1: Site Location Map
- A-2: Soils Map
- A-3: Historic Places Screening Map
- A-4: Environmental Resource Map
- A-5: FEMA Firm Map
- A-6: Pre-Development Watershed Delineation Map
- A-7: Post-Development Watershed Delineation Map



300 State Street, Suite 201
 Rochester, NY 14614
 585-454-6110

labellapc.com © 2022 LaBella Associates

It is a violation of New York Education Law Article 145 Sec. 7209, for any person, unless acting under the direction of a licensed architect, professional engineer, or land surveyor, to alter an item in any way. If an item bearing the seal of an architect, engineer, or land surveyor is altered, the altering architect, engineer, or land surveyor shall affix to the item their seal and notation "altered by" followed by their signature and date of such alteration, and a specific description of the alteration.

DRAWING NAME: **SITE LOCATION MAP**

PROJECT NAME: **DEPAUL - WATERTOWN APARTMENTS**
 COMMERCE PARK DRIVE, WATERTOWN, NY 13601

ISSUED FOR:
SWPPP FIGURE - NOT FOR CONSTRUCTION

DRAWN BY: --	DATE: 05/23/2023	PROJECT NO.: 2223896
-----------------	---------------------	-------------------------

DRAWING NUMBER:
A-1

J:\SWBR Architects\2223896 - DePaul Watertown\11_Reports\1_Standard SWPPP Template\Parts\2_App A_FIGURES.dwg

5/21/2023 1:47:08 PM

Hydrologic Soil Group—Jefferson County, New York
(Depaul - Watertown)



Map Scale: 1:1,140 if printed on A portrait (8.5" x 11") sheet.



Natural Resources
Conservation Service

Web Soil Survey
National Cooperative Soil Survey

4/2/2023
Page 1 of 4



300 State Street, Suite 201
Rochester, NY 14614
585-454-6110

labellapc.com © 2022 LaBella Associates

It is a violation of New York Education Law Article 145 Sec. 7209, for any person, unless acting under the direction of a licensed architect, professional engineer, or land surveyor, to alter an item in any way. If an item bearing the seal of an architect, engineer, or land surveyor is altered, the altering architect, engineer, or land surveyor shall affix to the item their seal and notation "altered by" followed by their signature and date of such alteration, and a specific description of the alteration.

ISSUED FOR:
SWPPP FIGURE - NOT FOR CONSTRUCTION

DRAWING NAME:
SOILS MAP


DRAWN BY: --	DATE: 05/23/2023	PROJECT NO.: 2223896
-----------------	---------------------	-------------------------

PROJECT NAME:
DEPAUL - WATERTOWN APARTMENTS
COMMERCE PARK DRIVE, WATERTOWN, NY 13601

DRAWING NUMBER:
A-2









Hydrologic Soil Group—Jefferson County, New York
(Depaul - Watertown)

MAP LEGEND









Area of Interest (AOI)
 Area of Interest (AOI)

Soils





Soil Rating Polygons

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





Soil Rating Lines

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


Soil Rating Points

-  A
-  A/D
-  B
-  B/D






Soils

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


Water Features

-  Streams and Canals

Transportation

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

Background

-  Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

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

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

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

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

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

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

Soil Survey Area: Jefferson County, New York
 Survey Area Data: Version 22, Sep 10, 2022

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


Date(s) aerial images were photographed: Sep 15, 2022—Oct 28, 2022

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



Web Soil Survey
National Cooperative Soil Survey

4/2/2023
Page 2 of 4

 <p>300 State Street, Suite 201 Rochester, NY 14614 585-454-6110 labellapc.com © 2022 LaBella Associates</p>	It is a violation of New York Education Law Article 145 Sec.7209, for any person, unless acting under the direction of a licensed architect, professional engineer, or land surveyor, to alter an item in any way, if an item bearing the seal of an architect, engineer, or land surveyor is altered; the altering architect, engineer, or land surveyor shall affix to the item their seal and notation "altered by" followed by their signature and date of such alteration, and a specific description of the alteration.	ISSUED FOR: SWPPP FIGURE - NOT FOR CONSTRUCTION	
	DRAWING NAME: SOILS LEGEND	DRAWN BY: --	DATE: 05/23/2023
PROJECT NAME: DEPAUL - WATERTOWN APARTMENTS COMMERCE PARK DRIVE, WATERTOWN, NY 13601	DRAWING NUMBER: A-2		

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
FaB	Farmington loam, 0 to 8 percent slopes	D	3.6	63.6%
NoA	Niagara silt loam, 0 to 3 percent slopes	C/D	2.1	36.4%
Totals for Area of Interest			5.6	100.0%

Description

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

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

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

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

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

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

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

Rating Options

Aggregation Method: Dominant Condition



Web Soil Survey
National Cooperative Soil Survey

4/2/2023
Page 3 of 4



300 State Street, Suite 201
Rochester, NY 14614
585-454-6110

labellapc.com © 2022 LaBella Associates

It is a violation of New York Education Law Article 145 Sec. 7209, for any person, unless acting under the direction of a licensed architect, professional engineer, or land surveyor, to alter an item in any way. If an item bearing the seal of an architect, engineer, or land surveyor is altered, the altering architect, engineer, or land surveyor shall affix to the item their seal and notation "altered by" followed by their signature and date of such alteration, and a specific description of the alteration.

DRAWING NAME:

SOILS TABLE

PROJECT NAME:

DEPAUL - WATERTOWN APARTMENTS
COMMERCE PARK DRIVE, WATERTOWN, NY 13601

ISSUED FOR:

SWPPP FIGURE - NOT FOR CONSTRUCTION

DRAWN BY:

--

DATE:

05/23/2023

PROJECT NO.:

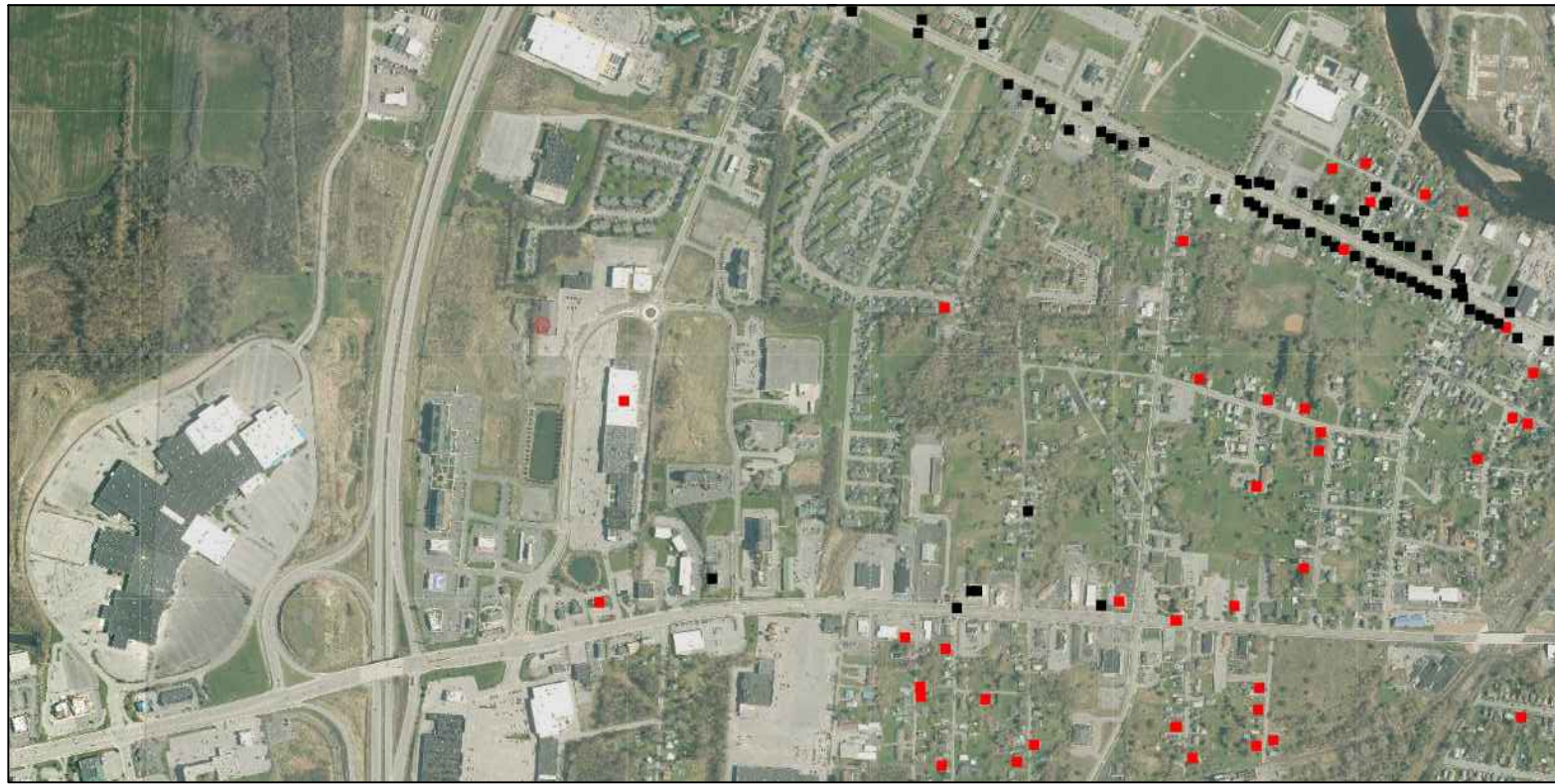
2223896

DRAWING NUMBER:

A-2

J:\SWBR Architects\2223896 - DePaul Watertown\11_Reports\1_Standard SWPPP Template\Parts\2_App A_FIGURES.dwg

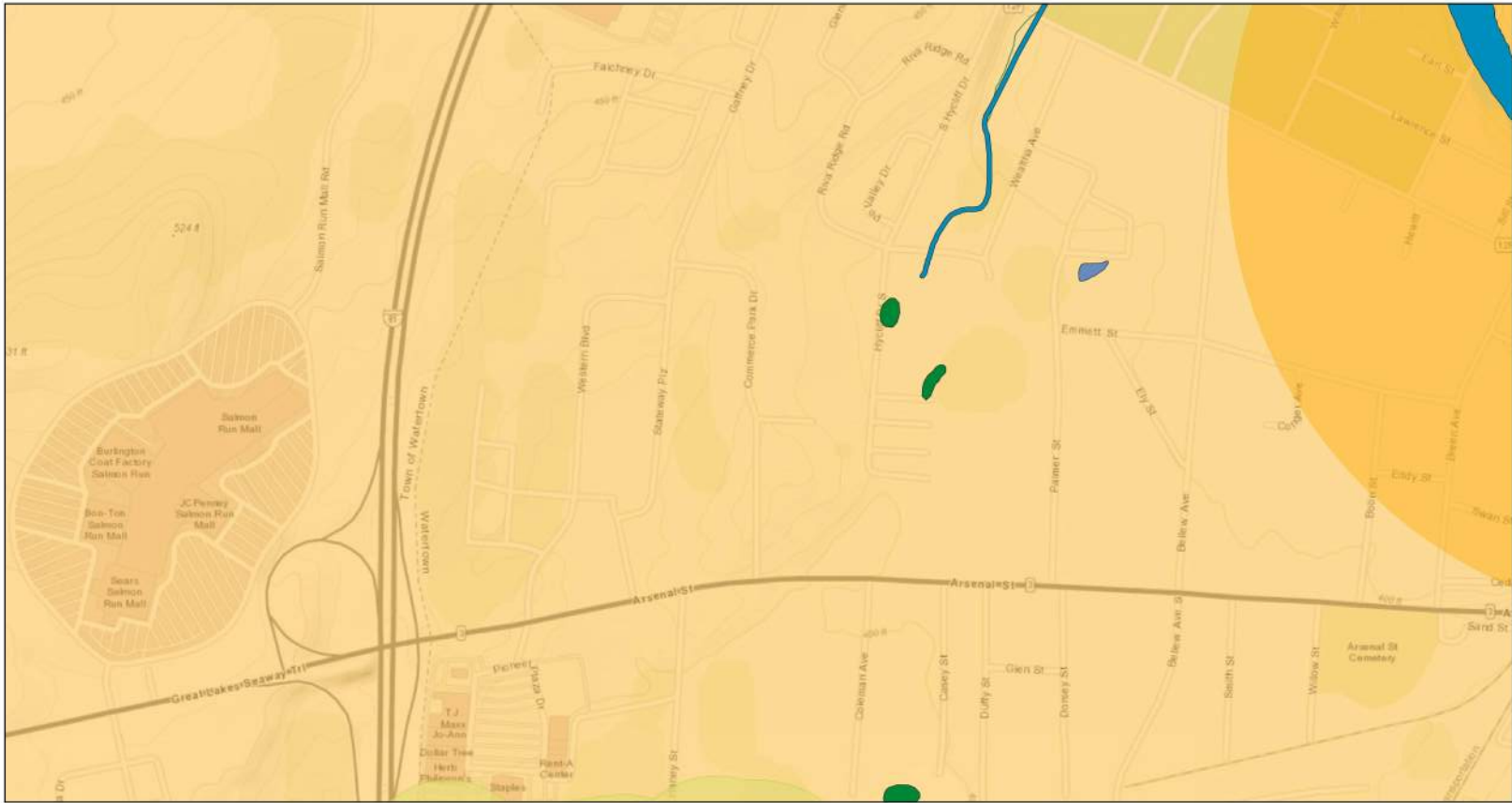
5/21/2023 1:49:59 PM



Consultation Projects (View) 	Archeologically Sensitive Areas 	Survey Building Areas (View) 	LPC Historic Districts 	USN Building Points (View)
Survey Archaeology Areas (View) 	National Register Building Sites (View) 	USN Building Districts (View) 	LPC Landmarks 	Eligible
			Cemeteries 	Listed
				Not Eligible
				Not Eligible - Demolished
				Undetermined

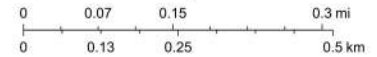
<p>LaBella Powered by partnership.</p> <p>300 State Street, Suite 201 Rochester, NY 14614 585-454-6110 labellapc.com © 2022 LaBella Associates</p>	<p><small>It is a violation of New York Education Law Article 145 Sec.7209, for any person, unless acting under the direction of a licensed architect, professional engineer, or land surveyor, to alter an item in any way, if an item bearing the seal of an architect, engineer, or land surveyor is altered; the altering architect, engineer, or land surveyor shall affix to the item their seal and notation "altered by" followed by their signature and date of such alteration, and a specific description of the alteration.</small></p>		<p>ISSUED FOR: SWPPP FIGURE - NOT FOR CONSTRUCTION</p>		
	<p>DRAWING NAME: HISTORIC PLACES SCREENING MAP</p>		<p>DRAWN BY: --</p>	<p>DATE: 05/23/2023</p>	<p>PROJECT NO.: 2223896</p>
	<p>PROJECT NAME: DEPAUL - WATERTOWN APARTMENTS COMMERCE PARK DRIVE, WATERTOWN, NY 13601</p>		<p>DRAWING NUMBER: A-3</p>		

DePaul Watertown Apartments



April 11, 2023

1:9,028



Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

NYS Department of Environmental Conservation
Not a legal document



300 State Street, Suite 201
Rochester, NY 14614
585-454-6110

labellapc.com © 2022 LaBella Associates

It is a violation of New York Education Law Article 145 Sec.7209, for any person, unless acting under the direction of a licensed architect, professional engineer, or land surveyor, to alter an item in any way, if an item bearing the seal of an architect, engineer, or land surveyor is altered; the altering architect, engineer, or land surveyor shall affix to the item their seal and notation "altered by" followed by their signature and date of such alteration, and a specific description of the alteration.

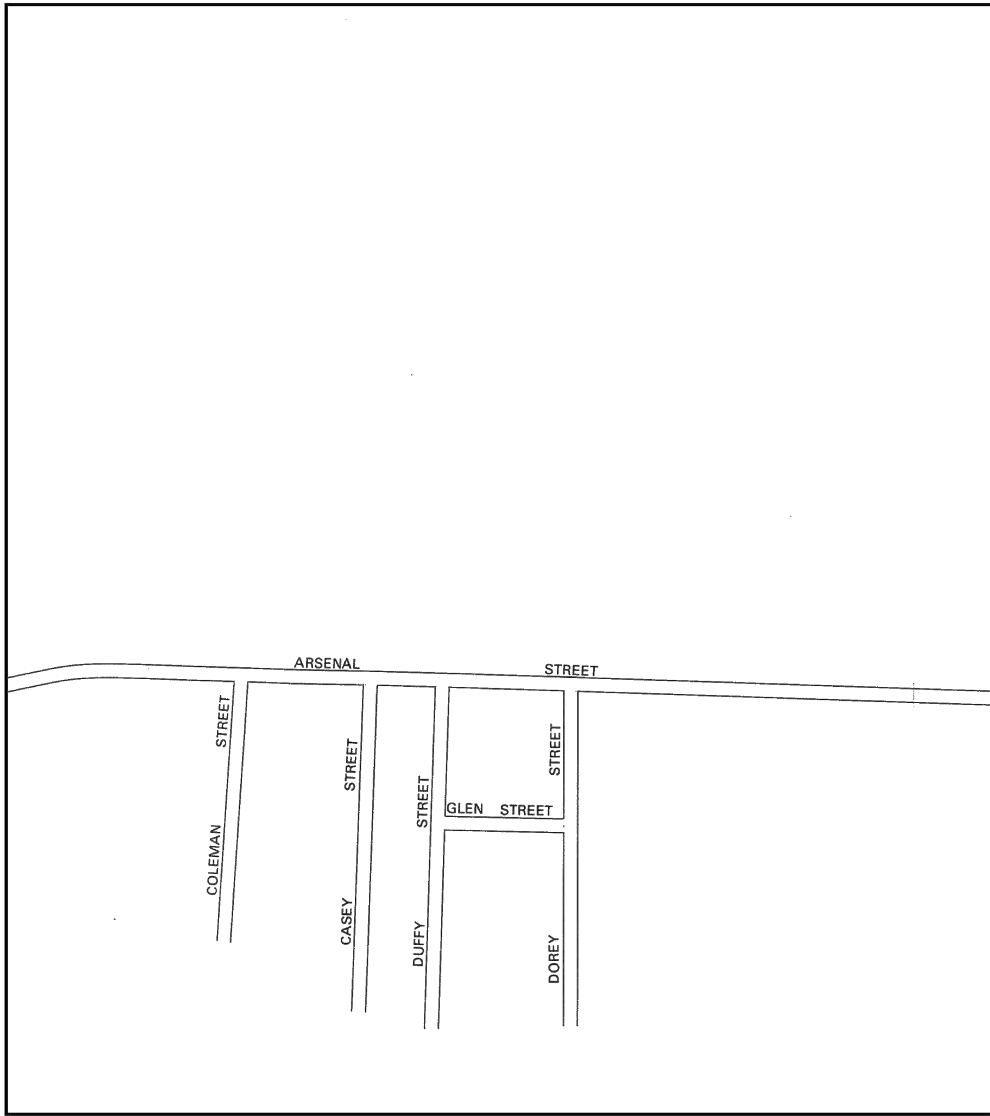
DRAWING NAME:
ENVIRONMENTAL RESOURCE MAP

PROJECT NAME:
DEPAUL - WATERTOWN APARTMENTS
COMMERCE PARK DRIVE, WATERTOWN, NY 13601

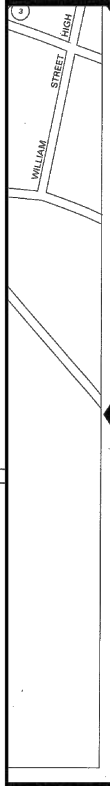
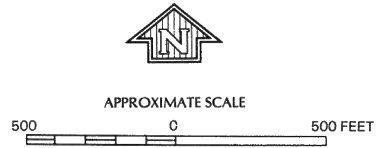
ISSUED FOR:
SWPPP FIGURE - NOT FOR CONSTRUCTION

DRAWN BY: --	DATE: 05/23/2023	PROJECT NO.: 2223896
-----------------	---------------------	-------------------------

DRAWING NUMBER:
A-4



To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at (800) 638-6620.



NATIONAL FLOOD INSURANCE PROGRAM

**FIRM
FLOOD INSURANCE RATE MAP**

CITY OF
WATERTOWN,
NEW YORK
JEFFERSON COUNTY

PANEL 1 OF 4
(SEE MAP INDEX FOR PANELS NOT PRINTED)

PANEL LOCATION

COMMUNITY-PANEL NUMBER
360354 0001 E

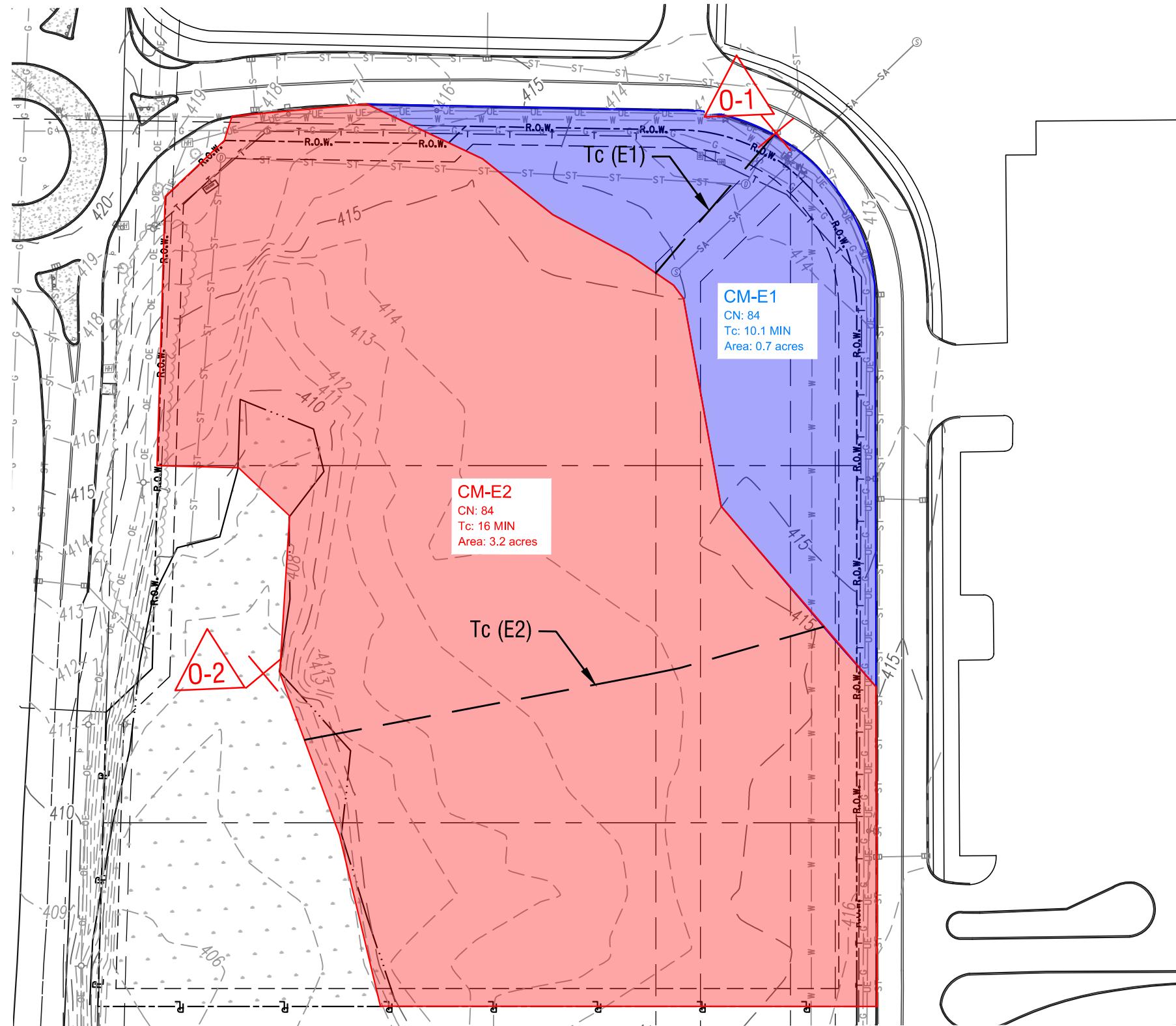
MAP REVISED:
JANUARY 17, 1990

BEST AVAILABLE COPY
AT THIS TIME

Federal Emergency Management Agency

This is an official FIRMette showing a portion of the above-referenced flood map created from the MSC FIRMette Web tool. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For additional information about how to make sure the map is current, please see the Flood Hazard Mapping Updates Overview Fact Sheet available on the FEMA Flood Map Service Center home page at <https://msc.fema.gov>.

<p style="font-size: 24pt; font-weight: bold; margin: 0;">LaBella</p> <p style="font-weight: bold; margin: 0;">Powered by partnership.</p> <p style="font-size: 10pt; margin-top: 10px;">300 State Street, Suite 201 Rochester, NY 14614 585-454-6110</p> <p style="font-size: 10pt; margin-top: 10px;">labellapc.com © 2022 LaBella Associates</p>	It is a violation of New York Education Law Article 145 Sec.7209, for any person, unless acting under the direction of a licensed architect, professional engineer, or land surveyor, to alter an item in any way, if an item bearing the seal of an architect, engineer, or land surveyor is altered; the altering architect, engineer, or land surveyor shall affix to the item their seal and notation "altered by" followed by their signature and date of such alteration, and a specific description of the alteration.		ISSUED FOR: SWPPP FIGURE - NOT FOR CONSTRUCTION	
	DRAWING NAME: <p style="font-size: 18pt; font-weight: bold; text-align: center;">FEMA FIRM MAP</p>	DRAWN BY: --	DATE: 05/23/2023	PROJECT NO.: 2223896
PROJECT NAME: <p style="font-weight: bold; text-align: center;">DEPAUL - WATERTOWN APARTMENTS</p> <p style="font-size: 10pt; text-align: center;">COMMERCE PARK DRIVE, WATERTOWN, NY 13601</p>		DRAWING NUMBER: <p style="font-size: 24pt; font-weight: bold; text-align: center;">A-5</p>		



LEGEND

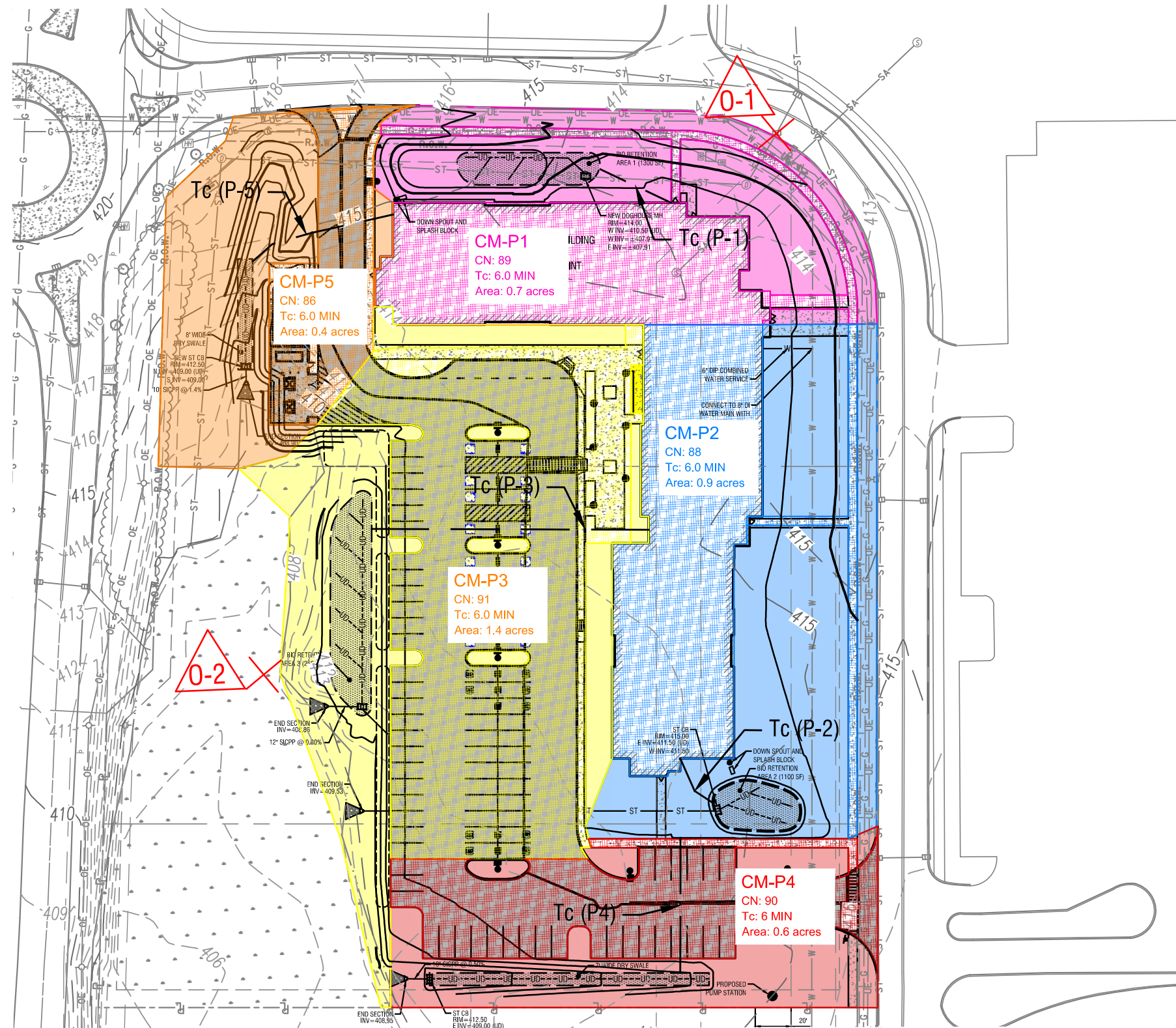
	ANALYSIS POINT		Tc PATH
	ANALYSIS POINT LOCATION		CM-X CATCHMENT AREA



PROJECT
DEPAUL PROPERTIES
WATERTOWN APARTMENTS
 WATERTOWN, NY 13601

DRAWING TITLE
FIGURE A6
PRE-DEVELOPMENT WATERSHED MAP

BY: SRV	DATE:
DRAWING SCALE: 1"=70'	MAY 2023



LEGEND

	ANALYSIS POINT		Tc PATH
	ANALYSIS POINT LOCATION		CM-X CATCHMENT AREA



PROJECT
DEPAUL PROPERTIES
WATERTOWN APARTMENTS
 WATERTOWN, NY 13601

DRAWING TITLE
FIGURE A7
POST-DEVELOPMENT WATERSHED MAP

BY: SRV	DATE:
DRAWING SCALE: 1"=70'	MAY 2023



APPENDIX B: FORMS

Notice of Intent (NOI)
MS4 SWPPP Acceptance Form
SWPPP Preparer Certification Form
Owner/Operator Certification Form
Contractor and Subcontractor Certification Forms
Notice of Termination (NOT)

NOI for coverage under Stormwater General Permit for Construction Activity

version 1.35

(Submission #: HPS-R67S-1B8EK, version 1)

Details

Originally Started By Shelby Vakiener
Alternate Identifier Depaul - Watertown Apartments
Submission ID HPS-R67S-1B8EK
Submission Reason New
Status Draft

Form Input

Owner/Operator Information

Owner/Operator Name (Company/Private Owner/Municipality/Agency/Institution, etc.)

Depaul Properties, Inc.

Owner/Operator Contact Person Last Name (NOT CONSULTANT)

Fuller

Owner/Operator Contact Person First Name

Mark

Owner/Operator Mailing Address

1931 Buffalo Road

City

Rochester

State

NY

Zip

14624

Phone

(585) 426-8000

Email

NONE PROVIDED

Federal Tax ID

NONE PROVIDED

Project Location

Project/Site Name

Depaul - Watertown Apartments

Street Address (Not P.O. Box)

VL1 Commerce Park Drive

Side of Street

West

City/Town/Village (THAT ISSUES BUILDING PERMIT)

City of Watertown

State

NY

Zip

13601

DEC Region

6

County

JEFFERSON

Name of Nearest Cross Street

Gaffney Drive

Distance to Nearest Cross Street (Feet)

90

Project In Relation to Cross Street

East

Tax Map Numbers Section-Block-Parcel

8-50

Tax Map Numbers

106.000; 105.000

1. Coordinates

Provide the Geographic Coordinates for the project site. The two methods are:

- Navigate to the project location on the map (below) and click to place a marker and obtain the XY coordinates.

- The "Find Me" button will provide the lat/long for the person filling out this form. Then pan the map to the correct location and click the map to place a marker and obtain the XY coordinates.

Navigate to your location and click on the map to get the X,Y coordinates

43.98128582671746,-75.9414018809942

Project Details**2. What is the nature of this project?**

New Construction

3. Select the predominant land use for both pre and post development conditions.**Pre-Development Existing Landuse**

Pasture/Open Land

Post-Development Future Land Use

Multifamily Residential

3a. If Single Family Subdivision was selected in question 3, enter the number of subdivision lots.

NONE PROVIDED

4. In accordance with the larger common plan of development or sale, enter the total project site acreage, the acreage to be disturbed and the future impervious area (acreage)within the disturbed area.

*** ROUND TO THE NEAREST TENTH OF AN ACRE. ***

Total Site Area (acres)

4.7

Total Area to be Disturbed (acres)

3.9

Existing Impervious Area to be Disturbed (acres)

0.0

Future Impervious Area Within Disturbed Area (acres)

2.0

5. Do you plan to disturb more than 5 acres of soil at any one time?

No

6. Indicate the percentage (%) of each Hydrologic Soil Group(HSG) at the site.**A (%)**

0

B (%)

0

C (%)

0

D (%)

100

7. Is this a phased project?

No

8. Enter the planned start and end dates of the disturbance activities.**Start Date**

01/01/2024

End Date

12/31/2025

9. Identify the nearest surface waterbody(ies) to which construction site runoff will discharge.

Tributary to Black River; USACE Wetland

9a. Type of waterbody identified in question 9?

Wetland/Federal Jurisdiction On Site (Answer 9b)

Stream/Creek Off Site

Other Waterbody Type Off Site Description

NONE PROVIDED

9b. If "wetland" was selected in 9A, how was the wetland identified?

Delineated by Consultant

10. Has the surface waterbody(ies) in question 9 been identified as a 303(d) segment in Appendix E of GP-0-20-001?

No

11. Is this project located in one of the Watersheds identified in Appendix C of GP-0-20-001?

No

12. Is the project located in one of the watershed areas associated with AA and AA-S classified waters?

No

If No, skip question 13.

13. Does this construction activity disturb land with no existing impervious cover and where the Soil Slope Phase is identified as D (provided the map unit name is inclusive of slopes greater than 25%), E or F on the USDA Soil Survey?

NONE PROVIDED

If Yes, what is the acreage to be disturbed?

NONE PROVIDED

14. Will the project disturb soils within a State regulated wetland or the protected 100 foot adjacent area?

No

15. Does the site runoff enter a separate storm sewer system (including roadside drains, swales, ditches, culverts, etc)?

Yes

16. What is the name of the municipality/entity that owns the separate storm sewer system?

City of Watertown

17. Does any runoff from the site enter a sewer classified as a Combined Sewer?

No

18. Will future use of this site be an agricultural property as defined by the NYS Agriculture and Markets Law?

No

19. Is this property owned by a state authority, state agency, federal government or local government?

No

20. Is this a remediation project being done under a Department approved work plan? (i.e. CERCLA, RCRA, Voluntary Cleanup Agreement, etc.)

No

Required SWPPP Components

21. Has the required Erosion and Sediment Control component of the SWPPP been developed in conformance with the current NYS Standards and Specifications for Erosion and Sediment Control (aka Blue Book)?

Yes

22. Does this construction activity require the development of a SWPPP that includes the post-construction stormwater management practice component (i.e. Runoff Reduction, Water Quality and Quantity Control practices/techniques)?

Yes

If you answered No in question 22, skip question 23 and the Post-construction Criteria and Post-construction SMP Identification sections.

23. Has the post-construction stormwater management practice component of the SWPPP been developed in conformance with the current NYS Stormwater Management Design Manual?

Yes

24. The Stormwater Pollution Prevention Plan (SWPPP) was prepared by:
Professional Engineer (P.E.)

SWPPP Preparer

Robert Steehler, P.E.

Contact Name (Last, Space, First)

Vakiener, Shelby

Mailing Address

300 State Street, Suite 201

City

Rochester

State

NY

Zip

14614

Phone

585-770-2525

Email

svakiener@labellapc.com

Download SWPPP Preparer Certification Form

Please take the following steps to prepare and upload your preparer certification form:

- 1) Click on the link below to download a blank certification form
- 2) The certified SWPPP preparer should sign this form

3) Scan the signed form

4) Upload the scanned document

[Download SWPPP Preparer Certification Form](#)

Please upload the SWPPP Preparer Certification

NONE PROVIDED

Comment

NONE PROVIDED

Erosion & Sediment Control Criteria

25. Has a construction sequence schedule for the planned management practices been prepared?

Yes

26. Select all of the erosion and sediment control practices that will be employed on the project site:

Temporary Structural

Construction Road Stabilization

Dust Control

Silt Fence

Stabilized Construction Entrance

Storm Drain Inlet Protection

Biotechnical

None

Vegetative Measures

Mulching

Seeding

Topsoiling

Permanent Structural

Land Grading

Rock Outlet Protection

Other

NONE PROVIDED

Post-Construction Criteria

*** IMPORTANT: Completion of Questions 27-39 is not required if response to Question 22 is No.**

27. Identify all site planning practices that were used to prepare the final site plan/layout for the project.

Reduction of Clearing and Grading
 Locating Development in Less Sensitive Areas
 Roadway Reduction
 Sidewalk Reduction
 Driveway Reduction

27a. Indicate which of the following soil restoration criteria was used to address the requirements in Section 5.1.6("Soil Restoration") of the Design Manual (2010 version).

All disturbed areas will be restored in accordance with the Soil Restoration requirements in Table 5.3 of the Design Manual (see page 5-22).

28. Provide the total Water Quality Volume (WQv) required for this project (based on final site plan/layout). (Acre-feet)

0.2

29. Post-construction SMP Identification

Use the Post-construction SMP Identification section to identify the RR techniques (Area Reduction), RR techniques(Volume Reduction) and Standard SMPs with RRv Capacity that were used to reduce the Total WQv Required (#28).

Identify the SMPs to be used by providing the total impervious area that contributes runoff to each technique/practice selected. For the Area Reduction Techniques, provide the total contributing area (includes pervious area) and, if applicable, the total impervious area that contributes runoff to the technique/practice.

Note: Redevelopment projects shall use the Post-Construction SMP Identification section to identify the SMPs used to treat and/or reduce the WQv required. If runoff reduction techniques will not be used to reduce the required WQv, skip to question 33a after identifying the SMPs.

30. Indicate the Total RRv provided by the RR techniques (Area/Volume Reduction) and Standard SMPs with RRv capacity identified in question 29. (acre-feet)

0.1

31. Is the Total RRv provided (#30) greater than or equal to the total WQv required (#28)?

No

If Yes, go to question 36. If No, go to question 32.

32. Provide the Minimum RRv required based on HSG. [Minimum RRv Required = (P) (0.95) (Ai) / 12, Ai=(s) (Aic)] (acre-feet)

0.03

32a. Is the Total RRv provided (#30) greater than or equal to the Minimum RRv Required (#32)?

Yes

If Yes, go to question 33.

Note: Use the space provided in question #39 to summarize the specific site limitations and justification for not reducing 100% of WQv required (#28). A detailed evaluation of the specific site limitations and justification for not reducing 100% of the WQv required (#28) must also be included in the SWPPP.

If No, sizing criteria has not been met; therefore, NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria.

33. SMPs

Use the Post-construction SMP Identification section to identify the Standard SMPs and, if applicable, the Alternative SMPs to be used to treat the remaining total WQv (=Total WQv Required in #28 - Total RRv Provided in #30).

Also, provide the total impervious area that contributes runoff to each practice selected.

NOTE: Use the Post-construction SMP Identification section to identify the SMPs used on Redevelopment projects.

33a. Indicate the Total WQv provided (i.e. WQv treated) by the SMPs identified in question #33 and Standard SMPs with RRv Capacity identified in question #29. (acre-feet)

0.1

Note: For the standard SMPs with RRv capacity, the WQv provided by each practice = the WQv calculated using the contributing drainage area to the practice - provided by the practice. (See Table 3.5 in Design Manual)

34. Provide the sum of the Total RRv provided (#30) and the WQv provided (#33a).

.2

35. Is the sum of the RRv provided (#30) and the WQv provided (#33a) greater than or equal to the total WQv required (#28)?

Yes

If Yes, go to question 36.

If No, sizing criteria has not been met; therefore, NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria.

36. Provide the total Channel Protection Storage Volume (CPv required and provided or select waiver (#36a), if applicable.**CPv Required (acre-feet)**

NONE PROVIDED

CPv Provided (acre-feet)

NONE PROVIDED

36a. The need to provide channel protection has been waived because:

Reduction of the total CPv is achieved on site through runoff reduction techniques or infiltration systems.

37. Provide the Overbank Flood (Qp) and Extreme Flood (Qf) control criteria or select waiver (#37a), if applicable.**Overbank Flood Control Criteria (Qp)****Pre-Development (CFS)**

9.0

Post-Development (CFS)

5.3

Total Extreme Flood Control Criteria (Qf)**Pre-Development (CFS)**

18.7

Post-Development (CFS)

17.5

37a. The need to meet the Qp and Qf criteria has been waived because:

Downstream analysis reveals that the Qp and Qf controls are not required.

38. Has a long term Operation and Maintenance Plan for the post-construction stormwater management practice(s) been developed?

Yes

If Yes, Identify the entity responsible for the long term Operation and Maintenance

DePaul Properties

39. Use this space to summarize the specific site limitations and justification for not reducing 100% of WQv required (#28). (See question #32a) This space can also be used for other pertinent project information.

The sum of the RRv and WQv provided exceeds the WQv required for the project. 100% of the required WQv was provided through 3 bioretention areas and 2 dry swales. The minimum RRv required for the new impervious area is provided, as required by Part I.C.2 of GP-0-20-001. The presence of Type D soils and lack of infiltration limits the runoff reduction that can be provided on this site.

Post-Construction SMP Identification**Runoff Reduction (RR) Techniques, Standard Stormwater Management Practices (SMPs) and Alternative SMPs**

Identify the Post-construction SMPs to be used by providing the total impervious area that contributes runoff to each technique/practice selected. For the Area Reduction

Techniques, provide the total contributing area (includes pervious area) and, if applicable, the total impervious area that contributes runoff to the technique/practice.

RR Techniques (Area Reduction)

Round to the nearest tenth

Total Contributing Acres for Conservation of Natural Area (RR-1)

NONE PROVIDED

Total Contributing Impervious Acres for Conservation of Natural Area (RR-1)

NONE PROVIDED

Total Contributing Acres for Sheetflow to Riparian Buffers/Filter Strips (RR-2)

NONE PROVIDED

Total Contributing Impervious Acres for Sheetflow to Riparian Buffers/Filter Strips (RR-2)

NONE PROVIDED

Total Contributing Acres for Tree Planting/Tree Pit (RR-3)

NONE PROVIDED

Total Contributing Impervious Acres for Tree Planting/Tree Pit (RR-3)

NONE PROVIDED

Total Contributing Acres for Disconnection of Rooftop Runoff (RR-4)

NONE PROVIDED

RR Techniques (Volume Reduction)

Total Contributing Impervious Acres for Disconnection of Rooftop Runoff (RR-4)

NONE PROVIDED

Total Contributing Impervious Acres for Vegetated Swale (RR-5)

NONE PROVIDED

Total Contributing Impervious Acres for Rain Garden (RR-6)

NONE PROVIDED

Total Contributing Impervious Acres for Stormwater Planter (RR-7)

NONE PROVIDED

Total Contributing Impervious Acres for Rain Barrel/Cistern (RR-8)

NONE PROVIDED

Total Contributing Impervious Acres for Porous Pavement (RR-9)

NONE PROVIDED

Total Contributing Impervious Acres for Green Roof (RR-10)

NONE PROVIDED

Standard SMPs with RRv Capacity

Total Contributing Impervious Acres for Infiltration Trench (I-1)

NONE PROVIDED

Total Contributing Impervious Acres for Infiltration Basin (I-2)

NONE PROVIDED

Total Contributing Impervious Acres for Dry Well (I-3)

NONE PROVIDED

Total Contributing Impervious Acres for Underground Infiltration System (I-4)

NONE PROVIDED

Total Contributing Impervious Acres for Bioretention (F-5)

1.5

Total Contributing Impervious Acres for Dry Swale (O-1)

0.5

Standard SMPs

Total Contributing Impervious Acres for Micropool Extended Detention (P-1)

NONE PROVIDED

Total Contributing Impervious Acres for Wet Pond (P-2)

NONE PROVIDED

Total Contributing Impervious Acres for Wet Extended Detention (P-3)

NONE PROVIDED

Total Contributing Impervious Acres for Multiple Pond System (P-4)

NONE PROVIDED

Total Contributing Impervious Acres for Pocket Pond (P-5)

NONE PROVIDED

Total Contributing Impervious Acres for Surface Sand Filter (F-1)

NONE PROVIDED

Total Contributing Impervious Acres for Underground Sand Filter (F-2)

NONE PROVIDED

Total Contributing Impervious Acres for Perimeter Sand Filter (F-3)

NONE PROVIDED

Total Contributing Impervious Acres for Organic Filter (F-4)

NONE PROVIDED

Total Contributing Impervious Acres for Shallow Wetland (W-1)

NONE PROVIDED

Total Contributing Impervious Acres for Extended Detention Wetland (W-2)

NONE PROVIDED

Total Contributing Impervious Acres for Pond/Wetland System (W-3)

NONE PROVIDED

Total Contributing Impervious Acres for Pocket Wetland (W-4)

NONE PROVIDED

Total Contributing Impervious Acres for Wet Swale (O-2)

NONE PROVIDED

Alternative SMPs (DO NOT INCLUDE PRACTICES BEING USED FOR PRETREATMENT ONLY)

Total Contributing Impervious Area for Hydrodynamic

NONE PROVIDED

Total Contributing Impervious Area for Wet Vault

NONE PROVIDED

Total Contributing Impervious Area for Media Filter

NONE PROVIDED

"Other" Alternative SMP?

NONE PROVIDED

Total Contributing Impervious Area for "Other"

NONE PROVIDED

Provide the name and manufacturer of the alternative SMPs (i.e. proprietary practice(s)) being used for WQv treatment.

Note: Redevelopment projects which do not use RR techniques, shall use questions 28, 29, 33 and 33a to provide SMPs used, total WQv required and total WQv provided for the project.

Manufacturer of Alternative SMP

NONE PROVIDED

Name of Alternative SMP

NONE PROVIDED

Other Permits

40. Identify other DEC permits, existing and new, that are required for this project/facility.

None

If SPDES Multi-Sector GP, then give permit ID

NONE PROVIDED

If Other, then identify

NONE PROVIDED

41. Does this project require a US Army Corps of Engineers Wetland Permit?

No

If "Yes," then indicate Size of Impact, in acres, to the nearest tenth

NONE PROVIDED

42. If this NOI is being submitted for the purpose of continuing or transferring coverage under a general permit for stormwater runoff from construction activities, please indicate the former SPDES number assigned.

NONE PROVIDED

MS4 SWPPP Acceptance

43. Is this project subject to the requirements of a regulated, traditional land use control MS4?

Yes - Please attach the MS4 Acceptance form below

If No, skip question 44

44. Has the "MS4 SWPPP Acceptance" form been signed by the principal executive officer or ranking elected official and submitted along with this NOI?

NONE PROVIDED

MS4 SWPPP Acceptance Form Download

Download form from the link below. Complete, sign, and upload.

[MS4 SWPPP Acceptance Form](#)

MS4 Acceptance Form Upload

NONE PROVIDED

Comment

NONE PROVIDED

Owner/Operator Certification

Owner/Operator Certification Form Download

Download the certification form by clicking the link below. Complete, sign, scan, and upload the form.

[Owner/Operator Certification Form \(PDF, 45KB\)](#)

Upload Owner/Operator Certification Form

NONE PROVIDED

Comment

NONE PROVIDED



Department of
Environmental
Conservation

NYS Department of Environmental Conservation
Division of Water
625 Broadway, 4th Floor
Albany, New York 12233-3505

MS4 Stormwater Pollution Prevention Plan (SWPPP) Acceptance Form

for

Construction Activities Seeking Authorization Under SPDES General Permit

*(NOTE: Attach Completed Form to Notice Of Intent and Submit to Address Above)

I. Project Owner/Operator Information

1. Owner/Operator Name:

2. Contact Person:

3. Street Address:

4. City/State/Zip:

II. Project Site Information

5. Project/Site Name:

6. Street Address:

7. City/State/Zip:

III. Stormwater Pollution Prevention Plan (SWPPP) Review and Acceptance Information

8. SWPPP Reviewed by:

9. Title/Position:

10. Date Final SWPPP Reviewed and Accepted:

IV. Regulated MS4 Information

11. Name of MS4:

12. MS4 SPDES Permit Identification Number: NYR20A

13. Contact Person:

14. Street Address:

15. City/State/Zip:

16. Telephone Number:

MS4 SWPPP Acceptance Form - continued

V. Certification Statement - MS4 Official (principal executive officer or ranking elected official) or Duly Authorized Representative

I hereby certify that the final Stormwater Pollution Prevention Plan (SWPPP) for the construction project identified in question 5 has been reviewed and meets the substantive requirements in the SPDES General Permit For Stormwater Discharges from Municipal Separate Storm Sewer Systems (MS4s). Note: The MS4, through the acceptance of the SWPPP, assumes no responsibility for the accuracy and adequacy of the design included in the SWPPP. In addition, review and acceptance of the SWPPP by the MS4 does not relieve the owner/operator or their SWPPP preparer of responsibility or liability for errors or omissions in the plan.

Printed Name:

Title/Position:

Signature:

Date:

VI. Additional Information



SWPPP Preparer Certification Form

*SPDES General Permit for Stormwater
Discharges From Construction Activity
(GP-0-20-001)*

Project Site Information Project/Site Name

Owner/Operator Information Owner/Operator (Company Name/Private Owner/Municipality Name)

Certification Statement – SWPPP Preparer

I hereby certify that the Stormwater Pollution Prevention Plan (SWPPP) for this project has been prepared in accordance with the terms and conditions of the GP-0-20-001. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of this permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

First name

MI

Last Name

Signature

Date



Owner/Operator Certification Form

SPDES General Permit For Stormwater Discharges From Construction Activity (GP-0-20-001)

Project/Site Name: _____

eNOI Submission Number: _____

eNOI Submitted by: **Owner/Operator** **SWPPP Preparer** **Other**

Certification Statement - Owner/Operator

I have read or been advised of the permit conditions and believe that I understand them. I also understand that, under the terms of the permit, there may be reporting requirements. I hereby certify that this document and the corresponding documents were prepared under my direction or supervision. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I further understand that coverage under the general permit will be identified in the acknowledgment that I will receive as a result of submitting this NOI and can be as long as sixty (60) business days as provided for in the general permit. I also understand that, by submitting this NOI, I am acknowledging that the SWPPP has been developed and will be implemented as the first element of construction, and agreeing to comply with all the terms and conditions of the general permit for which this NOI is being submitted.

Owner/Operator First Name _____ M.I. Last Name _____

Signature

Date

**Stormwater Pollution Prevention Plan
Contractor Certification Statement
(Responsible for overall SWPPP Compliance)**

DePaul Watertown Apartments
Commerce Park Drive, City of Watertown, Jefferson County, New York

This is to certify that the following contracting firm will be responsible for installing, constructing, repairing, inspecting and/or maintaining the erosion and sediment control practices and post-construction stormwater management control practices required by the SWPPP.

Contracting Firm Information

Name: _____
Address: _____
Telephone & Fax: _____

Trained Contractor(s)¹ Responsible for SWPPP Implementation (Provide name, title, and date of last training)

Prior to commencement of construction activity, the following certification shall be issued:

I hereby certify under penalty of law that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the *qualified inspector* during a site inspection. I also understand that the *owner or operator* must comply with the terms and conditions of the most current version of the New York State Pollutant Discharge Elimination System ("SPDES") general permit for stormwater *discharges* from *construction activities* and that it is unlawful for any person to cause or contribute to a violation of *water quality standards*. Furthermore, I am aware that there are significant penalties for submitting false information, that I do not believe to be true, including the possibility of fine and imprisonment for knowing violations.

Printed Name: _____
Title/Position: _____
Signature: _____ Date: _____

Upon completion of construction activities, the following certification shall be issued, prior to issuance of the NOT:

I hereby certify that that all permanent stormwater management practices required by the SWPPP have been installed in accordance with the contract documents. I further certify that all temporary erosion and sediment control measures have been removed from the site, and that the on-site soils disturbed by construction activity have been restored in accordance with the SWPPP and the NYSDEC Division of Water's publication "Deep-Ripping and Decompaction".

Printed Name: _____
Title/Position: _____
Signature: _____ Date: _____

¹ "Trained Contractor" means an employee from a contracting (construction) company that has received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity. After receiving the initial training, the "trained contractor" shall receive four (4) hours of training every three (3) years. It can also mean an employee from the contracting (construction) company that meets the "qualified inspector" qualifications (e.g. licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, New York State Erosion and Sediment Control Certificate Program holder, or someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided they have received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity). The "Trained Contractor" will be responsible for the day to day implementation of the SWPPP.

² Signatory Requirements:

- a. For a corporation, this form shall be signed by (i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principle business function, or any other person who performs similar policy or decision-making functions for the corporation; or (ii) the manager of one or more manufacturing, production or operating facilities, provided the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.
- b. For a partnership or sole proprietorship, this form shall be signed by a general partner or the proprietor, respectively.
- c. For a municipality, State, Federal, or other public agency, this form shall be signed by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g. Regional Administrators of EPA).

**Stormwater Pollution Prevention Plan
Subcontractor Certification Statement
(whose work involves soil disturbance)**

DePaul Watertown Apartments
Commerce Park Drive, City of Watertown, Jefferson County, New York

Each Subcontractor whose work will involve soil disturbance of any kind is required to complete and sign this Certification Statement before commencing any construction activity at the site. This completed Certification Statement(s) shall be maintained at the construction site in the Site Log Book.

Subcontracting Firm Information

Name: _____

Address: _____

Telephone & Fax: _____

Trained Contractor(s)² Responsible for SWPPP Implementation (Provide name, title, and date of last training)

Prior to commencement of construction activities, the following certification shall be issued:

I hereby certify under penalty of law that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the *qualified inspector* during a site inspection. I also understand that the *owner or operator* must comply with the terms and conditions of the most current version of the New York State Pollutant Discharge Elimination System ("SPDES") general permit for stormwater *discharges* from *construction activities* and that it is unlawful for any person to cause or contribute to a violation of *water quality standards*. Furthermore, I am aware that there are significant penalties for submitting false information, that I do not believe to be true, including the possibility of fine and imprisonment for knowing violations.

Printed Name: _____

Title/Position: _____

Signature: _____ Date: _____

² "Trained Contractor" means an employee from a contracting (construction) company that has received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity. After receiving the initial training, the "trained contractor" shall receive four (4) hours of training every three (3) years. It can also mean an employee from the contracting (construction) company that meets the "qualified inspector" qualifications (e.g. licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, New York State Erosion and Sediment Control Certificate Program holder, or someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided they have received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity). The "Trained Contractor" will be responsible for the day to day implementation of the SWPPP.

² Signatory Requirements:

- a. For a corporation, this form shall be signed by (i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principle business function, or any other person who performs similar policy or decision-making functions for the corporation; or (ii) the manager of one or more manufacturing, production or operating facilities, provided the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.
- b. For a partnership or sole proprietorship, this form shall be signed by a general partner or the proprietor, respectively.
- c. For a municipality, State, Federal, or other public agency, this form shall be signed by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g. Regional Administrators of EPA).

**New York State Department of Environmental Conservation
 Division of Water
 625 Broadway, 4th Floor
 Albany, New York 12233-3505
 *(NOTE: Submit completed form to address above)***

**NOTICE OF TERMINATION for Storm Water Discharges Authorized
 under the SPDES General Permit for Construction Activity**

Please indicate your permit identification number: NYR _____

I. Owner or Operator Information

1. Owner/Operator Name:

2. Street Address:

3. City/State/Zip:

4. Contact Person:

4a. Telephone:

4b. Contact Person E-Mail:

II. Project Site Information

5. Project/Site Name:

6. Street Address:

7. City/Zip:

8. County:

III. Reason for Termination

9a. All disturbed areas have achieved final stabilization in accordance with the general permit and SWPPP. ***Date final stabilization completed** (month/year): _____

9b. Permit coverage has been transferred to new owner/operator. Indicate new owner/operator's permit identification number: NYR _____
 (Note: Permit coverage can not be terminated by owner identified in I.1. above until new owner/operator obtains coverage under the general permit)

9c. Other (Explain on Page 2)

IV. Final Site Information:

10a. Did this construction activity require the development of a SWPPP that includes post-construction stormwater management practices? yes no (If no, go to question 10f.)

10b. Have all post-construction stormwater management practices included in the final SWPPP been constructed? yes no (If no, explain on Page 2)

10c. Identify the entity responsible for long-term operation and maintenance of practice(s)?

**NOTICE OF TERMINATION for Storm Water Discharges Authorized under the
SPDES General Permit for Construction Activity - continued**

10d. Has the entity responsible for long-term operation and maintenance been given a copy of the operation and maintenance plan required by the general permit? yes no

10e. Indicate the method used to ensure long-term operation and maintenance of the post-construction stormwater management practice(s):

- Post-construction stormwater management practice(s) and any right-of-way(s) needed to maintain practice(s) have been deeded to the municipality.
- Executed maintenance agreement is in place with the municipality that will maintain the post-construction stormwater management practice(s).
- For post-construction stormwater management practices that are privately owned, a mechanism is in place that requires operation and maintenance of the practice(s) in accordance with the operation and maintenance plan, such as a deed covenant in the owner or operator's deed of record.
- For post-construction stormwater management practices that are owned by a public or private institution (e.g. school, university or hospital), government agency or authority, or public utility; policy and procedures are in place that ensures operation and maintenance of the practice(s) in accordance with the operation and maintenance plan.

10f. Provide the total area of impervious surface (i.e. roof, pavement, concrete, gravel, etc.) constructed within the disturbance area? _____
(acres)

11. Is this project subject to the requirements of a regulated, traditional land use control MS4? yes
 no
(If Yes, complete section VI - "MS4 Acceptance" statement)

V. Additional Information/Explanation:
(Use this section to answer questions 9c. and 10b., if applicable)

VI. MS4 Acceptance - MS4 Official (principal executive officer or ranking elected official) or Duly Authorized Representative (Note: Not required when 9b. is checked -transfer of coverage)

I have determined that it is acceptable for the owner or operator of the construction project identified in question 5 to submit the Notice of Termination at this time.

Printed Name:

Title/Position:

Signature:

Date:

NOTICE OF TERMINATION for Storm Water Discharges Authorized under the
SPDES General Permit for Construction Activity - continued

VII. Qualified Inspector Certification - Final Stabilization:

I hereby certify that all disturbed areas have achieved final stabilization as defined in the current version of the general permit, and that all temporary, structural erosion and sediment control measures have been removed. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Printed Name:

Title/Position:

Signature:

Date:

VIII. Qualified Inspector Certification - Post-construction Stormwater Management Practice(s):

I hereby certify that all post-construction stormwater management practices have been constructed in conformance with the SWPPP. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Printed Name:

Title/Position:

Signature:

Date:

IX. Owner or Operator Certification

I hereby certify that this document was prepared by me or under my direction or supervision. My determination, based upon my inquiry of the person(s) who managed the construction activity, or those persons directly responsible for gathering the information, is that the information provided in this document is true, accurate and complete. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Printed Name:

Title/Position:

Signature:

Date:

(NYS DEC Notice of Termination - January 2015)



APPENDIX C:
PROJECT EVALUATION AND
DESIGN CALCULATIONS

This Page Intentionally Left Blank

Is this project subject to Chapter 10 of the NYS Design Manual (i.e. WQv is equal to post-development 1 year runoff volume)?.....

Design Point:	1	
P=	1.00	inch

Breakdown of Subcatchments						
Catchment Number	Total Area (Acres)	Impervious Area (Acres)	Percent Impervious %	Rv	WQv (ft ³)	Description
1	0.94	0.42	45%	0.45	1,543	DA 1 - Bio 1
2	0.70	0.36	51%	0.51	1,303	DA 2 - Bio 2
3	1.24	0.78	63%	0.62	2,773	DA 3 - Bio 3
4	0.56	0.30	54%	0.53	1,082	DA 4 - Dry Swale 1
5	0.48	0.17	35%	0.37	643	DA 5 - Dry Swale 2
6						
7						
8						
9						
10						
Subtotal (1-30)	3.92	2.03	52%	0.52	7,343	Subtotal 1
Total	3.92	2.03	52%	0.52	7,343	Initial WQv

0.17	af
-------------	-----------

Identify Runoff Reduction Techniques By Area			
Technique	Total Contributing Area	Contributing Impervious Area	Notes
	(Acre)	(Acre)	
Conservation of Natural Areas	0.00	0.00	minimum 10,000 sf
Riparian Buffers	0.00	0.00	maximum contributing length 75 feet to 150 feet
Filter Strips	0.00	0.00	
Tree Planting	0.00	0.00	Up to 100 sf directly connected impervious area may be subtracted per
Total	0.00	0.00	

Recalculate WQv after application of Area Reduction Techniques					
	Total Area (Acres)	Impervious Area (Acres)	Percent Impervious %	Runoff Coefficient Rv	WQv (ft ³)
"<<Initial WQv"	3.92	2.03	52%	0.52	7,343
Subtract Area	0.00	0.00			
WQv adjusted after Area Reductions	3.92	2.03	52%	0.52	7,343
Disconnection of Rooftops		0.00			
Adjusted WQv after Area Reduction and Rooftop Disconnect	3.92	2.03	52%	0.52	7,343
WQv reduced by Area Reduction techniques					0

0.17	af
0.00	af

Minimum RRv

Enter the Soils Data for the site

Soil Group	Acres	S
A		55%
B		40%
C		30%
D	3.92	20%
Total Area	3.92	

Calculate the Minimum RRv

S =	0.20	
Impervious =	2.03	<i>acre</i>
Precipitation	1	<i>in</i>
Rv	0.95	
Minimum RRv	1,400	<i>ft3</i>
	0.03	<i>af</i>

Bioretention Worksheet

(For use on HSG C or D Soils with underdrains)

$$Af = WQv * (df) / [k * (hf + df)(tf)]$$

<i>Af</i>	Required Surface Area (ft ²)	The hydraulic conductivity [ft/day], can be varied depending on the properties of the soil media. Some reported conductivity values are: Sand - 3.5 ft/day (City of Austin 1988); Peat - 2.0 ft/day (Galli 1990); Leaf Compost - 8.7 ft/day (Claytor and Schueler, 1996); Bioretention Soil (0.5 ft/day (Claytor &
<i>WQv</i>	Water Quality Volume (ft ³)	
<i>df</i>	Depth of the Soil Medium (feet)	<i>k</i>
<i>hf</i>	Average height of water above the planter bed	
<i>tf</i>	Volume Through the Filter Media (days)	

Design Point:		1					
Enter Site Data For Drainage Area to be Treated by Practice							
Catchment Number	Total Area (Acres)	Impervious Area (Acres)	Percent Impervious %	Rv	WQv (ft ³)	Precipitation (in)	Description
1	0.94	0.42	0.45	0.45	1542.75	1.00	DA 1 - Bio 1
Enter Impervious Area Reduced by Disconnection of Rooftops			45%	0.45	1,543	<<WQv after adjusting for Disconnected Rooftops	
Enter the portion of the WQv that is not reduced for all practices routed to this practice.						ft ³	
Soil Information							
Soil Group		D					
Soil Infiltration Rate		0.20	<i>in/hour</i>	<i>Okay</i>			
Using Underdrains?		Yes <i>Okay</i>					
Calculate the Minimum Filter Area							
				Value	Units	Notes	
WQv				1,543	ft ³		
Enter Depth of Soil Media				<i>df</i>	2.5	ft	2.5-4 ft
Enter Hydraulic Conductivity				<i>k</i>	0.5	ft/day	
Enter Average Height of Ponding				<i>hf</i>	0.5	ft	6 inches max.
Enter Filter Time				<i>tf</i>	2	days	
Required Filter Area				<i>Af</i>	1286	ft²	
Determine Actual Bio-Retention Area							
Filter Width		1300	ft				
Filter Length		1	ft				
Filter Area		1300	ft ²				
Actual Volume Provided		1560	ft ³				
Determine Runoff Reduction							
Is the Bioretention contributing flow to another practice?					Select Practice		
RRv		624					
RRv applied		624	ft³	<i>This is 40% of the storage provided or WQv whichever is less.</i>			
Volume Treated		919	ft ³	<i>This is the portion of the WQv that is not reduced in the practice.</i>			
Volume Directed		0	ft ³	This volume is directed another practice			
Sizing V		OK		<i>Check to be sure Area provided ≥ Af</i>			

Bioretention Worksheet

(For use on HSG C or D Soils with underdrains)

$$Af = WQv * (df) / [k * (hf + df)(tf)]$$

- | | | |
|------------|---|--|
| <i>Af</i> | Required Surface Area (ft ²) | The hydraulic conductivity [ft/day], can be varied depending on the properties of the soil media. Some reported conductivity values are: Sand - 3.5 ft/day (City of Austin 1988); Peat - 2.0 ft/day (Galli 1990); Leaf Compost - 8.7 ft/day (Claytor and Schueler, 1996); Bioretention Soil (0.5 ft/day (Claytor & Schueler, 1996) |
| <i>WQv</i> | Water Quality Volume (ft ³) | |
| <i>df</i> | Depth of the Soil Medium (feet) | <i>k</i> |
| <i>hf</i> | Average height of water above the planter bed | |
| <i>tf</i> | Volume Through the Filter Media (days) | |

Design Point:		1					
Enter Site Data For Drainage Area to be Treated by Practice							
Catchment Number	Total Area (Acres)	Impervious Area (Acres)	Percent Impervious %	Rv	WQv (ft ³)	Precipitation (in)	Description
2	0.70	0.36	0.51	0.51	1303.17	1.00	DA 2 - Bio 2
Enter Impervious Area Reduced by Disconnection of Rooftops			51%	0.51	1,303	<<WQv after adjusting for Disconnected Rooftops	
Enter the portion of the WQv that is not reduced for all practices routed to this practice.						ft ³	
Soil Information							
Soil Group		A					
Soil Infiltration Rate		0.20	<i>in/hour</i>	<i>Okay</i>			
Using Underdrains?		Yes <i>Okay</i>					
Calculate the Minimum Filter Area							
				Value	Units	Notes	
WQv				1,303	ft ³		
Enter Depth of Soil Media				<i>df</i>	2.5	ft	2.5-4 ft
Enter Hydraulic Conductivity				<i>k</i>	0.5	ft/day	
Enter Average Height of Ponding				<i>hf</i>	0.5	ft	6 inches max.
Enter Filter Time				<i>tf</i>	2	days	
Required Filter Area				<i>Af</i>	1086	ft²	
Determine Actual Bio-Retention Area							
Filter Width		1100	ft				
Filter Length		1	ft				
Filter Area		1100	ft ²				
Actual Volume Provided		1320	ft ³				
Determine Runoff Reduction							
Is the Bioretention contributing flow to another practice?				Select Practice			
RRv		528					
RRv applied		528	ft³	<i>This is 40% of the storage provided or WQv whichever is less.</i>			
Volume Treated		775	ft ³	<i>This is the portion of the WQv that is not reduced in the practice.</i>			
Volume Directed		0	ft ³	This volume is directed another practice			
Sizing V		OK		<i>Check to be sure Area provided ≥ Af</i>			

Bioretention Worksheet

(For use on HSG C or D Soils with underdrains)

$$Af = WQv * (df) / [k * (hf + df)(tf)]$$

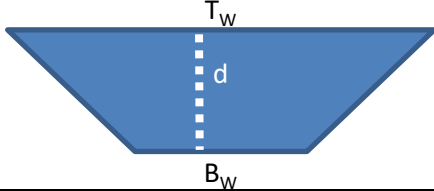
<i>Af</i>	Required Surface Area (ft ²)	The hydraulic conductivity [ft/day], can be varied depending on the properties of the soil media. Some reported conductivity values are: Sand - 3.5 ft/day (City of Austin 1988); Peat - 2.0 ft/day (Galli 1990); Leaf Compost - 8.7 ft/day (Claytor and Schueler, 1996); Bioretention Soil (0.5 ft/day (Claytor &
<i>WQv</i>	Water Quality Volume (ft ³)	
<i>df</i>	Depth of the Soil Medium (feet)	<i>k</i>
<i>hf</i>	Average height of water above the planter bed	
<i>tf</i>	Volume Through the Filter Media (days)	

Design Point:		1					
Enter Site Data For Drainage Area to be Treated by Practice							
Catchment Number	Total Area (Acres)	Impervious Area (Acres)	Percent Impervious %	Rv	WQv (ft ³)	Precipitation (in)	Description
3	1.24	0.78	0.63	0.62	2773.32	1.00	DA 3 - Bio 3
Enter Impervious Area Reduced by Disconnection of Rooftops			63%	0.62	2,773	<<WQv after adjusting for Disconnected Rooftops	
Enter the portion of the WQv that is not reduced for all practices routed to this practice.						ft ³	
Soil Information							
Soil Group		A					
Soil Infiltration Rate		0.20	in/hour	Okay			
Using Underdrains?		Yes Okay					
Calculate the Minimum Filter Area							
				Value	Units	Notes	
WQv				2,773	ft ³		
Enter Depth of Soil Media				<i>df</i>	2.5	ft	2.5-4 ft
Enter Hydraulic Conductivity				<i>k</i>	0.5	ft/day	
Enter Average Height of Ponding				<i>hf</i>	0.5	ft	6 inches max.
Enter Filter Time				<i>tf</i>	2	days	
Required Filter Area				<i>Af</i>	2311	ft²	
Determine Actual Bio-Retention Area							
Filter Width		2500	ft				
Filter Length		1	ft				
Filter Area		2500	ft ²				
Actual Volume Provided		3000	ft ³				
Determine Runoff Reduction							
Is the Bioretention contributing flow to another practice?				Select Practice			
RRv		1,200					
RRv applied		1,200	ft³	This is 40% of the storage provided or WQv whichever is less.			
Volume Treated		1,573	ft ³	This is the portion of the WQv that is not reduced in the practice.			
Volume Directed		0	ft ³	This volume is directed another practice			
Sizing V		OK		Check to be sure Area provided ≥ Af			

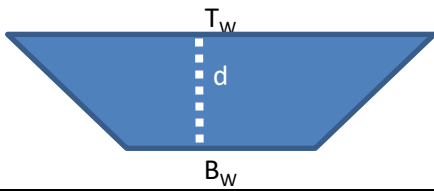
Bioretention Worksheet

Total RRv Applied	2,352.00
Total Area	2.88
Total Impervious Area	1.56
Total Volume Treated	3,267.24
Rooftop Disconnect Impervious Area Total	0.00

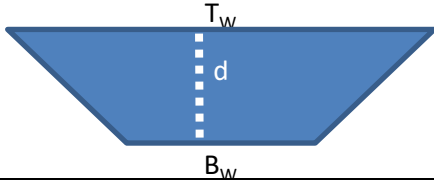
Dry Swale Worksheet

Design Point:	1	Enter Site Data For Drainage Area to be Treated by Practice					
Catchment Number	Total Area (Acres)	Impervious Area (Acres)	Percent Impervious %	Rv	WQv (ft ³)	Precipitation (in)	Description
4	0.56	0.30	0.54	0.53	1081.74	1.00	DA 4 - Dry Swale 1
Enter Impervious Area Reduced by Disconnection of Rooftops		0.00	54%	0.53	1,082	<<WQv after adjusting for Disconnected Rooftops	
Pretreatment Provided				Pretreatment Technique			
Pretreatment (10% of WQv)			108	ft ³			
Calculate Available Storage Capacity							
Bottom Width	7	ft	Design with a bottom width no greater than eight feet to avoid potential gullyng and channel braiding, but no less than two feet				
Side Slope (X:1)	3	Okay	Channels shall be designed with moderate side slopes (flatter than 3:1) for most conditions. 2:1 is the absolute maximum side slope				
Longitudinal Slope	2%	Okay	Maximum longitudinal slope shall be 4%				
Flow Depth	1	ft	Maximum ponding depth of one foot at the mid-point of the channel, and a maximum depth of 18" at the end point of the channel (for storage of the WQv)				
Top Width	13	ft					
Area	10.00	sf					
Minimum Length	97	ft					
Actual Length	150	ft					
End Point Depth check	1.50	Okay	A maximum depth of 18" at the end point of the channel (for storage of the WQv)				
Storage Capacity	1,608	ft ³					
Soil Group (HSG)			D				
Runoff Reduction							
Is the Dry Swale contributing flow to another practice?					Select Practice		
RRv	322	ft³	Runoff Reduction equals 40% in HSG A and B and 20% in HSG C and D up to the WQv				
Volume Treated	760	ft ³	This is the difference between the WQv calculated and the runoff reduction achieved in the swale				
Volume Directed	0	ft ³	This volume is directed another practice				
Volume V	Okay	Check to be sure that channel is long enough to store WQv					

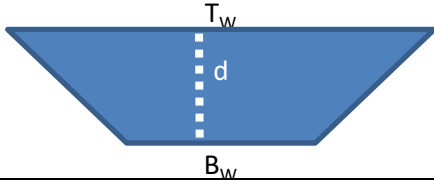
Dry Swale Worksheet

Design Point:	1	Enter Site Data For Drainage Area to be Treated by Practice					
Catchment Number	Total Area (Acres)	Impervious Area (Acres)	Percent Impervious %	Rv	WQv (ft ³)	Precipitation (in)	Description
5	0.48	0.17	0.35	0.37	642.51	1.00	DA 5 - Dry Swale 2
Enter Impervious Area Reduced by Disconnection of Rooftops			35%	0.37	643	<<WQv after adjusting for Disconnected Rooftops	
Pretreatment Provided				Pretreatment Technique			
Pretreatment (10% of WQv)			64	ft ³			
Calculate Available Storage Capacity							
Bottom Width	8	ft	Design with a bottom width no greater than eight feet to avoid potential gullyng and channel braiding, but no less than two feet				
Side Slope (X:1)	3	Okay	Channels shall be designed with moderate side slopes (flatter than 3:1) for most conditions. 2:1 is the absolute maximum side slope				
Longitudinal Slope	2%	Okay	Maximum longitudinal slope shall be 4%				
Flow Depth	1	ft	Maximum ponding depth of one foot at the mid-point of the channel, and a maximum depth of 18" at the end point of the channel (for storage of the WQv)				
Top Width	14	ft					
Area	11.00	sf					
Minimum Length	53	ft					
Actual Length	55	ft					
End Point Depth check	1.50	Okay	A maximum depth of 18" at the end point of the channel (for storage of the WQv)				
Storage Capacity	669	ft ³					
Soil Group (HSG)			D				
Runoff Reduction							
Is the Dry Swale contributing flow to another practice?				Select Practice			
RRv	134	ft³	Runoff Reduction equals 40% in HSG A and B and 20% in HSG C and D up to the WQv				
Volume Treated	509	ft ³	This is the difference between the WQv calculated and the runoff reduction achieved in the swale				
Volume Directed	0	ft ³	This volume is directed another practice				
Volume V	Okay		Check to be sure that channel is long enough to store WQv				

Dry Swale Worksheet

Design Point:	1	Enter Site Data For Drainage Area to be Treated by Practice					
Catchment Number	Total Area (Acres)	Impervious Area (Acres)	Percent Impervious %	Rv	WQv (ft ³)	Precipitation (in)	Description
Enter Impervious Area Reduced by Disconnection of Rooftops						<<WQv after adjusting for Disconnected Rooftops	
Pretreatment Provided				Pretreatment Technique			
Pretreatment (10% of WQv)					ft ³		
Calculate Available Storage Capacity							
Bottom Width		ft	Design with a bottom width no greater than eight feet to avoid potential gullyng and channel braiding, but no less than two feet				
Side Slope (X:1)			Channels shall be designed with moderate side slopes (flatter than 3:1) for most conditions. 2:1 is the absolute maximum side slope				
Longitudinal Slope			<i>Maximum longitudinal slope shall be 4%</i>				
Flow Depth		ft	<i>Maximum ponding depth of one foot at the mid-point of the channel, and a maximum depth of 18" at the end point of the channel (for storage of the WQv)</i>				
Top Width	0	ft					
Area	0.00	sf					
Minimum Length		ft					
Actual Length		ft					
End Point Depth check			<i>A maximum depth of 18" at the end point of the channel (for storage of the WQv)</i>				
Storage Capacity		ft ³					
Soil Group (HSG)							
Runoff Reduction							
Is the Dry Swale contributing flow to another practice?				Select Practice			
RRv		ft ³	Runoff Reduction equals 40% in HSG A and B and 20% in HSG C and D up to the WQv				
Volume Treated		ft ³	This is the difference between the WQv calculated and the runoff reduction achieved in the swale				
Volume Directed		ft ³	This volume is directed another practice				
Volume V	Okay		Check to be sure that channel is long enough to store WQv				

Dry Swale Worksheet

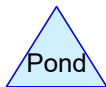
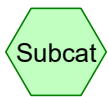
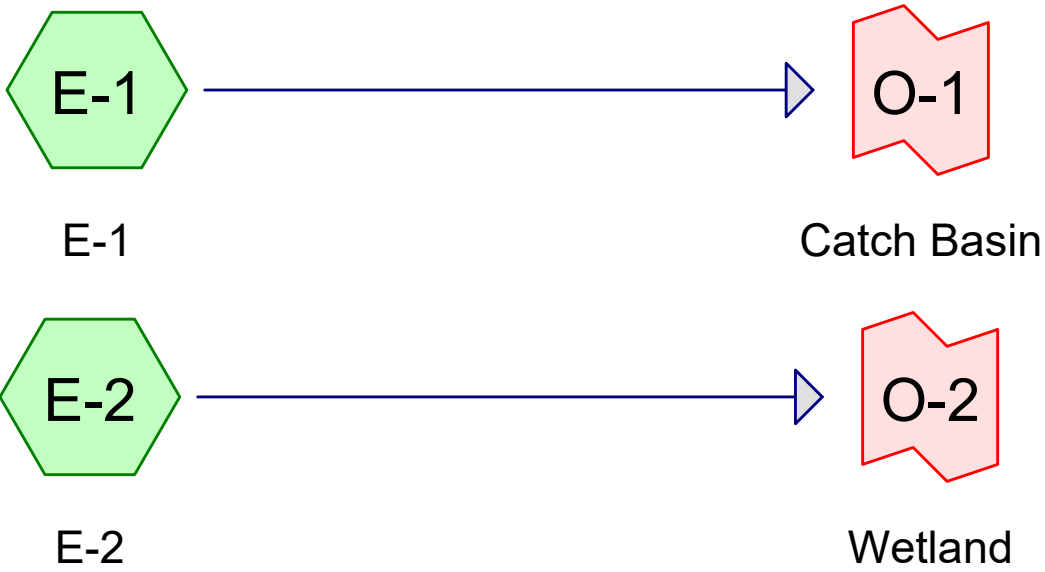
Design Point:	1	Enter Site Data For Drainage Area to be Treated by Practice					
Catchment Number	Total Area (Acres)	Impervious Area (Acres)	Percent Impervious %	Rv	WQv (ft ³)	Precipitation (in)	Description
Enter Impervious Area Reduced by Disconnection of Rooftops						<<WQv after adjusting for Disconnected Rooftops	
Pretreatment Provided				Pretreatment Technique			
Pretreatment (10% of WQv)					ft ³		
Calculate Available Storage Capacity							
Bottom Width		ft	Design with a bottom width no greater than eight feet to avoid potential gullyng and channel braiding, but no less than two feet				
Side Slope (X:1)			Channels shall be designed with moderate side slopes (flatter than 3:1) for most conditions. 2:1 is the absolute maximum side slope				
Longitudinal Slope			<i>Maximum longitudinal slope shall be 4%</i>				
Flow Depth		ft	<i>Maximum ponding depth of one foot at the mid-point of the channel, and a maximum depth of 18" at the end point of the channel (for storage of the WQv)</i>				
Top Width	0	ft					
Area	0.00	sf					
Minimum Length		ft					
Actual Length		ft					
End Point Depth check			<i>A maximum depth of 18" at the end point of the channel (for storage of the WQv)</i>				
Storage Capacity		ft ³					
Soil Group (HSG)							
Runoff Reduction							
Is the Dry Swale contributing flow to another practice?				Select Practice			
RRv		ft ³	Runoff Reduction equals 40% in HSG A and B and 20% in HSG C and D up to the WQv				
Volume Treated		ft ³	This is the difference between the WQv calculated and the runoff reduction achieved in the swale				
Volume Directed		ft ³	This volume is directed another practice				
Volume V	Okay		Check to be sure that channel is long enough to store WQv				

Dry Swale Worksheet

Total RRV	455.49
Total Area	1.04
Total Impervious Area	0.47
Total Volume Treated	1,268.77
Rooftop Disconnect Impervious Area Total	0.00



APPENDIX D:
PRE-DEVELOPMENT STORMWATER
MODELING



Watertown - Existing

Prepared by Labella Associates

Printed 5/20/2023

HydroCAD® 10.20-2g s/n 09581 © 2022 HydroCAD Software Solutions LLC

Page 2

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	10-yr	Type II 24-hr		Default	24.00	1	3.29	2
2	100-yr	Type II 24-hr		Default	24.00	1	5.49	2

Watertown - Existing

Prepared by Labella Associates

Printed 5/20/2023

HydroCAD® 10.20-2g s/n 09581 © 2022 HydroCAD Software Solutions LLC

Page 3

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
3.940	84	50-75% Grass cover, Fair, HSG D (E-1, E-2)
3.940	84	TOTAL AREA

Watertown - Existing

Prepared by Labella Associates

Printed 5/20/2023

HydroCAD® 10.20-2g s/n 09581 © 2022 HydroCAD Software Solutions LLC

Page 4

Soil Listing (all nodes)

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

Watertown - Existing

Prepared by Labella Associates

Printed 5/20/2023

HydroCAD® 10.20-2g s/n 09581 © 2022 HydroCAD Software Solutions LLC

Page 5

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.000	3.940	0.000	3.940	50-75% Grass cover, Fair	E-1, E-2
0.000	0.000	0.000	3.940	0.000	3.940	TOTAL AREA	

Watertown - Existing

Prepared by Labella Associates

HydroCAD® 10.20-2g s/n 09581 © 2022 HydroCAD Software Solutions LLC

Watertown - Existing
Type II 24-hr 10-yr Rainfall=3.29"

Printed 5/20/2023

Page 6

Time span=5.00-24.00 hrs, dt=0.05 hrs, 381 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentE-1: E-1 Runoff Area=0.760 ac 0.00% Impervious Runoff Depth>1.75"
Flow Length=100' Slope=0.0280 '/' Tc=10.1 min CN=84 Runoff=2.01 cfs 0.111 af

SubcatchmentE-2: E-2 Runoff Area=3.180 ac 0.00% Impervious Runoff Depth>1.75"
Flow Length=297' Tc=16.0 min CN=84 Runoff=6.96 cfs 0.464 af

Link O-1: Catch Basin Inflow=2.01 cfs 0.111 af
Primary=2.01 cfs 0.111 af

Link O-2: Wetland Inflow=6.96 cfs 0.464 af
Primary=6.96 cfs 0.464 af

Total Runoff Area = 3.940 ac Runoff Volume = 0.575 af Average Runoff Depth = 1.75"
100.00% Pervious = 3.940 ac 0.00% Impervious = 0.000 ac

Watertown - Existing

Prepared by Labella Associates

HydroCAD® 10.20-2g s/n 09581 © 2022 HydroCAD Software Solutions LLC

Watertown - Existing
Type II 24-hr 10-yr Rainfall=3.29"

Printed 5/20/2023

Page 7

Summary for Subcatchment E-1: E-1

Runoff = 2.01 cfs @ 12.02 hrs, Volume= 0.111 af, Depth> 1.75"
Routed to Link O-1 : Catch Basin

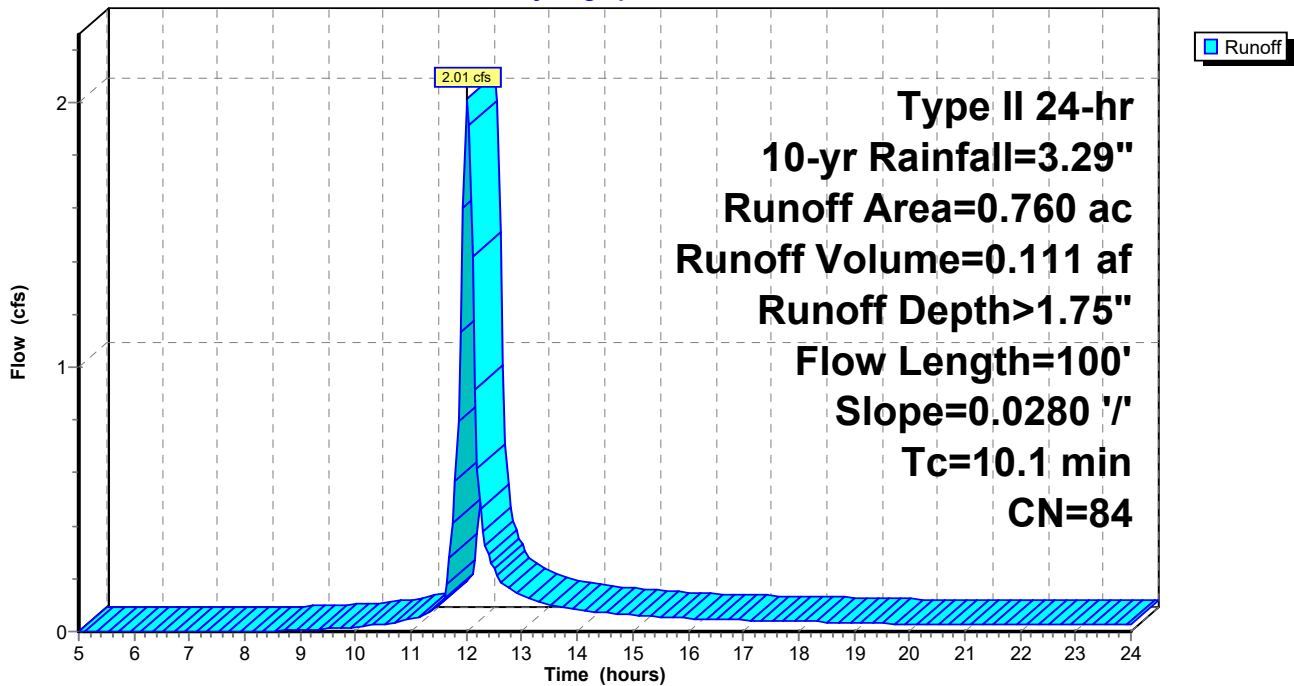
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-24.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=3.29"

Area (ac)	CN	Description
0.760	84	50-75% Grass cover, Fair, HSG D
0.760		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.1	100	0.0280	0.16		Sheet Flow, Grass: Short n= 0.150 P2= 2.30"

Subcatchment E-1: E-1

Hydrograph



Watertown - Existing

Prepared by Labella Associates

HydroCAD® 10.20-2g s/n 09581 © 2022 HydroCAD Software Solutions LLC

Watertown - Existing
Type II 24-hr 10-yr Rainfall=3.29"

Printed 5/20/2023

Page 8

Summary for Subcatchment E-2: E-2

Runoff = 6.96 cfs @ 12.08 hrs, Volume= 0.464 af, Depth> 1.75"
Routed to Link O-2 : Wetland

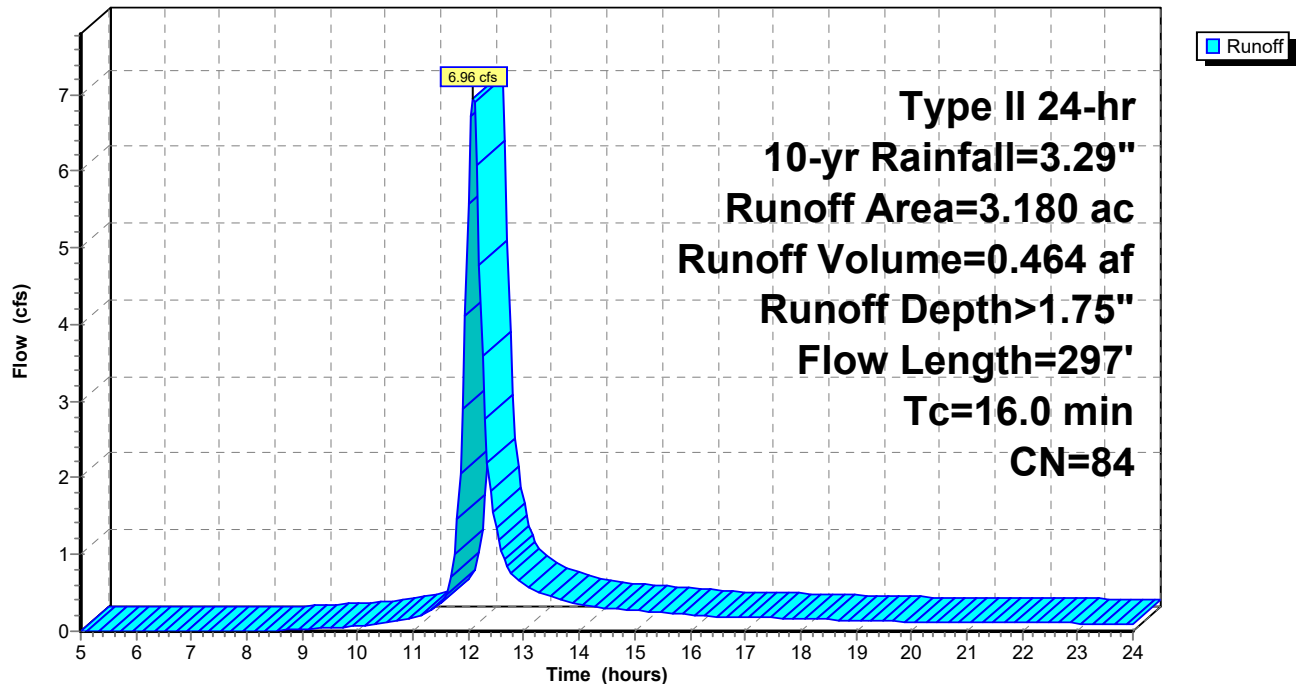
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-24.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=3.29"

Area (ac)	CN	Description
3.180	84	50-75% Grass cover, Fair, HSG D
3.180		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.7	100	0.0110	0.11		Sheet Flow, Grass: Short n= 0.150 P2= 2.30"
1.3	197	0.0300	2.60		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
16.0	297	Total			

Subcatchment E-2: E-2

Hydrograph

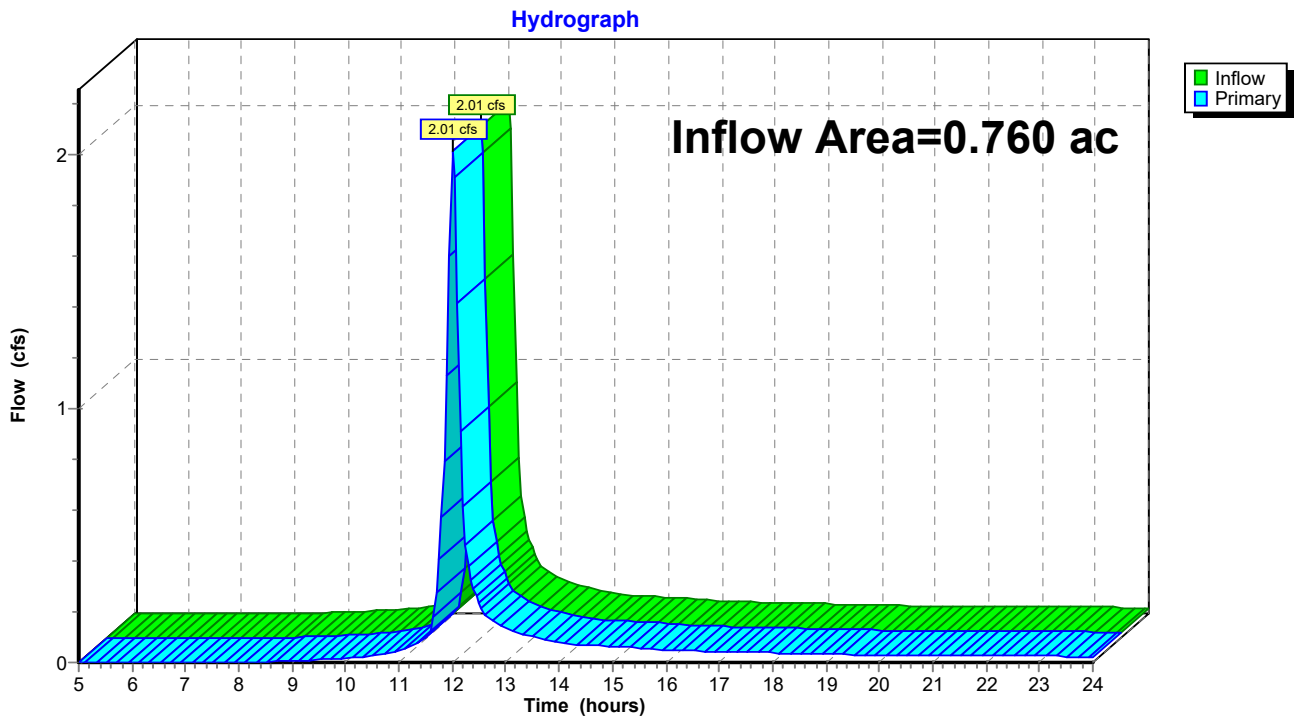


Summary for Link O-1: Catch Basin

Inflow Area = 0.760 ac, 0.00% Impervious, Inflow Depth > 1.75" for 10-yr event
Inflow = 2.01 cfs @ 12.02 hrs, Volume= 0.111 af
Primary = 2.01 cfs @ 12.02 hrs, Volume= 0.111 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-24.00 hrs, dt= 0.05 hrs

Link O-1: Catch Basin



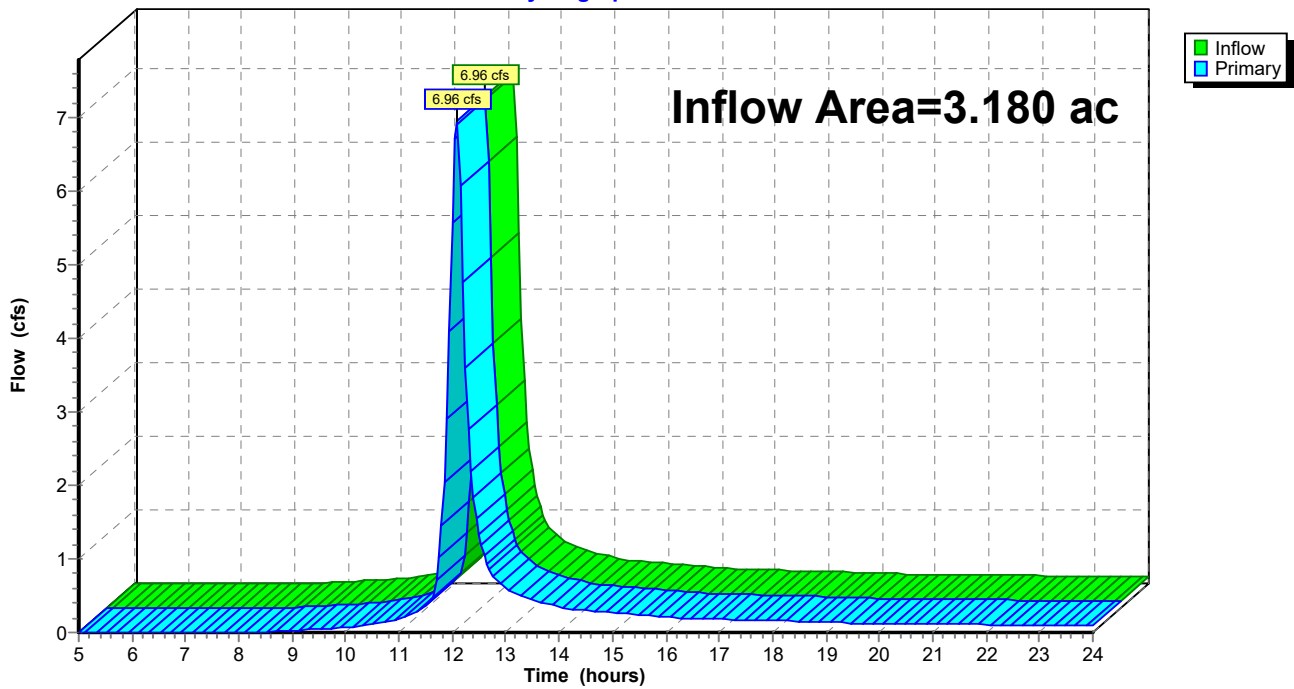
Summary for Link O-2: Wetland

Inflow Area = 3.180 ac, 0.00% Impervious, Inflow Depth > 1.75" for 10-yr event
Inflow = 6.96 cfs @ 12.08 hrs, Volume= 0.464 af
Primary = 6.96 cfs @ 12.08 hrs, Volume= 0.464 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-24.00 hrs, dt= 0.05 hrs

Link O-2: Wetland

Hydrograph



Watertown - Existing

Prepared by Labella Associates

HydroCAD® 10.20-2g s/n 09581 © 2022 HydroCAD Software Solutions LLC

Watertown - Existing
Type II 24-hr 100-yr Rainfall=5.49"

Printed 5/20/2023

Page 11

Time span=5.00-24.00 hrs, dt=0.05 hrs, 381 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentE-1: E-1 Runoff Area=0.760 ac 0.00% Impervious Runoff Depth>3.71"
Flow Length=100' Slope=0.0280 '/' Tc=10.1 min CN=84 Runoff=4.17 cfs 0.235 af

SubcatchmentE-2: E-2 Runoff Area=3.180 ac 0.00% Impervious Runoff Depth>3.71"
Flow Length=297' Tc=16.0 min CN=84 Runoff=14.52 cfs 0.983 af

Link O-1: Catch Basin Inflow=4.17 cfs 0.235 af
Primary=4.17 cfs 0.235 af

Link O-2: Wetland Inflow=14.52 cfs 0.983 af
Primary=14.52 cfs 0.983 af

Total Runoff Area = 3.940 ac Runoff Volume = 1.218 af Average Runoff Depth = 3.71"
100.00% Pervious = 3.940 ac 0.00% Impervious = 0.000 ac

Watertown - Existing

Prepared by Labella Associates

HydroCAD® 10.20-2g s/n 09581 © 2022 HydroCAD Software Solutions LLC

Watertown - Existing
Type II 24-hr 100-yr Rainfall=5.49"

Printed 5/20/2023

Page 12

Summary for Subcatchment E-1: E-1

Runoff = 4.17 cfs @ 12.01 hrs, Volume= 0.235 af, Depth> 3.71"
Routed to Link O-1 : Catch Basin

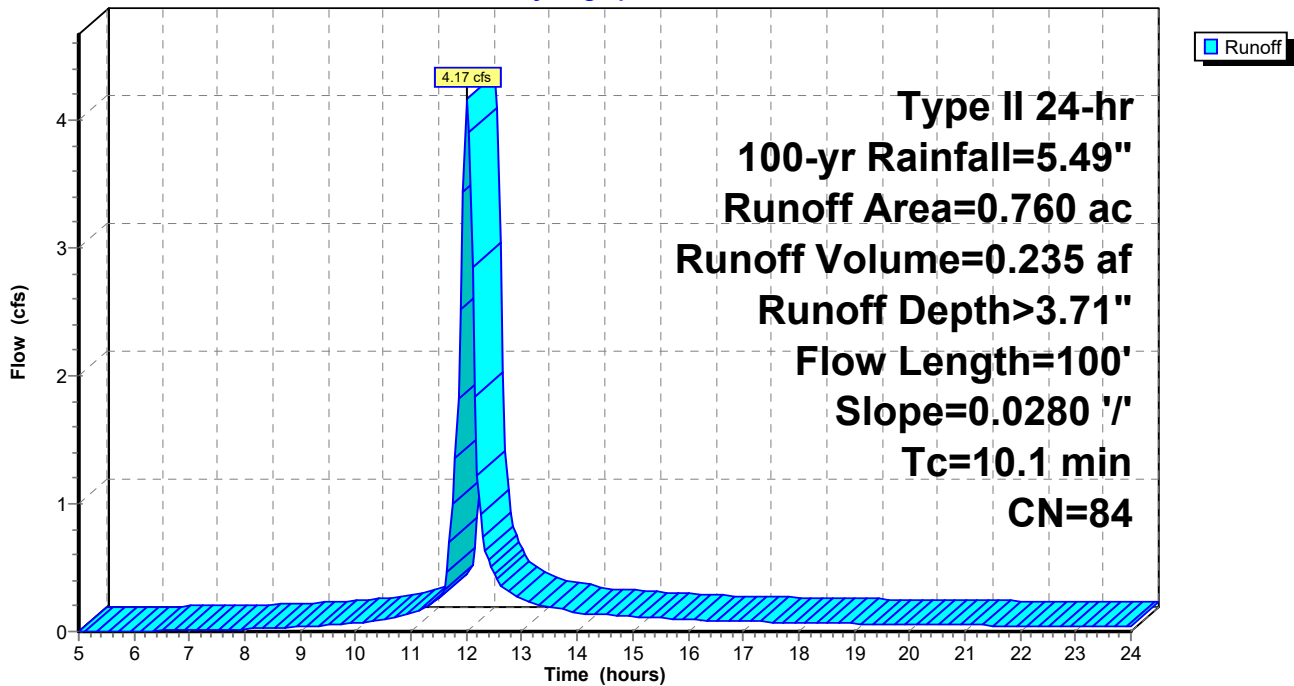
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-24.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=5.49"

Area (ac)	CN	Description
0.760	84	50-75% Grass cover, Fair, HSG D
0.760		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.1	100	0.0280	0.16		Sheet Flow, Grass: Short n= 0.150 P2= 2.30"

Subcatchment E-1: E-1

Hydrograph



Watertown - Existing

Prepared by Labella Associates

HydroCAD® 10.20-2g s/n 09581 © 2022 HydroCAD Software Solutions LLC

Watertown - Existing
Type II 24-hr 100-yr Rainfall=5.49"

Printed 5/20/2023

Page 13

Summary for Subcatchment E-2: E-2

Runoff = 14.52 cfs @ 12.08 hrs, Volume= 0.983 af, Depth> 3.71"
Routed to Link O-2 : Wetland

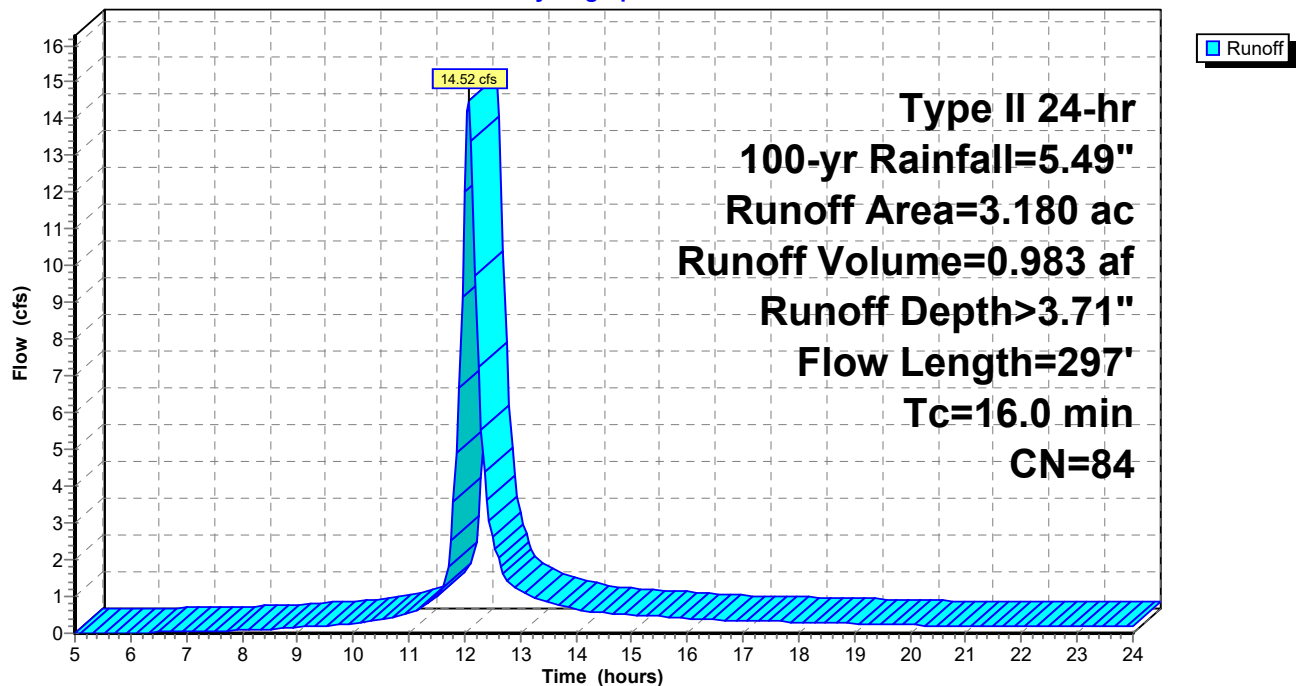
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-24.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=5.49"

Area (ac)	CN	Description
3.180	84	50-75% Grass cover, Fair, HSG D
3.180		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.7	100	0.0110	0.11		Sheet Flow, Grass: Short n= 0.150 P2= 2.30"
1.3	197	0.0300	2.60		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
16.0	297	Total			

Subcatchment E-2: E-2

Hydrograph



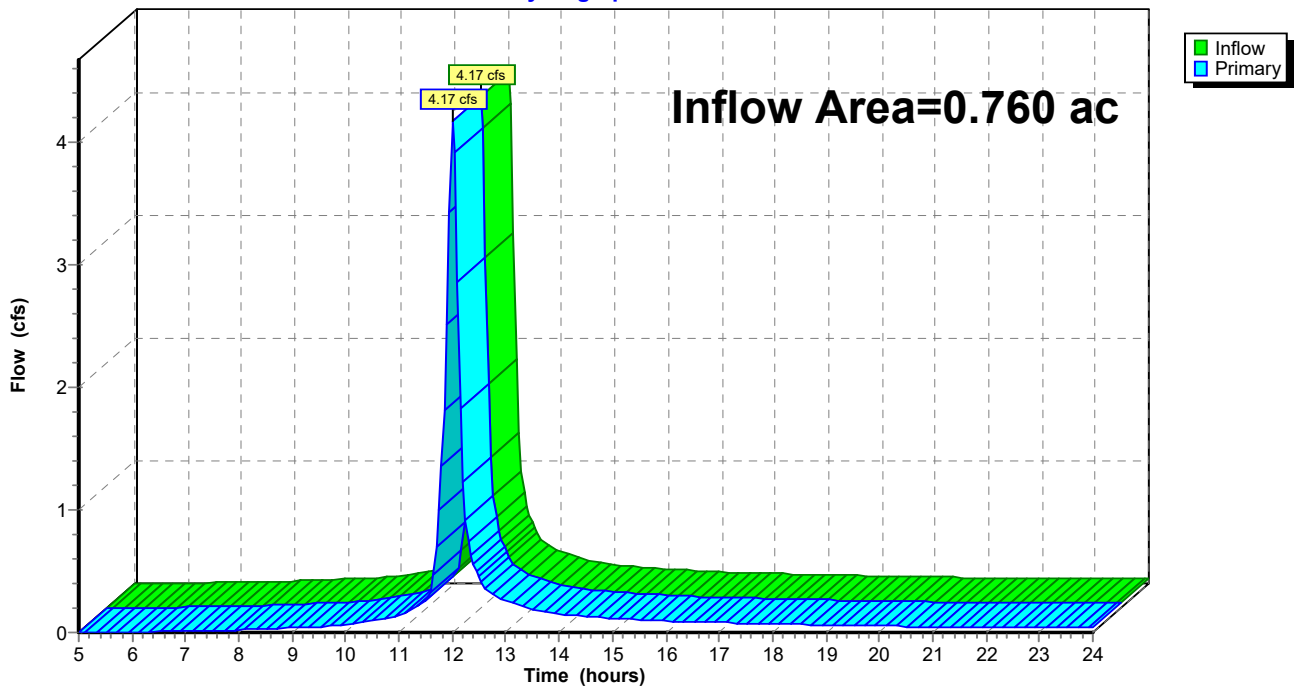
Summary for Link O-1: Catch Basin

Inflow Area = 0.760 ac, 0.00% Impervious, Inflow Depth > 3.71" for 100-yr event
Inflow = 4.17 cfs @ 12.01 hrs, Volume= 0.235 af
Primary = 4.17 cfs @ 12.01 hrs, Volume= 0.235 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-24.00 hrs, dt= 0.05 hrs

Link O-1: Catch Basin

Hydrograph



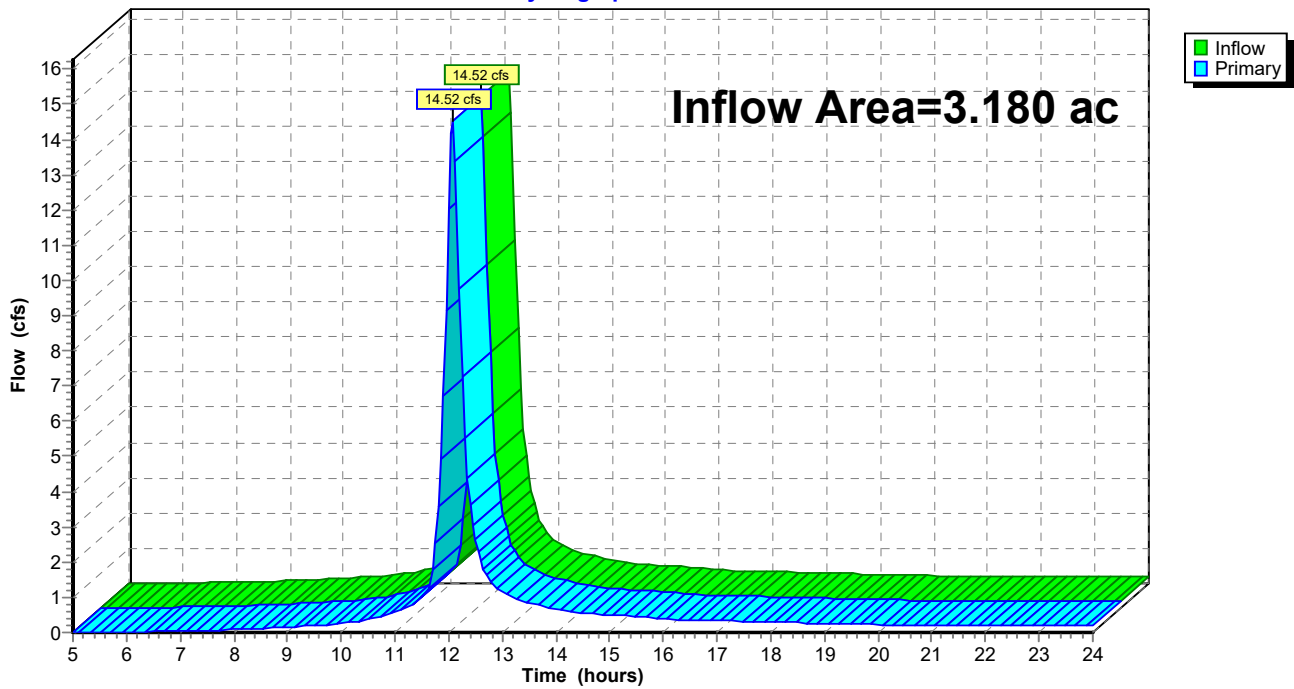
Summary for Link O-2: Wetland

Inflow Area = 3.180 ac, 0.00% Impervious, Inflow Depth > 3.71" for 100-yr event
Inflow = 14.52 cfs @ 12.08 hrs, Volume= 0.983 af
Primary = 14.52 cfs @ 12.08 hrs, Volume= 0.983 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-24.00 hrs, dt= 0.05 hrs

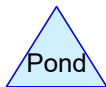
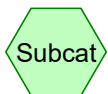
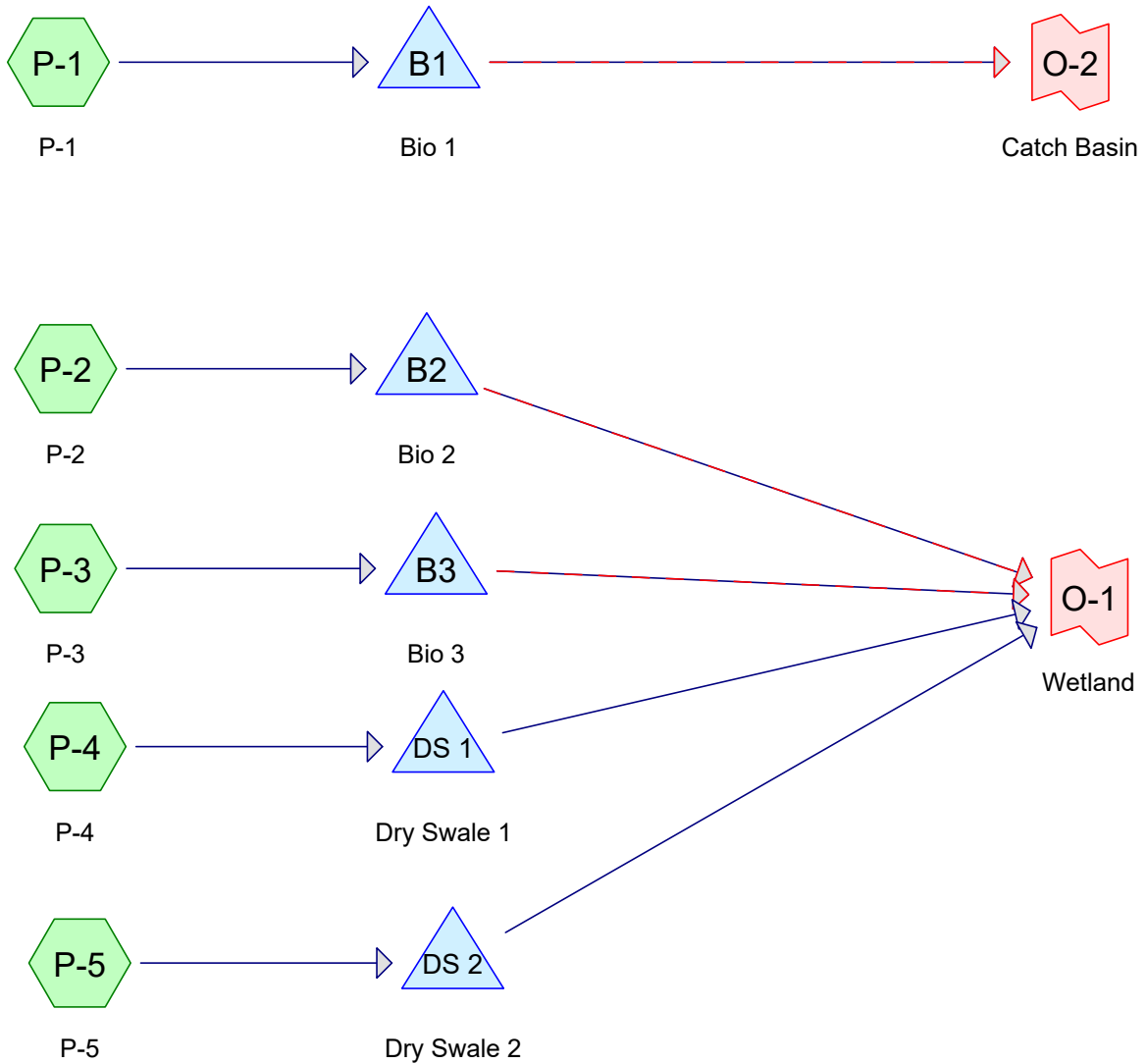
Link O-2: Wetland

Hydrograph





APPENDIX E:
POST-DEVELOPMENT STORMWATER
MODELING



Routing Diagram for Watertown - Proposed
 Prepared by Labella Associates, Printed 5/20/2023
 HydroCAD® 10.20-2g s/n 09581 © 2022 HydroCAD Software Solutions LLC

Watertown - Proposed

Prepared by Labella Associates

Printed 5/20/2023

HydroCAD® 10.20-2g s/n 09581 © 2022 HydroCAD Software Solutions LLC

Page 2

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	10-yr	Type II 24-hr		Default	24.00	1	3.29	2
2	100-yr	Type II 24-hr		Default	24.00	1	5.49	2

Watertown - Proposed

Prepared by Labella Associates

Printed 5/20/2023

HydroCAD® 10.20-2g s/n 09581 © 2022 HydroCAD Software Solutions LLC

Page 3

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.910	80	>75% Grass cover, Good, HSG D (P-1, P-2, P-3, P-4, P-5)
1.230	98	Paved parking, HSG D (P-3, P-4, P-5)
0.780	98	Roofs, HSG D (P-1, P-2)
3.920	89	TOTAL AREA

Watertown - Proposed

Prepared by Labella Associates

Printed 5/20/2023

HydroCAD® 10.20-2g s/n 09581 © 2022 HydroCAD Software Solutions LLC

Page 4

Soil Listing (all nodes)

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

Watertown - Proposed

Prepared by Labella Associates

Printed 5/20/2023

HydroCAD® 10.20-2g s/n 09581 © 2022 HydroCAD Software Solutions LLC

Page 5

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.000	1.910	0.000	1.910	>75% Grass cover, Good	P-1, P-2, P-3, P-4, P-5
0.000	0.000	0.000	1.230	0.000	1.230	Paved parking	P-3, P-4, P-5
0.000	0.000	0.000	0.780	0.000	0.780	Roofs	P-1, P-2
0.000	0.000	0.000	3.920	0.000	3.920	TOTAL AREA	

Watertown - Proposed

Prepared by Labella Associates

Printed 5/20/2023

HydroCAD® 10.20-2g s/n 09581 © 2022 HydroCAD Software Solutions LLC

Page 6

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)
1	B1	407.96	407.78	120.0	0.0015	0.013	0.0	12.0	0.0
2	B2	411.50	409.50	200.0	0.0100	0.013	0.0	10.0	0.0
3	B3	408.90	408.85	10.0	0.0050	0.013	0.0	12.0	0.0
4	DS 1	409.00	408.00	180.0	0.0056	0.013	0.0	10.0	0.0
5	DS 2	409.00	408.90	60.0	0.0017	0.013	0.0	10.0	0.0

Watertown - Proposed

Prepared by Labella Associates

HydroCAD® 10.20-2g s/n 09581 © 2022 HydroCAD Software Solutions LLC

Watertown - Proposed

Type II 24-hr 10-yr Rainfall=3.29"

Printed 5/20/2023

Page 7

Time span=2.00-30.00 hrs, dt=0.05 hrs, 561 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentP-1: P-1	Runoff Area=0.700 ac 51.43% Impervious Runoff Depth=2.16" Tc=6.0 min CN=89 Runoff=2.54 cfs 0.126 af
SubcatchmentP-2: P-2	Runoff Area=0.940 ac 44.68% Impervious Runoff Depth=2.08" Tc=6.0 min CN=88 Runoff=3.30 cfs 0.163 af
SubcatchmentP-3: P-3	Runoff Area=1.350 ac 60.00% Impervious Runoff Depth=2.34" Tc=6.0 min CN=91 Runoff=5.23 cfs 0.264 af
SubcatchmentP-4: P-4	Runoff Area=0.560 ac 53.57% Impervious Runoff Depth=2.25" Tc=6.0 min CN=90 Runoff=2.10 cfs 0.105 af
SubcatchmentP-5: P-5	Runoff Area=0.370 ac 32.43% Impervious Runoff Depth=1.91" Tc=6.0 min CN=86 Runoff=1.21 cfs 0.059 af
Pond B1: Bio 1	Peak Elev=413.92' Storage=1,519 cf Inflow=2.54 cfs 0.126 af Outflow=0.76 cfs 0.126 af
Pond B2: Bio 2	Peak Elev=415.38' Storage=2,070 cf Inflow=3.30 cfs 0.163 af Outflow=0.81 cfs 0.163 af
Pond B3: Bio 3	Peak Elev=412.54' Storage=3,738 cf Inflow=5.23 cfs 0.264 af Outflow=2.20 cfs 0.263 af
Pond DS 1: Dry Swale 1	Peak Elev=412.29' Storage=1,116 cf Inflow=2.10 cfs 0.105 af Outflow=0.75 cfs 0.105 af
Pond DS 2: Dry Swale 2	Peak Elev=412.17' Storage=352 cf Inflow=1.21 cfs 0.059 af Outflow=0.73 cfs 0.059 af
Link O-1: Wetland	Inflow=4.49 cfs 0.590 af Primary=4.49 cfs 0.590 af
Link O-2: Catch Basin	Inflow=0.76 cfs 0.126 af Primary=0.76 cfs 0.126 af

Total Runoff Area = 3.920 ac Runoff Volume = 0.717 af Average Runoff Depth = 2.19"
48.72% Pervious = 1.910 ac 51.28% Impervious = 2.010 ac

Watertown - Proposed

Prepared by Labella Associates

HydroCAD® 10.20-2g s/n 09581 © 2022 HydroCAD Software Solutions LLC

Watertown - Proposed

Type II 24-hr 10-yr Rainfall=3.29"

Printed 5/20/2023

Page 8

Summary for Subcatchment P-1: P-1

Runoff = 2.54 cfs @ 11.97 hrs, Volume= 0.126 af, Depth= 2.16"
Routed to Pond B1 : Bio 1

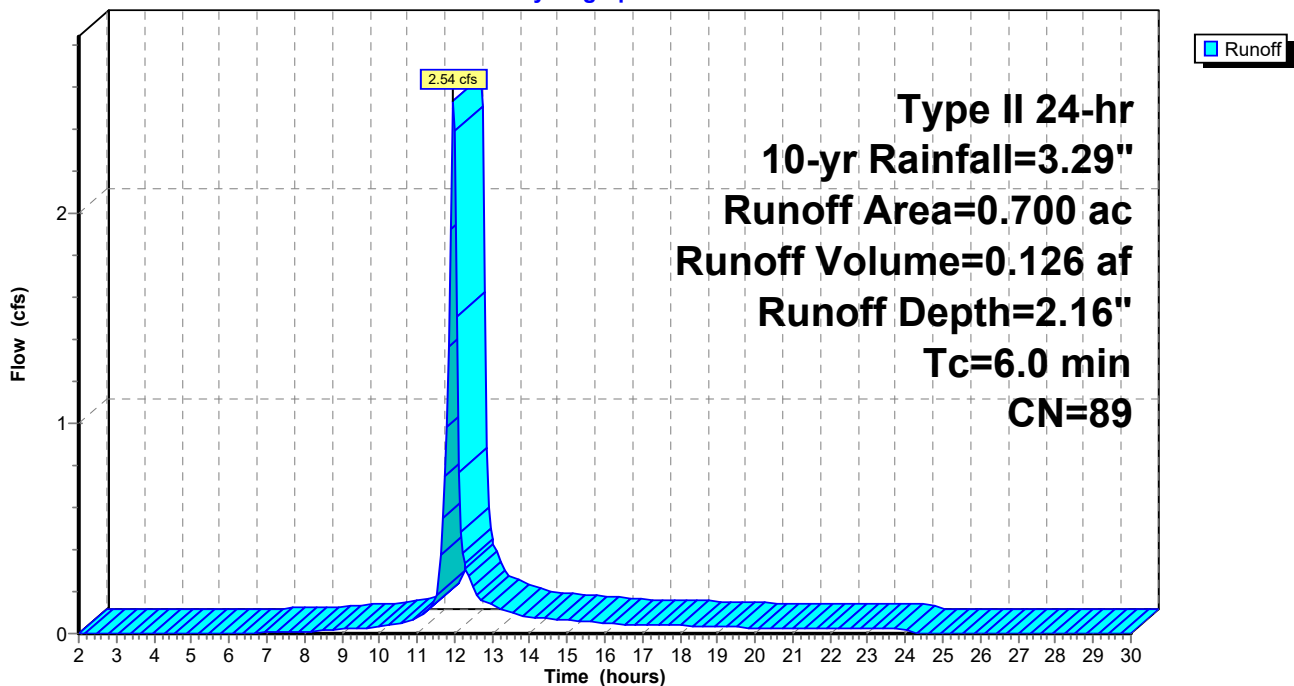
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-30.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=3.29"

Area (ac)	CN	Description
0.340	80	>75% Grass cover, Good, HSG D
0.360	98	Roofs, HSG D
0.700	89	Weighted Average
0.340		48.57% Pervious Area
0.360		51.43% Impervious Area

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

Subcatchment P-1: P-1

Hydrograph



Watertown - Proposed

Prepared by Labella Associates

HydroCAD® 10.20-2g s/n 09581 © 2022 HydroCAD Software Solutions LLC

Watertown - Proposed
Type II 24-hr 10-yr Rainfall=3.29"

Printed 5/20/2023

Page 9

Summary for Subcatchment P-2: P-2

Runoff = 3.30 cfs @ 11.97 hrs, Volume= 0.163 af, Depth= 2.08"
Routed to Pond B2 : Bio 2

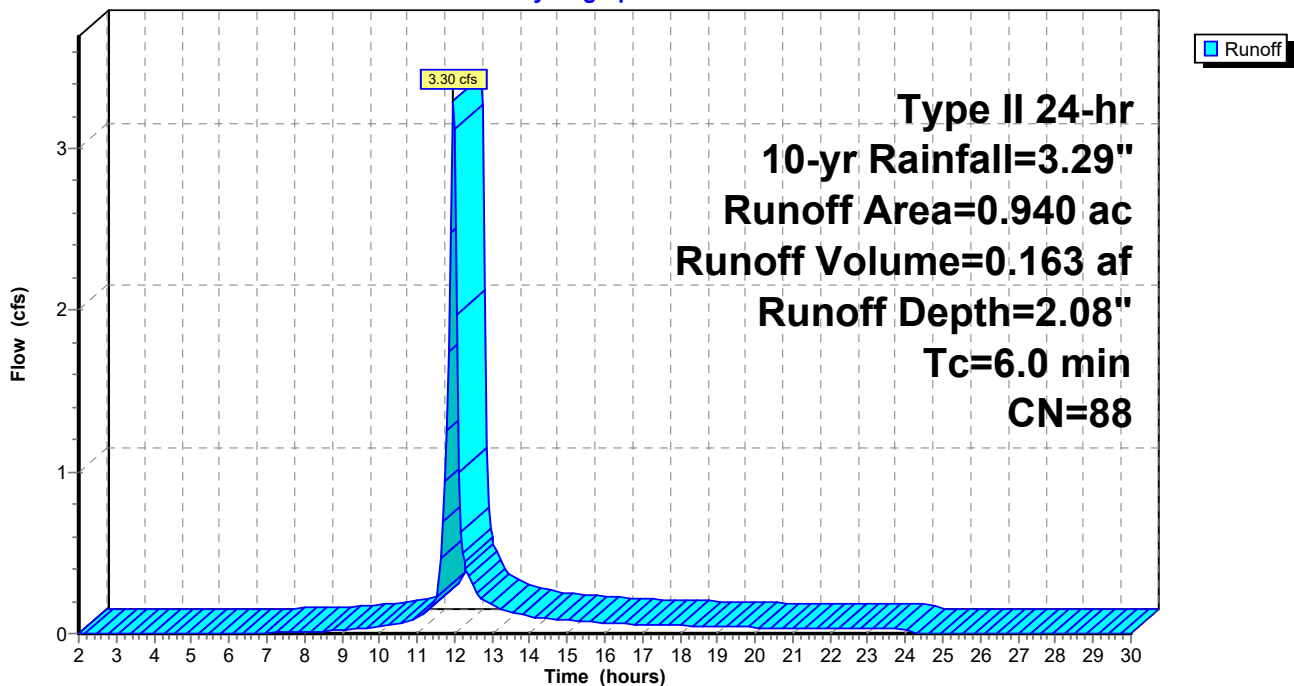
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-30.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=3.29"

Area (ac)	CN	Description
0.520	80	>75% Grass cover, Good, HSG D
0.420	98	Roofs, HSG D
0.940	88	Weighted Average
0.520		55.32% Pervious Area
0.420		44.68% Impervious Area

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

Subcatchment P-2: P-2

Hydrograph



Watertown - Proposed

Prepared by Labella Associates

HydroCAD® 10.20-2g s/n 09581 © 2022 HydroCAD Software Solutions LLC

Watertown - Proposed

Type II 24-hr 10-yr Rainfall=3.29"

Printed 5/20/2023

Page 10

Summary for Subcatchment P-3: P-3

Runoff = 5.23 cfs @ 11.97 hrs, Volume= 0.264 af, Depth= 2.34"
Routed to Pond B3 : Bio 3

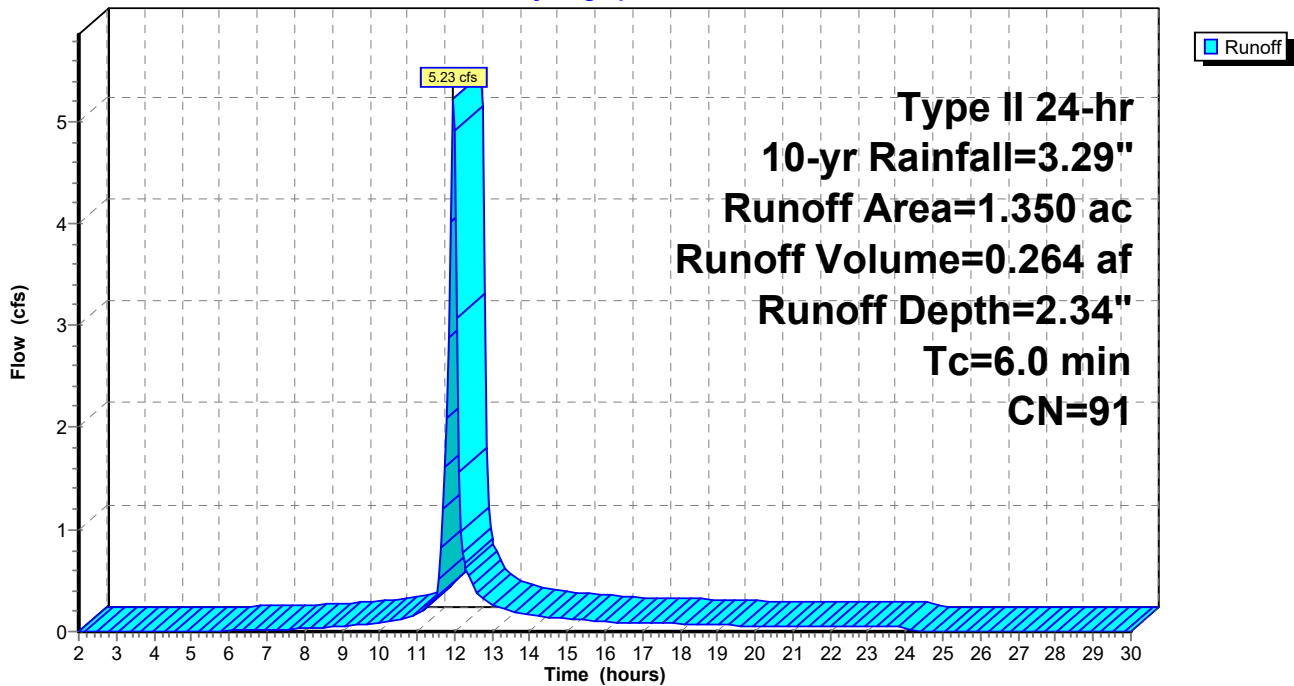
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-30.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=3.29"

Area (ac)	CN	Description
0.540	80	>75% Grass cover, Good, HSG D
0.810	98	Paved parking, HSG D
1.350	91	Weighted Average
0.540		40.00% Pervious Area
0.810		60.00% Impervious Area

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

Subcatchment P-3: P-3

Hydrograph



Watertown - Proposed

Prepared by Labella Associates

HydroCAD® 10.20-2g s/n 09581 © 2022 HydroCAD Software Solutions LLC

Watertown - Proposed

Type II 24-hr 10-yr Rainfall=3.29"

Printed 5/20/2023

Page 11

Summary for Subcatchment P-4: P-4

Runoff = 2.10 cfs @ 11.97 hrs, Volume= 0.105 af, Depth= 2.25"
Routed to Pond DS 1 : Dry Swale 1

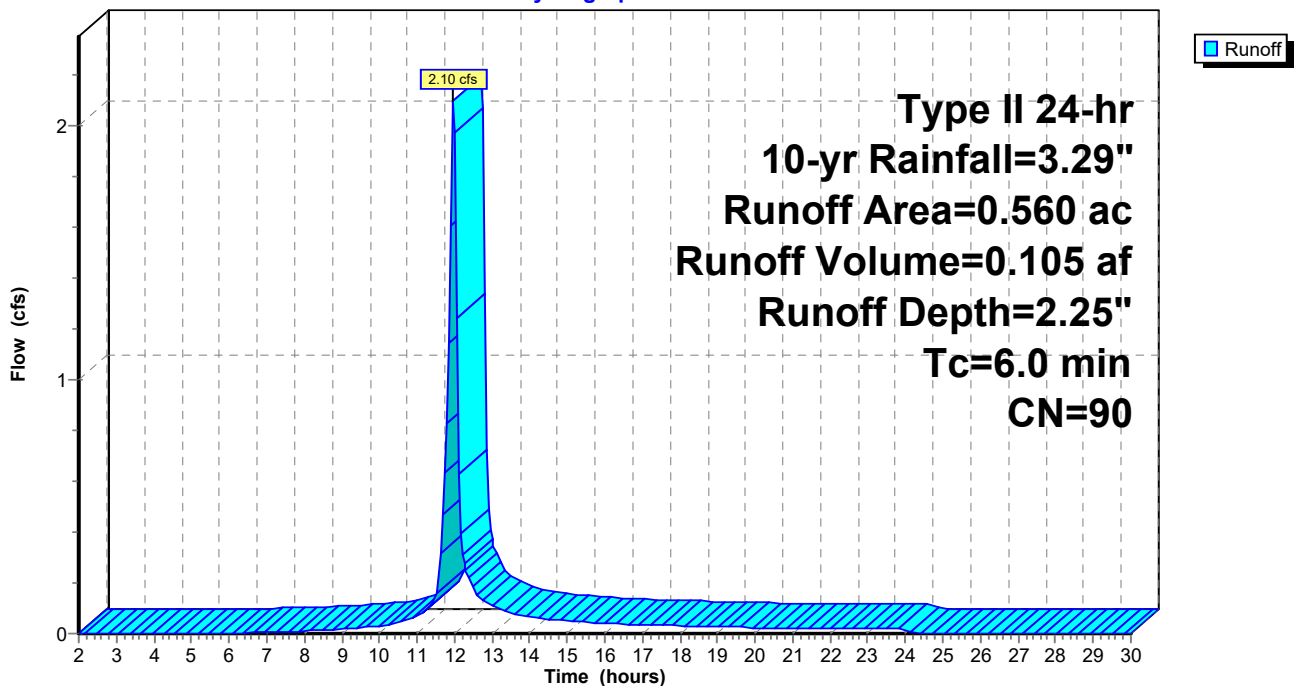
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-30.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=3.29"

Area (ac)	CN	Description
0.260	80	>75% Grass cover, Good, HSG D
0.300	98	Paved parking, HSG D
0.560	90	Weighted Average
0.260		46.43% Pervious Area
0.300		53.57% Impervious Area

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

Subcatchment P-4: P-4

Hydrograph



Watertown - Proposed

Prepared by Labella Associates

HydroCAD® 10.20-2g s/n 09581 © 2022 HydroCAD Software Solutions LLC

Watertown - Proposed

Type II 24-hr 10-yr Rainfall=3.29"

Printed 5/20/2023

Page 12

Summary for Subcatchment P-5: P-5

Runoff = 1.21 cfs @ 11.97 hrs, Volume= 0.059 af, Depth= 1.91"
Routed to Pond DS 2 : Dry Swale 2

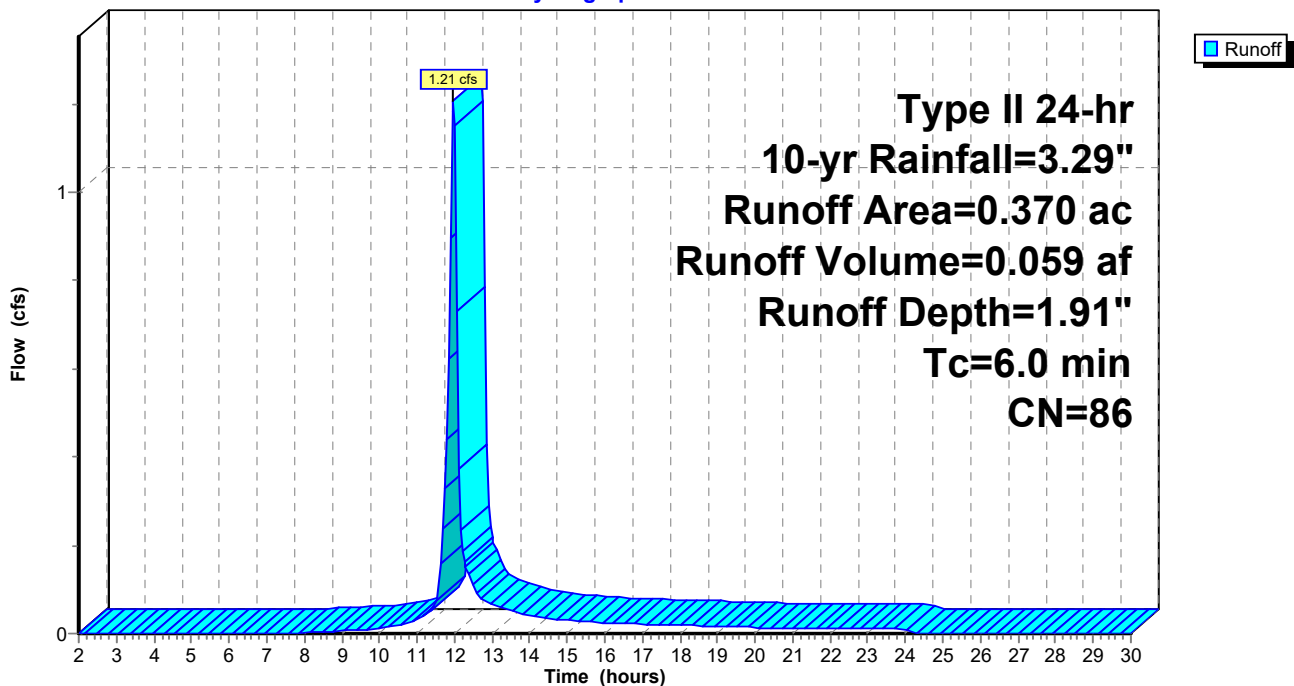
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-30.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=3.29"

Area (ac)	CN	Description
0.250	80	>75% Grass cover, Good, HSG D
0.120	98	Paved parking, HSG D
0.370	86	Weighted Average
0.250		67.57% Pervious Area
0.120		32.43% Impervious Area

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

Subcatchment P-5: P-5

Hydrograph



Watertown - Proposed

Prepared by Labella Associates

HydroCAD® 10.20-2g s/n 09581 © 2022 HydroCAD Software Solutions LLC

Watertown - Proposed
Type II 24-hr 10-yr Rainfall=3.29"

Printed 5/20/2023

Page 13

Summary for Pond B1: Bio 1

Inflow Area = 0.700 ac, 51.43% Impervious, Inflow Depth = 2.16" for 10-yr event
Inflow = 2.54 cfs @ 11.97 hrs, Volume= 0.126 af
Outflow = 0.76 cfs @ 12.11 hrs, Volume= 0.126 af, Atten= 70%, Lag= 8.7 min
Primary = 0.76 cfs @ 12.11 hrs, Volume= 0.126 af
Routed to Link O-2 : Catch Basin

Routing by Stor-Ind method, Time Span= 2.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 413.92' @ 12.11 hrs Surf.Area= 1,901 sf Storage= 1,519 cf

Plug-Flow detention time= 20.7 min calculated for 0.126 af (100% of inflow)
Center-of-Mass det. time= 20.9 min (827.8 - 806.9)

Volume	Invert	Avail.Storage	Storage Description	
#1	410.50'	8,295 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
410.50	1,360	0.0	0	0
410.55	1,360	40.0	27	27
413.50	1,360	20.0	802	830
414.00	2,000	100.0	840	1,670
414.50	3,500	100.0	1,375	3,045
415.00	4,000	100.0	1,875	4,920
415.75	5,000	100.0	3,375	8,295

Device	Routing	Invert	Outlet Devices	
#1	Device 2	410.50'	4.0" Vert. Underdrain C= 0.600 Limited to weir flow at low heads	
#2	Primary	407.96'	12.0" Round Culvert L= 120.0' Ke= 0.900 Inlet / Outlet Invert= 407.96' / 407.78' S= 0.0015 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf	
#3	Device 2	414.00'	24.0" x 24.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads	

Primary OutFlow Max=0.76 cfs @ 12.11 hrs HW=413.92' (Free Discharge)

↑ **2=Culvert** (Passes 0.76 cfs of 6.00 cfs potential flow)
↑ **1=Underdrain** (Orifice Controls 0.76 cfs @ 8.68 fps)
↑ **3=Grate** (Controls 0.00 cfs)

Watertown - Proposed

Prepared by Labella Associates

HydroCAD® 10.20-2g s/n 09581 © 2022 HydroCAD Software Solutions LLC

Watertown - Proposed

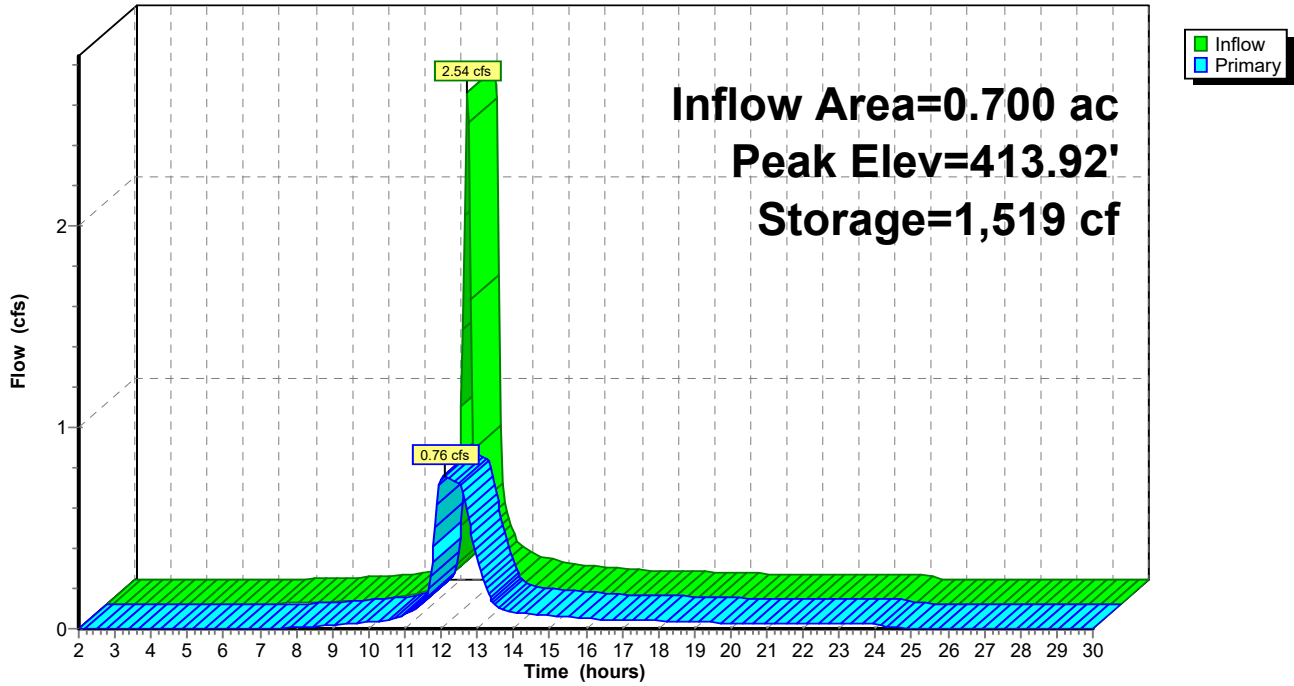
Type II 24-hr 10-yr Rainfall=3.29"

Printed 5/20/2023

Page 14

Pond B1: Bio 1

Hydrograph



Watertown - Proposed

Prepared by Labella Associates

HydroCAD® 10.20-2g s/n 09581 © 2022 HydroCAD Software Solutions LLC

Watertown - Proposed
Type II 24-hr 10-yr Rainfall=3.29"

Printed 5/20/2023

Page 15

Summary for Pond B2: Bio 2

Inflow Area = 0.940 ac, 44.68% Impervious, Inflow Depth = 2.08" for 10-yr event
Inflow = 3.30 cfs @ 11.97 hrs, Volume= 0.163 af
Outflow = 0.81 cfs @ 12.13 hrs, Volume= 0.163 af, Atten= 75%, Lag= 9.5 min
Primary = 0.81 cfs @ 12.13 hrs, Volume= 0.163 af
Routed to Link O-1 : Wetland

Routing by Stor-Ind method, Time Span= 2.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 415.38' @ 12.13 hrs Surf.Area= 2,155 sf Storage= 2,070 cf

Plug-Flow detention time= 21.4 min calculated for 0.162 af (100% of inflow)
Center-of-Mass det. time= 21.6 min (832.5 - 810.9)

Volume	Invert	Avail.Storage	Storage Description	
#1	411.50'	4,697 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
411.50	1,142	0.0	0	0
411.55	1,142	40.0	23	23
414.50	1,142	20.0	674	697
415.00	1,550	100.0	673	1,370
415.50	2,350	100.0	975	2,345
415.80	3,000	100.0	803	3,147
416.30	3,200	100.0	1,550	4,697

Device	Routing	Invert	Outlet Devices
#1	Device 2	411.50'	4.0" Vert. Underdrain C= 0.600 Limited to weir flow at low heads
#2	Primary	411.50'	10.0" Round Culvert L= 200.0' Ke= 0.900 Inlet / Outlet Invert= 411.50' / 409.50' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.55 sf
#3	Device 2	415.50'	24.0" x 24.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.81 cfs @ 12.13 hrs HW=415.38' (Free Discharge)

↑ **2=Culvert** (Passes 0.81 cfs of 3.12 cfs potential flow)
↑ **1=Underdrain** (Orifice Controls 0.81 cfs @ 9.27 fps)
↑ **3=Grate** (Controls 0.00 cfs)

Watertown - Proposed

Prepared by Labella Associates

HydroCAD® 10.20-2g s/n 09581 © 2022 HydroCAD Software Solutions LLC

Watertown - Proposed

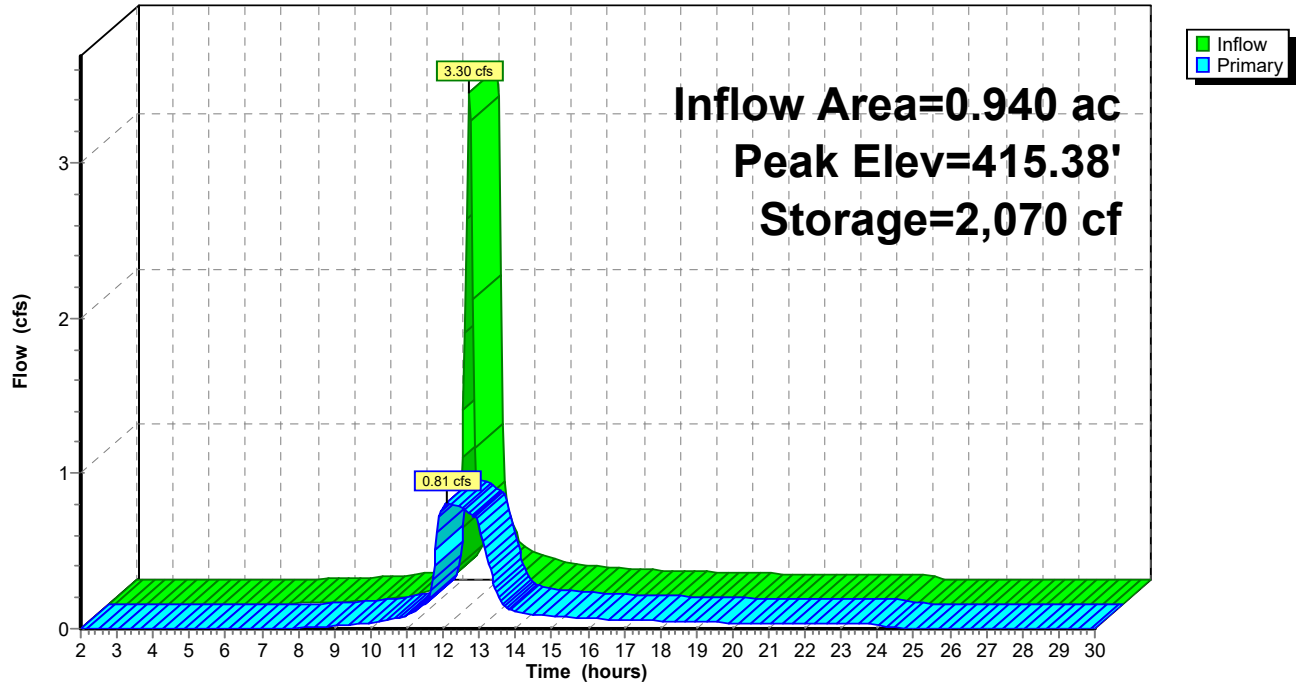
Type II 24-hr 10-yr Rainfall=3.29"

Printed 5/20/2023

Page 16

Pond B2: Bio 2

Hydrograph



Watertown - Proposed

Prepared by Labella Associates

HydroCAD® 10.20-2g s/n 09581 © 2022 HydroCAD Software Solutions LLC

Watertown - Proposed
Type II 24-hr 10-yr Rainfall=3.29"

Printed 5/20/2023

Page 17

Summary for Pond B3: Bio 3

Inflow Area = 1.350 ac, 60.00% Impervious, Inflow Depth = 2.34" for 10-yr event
Inflow = 5.23 cfs @ 11.97 hrs, Volume= 0.264 af
Outflow = 2.20 cfs @ 12.09 hrs, Volume= 0.263 af, Atten= 58%, Lag= 7.3 min
Primary = 2.20 cfs @ 12.09 hrs, Volume= 0.263 af
Routed to Link O-1 : Wetland

Routing by Stor-Ind method, Time Span= 2.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 412.54' @ 12.09 hrs Surf.Area= 4,184 sf Storage= 3,738 cf

Plug-Flow detention time= 37.9 min calculated for 0.263 af (100% of inflow)
Center-of-Mass det. time= 37.5 min (835.9 - 798.3)

Volume	Invert	Avail.Storage	Storage Description	
#1	408.90'	8,949 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
408.90	2,600	0.0	0	0
408.95	2,600	40.0	52	52
411.90	2,600	20.0	1,534	1,586
412.40	3,741	100.0	1,585	3,171
413.00	5,600	100.0	2,802	5,974
413.50	6,300	100.0	2,975	8,949

Device	Routing	Invert	Outlet Devices
#1	Device 2	408.90'	4.0" Vert. Underdrain C= 0.600 Limited to weir flow at low heads
#2	Primary	408.90'	12.0" Round Culvert L= 10.0' Ke= 0.900 Inlet / Outlet Invert= 408.90' / 408.85' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	412.40'	24.0" x 24.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.14 cfs @ 12.09 hrs HW=412.54' (Free Discharge)

↑ **2=Culvert** (Passes 2.14 cfs of 5.29 cfs potential flow)
↑ **1=Underdrain** (Orifice Controls 0.78 cfs @ 8.97 fps)
↑ **3=Grate** (Weir Controls 1.36 cfs @ 1.22 fps)

Watertown - Proposed

Prepared by Labella Associates

HydroCAD® 10.20-2g s/n 09581 © 2022 HydroCAD Software Solutions LLC

Watertown - Proposed

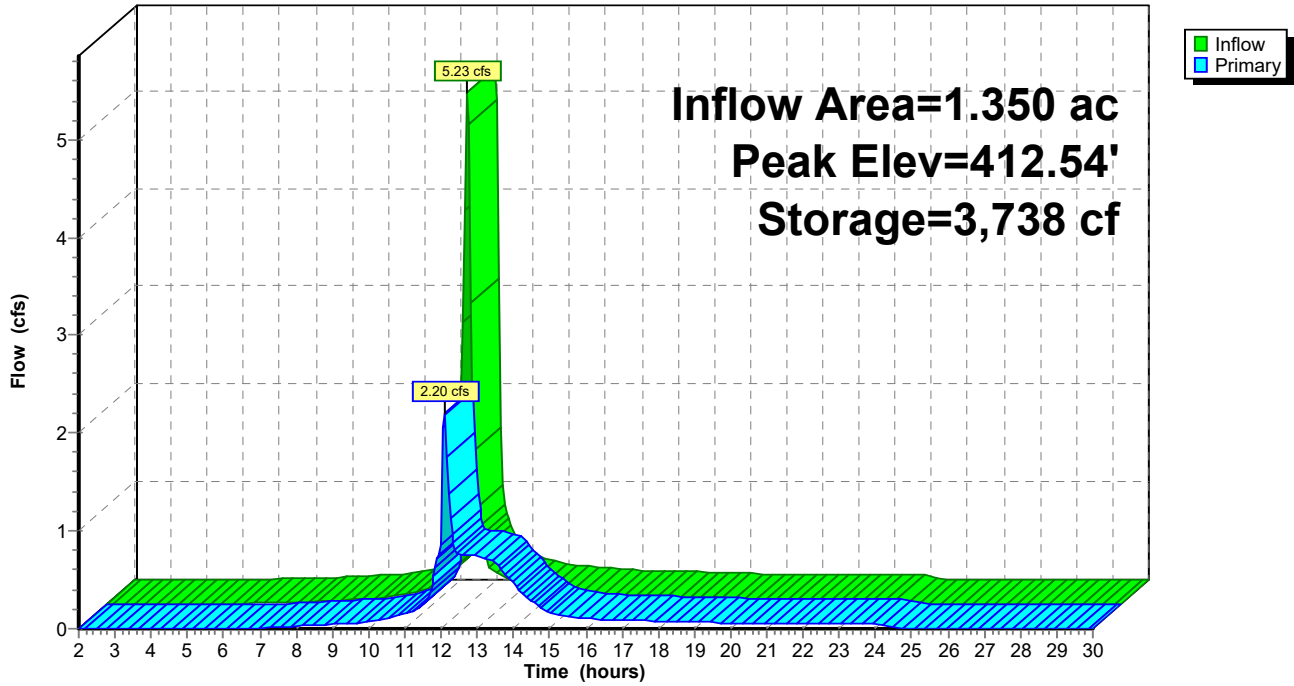
Type II 24-hr 10-yr Rainfall=3.29"

Printed 5/20/2023

Page 18

Pond B3: Bio 3

Hydrograph



Watertown - Proposed

Prepared by Labella Associates

HydroCAD® 10.20-2g s/n 09581 © 2022 HydroCAD Software Solutions LLC

Watertown - Proposed
Type II 24-hr 10-yr Rainfall=3.29"

Printed 5/20/2023

Page 19

Summary for Pond DS 1: Dry Swale 1

Inflow Area = 0.560 ac, 53.57% Impervious, Inflow Depth = 2.25" for 10-yr event
 Inflow = 2.10 cfs @ 11.97 hrs, Volume= 0.105 af
 Outflow = 0.75 cfs @ 12.10 hrs, Volume= 0.105 af, Atten= 64%, Lag= 7.8 min
 Primary = 0.75 cfs @ 12.10 hrs, Volume= 0.105 af
 Routed to Link O-1 : Wetland

Routing by Stor-Ind method, Time Span= 2.00-30.00 hrs, dt= 0.05 hrs
 Peak Elev= 412.29' @ 12.10 hrs Surf.Area= 2,067 sf Storage= 1,116 cf

Plug-Flow detention time= 16.6 min calculated for 0.105 af (100% of inflow)
 Center-of-Mass det. time= 16.4 min (819.2 - 802.7)

Volume	Invert	Avail.Storage	Storage Description	
#1	409.00'	5,537 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
409.00	1,090	0.0	0	0
409.05	1,090	40.0	22	22
412.00	1,090	20.0	643	665
412.50	2,800	100.0	973	1,637
413.50	3,200	100.0	3,000	4,637
413.75	4,000	100.0	900	5,537

Device	Routing	Invert	Outlet Devices
#1	Device 3	409.00'	0.250 in/hr Exfiltration over Horizontal area
#2	Device 3	409.00'	4.0" Vert. Underdrain C= 0.600 Limited to weir flow at low heads
#3	Primary	409.00'	10.0" Round Culvert L= 180.0' Ke= 0.900 Inlet / Outlet Invert= 409.00' / 408.00' S= 0.0056 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.55 sf
#4	Device 3	412.50'	24.0" x 24.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.75 cfs @ 12.10 hrs HW=412.28' (Free Discharge)

- ↑ **3=Culvert** (Passes 0.75 cfs of 2.69 cfs potential flow)
- ↑ **1=Exfiltration** (Exfiltration Controls 0.01 cfs)
- ↑ **2=Underdrain** (Orifice Controls 0.74 cfs @ 8.50 fps)
- ↑ **4=Grate** (Controls 0.00 cfs)

Watertown - Proposed

Prepared by Labella Associates

HydroCAD® 10.20-2g s/n 09581 © 2022 HydroCAD Software Solutions LLC

Watertown - Proposed

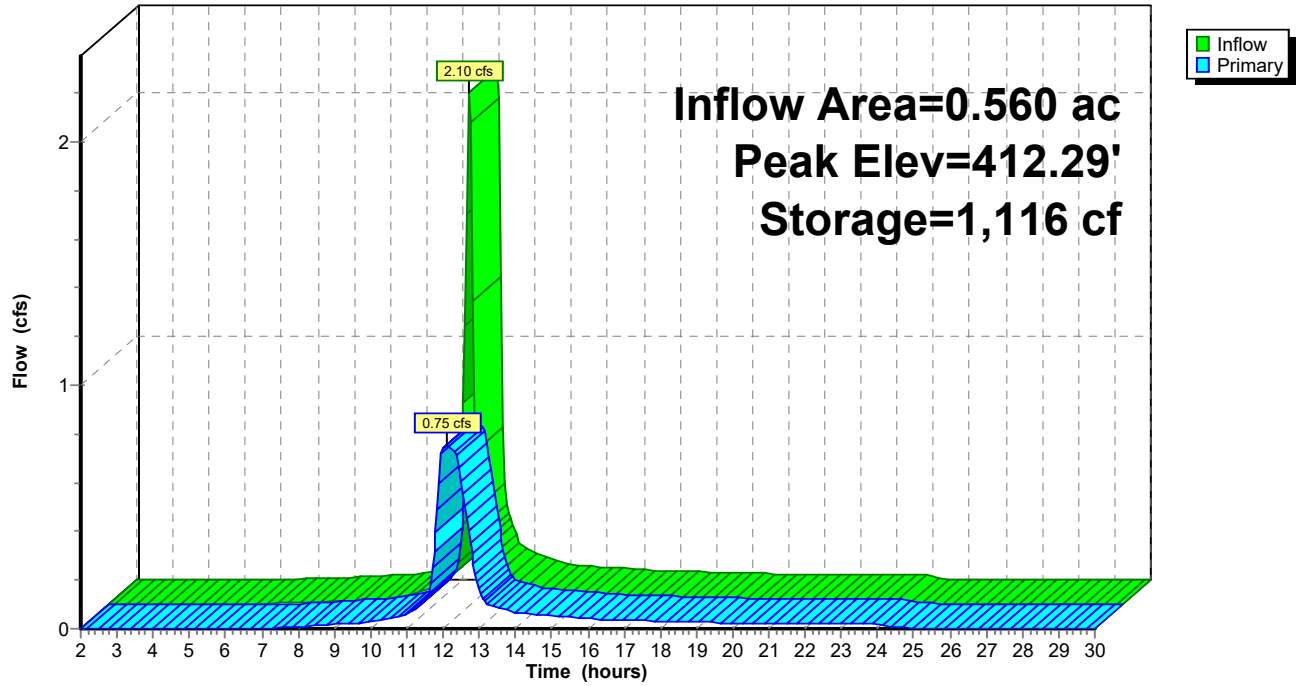
Type II 24-hr 10-yr Rainfall=3.29"

Printed 5/20/2023

Page 20

Pond DS 1: Dry Swale 1

Hydrograph



Watertown - Proposed

Prepared by Labella Associates

HydroCAD® 10.20-2g s/n 09581 © 2022 HydroCAD Software Solutions LLC

Watertown - Proposed
Type II 24-hr 10-yr Rainfall=3.29"

Printed 5/20/2023

Page 21

Summary for Pond DS 2: Dry Swale 2

Inflow Area = 0.370 ac, 32.43% Impervious, Inflow Depth = 1.91" for 10-yr event
 Inflow = 1.21 cfs @ 11.97 hrs, Volume= 0.059 af
 Outflow = 0.73 cfs @ 12.05 hrs, Volume= 0.059 af, Atten= 39%, Lag= 5.0 min
 Primary = 0.73 cfs @ 12.05 hrs, Volume= 0.059 af
 Routed to Link O-1 : Wetland

Routing by Stor-Ind method, Time Span= 2.00-30.00 hrs, dt= 0.05 hrs
 Peak Elev= 412.17' @ 12.05 hrs Surf.Area= 684 sf Storage= 352 cf

Plug-Flow detention time= 7.9 min calculated for 0.059 af (100% of inflow)
 Center-of-Mass det. time= 7.7 min (826.0 - 818.2)

Volume	Invert	Avail.Storage	Storage Description	
#1	409.00'	2,091 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
409.00	425	0.0	0	0
409.05	425	40.0	9	9
412.00	425	20.0	251	259
412.50	1,200	100.0	406	666
413.00	2,000	100.0	800	1,466
413.25	3,000	100.0	625	2,091

Device	Routing	Invert	Outlet Devices
#1	Device 3	409.00'	0.250 in/hr Exfiltration over Horizontal area
#2	Device 3	409.00'	4.0" Vert. Underdrain C= 0.600 Limited to weir flow at low heads
#3	Primary	409.00'	10.0" Round Culvert L= 60.0' Ke= 0.900 Inlet / Outlet Invert= 409.00' / 408.90' S= 0.0017 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.55 sf
#4	Device 3	412.50'	24.0" x 24.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.73 cfs @ 12.05 hrs HW=412.16' (Free Discharge)

- ↑ **3=Culvert** (Passes 0.73 cfs of 3.29 cfs potential flow)
- ↑ **1=Exfiltration** (Exfiltration Controls 0.00 cfs)
- ↑ **2=Underdrain** (Orifice Controls 0.73 cfs @ 8.34 fps)
- ↑ **4=Grate** (Controls 0.00 cfs)

Watertown - Proposed

Prepared by Labella Associates

HydroCAD® 10.20-2g s/n 09581 © 2022 HydroCAD Software Solutions LLC

Watertown - Proposed

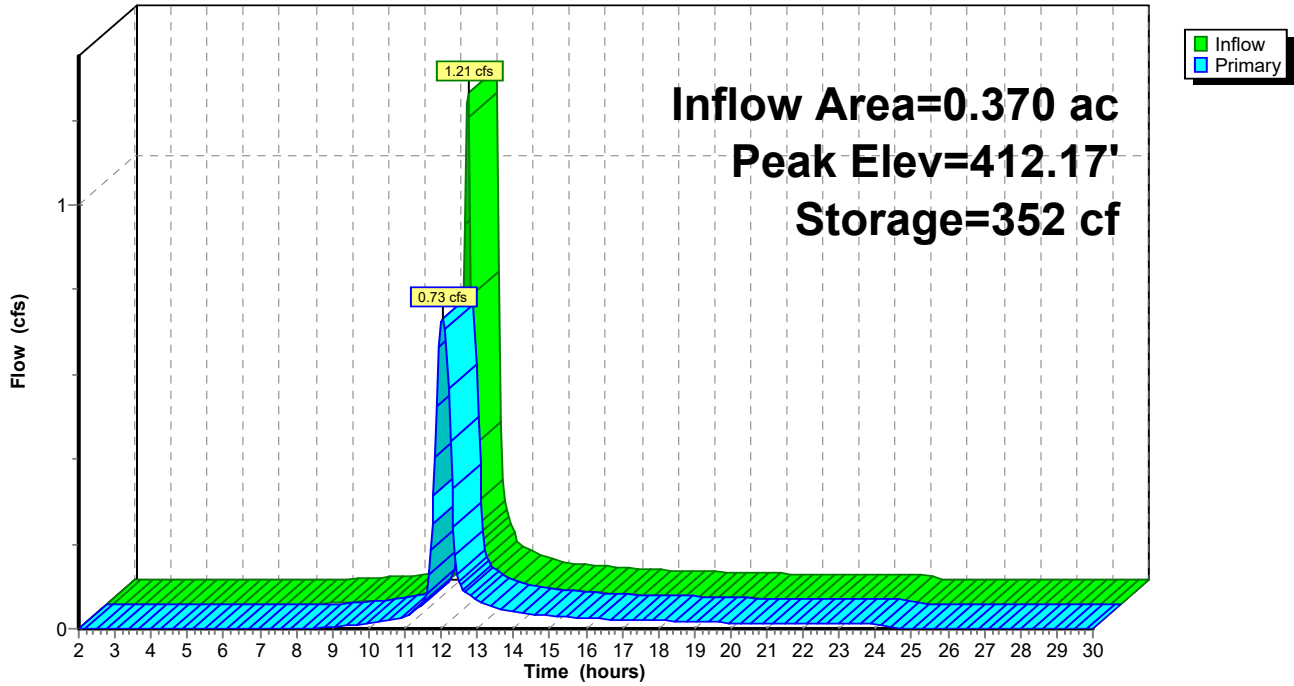
Type II 24-hr 10-yr Rainfall=3.29"

Printed 5/20/2023

Page 22

Pond DS 2: Dry Swale 2

Hydrograph



Watertown - Proposed

Prepared by Labella Associates

HydroCAD® 10.20-2g s/n 09581 © 2022 HydroCAD Software Solutions LLC

Watertown - Proposed

Type II 24-hr 10-yr Rainfall=3.29"

Printed 5/20/2023

Page 23

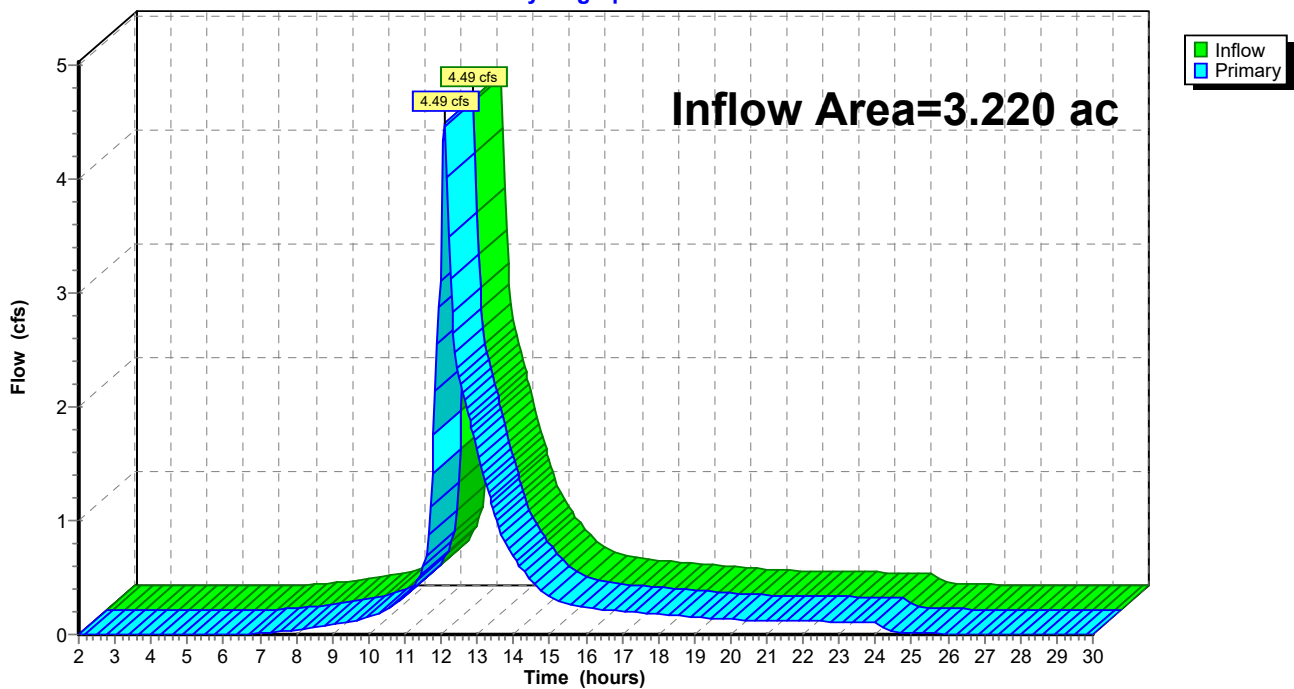
Summary for Link O-1: Wetland

Inflow Area = 3.220 ac, 51.24% Impervious, Inflow Depth > 2.20" for 10-yr event
Inflow = 4.49 cfs @ 12.09 hrs, Volume= 0.590 af
Primary = 4.49 cfs @ 12.09 hrs, Volume= 0.590 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 2.00-30.00 hrs, dt= 0.05 hrs

Link O-1: Wetland

Hydrograph



Watertown - Proposed

Prepared by Labella Associates

HydroCAD® 10.20-2g s/n 09581 © 2022 HydroCAD Software Solutions LLC

Watertown - Proposed

Type II 24-hr 10-yr Rainfall=3.29"

Printed 5/20/2023

Page 24

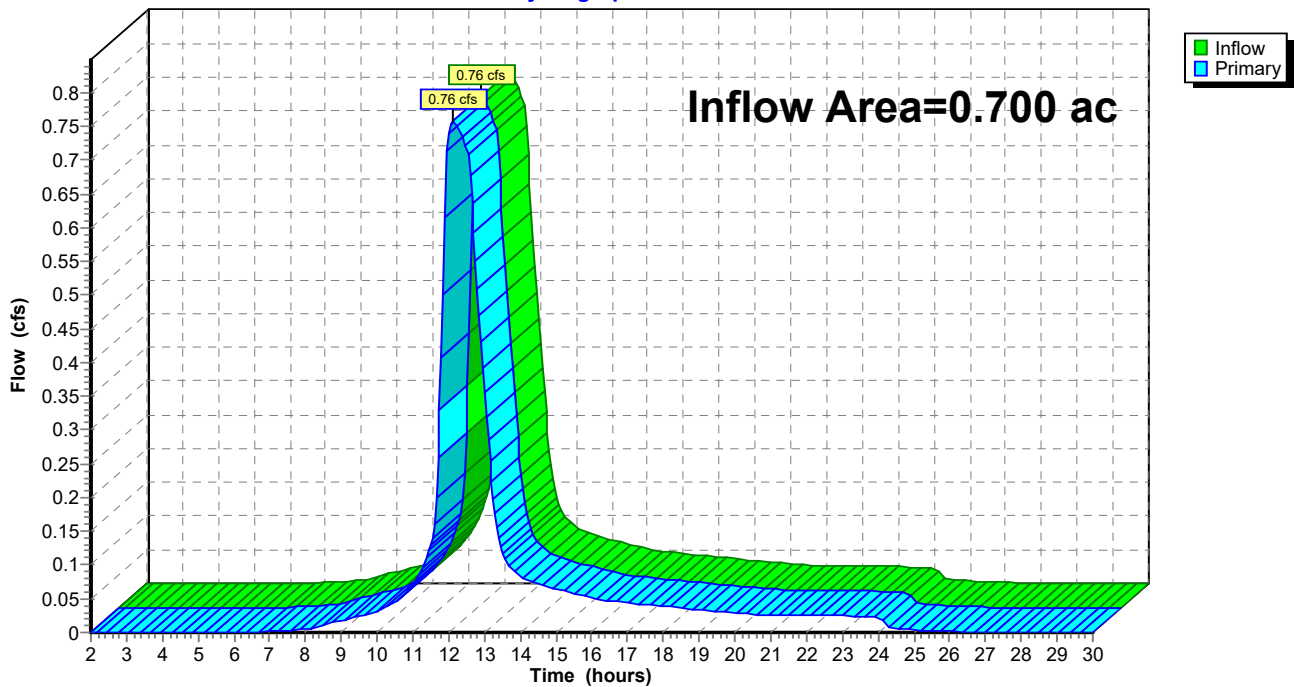
Summary for Link O-2: Catch Basin

Inflow Area = 0.700 ac, 51.43% Impervious, Inflow Depth = 2.16" for 10-yr event
Inflow = 0.76 cfs @ 12.11 hrs, Volume= 0.126 af
Primary = 0.76 cfs @ 12.11 hrs, Volume= 0.126 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 2.00-30.00 hrs, dt= 0.05 hrs

Link O-2: Catch Basin

Hydrograph



Watertown - Proposed

Prepared by Labella Associates

HydroCAD® 10.20-2g s/n 09581 © 2022 HydroCAD Software Solutions LLC

Watertown - Proposed

Type II 24-hr 100-yr Rainfall=5.49"

Printed 5/20/2023

Page 25

Time span=2.00-30.00 hrs, dt=0.05 hrs, 561 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentP-1: P-1	Runoff Area=0.700 ac 51.43% Impervious Runoff Depth=4.24" Tc=6.0 min CN=89 Runoff=4.80 cfs 0.247 af
SubcatchmentP-2: P-2	Runoff Area=0.940 ac 44.68% Impervious Runoff Depth=4.14" Tc=6.0 min CN=88 Runoff=6.33 cfs 0.324 af
SubcatchmentP-3: P-3	Runoff Area=1.350 ac 60.00% Impervious Runoff Depth=4.46" Tc=6.0 min CN=91 Runoff=9.56 cfs 0.502 af
SubcatchmentP-4: P-4	Runoff Area=0.560 ac 53.57% Impervious Runoff Depth=4.35" Tc=6.0 min CN=90 Runoff=3.90 cfs 0.203 af
SubcatchmentP-5: P-5	Runoff Area=0.370 ac 32.43% Impervious Runoff Depth=3.93" Tc=6.0 min CN=86 Runoff=2.40 cfs 0.121 af
Pond B1: Bio 1	Peak Elev=414.26' Storage=2,277 cf Inflow=4.80 cfs 0.247 af Outflow=4.15 cfs 0.247 af
Pond B2: Bio 2	Peak Elev=415.95' Storage=3,594 cf Inflow=6.33 cfs 0.324 af Outflow=3.29 cfs 0.324 af
Pond B3: Bio 3	Peak Elev=412.92' Storage=5,532 cf Inflow=9.56 cfs 0.502 af Outflow=5.60 cfs 0.501 af
Pond DS 1: Dry Swale 1	Peak Elev=412.67' Storage=2,123 cf Inflow=3.90 cfs 0.203 af Outflow=2.56 cfs 0.203 af
Pond DS 2: Dry Swale 2	Peak Elev=412.64' Storage=849 cf Inflow=2.40 cfs 0.121 af Outflow=2.10 cfs 0.121 af
Link O-1: Wetland	Inflow=13.34 cfs 1.150 af Primary=13.34 cfs 1.150 af
Link O-2: Catch Basin	Inflow=4.15 cfs 0.247 af Primary=4.15 cfs 0.247 af

Total Runoff Area = 3.920 ac Runoff Volume = 1.397 af Average Runoff Depth = 4.28"
48.72% Pervious = 1.910 ac 51.28% Impervious = 2.010 ac

Watertown - Proposed

Prepared by Labella Associates

HydroCAD® 10.20-2g s/n 09581 © 2022 HydroCAD Software Solutions LLC

Watertown - Proposed

Type II 24-hr 100-yr Rainfall=5.49"

Printed 5/20/2023

Page 26

Summary for Subcatchment P-1: P-1

Runoff = 4.80 cfs @ 11.96 hrs, Volume= 0.247 af, Depth= 4.24"
Routed to Pond B1 : Bio 1

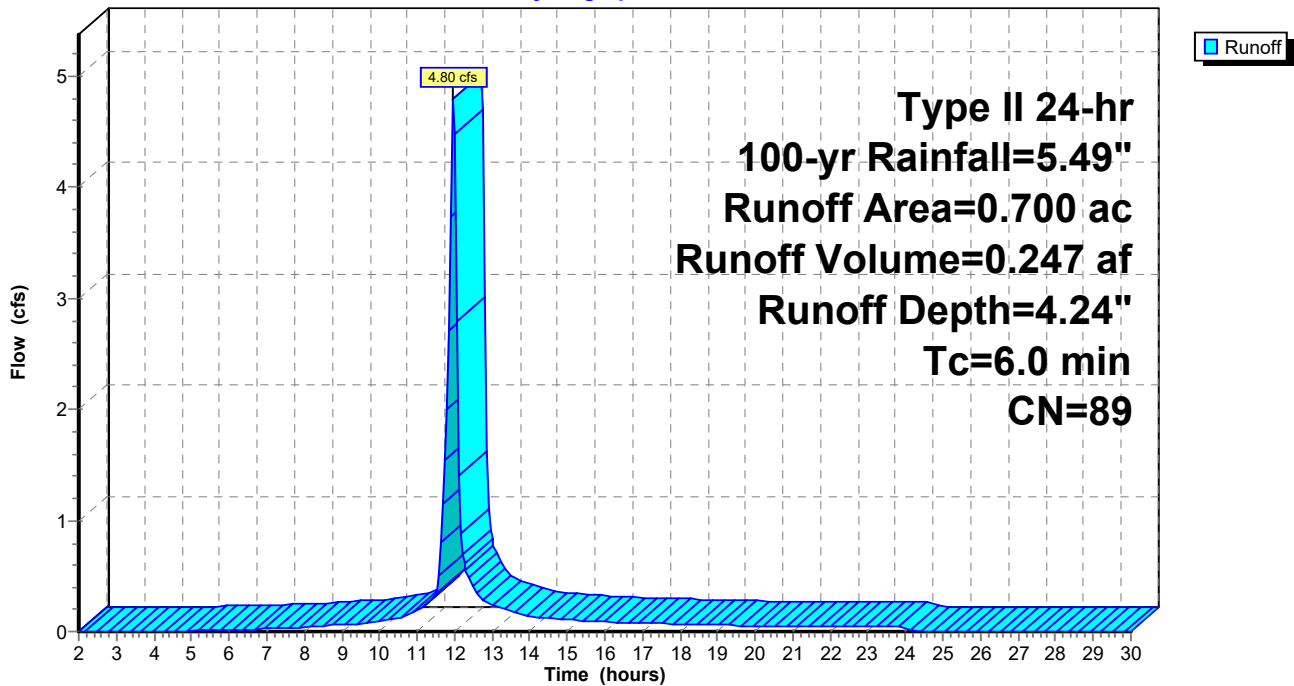
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-30.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=5.49"

Area (ac)	CN	Description
0.340	80	>75% Grass cover, Good, HSG D
0.360	98	Roofs, HSG D
0.700	89	Weighted Average
0.340		48.57% Pervious Area
0.360		51.43% Impervious Area

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

Subcatchment P-1: P-1

Hydrograph



Watertown - Proposed

Prepared by Labella Associates

HydroCAD® 10.20-2g s/n 09581 © 2022 HydroCAD Software Solutions LLC

Watertown - Proposed

Type II 24-hr 100-yr Rainfall=5.49"

Printed 5/20/2023

Page 27

Summary for Subcatchment P-2: P-2

Runoff = 6.33 cfs @ 11.96 hrs, Volume= 0.324 af, Depth= 4.14"
Routed to Pond B2 : Bio 2

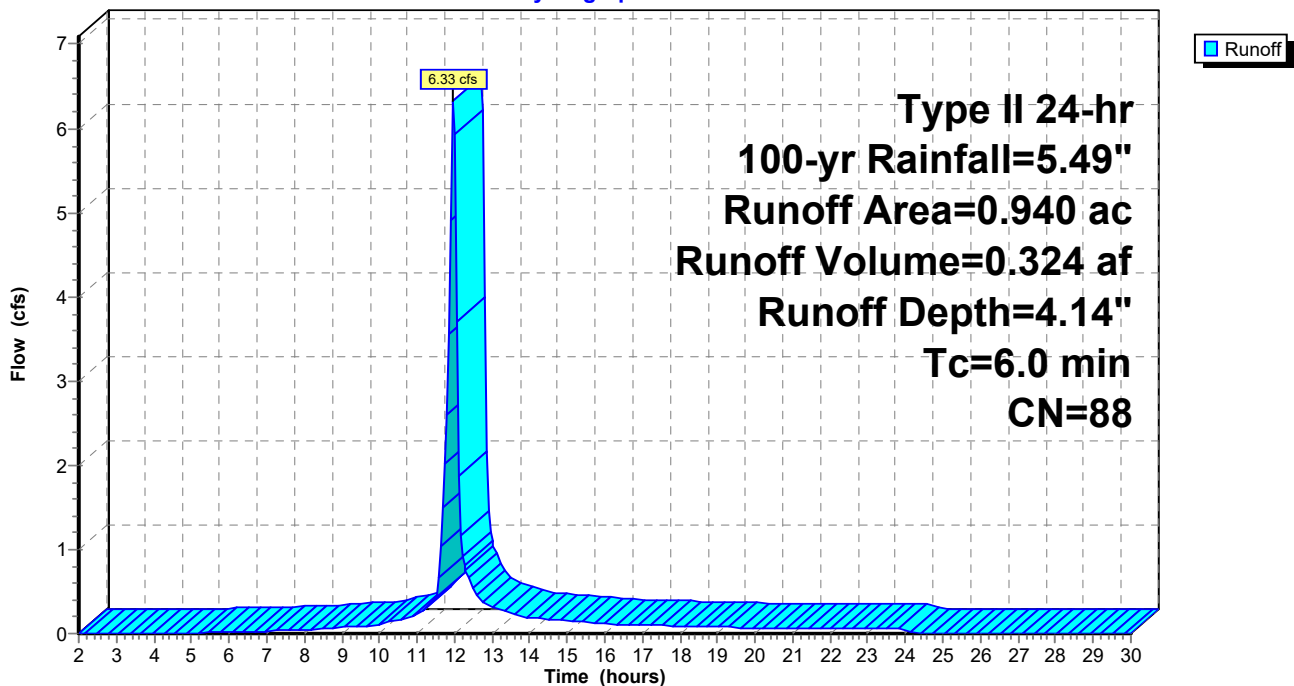
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-30.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=5.49"

Area (ac)	CN	Description
0.520	80	>75% Grass cover, Good, HSG D
0.420	98	Roofs, HSG D
0.940	88	Weighted Average
0.520		55.32% Pervious Area
0.420		44.68% Impervious Area

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

Subcatchment P-2: P-2

Hydrograph



Watertown - Proposed

Prepared by Labella Associates

HydroCAD® 10.20-2g s/n 09581 © 2022 HydroCAD Software Solutions LLC

Watertown - Proposed

Type II 24-hr 100-yr Rainfall=5.49"

Printed 5/20/2023

Page 28

Summary for Subcatchment P-3: P-3

Runoff = 9.56 cfs @ 11.96 hrs, Volume= 0.502 af, Depth= 4.46"
Routed to Pond B3 : Bio 3

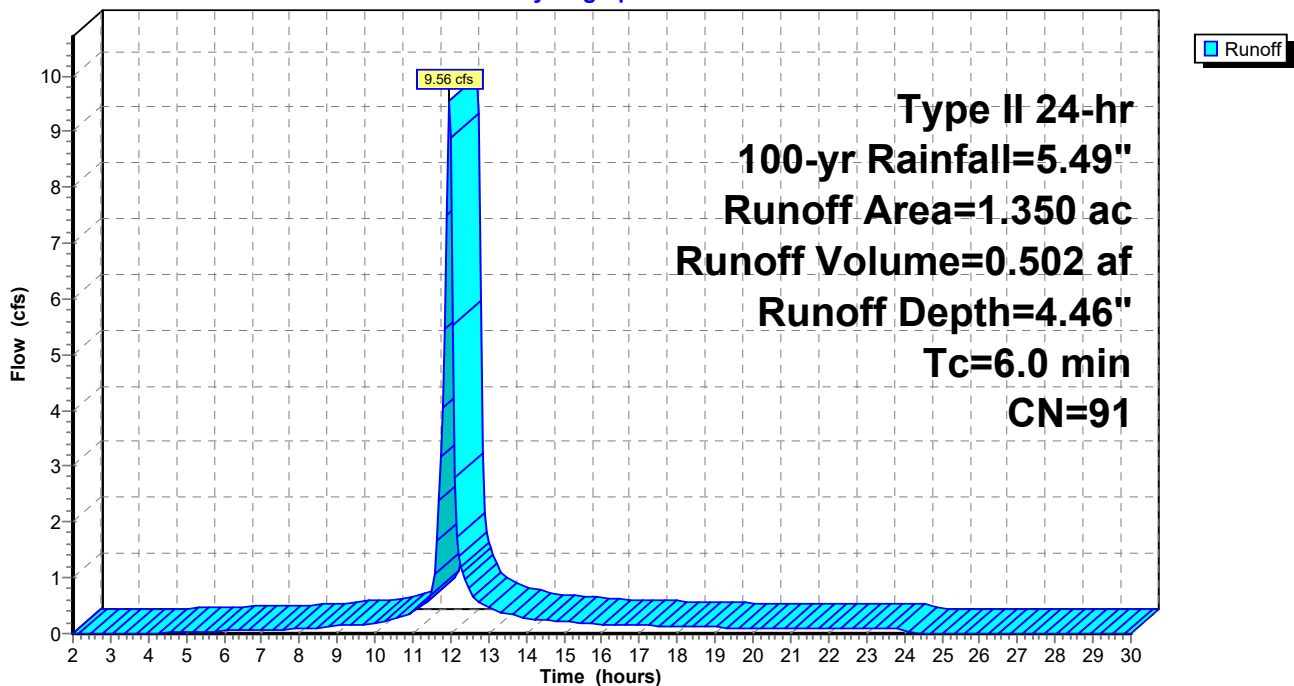
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-30.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=5.49"

Area (ac)	CN	Description
0.540	80	>75% Grass cover, Good, HSG D
0.810	98	Paved parking, HSG D
1.350	91	Weighted Average
0.540		40.00% Pervious Area
0.810		60.00% Impervious Area

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

Subcatchment P-3: P-3

Hydrograph



Watertown - Proposed

Prepared by Labella Associates

HydroCAD® 10.20-2g s/n 09581 © 2022 HydroCAD Software Solutions LLC

Watertown - Proposed

Type II 24-hr 100-yr Rainfall=5.49"

Printed 5/20/2023

Page 29

Summary for Subcatchment P-4: P-4

Runoff = 3.90 cfs @ 11.96 hrs, Volume= 0.203 af, Depth= 4.35"
Routed to Pond DS 1 : Dry Swale 1

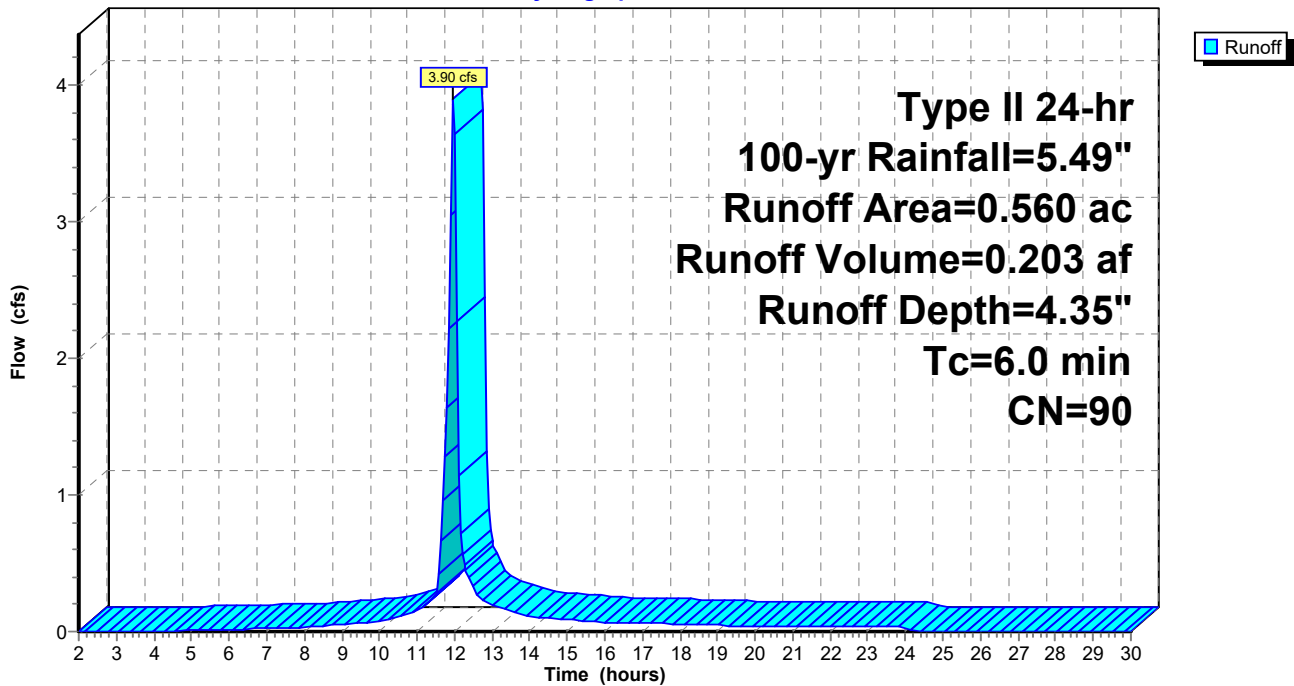
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-30.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=5.49"

Area (ac)	CN	Description
0.260	80	>75% Grass cover, Good, HSG D
0.300	98	Paved parking, HSG D
0.560	90	Weighted Average
0.260		46.43% Pervious Area
0.300		53.57% Impervious Area

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

Subcatchment P-4: P-4

Hydrograph



Watertown - Proposed

Prepared by Labella Associates

HydroCAD® 10.20-2g s/n 09581 © 2022 HydroCAD Software Solutions LLC

Watertown - Proposed

Type II 24-hr 100-yr Rainfall=5.49"

Printed 5/20/2023

Page 30

Summary for Subcatchment P-5: P-5

Runoff = 2.40 cfs @ 11.97 hrs, Volume= 0.121 af, Depth= 3.93"
Routed to Pond DS 2 : Dry Swale 2

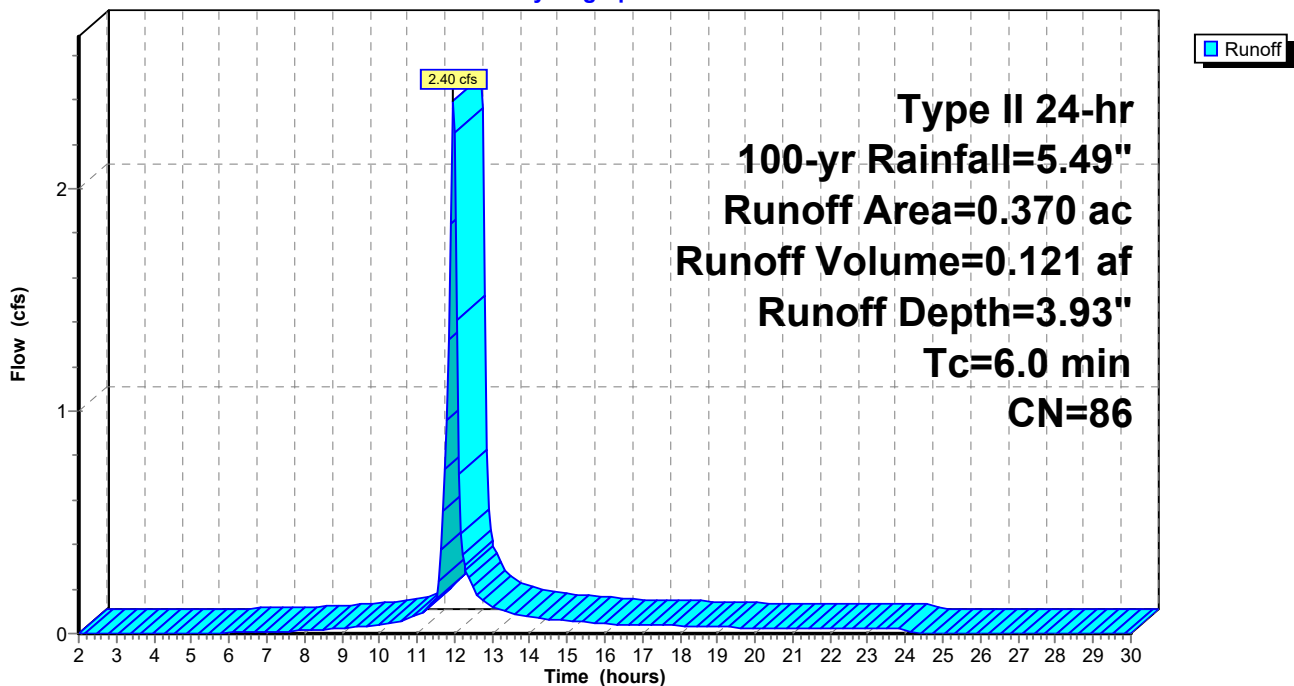
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-30.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=5.49"

Area (ac)	CN	Description
0.250	80	>75% Grass cover, Good, HSG D
0.120	98	Paved parking, HSG D
0.370	86	Weighted Average
0.250		67.57% Pervious Area
0.120		32.43% Impervious Area

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

Subcatchment P-5: P-5

Hydrograph



Watertown - Proposed

Prepared by Labella Associates

HydroCAD® 10.20-2g s/n 09581 © 2022 HydroCAD Software Solutions LLC

Watertown - Proposed

Type II 24-hr 100-yr Rainfall=5.49"

Printed 5/20/2023

Page 31

Summary for Pond B1: Bio 1

Inflow Area = 0.700 ac, 51.43% Impervious, Inflow Depth = 4.24" for 100-yr event
 Inflow = 4.80 cfs @ 11.96 hrs, Volume= 0.247 af
 Outflow = 4.15 cfs @ 12.02 hrs, Volume= 0.247 af, Atten= 14%, Lag= 3.2 min
 Primary = 4.15 cfs @ 12.02 hrs, Volume= 0.247 af
 Routed to Link O-2 : Catch Basin

Routing by Stor-Ind method, Time Span= 2.00-30.00 hrs, dt= 0.05 hrs
 Peak Elev= 414.26' @ 12.02 hrs Surf.Area= 2,765 sf Storage= 2,277 cf

Plug-Flow detention time= 17.7 min calculated for 0.247 af (100% of inflow)
 Center-of-Mass det. time= 17.5 min (805.5 - 787.9)

Volume	Invert	Avail.Storage	Storage Description	
#1	410.50'	8,295 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
410.50	1,360	0.0	0	0
410.55	1,360	40.0	27	27
413.50	1,360	20.0	802	830
414.00	2,000	100.0	840	1,670
414.50	3,500	100.0	1,375	3,045
415.00	4,000	100.0	1,875	4,920
415.75	5,000	100.0	3,375	8,295

Device	Routing	Invert	Outlet Devices	
#1	Device 2	410.50'	4.0" Vert. Underdrain C= 0.600 Limited to weir flow at low heads	
#2	Primary	407.96'	12.0" Round Culvert L= 120.0' Ke= 0.900 Inlet / Outlet Invert= 407.96' / 407.78' S= 0.0015 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf	
#3	Device 2	414.00'	24.0" x 24.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads	

Primary OutFlow Max=3.89 cfs @ 12.02 hrs HW=414.24' (Free Discharge)

- ↑ **2=Culvert** (Passes 3.89 cfs of 6.19 cfs potential flow)
- ↑ **1=Underdrain** (Orifice Controls 0.79 cfs @ 9.10 fps)
- ↑ **3=Grate** (Weir Controls 3.09 cfs @ 1.61 fps)

Watertown - Proposed

Prepared by Labella Associates

HydroCAD® 10.20-2g s/n 09581 © 2022 HydroCAD Software Solutions LLC

Watertown - Proposed

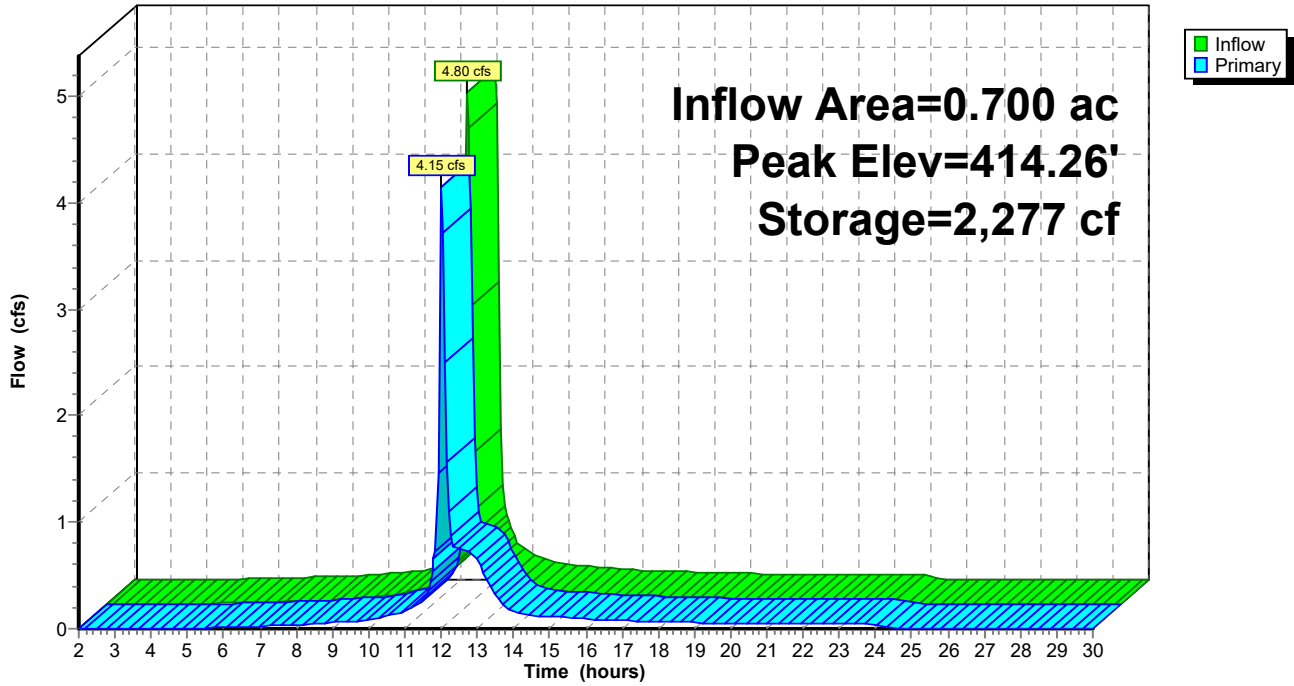
Type II 24-hr 100-yr Rainfall=5.49"

Printed 5/20/2023

Page 32

Pond B1: Bio 1

Hydrograph



Watertown - Proposed

Prepared by Labella Associates

HydroCAD® 10.20-2g s/n 09581 © 2022 HydroCAD Software Solutions LLC

Watertown - Proposed

Type II 24-hr 100-yr Rainfall=5.49"

Printed 5/20/2023

Page 33

Summary for Pond B2: Bio 2

Inflow Area = 0.940 ac, 44.68% Impervious, Inflow Depth = 4.14" for 100-yr event
 Inflow = 6.33 cfs @ 11.96 hrs, Volume= 0.324 af
 Outflow = 3.29 cfs @ 12.05 hrs, Volume= 0.324 af, Atten= 48%, Lag= 5.1 min
 Primary = 3.29 cfs @ 12.05 hrs, Volume= 0.324 af
 Routed to Link O-1 : Wetland

Routing by Stor-Ind method, Time Span= 2.00-30.00 hrs, dt= 0.05 hrs
 Peak Elev= 415.95' @ 12.06 hrs Surf.Area= 3,059 sf Storage= 3,594 cf

Plug-Flow detention time= 19.6 min calculated for 0.323 af (100% of inflow)
 Center-of-Mass det. time= 19.7 min (811.1 - 791.4)

Volume	Invert	Avail.Storage	Storage Description	
#1	411.50'	4,697 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
411.50	1,142	0.0	0	0
411.55	1,142	40.0	23	23
414.50	1,142	20.0	674	697
415.00	1,550	100.0	673	1,370
415.50	2,350	100.0	975	2,345
415.80	3,000	100.0	803	3,147
416.30	3,200	100.0	1,550	4,697

Device	Routing	Invert	Outlet Devices	
#1	Device 2	411.50'	4.0" Vert. Underdrain C= 0.600 Limited to weir flow at low heads	
#2	Primary	411.50'	10.0" Round Culvert L= 200.0' Ke= 0.900 Inlet / Outlet Invert= 411.50' / 409.50' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.55 sf	
#3	Device 2	415.50'	24.0" x 24.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads	

Primary OutFlow Max=3.29 cfs @ 12.05 hrs HW=415.94' (Free Discharge)

- ↑ **2=Culvert** (Barrel Controls 3.29 cfs @ 6.04 fps)
- ↑ **1=Underdrain** (Passes < 0.87 cfs potential flow)
- ↑ **3=Grate** (Passes < 7.73 cfs potential flow)

Watertown - Proposed

Prepared by Labella Associates

HydroCAD® 10.20-2g s/n 09581 © 2022 HydroCAD Software Solutions LLC

Watertown - Proposed

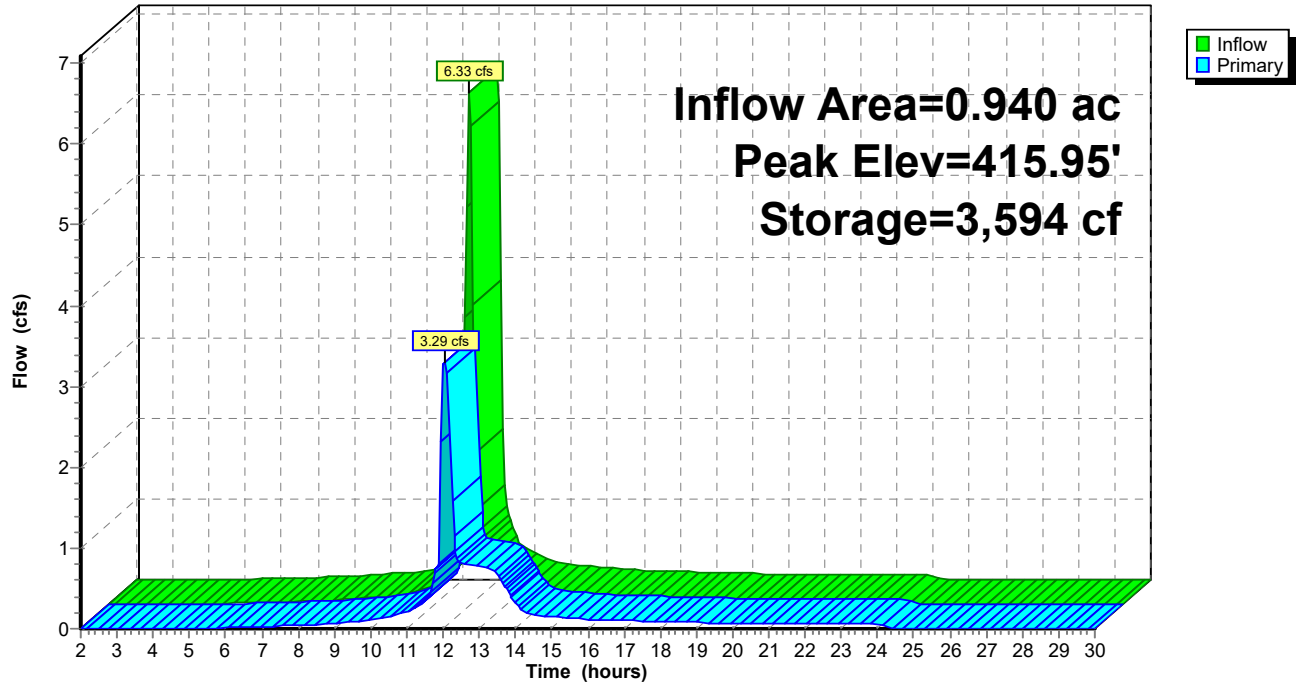
Type II 24-hr 100-yr Rainfall=5.49"

Printed 5/20/2023

Page 34

Pond B2: Bio 2

Hydrograph



Watertown - Proposed

Prepared by Labella Associates

HydroCAD® 10.20-2g s/n 09581 © 2022 HydroCAD Software Solutions LLC

Watertown - Proposed

Type II 24-hr 100-yr Rainfall=5.49"

Printed 5/20/2023

Page 35

Summary for Pond B3: Bio 3

Inflow Area = 1.350 ac, 60.00% Impervious, Inflow Depth = 4.46" for 100-yr event
Inflow = 9.56 cfs @ 11.96 hrs, Volume= 0.502 af
Outflow = 5.60 cfs @ 12.05 hrs, Volume= 0.501 af, Atten= 41%, Lag= 5.3 min
Primary = 5.60 cfs @ 12.05 hrs, Volume= 0.501 af
Routed to Link O-1 : Wetland

Routing by Stor-Ind method, Time Span= 2.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 412.92' @ 12.05 hrs Surf.Area= 5,350 sf Storage= 5,532 cf

Plug-Flow detention time= 30.0 min calculated for 0.501 af (100% of inflow)
Center-of-Mass det. time= 29.8 min (810.3 - 780.5)

Volume	Invert	Avail.Storage	Storage Description	
#1	408.90'	8,949 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
408.90	2,600	0.0	0	0
408.95	2,600	40.0	52	52
411.90	2,600	20.0	1,534	1,586
412.40	3,741	100.0	1,585	3,171
413.00	5,600	100.0	2,802	5,974
413.50	6,300	100.0	2,975	8,949

Device	Routing	Invert	Outlet Devices	
#1	Device 2	408.90'	4.0" Vert. Underdrain C= 0.600 Limited to weir flow at low heads	
#2	Primary	408.90'	12.0" Round Culvert L= 10.0' Ke= 0.900 Inlet / Outlet Invert= 408.90' / 408.85' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf	
#3	Device 2	412.40'	24.0" x 24.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads	

Primary OutFlow Max=5.60 cfs @ 12.05 hrs HW=412.92' (Free Discharge)

- ↑ **2=Culvert** (Inlet Controls 5.60 cfs @ 7.13 fps)
- ↑ **1=Underdrain** (Passes < 0.82 cfs potential flow)
- ↑ **3=Grate** (Passes < 9.74 cfs potential flow)

Watertown - Proposed

Prepared by Labella Associates

HydroCAD® 10.20-2g s/n 09581 © 2022 HydroCAD Software Solutions LLC

Watertown - Proposed

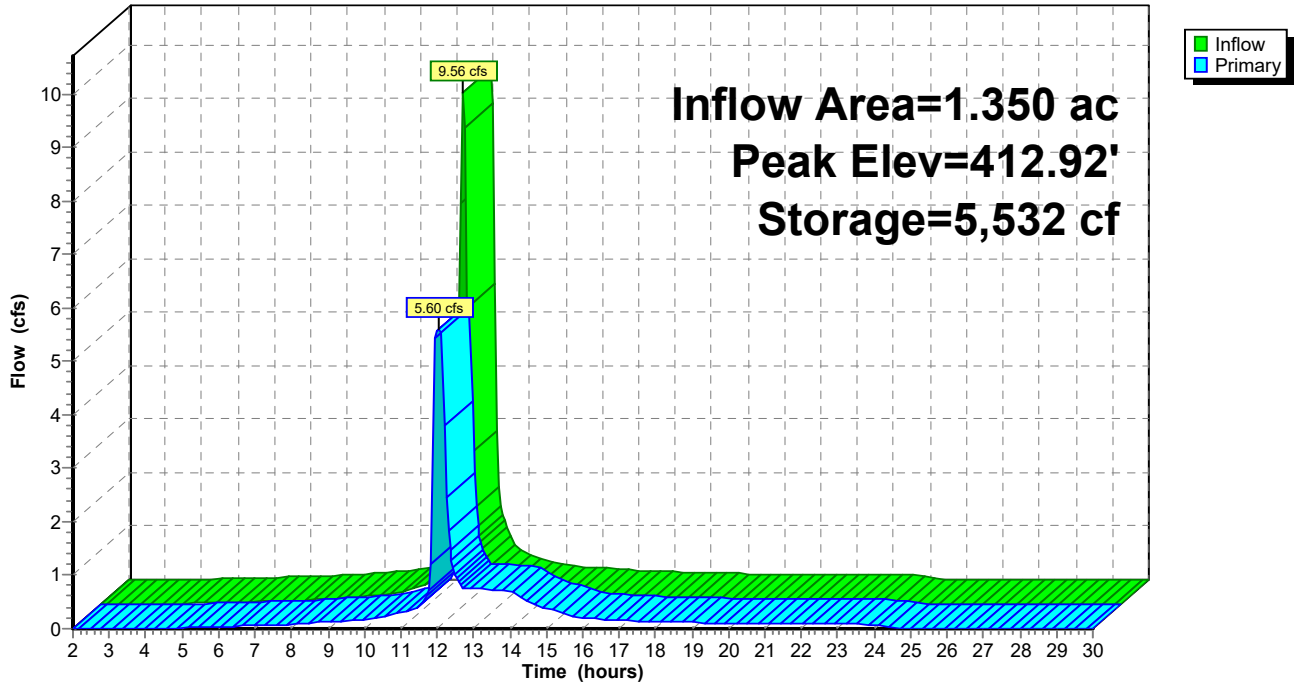
Type II 24-hr 100-yr Rainfall=5.49"

Printed 5/20/2023

Page 36

Pond B3: Bio 3

Hydrograph



Watertown - Proposed

Prepared by Labella Associates

HydroCAD® 10.20-2g s/n 09581 © 2022 HydroCAD Software Solutions LLC

Watertown - Proposed

Type II 24-hr 100-yr Rainfall=5.49"

Printed 5/20/2023

Page 37

Summary for Pond DS 1: Dry Swale 1

Inflow Area = 0.560 ac, 53.57% Impervious, Inflow Depth = 4.35" for 100-yr event
 Inflow = 3.90 cfs @ 11.96 hrs, Volume= 0.203 af
 Outflow = 2.56 cfs @ 12.05 hrs, Volume= 0.203 af, Atten= 34%, Lag= 5.2 min
 Primary = 2.56 cfs @ 12.05 hrs, Volume= 0.203 af
 Routed to Link O-1 : Wetland

Routing by Stor-Ind method, Time Span= 2.00-30.00 hrs, dt= 0.05 hrs
 Peak Elev= 412.67' @ 12.05 hrs Surf.Area= 2,869 sf Storage= 2,123 cf

Plug-Flow detention time= 16.8 min calculated for 0.203 af (100% of inflow)
 Center-of-Mass det. time= 17.0 min (801.3 - 784.3)

Volume	Invert	Avail.Storage	Storage Description	
#1	409.00'	5,537 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
409.00	1,090	0.0	0	0
409.05	1,090	40.0	22	22
412.00	1,090	20.0	643	665
412.50	2,800	100.0	973	1,637
413.50	3,200	100.0	3,000	4,637
413.75	4,000	100.0	900	5,537

Device	Routing	Invert	Outlet Devices
#1	Device 3	409.00'	0.250 in/hr Exfiltration over Horizontal area
#2	Device 3	409.00'	4.0" Vert. Underdrain C= 0.600 Limited to weir flow at low heads
#3	Primary	409.00'	10.0" Round Culvert L= 180.0' Ke= 0.900 Inlet / Outlet Invert= 409.00' / 408.00' S= 0.0056 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.55 sf
#4	Device 3	412.50'	24.0" x 24.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.65 cfs @ 12.05 hrs HW=412.67' (Free Discharge)

- ↑ **3=Culvert** (Passes 2.65 cfs of 2.84 cfs potential flow)
- ↑ **1=Exfiltration** (Exfiltration Controls 0.02 cfs)
- ↑ **2=Underdrain** (Orifice Controls 0.79 cfs @ 9.01 fps)
- ↑ **4=Grate** (Weir Controls 1.85 cfs @ 1.35 fps)

Watertown - Proposed

Prepared by Labella Associates

HydroCAD® 10.20-2g s/n 09581 © 2022 HydroCAD Software Solutions LLC

Watertown - Proposed

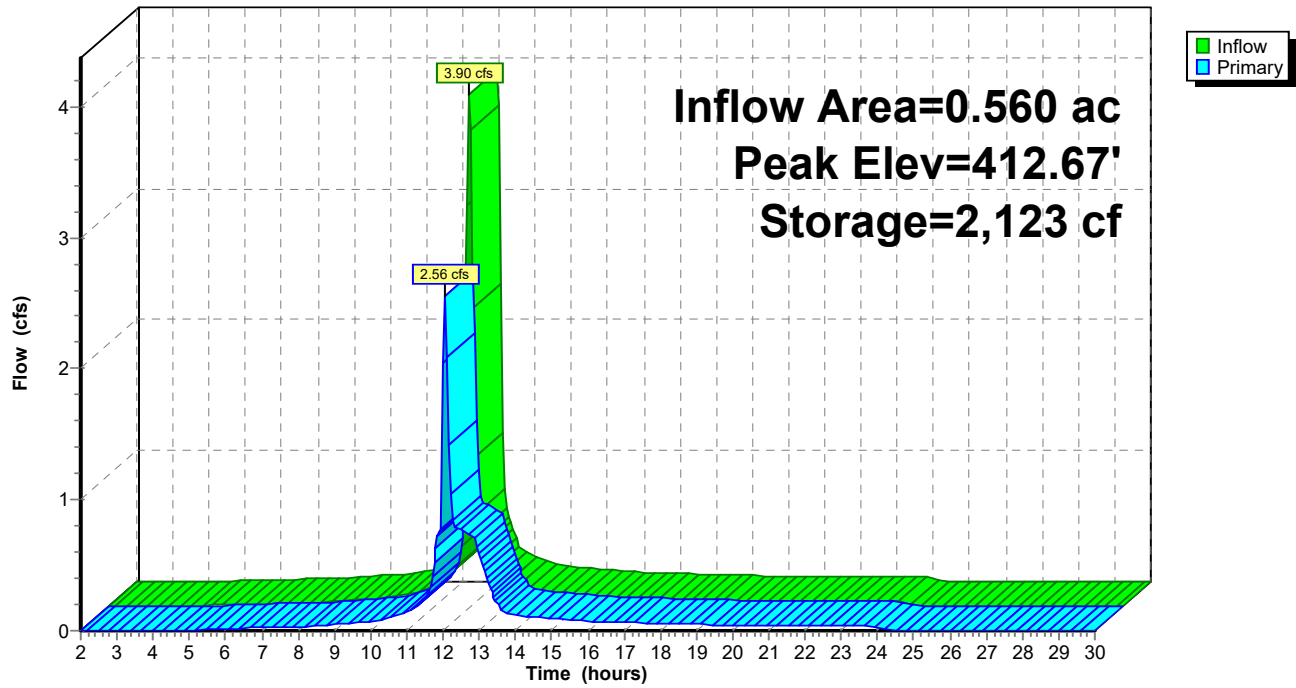
Type II 24-hr 100-yr Rainfall=5.49"

Printed 5/20/2023

Page 38

Pond DS 1: Dry Swale 1

Hydrograph



Watertown - Proposed

Prepared by Labella Associates

HydroCAD® 10.20-2g s/n 09581 © 2022 HydroCAD Software Solutions LLC

Watertown - Proposed

Type II 24-hr 100-yr Rainfall=5.49"

Printed 5/20/2023

Page 39

Summary for Pond DS 2: Dry Swale 2

Inflow Area = 0.370 ac, 32.43% Impervious, Inflow Depth = 3.93" for 100-yr event
 Inflow = 2.40 cfs @ 11.97 hrs, Volume= 0.121 af
 Outflow = 2.10 cfs @ 12.02 hrs, Volume= 0.121 af, Atten= 13%, Lag= 3.2 min
 Primary = 2.10 cfs @ 12.02 hrs, Volume= 0.121 af
 Routed to Link O-1 : Wetland

Routing by Stor-Ind method, Time Span= 2.00-30.00 hrs, dt= 0.05 hrs
 Peak Elev= 412.64' @ 12.02 hrs Surf.Area= 1,424 sf Storage= 849 cf

Plug-Flow detention time= 7.5 min calculated for 0.121 af (100% of inflow)
 Center-of-Mass det. time= 7.6 min (805.4 - 797.8)

Volume	Invert	Avail.Storage	Storage Description	
#1	409.00'	2,091 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
409.00	425	0.0	0	0
409.05	425	40.0	9	9
412.00	425	20.0	251	259
412.50	1,200	100.0	406	666
413.00	2,000	100.0	800	1,466
413.25	3,000	100.0	625	2,091

Device	Routing	Invert	Outlet Devices
#1	Device 3	409.00'	0.250 in/hr Exfiltration over Horizontal area
#2	Device 3	409.00'	4.0" Vert. Underdrain C= 0.600 Limited to weir flow at low heads
#3	Primary	409.00'	10.0" Round Culvert L= 60.0' Ke= 0.900 Inlet / Outlet Invert= 409.00' / 408.90' S= 0.0017 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.55 sf
#4	Device 3	412.50'	24.0" x 24.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.92 cfs @ 12.02 hrs HW=412.62' (Free Discharge)

- ↑ **3=Culvert** (Passes 1.92 cfs of 3.59 cfs potential flow)
- ↑ **1=Exfiltration** (Exfiltration Controls 0.01 cfs)
- ↑ **2=Underdrain** (Orifice Controls 0.78 cfs @ 8.95 fps)
- ↑ **4=Grate** (Weir Controls 1.13 cfs @ 1.15 fps)

Watertown - Proposed

Prepared by Labella Associates

HydroCAD® 10.20-2g s/n 09581 © 2022 HydroCAD Software Solutions LLC

Watertown - Proposed

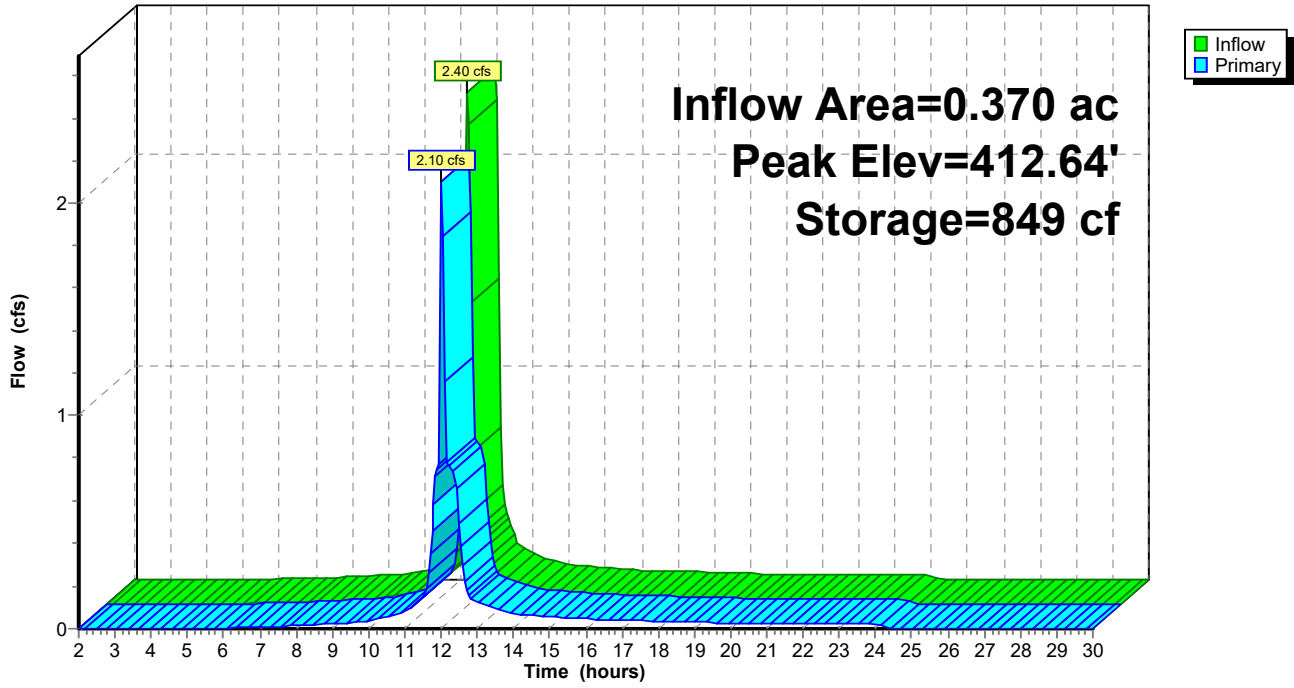
Type II 24-hr 100-yr Rainfall=5.49"

Printed 5/20/2023

Page 40

Pond DS 2: Dry Swale 2

Hydrograph



Watertown - Proposed

Prepared by Labella Associates

HydroCAD® 10.20-2g s/n 09581 © 2022 HydroCAD Software Solutions LLC

Watertown - Proposed

Type II 24-hr 100-yr Rainfall=5.49"

Printed 5/20/2023

Page 41

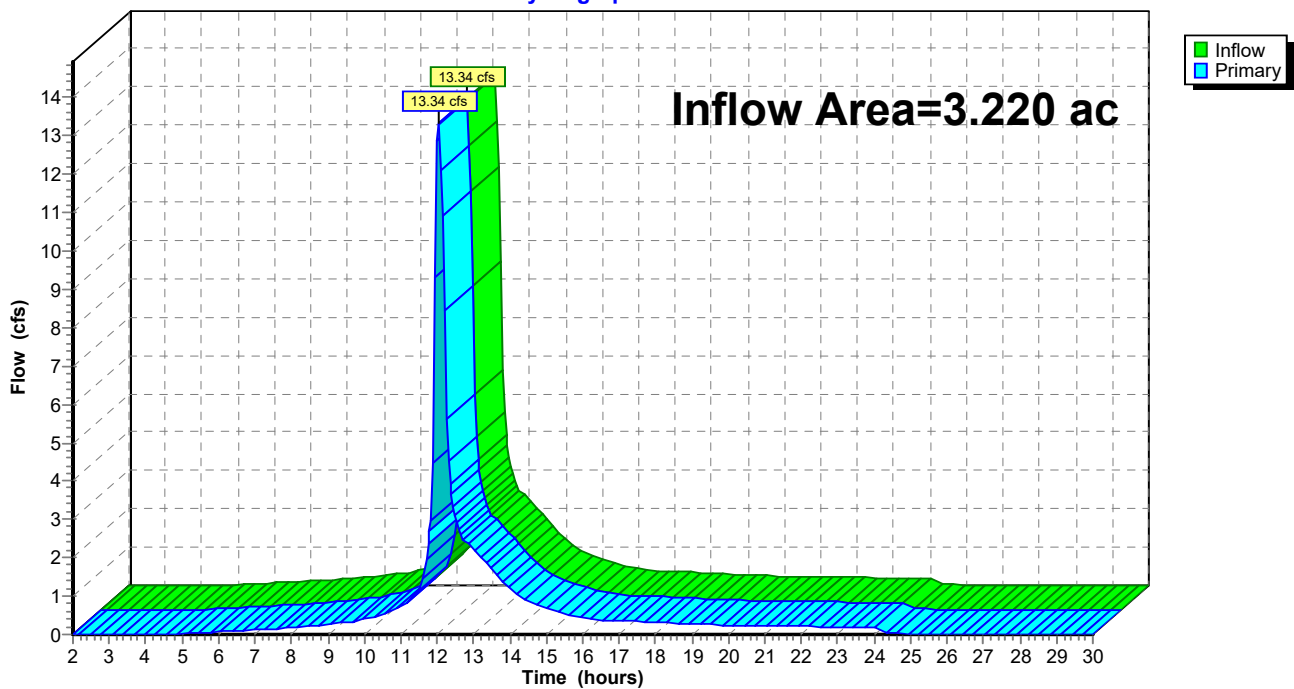
Summary for Link O-1: Wetland

Inflow Area = 3.220 ac, 51.24% Impervious, Inflow Depth = 4.28" for 100-yr event
Inflow = 13.34 cfs @ 12.04 hrs, Volume= 1.150 af
Primary = 13.34 cfs @ 12.04 hrs, Volume= 1.150 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 2.00-30.00 hrs, dt= 0.05 hrs

Link O-1: Wetland

Hydrograph



Watertown - Proposed

Prepared by Labella Associates

HydroCAD® 10.20-2g s/n 09581 © 2022 HydroCAD Software Solutions LLC

Watertown - Proposed

Type II 24-hr 100-yr Rainfall=5.49"

Printed 5/20/2023

Page 42

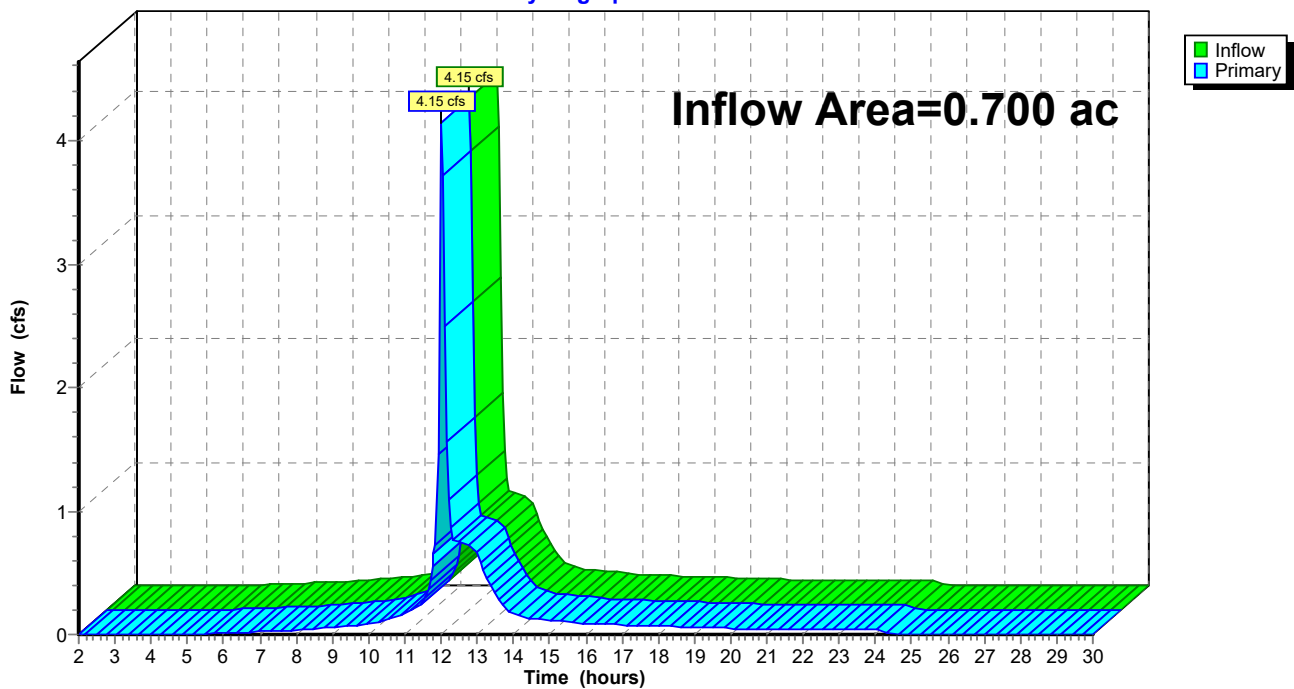
Summary for Link O-2: Catch Basin

Inflow Area = 0.700 ac, 51.43% Impervious, Inflow Depth = 4.24" for 100-yr event
Inflow = 4.15 cfs @ 12.02 hrs, Volume= 0.247 af
Primary = 4.15 cfs @ 12.02 hrs, Volume= 0.247 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 2.00-30.00 hrs, dt= 0.05 hrs

Link O-2: Catch Basin

Hydrograph



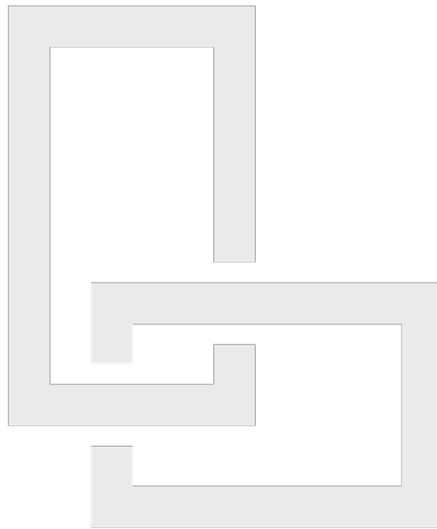


APPENDIX F:
SWPPP INSPECTION REPORT
(SAMPLE FORM)

Prepared by:
Choose an item.
Choose an item.
Choose an item.
Choose an item.



SWPPP INSPECTION REPORT NUMBER XX
CLIENT NAME
PROJECT NAME
PROJECT ADDRESS, TOWN OF X, X COUNTY, NY



Performed: 9/29/2021 @ 12:00 AM
Report Issued: 9/29/2021

Status: POTENTIAL CLEAN WATER ACT VIOLATION (Contractor must begin repairs within one (1) business day. Overdue corrective actions may result in fines from the NYSDEC in the amount of \$37,500/day/violation)

_____	_____
Qualified Inspector (name and title)	Qualified Professional (name and title)
_____	_____
Date	Date
_____	_____
Signature	Signature

NYSDEC Documentation and SWPPP Forms

NYSDEC Issued Permit Identification Number: NYRXXXXXX

5-Acre Waiver: N/A (No 5-acre waiver for this project - Contractor not authorized to disturb >5 acres)

303d Status: Project does not directly discharge to a 303d impaired waterbody

Number of Inspections required: 1 / week

Location of SWPPP and Site Log Book on-site:

YES	NO	N/A	CONTAINED IN SITE LOG BOOK?
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Preconstruction Assessment
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NOI Acknowledgement letter
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Copy of eNOI
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Owner / Operator Certification
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SWPPP Preparer Certification
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	MS4 SWPPP Acceptance Form
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Contractor and Subcontractor Certifications
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SPDES General Permit
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5 Acre Waiver
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NOT

Comments:

Site Conditions

Approximate Disturbed Area at Time of Inspection: XX Acres			
Allowable Disturbed Area Per NOI and/or 5-acre waiver: XX Acres			
Current Status of Construction: Description			
Weather Conditions: Conditions		Temperature: XX °F	
			Soil Conditions: Choose an item.
Description of Discharge Point/Natural Surface Waterbody	Condition of Runoff	Sediment Discharge Noted Y / N	Corrective Action

Erosion and Sediment Control Deficiencies and Corrective Actions

SWPPP Component	Functional Y / N / NA	Deficiency (See Checklist and/or note)	Deficiency Location	Initial Date	Corrective Action	Corrected Y / N
General Site Conditions						
Silt Fence						
Stabilized Construction Access						
Compost Filter Sock						
Inlet Protection						
Soil Stockpiles						
Temporary Stabilization						
Permanent Stabilization						
Dewatering Operations						
Stone Check Dams						
Rock Outlet Protection						
Sediment Traps and Basins						
Temporary Stream Crossing						
Pavement Sweeping						
Concrete Washout						
Filter Strips						
Slope Protection Measures						
Temporary Swales and Berms						
Temporary Parking Areas						
Fiber Roll						
Permanent Turf Reinforcement						
Water Bars						
Flow Diffusers						
Other:						

SWPPP Inspection Checklist and Deficiency Numbers

1 General Site Conditions

- 1A Adjoining properties are not protected from erosion and sediment deposition
- 1B Downstream waterways are not protected from erosion and sediment deposition
- 1C All E&SC measures have not been constructed as detailed in the SWPPP
- 1D Dust is not adequately controlled
- 1E Storage areas contain spills, leaks, or harmful materials
- 1F Garbage and waste building materials are not being managed properly
- 1G Temporary control measures that are no longer needed have not been removed
- 1H Permanent SWM practices not constructed per plans

2 Silt Fence

- 2A Silt fence not installed on contour
- 2B Silt fence not across conveyance channels
- 2C Silt fence not at least 10 feet from toe of slope
- 2D Silt fence not at appropriate spacing intervals based on slope
- 2E Silt fence ends are not wrapped for continuous support
- 2F Silt fence fabric is loose or contains rips or frayed areas
- 2G Silt fence posts are unstable
- 2H Silt fence is not buried 6 inches minimum
- 2I Silt fence contains bulges or material buildup

3 Stabilized Construction Access

- 3A Temporary construction access not installed or not per NYS standards
- 3B Other access areas have not been stabilized immediately as work takes place
- 3C Sediment has tracked onto public streets and is not being cleaned daily
- 3D Stone is not clean enough to effectively remove mud from vehicles
- 3E Adequate drainage not provided to prevent ponding

4 Compost Filter Sock

- 4A Filter sock not installed on contour
- 4B Filter sock terminal ends do not extend 8' upslope at 45° angle
- 4C Inappropriate diameter based on slope steepness and slope length
- 4D Filter sock not anchored at 10' intervals
- 4E More than 50% sediment has built up

5 Inlet Protection

- 5A Inlet protection not installed or installation is not per SWPPP or Blue Book specifications
- 5B Incorrect type(s) of inlet control installed or is inappropriate for location
- 5C Drainage area for inlet protection is greater than 1 acre
- 5D Sediment has not been removed when 50% of storage volume has been achieved
- 5E A 2" x 4" wood frame and wood posts has not been installed
- 5F Filter fabric is not buried a minimum of 1 foot below ground or secured to frame/posts
- 5G Posts are unstable, fabric is loose, and contains rips or frayed areas
- 5H Post spacing exceeds maximum 3' spacing

6 Soil Stockpiles

- 6A No sediment controls at downhill slope

7 Temporary Stabilization

- 7A Areas inactive for 14 days or more have not been stabilized (If <5 acres disturbed)
- 7B Areas inactive for 7 days or more have not been stabilized (If >5 acres disturbed or 303d)
- 7C Soil preparation has not been applied as specified in the SWPPP or the Blue Book
- 7D Rolled EC products specified for steep slopes or channels have not been installed

8 Permanent Stabilization

- 8A Lawn in disturbed areas has not been established to 80% germination
- 8B Soil preparation has not been applied as specified in the SWPPP or the Blue Book
- 8C Rolled EC products specified for steep slopes or channels have not been installed

9 Dewatering Operations

- 9A Upstream and downstream berms are not installed or functioning poorly
- 9B Clean water from upstream pool is not being pumped to the downstream pool
- 9C Sediment laden water from work area is not being discharged to a silt-trapping device
- 9D Groundwater from excavations managed improperly (No sumps/sediment control)

10 Stone Check Dam

- 10A Not installed per standards
- 10B Channel is unstable (flow is eroding soil underneath or around the structure)
- 10C Check dam in poor condition (rocks not in place or lack of geotextile fabric)
- 10D Sediment needs to be removed

11 Rock Outlet Protection

- 11A Rock outlet protection not installed per plan or Blue Book
- 11B Rock outlet protection not installed concurrently with pipe installation

12 Sediment Traps and Basins

- 12A Outlet structure constructed improperly
- 12B Geotextile fabric has not been placed beneath rock fill
- 12C Depth of sediment in basin has exceeded allowable threshold
- 12D Basin and outlet structure not constructed per the approved plan
- 12E Basin side slopes are not stabilized with seed/mulch
- 12F More than 50% capacity has built up

13 Temporary Stream Crossing

- 13A Construction crossings at concentrated flow areas have not been culverted

14 Pavement Sweeping

- 14A Pavement has not been swept daily and sediment has traveled into road

Stormwater Management Practice Deficiencies and Corrective Actions

Practice	Sign Y / N	Current Phase of Construction	Items Not in Conformance with SWPPP	Deficiency Location	Initial Date	Corrective Action	Corrected Y / N
Practice 1:							
Practice 2:							
Practice 3:							
Practice 4:							
Practice 5:							
Practice 6:							

Photo Log

Photo 1

Date - Item in need of repair or maintenance:

Photo 1A

Date - Corrected Action:

Photo 2

Date - Item in need of repair or maintenance:

Photo 2A

Date - Corrected Action:

Photo 3

Date - Item in need of repair or maintenance:

Photo 3A

Date - Corrected Action:

Photo Log (continued)

<p><u>Photo 4</u></p> <p><i>Date – Item in need of repair or maintenance:</i></p>	<p><u>Photo 4A</u></p> <p><i>Date – Corrected Action:</i></p>
<p><u>Photo 5</u></p> <p><i>Date – Item in need of repair or maintenance:</i></p>	<p><u>Photo 5A</u></p> <p><i>Date – Corrected Action:</i></p>
<p><u>Photo 6</u></p> <p><i>Date – Item in need of repair or maintenance:</i></p>	<p><u>Photo 6A</u></p> <p><i>Date – Corrected Action:</i></p>

Disturbance / Photo Location Map

Replace this page to include an 11x17 erosion control plan sketch to scale showing:

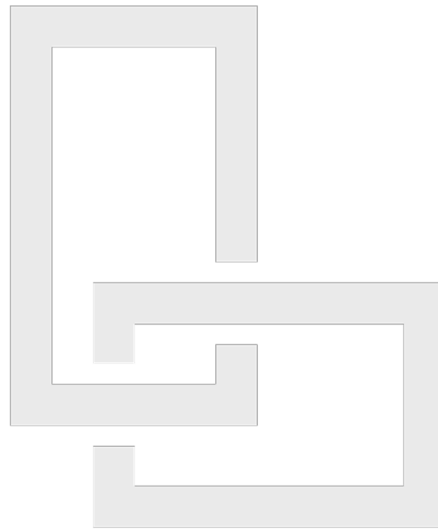
1. Areas with active soil disturbance activity
2. Areas that have been disturbed but are inactive at the time of the inspection
3. Areas that have been stabilized (temporary and/or final) since the last inspection
4. Limit of disturbance line per the SWPPP and the grading plan
5. Photo locations

Use Bluebeam template with standard colors to indicate limits

Prepared by:
Choose an item.
Choose an item.
Choose an item.
Choose an item.



SWPPP INSPECTION REPORT NUMBER XX
CLIENT NAME
PROJECT NAME
PROJECT ADDRESS, TOWN OF X, X COUNTY, NY



Performed: 9/29/2021 @ 12:00 AM
Report Issued: 9/29/2021

Status: POTENTIAL CLEAN WATER ACT VIOLATION (Contractor must begin repairs within one (1) business day. Overdue corrective actions may result in fines from the NYSDEC in the amount of \$37,500/day/violation)

_____	_____
Qualified Inspector (name and title)	Qualified Professional (name and title)
_____	_____
Date	Date
_____	_____
Signature	Signature

NYSDEC Documentation and SWPPP Forms

NYSDEC Issued Permit Identification Number: NYRXXXXXX

5-Acre Waiver: N/A (No 5-acre waiver for this project - Contractor not authorized to disturb >5 acres)

303d Status: Project does not directly discharge to a 303d impaired waterbody

Number of Inspections required: 1 / week

Location of SWPPP and Site Log Book on-site:

YES	NO	N/A	CONTAINED IN SITE LOG BOOK?
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Preconstruction Assessment
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NOI Acknowledgement letter
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Copy of eNOI
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Owner / Operator Certification
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SWPPP Preparer Certification
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	MS4 SWPPP Acceptance Form
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Contractor and Subcontractor Certifications
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SPDES General Permit
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5 Acre Waiver
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NOT

Comments:

Site Conditions

Approximate Disturbed Area at Time of Inspection: XX Acres			
Allowable Disturbed Area Per NOI and/or 5-acre waiver: XX Acres			
Current Status of Construction: Description			
Weather Conditions: Conditions		Temperature: XX °F	
			Soil Conditions: Choose an item.
Description of Discharge Point/Natural Surface Waterbody	Condition of Runoff	Sediment Discharge Noted Y / N	Corrective Action

Erosion and Sediment Control Deficiencies and Corrective Actions

SWPPP Component	Functional Y / N / NA	Deficiency (See Checklist and/or note)	Deficiency Location	Initial Date	Corrective Action	Corrected Y / N
General Site Conditions						
Silt Fence						
Stabilized Construction Access						
Compost Filter Sock						
Inlet Protection						
Soil Stockpiles						
Temporary Stabilization						
Permanent Stabilization						
Dewatering Operations						
Stone Check Dams						
Rock Outlet Protection						
Sediment Traps and Basins						
Temporary Stream Crossing						
Pavement Sweeping						
Concrete Washout						
Filter Strips						
Slope Protection Measures						
Temporary Swales and Berms						
Temporary Parking Areas						
Fiber Roll						
Permanent Turf Reinforcement						
Water Bars						
Flow Diffusers						
Other:						

SWPPP Inspection Checklist and Deficiency Numbers

1 General Site Conditions

- 1A Adjoining properties are not protected from erosion and sediment deposition
- 1B Downstream waterways are not protected from erosion and sediment deposition
- 1C All E&SC measures have not been constructed as detailed in the SWPPP
- 1D Dust is not adequately controlled
- 1E Storage areas contain spills, leaks, or harmful materials
- 1F Garbage and waste building materials are not being managed properly
- 1G Temporary control measures that are no longer needed have not been removed
- 1H Permanent SWM practices not constructed per plans

2 Silt Fence

- 2A Silt fence not installed on contour
- 2B Silt fence not across conveyance channels
- 2C Silt fence not at least 10 feet from toe of slope
- 2D Silt fence not at appropriate spacing intervals based on slope
- 2E Silt fence ends are not wrapped for continuous support
- 2F Silt fence fabric is loose or contains rips or frayed areas
- 2G Silt fence posts are unstable
- 2H Silt fence is not buried 6 inches minimum
- 2I Silt fence contains bulges or material buildup

3 Stabilized Construction Access

- 3A Temporary construction access not installed or not per NYS standards
- 3B Other access areas have not been stabilized immediately as work takes place
- 3C Sediment has tracked onto public streets and is not being cleaned daily
- 3D Stone is not clean enough to effectively remove mud from vehicles
- 3E Adequate drainage not provided to prevent ponding

4 Compost Filter Sock

- 4A Filter sock not installed on contour
- 4B Filter sock terminal ends do not extend 8' upslope at 45° angle
- 4C Inappropriate diameter based on slope steepness and slope length
- 4D Filter sock not anchored at 10' intervals
- 4E More than 50% sediment has built up

5 Inlet Protection

- 5A Inlet protection not installed or installation is not per SWPPP or Blue Book specifications
- 5B Incorrect type(s) of inlet control installed or is inappropriate for location
- 5C Drainage area for inlet protection is greater than 1 acre
- 5D Sediment has not been removed when 50% of storage volume has been achieved
- 5E A 2" x 4" wood frame and wood posts has not been installed
- 5F Filter fabric is not buried a minimum of 1 foot below ground or secured to frame/posts
- 5G Posts are unstable, fabric is loose, and contains rips or frayed areas
- 5H Post spacing exceeds maximum 3' spacing

6 Soil Stockpiles

- 6A No sediment controls at downhill slope

7 Temporary Stabilization

- 7A Areas inactive for 14 days or more have not been stabilized (If <5 acres disturbed)
- 7B Areas inactive for 7 days or more have not been stabilized (If >5 acres disturbed or 303d)
- 7C Soil preparation has not been applied as specified in the SWPPP or the Blue Book
- 7D Rolled EC products specified for steep slopes or channels have not been installed

8 Permanent Stabilization

- 8A Lawn in disturbed areas has not been established to 80% germination
- 8B Soil preparation has not been applied as specified in the SWPPP or the Blue Book
- 8C Rolled EC products specified for steep slopes or channels have not been installed

9 Dewatering Operations

- 9A Upstream and downstream berms are not installed or functioning poorly
- 9B Clean water from upstream pool is not being pumped to the downstream pool
- 9C Sediment laden water from work area is not being discharged to a silt-trapping device
- 9D Groundwater from excavations managed improperly (No sumps/sediment control)

10 Stone Check Dam

- 10A Not installed per standards
- 10B Channel is unstable (flow is eroding soil underneath or around the structure)
- 10C Check dam in poor condition (rocks not in place or lack of geotextile fabric)
- 10D Sediment needs to be removed

11 Rock Outlet Protection

- 11A Rock outlet protection not installed per plan or Blue Book
- 11B Rock outlet protection not installed concurrently with pipe installation

12 Sediment Traps and Basins

- 12A Outlet structure constructed improperly
- 12B Geotextile fabric has not been placed beneath rock fill
- 12C Depth of sediment in basin has exceeded allowable threshold
- 12D Basin and outlet structure not constructed per the approved plan
- 12E Basin side slopes are not stabilized with seed/mulch
- 12F More than 50% capacity has built up

13 Temporary Stream Crossing

- 13A Construction crossings at concentrated flow areas have not been culverted

14 Pavement Sweeping

- 14A Pavement has not been swept daily and sediment has traveled into road

Stormwater Management Practice Deficiencies and Corrective Actions

Practice	Sign Y / N	Current Phase of Construction	Items Not in Conformance with SWPPP	Deficiency Location	Initial Date	Corrective Action	Corrected Y / N
Practice 1:							
Practice 2:							
Practice 3:							
Practice 4:							
Practice 5:							
Practice 6:							

Photo Log

Photo 1

Date - Item in need of repair or maintenance:

Photo 1A

Date - Corrected Action:

Photo 2

Date - Item in need of repair or maintenance:

Photo 2A

Date - Corrected Action:

Photo 3

Date - Item in need of repair or maintenance:

Photo 3A

Date - Corrected Action:

Photo Log (continued)

<p><u>Photo 4</u></p> <p><i>Date - Item in need of repair or maintenance:</i></p>	<p><u>Photo 4A</u></p> <p><i>Date - Corrected Action:</i></p>
<p><u>Photo 5</u></p> <p><i>Date - Item in need of repair or maintenance:</i></p>	<p><u>Photo 5A</u></p> <p><i>Date - Corrected Action:</i></p>
<p><u>Photo 6</u></p> <p><i>Date - Item in need of repair or maintenance:</i></p>	<p><u>Photo 6A</u></p> <p><i>Date - Corrected Action:</i></p>

Disturbance / Photo Location Map

Replace this page to include an 11x17 erosion control plan sketch to scale showing:

1. Areas with active soil disturbance activity
2. Areas that have been disturbed but are inactive at the time of the inspection
3. Areas that have been stabilized (temporary and/or final) since the last inspection
4. Limit of disturbance line per the SWPPP and the grading plan
5. Photo locations

Use Bluebeam template with standard colors to indicate limits



APPENDIX G:
POST-CONSTRUCTION
INSPECTIONS AND MAINTENANCE

Disconnection and Sheetflow (Rooftop Disconnection, Filter Strip, Riparian Buffer)

Table 2.4.1 D&S Drainage Area




Problem (Check if Present)	Follow-Up Actions
 <ul style="list-style-type: none"> <input type="checkbox"/> Changes in flow; more runoff; runoff bypassing the practice 	<ul style="list-style-type: none"> <input type="checkbox"/> For rooftop areas, make sure downspouts are still disconnected and conveying water into the treatment area. <input type="checkbox"/> Look for and remove any "dams" of sediment and grass clippings that prevent water from entering the treatment area as sheet flow. <input type="checkbox"/> Other: <hr/> <ul style="list-style-type: none"> <input type="checkbox"/> Kick-Out to Level 2 Inspection: Changes to drainage area size or amount of runoff due to construction, tillage, etc.
 <ul style="list-style-type: none"> <input type="checkbox"/> For parking lots in the drainage area—sediment, grass clippings, or other debris has accumulated at pavement edge. 	<ul style="list-style-type: none"> <input type="checkbox"/> For small, isolated amounts of debris, sweep up by hand and dispose properly so that it will not be exposed to runoff. <input type="checkbox"/> Other: <hr/> <ul style="list-style-type: none"> <input type="checkbox"/> Kick-Out to Level 2 Inspection: Sediment is widespread and cannot be removed by manual sweeping.
 <ul style="list-style-type: none"> <input type="checkbox"/> For parking lots in the drainage area—dips or damage at pavement edge caused flow to concentrate. 	<ul style="list-style-type: none"> <input type="checkbox"/> Kick-Out to Level 2 Inspection: This will likely require special expertise to diagnose and fix pavement edge.

Table 2.4.2 D&S Level Spreader/Energy Dissipator





Problem (Check if Present)	Follow-Up Actions
 <p> <input type="checkbox"/> Debris and/or sediment accumulated behind or around the level spreader. </p>	<p> <input type="checkbox"/> Remove debris and sediment by hand and ensure that the area behind the level spreader is relatively flat. Too much debris and sediment can cause runoff to bypass the level spreader structure. </p> <p> <input type="checkbox"/> Other: </p>
 <p> <input type="checkbox"/> Sinking, cracking, sloughing, or other structural problem makes the energy dissipator no longer level. </p>	<p> <input type="checkbox"/> For stone/gravel spreaders, add new material or rake out as needed to make it even. </p> <p> <input type="checkbox"/> Other: </p> <div style="background-color: #cccccc; padding: 5px;"> <p> <input type="checkbox"/> Kick-Out to Level 2 Inspection: Structural issues that cannot be easily fixed by hand </p> </div>

Table 2.4.3 D&S Treatment Area

Problem (Check if Present)	Follow-Up Actions
<input type="checkbox"/> Trash and/or debris in the treatment area	<input type="checkbox"/> Collect trash/debris and dispose of properly.
 <input type="checkbox"/> Grass filter strip has grown very tall, to the point that runoff cannot easily enter or is getting concentrated.	<input type="checkbox"/> Mow filter strip twice a year or more frequently in a residential yard.
<input type="checkbox"/> Sparse vegetation or bare spots	<input type="checkbox"/> For grassy areas, add topsoil (as needed), grass seed mulch, and water during the growing season to re-establish consistent vegetation cover. <input type="checkbox"/> Other:
 <input type="checkbox"/> Rills or gullies are forming in treatment area where flow has become concentrated	<input type="checkbox"/> For minor rills, fill in with soil, compact, and add seed and straw to establish vegetation. <input type="checkbox"/> Other:
<input type="checkbox"/> Kick-Out to Level 2 Inspection: Rills are more than 2" to 3" deep and require more than just hand raking and re-seeding.	

Bioretention (Bioretention Cell, Dry Swale, Rain Garden, Stormwater Planters, Tree Pits)

Table 2.7.1 BR Drainage Area




Problem (Check if Present)	Follow-Up Actions
 <ul style="list-style-type: none"> <input type="checkbox"/> Bare soil, erosion of the ground (rills washing out the dirt) 	<ul style="list-style-type: none"> <input type="checkbox"/> Seed and mulch areas of bare soil to establish vegetation. <input type="checkbox"/> Fill in erosion areas with soil, compact, and seed and straw to establish vegetation. <input type="checkbox"/> If a rill or small channel is forming, try to redirect water flowing to this area by creating a small berm or adding topsoil to areas that are heavily compacted. <input type="checkbox"/> Other: <div style="background-color: #cccccc; padding: 5px;"> <ul style="list-style-type: none"> <input type="checkbox"/> Kick-Out to Level 2 Inspection: Large areas of soil have been eroded, or larger channels are forming. May require rerouting of flow paths. </div>
 <ul style="list-style-type: none"> <input type="checkbox"/> Piles of grass clippings, mulch, dirt, salt, or other materials 	<ul style="list-style-type: none"> <input type="checkbox"/> Remove or cover piles of grass clippings, mulch, dirt, etc. <input type="checkbox"/> Other:
 <ul style="list-style-type: none"> <input type="checkbox"/> Open containers of oil, grease, paint, or other substances 	<ul style="list-style-type: none"> <input type="checkbox"/> Cover or properly dispose of materials; consult your local solid waste authority for guidance on materials that may be toxic or hazardous. <input type="checkbox"/> Other:

Table 2.7.2 BR Inlets





Problem (Check if Present)	Follow-Up Actions
 <p><input type="checkbox"/> Inlets collect grit and debris or grass/weeds. Some water may not be getting into the Bioretention cell. The objective is to have a clear pathway for water to flow into the cell.</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Use a flat shovel to remove grit and debris (especially at curb inlets or openings). Parking lots generate fine grit that will accumulate at these spots. <input type="checkbox"/> Pull out clumps of growing grass or weeds and scoop out the soil or grit that the plants are growing in. <input type="checkbox"/> Remove any grass clippings, leaves, sticks, and other debris that is collecting at inlets. <input type="checkbox"/> For pipes and ditches, remove sediment and debris that is partially blocking the pipe or ditch opening where it enters the Bioretention cell. <input type="checkbox"/> Dispose of all material properly where it will not re-enter the Bioretention cell. <input type="checkbox"/> Other: <p><input type="checkbox"/> Kick-Out to Level 2 Inspection: Inlets are blocked to the extent that most of the water does not seem to be entering the Bioretention cell.</p>
 <p><input type="checkbox"/> Some or all of the inlets are eroding so that rills, gullies, and other erosion is present, or there is bare dirt that is washing into the Bioretention cell.</p>	<ul style="list-style-type: none"> <input type="checkbox"/> For small areas of erosion, smooth out the eroded part and apply rock or stone (e.g., river cobble) to prevent further erosion. Usually, filter fabric is placed under the rock or stone. <input type="checkbox"/> In some cases, reseeding and applying erosion-control matting can be used to prevent further erosion. Some of these materials may be available at a garden center, but it may be best to consult a landscape contractor. <input type="checkbox"/> Other: <p><input type="checkbox"/> Kick-Out to Level 2 Inspection: Erosion is occurring at most of the inlets, and it looks like there is too much water that is concentrating at these points. The inlet design may have to be modified.</p>

Table 2.7.3 BR Ponding Area

Problem (Check if Present)	Follow-Up Actions
 <p><input type="checkbox"/> Mulch (if used) needs to be replaced or replenished. The mulch layer had decomposed or is less than 1-inch thick.</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Add new mulch to a total depth (including any existing mulch that is left) of 2 to 3 inches. The mulch should be shredded hardwood mulch that is less likely to float away during rainstorms. <input type="checkbox"/> Avoid adding too much mulch so that inlets are obstructed or certain areas become higher than the rest of the Bioretention surface. <input type="checkbox"/> Other:
 <p><input type="checkbox"/> Minor areas of sediment, grit, trash, or other debris are accumulating on the bottom.</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Use a shovel to scoop out minor areas of sediment or grit, especially in the spring after winter sanding materials may wash in and accumulate. Dispose of the material where it cannot re-enter the Bioretention cell. <input type="checkbox"/> If removing the material creates a hole or low area, fill with soil mix that matches original mix and cover with mulch so that the Bioretention surface area is as flat as possible. <input type="checkbox"/> Remove trash, vegetative debris, and other undesirable materials. <input type="checkbox"/> Other: <div style="background-color: #e0e0e0; padding: 5px; margin-top: 10px;"> <ul style="list-style-type: none"> <input type="checkbox"/> Kick-Out to Level 2 Inspection: Sediment has accumulated more than 2-inches deep and covers 25% or more of the Bioretention surface. <input type="checkbox"/> Kick-Out to Level 2 Inspection: The Bioretention cell is too densely vegetated to assess sediment accumulation or ponding; see BR-4, Vegetation. </div>
 <p><input type="checkbox"/> There is erosion in the bottom or on the side slopes. Water seems to be carving out rills as it flows across the Bioretention surface or on the slopes, or sinkholes are forming in certain areas.</p> <p><input type="checkbox"/> Source: Stormwater Maintenance, LLC.</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Try filling the eroded areas with clean topsoil or sand, and cover with mulch. <input type="checkbox"/> If the problem recurs, you may have to use stone (e.g., river cobble) to fill in problem areas. <input type="checkbox"/> If the erosion is on a side slope, fill with clay that can be compacted and seed and mulch the area. <input type="checkbox"/> Other: <div style="background-color: #e0e0e0; padding: 5px; margin-top: 10px;"> <ul style="list-style-type: none"> <input type="checkbox"/> Kick-Out to Level 2 Inspection: The problem persists or the erosion is more than 3-inches deep and seems to be an issue with how water enters and moves through the Bioretention cell. <input type="checkbox"/> Kick-Out to Level 2 Inspection: The problem does not seem to be caused by flowing water, but a collapse or sinking of the surface (e.g., "sinkhole") due to some underground problem. </div>



- The bottom of the Bioretention cell is not flat, and the water pools at one end, along an edge, or in certain pockets. The whole bottom is not uniformly covered with water. See design plan to verify that Bioretention surface is intended to be flat. Check during or immediately after a rainstorm.

- If the problem is minor (just small, isolated areas are not covered with water), try raking the surface OR adding mulch to low spots to create a more level surface. You may need to remove and replace plantings in order to properly even off the surface.
- Check the surface with a string and bubble level to get the surface as flat as possible.
- Other:

- Kick-Out to Level 2 Inspection: Ponding water is isolated to less than half of the Bioretention surface area, and there seem to be elevation differences of more than a couple of inches across the surface.



- Water stands on the surface more than 72 hours after a rainstorm and /or wetland-type vegetation is present. The Bioretention cell does not appear to be draining properly.

- Kick-Out to Level 2 Inspection: This is generally a serious problem, and it will be necessary to activate a Level 2 Inspection.

Table 2.7.4 BR Vegetation




Problem (Check if Present)	Follow-Up Actions
 <p><input type="checkbox"/> Vegetation requires regular maintenance—pulling weeds, removing dead and diseased plants, replacing mulch around plants, adding plants to fill in areas that are not well vegetated, etc.</p>	<p><input type="checkbox"/> If you can identify which plants are weeds or not intended to be part of the planting plan, eliminate these, preferably by hand pulling.</p> <p><input type="checkbox"/> If weeds are widespread, check with the local stormwater authority and/or Extension Office about proper use of herbicides for areas connected with the flow of water.</p> <p><input type="checkbox"/> Even vegetation that is intended to be present can become large, overgrown, and/or crowd out surrounding plants. Prune and thin accordingly.</p> <p><input type="checkbox"/> If weeds or invasive plants have overtaken the whole Bioretention cell, bush-hog the entire area before seedheads form in the spring. It will be necessary to remove the root mat manually or with appropriate herbicides, as noted above.</p> <p><input type="checkbox"/> Re-plant with species that are aesthetically pleasing and seem to be doing well in the Bioretention cell.</p> <p><input type="checkbox"/> Other:</p> <hr/> <p><input type="checkbox"/> Kick-Out to Level 2 Inspection: You are unsure of the original planting design, or the vegetation maintenance task is beyond your capabilities of time, expertise, or resources. If you are unsure of the health of the vegetation (e.g. salt damage, invasives, which plants are undesirable) or the appropriate season to conduct vegetation management, consult a landscape professional before undertaking any cutting, pruning, mowing, or brush hogging.</p>
 <p><input type="checkbox"/> Vegetation is too thin, is not healthy, and there are many spots that are not well vegetated.</p>	<p><input type="checkbox"/> The original plants are likely not suited for the actual conditions within the Bioretention cell. If you are knowledgeable about plants, select and plant more appropriate vegetation (preferably native plants) so that almost the entire surface area will be covered by the end of the second growing season.</p> <p><input type="checkbox"/> Other:</p> <hr/> <p><input type="checkbox"/> Kick-Out to Level 2 Inspection: For all but small practices (e.g., rain gardens), this task will likely require a landscape design professional or horticulturalist.</p>

Table 2.7.5 BR Outlets


Problem (Check if Present)	Follow-Up Actions
<input type="checkbox"/> Erosion at outlet	<input type="checkbox"/> Add stone to reduce the impact from the water flowing out of the outlet pipe or weir during storms. <input type="checkbox"/> Other: <hr/> <input type="checkbox"/> Kick-Out to Level 2 Inspection: Rills have formed and erosion problem becomes more severe.
 <input type="checkbox"/> Outlet obstructed with mulch, sediment, debris, trash, etc.	<input type="checkbox"/> Remove the debris and dispose of it where it cannot re-enter the Bioretention cell. <input type="checkbox"/> Other: <hr/> <input type="checkbox"/> Kick-Out to Level 2 Inspection: Outlet is completely clogged or obstructed; there is too much material to remove by hand or with simple hand tools.

Bioretention Stormwater Management Practices Level 1 Inspection Checklist

SMP ID #		SMP Owner		<input type="checkbox"/> Private <input type="checkbox"/> Public
SMP Location (Address; Latitude & Longitude)				
	Latitude		Longitude	
Party Responsible for Maintenance	System Type		Type of Site	
<input type="checkbox"/> Same as SMP Owner <input type="checkbox"/> Other 	<input type="checkbox"/> Seasonal <input type="checkbox"/> Continuous Use <input type="checkbox"/> Other	<input type="checkbox"/> Above Ground <input type="checkbox"/> Below Ground	<input type="checkbox"/> Commercial <input type="checkbox"/> Industrial <input type="checkbox"/> Residential <input type="checkbox"/> State	
Inspection Date		Inspection Time		
Inspector				
Date of Last Inspection				




BR Drainage Area

Look for areas that are uphill from the Bioretention cell.

Problem (Check if Present)	Follow-Up Actions
 <input type="checkbox"/> Bare soil, erosion of the ground (rills washing out the dirt)	<input type="checkbox"/> Seed and mulch areas of bare soil to establish vegetation. <input type="checkbox"/> Fill in erosion areas with soil, compact, and seed and straw to establish vegetation. <input type="checkbox"/> If a rill or small channel is forming, try to redirect water flowing to this area by creating a small berm or adding topsoil to areas that are heavily compacted. <input type="checkbox"/> Other:



BR Drainage Area

Look for areas that are uphill from the Bioretention cell.

Problem (Check if Present)	Follow-Up Actions
	<ul style="list-style-type: none"> <input type="checkbox"/> Kick-Out to Level 2 Inspection: Large areas of soil have been eroded, or larger channels are forming. May require rerouting of flow paths.
 <ul style="list-style-type: none"> <input type="checkbox"/> Piles of grass clippings, mulch, dirt, salt, or other materials 	<ul style="list-style-type: none"> <input type="checkbox"/> Remove or cover piles of grass clippings, mulch, dirt, etc. <input type="checkbox"/> Other:
 <ul style="list-style-type: none"> <input type="checkbox"/> Open containers of oil, grease, paint, or other substances 	<ul style="list-style-type: none"> <input type="checkbox"/> Cover or properly dispose of materials; consult your local solid waste authority for guidance on materials that may be toxic or hazardous. <input type="checkbox"/> Other:



BR Inlets

Stand in the Bioretention cell itself and look for all the places where water flows in. Often there will be multiple points of inflow to the practice.

Problem (Check if Present)	Follow-Up Actions
 <p><input type="checkbox"/> Inlets collect grit and debris or grass/weeds. Some water may not be getting into the Bioretention cell. The objective is to have a clear pathway for water to flow into the cell.</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Use a flat shovel to remove grit and debris (especially at curb inlets or openings). Parking lots generate fine grit that will accumulate at these spots. <input type="checkbox"/> Pull out clumps of growing grass or weeds and scoop out the soil or grit that the plants are growing in. <input type="checkbox"/> Remove any grass clippings, leaves, sticks, and other debris that is collecting at inlets. <input type="checkbox"/> For pipes and ditches, remove sediment and debris that is partially blocking the pipe or ditch opening where it enters the Bioretention cell. <input type="checkbox"/> Dispose of all material properly where it will not re-enter the Bioretention cell. <input type="checkbox"/> Other: <div style="background-color: #e0e0e0; padding: 5px; margin-top: 10px;"> <p><input type="checkbox"/> Kick-Out to Level 2 Inspection: Inlets are blocked to the extent that most of the water does not seem to be entering the Bioretention cell.</p> </div>
 <p><input type="checkbox"/> Some or all of the inlets are eroding so that rills, gullies, and other erosion is present, or there is bare dirt that is washing into the Bioretention cell.</p>	<ul style="list-style-type: none"> <input type="checkbox"/> For small areas of erosion, smooth out the eroded part and apply rock or stone (e.g., river cobble) to prevent further erosion. Usually, filter fabric is placed under the rock or stone. <input type="checkbox"/> In some cases, reseeding and applying erosion-control matting can be used to prevent further erosion. Some of these materials may be available at a garden center, but it may be best to consult a landscape contractor. <input type="checkbox"/> Other: <div style="background-color: #e0e0e0; padding: 5px; margin-top: 10px;"> <p><input type="checkbox"/> Kick-Out to Level 2 Inspection: Erosion is occurring at most of the inlets, and it looks like there is too much water that is concentrating at these points. The inlet design may have to be modified.</p> </div>



BR Ponding Area

Examine the entire Bioretention surface and side slopes

Problem (Check if Present)	Follow-Up Actions
 <ul style="list-style-type: none"> <input type="checkbox"/> Mulch (if used) needs to be replaced or replenished. The mulch layer had decomposed or is less than 1-inch thick. 	<ul style="list-style-type: none"> <input type="checkbox"/> Add new mulch to a total depth (including any existing mulch that is left) of 2 to 3 inches. The mulch should be shredded hardwood mulch that is less likely to float away during rainstorms. <input type="checkbox"/> Avoid adding too much mulch so that inlets are obstructed or certain areas become higher than the rest of the Bioretention surface. <input type="checkbox"/> Other:
 <ul style="list-style-type: none"> <input type="checkbox"/> Minor areas of sediment, grit, trash, or other debris are accumulating on the bottom. 	<ul style="list-style-type: none"> <input type="checkbox"/> Use a shovel to scoop out minor areas of sediment or grit, especially in the spring after winter sanding materials may wash in and accumulate. Dispose of the material where it cannot re-enter the Bioretention cell . <input type="checkbox"/> If removing the material creates a hole or low area, fill with soil mix that matches original mix and cover with mulch so that the Bioretention surface area is as flat as possible. <input type="checkbox"/> Remove trash, vegetative debris, and other undesirable materials. <input type="checkbox"/> Other: <div style="background-color: #e0e0e0; padding: 10px; margin-top: 10px;"> <ul style="list-style-type: none"> <input type="checkbox"/> Kick-Out to Level 2 Inspection: Sediment has accumulated more than 2-inches deep and covers 25% or more of the Bioretention surface. <input type="checkbox"/> Kick-Out to Level 2 Inspection: The Bioretention cell is too densely vegetated to assess sediment accumulation or ponding; see BR-4, Vegetation. </div>


BR Ponding Area

Examine the entire Bioretention surface and side slopes

Problem (Check if Present)	Follow-Up Actions
 <ul style="list-style-type: none"> <input type="checkbox"/> There is erosion in the bottom or on the side slopes. Water seems to be carving out rills as it flows across the Bioretention surface or on the slopes, or sinkholes are forming in certain areas. <input type="checkbox"/> Source: Stormwater Maintenance, LLC. 	<ul style="list-style-type: none"> <input type="checkbox"/> Try filling the eroded areas with clean topsoil or sand, and cover with mulch. <input type="checkbox"/> If the problem recurs, you may have to use stone (e.g., river cobble) to fill in problem areas. <input type="checkbox"/> If the erosion is on a side slope, fill with clay that can be compacted and seed and mulch the area. <input type="checkbox"/> Other:
 <ul style="list-style-type: none"> <input type="checkbox"/> The bottom of the Bioretention cell is not flat, and the water pools at one end, along an edge, or in certain pockets. The whole bottom is not uniformly covered with water. See design plan to verify that bioretention surface is intended to be flat. Check during or immediately after a rainstorm. 	<ul style="list-style-type: none"> <input type="checkbox"/> Kick-Out to Level 2 Inspection: The problem persists or the erosion is more than 3-inches deep and seems to be an issue with how water enters and moves through the Bioretention cell. <input type="checkbox"/> Kick-Out to Level 2 Inspection: The problem does not seem to be caused by flowing water, but a collapse or sinking of the surface (e.g., "sinkhole") due to some underground problem.
<ul style="list-style-type: none"> <input type="checkbox"/> If the problem is minor (just small, isolated areas are not covered with water), try raking the surface OR adding mulch to low spots to create a more level surface. You may need to remove and replace plantings in order to properly even off the surface. <input type="checkbox"/> Check the surface with a string and bubble level to get the surface as flat as possible. <input type="checkbox"/> Other: 	<ul style="list-style-type: none"> <input type="checkbox"/> Kick-Out to Level 2 Inspection: Ponding water is isolated to less than half of the Bioretention surface area, and there seem to be elevation differences of more than a couple of inches across the surface.


BR Ponding Area

Examine the entire Bioretention surface and side slopes

Problem (Check if Present)	Follow-Up Actions
 <p><input type="checkbox"/> Water stands on the surface more than 72 hours after a rainstorm and /or wetland-type vegetation is present. The Bioretention cell does not appear to be draining properly.</p>	<p><input type="checkbox"/> Kick-Out to Level 2 Inspection: This is generally a serious problem, and it will be necessary to activate a Level 2 Inspection.</p>


BR Vegetation

Examine all Bioretention cell vegetation.

Problem (Check if Present)	Follow-Up Actions
 <p><input type="checkbox"/> Vegetation requires regular maintenance—pulling weeds, removing dead and diseased plants, replacing mulch around plants, adding plants to fill in areas that are not well vegetated, etc.</p>	<p><input type="checkbox"/> If you can identify which plants are weeds or not intended to be part of the planting plan, eliminate these, preferably by hand pulling.</p> <p><input type="checkbox"/> If weeds are widespread, check with the local stormwater authority and/or Extension Office about proper use of herbicides for areas connected with the flow of water.</p> <p><input type="checkbox"/> Even vegetation that is intended to be present can become large, overgrown, and/or crowd out surrounding plants. Prune and thin accordingly.</p> <p><input type="checkbox"/> If weeds or invasive plants have overtaken the whole Bioretention cell, bush-hog the entire area before seedheads form in the spring. It will be necessary to remove the root mat manually or with appropriate herbicides, as noted above.</p> <p><input type="checkbox"/> Re-plant with species that are aesthetically pleasing and seem to be doing well in the Bioretention cell.</p> <p><input type="checkbox"/> Other:</p> <p><input type="checkbox"/> Kick-Out to Level 2 Inspection: You are unsure of the original planting design, or the vegetation maintenance task is beyond your capabilities of time, expertise, or resources. If you are unsure of the health of the vegetation (e.g. salt damage, invasives, which plants are undesirable) or the appropriate season to conduct vegetation management, consult a landscape professional before undertaking any cutting, pruning, mowing, or brush hogging.</p>


BR Vegetation

Examine all Bioretention cell vegetation.

Problem (Check if Present)	Follow-Up Actions
 <p><input type="checkbox"/> Vegetation is too thin, is not healthy, and there are many spots that are not well vegetated.</p>	<p><input type="checkbox"/> The original plants are likely not suited for the actual conditions within the Bioretention cell . If you are knowledgeable about plants, select and plant more appropriate vegetation (preferably native plants) so that almost the entire surface area will be covered by the end of the second growing season.</p> <p><input type="checkbox"/> Other:</p> <hr style="border: 0.5px solid black;"/> <p><input type="checkbox"/> Kick-Out to Level 2 Inspection: For all but small practices (e.g., rain gardens), this task will likely require a landscape design professional or horticulturalist.</p>

BR Outlets

Examine outlets that release water out of the Bioretention cell.

Problem (Check if Present)	Follow-Up Actions
<p><input type="checkbox"/> Erosion at outlet</p>	<p><input type="checkbox"/> Add stone to reduce the impact from the water flowing out of the outlet pipe or weir during storms.</p> <p><input type="checkbox"/> Other:</p> <hr style="border: 0.5px solid black;"/> <p><input type="checkbox"/> Kick-Out to Level 2 Inspection: Rills have formed and erosion problem becomes more severe.</p>
 <p><input type="checkbox"/> Outlet obstructed with mulch, sediment, debris, trash, etc.</p>	<p><input type="checkbox"/> Remove the debris and dispose of it where it cannot re-enter the Bioretention cell .</p> <p><input type="checkbox"/> Other:</p> <hr style="border: 0.5px solid black;"/> <p><input type="checkbox"/> Kick-Out to Level 2 Inspection: Outlet is completely clogged or obstructed; there is too much material to remove by hand or with simple hand tools.</p>

Additional Notes:

Inspector: _____

Date: _____

Complete the following if follow-up/corrective actions were identified during this inspection:

Certified Completion of Follow-Up Actions:

“I hereby certify that the follow-up/corrective actions identified in the inspection performed on _____ (DATE) have been completed and any required maintenance deficiencies have been adequately corrected.”

Inspector/Operator: _____

Date: _____

Bioretention Stormwater Management Practices Level 2 Inspection Checklist

SMP ID #		SMP Owner		<input type="checkbox"/> Private
				<input type="checkbox"/> Public
SMP Location (Address; Latitude & Longitude)				
	Latitude		Longitude	
Party Responsible for Maintenance	System Type		Type of Site	
<input type="checkbox"/> Same as SMP Owner <input type="checkbox"/> Other _____	<input type="checkbox"/> Seasonal <input type="checkbox"/> Continuous Use <input type="checkbox"/> Other	<input type="checkbox"/> Above Ground <input type="checkbox"/> Below Ground	<input type="checkbox"/> Commercial <input type="checkbox"/> Industrial <input type="checkbox"/> Residential <input type="checkbox"/> State	
Inspection Date		Inspection Time		
Inspector				
Date of Last Inspection				

Level 2 Inspection: BIORETENTION
NOTE: Key Source for this Information (CSN, 2013)

Recommended Repairs	Triggers for Level 3 Inspection
Observed Condition: Water Stands on Surface for More than 72 Hours after Storm	
<input type="checkbox"/> Condition 1: Small pockets of standing water Use a soil probe or auger to examine the soil profile. If isolated areas have accumulated grit, fines, or vegetative debris or have bad soil media, try scraping off top 3 inches of media and replacing with clean material. Also check to see that surface is level and water is not ponding selectively in certain areas. <input type="checkbox"/> Condition 2: Standing water is widespread or covers entire surface Requires diagnosis and resolution of problem: <ul style="list-style-type: none"> • Clogged underdrain? • Filter fabric between soil media and underdrain stone? • Need to install underdrain if not present? • Too much sediment/grit washing in from drainage area? • Too much ponding depth? • Improper soil media? 	<ul style="list-style-type: none"> • Soil media is clogged and problem is not evident from Level 2 inspection. • Level 2 inspection identifies problem, but it cannot be resolved easily or is associated with the original design of the practice. <input type="checkbox"/> Level 3 inspection necessary
Observed Condition: Vegetation is sparse or out of control	
<input type="checkbox"/> Condition 1: Original design planting plan seems good but has not been maintained, so there are many invasives and/or dead plants Will require some horticultural experience to restore vegetation to intended condition by weeding, pruning, removing plants, and adding new plants. <input type="checkbox"/> Condition 2: Original design planting plan is unknown or cannot be actualized A landscape architect or horticulturalist will be needed to redo the planting plan. Will likely require analysis of soil pH, moisture, organic content, sun/shade, and other conditions to make sure plants match conditions. Plan should include invasive plant management and maintenance plan to include mulching, watering, disease intervention, periodic thinning/pruning, etc.	<ul style="list-style-type: none"> • Vegetation deviates significantly from original planting plan; Bioretention has been neglected and suffered from deferred maintenance. • Owner/responsible party does not know how to maintain the practice. <input type="checkbox"/> Level 3 inspection necessary
Observed Condition: Bioretention does not conform to original design plan in surface area or storage	
<input type="checkbox"/> Condition 1: Level 2 Inspection reveals that practice is too small based on design dimension, does not have adequate storage (e.g., ponding depth) based on the plan, and/or does not treat the drainage area runoff as indicated on the plan Small areas of deviation can be corrected by the property owner or responsible party, but it is likely that a Qualified Professional will have to revisit the design and attempt a redesign that meets original objectives or that can be resubmitted to the municipality for approval.	<ul style="list-style-type: none"> • More than a 25% departure from the approved plan in surface area, storage, or drainage area; sometimes less than this threshold at the discretion of the Level 2 inspector. <input type="checkbox"/> Level 3 inspection necessary

Level 2 Inspection: BIORETENTION
NOTE: Key Source for this Information (CSN, 2013)

Recommended Repairs	Triggers for Level 3 Inspection
Observed Condition: Severe erosion of filter bed, inlets, or around outlets	
<p><input type="checkbox"/> Condition 1: Erosion at inlets</p> <p>The lining (e.g., grass, matting, stone, rock) may not be adequate for the actual flow velocities coming through the inlets. First line of defense is to try a more non-erosive lining and/or to extend the lining further down to where inlet slopes meet the Bioretention surface. If problem persists, analysis by a Qualified Professional is warranted.</p> <p><input type="checkbox"/> Condition 2: Erosion of Bioretention filter bed</p> <p>This is often caused by “preferential flow paths” through and along the Bioretention surface. The source of flow should be analyzed and methods employed to dissipate energy and disperse the flow (e.g., check dams, rock splash pads).</p> <p><input type="checkbox"/> Condition 3: Erosion on side slopes</p> <p>Again, the issue is likely linked with unanticipated flow paths down the side slopes (probably overland flow that concentrates as it hits the edge of the slope). For small or isolated areas, try filling, compacting, and re-establishing healthy ground cover vegetation. If the problem is more widespread, further analysis is required to determine how to redirect the flow.</p>	<ul style="list-style-type: none"> • Erosion (rills, gullies) is more than 12 inches deep at inlets or the filter bed or more than 3 inches deep on side slopes. • If the issue is not caused by moving water but some sort of subsurface defect. This may manifest as a sinkhole or linear depression and be associated with problems with the underdrain stone or pipe or underlying soil. <p><input type="checkbox"/> Level 3 inspection necessary</p>
Observed Condition: Significant sediment accumulation, indicating an uncontrolled source of sediment	
<p><input type="checkbox"/> Condition 1: Isolated areas of sediment accumulation, generally less than 3-inches deep</p> <p>Sediment source may be from a one-time or isolated event. Remove accumulated sediment and top 2 to 3 inches of Bioretention soil media; replace with clean material. Check drainage area for any ongoing sources of sediment.</p> <p><input type="checkbox"/> Condition 2: Majority of the surface is caked with “hard pan” (thin layer of clogging material) or accumulated sediment that is 3-inches deep or more</p> <p>This can be caused by an improper construction sequence (drainage area not fully stabilized prior to installation of Bioretention soil media) or another chronic source of sediment in the drainage area. Augering several holes down through the media can indicate how severe the problem is; often the damage is confined to the first several inches of soil media. Removing and replacing this top layer (or to the depth where sediment incursion is seen in auger holes) can be adequate, as long as the problem does not recur.</p>	<ul style="list-style-type: none"> • More than 2 inches of accumulated sediment cover 25% or more of the Bioretention surface area. • “Hard pan” of thin, crusty layer covers majority of Bioretention surface area and seems to be impeding flow of water down through the soil media. • New sources of sediment seem to be accumulating with each significant rainfall event. <p><input type="checkbox"/> Level 3 inspection necessary</p>

Notes:

Inspector: _____

Date: _____

Complete the following if follow-up/corrective actions were identified during this inspection:

Certified Completion of Follow-Up Actions:

“I hereby certify that the follow-up/corrective actions identified in the inspection performed on _____ (DATE) have been completed and any required maintenance deficiencies have been adequately corrected.”

Inspector/Operator: _____

Date: _____

Disconnection & Sheetflow Stormwater Management Practices Level 1 Inspection Checklist

SMP ID #		SMP Owner		<input type="checkbox"/> Private
				<input type="checkbox"/> Public
SMP Location (Address; Latitude & Longitude)				
	Latitude		Longitude	
Party Responsible for Maintenance	System Type		Type of Site	
<input type="checkbox"/> Same as SMP Owner <input type="checkbox"/> Other _____	<input type="checkbox"/> Seasonal <input type="checkbox"/> Continuous Use <input type="checkbox"/> Other	<input type="checkbox"/> Above Ground <input type="checkbox"/> Below Ground	<input type="checkbox"/> Commercial <input type="checkbox"/> Industrial <input type="checkbox"/> Residential <input type="checkbox"/> State	
Inspection Date		Inspection Time		
Inspector				
Date of Last Inspection				

Table 2.4.1 D&S Drainage Area

Visually inspect any surfaces in the drainage area.


Problem (Check if Present)	Follow-Up Actions
 <div style="margin-left: 100px;"> <input type="checkbox"/> Changes in flow; more runoff; runoff bypassing the practice </div>	<input type="checkbox"/> For rooftop areas, make sure downspouts are still disconnected and conveying water into the treatment area. <input type="checkbox"/> Look for and remove any “dams” of sediment and grass clippings that prevent water from entering the treatment area as sheet flow. <input type="checkbox"/> Other:

Table 2.4.1 D&S Drainage Area

Visually inspect any surfaces in the drainage area.





Problem (Check if Present)	Follow-Up Actions
	<ul style="list-style-type: none"> <input type="checkbox"/> Kick-Out to Level 2 Inspection: Changes to drainage area size or amount of runoff due to construction, tillage, etc.
	<ul style="list-style-type: none"> <input type="checkbox"/> For parking lots in the drainage area—sediment, grass clippings, or other debris has accumulated at pavement edge. <input type="checkbox"/> Other:
	<ul style="list-style-type: none"> <input type="checkbox"/> Kick-Out to Level 2 Inspection: Sediment is widespread and cannot be removed by manual sweeping.
	<ul style="list-style-type: none"> <input type="checkbox"/> For parking lots in the drainage area—dips or damage at pavement edge caused flow to concentrate. <input type="checkbox"/> Kick-Out to Level 2 Inspection: This will likely require special expertise to diagnose and fix pavement edge.

Table 2.4.2 D&S Level Spreader/Energy Dissipator

Inspect the energy dissipator closely, during a rain event if possible.



Problem (Check if Present)	Follow-Up Actions	
	<input type="checkbox"/> Debris and/or sediment accumulated behind or around the level spreader.	<input type="checkbox"/> Remove debris and sediment by hand and ensure that the area behind the level spreader is relatively flat. Too much debris and sediment can cause runoff to bypass the level spreader structure. <input type="checkbox"/> Other:
	<input type="checkbox"/> Sinking, cracking, sloughing, or other structural problem makes the energy dissipator no longer level.	<input type="checkbox"/> For stone/gravel spreaders, add new material or rake out as needed to make it even. <input type="checkbox"/> Other: <input type="checkbox"/> Kick-Out to Level 2 Inspection: Structural issues that cannot be easily fixed by hand

Table 2.4.3 D&S Treatment Area

Examine where flow enters the treatment area as well as the whole flow path. Look for signs of concentrated flow.



Problem (Check if Present)	Follow-Up Actions	
<input type="checkbox"/> Trash and/or debris in the treatment area	<input type="checkbox"/> Collect trash/debris and dispose of properly.	
	<input type="checkbox"/> Grass filter strip has grown very tall, to the point that runoff cannot easily enter or is getting concentrated.	<input type="checkbox"/> Mow filter strip twice a year or more frequently in a residential yard.

Table 2.4.3 D&S Treatment Area

Examine where flow enters the treatment area as well as the whole flow path. Look for signs of concentrated flow.

Problem (Check if Present)	Follow-Up Actions
<input type="checkbox"/> Sparse vegetation or bare spots	<input type="checkbox"/> For grassy areas, add topsoil (as needed), grass seed, mulch, and water during the growing season to re-establish consistent vegetation cover. <input type="checkbox"/> Other:
 <input type="checkbox"/> Rills or gullies are forming in treatment area where flow has become concentrated	<input type="checkbox"/> For minor rills, fill in with soil, compact, and add seed and straw to establish vegetation. <input type="checkbox"/> Other: <input type="checkbox"/> Kick-Out to Level 2 Inspection: Rills are more than 2" to 3" deep and require more than just hand raking and re-seeding.

Additional Notes:

Inspector: _____

Date: _____

Complete the following if follow-up/corrective actions were identified during this inspection:

Certified Completion of Follow-Up Actions:

“I hereby certify that the follow-up/corrective actions identified in the inspection performed on _____ (DATE) have been completed and any required maintenance deficiencies have been adequately corrected.”

Inspector/Operator: _____

Date: _____

Disconnection & Sheetflow Stormwater Management Practices Level 2 Inspection Checklist

SMP ID #		SMP Owner		<input type="checkbox"/> Private
				<input type="checkbox"/> Public
SMP Location (Address; Latitude & Longitude)				
	Latitude		Longitude	
Party Responsible for Maintenance	System Type		Type of Site	
<input type="checkbox"/> Same as SMP Owner <input type="checkbox"/> Other _____	<input type="checkbox"/> Seasonal <input type="checkbox"/> Continuous Use <input type="checkbox"/> Other	<input type="checkbox"/> Above Ground <input type="checkbox"/> Below Ground	<input type="checkbox"/> Commercial <input type="checkbox"/> Industrial <input type="checkbox"/> Residential <input type="checkbox"/> State	
Inspection Date		Inspection Time		
Inspector				
Date of Last Inspection				

Level 2 Inspection – DISCONNECTION AND SHEETFLOW

Recommended Repairs	Triggers for Level 3 Inspection
Observed Condition: Significant sediment on pavement that drains to disconnection area (e.g., grass strip)	
<p><input type="checkbox"/> Condition 1: Sediment on parking lot is widespread</p> <p>Enlist a mechanical sweeper or vacuum sweeper to remove sediment across entire pavement surface. Pay special attention to downhill edges of pavement where more sediment may have accumulated.</p>	<ul style="list-style-type: none"> Sediment accumulation is so serious that it cannot be sufficiently removed with mechanical sweeper. May indicate a high sediment load from uphill in the drainage area that needs to be mitigated. <p><input type="checkbox"/> Level 3 inspection necessary</p>
Observed Condition: Pavement edge deteriorating	
<p><input type="checkbox"/> Condition 1: Dips or damage at pavement edge causing runoff to concentrate</p> <p>Determine whether the damaged edge is causing significant enough concentration of runoff to warrant repair or regrading of the pavement.</p>	<ul style="list-style-type: none"> Edge must be patched or re-paved to make secure and level. Parking lot not draining properly to the energy dissipator and treatment area. <p><input type="checkbox"/> Level 3 inspection necessary</p>
Observed Condition: Level spreader/energy dissipator	
<p><input type="checkbox"/> Condition 1: Level spreader sinking or uneven</p> <p>If basic equipment can be used, prop up and secure any section of level spreader that is sinking. Regrade soil all around level spreader and add stone as necessary to prevent erosion and bypassing.</p> <p><input type="checkbox"/> Condition 2: Level spreader is broken</p> <p>These repairs can be simple for small, residential-scale practices, such as at a downspout. Ensure the level spreader is level across, keyed in to soil at the edges, and made of durable material that can withstand the flow of water running across it.</p> <p>Larger or more complicated level spreaders (e.g., concrete) will likely require specialized skill and equipment.</p>	<ul style="list-style-type: none"> Level spreader requires specialized equipment, regrading, or large amount of material to make level again. Level spreader needs to be re-designed and replaced. <p><input type="checkbox"/> Level 3 inspection necessary</p>

Level 2 Inspection – DISCONNECTION AND SHEETFLOW

Recommended Repairs	Triggers for Level 3 Inspection
Observed Condition: Erosion in treatment area	
<p><input type="checkbox"/> Condition 1: Rills from concentrated flow</p> <p>Inspect energy dissipator to see whether it needs to be improved to better spread out incoming flow. Regrade flow path to ensure that it is relatively flat (if minor). If major re-grading is needed, the treatment area may need to be redesigned and fixed with specialized equipment.</p>	<ul style="list-style-type: none"> • Major rills and gullies • Treatment area needs to be re-designed and major grading needed. <p><input type="checkbox"/> Level 3 inspection necessary</p>

Notes:

Inspector: _____

Date: _____

Complete the following if follow-up/corrective actions were identified during this inspection:

Certified Completion of Follow-Up Actions:

“I hereby certify that the follow-up/corrective actions identified in the inspection performed on _____ (DATE) have been completed and any required maintenance deficiencies have been adequately corrected.”

Inspector/Operator: _____

Date: _____

Disconnection and Sheetflow (Rooftop Disconnection, Filter Strip, Riparian Buffer)

Table 2.4.1 D&S Drainage Area




Table 2.4.1 D&S Drainage Area	
Problem (Check if Present)	Follow-Up Actions
 <ul style="list-style-type: none"> <input type="checkbox"/> Changes in flow; more runoff; runoff bypassing the practice 	<ul style="list-style-type: none"> <input type="checkbox"/> For rooftop areas, make sure downspouts are still disconnected and conveying water into the treatment area. <input type="checkbox"/> Look for and remove any "dams" of sediment and grass clippings that prevent water from entering the treatment area as sheet flow. <input type="checkbox"/> Other: <hr/> <ul style="list-style-type: none"> <input type="checkbox"/> Kick-Out to Level 2 Inspection: Changes to drainage area size or amount of runoff due to construction, tillage, etc.
 <ul style="list-style-type: none"> <input type="checkbox"/> For parking lots in the drainage area—sediment, grass clippings, or other debris has accumulated at pavement edge. 	<ul style="list-style-type: none"> <input type="checkbox"/> For small, isolated amounts of debris, sweep up by hand and dispose properly so that it will not be exposed to runoff. <input type="checkbox"/> Other: <hr/> <ul style="list-style-type: none"> <input type="checkbox"/> Kick-Out to Level 2 Inspection: Sediment is widespread and cannot be removed by manual sweeping.
 <ul style="list-style-type: none"> <input type="checkbox"/> For parking lots in the drainage area—dips or damage at pavement edge caused flow to concentrate. 	<ul style="list-style-type: none"> <input type="checkbox"/> Kick-Out to Level 2 Inspection: This will likely require special expertise to diagnose and fix pavement edge.

Table 2.4.2 D&S Level Spreader/Energy Dissipator





Problem (Check if Present)	Follow-Up Actions
 <ul style="list-style-type: none"> <input type="checkbox"/> Debris and/or sediment accumulated behind or around the level spreader. 	<ul style="list-style-type: none"> <input type="checkbox"/> Remove debris and sediment by hand and ensure that the area behind the level spreader is relatively flat. Too much debris and sediment can cause runoff to bypass the level spreader structure. <input type="checkbox"/> Other:
 <ul style="list-style-type: none"> <input type="checkbox"/> Sinking, cracking, sloughing, or other structural problem makes the energy dissipator no longer level. 	<ul style="list-style-type: none"> <input type="checkbox"/> For stone/gravel spreaders, add new material or rake out as needed to make it even. <input type="checkbox"/> Other: <div style="background-color: #cccccc; padding: 5px;"> <ul style="list-style-type: none"> <input type="checkbox"/> Kick-Out to Level 2 Inspection: Structural issues that cannot be easily fixed by hand </div>

Table 2.4.3 D&S Treatment Area

Problem (Check if Present)		Follow-Up Actions
<input type="checkbox"/> Trash and/or debris in the treatment area		<input type="checkbox"/> Collect trash/debris and dispose of properly.
 <input type="checkbox"/> Grass filter strip has grown very tall, to the point that runoff cannot easily enter or is getting concentrated.		<input type="checkbox"/> Mow filter strip twice a year or more frequently in a residential yard.
<input type="checkbox"/> Sparse vegetation or bare spots		<input type="checkbox"/> For grassy areas, add topsoil (as needed), grass seed mulch, and water during the growing season to re-establish consistent vegetation cover. <input type="checkbox"/> Other:
 <input type="checkbox"/> Rills or gullies are forming in treatment area where flow has become concentrated		<input type="checkbox"/> For minor rills, fill in with soil, compact, and add seed and straw to establish vegetation. <input type="checkbox"/> Other:
		<input type="checkbox"/> Kick-Out to Level 2 Inspection: Rills are more than 2" to 3" deep and require more than just hand raking and re-seeding.

Bioretention (Bioretention Cell, Dry Swale, Rain Garden, Stormwater Planters, Tree Pits)

Table 2.7.1 BR Drainage Area




Table 2.7.1 BR Drainage Area	
Problem (Check if Present)	Follow-Up Actions
 <ul style="list-style-type: none"> <input type="checkbox"/> Bare soil, erosion of the ground (rills washing out the dirt) 	<ul style="list-style-type: none"> <input type="checkbox"/> Seed and mulch areas of bare soil to establish vegetation. <input type="checkbox"/> Fill in erosion areas with soil, compact, and seed and straw to establish vegetation. <input type="checkbox"/> If a rill or small channel is forming, try to redirect water flowing to this area by creating a small berm or adding topsoil to areas that are heavily compacted. <input type="checkbox"/> Other: <div style="background-color: #d3d3d3; padding: 5px; margin-top: 5px;"> <ul style="list-style-type: none"> <input type="checkbox"/> Kick-Out to Level 2 Inspection: Large areas of soil have been eroded, or larger channels are forming. May require rerouting of flow paths. </div>
 <ul style="list-style-type: none"> <input type="checkbox"/> Piles of grass clippings, mulch, dirt, salt, or other materials 	<ul style="list-style-type: none"> <input type="checkbox"/> Remove or cover piles of grass clippings, mulch, dirt, etc. <input type="checkbox"/> Other:
 <ul style="list-style-type: none"> <input type="checkbox"/> Open containers of oil, grease, paint, or other substances 	<ul style="list-style-type: none"> <input type="checkbox"/> Cover or properly dispose of materials; consult your local solid waste authority for guidance on materials that may be toxic or hazardous. <input type="checkbox"/> Other:

Table 2.7.2 BR Inlets



Problem (Check if Present)	Follow-Up Actions
 <p><input type="checkbox"/> Inlets collect grit and debris or grass/weeds. Some water may not be getting into the Bioretention cell. The objective is to have a clear pathway for water to flow into the cell.</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Use a flat shovel to remove grit and debris (especially at curb inlets or openings). Parking lots generate fine grit that will accumulate at these spots. <input type="checkbox"/> Pull out clumps of growing grass or weeds and scoop out the soil or grit that the plants are growing in. <input type="checkbox"/> Remove any grass clippings, leaves, sticks, and other debris that is collecting at inlets. <input type="checkbox"/> For pipes and ditches, remove sediment and debris that is partially blocking the pipe or ditch opening where it enters the Bioretention cell. <input type="checkbox"/> Dispose of all material properly where it will not re-enter the Bioretention cell. <input type="checkbox"/> Other: <p><input type="checkbox"/> Kick-Out to Level 2 Inspection: Inlets are blocked to the extent that most of the water does not seem to be entering the Bioretention cell.</p>
 <p><input type="checkbox"/> Some or all of the inlets are eroding so that rills, gullies, and other erosion is present, or there is bare dirt that is washing into the Bioretention cell.</p>	<ul style="list-style-type: none"> <input type="checkbox"/> For small areas of erosion, smooth out the eroded part and apply rock or stone (e.g., river cobble) to prevent further erosion. Usually, filter fabric is placed under the rock or stone. <input type="checkbox"/> In some cases, reseeding and applying erosion-control matting can be used to prevent further erosion. Some of these materials may be available at a garden center, but it may be best to consult a landscape contractor. <input type="checkbox"/> Other: <p><input type="checkbox"/> Kick-Out to Level 2 Inspection: Erosion is occurring at most of the inlets, and it looks like there is too much water that is concentrating at these points. The inlet design may have to be modified.</p>

Table 2.7.3 BR Ponding Area

Problem (Check if Present)	Follow-Up Actions
 <p><input type="checkbox"/> Mulch (if used) needs to be replaced or replenished. The mulch layer had decomposed or is less than 1-inch thick.</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Add new mulch to a total depth (including any existing mulch that is left) of 2 to 3 inches. The mulch should be shredded hardwood mulch that is less likely to float away during rainstorms. <input type="checkbox"/> Avoid adding too much mulch so that inlets are obstructed or certain areas become higher than the rest of the Bioretention surface. <input type="checkbox"/> Other:
 <p><input type="checkbox"/> Minor areas of sediment, grit, trash, or other debris are accumulating on the bottom.</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Use a shovel to scoop out minor areas of sediment or grit, especially in the spring after winter sanding materials may wash in and accumulate. Dispose of the material where it cannot re-enter the Bioretention cell. <input type="checkbox"/> If removing the material creates a hole or low area, fill with soil mix that matches original mix and cover with mulch so that the Bioretention surface area is as flat as possible. <input type="checkbox"/> Remove trash, vegetative debris, and other undesirable materials. <input type="checkbox"/> Other: <div style="background-color: #e0e0e0; padding: 5px; margin-top: 10px;"> <ul style="list-style-type: none"> <input type="checkbox"/> Kick-Out to Level 2 Inspection: Sediment has accumulated more than 2-inches deep and covers 25% or more of the Bioretention surface. <input type="checkbox"/> Kick-Out to Level 2 Inspection: The Bioretention cell is too densely vegetated to assess sediment accumulation or ponding; see BR-4, Vegetation. </div>
 <p><input type="checkbox"/> There is erosion in the bottom or on the side slopes. Water seems to be carving out rills as it flows across the Bioretention surface or on the slopes, or sinkholes are forming in certain areas.</p> <p><input type="checkbox"/> Source: Stormwater Maintenance, LLC.</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Try filling the eroded areas with clean topsoil or sand, and cover with mulch. <input type="checkbox"/> If the problem recurs, you may have to use stone (e.g., river cobble) to fill in problem areas. <input type="checkbox"/> If the erosion is on a side slope, fill with clay that can be compacted and seed and mulch the area. <input type="checkbox"/> Other: <div style="background-color: #e0e0e0; padding: 5px; margin-top: 10px;"> <ul style="list-style-type: none"> <input type="checkbox"/> Kick-Out to Level 2 Inspection: The problem persists or the erosion is more than 3-inches deep and seems to be an issue with how water enters and moves through the Bioretention cell. <input type="checkbox"/> Kick-Out to Level 2 Inspection: The problem does not seem to be caused by flowing water, but a collapse or sinking of the surface (e.g., "sinkhole") due to some underground problem. </div>



- The bottom of the Bioretention cell is not flat, and the water pools at one end, along an edge, or in certain pockets. The whole bottom is not uniformly covered with water. See design plan to verify that Bioretention surface is intended to be flat. Check during or immediately after a rainstorm.

- If the problem is minor (just small, isolated areas are not covered with water), try raking the surface OR adding mulch to low spots to create a more level surface. You may need to remove and replace plantings in order to properly even off the surface.
- Check the surface with a string and bubble level to get the surface as flat as possible.
- Other:

- Kick-Out to Level 2 Inspection: Ponding water is isolated to less than half of the Bioretention surface area, and there seem to be elevation differences of more than a couple of inches across the surface.



- Water stands on the surface more than 72 hours after a rainstorm and /or wetland-type vegetation is present. The Bioretention cell does not appear to be draining properly.

- Kick-Out to Level 2 Inspection: This is generally a serious problem, and it will be necessary to activate a Level 2 Inspection.

Table 2.7.4 BR Vegetation




Problem (Check if Present)	Follow-Up Actions
 <p><input type="checkbox"/> Vegetation requires regular maintenance—pulling weeds, removing dead and diseased plants, replacing mulch around plants, adding plants to fill in areas that are not well vegetated, etc.</p>	<ul style="list-style-type: none"> <input type="checkbox"/> If you can identify which plants are weeds or not intended to be part of the planting plan, eliminate these, preferably by hand pulling. <input type="checkbox"/> If weeds are widespread, check with the local stormwater authority and/or Extension Office about proper use of herbicides for areas connected with the flow of water. <input type="checkbox"/> Even vegetation that is intended to be present can become large, overgrown, and/or crowd out surrounding plants. Prune and thin accordingly. <input type="checkbox"/> If weeds or invasive plants have overtaken the whole Bioretention cell, bush-hog the entire area before seedheads form in the spring. It will be necessary to remove the root mat manually or with appropriate herbicides, as noted above. <input type="checkbox"/> Re-plant with species that are aesthetically pleasing and seem to be doing well in the Bioretention cell. <input type="checkbox"/> Other: <hr/> <p><input type="checkbox"/> Kick-Out to Level 2 Inspection: You are unsure of the original planting design, or the vegetation maintenance task is beyond your capabilities of time, expertise, or resources. If you are unsure of the health of the vegetation (e.g. salt damage, invasives, which plants are undesirable) or the appropriate season to conduct vegetation management, consult a landscape professional before undertaking any cutting, pruning, mowing, or brush hogging.</p>
 <p><input type="checkbox"/> Vegetation is too thin, is not healthy, and there are many spots that are not well vegetated.</p>	<ul style="list-style-type: none"> <input type="checkbox"/> The original plants are likely not suited for the actual conditions within the Bioretention cell. If you are knowledgeable about plants, select and plant more appropriate vegetation (preferably native plants) so that almost the entire surface area will be covered by the end of the second growing season. <input type="checkbox"/> Other: <hr/> <p><input type="checkbox"/> Kick-Out to Level 2 Inspection: For all but small practices (e.g., rain gardens), this task will likely require a landscape design professional or horticulturalist.</p>

Table 2.7.5 BR Outlets

Problem (Check if Present)	Follow-Up Actions
<input type="checkbox"/> Erosion at outlet	<input type="checkbox"/> Add stone to reduce the impact from the water flowing out of the outlet pipe or weir during storms. <input type="checkbox"/> Other: <hr/> <input type="checkbox"/> Kick-Out to Level 2 Inspection: Rills have formed and erosion problem becomes more severe.
 <input type="checkbox"/> Outlet obstructed with mulch, sediment, debris, trash, etc.	<input type="checkbox"/> Remove the debris and dispose of it where it cannot re-enter the Bioretention cell. <input type="checkbox"/> Other: <hr/> <input type="checkbox"/> Kick-Out to Level 2 Inspection: Outlet is completely clogged or obstructed; there is too much material to remove by hand or with simple hand tools.



APPENDIX H:
NYSDEC “DEEP-RIPPING AND
DECOMPACTION,” APRIL 2008

This Page Intentionally Left Blank



New York State
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Water

Deep-Ripping and Decompaction

April 2008

Document Prepared by:

John E. Lacey,
Land Resource Consultant and Environmental Compliance Monitor
(Formerly with the Division of Agricultural Protection and Development Services,
NYS Dept. of Agriculture & Markets)

New York State
Department of Environmental Conservation

Alternative Stormwater Management
Deep-Ripping and Decompaction

Description

The two-phase practice of 1) “Deep Ripping,” and 2) “Decompaction” (deep subsoiling), of the soil material as a step in the cleanup and restoration/landscaping of a construction site, helps mitigate the physically induced impacts of soil compression; i.e.: soil compaction or the substantial increase in the bulk density of the soil material.

Deep Ripping and Decompaction are key factors which help in restoring soil pore space and permeability for water infiltration. Conversely, the physical actions of cut-and-fill work, land grading, the ongoing movement of construction equipment and the transport of building materials throughout a site alter the architecture and structure of the soil, resulting in: the mixing of layers (horizons) of soil materials, compression of those materials and diminished soil porosity which, if left unchecked, severely impairs the soil’s water holding capacity and vertical drainage (rainfall infiltration), from the surface downward.

In a humid climate region, compaction damage on a site is virtually guaranteed over the duration of a project. Soil in very moist to wet condition when compacted, will have severely reduced permeability. Figure 1 displays the early stage of the deep-ripping phase (Note that all topsoil was stripped prior to construction access, and it remains stockpiled until the next phase – decompaction – is complete). A heavy-duty tractor is pulling a three-shank ripper on the first of several series of incrementally deepening passes through the construction access corridor’s densely compressed subsoil material. Figure 2 illustrates the approximate volumetric composition of a loam surface soil when conditions are good for plant growth, with adequate natural pore space for fluctuating moisture conditions.



Fig. 1. A typical deep ripping phase of this practice, during the first in a series of progressively deeper “rips” through severely compressed subsoil.

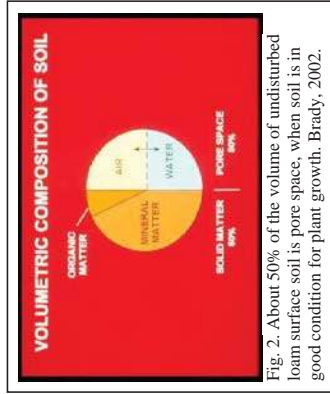


Fig.2. About 50% of the volume of undisturbed loam surface soil is pore space, when soil is in good condition for plant growth. Brady, 2002.

Recommended Application of Practice

The objective of Deep Ripping and Decompaction is to effectively fracture (vertically and laterally) through the thickness of the physically compressed subsoil material (see Figure 3), restoring soil porosity and permeability and aiding infiltration to help reduce runoff. Together with topsoil stripping, the “two-phase” practice of Deep Ripping and Decompaction first became established as a “best management practice” through ongoing success on commercial farmlands affected by heavy utility construction right-of-way projects (transmission pipelines and large power lines).



Fig. 3. Construction site with significant compaction of the deep basal till subsoil extends 24 inches below this exposed cut-and-fill work surface.

Soil permeability, soil drainage and cropland productivity were restored. For broader construction application, the two-phase practice of Deep Ripping and Decompaction is best adapted to areas impacted with significant soil compaction, on contiguous open portions of large construction sites and inside long, open construction corridors used as temporary access over the duration of construction. Each mitigation area should have minimal above-and-below-ground obstructions for the easy avoidance and maneuvering of a large tractor and ripping/decompacting implements. Conversely, the complete two-phase practice is not recommended in congested or obstructed areas due to the limitations on tractor and implement movement.

Benefits

Aggressive “deep ripping” through the compressed thickness of exposed subsoil before the replacement/respreading of the topsoil layer, followed by “decompaction,” i.e.: “sub-soiling,” through the restored topsoil layer down into the subsoil, offers the following benefits:

- Increases the project (larger size) area’s direct surface infiltration of rainfall by providing the open site’s mitigated soil condition and lowers the demand on concentrated runoff control structures
- Enhances direct groundwater recharge through greater dispersion across and through a broader surface than afforded by some runoff-control structural measures
- Decreases runoff volume generated and provides hydrologic source control
- May be planned for application in feasible open locations either alone or in

conjunction with plans for structural practices (e.g., subsurface drain line or infiltration basin) serving the same or contiguous areas

- Promotes successful long-term revegetation by restoring soil permeability, drainage and water holding capacity for healthy (rather than restricted) root-system development of trees, shrubs and deep rooted ground cover, minimizing plant drowning during wet periods and burnout during dry periods.

Feasibility/Limitations

The effectiveness of Deep Ripping and Decompaction is governed mostly by site factors such as: the original (undisturbed) soil's hydrologic characteristics; the general slope; local weather/timing (soil moisture) for implementation; the space-related freedom of equipment/implementation maneuverability (noted above in **Recommended Application of Practice**), and by the proper selection and operation of tractor and implements (explained below in **Design Guidance**). The more notable site-related factors include:

Soil

In the undisturbed condition, each identified soil type comprising a site is grouped into one of four categories of soil hydrology, Hydrologic Soil Group A, B, C or D, determined primarily by a range of characteristics including soil texture, drainage capability when thoroughly wet, and depth to water table. The natural rates of infiltration and transmission of soil-water through the undisturbed soil layers for Group A is "high" with a low runoff potential while soils in Group B are moderate in infiltration and the transmission of soil-water with a moderate runoff potential, depending somewhat on slope. Soils in Group C have slow rates of infiltration and transmission of soil-water and a moderately high runoff potential influenced by soil texture and slope; while soils in Group D have exceptionally slow rates of infiltration and transmission of soil-water, and high runoff potential.

In Figure 4, the profile displays the undisturbed horizons of a soil in Hydrologic Soil Group C and the naturally slow rate of infiltration through the subsoil. The slow rate of infiltration begins immediately below the topsoil horizon (30 cm), due to the limited amount of macro pores, e.g.: natural subsoil fractures, worm holes and root channels. Infiltration after the construction-induced mixing and compression of such subsoil material is virtually absent; but can be restored back to this natural level with the two-phase practice of deep ripping and decompaction, followed by the permanent establishment of an appropriate, deep taproot

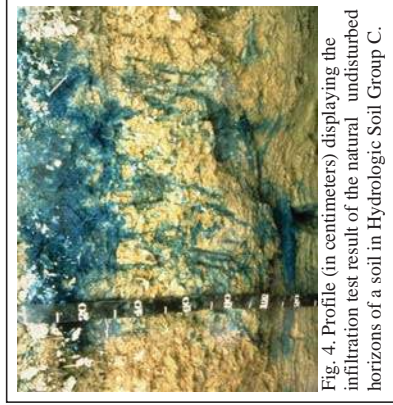


Fig. 4. Profile (in centimeters) displaying the infiltration test result of the natural undisturbed horizons of a soil in Hydrologic Soil Group C.

lawn/ground cover to help maintain the restored subsoil structure. Infiltration after construction-induced mixing and compression of such subsoil material can be notably rehabilitated with the Deep Ripping and Decompaction practice, which prepares the site for the appropriate long-term lawn/ground cover mix including deep taproot plants such as clover, fescue or trefoil, etc. needed for all rehabilitated soils.

Generally, soils in Hydrologic Soil Groups A and B, which respectively may include deep, well-drained, sandy-gravelly materials or deep, moderately well-drained basal till materials, are among the easier ones to restore permeability and infiltration, by deep ripping and decompaction. Among the many different soils in Hydrologic Soil Group C are those unique glacial tills having a natural fragipan zone, beginning about 12 to 18 inches (30 – 45cm), below surface. Although soils in Hydrologic Soil Group C do require a somewhat more carefully applied level of the Deep Ripping and Decompaction practice, it can greatly benefit such affected areas by reducing the runoff and fostering infiltration to a level equal to that of pre-disturbance.

Soils in Hydrologic Soil Group D typically have a permanent high water table close to the surface, influenced by a clay or other highly impervious layer of material. In many locations with clay subsoil material, the bulk density is so naturally high that heavy trafficking has little or no added impact on infiltration; and structural runoff control practices rather than Deep Ripping and Decompaction should be considered.

The information about Hydrologic Soil Groups is merely a general guideline. Site-specific data such as limited depths of cut-and-fill grading with minimal removal or translocation of the inherent subsoil materials (as analyzed in the county soil survey) or, conversely, the excavation and translocation of deeper, unconsolidated substratum or consolidated bedrock materials (unlike the analyzed subsoil horizons' materials referred to in the county soil survey) should always be taken into account.

Sites made up with significant quantities of large rocks, or having a very shallow depth to bedrock, are not conducive to deep ripping and decompaction (subsoiling); and other measures may be more practical.

Slope

The two-phase application of 1) deep ripping and 2) decompaction (deep subsoiling), is most practical on flat, gentle and moderate slopes. In some situations, such as but not limited to temporary construction access corridors, inclusion areas that are moderately steep along a project's otherwise gentle or moderate slope may also be deep ripped and decompacted. For limited instances of moderate steepness on other projects, however, the post-construction land use and the relative alignment of the potential ripping and decompaction work in relation to the lay of the slope should be reviewed for safety and practicality. In broad construction areas predominated by moderately steep or steep slopes, the practice is generally not used.

Local Weather/Timing/Soil Moisture

Effective fracturing of compressed subsoil material from the exposed work surface, laterally and vertically down through the affected zone is achieved only when the soil material is moderately dry to moderately moist. Neither one of the two-phases, deep ripping nor decompaction (deep

subsoiling), can be effectively conducted when the soil material (subsoil or replaced topsoil) is in either a “plastic” or “liquid” state of soil consistency. Pulling the respective implements legs through the soil when it is overly moist only results in the “slicing and smearing” of the material or added “squeezing and compression” instead of the necessary fracturing. Ample drying time is needed for a “rippable” soil condition not merely in the material close to the surface, but throughout the material located down to the bottom of the physically compressed zone of the subsoil.

The “poor man’s Atterberg field test” for soil plasticity is a simple “hand-roll” method used for quick, on-site determination of whether or not the moisture level of the affected soil material is low enough for: effective deep ripping of subsoil; respreading of topsoil in a friable state; and final decompaction (deep subsoiling). Using a sample of soil material obtained from the planned bottom depth of ripping, e.g.: 20 - 24 inches below exposed subsoil surface, the sample is hand rolled between the palms down to a 1/8-inch diameter thread. (Use the same test for stored topsoil material before respreading on the site.) If the respective soil sample crumbles apart in segments no greater than 3/8 of an inch long, by the time it is rolled down to 1/8 inch diameter, it is low enough in moisture for deep ripping (or topsoil replacement), and decompaction. Conversely, as shown in Figure 5, if the rolled sample stretches out in increments greater than 3/8 of an inch long before crumbling, it is in a “plastic” state of soil consistency and is too wet for subsoil ripping (as well as topsoil replacement) and final decompaction.



Fig. 5. Augered from a depth of 19 inches below the surface of the replaced topsoil, this subsoil sample was hand rolled to a 1/8-inch diameter. The test shows the soil at this site stretches out too far without crumbling; it indicates the material is in a plastic state of consistency, too wet for final decompaction (deep subsoiling) at this time.

Design Guidance

Beyond the above-noted site factors, a vital requirement for the effective Deep Ripping and Decompaction (deep subsoiling), is implementing the practice in its distinct, two-phase process:

- 1) Deep rip the affected thickness of exposed subsoil material (see Figure 10 and 11), aggressively fracturing it before the protected topsoil is reapplied on the site (see Figure 12); and
- 2) Decompact (deep subsoil), simultaneously through the restored topsoil layer and the upper half of the affected subsoil (Figure 13). The second phase, “decompaction,” mitigates the partial recompaction which occurs during the heavy process of topsoil spreading/grading. Prior to deep ripping and decompacting the site, all construction activity, including construction equipment and material storage, site cleanup and trafficking (Figure 14), should be finished; and the site closed off to further disturbance. Likewise, once the practice is underway and the area’s soil permeability and

rainfall infiltration are being restored, a policy limiting all further traffic to permanent travel lanes is maintained.

The other critical elements, outlined below, are: using the proper implements (deep, heavy-duty rippers and subsoilers), and ample pulling-power equipment (tractors); and conducting the practice at the appropriate speed, depth and pattern(s) of movement.

Note that an appropriate plan for the separate practice of establishing a healthy perennial ground cover, with deep rooting to help maintain the restored soil structure, should be developed in advance. This may require the assistance of an agronomist or landscape horticulturist.

Implements

Avoid the use of all undersize implements. The small-to-medium, light-duty tool will, at best, only “scarify” the uppermost surface portion of the mass of compacted subsoil material. The term “chisel plow” is commonly but incorrectly applied to a broad range of implements. While a few may be adapted for the moderate subsoiling of non-impacted soils, the majority are less durable and used for only lighter land-fitting (see Figure 6).



Fig. 6. A light duty chisel implement, not adequate for either the deep ripping or decompaction (deep subsoiling) phase.



Fig. 7. One of several variations of an agricultural ripper. This unit has long, rugged shanks mounted on a steel V-frame for deep, aggressive fracturing through Phase 1.

Use a “heavy duty” agricultural-grade, deep ripper (see Figures 7,9,10 and 11) for the first phase: the lateral and vertical fracturing of the mass of exposed and compressed subsoil, down and through, to the bottom of impact, prior to the replacement of the topsoil layer. (Any oversize rocks which are uplifted to the subsoil surface during the deep ripping phase are picked and removed.) Like the heavy-duty class of implement for the first phase, the decompaction (deep subsoiling) of Phase 2 is conducted with the heavy-duty version of the deep subsoiler. More preferable is the angled-leg variety of deep subsoiler (shown in Figures 8 and 13). It minimizes the inversion of the subsoil and topsoil layers while laterally and vertically fracturing the upper half of the previously ripped subsoil layer and all of the topsoil layer by delivering a momentary, wave-like “lifting and shattering” action up through the soil layers as it is pulled.

Pulling-Power of Equipment

Use the following rule of thumb for tractor horsepower (hp) whenever deep ripping and decompaction a significantly impacted site: For both types of implement, have at least 40 hp of tractor pull available for each mounted shank/leg.

Using the examples of a 3-shank and a 5-shank implement, the respective tractors should have 120 and 200 hp available for fracturing down to the final depth of 20-to-24 inches per phase. Final depth for the deep ripping in Phase 1 is achieved incrementally by a progressive series of passes (see Depth and Patterns of Movement, below); while for Phase 2, the full operating depth of the deep subsoiler is applied from the beginning.

The operating speed for pulling both types of implement should not exceed 2 to 3 mph. At this slow and managed rate of operating speed, maximum functional performance is sustained by the tractor and the implement performing the soil fracturing. Referring to Figure 8, the implement is the 6-leg version of the deep angled-leg subsoiler. Its two outside legs are “chained up” so that only four legs will be engaged (at the maximum depth), requiring no less than 160 hp. (rather than 240 hp) of pull. The 4-wheel drive, articulated-frame tractor in Figure 8 is 174 hp. It will be decompacting this unobstructed, former construction access area simultaneously through 11 inches of replaced topsoil and the upper 12 inches of the previously deep-ripped subsoil. In constricted areas of Phase 1) Deep Ripping, a medium-size tractor with adequate hp, such as the one in Figure 9 pulling a 3-shank deep ripper, may be more maneuverable.

Some industrial-grade variations of ripping implements are attached to power graders and bulldozers. Although highly durable, they are generally not recommended. Typically, the shanks or “teeth” of these rippers are too short and stout; and they are mounted too far apart to achieve the well-distributed type of lateral and vertical fracturing of the soil materials necessary to restore soil permeability and infiltration. In addition, the power graders and bulldozers, as pullers, are far less maneuverable for turns and patterns than the tractor.



Fig. 8. A deep, angled-leg subsoiler, ideal for Phase 2 decompaction of after the topsoil layer is graded on top of the ripped subsoil.



Fig. 9. This medium tractor is pulling a 3-shank deep ripper. The severely compacted construction access corridor is narrow, and the 120 hp tractor is more maneuverable for Phase 1 deep ripping (subsoil fracturing), here.

Depth and Patterns of Movement

As previously noted both Phase 1 Deep Ripping through significantly compressed, exposed subsoil and Phase 2 Decompaction (deep subsoiling) through the replaced topsoil and upper subsoil need to be performed at maximum capable depth of each implement. With an implement's guide wheels attached, some have a “normal” maximum operating depth of 18 inches, while others may go deeper. In many situations, however, the tractor/implement operator must first remove the guide wheels and other non essential elements from the implement. This adapts the ripper or the deep subsoiler for skillful pulling with its frame only a few inches above surface, while the shanks or legs, fracture the soil material 20-to-24 inches deep.

There may be construction sites where the depth of the exposed subsoil's compression is moderate, e.g.: 12 inches, rather than deep. This can be verified by using a 3/4 inch cone penetrometer and a shovel to test the subsoil for its level of compaction, incrementally, every three inches of increasing depth. Once the full thickness of the subsoil's compacted zone is finally “pieced” and there is a significant drop in the psi measurements of the soil penetrometer, the depth/thickness of compaction is determined. This is repeated at several representative locations of the construction site. If the thickness of the site's subsoil compaction is verified as, for example, ten inches, then the Phase 1 Deep Ripping can be correspondingly reduced to the implement's minimum operable depth of 12 inches. However, the Phase 2 simultaneous Decompaction (subsoiling) of an 11 inch thick layer of replaced topsoil and the upper subsoil should run at the subsoiling implements full operating depth.

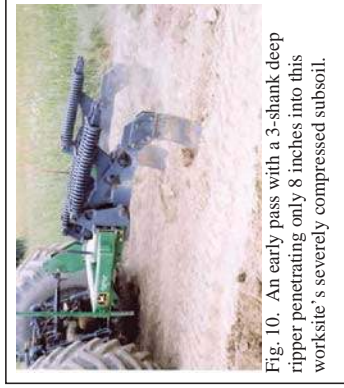


Fig. 10. An early pass with a 3-shank deep ripper penetrating only 8 inches into this worksite's severely compressed subsoil.



Fig. 11. A repeat run of the 3-shank ripper along the same patterned pass area as Fig. 9; here, incrementally reaching 18 of the needed 22 inches of subsoil fracture.

Typically, three separate series (patterns) are used for both the Phase 1 Deep Ripping and the Phase 2 Decompaction on significantly compacted sites. For Phase 1, each series begins with a moderate depth of rip and, by repeat-pass, continues until full depth is reached. Phase 2 applies the full depth of Decompaction (subsoiling), from the beginning.

Every separate series (pattern) consists of parallel, forward-and-return runs, with each progressive

pass of the implement's legs or shanks evenly staggered between those from the previous pass. This compensates for the shank or leg-spacing on the implement, e.g., with 24-to-30 inches between each shank or leg. The staggered return pass ensures lateral and vertical fracturing actuated every 12 to 15 inches across the densely compressed soil mass.

Large, Unobstructed Areas

For larger easy areas, use the standard patterns of movement:

- The first series (pattern) of passes is applied lengthwise, parallel with the longest spread of the site; gradually progressing across the site's width, with each successive pass.
- The second series runs obliquely, crossing the first series at an angle of about 45 degrees.
- The third series runs at right angle (or 90 degrees), to the first series to complete the fracturing and shattering on severely compacted sites, and avoid leaving large unbroken blocks of compressed soil material. (In certain instances, the third series may be optional, depending on how thoroughly the first two series loosen the material and eliminate large chunks/blocks of material as verified by tests with a ¾-inch cone penetrometer.)



Fig. 12. Moderately dry topsoil is being replaced on the affected site now that Phase 1 deep ripping of the compressed subsoil is complete.

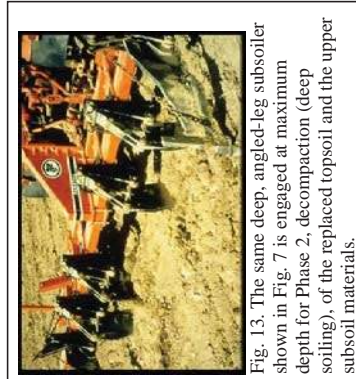


Fig. 13. The same deep, angled-leg subsoiler shown in Fig. 7 is engaged at maximum depth for Phase 2, decompaction (deep soiling), of the replaced topsoil and the upper subsoil materials.

- A second series of passes makes a broad "S" shaped pattern of rips, continually and gradually alternating the "S" curves between opposite edges inside the compacted corridor.
- The third and final series again uses the broad, alternating S pattern, but it is "flip-flopped" to continually cross the previous S pattern along the corridor's centerline. This final series of the S pattern curves back along the edge areas skipped by the second series.

Maintenance and Cost

Once the two-phase practice of Deep Ripping and Decompaction is completed, two items are essential for maintaining a site's soil porosity and permeability for infiltration. They are: planting and maintaining the appropriate ground cover with deep roots to maintain the soil structure (see Figure 15); and keeping the site free of traffic or other weight loads.

Note that site-specific choice of an appropriate vegetative ground-cover seed mix, including the proper seeding ratio of one or more perennial species with a deep taproot system and the proper amount of lime and soil nutrients (fertilizer mix) adapted to the soil-needs, are basic to the final practice of landscaping, i.e.: surface tillage, seeding/planting/fertilizing and culti-packing or mulching is applied. The "maintenance" of an effectively deep-ripped and decompacted area is generally limited to the successful perennial (long-term) landscape ground cover; as long as no weight-bearing force of soil compaction is applied.



Fig. 14. The severely compacted soil of a temporary construction yard used daily by heavy equipment for four months, shown before deep ripping, topsoil replacement, and decompaction.



Fig. 15. The same site as Fig. 14 after deep ripping of the exposed subsoil, topsoil replacement, decompaction through the topsoil and upper subsoil and final surface tillage and revegetation to maintain soil permeability and infiltration.

Corridors

In long corridors of limited width and less maneuverability than larger sites, e.g.: along compacted areas used as temporary construction access, a modified series of pattern passes are used.

- First, apply the same initial lengthwise, parallel series of passes described above.

The Deep Ripping and Decompaction practice is, by necessity, more extensive than periodic subsoiling of farmland. The cost of deep ripping and decompaction (deep subsoiling), will vary according to the depth and severity of soil-material compression and the relative amount of tractor and implement time that is required. In some instances, depending on open maneuverability, two-to-three acres of compacted project area may be deep-ripped in one day. In other situations of more severe compaction and - or less maneuverability, as little as one acre may be fully ripped in a day. Generally, if the Phase 1) Deep Ripping is fully effective, the Phase 2) Decompaction should be completed in 2/3 to 3/4 of the time required for Phase 1.

Using the example of two acres of Phase 1) Deep Ripping in one day, at \$1800 per day, the net cost is \$900 per acre. If the Phase 2) Decompaction or deep subsoiling takes 3/4 the time as Phase 1, it costs \$675 per acre for a combined total of \$1575 per acre to complete the practice (these figures do not include the cost of the separate practice of topsoil stripping and replacement). Due to the many variables, it must be recognized that cost will be determined by the specific conditions or constraints of the site and the availability of proper equipment.

Resources

Publications:

- American Society of Agricultural Engineers. 1971. *Compaction of Agricultural Soils*. ASAE.
- Brady, N.C., and R.R. Weil. 2002. *The Nature and Properties of Soils*. 13th ed. Pearson Education, Inc.
- Baver, L.D. 1948. *Soil Physics*. John Wiley & Sons.
- Carpachi, N. 1987 (1995 fifth printing). *Excavation and Grading Handbook, Revised*. 2nd ed. Craftsman Book Company
- Ellis, B. (Editor). 1997. *Safe & Easy Lawn Care: The Complete Guide to Organic Low Maintenance Lawn*. Houghton Mifflin.
- Harpstead, M.I., T.J. Sauer, and W.F. Bennett. 2001. *Soil Science Simplified*. 4th ed. Iowa State University Press.
- Magdoff, F., and H. van Es. 2000. *Building Soils for Better Crops*. 2nd ed. Sustainable Agricultural Networks
- McCarthy, D.F. 1993. *Essentials of Soil Mechanics and Foundations, Basic Geotechnics* 4th ed. Regents/Prentice Hall.
- Plaster, E.J. 1992. *Soil Science & Management*. 3rd ed. Delmar Publishers.
- Union Gas Limited, Ontario, Canada. 1984. *Rehabilitation of Agricultural Lands, Damm-Kerwood Loop Pipeline; Technical Report*. Ecological Services for Planning, Ltd.; Robinson, Merritt & Devries, Ltd. and Smith, Hoffman Associates, Ltd.
- US Department of Agriculture in cooperation with Cornell University Agricultural Experiment Station. Various years. *Soil Survey of (various names) County, New York*. USDA.

Internet Access:

- Examples of implements:
 - V-Rippers. Access by internet search of [John Deere Ag-New Equipment for 915 \(larger-frame model\) V-Ripper](#); and [for 913 \(smaller-frame model\) V-Ripper](#). [Deep-angled-leg subsoiler](#). Access by internet search of: [BigHam Brothers Shear Bolt Paratill-Subsoiler](#).
http://salesmanual.deere.com/sales/salesmanual/en_NA/primary_image/2008/feature/rippers/915v_pattern_frame.html?sub=a&link=product Last visited March 08.
- Soils data of USDA Natural Resources Conservation Service. NRCS Web Soil Survey. <http://websoilsurvey.nrcs.usda.gov/app/> and [USDA-NRCS Official Soil Series Descriptions; View by Name](#). <http://ortho.fvw.nrcs.usda.gov/cgi-bin/losd/oshname.cgi>. Last visited Jan. 08.
- Soil penetrometer information. Access by internet searches of: [Diagnosing Soil Compaction using a Penetrometer \(soil compaction tester\)](#), [PSU Extension](#); as well as [Dickey-John Soil Compaction Tester](#). <http://www.dickey-johnproducts.com/pdf/SoilCompactionTest.pdf> and <http://cropsoil.psu.edu/Extension/Facts/sect178.pdf> Last visited Sept. 07

This Page Intentionally Left Blank



APPENDIX I:
LABELLA CERTIFYING
PROFESSIONALS LETTER

This Page Intentionally Left Blank



February 17, 2022

RE: LaBella Certifying Professionals for NYSDEC SPDES GP-20-001

To Whom it May Concern:

In accordance with the NYSDEC SPDES General Permit GP 0-20-001, part VII.H.2, the New York State licensed Professional Engineers employed by LaBella Associates and listed on the attachment to this letter are duly authorized to sign and seal Stormwater Pollution Prevention Plans (SWPPPs), NOIs, and NOTs prepared under their direct supervision.


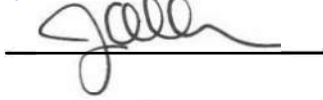



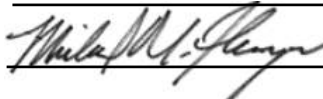
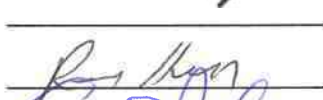


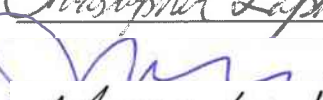

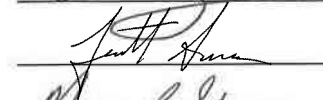
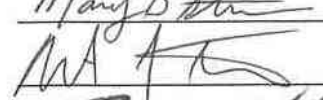




Respectfully submitted,

LaBella Associates

Steven P. Metzger, PE
Chief Executive Officer



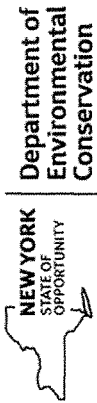
LaBella Professional Engineers duly authorized to sign and seal SWPPPs, NOIs, and NOTs:

Name:	Title:	Signature:	Date:
Kyle Ahearn, PE	Senior Civil Engineer		<u>2/9/22</u>
Jody Allen, PE	Senior Civil Engineer		<u>2/24/2022</u>
Anthony Bernardi, PE	Senior Civil Engineer		<u>2/9/2022</u>
Christian Bertram, PE	Senior Civil Engineer		<u>2/9/2022</u>
Brendan Bystrak, PE	Vice President		<u>2/9/2022</u>
Steven Calocerinos, PE	Senior Civil Engineer		<u>2/10/22</u>
Jason Ebbs, PE	Municipal Group Leader		<u>2/9/2022</u>
Michael Flanagan, PE	Senior Civil Engineer		<u>2/9/2022</u>
Don Hoefler, PE	Senior Project Engineer		<u>2/9/2022</u>
Reuben Hull, PE	Senior Civil Engineer		<u>2/9/2022</u>
Eric Johnson, PE	Senior Civil Engineer		<u>2/9/2022</u>
Roger Keating, PE	Senior Civil Engineer		<u>2/9/2022</u>
Walter Kubow, PE	Senior Civil Engineer		<u>2/9/2022</u>
Christopher Lapine, PE	Senior Civil Engineer		<u>2/9/2022</u>
Joseph Lanaro, PE	Vice President		<u>2/9/2022</u>
Michael Mishook, PE	Vice President		<u>2/10/22</u>
Lauren Rodriguez, PE	Civil Engineer		<u>2/9/2022</u>
Jonathan Spurr, PE	Civil Engineer		<u>2/10/22</u>
Mary Steblein, PE	Senior Civil Engineer		<u>2/9/2022</u>
Robert Steehler, PE	Vice President		<u>2/9/2022</u>
Timothy Webber, PE	Vice President		<u>2/9/2022</u>
Kristopher Winkler, PE	Senior Civil Engineer		<u>2/14/2022</u>



APPENDIX J:
NYSDEC SPDES GENERAL PERMIT
GP-0-20-001

This Page Intentionally Left Blank



NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SPDES GENERAL PERMIT
FOR STORMWATER DISCHARGES

From

CONSTRUCTION ACTIVITY

Permit No. GP- 0-20-001

Issued Pursuant to Article 17, Titles 7, 8 and Article 70
of the Environmental Conservation Law

Effective Date: January 29, 2020

Expiration Date: January 28, 2025

John J. Ferguson
Chief Permit Administrator


Authorized Signature _____ Date 1-23-20

Address: NYS DEC
Division of Environmental Permits
625 Broadway, 4th Floor
Albany, N.Y. 12233-1750

PREFACE

Pursuant to Section 402 of the Clean Water Act ("CWA"), stormwater discharges from certain *construction activities* are unlawful unless they are authorized by a *National Pollutant Discharge Elimination System ("NPDES")* permit or by a state permit program. New York administers the approved State Pollutant Discharge Elimination System (SPDES) program with permits issued in accordance with the New York State Environmental Conservation Law (ECL) Article 17, Titles 7, 8 and Article 70.

An *owner or operator* of a *construction activity* that is eligible for coverage under this permit must obtain coverage prior to the *commencement of construction activity*. Activities that fit the definition of "*construction activity*", as defined under 40 CFR 122.26(b)(14)(x), (15)(i), and (15)(ii), constitute construction of a *point source* and therefore, pursuant to ECL section 17-0505 and 17-0701, the *owner or operator* must have coverage under a SPDES permit prior to *commencing construction activity*. The *owner or operator* cannot wait until there is an actual *discharge* from the *construction site* to obtain permit coverage.

***Note: The italicized words/phrases within this permit are defined in Appendix A.**

**NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SPDES GENERAL PERMIT FOR STORMWATER DISCHARGES FROM
CONSTRUCTION ACTIVITIES**

Table of Contents

Part I. PERMIT COVERAGE AND LIMITATIONS	1
A. Permit Application	1
B. Effluent Limitations Applicable to Discharges from Construction Activities	1
C. Post-construction Stormwater Management Practice Requirements	4
D. Maintaining Water Quality	8
E. Eligibility Under This General Permit	9
F. Activities Which Are Ineligible for Coverage Under This General Permit	9
Part II. PERMIT COVERAGE	12
A. How to Obtain Coverage	12
B. Notice of Intent (NOI) Submittal	13
C. Permit Authorization	13
D. General Requirements For Owners or Operators With Permit Coverage	15
E. Permit Coverage for Discharges Authorized Under GP-0-15-002	17
F. Change of Owner or Operator	17
Part III. STORMWATER POLLUTION PREVENTION PLAN (SWPPP)	18
A. General SWPPP Requirements	18
B. Required SWPPP Contents	20
C. Required SWPPP Components by Project Type	24
Part IV. INSPECTION AND MAINTENANCE REQUIREMENTS	24
A. General Construction Site Inspection and Maintenance Requirements	24
B. Contractor Maintenance Inspection Requirements	24
C. Qualified Inspector Inspection Requirements	25
Part V. TERMINATION OF PERMIT COVERAGE	29
A. Termination of Permit Coverage	29
Part VI. REPORTING AND RETENTION RECORDS	31
A. Record Retention	31
B. Addresses	31
Part VII. STANDARD PERMIT CONDITIONS	31
A. Duty to Comply	31
B. Continuation of the Expired General Permit	32
C. Enforcement	32
D. Need to Halt or Reduce Activity Not a Defense	32
E. Duty to Mitigate	33
F. Duty to Provide Information	33
G. Other Information	33
H. Signatory Requirements	33
I. Property Rights	35
J. Severability	35

K. Requirement to Obtain Coverage Under an Alternative Permit	35
L. Proper Operation and Maintenance	36
M. Inspection and Entry	36
N. Permit Actions	37
O. Definitions	37
P. Re-Opener Clause	37
Q. Penalties for Falsification of Forms and Reports	37
R. Other Permits	38
APPENDIX A – Acronyms and Definitions	39
Acronyms	39
Definitions	40
APPENDIX B – Required SWPPP Components by Project Type	48
Table 1	48
Table 2	50
APPENDIX C – Watersheds Requiring Enhanced Phosphorus Removal	52
APPENDIX D – Watersheds with Lower Disturbance Threshold	58
APPENDIX E – 303(d) Segments Impaired by Construction Related Pollutant(s)	59
APPENDIX F – List of NYS DEC Regional Offices	65

Part 1. PERMIT COVERAGE AND LIMITATIONS

A. Permit Application

This permit authorizes stormwater discharges to surface waters of the State from the following construction activities identified within 40 CFR Parts 122.26(b)(14)(X), 122.26(b)(15)(i) and 122.26(b)(15)(ii), provided all of the eligibility provisions of this permit are met:

1. Construction activities involving soil disturbances of one (1) or more acres; including disturbances of less than one acre that are part of a larger common plan of development or sale that will ultimately disturb one or more acres of land; excluding routine maintenance activity that is performed to maintain the original line and grade, hydraulic capacity or original purpose of a facility;
2. Construction activities involving soil disturbances of less than one (1) acre where the Department has determined that a SPDES permit is required for stormwater discharges based on the potential for contribution to a violation of a water quality standard or for significant contribution of pollutants to surface waters of the State.
3. Construction activities located in the watershed(s) identified in Appendix D that involve soil disturbances between five thousand (5,000) square feet and one (1) acre of land.

B. Effluent Limitations Applicable to Discharges from Construction Activities

Discharges authorized by this permit must achieve, at a minimum, the effluent limitations in Part I.B.1. (a) – (f) of this permit. These limitations represent the degree of effluent reduction attainable by the application of best practicable technology currently available.

1. Erosion and Sediment Control Requirements - The owner or operator must select, design, install, implement and maintain control measures to minimize the discharge of pollutants and prevent a violation of the water quality standards. The selection, design, installation, implementation, and maintenance of these control measures must meet the non-numeric effluent limitations in Part I.B.1.(a) – (f) of this permit and be in accordance with the New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016, using sound engineering judgment. Where control measures are not designed in conformance with the design criteria included in the technical standard, the owner or operator must include in the Stormwater Pollution Prevention Plan ("SWPPP") the reason(s) for the

deviation or alternative design and provide information which demonstrates that the deviation or alternative design is equivalent to the technical standard.

- a. **Erosion and Sediment Controls.** Design, install and maintain effective erosion and sediment controls to minimize the discharge of pollutants and prevent a violation of the water quality standards. At a minimum, such controls must be designed, installed and maintained to:
 - (i) Minimize soil erosion through application of runoff control and soil stabilization control measure to minimize pollutant discharges;
 - (ii) Control stormwater discharges, including both peak flowrates and total stormwater volume, to minimize channel and streambank erosion and scour in the immediate vicinity of the discharge points;
 - (iii) Minimize the amount of soil exposed during construction activity;
 - (iv) Minimize the disturbance of steep slopes;
 - (v) Minimize sediment discharges from the site;
 - (vi) Provide and maintain natural buffers around surface waters, direct stormwater to vegetated areas and maximize stormwater infiltration to reduce pollutant discharges, unless infeasible;
 - (vii) Minimize soil compaction. Minimizing soil compaction is not required where the intended function of a specific area of the site dictates that it be compacted;
 - (viii) Unless infeasible, preserve a sufficient amount of topsoil to complete soil restoration and establish a uniform, dense vegetative cover; and
 - (ix) Minimize dust. On areas of exposed soil, minimize dust through the appropriate application of water or other dust suppression techniques to control the generation of pollutants that could be discharged from the site.
- b. **Soil Stabilization.** In areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures must be initiated by the end of the next business day and completed within fourteen (14) days from the date the current soil disturbance activity ceased. For construction sites that directly discharge to one of the 303(d) segments

listed in Appendix E or is located in one of the watersheds listed in Appendix C, the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven (7) days from the date the current soil disturbance activity ceased. See Appendix A for definition of *Temporarily Ceased*.

c. **Dewatering.** Discharges from *dewatering* activities, including *discharges* from *dewatering* of trenches and excavations, must be managed by appropriate control measures.

d. **Pollution Prevention Measures.** Design, install, implement, and maintain effective pollution prevention measures to *minimize* the *discharge* of *pollutants* and prevent a violation of the *water quality standards*. At a minimum, such measures must be designed, installed, implemented and maintained to:

- (i) *Minimize* the *discharge* of *pollutants* from equipment and vehicle washing, wheel wash water, and other wash waters. This applies to washing operations that use clean water only. Soaps, detergents and solvents cannot be used;
- (ii) *Minimize* the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste, hazardous and toxic waste, and other materials present on the site to precipitation and to stormwater. Minimization of exposure is not required in cases where the exposure to precipitation and to stormwater will not result in a *discharge* of *pollutants*, or where exposure of a specific material or product poses little risk of stormwater contamination (such as final products and materials intended for outdoor use) ; and
- (iii) Prevent the *discharge* of *pollutants* from spills and leaks and implement chemical spill and leak prevention and response procedures.

e. **Prohibited Discharges.** The following *discharges* are prohibited:

- (i) Wastewater from washout of concrete;
- (ii) Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials;

- (iii) Fuels, oils, or other *pollutants* used in vehicle and equipment operation and maintenance;
 - (iv) Soaps or solvents used in vehicle and equipment washing; and
 - (v) Toxic or hazardous substances from a spill or other release.
- f. Surface Outlets. When discharging from basins and impoundments, the outlets shall be designed, constructed and maintained in such a manner that sediment does not leave the basin or impoundment and that erosion at or below the outlet does not occur.

C. Post-construction Stormwater Management Practice Requirements

1. The *owner* or *operator* of a *construction activity* that requires post-construction stormwater management practices pursuant to Part III.C. of this permit must select, design, install, and maintain the practices to meet the *performance criteria* in the New York State Stormwater Management Design Manual ("Design Manual"), dated January 2015, using sound engineering judgment. Where post-construction stormwater management practices ("SMPs") are not designed in conformance with the *performance criteria* in the Design Manual, the *owner* or *operator* must include in the SWPPP the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.
2. The *owner* or *operator* of a *construction activity* that requires post-construction stormwater management practices pursuant to Part III.C. of this permit must design the practices to meet the applicable *sizing criteria* in Part I.C.2.a., b., c. or d. of this permit.

a. Sizing Criteria for New Development

- (i) Runoff Reduction Volume ("RRV"): Reduce the total Water Quality Volume ("WQv") by application of RR techniques and standard SMPs with RRV capacity. The total WQv shall be calculated in accordance with the criteria in Section 4.2 of the Design Manual.
- (ii) Minimum RRV and Treatment of Remaining Total WQv: Construction activities that cannot meet the criteria in Part I.C.2.a.(i) of this permit due to site limitations shall direct runoff from all newly constructed impervious areas to a RR technique or standard SMP with RRV capacity unless infeasible. The specific site limitations that prevent the reduction of 100% of the WQv shall be documented in the SWPPP.

For each impervious area that is not directed to a RR technique or standard SMP with RRv capacity, the SWPPP must include documentation which demonstrates that all options were considered and for each option explains why it is considered infeasible.

In no case shall the runoff reduction achieved from the newly constructed impervious areas be less than the Minimum RRv as calculated using the criteria in Section 4.3 of the Design Manual. The remaining portion of the total WQv that cannot be reduced shall be treated by application of standard SMPs.

- (iii) Channel Protection Volume ("Cpv"): Provide 24 hour extended detention of the post-developed 1-year, 24-hour storm event; remaining after runoff reduction. The Cpv requirement does not apply when:
 - (1) Reduction of the entire Cpv is achieved by application of runoff reduction techniques or infiltration systems, or
 - (2) The site discharges directly to tidal waters, or fifth order or larger streams.

- (iv) **Overbank Flood Control Criteria ("Qp")**: Requires storage to attenuate the post-developed 10-year, 24-hour peak discharge rate (Qp) to predevelopment rates. The Qp requirement does not apply when:
 - (1) the site discharges directly to tidal waters or fifth order or larger streams, or
 - (2) A downstream analysis reveals that *overbank* control is not required.

- (v) **Extreme Flood Control Criteria ("Qf")**: Requires storage to attenuate the post-developed 100-year, 24-hour peak discharge rate (Qf) to predevelopment rates. The Qf requirement does not apply when:
 - (1) the site discharges directly to tidal waters or fifth order or larger streams, or
 - (2) A downstream analysis reveals that *overbank* control is not required.

- b. Sizing Criteria for New Development in Enhanced Phosphorus Removal Watershed**
 - (i) **Runoff Reduction Volume (RRv)**: Reduce the total Water Quality Volume (WQv) by application of RR techniques and standard SMPs with RRv capacity. The total WQv is the runoff volume from the 1-year, 24 hour design storm over the post-developed watershed and shall be

calculated in accordance with the criteria in Section 10.3 of the Design Manual.

- (ii) **Minimum RRv and Treatment of Remaining Total WQv: Construction activities** that cannot meet the criteria in Part I.C.2.b.(i) of this permit due to *site limitations* shall direct runoff from all newly constructed *impervious areas* to a RR technique or standard SMP with RRv capacity unless *infeasible*. The specific *site limitations* that prevent the reduction of 100% of the WQv shall be documented in the SWPPP. For each *impervious area* that is not directed to a RR technique or standard SMP with RRv capacity, the SWPPP must include documentation which demonstrates that all options were considered and for each option explains why it is considered *infeasible*.

In no case shall the runoff reduction achieved from the newly constructed impervious areas be less than the Minimum RRv as calculated using the criteria in Section 10.3 of the Design Manual. The remaining portion of the total WQv that cannot be reduced shall be treated by application of standard SMPs.

- (iii) **Channel Protection Volume (Cpv)**: Provide 24 hour extended detention of the post-developed 1-year, 24-hour storm event; remaining after runoff reduction. The Cpv requirement does not apply when:
 - (1) Reduction of the entire Cpv is achieved by application of runoff reduction techniques or infiltration systems, or
 - (2) The site *discharges* directly to tidal waters, or fifth order or larger streams.

- (iv) **Overbank Flood Control Criteria (Qp)**: Requires storage to attenuate the post-developed 10-year, 24-hour peak *discharge* rate (Qp) to predevelopment rates. The Qp requirement does not apply when:
 - (1) the site *discharges* directly to tidal waters or fifth order or larger streams, or
 - (2) A downstream analysis reveals that *overbank* control is not required.

- (v) **Extreme Flood Control Criteria (Qf)**: Requires storage to attenuate the post-developed 100-year, 24-hour peak *discharge* rate (Qf) to predevelopment rates. The Qf requirement does not apply when:
 - (1) the site *discharges* directly to tidal waters or fifth order or larger streams, or
 - (2) A downstream analysis reveals that *overbank* control is not required.

c. Sizing Criteria for Redevelopment Activity

- (i) Water Quality Volume (WQv): The WQv treatment objective for redevelopment activity shall be addressed by one of the following options. Redevelopment activities located in an Enhanced Phosphorus Removal Watershed (see Part III.B.3. and Appendix C of this permit) shall calculate the WQv in accordance with Section 10.3 of the Design Manual. All other redevelopment activities shall calculate the WQv in accordance with Section 4.2 of the Design Manual.
 - (1) Reduce the existing *impervious cover* by a minimum of 25% of the total disturbed, *impervious area*. The Soil Restoration criteria in Section 5.1.6 of the Design Manual must be applied to all newly created pervious areas, or
 - (2) Capture and treat a minimum of 25% of the WQv from the disturbed, *impervious area* by the application of standard SMPs; or reduce 25% of the WQv from the disturbed, *impervious area* by the application of RR techniques or standard SMPs with RRV capacity, or
 - (3) Capture and treat a minimum of 75% of the WQv from the disturbed, *impervious area* as well as any additional runoff from tributary areas by application of the alternative practices discussed in Sections 9.3 and 9.4 of the Design Manual, or
 - (4) Application of a combination of 1, 2 and 3 above that provide a weighted average of at least two of the above methods. Application of this method shall be in accordance with the criteria in Section 9.2.1(B) (IV) of the Design Manual.

If there is an existing post-construction stormwater management practice located on the site that captures and treats runoff from the *impervious area* that is being disturbed, the WQv treatment option selected must, at a minimum, provide treatment equal to the treatment that was being provided by the existing practice(s) if that treatment is greater than the treatment required by options 1 – 4 above.

- (ii) Channel Protection Volume (Cpv): Not required if there are no changes to hydrology that increase the *discharge* rate from the project site.
- (iii) Overbank Flood Control Criteria (Op): Not required if there are no changes to hydrology that increase the *discharge* rate from the project site.
- (iv) Extreme Flood Control Criteria (Qf): Not required if there are no changes to hydrology that increase the *discharge* rate from the project site

d. Sizing Criteria for Combination of Redevelopment Activity and New Development

Construction projects that include both New Development and Redevelopment Activity shall provide post-construction stormwater management controls that meet the sizing criteria calculated as an aggregate of the Sizing Criteria in Part I.C.2.a. or b. of this permit for the New Development portion of the project and Part I.C.2.c of this permit for Redevelopment Activity portion of the project.

D. Maintaining Water Quality

The Department expects that compliance with the conditions of this permit will control *discharges* necessary to meet applicable *water quality standards*. It shall be a violation of the ECL for any discharge to either cause or contribute to a violation of *water quality standards* as contained in Parts 700 through 705 of Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York, such as:

1. There shall be no increase in turbidity that will cause a substantial visible contrast to natural conditions;
2. There shall be no increase in suspended, colloidal or settleable solids that will cause deposition or impair the waters for their best usages; and
3. There shall be no residue from oil and floating substances, nor visible oil film, nor globules of grease.

If there is evidence indicating that the stormwater *discharges* authorized by this permit are causing, have the reasonable potential to cause, or are contributing to a violation of the *water quality standards*; the *owner or operator* must take appropriate corrective action in accordance with Part IV.C.5. of this general permit and document in accordance with Part IV.C.4. of this general permit. To address the *water quality standard* violation the *owner or operator* may need to provide additional information, include and implement appropriate controls in the SWPPP to correct the problem, or obtain an individual SPDES permit.

If there is evidence indicating that despite compliance with the terms and conditions of this general permit it is demonstrated that the stormwater *discharges* authorized by this permit are causing or contributing to a violation of *water quality standards*, or if the Department determines that a modification of the permit is necessary to prevent a violation of *water quality standards*, the authorized *discharges* will no longer be eligible for coverage under this permit. The Department may require the *owner or operator* to obtain an individual SPDES permit to continue discharging.

E. Eligibility Under This General Permit

1. This permit may authorize all *discharges* of stormwater from *construction activity to surface waters of the State and groundwaters* except for ineligible *discharges* identified under subparagraph F. of this Part.
2. Except for non-stormwater *discharges* explicitly listed in the next paragraph, this permit only authorizes stormwater *discharges*; including stormwater runoff, snowmelt runoff, and surface runoff and drainage, from *construction activities*.
3. Notwithstanding paragraphs E.1 and E.2 above, the following non-stormwater *discharges* are authorized by this permit: those listed in 6 NYCRR 750-1.2(a)(29)(vi), with the following exception: "Discharges from firefighting activities are authorized only when the firefighting activities are emergencies/unplanned"; waters to which other components have not been added that are used to control dust in accordance with the SWPPP; and uncontaminated *discharges* from *construction site* de-watering operations. All non-stormwater *discharges* must be identified in the SWPPP. Under all circumstances, the *owner or operator* must still comply with *water quality standards* in Part I.D of this permit.

4. The *owner or operator* must maintain permit eligibility to *discharge* under this permit. Any *discharges* that are not compliant with the eligibility conditions of this permit are not authorized by the permit and the *owner or operator* must either apply for a separate permit to cover those ineligible *discharges* or take steps necessary to make the *discharge* eligible for coverage.

F. Activities Which Are Ineligible for Coverage Under This General Permit

All of the following are not authorized by this permit:

1. *Discharges* after *construction activities* have been completed and the site has undergone *final stabilization*;
2. *Discharges* that are mixed with sources of non-stormwater other than those expressly authorized under subsection E.3. of this Part and identified in the SWPPP required by this permit;
3. *Discharges* that are required to obtain an individual SPDES permit or another SPDES general permit pursuant to Part VII.K. of this permit;
4. *Construction activities* or *discharges* from *construction activities* that may adversely affect an *endangered or threatened species* unless the *owner or*

operator has obtained a permit issued pursuant to 6 NYCRR Part 182 for the project or the Department has issued a letter of non-jurisdiction for the project. All documentation necessary to demonstrate eligibility shall be maintained on site in accordance with Part II.D.2 of this permit;

5. *Discharges* which either cause or contribute to a violation of *water quality standards* adopted pursuant to the ECL and its accompanying regulations;
6. *Construction activities* for residential, commercial and institutional projects:
 - a. Where the *discharges* from the *construction activities* are tributary to waters of the state classified as AA or AA-s; and
 - b. Which are undertaken on land with no existing *impervious cover*, and
 - c. Which disturb one (1) or more acres of land designated on the current United States Department of Agriculture ("USDA") Soil Survey as Soil Slope Phase "D"; (provided the map unit name is inclusive of slopes greater than 25%), or Soil Slope Phase "E" or "F" (regardless of the map unit name), or a combination of the three designations.
7. *Construction activities* for linear transportation projects and linear utility projects:
 - a. Where the *discharges* from the *construction activities* are tributary to waters of the state classified as AA or AA-s; and
 - b. Which are undertaken on land with no existing *impervious cover*, and
 - c. Which disturb two (2) or more acres of land designated on the current USDA Soil Survey as Soil Slope Phase "D" (provided the map unit name is inclusive of slopes greater than 25%), or Soil Slope Phase "E" or "F" (regardless of the map unit name), or a combination of the three designations.

8. *Construction activities* that have the potential to affect an *historic property*, unless there is documentation that such impacts have been resolved. The following documentation necessary to demonstrate eligibility with this requirement shall be maintained on site in accordance with Part II.D.2 of this permit and made available to the Department in accordance with Part VII.F of this permit:

- a. Documentation that the *construction activity* is not within an archeologically sensitive area indicated on the sensitivity map, and that the *construction activity* is not located on or immediately adjacent to a property listed or determined to be eligible for listing on the National or State Registers of Historic Places, and that there is no new permanent building on the *construction site* within the following distances from a building, structure, or object that is more than 50 years old, or if there is such a new permanent building on the *construction site* within those parameters that NYS Office of Parks, Recreation and Historic Preservation (OPRHP), a Historic Preservation Commission of a Certified Local Government, or a qualified preservation professional has determined that the building, structure, or object more than 50 years old is not historically/archeologically significant.
 - 1-5 acres of disturbance - 20 feet
 - 5-20 acres of disturbance - 50 feet
 - 20+ acres of disturbance - 100 feet, or

- b. DEC consultation form sent to OPRHP, and copied to the NYS DEC Agency Historic Preservation Officer (APO), and
 - (i) the State Environmental Quality Review (SEQR) Environmental Assessment Form (EAF) with a negative declaration or the Findings Statement, with documentation of OPRHP's agreement with the resolution; or
 - (ii) documentation from OPRHP that the *construction activity* will result in No Impact; or
 - (iii) documentation from OPRHP providing a determination of No Adverse Impact; or
 - (iv) a Letter of Resolution signed by the owner/operator, OPRHP and the DEC APO which allows for this *construction activity* to be eligible for coverage under the general permit in terms of the State Historic Preservation Act (SHPA); or
- c. Documentation of satisfactory compliance with Section 106 of the National Historic Preservation Act for a coterminous project area:

- (i) No Affect
 - (ii) No Adverse Affect
 - (iii) Executed Memorandum of Agreement, or
- d. Documentation that:

- (i) SHPA Section 14.09 has been completed by NYS DEC or another state agency.
9. *Discharges* from *construction activities* that are subject to an existing SPDES individual or general permit where a SPDES permit for *construction activity* has been terminated or denied; or where the *owner or operator* has failed to renew an expired individual permit.

Part II. PERMIT COVERAGE

A. How to Obtain Coverage

- 1. An *owner or operator* of a *construction activity* that is not subject to the requirements of a regulated, traditional land use control MS4 must first prepare a SWPPP in accordance with all applicable requirements of this permit and then submit a completed Notice of Intent (NOI) to the Department to be authorized to discharge under this permit.
- 2. An *owner or operator* of a *construction activity* that is subject to the requirements of a regulated, traditional land use control MS4 must first prepare a SWPPP in accordance with all applicable requirements of this permit and then have the SWPPP reviewed and accepted by the regulated, traditional land use control MS4 prior to submitting the NOI to the Department. The *owner or operator* shall have the "MS4 SWPPP Acceptance" form signed in accordance with Part VII.H., and then submit that form along with a completed NOI to the Department.
- 3. The requirement for an *owner or operator* to have its SWPPP reviewed and accepted by the regulated, traditional land use control MS4 prior to submitting the NOI to the Department does not apply to an *owner or operator* that is obtaining permit coverage in accordance with the requirements in Part II.F. (Change of Owner or Operator) or where the *owner or operator* of the *construction activity* is the regulated, traditional land use control MS4. This exemption does not apply to *construction activities* subject to the New York City Administrative Code.

B. Notice of Intent (NOI) Submittal

1. Prior to December 21, 2020, an owner or operator shall use either the electronic (eNOI) or paper version of the NOI that the Department prepared. Both versions of the NOI are located on the Department's website (<http://www.dec.ny.gov/>). The paper version of the NOI shall be signed in accordance with Part VII.H. of this permit and submitted to the following address:

NOTICE OF INTENT
NYS DEC, Bureau of Water Permits
625 Broadway, 4th Floor
Albany, New York 12233-3505

2. Beginning December 21, 2020 and in accordance with EPA's 2015 NPDES Electronic Reporting Rule (40 CFR Part 127), the *owner or operator* must submit the NOI electronically using the *Department's* online NOI.
3. The *owner or operator* shall have the SWPPP preparer sign the "SWPPP Preparer Certification" statement on the NOI prior to submitting the form to the Department.
4. As of the date the NOI is submitted to the Department, the *owner or operator* shall make the NOI and SWPPP available for review and copying in accordance with the requirements in Part VII.F. of this permit.

C. Permit Authorization

1. An *owner or operator* shall not commence *construction activity* until their authorization to *discharge* under this permit goes into effect.
2. Authorization to *discharge* under this permit will be effective when the *owner or operator* has satisfied all of the following criteria:
 - a. project review pursuant to the State Environmental Quality Review Act ("SEQRA") have been satisfied, when SEQRA is applicable. See the Department's website (<http://www.dec.ny.gov/>) for more information,
 - b. where required, all necessary Department permits subject to the *Uniform Procedures Act* ("UPA") (see 6 NYCRR Part 621), or the equivalent from another New York State agency, have been obtained, unless otherwise notified by the Department pursuant to 6 NYCRR 621.3(a)(4). *Owners or operators of construction activities* that are required to obtain UPA permits

must submit a preliminary SWPPP to the appropriate DEC Permit Administrator at the Regional Office listed in Appendix F at the time all other necessary UPA permit applications are submitted. The preliminary SWPPP must include sufficient information to demonstrate that the *construction activity* qualifies for authorization under this permit,

- c. the final SWPPP has been prepared, and
 - d. a complete NOI has been submitted to the Department in accordance with the requirements of this permit.
3. An *owner or operator* that has satisfied the requirements of Part II.C.2 above will be authorized to *discharge* stormwater from their *construction activity* in accordance with the following schedule:
- a. For *construction activities* that are not subject to the requirements of a *regulated, traditional land use control MS4*:

- (i) Five (5) business days from the date the Department receives a complete electronic version of the NOI (eNOI) for *construction activities* with a SWPPP that has been prepared in conformance with the design criteria in the technical standard referenced in Part III.B.1 and the *performance criteria* in the technical standard referenced in Parts III.B., 2 or 3, for *construction activities* that require post-construction stormwater management practices pursuant to Part III.C.; or
- (ii) Sixty (60) business days from the date the Department receives a complete NOI (electronic or paper version) for *construction activities* with a SWPPP that has not been prepared in conformance with the design criteria in technical standard referenced in Part III.B.1. or, for *construction activities* that require post-construction stormwater management practices pursuant to Part III.C., the *performance criteria* in the technical standard referenced in Parts III.B., 2 or 3, or;
- (iii) Ten (10) business days from the date the Department receives a complete paper version of the NOI for *construction activities* with a SWPPP that has been prepared in conformance with the design criteria in the technical standard referenced in Part III.B.1 and the *performance criteria* in the technical standard referenced in Parts III.B., 2 or 3, for *construction activities* that require post-construction stormwater management practices pursuant to Part III.C.

- b. For *construction activities* that are subject to the requirements of a *regulated, traditional land use control MS4*:
 - (i) Five (5) business days from the date the Department receives both a complete electronic version of the NOI (eNOI) and signed "MS4 SWPPP Acceptance" form, or
 - (ii) Ten (10) business days from the date the Department receives both a complete paper version of the NOI and signed "MS4 SWPPP Acceptance" form.
- 4. Coverage under this permit authorizes stormwater *discharges* from only those areas of disturbance that are identified in the NOI. If an *owner or operator* wishes to have stormwater *discharges* from future or additional areas of disturbance authorized, they must submit a new NOI that addresses that phase of the development, unless otherwise notified by the Department. The *owner or operator* shall not *commence construction activity* on the future or additional areas until their authorization to *discharge* under this permit goes into effect in accordance with Part II.C. of this permit.

D. General Requirements For Owners or Operators With Permit Coverage

1. The *owner or operator* shall ensure that the provisions of the SWPPP are implemented from the *commencement of construction activity* until all areas of disturbance have achieved *final stabilization* and the Notice of Termination ("NOT") has been submitted to the Department in accordance with Part V. of this permit. This includes any changes made to the SWPPP pursuant to Part III.A.4. of this permit.
2. The *owner or operator* shall maintain a copy of the General Permit (GP-0-20-001), NOI, *NOI Acknowledgment Letter*, SWPPP, MS4 SWPPP Acceptance form, inspection reports, responsible contractor's or subcontractor's certification statement (see Part III.A.6.), and all documentation necessary to demonstrate eligibility with this permit at the *construction site* until all disturbed areas have achieved *final stabilization* and the NOT has been submitted to the Department. The documents must be maintained in a secure location, such as a job trailer, on-site construction office, or mailbox with lock. The secure location must be accessible during normal business hours to an individual performing a compliance inspection.
3. The *owner or operator* of a *construction activity* shall not disturb greater than five (5) acres of soil at any one time without prior written authorization from the Department or, in areas under the jurisdiction of a *regulated, traditional land*

- use control MS4, the regulated, traditional land use control MS4 (provided the regulated, traditional land use control MS4 is not the owner or operator of the construction activity). At a minimum, the owner or operator must comply with the following requirements in order to be authorized to disturb greater than five (5) acres of soil at any one time:*
- a. The *owner or operator* shall have a *qualified inspector* conduct **at least two** (2) site inspections in accordance with Part IV.C. of this permit every seven (7) calendar days, for as long as greater than five (5) acres of soil remain disturbed. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.
 - b. In areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven (7) days from the date the current soil disturbance activity ceased. The soil stabilization measures selected shall be in conformance with the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016.
 - c. The *owner or operator* shall prepare a phasing plan that defines maximum disturbed area per phase and shows required cuts and fills.
 - d. The *owner or operator* shall install any additional site-specific practices needed to protect water quality.
 - e. The *owner or operator* shall include the requirements above in their SWPPP.
4. In accordance with statute, regulations, and the terms and conditions of this permit, the Department may suspend or revoke an *owner's or operator's* coverage under this permit at any time if the Department determines that the SWPPP does not meet the permit requirements or consistent with Part VII.K..
 5. Upon a finding of significant non-compliance with the practices described in the SWPPP or violation of this permit, the Department may order an immediate stop to all activity at the site until the non-compliance is remedied. The stop work order shall be in writing, describe the non-compliance in detail, and be sent to the *owner or operator*.
 6. For *construction activities* that are subject to the requirements of a *regulated, traditional land use control MS4*, the *owner or operator* shall notify the

regulated, traditional land use control MS4 in writing of any planned amendments or modifications to the post-construction stormwater management practice component of the SWPPP required by Part III.A. 4. and 5. of this permit. Unless otherwise notified by the *regulated, traditional land use control MS4*, the *owner or operator* shall have the SWPPP amendments or modifications reviewed and accepted by the *regulated, traditional land use control MS4* prior to commencing construction of the post-construction stormwater management practice.

E. Permit Coverage for Discharges Authorized Under GP-0-15-002

1. Upon renewal of SPDES General Permit for Stormwater Discharges from *Construction Activity* (Permit No. GP-0-15-002), an *owner or operator* of a *construction activity* with coverage under GP-0-15-002, as of the effective date of GP- 0-20-001, shall be authorized to *discharge* in accordance with GP- 0-20-001, unless otherwise notified by the Department.

An *owner or operator* may continue to implement the technical/design components of the post-construction stormwater management controls provided that such design was done in conformance with the technical standards in place at the time of initial project authorization. However, they must comply with the other, non-design provisions of GP-0-20-001.

F. Change of Owner or Operator

1. When property ownership changes or when there is a change in operational control over the construction plans and specifications, the original *owner or operator* must notify the new *owner or operator*, in writing, of the requirement to obtain permit coverage by submitting a NOI with the Department. For *construction activities* subject to the requirements of a *regulated, traditional land use control MS4*, the original *owner or operator* must also notify the MS4, in writing, of the change in ownership at least 30 calendar days prior to the change in ownership.
2. Once the new *owner or operator* obtains permit coverage, the original *owner or operator* shall then submit a completed NOT with the name and permit identification number of the new *owner or operator* to the Department at the address in Part II.B.1. of this permit. If the original *owner or operator* maintains ownership of a portion of the *construction activity* and will disturb soil, they must maintain their coverage under the permit.
3. Permit coverage for the new *owner or operator* will be effective as of the date the Department receives a complete NOI, provided the original *owner or*

operator was not subject to a sixty (60) business day authorization period that has not expired as of the date the Department receives the NOI from the new *owner or operator*.

Part III. STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

A. General SWPPP Requirements

1. A SWPPP shall be prepared and implemented by the *owner or operator* of each *construction activity* covered by this permit. The SWPPP must document the selection, design, installation, implementation and maintenance of the control measures and practices that will be used to meet the effluent limitations in Part I.B. of this permit and where applicable, the post-construction stormwater management practice requirements in Part I.C. of this permit. The SWPPP shall be prepared prior to the submittal of the NOI. The NOI shall be submitted to the Department prior to the commencement of *construction activity*. A copy of the completed, final NOI shall be included in the SWPPP.
2. The SWPPP shall describe the erosion and sediment control practices and where required, post-construction stormwater management practices that will be used and/or constructed to reduce the *pollutants* in stormwater *discharges* and to assure compliance with the terms and conditions of this permit. In addition, the SWPPP shall identify potential sources of pollution which may reasonably be expected to affect the quality of stormwater *discharges*.
3. All SWPPPs that require the post-construction stormwater management practice component shall be prepared by a *qualified professional* that is knowledgeable in the principles and practices of stormwater management and treatment.
4. The *owner or operator* must keep the SWPPP current so that it at all times accurately documents the erosion and sediment controls practices that are being used or will be used during construction, and all post-construction stormwater management practices that will be constructed on the site. At a minimum, the *owner or operator* shall amend the SWPPP, including construction drawings:
 - a. whenever the current provisions prove to be ineffective in minimizing *pollutants* in stormwater *discharges* from the site;

- b. whenever there is a change in design, construction, or operation at the *construction site* that has or could have an effect on the *discharge of pollutants*;
- c. to address issues or deficiencies identified during an inspection by the *qualified inspector*, the Department or other regulatory authority; and
- d. to document the final construction conditions.

5. The Department may notify the *owner or operator* at any time that the SWPPP does not meet one or more of the minimum requirements of this permit. The notification shall be in writing and identify the provisions of the SWPPP that require modification. Within fourteen (14) calendar days of such notification, or as otherwise indicated by the Department, the *owner or operator* shall make the required changes to the SWPPP and submit written notification to the Department that the changes have been made. If the *owner or operator* does not respond to the Department's comments in the specified time frame, the Department may suspend the *owner's or operator's* coverage under this permit or require the *owner or operator* to obtain coverage under an individual SPDES permit in accordance with Part II.D.4. of this permit.

6. Prior to the commencement of *construction activity*, the *owner or operator* must identify the contractor(s) and subcontractor(s) that will be responsible for installing, constructing, repairing, replacing, inspecting and maintaining the erosion and sediment control practices included in the SWPPP; and the contractor(s) and subcontractor(s) that will be responsible for constructing the post-construction stormwater management practices included in the SWPPP. The *owner or operator* shall have each of the contractors and subcontractors identify at least one person from their company that will be responsible for implementation of the SWPPP. This person shall be known as the *trained contractor*. The *owner or operator* shall ensure that at least one *trained contractor* is on site on a daily basis when soil disturbance activities are being performed.

The *owner or operator* shall have each of the contractors and subcontractors identified above sign a copy of the following certification statement below before they commence any *construction activity*:

"I hereby certify under penalty of law that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the *qualified inspector* during a site inspection. I also understand that the *owner or operator* must comply with

the terms and conditions of the most current version of the New York State Pollutant Discharge Elimination System ("SPDES") general permit for stormwater *discharges* from *construction activities* and that it is unlawful for any person to cause or contribute to a violation of *water quality standards*. Furthermore, I am aware that there are significant penalties for submitting false information, that I do not believe to be true, including the possibility of fine and imprisonment for knowing violations"

In addition to providing the certification statement above, the certification page must also identify the specific elements of the SWPPP that each contractor and subcontractor will be responsible for and include the name and title of the person providing the signature; the name and title of the *trained contractor* responsible for SWPPP implementation; the name, address and telephone number of the contracting firm; the address (or other identifying description) of the site; and the date the certification statement is signed. The *owner or operator* shall attach the certification statement(s) to the copy of the SWPPP that is maintained at the *construction site*. If new or additional contractors are hired to implement measures identified in the SWPPP after construction has commenced, they must also sign the certification statement and provide the information listed above.

7. For projects where the Department requests a copy of the SWPPP or inspection reports, the *owner or operator* shall submit the documents in both electronic (PDF only) and paper format within five (5) business days, unless otherwise notified by the Department.

B. Required SWPPP Contents

1. Erosion and sediment control component - All SWPPPs prepared pursuant to this permit shall include erosion and sediment control practices designed in conformance with the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016. Where erosion and sediment control practices are not designed in conformance with the design criteria included in the technical standard, the *owner or operator* must demonstrate *equivalence* to the technical standard. At a minimum, the erosion and sediment control component of the SWPPP shall include the following:

- a. Background information about the scope of the project, including the location, type and size of project

- b. A site map/construction drawing(s) for the project, including a general location map. At a minimum, the site map shall show the total site area; all improvements; areas of disturbance; areas that will not be disturbed; existing vegetation; on-site and adjacent off-site surface water(s); floodplain/floodway boundaries; wetlands and drainage patterns that could be affected by the *construction activity*; existing and final contours ; locations of different soil types with boundaries; material, waste, borrow or equipment storage areas located on adjacent properties; and location(s) of the stormwater *discharge(s)*;
- c. A description of the soil(s) present at the site, including an identification of the Hydrologic Soil Group (HSG);
- d. A construction phasing plan and sequence of operations describing the intended order of *construction activities*, including clearing and grubbing, excavation and grading, utility and infrastructure installation and any other activity at the site that results in soil disturbance;
- e. A description of the minimum erosion and sediment control practices to be installed or implemented for each *construction activity* that will result in soil disturbance. Include a schedule that identifies the timing of initial placement or implementation of each erosion and sediment control practice and the minimum time frames that each practice should remain in place or be implemented;
- f. A temporary and permanent soil stabilization plan that meets the requirements of this general permit and the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016, for each stage of the project, including initial land clearing and grubbing to project completion and achievement of *final stabilization*;
- g. A site map/construction drawing(s) showing the specific location(s), size(s), and length(s) of each erosion and sediment control practice;
- h. The dimensions, material specifications, installation details, and operation and maintenance requirements for all erosion and sediment control practices. Include the location and sizing of any temporary sediment basins and structural practices that will be used to divert flows from exposed soils;
- i. A maintenance inspection schedule for the contractor(s) identified in Part III.A.6. of this permit, to ensure continuous and effective operation of the erosion and sediment control practices. The maintenance inspection

- schedule shall be in accordance with the requirements in the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016;
- j. A description of the pollution prevention measures that will be used to control litter, construction chemicals and construction debris from becoming a *pollutant* source in the stormwater *discharges*;
 - k. A description and location of any stormwater *discharges* associated with industrial activity other than construction at the site, including, but not limited to, stormwater *discharges* from asphalt plants and concrete plants located on the *construction site*; and
 - l. Identification of any elements of the design that are not in conformance with the design criteria in the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016. Include the reason for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.
2. Post-construction stormwater management practice component – The *owner* or *operator* of any construction project identified in Table 2 of Appendix B as needing post-construction stormwater management practices shall prepare a SWPPP that includes practices designed in conformance with the applicable *sizing criteria* in Part I.C.2.a., c. or d. of this permit and the *performance criteria* in the technical standard, New York State Stormwater Management Design Manual dated January 2015
- Where post-construction stormwater management practices are not designed in conformance with the *performance criteria* in the technical standard, the *owner* or *operator* must include in the SWPPP the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.
- The post-construction stormwater management practice component of the SWPPP shall include the following:
- a. Identification of all post-construction stormwater management practices to be constructed as part of the project. Include the dimensions, material specifications and installation details for each post-construction stormwater management practice;

- b. A site map/construction drawing(s) showing the specific location and size of each post-construction stormwater management practice;
- c. A Stormwater Modeling and Analysis Report that includes:
 - (i) Map(s) showing pre-development conditions, including watershed/subcatchments boundaries, flow paths/routing, and design points;
 - (ii) Map(s) showing post-development conditions, including watershed/subcatchments boundaries, flow paths/routing, design points and post-construction stormwater management practices;
 - (iii) Results of stormwater modeling (i.e. hydrology and hydraulic analysis) for the required storm events. Include supporting calculations (model runs), methodology, and a summary table that compares pre and post-development runoff rates and volumes for the different storm events;
 - (iv) Summary table, with supporting calculations, which demonstrates that each post-construction stormwater management practice has been designed in conformance with the *sizing criteria* included in the Design Manual;
 - (v) Identification of any *sizing criteria* that is not required based on the requirements included in Part I.C. of this permit; and
 - (vi) Identification of any elements of the design that are not in conformance with the *performance criteria* in the Design Manual. Include the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the Design Manual;
- d. Soil testing results and locations (test pits, borings);
- e. Infiltration test results, when required; and
- f. An operations and maintenance plan that includes inspection and maintenance schedules and actions to ensure continuous and effective operation of each post-construction stormwater management practice. The plan shall identify the entity that will be responsible for the long term operation and maintenance of each practice.

- 3. Enhanced Phosphorus Removal Standards - All construction projects identified in Table 2 of Appendix B that are located in the watersheds identified in Appendix C shall prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the applicable *sizing criteria* in Part I.C.2.b., c. or d. of this permit and the *performance criteria*. Enhanced Phosphorus Removal Standards included in the Design Manual. At a minimum, the post-construction stormwater management practice component of the SWPPP shall include items 2.a - 2.f. above.

C. Required SWPPP Components by Project Type

Unless otherwise notified by the Department, *owners or operators of construction activities* identified in Table 1 of Appendix B are required to prepare a SWPPP that only includes erosion and sediment control practices designed in conformance with Part III.B.1 of this permit. *Owners or operators of the construction activities* identified in Table 2 of Appendix B shall prepare a SWPPP that also includes post-construction stormwater management practices designed in conformance with Part III.B.2 or 3 of this permit.

Part IV. INSPECTION AND MAINTENANCE REQUIREMENTS

A. General Construction Site Inspection and Maintenance Requirements

- 1. The *owner or operator* must ensure that all erosion and sediment control practices (including pollution prevention measures) and all post-construction stormwater management practices identified in the SWPPP are inspected and maintained in accordance with Part IV.B. and C. of this permit.
- 2. The terms of this permit shall not be construed to prohibit the State of New York from exercising any authority pursuant to the ECL, common law or federal law, or prohibit New York State from taking any measures, whether civil or criminal, to prevent violations of the laws of the State of New York or protect the public health and safety and/or the environment.

B. Contractor Maintenance Inspection Requirements

- 1. The *owner or operator* of each *construction activity* identified in Tables 1 and 2 of Appendix B shall have a *trained contractor* inspect the erosion and sediment control practices and pollution prevention measures being implemented within the active work area daily to ensure that they are being maintained in effective operating condition at all times. If deficiencies are identified, the contractor shall

begin implementing corrective actions within one business day and shall complete the corrective actions in a reasonable time frame.

- 2. For construction sites where soil disturbance activities have been temporarily suspended (e.g. winter shutdown) and *temporary stabilization* measures have been applied to all disturbed areas, the *trained contractor* can stop conducting the maintenance inspections. The *trained contractor* shall begin conducting the maintenance inspections in accordance with Part IV.B.1. of this permit as soon as soil disturbance activities resume.
- 3. For construction sites where soil disturbance activities have been shut down with partial project completion, the *trained contractor* can stop conducting the maintenance inspections if all areas disturbed as of the project shutdown date have achieved *final stabilization* and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational.

C. Qualified Inspector Requirements

The *owner or operator* shall have a *qualified inspector* conduct site inspections in conformance with the following requirements:

[Note: The *trained contractor* identified in Part III.A.6. and IV.B. of this permit **cannot** conduct the *qualified inspector* site inspections unless they meet the *qualified inspector* qualifications included in Appendix A. In order to perform these inspections, the *trained contractor* would have to be a:

- licensed Professional Engineer,
- Certified Professional in Erosion and Sediment Control (CPESC),
- New York State Erosion and Sediment Control Certificate Program holder
- Registered Landscape Architect, or
- someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided they have received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity].

- 1. A *qualified inspector* shall conduct site inspections for all *construction activities* identified in Tables 1 and 2 of Appendix B, with the exception of:
 - a. the construction of a single family residential subdivision with 25% or less *impervious cover* at total site build-out that involves a soil disturbance of one (1) or more acres of land but less than five (5) acres and is not located

in one of the watersheds listed in Appendix C and not directly discharging to one of the 303(d) segments listed in Appendix E;

- b. the construction of a single family home that involves a soil disturbance of one (1) or more acres of land but less than five (5) acres and is not located in one of the watersheds listed in Appendix C and not directly discharging to one of the 303(d) segments listed in Appendix E;
 - c. construction on agricultural property that involves a soil disturbance of one (1) or more acres of land but less than five (5) acres; and
 - d. *construction activities* located in the watersheds identified in Appendix D that involve soil disturbances between five thousand (5,000) square feet and one (1) acre of land.
2. Unless otherwise notified by the Department, the *qualified inspector* shall conduct site inspections in accordance with the following timetable:
- a. For construction sites where soil disturbance activities are on-going, the *qualified inspector* shall conduct a site inspection at least once every seven (7) calendar days.
 - b. For construction sites where soil disturbance activities are on-going and the *owner or operator* has received authorization in accordance with Part II.D.3 to disturb greater than five (5) acres of soil at any one time, the *qualified inspector* shall conduct at least two (2) site inspections every seven (7) calendar days. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.
 - c. For construction sites where soil disturbance activities have been temporarily suspended (e.g. winter shutdown) and *temporary stabilization* measures have been applied to all disturbed areas, the *qualified inspector* shall conduct a site inspection at least once every thirty (30) calendar days. The *owner or operator* shall notify the DOW Water (SPDES) Program contact at the Regional Office (see contact information in Appendix F) or, in areas under the jurisdiction of a *regulated, traditional land use control MS4*, the *regulated, traditional land use control MS4* (provided the *regulated, traditional land use control MS4* is not the *owner or operator* of the *construction activity*) in writing prior to reducing the frequency of inspections.

d. For construction sites where soil disturbance activities have been shut down with partial project completion, the *qualified inspector* can stop conducting inspections if all areas disturbed as of the project shutdown date have achieved *final stabilization* and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational. The *owner or operator* shall notify the DOW Water (SPDES) Program contact at the Regional Office (see contact information in Appendix F) or, in areas under the jurisdiction of a *regulated, traditional land use control MS4*, the *regulated, traditional land use control MS4* is not the *owner or operator of regulated, traditional land use control MS4* is not the *owner or operator of the construction activity* in writing prior to the shutdown. If soil disturbance activities are not resumed within 2 years from the date of shutdown, the *owner or operator* shall have the *qualified inspector* perform a final inspection and certify that all disturbed areas have achieved *final stabilization*, and all temporary, structural erosion and sediment control measures have been removed; and that all post-construction stormwater management practices have been constructed in conformance with the SWPPP by signing the "*Final Stabilization*" and "Post-Construction Stormwater Management Practice" certification statements on the NOT. The *owner or operator* shall then submit the completed NOT form to the address in Part II.B.1 of this permit.

e. For construction sites that directly *discharge* to one of the 303(d) segments listed in Appendix E or is located in one of the watersheds listed in Appendix C, the *qualified inspector* shall conduct at least two (2) site inspections every seven (7) calendar days. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.

3. At a minimum, the *qualified inspector* shall inspect all erosion and sediment control practices and pollution prevention measures to ensure integrity and effectiveness, all post-construction stormwater management practices under construction to ensure that they are constructed in conformance with the SWPPP, all areas of disturbance that have not achieved *final stabilization*, all points of *discharge* to natural surface waterbodies located within, or immediately adjacent to, the property boundaries of the *construction site*, and all points of *discharge* from the *construction site*.

4. The *qualified inspector* shall prepare an inspection report subsequent to each and every inspection. At a minimum, the inspection report shall include and/or address the following:

- a. Date and time of inspection;
- b. Name and title of person(s) performing inspection;
- c. A description of the weather and soil conditions (e.g. dry, wet, saturated) at the time of the inspection;
- d. A description of the condition of the runoff at all points of *discharge* from the *construction site*. This shall include identification of any *discharges* of sediment from the *construction site*. Include *discharges* from conveyance systems (i.e. pipes, culverts, ditches, etc.) and overland flow;
- e. A description of the condition of all natural surface waterbodies located within, or immediately adjacent to, the property boundaries of the *construction site* which receive runoff from disturbed areas. This shall include identification of any *discharges* of sediment to the surface waterbody;
- f. Identification of all erosion and sediment control practices and pollution prevention measures that need repair or maintenance;
- g. Identification of all erosion and sediment control practices and pollution prevention measures that were not installed properly or are not functioning as designed and need to be reinstalled or replaced;
- h. Description and sketch of areas with active soil disturbance activity, areas that have been disturbed but are inactive at the time of the inspection, and areas that have been stabilized (temporary and/or final) since the last inspection;
- i. Current phase of construction of all post-construction stormwater management practices and identification of all construction that is not in conformance with the SWPPP and technical standards;
- j. Corrective action(s) that must be taken to install, repair, replace or maintain erosion and sediment control practices and pollution prevention measures; and to correct deficiencies identified with the construction of the post-construction stormwater management practice(s);
- k. Identification and status of all corrective actions that were required by previous inspection; and

1. Digital photographs, with date stamp, that clearly show the condition of all practices that have been identified as needing corrective actions. The *qualified inspector* shall attach paper color copies of the digital photographs to the inspection report being maintained onsite within seven (7) calendar days of the date of the inspection. The *qualified inspector* shall also take digital photographs, with date stamp, that clearly show the condition of the practice(s) after the corrective action has been completed. The *qualified inspector* shall attach paper color copies of the digital photographs to the inspection report that documents the completion of the corrective action work within seven (7) calendar days of that inspection.

5. Within one business day of the completion of an inspection, the *qualified inspector* shall notify the *owner or operator* and appropriate contractor or subcontractor identified in Part III.A.6. of this permit of any corrective actions that need to be taken. The contractor or subcontractor shall begin implementing the corrective actions within one business day of this notification and shall complete the corrective actions in a reasonable time frame.

6. All inspection reports shall be signed by the *qualified inspector*. Pursuant to Part II.D.2. of this permit, the inspection reports shall be maintained on site with the SWPPP.

Part V. TERMINATION OF PERMIT COVERAGE

A. Termination of Permit Coverage

1. An *owner or operator* that is eligible to terminate coverage under this permit must submit a completed NOT form to the address in Part II.B.1 of this permit. The NOT form shall be one which is associated with this permit, signed in accordance with Part VII.H of this permit.

2. An *owner or operator* may terminate coverage when one or more the following conditions have been met:

a. Total project completion - All *construction activity* identified in the SWPPP has been completed; and all areas of disturbance have achieved *final stabilization*; and all temporary, structural erosion and sediment control measures have been removed; and all post-construction stormwater management practices have been constructed in conformance with the SWPPP and are operational;

b. Planned shutdown with partial project completion - All soil disturbance activities have ceased; and all areas disturbed as of the project shutdown date have achieved *final stabilization*; and all temporary, structural erosion and sediment control measures have been removed; and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational;

c. A new *owner or operator* has obtained coverage under this permit in accordance with Part II.F. of this permit.

d. The *owner or operator* obtains coverage under an alternative SPDES general permit or an individual SPDES permit.

3. For *construction activities* meeting subdivision 2a. or 2b. of this Part, the *owner or operator* shall have the *qualified inspector* perform a final site inspection prior to submitting the NOT. The *qualified inspector* shall, by signing the "Final Stabilization" and "Post-Construction Stormwater Management Practice certification statements on the NOT", certify that all the requirements in Part V.A.2.a. or b. of this permit have been achieved.

4. For *construction activities* that are subject to the requirements of a *regulated, traditional land use control MS4* and meet subdivision 2a. or 2b. of this Part, the *owner or operator* shall have the *regulated, traditional land use control MS4* sign the "MS4 Acceptance" statement on the NOT in accordance with the requirements in Part VII.H. of this permit. The *regulated, traditional land use control MS4* official, by signing this statement, has determined that it is acceptable for the *owner or operator* to submit the NOT in accordance with the requirements of this Part. The *regulated, traditional land use control MS4* can make this determination by performing a final site inspection themselves or by accepting the *qualified inspector's* final site inspection certification(s) required in Part V.A.3. of this permit.

5. For *construction activities* that require post-construction stormwater management practices and meet subdivision 2a. of this Part, the *owner or operator* must, prior to submitting the NOT, ensure one of the following:

a. the post-construction stormwater management practice(s) and any right-of-way(s) needed to maintain such practice(s) have been deemed to the municipality in which the practice(s) is located.

- b. an executed maintenance agreement is in place with the municipality that will maintain the post-construction stormwater management practice(s),
- c. for post-construction stormwater management practices that are privately owned, the *owner or operator* has a mechanism in place that requires operation and maintenance of the practice(s) in accordance with the operation and maintenance plan, such as a deed covenant in the *owner or operator's* deed of record,
- d. for post-construction stormwater management practices that are owned by a public or private institution (e.g. school, university, hospital), government agency or authority, or public utility; the *owner or operator* has policy and procedures in place that ensures operation and maintenance of the practices in accordance with the operation and maintenance plan.

Part VI. REPORTING AND RETENTION RECORDS

A. Record Retention

The *owner or operator* shall retain a copy of the NOI, NOI Acknowledgment Letter, SWPPP, MS4 SWPPP Acceptance form and any inspection reports that were prepared in conjunction with this permit for a period of at least five (5) years from the date that the Department receives a complete NOT submitted in accordance with Part V. of this general permit.

B. Addresses

With the exception of the NOI, NOT, and MS4 SWPPP Acceptance form (which must be submitted to the address referenced in Part II.B.1 of this permit), all written correspondence requested by the Department, including individual permit applications, shall be sent to the address of the appropriate DOW Water (SPDES) Program contact at the Regional Office listed in Appendix F.

Part VII. STANDARD PERMIT CONDITIONS

A. Duty to Comply

The *owner or operator* must comply with all conditions of this permit. All contractors and subcontractors associated with the project must comply with the terms of the SWPPP. Any non-compliance with this permit constitutes a violation of the Clean Water

Act (CWA) and the ECL and is grounds for an enforcement action against the *owner or operator* and/or the contractor/subcontractor; permit revocation, suspension or modification; or denial of a permit renewal application. Upon a finding of significant non-compliance with this permit or the applicable SWPPP, the Department may order an immediate stop to all *construction activity* at the site until the non-compliance is remedied. The stop work order shall be in writing, shall describe the non-compliance in detail, and shall be sent to the *owner or operator*.

If any human remains or archaeological remains are encountered during excavation, the *owner or operator* must immediately cease, or cause to cease, all *construction activity* in the area of the remains and notify the appropriate Regional Water Engineer (RWE). *Construction activity* shall not resume until written permission to do so has been received from the RWE.

B. Continuation of the Expired General Permit

This permit expires five (5) years from the effective date. If a new general permit is not issued prior to the expiration of this general permit, an *owner or operator* with coverage under this permit may continue to operate and *discharge* in accordance with the terms and conditions of this general permit, if it is extended pursuant to the State Administrative Procedure Act and 6 NYCRR Part 621, until a new general permit is issued.

C. Enforcement

Failure of the *owner or operator*, its contractors, subcontractors, agents and/or assigns to strictly adhere to any of the permit requirements contained herein shall constitute a violation of this permit. There are substantial criminal, civil, and administrative penalties associated with violating the provisions of this permit. Fines of up to \$37,500 per day for each violation and imprisonment for up to fifteen (15) years may be assessed depending upon the nature and degree of the offense.

D. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for an *owner or operator* in an enforcement action that it would have been necessary to halt or reduce the *construction activity* in order to maintain compliance with the conditions of this permit.

E. Duty to Mitigate

The owner or operator and its contractors and subcontractors shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

F. Duty to Provide Information

The owner or operator shall furnish to the Department, within a reasonable specified time period of a written request, all documentation necessary to demonstrate eligibility and any information to determine compliance with this permit or to determine whether cause exists for modifying or revoking this permit, or suspending or denying coverage under this permit, in accordance with the terms and conditions of this permit. The NOI, SWPPP and inspection reports required by this permit are public documents that the owner or operator must make available for review and copying by any person within five (5) business days of the owner or operator receiving a written request by any such person to review these documents. Copying of documents will be done at the requester's expense.

G. Other Information

When the owner or operator becomes aware that they failed to submit any relevant facts, or submitted incorrect information in the NOI or in any of the documents required by this permit, or have made substantive revisions to the SWPPP (e.g. the scope of the project changes significantly, the type of post-construction stormwater management practice(s) changes, there is a reduction in the sizing of the post-construction stormwater management practice, or there is an increase in the disturbance area or impervious area), which were not reflected in the original NOI submitted to the Department, they shall promptly submit such facts or information to the Department using the contact information in Part II.A. of this permit. Failure of the owner or operator to correct or supplement any relevant facts within five (5) business days of becoming aware of the deficiency shall constitute a violation of this permit.

H. Signatory Requirements

1. All NOIs and NOTs shall be signed as follows:
 - a. For a corporation these forms shall be signed by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:

- (i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or
 - (ii) the manager of one or more manufacturing, production or operating facilities, provided the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;
- b. For a partnership or sole proprietorship these forms shall be signed by a general partner or the proprietor, respectively; or
 - c. For a municipality, State, Federal, or other public agency these forms shall be signed by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:
 - (i) the chief executive officer of the agency, or
 - (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).
2. The SWPPP and other information requested by the Department shall be signed by a person described in Part VII.H.1. of this permit or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - a. The authorization is made in writing by a person described in Part VII.H.1. of this permit;
 - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field,

superintendent, position of *equivalent* responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position) and,

c. The written authorization shall include the name, title and signature of the authorized representative and be attached to the SWPPP.

3. All inspection reports shall be signed by the *qualified inspector* that performs the inspection.

4. The MS4 SWPPP Acceptance form shall be signed by the principal executive officer or ranking elected official from the *regulated, traditional land use control MS4*, or by a duly authorized representative of that person.

It shall constitute a permit violation if an incorrect and/or improper signatory authorizes any required forms, SWPPP and/or inspection reports.

I. Property Rights

The issuance of this permit does not convey any property rights of any sort, nor any exclusive privileges, nor does it authorize any injury to private property nor any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations. *Owners or operators* must obtain any applicable conveyances, easements, licenses and/or access to real property prior to *commencing construction activity*.

J. Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.

K. Requirement to Obtain Coverage Under an Alternative Permit

1. The Department may require any owner or operator authorized by this permit to apply for and/or obtain either an individual SPDES permit or another SPDES general permit. When the Department requires any discharger authorized by a general permit to apply for an individual SPDES permit, it shall notify the discharger in writing that a permit application is required. This notice shall

include a brief statement of the reasons for this decision, an application form, a statement setting a time frame for the owner or operator to file the application for an individual SPDES permit, and a deadline, not sooner than 180 days from owner or operator receipt of the notification letter, whereby the authorization to discharge under this general permit shall be terminated.

Applications must be submitted to the appropriate Permit Administrator at the Regional Office. The Department may grant additional time upon demonstration, to the satisfaction of the Department, that additional time to apply for an alternative authorization is necessary or where the Department has not provided a permit determination in accordance with Part 621 of this Title.

2. When an individual SPDES permit is issued to a discharger authorized to discharge under a general SPDES permit for the same *discharge(s)*, the general permit authorization for outfalls authorized under the individual SPDES permit is automatically terminated on the effective date of the individual permit unless termination is earlier in accordance with 6 NYCRR Part 750.

L. Proper Operation and Maintenance

The *owner or operator* shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the *owner or operator* to achieve compliance with the conditions of this permit and with the requirements of the SWPPP.

M. Inspection and Entry

The *owner or operator* shall allow an authorized representative of the Department, EPA, applicable county health department, or, in the case of a *construction site* which discharges through an *MS4*, an authorized representative of the *MS4* receiving the discharge, upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the owner's or operator's premises where a regulated facility or activity is located or conducted or where records must be kept under the conditions of this permit;
2. Have access to and copy at reasonable times, any records that must be kept under the conditions of this permit; and

3. Inspect at reasonable times any facilities or equipment (including monitoring and control equipment), practices or operations regulated or required by this permit.
4. Sample or monitor at reasonable times, for purposes of assuring permit compliance or as otherwise authorized by the Act or ECL, any substances or parameters at any location.

N. Permit Actions

This permit may, at any time, be modified, suspended, revoked, or renewed by the Department in accordance with 6 NYCRR Part 621. The filing of a request by the *owner or operator* for a permit modification, revocation and reissuance, termination, a notification of planned changes or anticipated noncompliance does not limit, diminish and/or stay compliance with any terms of this permit.

O. Definitions

Definitions of key terms are included in Appendix A of this permit.

P. Re-Opener Clause

1. If there is evidence indicating potential or realized impacts on water quality due to any stormwater discharge associated with construction activity covered by this permit, the owner or operator of such discharge may be required to obtain an individual permit or alternative general permit in accordance with Part VII.K. of this permit or the permit may be modified to include different limitations and/or requirements.

2. Any Department initiated permit modification, suspension or revocation will be conducted in accordance with 6 NYCRR Part 621, 6 NYCRR 750-1.18, and 6 NYCRR 750-1.20.

Q. Penalties for Falsification of Forms and Reports

In accordance with 6 NYCRR Part 750-2.4 and 750-2.5, any person who knowingly makes any false material statement, representation, or certification in any application, record, report or other document filed or required to be maintained under this permit, including reports of compliance or noncompliance shall, upon conviction, be punished in accordance with ECL §1-1933 and or Articles 175 and 210 of the New York State Penal Law.

R. Other Permits

Nothing in this permit relieves the *owner or operator* from a requirement to obtain any other permits required by law.

APPENDIX A – Acronyms and Definitions

Acronyms

APO – Agency Preservation Officer
 BMP – Best Management Practice
 CPESC – Certified Professional in Erosion and Sediment Control
 Cpv – Channel Protection Volume
 CWA – Clean Water Act (or the Federal Water Pollution Control Act, 33 U.S.C. §1251 et seq.)
 DOW – Division of Water
 EAF – Environmental Assessment Form
 ECL - Environmental Conservation Law
 EPA – U. S. Environmental Protection Agency
 HSG – Hydrologic Soil Group
 MS4 – Municipal Separate Storm Sewer System
 NOI – Notice of Intent
 NOT – Notice of Termination
 NPDES – National Pollutant Discharge Elimination System
 OPRHP – Office of Parks, Recreation and Historic Places
 Qf – Extreme Flood
 Qp – Overbank Flood
 RRV – Runoff Reduction Volume
 RWE – Regional Water Engineer
 SEQR – State Environmental Quality Review
 SEQRA - State Environmental Quality Review Act
 SHPA – State Historic Preservation Act
 SPDES – State Pollutant Discharge Elimination System
 SWPPP – Stormwater Pollution Prevention Plan
 TMDL – Total Maximum Daily Load
 UPA – Uniform Procedures Act
 USDA – United States Department of Agriculture
 WQv – Water Quality Volume

Definitions

All definitions in this section are solely for the purposes of this permit.

Agricultural Building – a structure designed and constructed to house farm implements, hay, grain, poultry, livestock or other horticultural products; excluding any structure designed, constructed or used, in whole or in part, for human habitation, as a place of employment where agricultural products are processed, treated or packaged, or as a place used by the public.

Agricultural Property – means the land for construction of a barn, *agricultural building*, silo, stockyard, pen or other structural practices identified in Table II in the “Agricultural Management Practices Catalog for Nonpoint Source Pollution in New York State” prepared by the Department in cooperation with agencies of New York Nonpoint Source Coordinating Committee (dated June 2007).

Alter Hydrology from Pre to Post-Development Conditions - means the post-development peak flow rate(s) has increased by more than 5% of the pre-developed condition for the design storm of interest (e.g. 10 yr and 100 yr).

Combined Sewer - means a sewer that is designed to collect and convey both “sewage” and “stormwater”.

Commence (Commencement of) Construction Activities - means the initial disturbance of soils associated with clearing, grading or excavation activities; or other construction related activities that disturb or expose soils such as demolition, stockpiling of fill material, and the initial installation of erosion and sediment control practices required in the SWPPP. See definition for “*Construction Activity(ies)*” also.

Construction Activity(ies) - means any clearing, grading, excavation, filling, demolition or stockpiling activities that result in soil disturbance. Clearing activities can include, but are not limited to, logging equipment operation, the cutting and skidding of trees, stump removal and/or brush root removal. Construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of a facility.

Construction Site – means the land area where *construction activity(ies)* will occur. See definition for “*Commence (Commencement of) Construction Activities*” and “*Larger Common Plan of Development or Sale*” also.

Dewatering – means the act of draining rainwater and/or groundwater from building foundations, vaults or excavations/trenches.

Direct Discharge (to a specific surface waterbody) - means that runoff flows from a *construction site* by overland flow and the first point of discharge is the specific surface waterbody, or runoff flows from a *construction site* to a separate storm sewer system

and the first point of discharge from the separate storm sewer system is the specific surface waterbody.

Discharge(s) - means any addition of any pollutant to waters of the State through an outlet or *point source*.

Embankment –means an earthen or rock slope that supports a road/highway.

Endangered or Threatened Species – see 6 NYCRR Part 182 of the Department's rules and regulations for definition of terms and requirements.

Environmental Conservation Law (ECL) - means chapter 43-B of the Consolidated Laws of the State of New York, entitled the Environmental Conservation Law.

Equivalent (Equivalence) – means that the practice or measure meets all the performance, longevity, maintenance, and safety objectives of the technical standard and will provide an equal or greater degree of water quality protection.

Final Stabilization - means that all soil disturbance activities have ceased and a uniform, perennial vegetative cover with a density of eighty (80) percent over the entire pervious surface has been established; or other equivalent stabilization measures, such as permanent landscape mulches, rock rip-rap or washed/crushed stone have been applied on all disturbed areas that are not covered by permanent structures, concrete or pavement.

General SPDES permit - means a SPDES permit issued pursuant to 6 NYCRR Part 750-1.21 and Section 70-0117 of the ECL authorizing a category of discharges.

Groundwater(s) - means waters in the saturated zone. The saturated zone is a subsurface zone in which all the interstices are filled with water under pressure greater than that of the atmosphere. Although the zone may contain gas-filled interstices or interstices filled with fluids other than water, it is still considered saturated.

Historic Property – means any building, structure, site, object or district that is listed on the State or National Registers of Historic Places or is determined to be eligible for listing on the State or National Registers of Historic Places.

Impervious Area (Cover) - means all impermeable surfaces that cannot effectively infiltrate rainfall. This includes paved, concrete and gravel surfaces (i.e. parking lots, driveways, roads, runways and sidewalks); building rooftops and miscellaneous impermeable structures such as patios, pools, and sheds.

Infeasible – means not technologically possible, or not economically practicable and achievable in light of best industry practices.

Larger Common Plan of Development or Sale - means a contiguous area where multiple separate and distinct construction activities are occurring, or will occur, under one plan. The term "plan" in "larger common plan of development or sale" is broadly defined as any announcement or piece of documentation (including a sign, public notice or hearing, marketing plan, advertisement, drawing, permit application, State Environmental Quality Review Act (SEQRA) environmental assessment form or other documents, zoning request, computer design, etc.) or physical demarcation (including boundary signs, lot stakes, surveyor markings, etc.) indicating that construction activities may occur on a specific plot.

For discrete construction projects that are located within a larger common plan of development or sale that are at least 1/4 mile apart, each project can be treated as a separate plan of development or sale provided any interconnecting road, pipeline or utility project that is part of the same "common plan" is not concurrently being disturbed.

Minimize – means reduce and/or eliminate to the extent achievable using control measures (including best management practices) that are technologically available and economically practicable and achievable in light of best industry practices.

Municipal Separate Storm Sewer (MS4) - a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):

- (i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to surface waters of the State;
- (ii) Designed or used for collecting or conveying stormwater;
- (iii) Which is not a combined sewer; and
- (iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

National Pollutant Discharge Elimination System (NPDES) - means the national system for the issuance of wastewater and stormwater permits under the Federal Water Pollution Control Act (Clean Water Act).

Natural Buffer –means an undisturbed area with natural cover running along a surface water (e.g. wetland, stream, river, lake, etc.).

New Development – means any land disturbance that does not meet the definition of Redevelopment Activity included in this appendix.

New York State Erosion and Sediment Control Certificate Program – a certificate program that establishes and maintains a process to identify and recognize individuals who are capable of developing, designing, inspecting and maintaining erosion and sediment control plans on projects that disturb soils in New York State. The certificate program is administered by the New York State Conservation District Employees Association.

NOI Acknowledgment Letter - means the letter that the Department sends to an owner or operator to acknowledge the Department's receipt and acceptance of a complete Notice of Intent. This letter documents the owner's or operator's authorization to discharge in accordance with the general permit for stormwater discharges from *construction activity*.

Nonpoint Source - means any source of water pollution or pollutants which is not a discrete conveyance or *point source* permitted pursuant to Title 7 or 8 of Article 17 of the Environmental Conservation Law (see ECL Section 17-1403).

Overbank –means flow events that exceed the capacity of the stream channel and spill out into the adjacent floodplain.

Owner or Operator - means the person, persons or legal entity which owns or leases the property on which the *construction activity* is occurring; an entity that has operational control over the construction plans and specifications, including the ability to make modifications to the plans and specifications; and/or an entity that has day-to-day operational control of those activities at a project that are necessary to ensure compliance with the permit conditions.

Performance Criteria – means the design criteria listed under the "Required Elements" sections in Chapters 5, 6 and 10 of the technical standard, New York State Stormwater Management Design Manual, dated January 2015. It does not include the Sizing Criteria (i.e. WQv, RRv, Cp, Qp and Qf) in Part I.C.2. of the permit.

Point Source - means any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, vessel or other floating craft, or landfill leachate collection system from which *pollutants* are or may be discharged.

Pollutant - means dredged spoil, filter backwash, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand and industrial, municipal, agricultural waste and ballast discharged into water; which may cause or might reasonably be expected to cause pollution of the waters of the state in contravention of the standards or guidance values adopted as provided in 6 NYCRR Parts 700 et seq .

Qualified Inspector - means a person that is knowledgeable in the principles and practices of erosion and sediment control, such as a licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, New York State Erosion and Sediment Control Certificate Program holder or other Department endorsed individual(s).

It can also mean someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided that person has training in the principles and practices of erosion and sediment control. Training in the principles and practices of erosion and sediment control means that the individual working under the direct supervision of the licensed Professional Engineer or Registered Landscape Architect has received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity. After receiving the initial training, the individual working under the direct supervision of the licensed Professional Engineer or Registered Landscape Architect shall receive four (4) hours of training every three (3) years.

It can also mean a person that meets the *Qualified Professional* qualifications in addition to the *Qualified Inspector* qualifications.

Note: Inspections of any post-construction stormwater management practices that include structural components, such as a dam for an impoundment, shall be performed by a licensed Professional Engineer.

Qualified Professional - means a person that is knowledgeable in the principles and practices of stormwater management and treatment, such as a licensed Professional Engineer, Registered Landscape Architect or other Department endorsed individual(s). Individuals preparing SWPPPs that require the post-construction stormwater management practice component must have an understanding of the principles of hydrology, water quality management practice design, water quantity control design, and, in many cases, the principles of hydraulics. All components of the SWPPP that involve the practice of engineering, as defined by the NYS Education Law (see Article 145), shall be prepared by, or under the direct supervision of, a professional engineer licensed to practice in the State of New York.

Redevelopment Activity(ies) – means the disturbance and reconstruction of existing impervious area, including impervious areas that were removed from a project site within five (5) years of preliminary project plan submission to the local government (i.e. site plan, subdivision, etc.).

Regulated, Traditional Land Use Control MS4 - means a city, town or village with land use control authority that is authorized to discharge under New York State DEC's

SPDES General Permit For Stormwater Discharges from Municipal Separate Stormwater Systems (MS4s) or the City of New York's Individual SPDES Permit for their Municipal Separate Storm Sewer Systems (NY-0287890).

Routine Maintenance Activity - means *construction activity* that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of a facility, including, but not limited to:

- Re-grading of gravel roads or parking lots,
- Cleaning and shaping of existing roadside ditches and culverts that maintains the approximate original line and grade, and hydraulic capacity of the ditch,
- Cleaning and shaping of existing roadside ditches that does not maintain the approximate original grade, hydraulic capacity and purpose of the ditch if the changes to the line and grade, hydraulic capacity or purpose of the ditch are installed to improve water quality and quantity controls (e.g. installing grass lined ditch),
- Placement of aggregate shoulder backing that stabilizes the transition between the road shoulder and the ditch or *embankment*,
- Full depth milling and filling of existing asphalt pavements, replacement of concrete pavement slabs, and similar work that does not expose soil or disturb the bottom six (6) inches of subbase material,
- Long-term use of equipment storage areas at or near highway maintenance facilities,
- Removal of sediment from the edge of the highway to restore a previously existing sheet-flow drainage connection from the highway surface to the highway ditch or *embankment*,
- Existing use of Canal Corp owned upland disposal sites for the canal, and
- Replacement of curbs, gutters, sidewalks and guide rail posts.

Site limitations – means site conditions that prevent the use of an infiltration technique and or infiltration of the total WQv. Typical site limitations include: seasonal high groundwater, shallow depth to bedrock, and soils with an infiltration rate less than 0.5 inches/hour. The existence of site limitations shall be confirmed and documented using actual field testing (i.e. test pits, soil borings, and infiltration test) or using information from the most current United States Department of Agriculture (USDA) Soil Survey for the County where the project is located.

Sizing Criteria – means the criteria included in Part I.C.2 of the permit that are used to size post-construction stormwater management control practices. The criteria include: Water Quality Volume (WQv), Runoff Reduction Volume (RRv), Channel Protection Volume (Cpv), *Overbank Flood (Qp)*, and *Extreme Flood (Qf)*.

State Pollutant Discharge Elimination System (SPDES) - means the system established pursuant to Article 17 of the ECL and 6 NYCRR Part 750 for issuance of permits authorizing discharges to the waters of the state.

Steep Slope – means land area designated on the current United States Department of Agriculture ("USDA") Soil Survey as Soil Slope Phase "D", (provided the map unit name is inclusive of slopes greater than 25%) , or Soil Slope Phase E or F, (regardless of the map unit name), or a combination of the three designations.

Streambank – as used in this permit, means the terrain alongside the bed of a creek or stream. The bank consists of the sides of the channel, between which the flow is confined.

Stormwater Pollution Prevention Plan (SWPPP) – means a project specific report, including construction drawings, that among other things: describes the construction activity(ies), identifies the potential sources of pollution at the *construction site*; describes and shows the stormwater controls that will be used to control the pollutants (i.e. erosion and sediment controls); for many projects, includes post-construction, stormwater management controls; and identifies procedures the *owner or operator* will implement to comply with the terms and conditions of the permit. See Part III of the permit for a complete description of the information that must be included in the SWPPP.

Surface Waters of the State - shall be construed to include lakes, bays, sounds, ponds, impounding reservoirs, springs, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Atlantic ocean within the territorial seas of the state of New York and all other bodies of surface water, natural or artificial, inland or coastal, fresh or salt, public or private (except those private waters that do not combine or effect a junction with natural surface waters), which are wholly or partially within or bordering the state or within its jurisdiction. Waters of the state are further defined in 6 NYCRR Parts 800 to 941.

Temporarily Ceased – means that an existing disturbed area will not be disturbed again within 14 calendar days of the previous soil disturbance.

Temporary Stabilization - means that exposed soil has been covered with material(s) as set forth in the technical standard, New York Standards and Specifications for Erosion and Sediment Control, to prevent the exposed soil from eroding. The materials can include, but are not limited to, mulch, seed and mulch, and erosion control mats (e.g. jute twisted yarn, excelsior wood fiber mats).

Total Maximum Daily Loads (TMDLs) - A TMDL is the sum of the allowable loads of a single pollutant from all contributing point and *nonpoint sources*. It is a calculation of the maximum amount of a pollutant that a waterbody can receive on a daily basis and still meet *water quality standards*, and an allocation of that amount to the pollutant's sources. A TMDL stipulates wasteload allocations (WLAs) for *point source* discharges, load allocations (LAs) for *nonpoint sources*, and a margin of safety (MOS).

Trained Contractor - means an employee from the contracting (construction) company, identified in Part III.A.6., that has received four (4) hours of Department endorsed

training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity. After receiving the initial training, the *trained contractor* shall receive four (4) hours of training every three (3) years.

It can also mean an employee from the contracting (construction) company, identified in Part III.A.6., that meets the *qualified inspector* qualifications (e.g. licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, New York State Erosion and Sediment Control Certificate Program holder, or someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided they have received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity).

The *trained contractor* is responsible for the day to day implementation of the SWPPP.

Uniform Procedures Act (UPA) Permit - means a permit required under 6 NYCRR Part 621 of the Environmental Conservation Law (ECL), Article 70.

Water Quality Standard - means such measures of purity or quality for any waters in relation to their reasonable and necessary use as promulgated in 6 NYCRR Part 700 et seq.

APPENDIX B – Required SWPPP Components by Project Type

**Table 1
Construction Activities that Require the Preparation of a SWPPP That Only
Includes Erosion and Sediment Controls**

<p>The following construction activities that involve soil disturbances of one (1) or more acres of land, but less than five (5) acres:</p> <ul style="list-style-type: none"> • Single family home <u>not</u> located in one of the watersheds listed in Appendix C or <u>not directly discharging</u> to one of the 303(d) segments listed in Appendix E • Single family residential subdivisions with 25% or less impervious cover at total site build-out and <u>not</u> located in one of the watersheds listed in Appendix C and <u>not</u> directly discharging to one of the 303(d) segments listed in Appendix E • Construction of a barn or other <i>agricultural building</i>, silo, stock yard or pen. 	<p>The following construction activities that involve soil disturbances between five thousand (5000) square feet and one (1) acre of land:</p> <p>All construction activities located in the watersheds identified in Appendix D that involve soil disturbances between five thousand (5,000) square feet and one (1) acre of land.</p>	<p>The following construction activities that involve soil disturbances of one (1) or more acres of land:</p> <ul style="list-style-type: none"> • Installation of underground, linear utilities; such as gas lines, fiber-optic cable, cable TV, electric, telephone, sewer mains, and water mains • Environmental enhancement projects, such as wetland mitigation projects, stormwater retrofits and stream restoration projects • Pond construction • Linear bike paths running through areas with vegetative cover, including bike paths surfaced with an impervious cover • Cross-country ski trails and walking/hiking trails • Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that are not part of residential, commercial or institutional development; • Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that include incidental shoulder or curb work along an existing highway to support construction of the sidewalk, bike path or walking path. • Slope stabilization projects • Slope flattening that changes the grade of the site, but does not significantly change the runoff characteristics
--	--	--

Table 1 (Continued) CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A SWPPP THAT ONLY INCLUDES EROSION AND SEDIMENT CONTROLS

<p>The following construction activities that involve soil disturbances of one (1) or more acres of land:</p> <ul style="list-style-type: none"> • Spoil areas that will be covered with vegetation • Vegetated open space projects (i.e. recreational parks, lawns, meadows, fields, downhill ski trails) excluding projects that <i>alter hydrology from pre to post development</i> conditions. • Athletic fields (natural grass) that do not include the construction or reconstruction of <i>impervious area and</i> do not <i>alter hydrology from pre to post development</i> conditions • Demolition project where vegetation will be established, and no redevelopment is planned • Overhead electric transmission line project that does not include the construction of permanent access roads or parking areas surfaced with <i>impervious cover</i> • Structural practices as identified in Table II in the "Agricultural Management Practices Catalog for Nonpoint Source Pollution in New York State", excluding projects that involve soil disturbances of greater than five acres and construction activities that include the construction or reconstruction of <i>impervious area</i> • Temporary access roads, median crossovers, detour roads, lanes, or other temporary impervious areas that will be restored to pre-construction conditions once the construction activity is complete
--

Table 2 CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A SWPPP THAT INCLUDES POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES

<p>The following construction activities that involve soil disturbances of one (1) or more acres of land:</p> <ul style="list-style-type: none"> • Single family home located in one of the watersheds listed in Appendix C or <i>directly discharging</i> to one of the 303(d) segments listed in Appendix E • Single family home that disturbs five (5) or more acres of land • Single family residential subdivisions located in one of the watersheds listed in Appendix C or <i>directly discharging</i> to one of the 303(d) segments listed in Appendix E • Single family residential subdivisions that involve soil disturbances of between one (1) and five (5) acres of land with greater than 25% impervious cover at total site build-out • Single family residential subdivisions that involve soil disturbances of five (5) or more acres of land, and single family residential subdivisions that involve soil disturbances of less than five (5) acres that are part of a larger common plan of development or sale that will ultimately disturb five or more acres of land • Multi-family residential developments; includes duplexes, townhomes, condominiums, senior housing complexes, apartment complexes, and mobile home parks • Airports • Amusement parks • Breweries, cideries, and wineries, including establishments constructed on agricultural land • Campgrounds • Cemeteries that include the construction or reconstruction of impervious area (>5% of disturbed area) or <i>alter the hydrology from pre to post development</i> conditions • Commercial developments • Churches and other places of worship • Construction of a barn or other <i>agricultural building</i> (e.g. silo) and structural practices as identified in Table II in the "Agricultural Management Practices Catalog for Nonpoint Source Pollution in New York State" that include the construction or reconstruction of <i>impervious area</i>, excluding projects that involve soil disturbances of less than five acres. • Golf courses • Institutional development; includes hospitals, prisons, schools and colleges • Industrial facilities; includes industrial parks • Landfills • Municipal facilities; includes highway garages, transfer stations, office buildings, POTW's, water treatment plants, and water storage tanks • Office complexes • Playgrounds that include the construction or reconstruction of impervious area • Sports complexes • Racetracks; includes racetracks with earthen (dirt) surface • Road construction or reconstruction, including roads constructed as part of the construction activities listed in Table 1
--

Table 2 (Continued)

CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A SWPPP THAT INCLUDES POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES

<p>The following construction activities that involve soil disturbances of one (1) or more acres of land:</p> <ul style="list-style-type: none"> • Parking lot construction or reconstruction, including parking lots constructed as part of the construction activities listed in Table 1 • Athletic fields (natural grass) that include the construction or reconstruction of impervious area (>5% of disturbed area) or alter the hydrology from pre to post development conditions • Athletic fields with artificial turf • Permanent access roads, parking areas, substations, compressor stations and well drilling pads, surfaced with <i>impervious cover</i>, and constructed as part of an over-head electric transmission line project, wind-power project, cell tower project, oil or gas well drilling project, sewer or water main project or other linear utility project • Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that are part of a residential, commercial or institutional development • Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that are part of a highway construction or reconstruction project • All other construction activities that include the construction or reconstruction of <i>impervious area</i> or alter the hydrology from pre to post development conditions, and are not listed in Table 1
--

APPENDIX C – Watersheds Requiring Enhanced Phosphorus Removal

Watersheds where owners or operators of construction activities identified in Table 2 of Appendix B must prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the Enhanced Phosphorus Removal Standards included in the technical standard, New York State Stormwater Management Design Manual (“Design Manual”).

- | |
|--|
| <ul style="list-style-type: none"> • Entire New York City Watershed located east of the Hudson River - Figure 1 • Onondaga Lake Watershed - Figure 2 • Greenwood Lake Watershed -Figure 3 • Oscawana Lake Watershed – Figure 4 • Kinderhook Lake Watershed – Figure 5 |
|--|

Figure 1 - New York City Watershed East of the Hudson

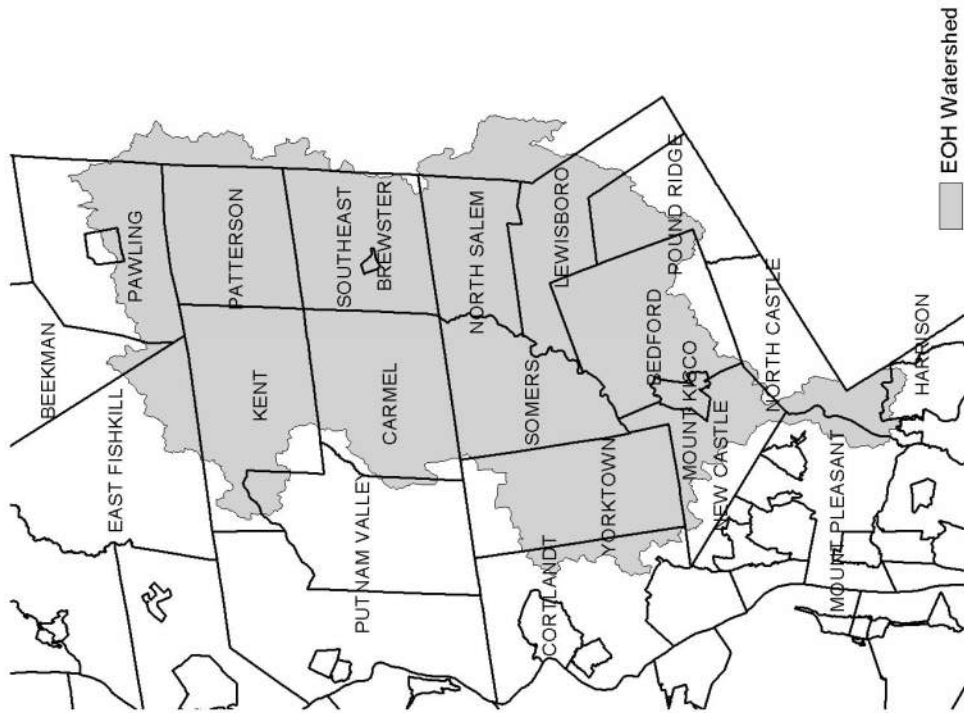


Figure 2 - Onondaga Lake Watershed

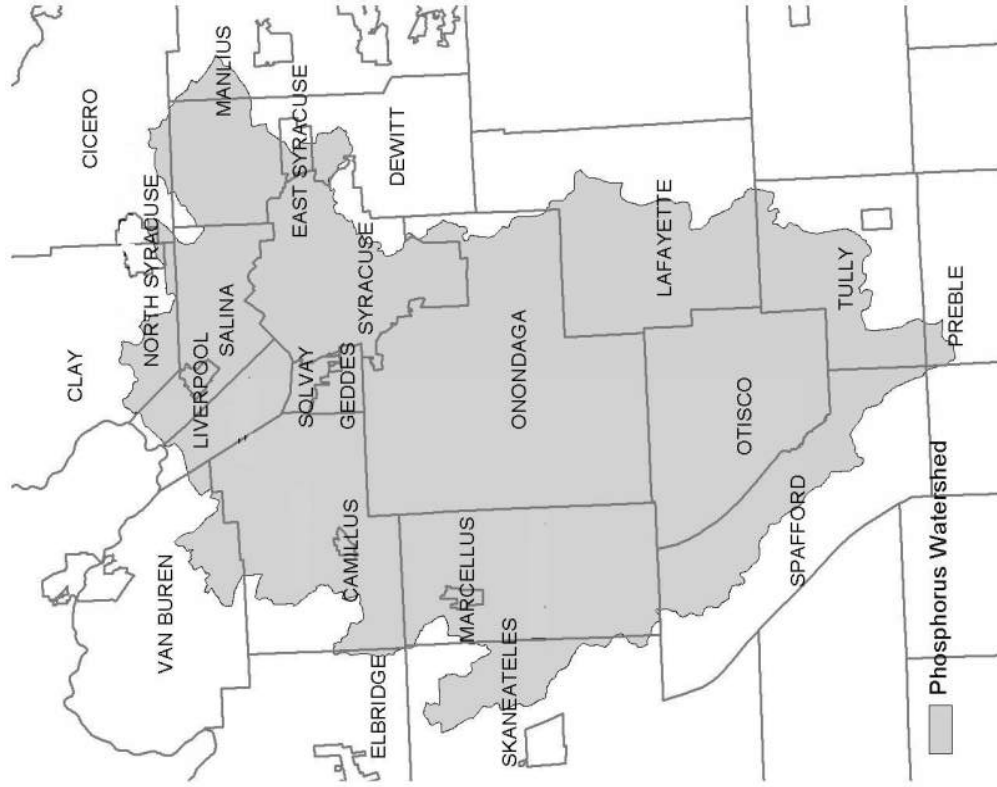


Figure 3 - Greenwood Lake Watershed

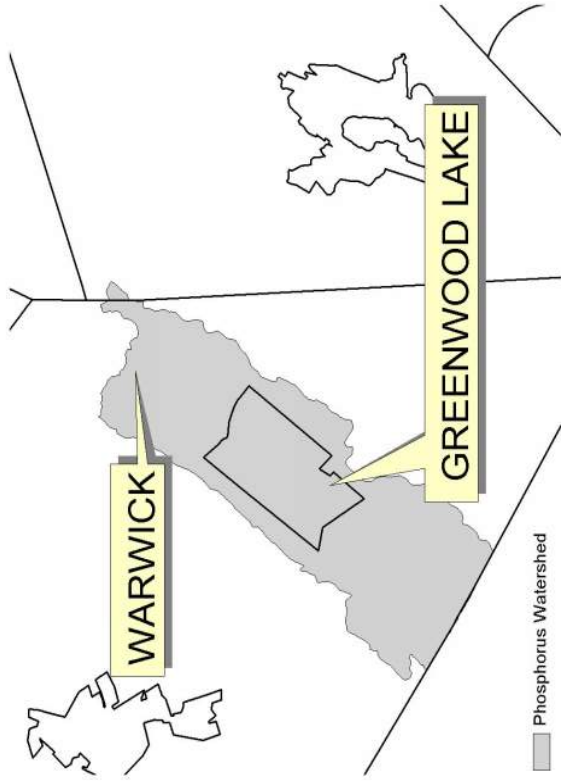


Figure 4 - Oscawana Lake Watershed

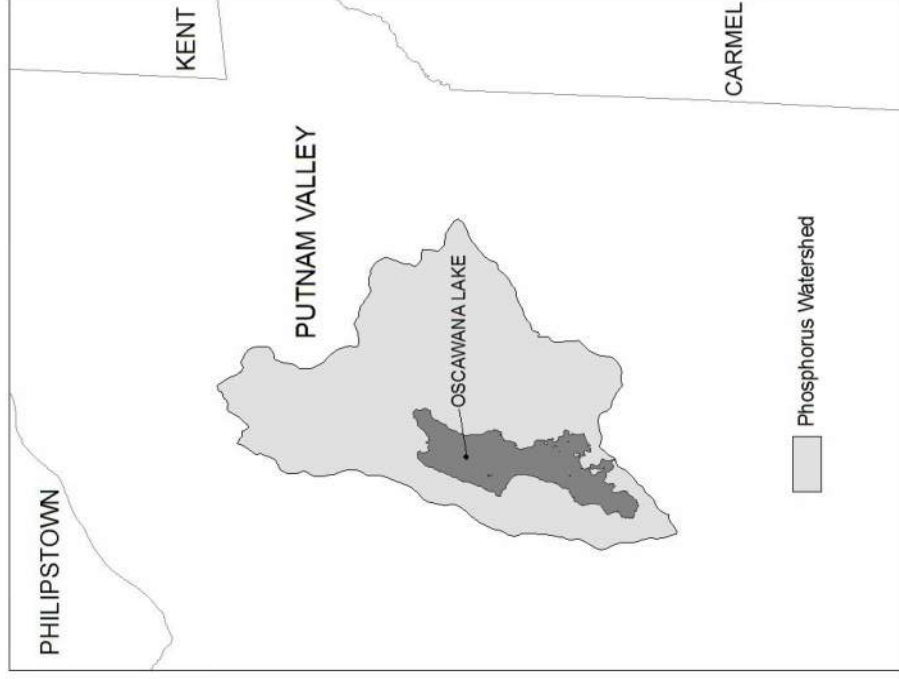
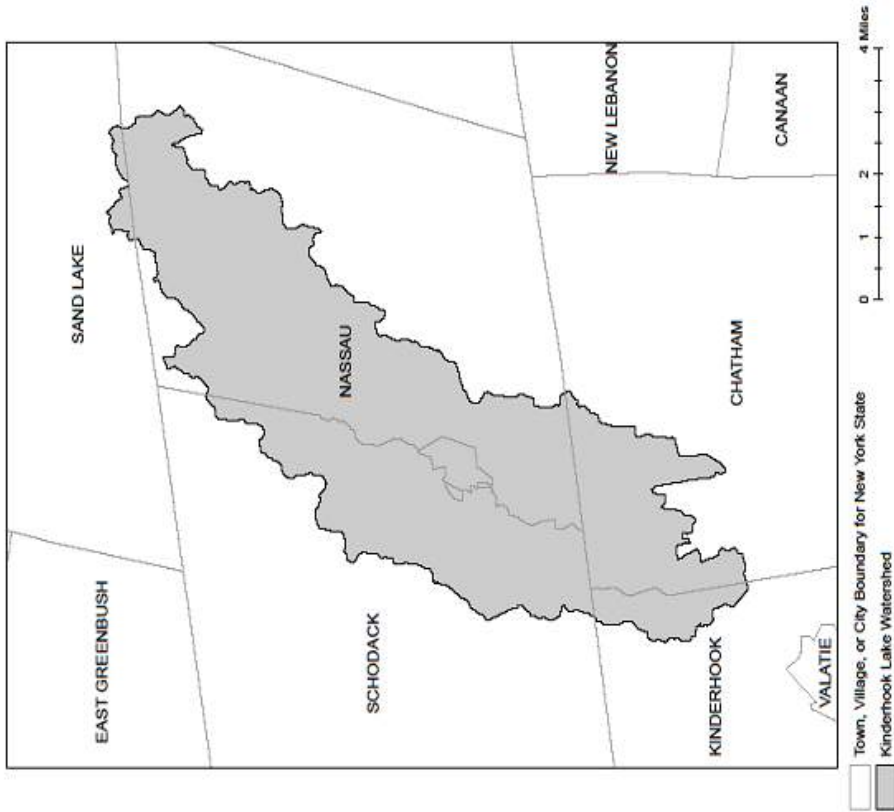


Figure 5 - Kinderhook Lake Watershed



APPENDIX D – Watersheds with Lower Disturbance Threshold

Watersheds where owners or operators of construction activities that involve soil disturbances between five thousand (5000) square feet and one (1) acre of land must obtain coverage under this permit.

Entire New York City Watershed that is located east of the Hudson River - See Figure 1 in Appendix C

303(d) Segments Impaired by Construction Related Pollutant(s)

Dutchess	Fall Kill and tribs	Nutrients
Dutchess	Hillside Lake	Nutrients
Dutchess	Wappingers Lake	Nutrients
Dutchess	Wappingers Lake	Silt/Sediment
Erie	Beeman Creek and tribs	Nutrients
Erie	Ellicott Creek, Lower, and tribs	Silt/Sediment
Erie	Ellicott Creek, Lower, and tribs	Nutrients
Erie	Green Lake	Nutrients
Erie	Little Sister Creek, Lower, and tribs	Nutrients
Erie	Murder Creek, Lower, and tribs	Nutrients
Erie	Rush Creek and tribs	Nutrients
Erie	Scajaquada Creek, Lower, and tribs	Nutrients
Erie	Scajaquada Creek, Middle, and tribs	Nutrients
Erie	Scajaquada Creek, Upper, and tribs	Nutrients
Erie	South Branch Smoke Cr, Lower, and tribs	Silt/Sediment
Erie	South Branch Smoke Cr, Lower, and tribs	Nutrients
Essex	Lake Champlain, Main Lake, South	Nutrients
Essex	Lake Champlain, South Lake	Nutrients
Essex	Willsboro Bay	Nutrients
Genesee	Bigelow Creek and tribs	Nutrients
Genesee	Black Creek, Middle, and minor tribs	Nutrients
Genesee	Black Creek, Upper, and minor tribs	Nutrients
Genesee	Bowen Brook and tribs	Nutrients
Genesee	LeRoy Reservoir	Nutrients
Genesee	Oak Orchard Cr, Upper, and tribs	Nutrients
Genesee	Tonawanda Creek, Middle, Main Stem	Nutrients
Greene	Schoharie Reservoir	Silt/Sediment
Greene	Sleepy Hollow Lake	Silt/Sediment
Herkimer	Steele Creek tribs	Silt/Sediment
Herkimer	Steele Creek tribs	Nutrients
Jefferson	Moon Lake	Nutrients
Kings	Hendrix Creek	Nutrients
Kings	Prospect Park Lake	Nutrients
Lewis	Mill Creek/South Branch, and tribs	Nutrients
Livingston	Christie Creek and tribs	Nutrients
Livingston	Conesus Lake	Nutrients
Livingston	Mill Creek and minor tribs	Silt/Sediment
Monroe	Black Creek, Lower, and minor tribs	Nutrients
Monroe	Buck Pond	Nutrients
Monroe	Cranberry Pond	Nutrients

APPENDIX E – 303(d) Segments Impaired by Construction Related Pollutant(s)

List of 303(d) segments impaired by pollutants related to *construction activity* (e.g. silt, sediment or nutrients). The list was developed using "The Final New York State 2016 Section 303(d) List of Impaired Waters Requiring a TMDL/Other Strategy" dated November 2016. *Owners or operators* of single family home and single family residential subdivisions with 25% or less total impervious cover at total site build-out that involve soil disturbances of one or more acres of land, but less than 5 acres, and *directly discharge* to one of the listed segments below shall prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the New York State Stormwater Management Design Manual ("Design Manual"), dated January 2015.

COUNTY	WATERBODY	POLLUTANT
Albany	Ann Lee (Shakers) Pond, Stump Pond	Nutrients
Albany	Basic Creek Reservoir	Nutrients
Allegany	Amity Lake, Saunders Pond	Nutrients
Bronx	Long Island Sound, Bronx	Nutrients
Bronx	Van Cortlandt Lake	Nutrients
Broome	Fly Pond, Deer Lake, Sky Lake	Nutrients
Broome	Minor Tribs to Lower Susquehanna (north)	Nutrients
Broome	Whitney Point Lake/Reservoir	Nutrients
Cattaraugus	Allegheny River/Reservoir	Nutrients
Cattaraugus	Beaver (Alma) Lake	Nutrients
Cattaraugus	Case Lake	Nutrients
Cattaraugus	Linyco/Club Pond	Nutrients
Cayuga	Duck Lake	Nutrients
Cayuga	Little Sodus Bay	Nutrients
Chautauqua	Bear Lake	Nutrients
Chautauqua	Chadakoin River and tribs	Nutrients
Chautauqua	Chautauqua Lake, North	Nutrients
Chautauqua	Chautauqua Lake, South	Nutrients
Chautauqua	Findley Lake	Nutrients
Chautauqua	Hulburt/Clymer Pond	Nutrients
Clinton	Great Chazy River, Lower, Main Stem	Silt/Sediment
Clinton	Lake Champlain, Main Lake, Middle	Nutrients
Clinton	Lake Champlain, Main Lake, North	Nutrients
Columbia	Kinderhook Lake	Nutrients
Columbia	Robinson Pond	Nutrients
Cortland	Dean Pond	Nutrients

303(d) Segments Impaired by Construction Related Pollutant(s)

Monroe	Lake Ontario Shoreline, Western	Nutrients
Monroe	Long Pond	Nutrients
Monroe	Mill Creek and tribs	Nutrients
Monroe	Mill Creek/Blue Pond Outlet and tribs	Nutrients
Monroe	Minor Tribs to Irondequoit Bay	Nutrients
Monroe	Rochester Embayment - East	Nutrients
Monroe	Rochester Embayment - West	Nutrients
Monroe	Shipbuilders Creek and tribs	Nutrients
Monroe	Thomas Creek/White Brook and tribs	Nutrients
Nassau	Beaver Lake	Nutrients
Nassau	Camaans Pond	Nutrients
Nassau	East Meadow Brook, Upper, and tribs	Silt/Sediment
Nassau	East Rockaway Channel	Nutrients
Nassau	Grant Park Pond	Nutrients
Nassau	Hempstead Bay	Nutrients
Nassau	Hempstead Lake	Nutrients
Nassau	Hewlett Bay	Nutrients
Nassau	Hog Island Channel	Nutrients
Nassau	Long Island Sound, Nassau County Waters	Nutrients
Nassau	Massapequa Creek and tribs	Nutrients
Nassau	Milburn/Parsonage Creeks, Upp, and tribs	Nutrients
Nassau	Reynolds Channel, west	Nutrients
Nassau	Tidal Tribs to Hempstead Bay	Nutrients
Nassau	Trib (fresh) to East Bay	Nutrients
Nassau	Trib (fresh) to East Bay	Silt/Sediment
Nassau	Trib to Smith/Halls Ponds	Nutrients
Nassau	Woodmere Channel	Nutrients
New York	Harlem Meer	Nutrients
New York	The Lake in Central Park	Nutrients
Niagara	Bergholtz Creek and tribs	Nutrients
Niagara	Hyde Park Lake	Nutrients
Niagara	Lake Ontario Shoreline, Western	Nutrients
Niagara	Lake Ontario Shoreline, Western	Nutrients
Oneida	Ballou, Nail Creeks and tribs	Nutrients
Onondaga	Harbor Brook, Lower, and tribs	Nutrients
Onondaga	Ley Creek and tribs	Nutrients
Onondaga	Minor Tribs to Onondaga Lake	Nutrients
Onondaga	Ninemile Creek, Lower, and tribs	Nutrients
Onondaga	Onondaga Creek, Lower, and tribs	Nutrients
Onondaga	Onondaga Creek, Middle, and tribs	Nutrients

303(d) Segments Impaired by Construction Related Pollutant(s)

Onondaga	Onondaga Lake, northern end	Nutrients
Onondaga	Onondaga Lake, southern end	Nutrients
Ontario	Great Brook and minor tribs	Silt/Sediment
Ontario	Great Brook and minor tribs	Nutrients
Ontario	Hemlock Lake Outlet and minor tribs	Nutrients
Ontario	Honeoye Lake	Nutrients
Orange	Greenwood Lake	Nutrients
Orange	Monhagen Brook and tribs	Nutrients
Orange	Orange Lake	Nutrients
Orleans	Lake Ontario Shoreline, Western	Nutrients
Orleans	Lake Ontario Shoreline, Western	Nutrients
Oswego	Lake Neatahwanta	Nutrients
Oswego	Pleasant Lake	Nutrients
Putnam	Bog Brook Reservoir	Nutrients
Putnam	Boyd Corners Reservoir	Nutrients
Putnam	Croton Falls Reservoir	Nutrients
Putnam	Diverting Reservoir	Nutrients
Putnam	East Branch Reservoir	Nutrients
Putnam	Lake Carmel	Nutrients
Putnam	Middle Branch Reservoir	Nutrients
Putnam	Oscawana Lake	Nutrients
Putnam	Palmer Lake	Nutrients
Putnam	West Branch Reservoir	Nutrients
Queens	Bergen Basin	Nutrients
Queens	Flushing Creek/Bay	Nutrients
Queens	Jamaica Bay, Eastern, and tribs (Queens)	Nutrients
Queens	Kissena Lake	Nutrients
Queens	Meadow Lake	Nutrients
Queens	Willow Lake	Nutrients
Rensselaer	Nassau Lake	Nutrients
Rensselaer	Snyders Lake	Nutrients
Richmond	Grasmere Lake/Bradys Pond	Nutrients
Rockland	Congers Lake, Swartout Lake	Nutrients
Rockland	Rockland Lake	Nutrients
Saratoga	Ballston Lake	Nutrients
Saratoga	Dwaas Kill and tribs	Silt/Sediment
Saratoga	Dwaas Kill and tribs	Nutrients
Saratoga	Lake Lonely	Nutrients
Saratoga	Round Lake	Nutrients
Saratoga	Trib to Lake Lonely	Nutrients

303(d) Segments Impaired by Construction Related Pollutant(s)

Schenectady	Collins Lake	Nutrients
Schenectady	Duane Lake	Nutrients
Schenectady	Mariaville Lake	Nutrients
Schoharie	Engleville Pond	Nutrients
Schoharie	Summit Lake	Nutrients
Seneca	Reeder Creek and tribs	Nutrients
St.Lawrence	Black Lake Outlet/Black Lake	Nutrients
St.Lawrence	Fish Creek and minor tribs	Nutrients
Steuben	Smith Pond	Nutrients
Suffolk	Agawam Lake	Nutrients
Suffolk	Big/Little Fresh Ponds	Nutrients
Suffolk	Canaan Lake	Silt/Sediment
Suffolk	Canaan Lake	Nutrients
Suffolk	Flanders Bay, West/Lower Sawmill Creek	Nutrients
Suffolk	Fresh Pond	Nutrients
Suffolk	Great South Bay, East	Nutrients
Suffolk	Great South Bay, Middle	Nutrients
Suffolk	Great South Bay, West	Nutrients
Suffolk	Lake Ronkonkoma	Nutrients
Suffolk	Long Island Sound, Suffolk County, West	Nutrients
Suffolk	Mattituck (Maratooka) Pond	Nutrients
Suffolk	Meetinghouse/Terrys Creeks and tribs	Nutrients
Suffolk	Mill and Seven Ponds	Nutrients
Suffolk	Millers Pond	Nutrients
Suffolk	Moriches Bay, East	Nutrients
Suffolk	Moriches Bay, West	Nutrients
Suffolk	Peconic River, Lower, and tidal tribs	Nutrients
Suffolk	Quantuck Bay	Nutrients
Suffolk	Shinnecock Bay and Inlet	Nutrients
Suffolk	Tidal tribs to West Moriches Bay	Nutrients
Sullivan	Bodine, Montgomery Lakes	Nutrients
Sullivan	Davies Lake	Nutrients
Sullivan	Evens Lake	Nutrients
Sullivan	Pleasure Lake	Nutrients
Tompkins	Cayuga Lake, Southern End	Nutrients
Tompkins	Cayuga Lake, Southern End	Silt/Sediment
Tompkins	Owasco Inlet, Upper, and tribs	Nutrients
Ulster	Ashokan Reservoir	Silt/Sediment
Ulster	Esopus Creek, Upper, and minor tribs	Silt/Sediment
Warren	Hague Brook and tribs	Silt/Sediment

303(d) Segments Impaired by Construction Related Pollutant(s)

Warren	Huddle/Finkle Brooks and tribs	Silt/Sediment
Warren	Indian Brook and tribs	Silt/Sediment
Warren	Lake George	Silt/Sediment
Warren	Tribs to L.George, Village of L George	Silt/Sediment
Washington	Cossayuna Lake	Nutrients
Washington	Lake Champlain, South Bay	Nutrients
Washington	Tribs to L.George, East Shore	Silt/Sediment
Washington	Wood Cr/Champlain Canal and minor tribs	Nutrients
Wayne	Port Bay	Nutrients
Westchester	Amawalk Reservoir	Nutrients
Westchester	Blind Brook, Upper, and tribs	Silt/Sediment
Westchester	Cross River Reservoir	Nutrients
Westchester	Lake Katonah	Nutrients
Westchester	Lake Lincolndale	Nutrients
Westchester	Lake Meahagh	Nutrients
Westchester	Lake Mohegan	Nutrients
Westchester	Lake Shenorock	Nutrients
Westchester	Long Island Sound, Westchester (East)	Nutrients
Westchester	Mamaroneck River, Lower	Silt/Sediment
Westchester	Mamaroneck River, Upper, and minor tribs	Silt/Sediment
Westchester	Muscoot/Upper New Croton Reservoir	Nutrients
Westchester	New Croton Reservoir	Nutrients
Westchester	Peach Lake	Nutrients
Westchester	Reservoir No.1 (Lake Isle)	Nutrients
Westchester	Saw Mill River, Lower, and tribs	Nutrients
Westchester	Saw Mill River, Middle, and tribs	Nutrients
Westchester	Sheldrake River and tribs	Silt/Sediment
Westchester	Sheldrake River and tribs	Nutrients
Westchester	Silver Lake	Nutrients
Westchester	Teatown Lake	Nutrients
Westchester	Titicus Reservoir	Nutrients
Westchester	Truesdale Lake	Nutrients
Westchester	Wallace Pond	Nutrients
Wyoming	Java Lake	Nutrients
Wyoming	Silver Lake	Nutrients

APPENDIX F – List of NYS DEC Regional Offices

Region	COVERING THE FOLLOWING COUNTIES:	DIVISION OF ENVIRONMENTAL PERMITS (DEP) PERMIT ADMINISTRATORS	DIVISION OF WATER (DOW) WATER (SPDES) PROGRAM
1	NASSAU AND SUFFOLK	50 CIRCLE ROAD STONY BROOK, NY 11790 TEL. (631) 444-0365	50 CIRCLE ROAD STONY BROOK, NY 11790-3409 TEL. (631) 444-0405
2	BRONX, KINGS, NEW YORK, QUEENS AND RICHMOND	1 HUNTERS POINT PLAZA, 47-40 21ST ST. LONG ISLAND CITY, NY 11101-5407 TEL. (718) 482-4997	1 HUNTERS POINT PLAZA, 47-40 21ST ST. LONG ISLAND CITY, NY 11101-5407 TEL. (718) 482-4933
3	DUTCHESS, ORANGE, PUTNAM, ROCKLAND, SULLIVAN, ULSTER AND WESTCHESTER	21 SOUTH PUTT CORNERS ROAD NEW PALTZ, NY 12561-1696 TEL. (845) 256-3059	100 HILLSIDE AVENUE, SUITE 1W WHITE PLAINS, NY 10603 TEL. (914) 428 - 2505
4	ALBANY, COLUMBIA, DELAWARE, GREENE, MONTGOMERY, OTSEGO, RENSSELAER, SCHENECTADY AND SCHOHARIE	1150 NORTH WESTCOTT ROAD SCHENECTADY, NY 12306-2014 TEL. (518) 357-2069	1130 NORTH WESTCOTT ROAD SCHENECTADY, NY 12306-2014 TEL. (518) 357-2045
5	CLINTON, ESSEX, FRANKLIN, FULTON, HAMILTON, SARATOGA, WARREN AND WASHINGTON	1115 STATE ROUTE 86, P O BOX 296 RAY BROOK, NY 12977-0296 TEL. (518) 897-1234	232 GOLF COURSE ROAD WARRENSBURG, NY 12885-1172 TEL. (518) 623-1200
6	HERKIMER, JEFFERSON, LEWIS, ONEIDA AND ST. LAWRENCE	STATE OFFICE BUILDING 317 WASHINGTON STREET WATERTOWN, NY 13601-3787 TEL. (315) 785-2245	STATE OFFICE BUILDING 207 GENESEE STREET UTICA, NY 13501-2885 TEL. (315) 793-2554
7	BROOME, CAYUGA, CHENANGO, CORTLAND, MADISON, ONONDAGA, OSWEGO, TIOGA AND TOMPKINS	615 ERIE BLVD. WEST SYRACUSE, NY 13204-2400 TEL. (315) 426-7438	615 ERIE BLVD. WEST SYRACUSE, NY 13204-2400 TEL. (315) 426-7500
8	CHEMUNG, GENESEE, LIVINGSTON, MONROE, ONTARIO, ORLEANS, SCHUYLER, SENECA, STEUBEN, WAYNE AND YATES	6274 EAST AVONLIMA ROAD AVON, NY 14414-9519 TEL. (685) 226-2466	6274 EAST AVONLIMA RD. AVON, NY 14414-9519 TEL. (685) 226-2466
9	ALLEGANY, CATTARAUGUS, CHAUTAUGUA, ERIE, NIAGARA AND WYOMING	270 MICHIGAN AVENUE BUFFALO, NY 14203-2999 TEL. (716) 851-7165	270 MICHIGAN AVENUE BUFFALO, NY 14203-2999 TEL. (716) 851-7070